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VMAC FOUNDRY CELEBRATES ITS 2ND ANNIVERSARY

VMAC celebrates the second anniversary of its in-house foundry, having poured its first casting in November 2016. The foundry allows VMAC to expedite R&D innovations and reduce time to market for new products.

"The foundry has been an important addition to VMAC's design and manufacturing operations," explains Sandra Amador, VMAC's director of continuous improvement. "Having a full-time foundry supervisor, with decades of expert technical knowledge in foundry operations that include manual mould, core and pattern making, metal casting, and furnace operation, etc., has allowed VMAC to produce castings in-house that contribute to problem solving, design efficiencies, and production support."

VMAC is the manufacturer of innovative rotary screw air compressors and multi-power systems. With a 32-year company history, the addition of the foundry in 2016 is relatively recent. Now with the ability to cast in-house, VMAC can strengthen product development by producing new component designs in small batches and in short order, compared to a typical lead time of 3-6 months when working with a third-party foundry. For more, visit **www.vmacair.com**.

SENSLYNX LAUNCHES SEAMLESS IOT SOLUTIONS WITH BREAKTHROUGH BENEFITS

A dependable Internet connection is virtually every industry's sustenance and without it, business dies. Yet many don't realize how frequently the worst occurs, or how dramatically it could impact their livelihood. Though many backup options exist, most are complex or costly, and almost none provide a complete and easy to set up solution.

SensLynx, widely known for its popular fleet and asset tracking program, painstakingly designed its new suite of Seamless IoT Solutions to fill this void. Its integrated plugand-play bundle comes with everything needed to prevent interruption including software, hardware, and connectivity, plus fully managed services and monitoring built-in through their Cloud Manager services, all wrapped up in one low monthly rate. SensLynx Seamless Failover automatically rescues lost primary wired or broadband connections to maintain business continuity. SensLynx Seamless LTE almost instantly deploys primary connectivity to new or temporary (pop-up) locations, while also functioning as a backup or secondary connection. Its applications encompass trade shows, oil and gas remote monitoring, in-vehicle, mobile or portable uses, disaster recovery, and every other primary connectivity category. Both solutions are feature rich and ready-to-go, but it's the SensLynx Seamless SD-WAN technology that's truly changing the connectivity game. For more, visit www.senslvnx.com.

FIELDPULSE PARTNERS WITH GPS INSIGHT

Understanding the important role dispatching plays in customer satisfaction, leading field service software provider FieldPulse has partnered with GPS Insight to provide indepth fleet tracking and fleet management features for their





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platform. Through this integration, FieldPulse users will be able to track their company vehicle locations directly from the FieldPulse dashboard.

FieldPulse serves as a digital hub for contractors allowing them to manage their entire business through a single web and mobile application. FieldPulse's core value centers around helping contractors go digital by combining customer management (CRM), estimates and invoicing, digital signatures and payments, scheduling and dispatching, GPS tracking, timesheets, and more.

The advanced GPS integration also adds value to existing in-app functionality within FieldPulse. For instance, users can now utilize FieldPulse's native dispatching feature but with GPS tracking enabled. Similarly, the data used in monitoring GPS tracking can be used to enhance other FieldPulse features such as timesheets, estimates, and billing.

With the release of the new integration, any FieldPulse customer who purchases GPS Insight between October 1 and December 31 will have all service fees waived until January 2019. For more, visit **www.fieldpulse.com**.

CATERPILLAR PRODUCES 40,000TH LARGE DOZER

In October, representatives from Caterpillar Inc., Finning Canada, and Teck Resources Limited (Teck) gathered in East Peoria, Illinois, to celebrate the milestone of the 40,000TH Cat large dozer rolling off the production line. Core to Caterpillar's global identity, the current Cat large dozer line

includes the D9, D10, and D11 models. The milestone D11T is equipped with a powerful Cat C32 engine, producing 850 horsepower, and capable of moving up to 900 loose cubic meters of material per hour. For more, visit **www.cat.com**.

PROCORE JOINS SOLUTIONS PARTNERS INTEGRATING WITH ACUMATICA CONSTRUCTION EDITION

Acumatica, the world's fastest-growing cloud ERP company, announces a number of key business partners, as well as its integration with Procore, the world's leading construction management software, which is now available in the Procore Marketplace.

"Acumatica provides the construction industry with a true cloud-based accounting solution. The integration with Procore is a great fit to enable a seamless connection between the field and back office at any time, from anywhere," says Doug Gibson, business development manager at Procore.

"The construction industry has been slow to adopt new back-office technologies," says Ajoy Krishnamoorthy, vice president of platform strategy, Acumatica. "But it's starting to see new technology solutions emerge that address pressing needs from design to BIM to field and office communication. Acumatica and our partners are excited to be offering seamless connections between these best of breed solutions."

Acumatica is seeing a critical mass of construction sector partners and customers join the company's cloud ERP





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ecosystem. Since its release in March 2018, Acumatica Construction Edition has enjoyed 400 percent growth in customer adoption. The company has also added general contractors, subcontractors, specialty contractors, home builders, and prefab/manufacturing companies to its ranks, including Texas Scenic, Boulder Creek, and Curran Young. For more, visit **www.acumatica.com**.

U.S. DEPARTMENT OF LABOR ISSUES FINAL RULE ON CRANE OPERATOR CERTIFICATION REQUIREMENTS

OSHA published a final rule that clarifies certification requirements for crane operators, and maintains the employer's duty to ensure that crane operators can safely operate the equipment. The final rule will maintain safety and health protections for workers while reducing compliance burdens.

Under the final rule, employers are required to train operators as needed to perform assigned crane activities, evaluate them, and document successful completion of the evaluations. Employers who have evaluated operators prior to December 9, 2018, will not have to conduct those evaluations again, but will only have to document when those evaluations were completed.

The rule also requires crane operators to be certified or licensed and receive ongoing training as necessary to operate new equipment. Operators can be certified based on the crane's type and capacity, or type only, which ensures that more accredited testing organizations are eligible to meet OSHA's certification program requirements. The final rule revises a 2010 requirement that crane operator certification must specify the rated lifting capacity of cranes for which the operator is certified. Compliant certifications that were already issued by type and capacity are still acceptable under this final rule.

The final rule, with the exception of the evaluation and documentation requirements, will become effective on December 9, 2018. The evaluation and documentation requirements will become effective on February 7, 2019. For more, visit **www.osha.gov**.

JLG FINANCIAL[™] OFFERS RETAIL CUSTOMERS FAST, ONE-STOP FINANCING OPTIONS FOR EQUIPMENT PURCHASES

JLG Industries, Inc. announces the launch of a new fullservice retail lending program from JLG Financial[™]. The new retail financing program offers 100-percent financing, a quick and easy application, and flexible payment plans, among other customer-focused features, and is available in the United States.

The program supports rental houses with financing the sale of new or used equipment—any make or model—including both reconditioned and certified equipment to their end users, and it allows borrowers to choose from a variety of flexible financing options to meet any need.

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ENVIRONMENTALSOLUTIONS



s sustainability takes center stage, construction firms and owners are realizing the benefits that accompany the integration of green construction techniques and materials. This article shares green construction tips and strategies that include harnessing the natural resources of a property, designing and building to maximize efficiency and minimize cost, and staying focused on sustainable return on investment (SROI).

HARNESS NATURAL RESOURCES

In a way, green construction is partly an exercise in holistic thinking. Planners should step back to consider:

- What is the building's role? Who will occupy it and what will they be doing?
- Where will it be located? What characteristics of the property and its environment can be leveraged to make the building more sustainable?
- What impact will the building have on its environment once built? How can any ill impacts be reversed into green advantages?

Keeping in mind that owners ultimately need to meet business goals, it's still worth the added effort and expense to incorporate as many green construction principles as possible.

THE BEST LIGHT IS FREE

Electric lights are getting more efficient, but they still account for between 25 to 45 percent of a building's energy use. Granted, even if you're going green you still need lights. But with some thoughtful design, you won't have to turn them on as much.

The sun is the best light source for pretty much every setting, whether it's professional, educational, recreational, or otherwise. It's also free. That's why green buildings are designed to collect as much natural light as possible. Let's use a large office as an example. Green construction principles turn traditional office design on its head. Large, open areas where employees work in groups are placed adjacent to south-facing walls. That's the best spot (in the Northern Hemisphere, at least) for the most people to get the most usable light.

Another green construction principle to consider is the types of lights to install. Opting for high-efficiency LED lights will reduce the need to replace lamps. And, equipping spaces with motion sensors that only turn on the lights when someone's nearby dramatically reduces electrical costs. This has become a hallmark of industrial, manufacturing, and warehouse construction.

In addition to cost savings and environmental benefits, natural light also makes people happier. That's a key metric to consider when calculating a building's sustainable return on investment.

SAVING AND RECLAIMING WATER

Addressing water use and reuse is tricky. Across the commercial, residential, and industrial spectrum, water quality is heavily regulated. For almost any application, the water used must be potable. Plus, it's usually so cheap that owners will pass on water conservation expenditures because they don't believe they'll pay off.

But cost savings and environmental benefits can be achieved by applying green construction principles to water use anyway. The easiest strategy to implement is installing high-efficiency fixtures, which obviously reduces water costs. In addition, if owners can demonstrate that their building will use less water over the lifespan of the building, they can save money before construction is even finished in the form of reduced sewer tap-in costs.

Reusing water is also possible. In some jurisdictions, on-site water recycling is permitted. The "grey water" that results can be used for landscape irrigation or water features and in some locations for toilet flushing. Some buildings also incorporate rainwater catchment systems for these reasons, and the benefits are many. For one thing, diverting rainwater further relieves pressure on utilities. For another, it's free. Finally, protecting the most limited natural resource we have



Brandon Burd is the director of sustainable design at The Korte Company. With more than 11 years of experience in architectural design, Brandon is part of the company's design team, and is responsible for assisting in building and site design, code analysis, consultant coordination, and specification writing. For more information, visit www.korteco.com.

scores social points that play a major role in calculating sustainable return on investment.

MATERIAL CHOICES

Thoughtful choice of construction materials creates another opportunity to realize cost savings and environmental benefits.

A good example is the debate over whether pre-cast concrete panel walls are preferable to metal framed structures using steel studs. Some key considerations when making such a decision are:

- Buildings using pre-cast concrete panels require less insulation according to energy codes because they're thermally superior to metal building materials.
- Pre-cast concrete panels are known as "mass walls" that feature greater thermal mass and thermal lag properties. That means they absorb more heat and better regulate interior temperatures, lowering energy costs.
- Walls with higher thermal mass help keep buildings warmer in winter and cooler in summer

compared to metal buildings that have virtually no thermal mass.

Mass walls can be designed with varying thermal mass and thermal lag characteristics so owners can develop HVAC systems and mass wall schemes that complement one another, maximizing occupant comfort and trimming heating and cooling costs.

RETURN ON INVESTMENT

Sustainable return on investment (SROI, also known as social return on investment) combines the familiar hard numbers used to determine classic ROI —like income and expenses—with "softer" data points like environmental impact and social good.

SROI is admittedly hard to calculate because it partly involves quantifying what some believe is un-quantifiable. For instance, SROI involves asking these questions:

- How do you quantify better health?
- How much is improved employee or student morale worth?
- Can you put a price on the social

goodwill generated when you slash your carbon footprint?

But grappling with these mysteries often ends up being worth the effort. In an age when owners are more cost-conscious than ever (and when governments are all-in on sustainability), those who can demonstrate high SROI stand to earn very real—and very lucrative—tax rebates and incentives.

TOWARD SUSTAINABILITY

There are many strategies and techniques owners can apply to boost the sustainability of their building, whether they're planning new construction or renovation. That's why a partnership with an experienced green construction firm can do a world of good.

When owners and construction team members collaborate, a customized green construction road map will emerge that suits owners' business goals while also boosting sustainability. The potential benefits both social and economic—are too good to pass up.

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MANAGEMENTSOLUTIONS

7 Steps for Solving Business Problems

Learning how to eat an elephant

By Mitzi Perdue

S uccessful people all do one thing: they solve problems. They don't just stare at a problem and wish it would go away.

The magic key to solving your big, difficult, looming business problems is to break them down into smaller parts and then deal with these smaller parts. By viewing your issues through this prism you can focus intently on solving a problem through a series of steps instead of preparing to tackle it all at once.

It's the old, "How do you eat an elephant?"

Answer: "One bite at a time."

YOUR SEVEN STEPS FOR SOLVING A PROBLEM

Describe the Problem. Do this in writing. Often, you'll find that simply explaining the whole problem to yourself will cause you to see the solution. But not always, so if that doesn't make the situation clear, go on to #2.

Break the problem into smaller, more manageable parts. Make a list of the parts of the problem, breaking the problem down into manageable parts that don't seem intimidating. If one item on the list still seems too hard, break it down still further into even smaller parts. Then arrange your list in a logical order according to what to do first, second, third, and so on.

Write down the obstacles. This step may come as a surprise, but it's important. Take a clear, hard look at what the obstacles are and then list them. Being optimistic is a good thing, but no matter how positively you think about a problem, you'll improve your odds of success if you pay attention to and prepare for the likely obstacles.

Brainstorm possible solutions. Write down as many solutions as you can. Be as creative as you can be. At this point, your goal is quantity not quality. Don't keep from writing down an idea just because it seems stupid or irrelevant. Often what seems like a bad idea can spark your

ABOUT THE AUTHOR

Mitzi Perdue is a celebrated speaker, businesswoman, and author of How to Make Your Family Business Last. She is a past president of the 35,000-member American Agri-Women, a former syndicated columnist for Scripps Howard, and the founder of CERES Farms. For more information on Mitzi Perdue, visit www.mitziperdue.com. imagination in ways that lead to good ideas. These new ideas can turn out to be highly creative ones that might never have occurred to you otherwise. You'd be surprised how often this happens.



Stretch to find one more

solution. Ideas that come when you've had to stretch for them often turn out to be the most useful of all. There's a reason: In many cases if the answer were easy or obvious, it would already have been done by now. It's when you stretch to get a new idea that you come up with the most creative ideas-the ones that not everyone has already thought of. The most creative, least obvious solutions may have the best chance of solving your problem. Oh, and something to keep in mind at this point: Thomas Edison was right when he said: "When you have exhausted all possibilities, remember this: you haven't."

Pick the best solution. When you've gotten as far as you can with the brainstorming aspect of problem-solving, it's time to put on your realist's hat. Remember, it's a different

CHECKLIST FOR SOLVING PROBLEMS

- 1. Have I described my problem in writing?
- 2. Have I broken it into manageable chunks?
- 3. Have I made a clear assessment of the obstacles?
- 4. Have I brainstormed solutions? 5. Have I stretched to find one
- more solution?
- 6. Have I picked the best solution?
- 7. Have I put the solution into action?

mindset at this point. Your job is to figure out, of all the ideas you've come up with, which is the best? What solution or solutions best combines: a) Solving the problem; b) Getting the job done on time; and c) Having the resources available for accomplishing it.

Act on it. Surprisingly often, people may come up with a good solution, but they don't "pull the trigger." That is, they procrastinate when it comes to implementing the idea. Successful people, in contrast, have a penchant for action. They are not only good at thinking of solutions; they're very good at

plunging in and doing them. They know that the problem isn't solved until the plan is put into action and completed.

THREE QUOTES THAT EXPRESS THE **IMPORTANCE OF ACTION:**

- "To know and not to act is the same as not to know."
- "It's not what you know, it's what vou do."
- "Done is better than perfect."

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MANAGEMENTSOLUTIONS

6 Tips for Tackling Commercial Financing

Expert advice for first-time borrowers

By Katy Ellquist

ommercial financing is available to encourage responsible budgeting and enable businesses to overcome unanticipated hurdles like economic downfalls, unpaid invoices, and budgetary discrepancies. With the flexibility of commercial financing, your business can acquire new or used equipment, obtain capital, or set up a commercial line of credit.

Before you apply for commercial financing, it's important to understand the expectations. Being prepared for the application process can help you maximize the benefits that accompany commercial financing. Approaching the commercial financing application process blindly may hinder your company's ability to find financial solutions that facilitate growth opportunities. Utilize the strategies from these six tips to ensure you are properly equipped when you need to seek financing.

GET ORGANIZED

Applicants are required by the lender to have the appropriate paperwork regardless of the financing being requested. Conduct some research to find out what documents are needed before entering the commercial financing application process. Generally, the required paperwork consists of 3 to 5 years of budget records, tax statements, and any financial assessments performed by

a third party. You can streamline the application process and get the financing you need faster when you have the necessary documentation readily available when filling out the application.

SKIP THE BANK

While institutional lenders might seem like a good fit for financing heavy equipment, a bank is not always the best choice when you're looking to expand your fleet or acquire other industry-specific tools. Instead, consider a captive finance company-a wholly-owned subsidiary that finances retail purchases from the parent firm. Partnering with a captive finance company allows you to receive the financing solutions you need, plus the equipment expertise to guide your business to success.

Unlike a bank, which focuses primarily on lending money, a captive finance company is industry specific. Whether it's construction, mining, agriculture, or oil and gas, their team typically has extensive experience in your market. Plus, you can trust that the financing solutions are designed to strategically align with the goals of your business.

FLEXIBILITY IS YOUR FRIEND

Financial institutions offer a variety of financial solutions including loans, finance leases, operating

ABOUT THE AUTHOR

Katy Ellquist is the marketing communications coordinator for Caterpillar Financial Services Corporation where she develops and manages the global content strategy. Cat Financial offers solutions designed to help businesses succeed. Visit www.catfinancial.com to learn more about current offers and the financial solutions available to your business.

leases, working capital, revolving lines of credit, and a commercial account. Be sure to carefully review and discuss the options with a representative and your team to determine the best solutions for your business.

Whether you're seeking fast cash or trying to acquire new or used equipment, it's important to identify the needs of your company before you apply for financing. Options like leasing equipment for a fixed period of time with the opportunity to purchase the equipment in full after a predetermined time or at the end of the contract are designed to give your business the flexibility to get the job done.

MONITOR BUSINESS

Companies that experience seasonal sales cycles should account for these sales periods when applying for financing. Incorporating financing options into your annual budget allocations can significantly impact the ability to stretch your money during the downtimes. Additionally, a captive finance company has the flexibility to set up a payment schedule to accommodate your sales cycle. You can trust that their team is conscious of your business cycles, and can recommend the financing solutions to help make payment management easier.

5 TECHNOLOGY MANAGEMENT

Owning technology that is outdated can negatively impact your business by leading to increased maintenance costs, unexpected system downtime, and reduced productivity. Additionally, experiencing a security breach because of outdated technology can be catastrophic for a business. Plus, failing to effectively keep your technology current can propel your competitors that regularly upgrade their equipment ahead of your business.

Managing technological obsolescence can help reduce the burden that accompanies out-of-date equipment. Implement a financing strategy that manages technological obsolescence and ensures you're working with the equipment and technology needed to promote success. In many cases, a captive finance company can develop a structured solution unique to your business by offering co-terminus contracts or facilitating equipment trade-ups that allow your firm to utilize the technology to retain its competitive advantage.

THE RELATIONSHIP IS KEY Partnering with a captive finance company is more than a commercial transaction. Banks have earned the reputation for approaching lending as just a transaction, whereas captive finance companies are generally known for creating a more personal experience by cultivating relationships with their customers. Lenders from captive finance companies tend to be more invested in your firm's success and strive to find a two-sided solution that benefits both parties. The success of a captive finance company is dependent on the success of your business. So, it's safe to assume that it's in their best interest to ensure you get the right growth solution for your company.



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MANAGEMENTSOLUTIONS

Exiting Requires More than a Thought

By Preston Ingalls

"Life is a succession of lessons which must be lived to be understood. All is riddle, and the key to a riddle is another riddle." **Ralph Waldo Emerson**

n June 1968, General William Westmoreland was relieved of his command in Vietnam when his new boss, Richard Nixon, lost confidence in his approach. His second in command, General Creighton Abrams, was suddenly thrust in command. Abrams was a WWII hero at Bastogne and was well respected by the rank and file.

Abrams immediately switched from Westmoreland's failed "Search and Destroy" strategy, put in place in the early 60's, and moved to the more successful counterinsurgency. General Fred Weyand said, "The tactics changed within 15 minutes of Abrams's taking command." The unassuming Abrams was in sharp contrast to the flamboyant Westmoreland who loved briefings and the press.

Abrams focused on developing the South Vietnamese military (ARVN), which had been fairly neglected to that point and enacted numerous efforts to change the war's direction to include focusing on hamlet security. The results were phenomenal ... but too late. The US population had grown weary of the war by the Tet Offensive in 1968, several months before Abrams took over. He no longer had support. All military experts stated his approach, had it been implemented earlier, could have turned the tide of the war. Even Abrams called the war winnable.

Sir Robert Thompson, a British counterinsurgency expert who observed General Abrams closely during the Vietnam War, pronounced him America's greatest general since Ulysses Grant. Lewis Sorley, Abrams biographer who stated in his book Thunderbolt: General Creighton Abrams and the Army of His Times that Abrams was the "most influential general since George C Marshall."

Then why wasn't he allowed to enact those policies as Westmoreland's second-in-command? Westmoreland was strong-willed and believed his own strategy was the right one. He wasn't prepared to listen to the advice of a subordinate. There was no succession plan for someone else to take over. One day Westmoreland was in charge and the next day he was out. There was no real transition plan. Westmoreland had a failed strategy with enormous public and presidential support while Abrams had a successful strategy with no support. Abrams was set up to fail in his succession efforts.

HOW SUCCESSION PLAYS OUT IN BUSINESS

Business owners will go to great lengths to put policies and procedures in place to ensure day-to-day operations run smoothly. They see the value of having standardized processes to prevent variation in methods. These same owners will develop 3- to 5-year plans to prepare and sustain growth in their businesses.

However, many procrastinate developing an exit strategy. As key players, owners and stakeholders, we all want to believe we are somewhat indispensable and a critical lifeline to the enterprise. But that dependency can create a weakness and vulnerability. After all, we are all mortal. We plan to retire someday. As we age, we are subject to prolonged illness. Despite these possibilities, we prefer not to consider the eventual exodus from the business, retirement, disability, passing on, or some other cause.

It takes great bravery to think about what's next ... how do I prepare for such a transition? But failing to do so could be considered selfish with negative implications to clients, employees, and families.

After 46 years in industry, I believe everyone in my situation should have a transition plan to exit the organization. An exit strategy ensures continuity of care for the customer, employees, and the owners' family.

Rather than sharing the conceptual elements as to how it should be done, I will explain how I set mine up.

MY SUCCESSION PLAN TEMPLATE

First, I had attempted to engage several family members as a possible successor years ago without luck. Hiring a family member strictly as a favor is not a good reason to give someone a job. The intent was to make them part of the succession plan for a variety of reasons, which is pretty common, but nepotism doesn't guarantee competence or loyalty.

Besides, in a study of 1,600 family-run businesses conducted by the consultancy PriceWaterhouseCoopers, only 36 percent of the family businesses surveyed survived passage into the second generation. But it got worse from there with only 20 percent of businesses surviving into the third generation and a mere 7 percent continuing into the fourth generation. That's pretty poor generational succession odds.

I decided to "grow my own" and focus on developing and grooming those with potential talent. In the leadership



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courses I teach, I always say, the "leader's job is to identify and develop the next generation of leaders" so that is what I did. I spent years and considerable investment (even when the money wasn't there) to train several of my most promising folks to form a partnership.

DETAILING THE SUCCESSION PROCESS

I explained to each a process how they could become owners via a partnership through a buyout process over a period of years. They were excited to gain some equity in the enterprise. This gave me an exit process in the years to come. The process consists of the following:

- I used a Job Task Analysis (JTA) to identify several hundred tasks they would need to be able to perform in their roles and I had them assess their abilities to perform those tasks to identify training needs.
- We used every opportunity to work together and would brief prior to the assignment and

debrief at the end (what did you like, what would you have done different) and then I would provide coaching and guidance.

• We look for the things that were repeatable and those that needed changes as well as lessons learned as part of a process of constant evaluation and coaching, which helps the learning process and growth.

I also developed various instruments that captured my knowledge and experience by illustrating how I make decisions through the use of a database and spreadsheet to reduce the reliance on recall or memory. We would have sessions where we would collaborate for hours how we would reach a decision together on the phone or on conference calls. Time consuming, yes—worth it, of course. They needed to understand the logic, not just the steps.

I soon began transitioning the decision-making to my operations manager to avoid second guessing. If I saw he was possibly making a precarious decision I may point it out and simply warn of the risk, then recommend he come up with various options. He may ask me for options, which I will freely offer, but only if asked. I wanted him to understand the reasoning versus relying on me.

I encourage him and the other future partner to discuss business matters routinely during the week. They stay in touch frequently, even daily. I freely share financials (P&L, Balance Statement, Cash Flows). This includes how to interpret and make compensation decisions.

I have handed off all estimating, bidding, and pricing over the last year. The intent is to be prepared to leave at a very specific date versus an estimated or rolling date as some folks do. I will reduce the time I am here to about 20 percent for the changeover but I am confident the years of transitioning will have paid off and the exit plan will have bred the confidence and competence needed to continue the business. Eight years of grooming both, with 3 years of direct preparation, will help me to rest easy at night.

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SOFTWARE **SOLUTIONS**

Working in Harmony

Why best-of-breed FSM and CRM software need to be best of friends

By Andrew Lichey

ield service management (FSM) and customer relationship management (CRM) are best-of-breed solutions that are essential to the work of field technicians. Both tools manage different aspects of client needs, but if they're not working together, businesses will miss out on new opportunities and more productive work processes. So how do you synch the two? This article outlines how combining FSM with CRM can help increase revenue and keep customers happy.

FSM and CRM are usually integrated with Enterprise Resource Planning (ERP) to eliminate duplicate data entry, avoid costly mistakes due to lack of data, and share customer information in real time. FSM software vendors and others offering best-of-breed solutions generally offer standard integration approaches, but in most environments it also makes sense to integrate FSM software with CRM software. This ensures a consistent customer experience regardless of whether a customer is interacting with a CRM user or a field service technician. It is for this reason that some software vendors have created standard integration models with ERP products.

DEEPER DIVE INTO FSM

While CRM is designed to manage the customer experience, field service management software helps companies go deep into their data to ensure customers can be served profitably and successfully in the field. Good FSM software has a vast detail of built-in functionality, but here is a topline list of what it covers:

- Dispatch and service scheduling, appointment setting, calendar-based scheduling from maintenance plans and automated scheduling optimization
- The ability to issue and record completion of work orders
- Contract management to ensure service agreements are adhered to, even when terms are customer-specific
- Service inventory, including inventory on each technician's vehicle

• Warranty management, so technicians in the field can determine which work is covered by warranty and which carries an additional charge

elif

mirror mod.use z

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mirror_mod.use_x = False
mirror mod.use y = False

- Tools to enable technicians to upsell new services, issue quotes, and secure approval on quotes
- Reverse logistics to take parts and subcomponents back into inventory, repair or scrap them, track ownership of the part, and whether the customers or subcontractors are entitled to a replacement
- Service billing, used to collect details of billable service, pass it to ERP for invoicing, and provide customers visibility into billing activity in the field

This takes us to the heart of the issue because even when a CRM package has field service capabilities, it alone cannot enable a company to deliver all these functions—especially if competitors have a more advanced service offering. So, comprehensive FSM software is the key, but if run as a standalone entity, even the most advanced field service product will leave gaps in the ability to address the entire customer lifecycle, maximize revenue, and improve customer satisfaction.

360-DEGREE VIEW

So, how does this combined view of the customer across both CRM and field service improve customer service and increase revenue? If a field technician can see in the CRM solution what service has been performed on a customer's equipment in the field, then that technician can—based on frequency of service, cost of service and parts, and even predictive analytics—record a sales opportunity to potentially replace the equipment and make that business case directly to the customer.

In this scenario, a field service technician may learn that the customer site they are working on will be expanding and can quickly create a sales opportunity for additional equipment that might be sold. Combining these solutions is essential, as a company delivers a better experience when their



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employees across the organization know about recent customer conversations, transactions, service calls, open issues, customer-specific requirements, and correspondence.

TWO-WAY STREETS

There is also specific information that should be subject to a bi-directional integration with FSM and CRM, ensuring data is created, synched, and updated in both systems. Recording service history and ongoing sales activity is a must to allow sales, customer service, and field service personnel to get a 360-degree view of the customer and better understand the facts on the ground. As is sales history information, which gives field service technicians better visibility into products or equipment at a customer site that may not yet be covered by a service agreement and which may represent additional revenue opportunities.

Warranty information and contract management is another important consideration, as it can provide CRM users with a better idea of warranty renewal sales opportunities for each customer and show how well the field organization is performing against contractual requirements. Current sales promotions can also be included in both systems to allow field technicians to see opportunities that are relevant to the customer and use that to upsell or provide appropriate discounts.

OPEN ARCHITECTURE

Some enterprise software integrations are associated with high costs and risks, but not all systems are built the same. To avoid this, businesses should look to solutions built on an open integration architecture, creating standard but configurable implementations to CRM offerings. No two implementations of either of these CRM products are truly the same, which means that each integration will be somewhat unique. That is why the integration needs to be configurable and user-friendly-for example, using a drag-and-drop tool to add fields, repurpose fields, and add tables.

This streamlined approach to integration also increases enterprise agility. As the way you do business changes and those changes are reflected in a Salesforce or Microsoft Dynamics 365 solution, the integration can change with you, without custom programming or external consulting fees—the result is quick, cost-effective, and simple onboarding.

BETTER TOGETHER

It is critical for the various software products you rely on to share data where it makes sense, but integration can only be considered with a sound business case. In identifying that business case, ask yourself how you want the integration to enable your business to beat the competition and how an integration can help increase customer satisfaction and revenue.

Field service management software should not be an island unto itself—it should extend into other enterprise software, including CRM and ERP. Integrations can increase solution expense and complexity, so standard integrations that easily accommodate your unique solution set are extremely valuable. When considering integration, make sure to identify the barriers you want to overcome, so you can reap the rewards of a high-quality enterprise solution.



LEGALSOLUTIONS

Building "Green"

The new norm in the construction industry

By Laura Colca

he environmental "green" movement has infiltrated all aspects of daily life. The mantra "reuse, reduce, and recycle" has become common place ... from schools, to offices, to restaurants. At work and at play, consumers are reminded of the importance of environmental conservation and protection.

The construction industry is no exception. Building green, energyefficient and environmentally friendly buildings are the new norm. As an owner, building an eco-friendly structure can be economically beneficial, not simply because of energy savings, but also because of certain incentives provided by the government. The proliferation of green building has been spearheaded by U.S. Green Building Council (USGBC) and its Leadership in Energy and Environmental Design (LEED) Green Building Rating System. The USGBC describes LEED an internationally recognized green building certification system.

Established by the USGBC in March 2000, the LEED certification system contains guidelines for building owners and operators, equipping them with the ability to formulate methodologies and systems to create and ultimately implement quantifiable green building design, construction, operations, and maintenance objectives.

While the LEED certification system is a huge step in the right direction of promoting eco-friendly construction which minimizes the carbon footprint that is left on the planet, as it is a new and evolving program, and not without its hiccups. Additionally, as with any new regulatory program, there are a host of legal considerations which arise.

THE RESPONSIBLE PARTY

One major concern that owners must take into consideration when working with LEED certification is to make sure from the inception of the project that all parties are clear as to which party is to be responsible for LEED certification. This is very important for a many reasons but it is particularly significant if tax incentives are tied to receiving LEED certification.

The best and most efficient way to deal with this issue is simple ...

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put it in writing. Making sure the construction contract clearly and precisely defines the role of the parties, including but not limited to the owner, the contractor, and the design professionals, regarding LEED certification takes the guess work out of this significant issue.

By way of example, AIA document B101-2007, between an owner and an architect contains Section 3.2.3 which provides that during the design phase the architect will discuss "...the feasibility of incorporating environmentally friendly responsible design approaches..." Section 3.2.5.1 goes on to state that the architect "... shall consider environmentally responsible design alternatives, such as material choices and building orientation." Notwithstanding these provisions, it is an industry wide rule that green certification is considered an "additional" service, and beyond the scope of traditional services as provided for in a basic construction contract.

So what should parties do? As stated, the only way to effectively minimize the risk of legal issues arising regarding LEED certification is to make sure that the contracts directly address and handle the issue. By making the contracts clear through specific assignments to one or more responsible parties, it will remove the guess work from the equation which will ultimately put the project on a path for success.

CONCLUSION

When a project is slated to begin, before any shovels break ground and before any final contracts are signed, the project owner should gather the design and development teams and determine, as a threshold matter, the manner in which green building strategies will be incorporated into the project. Once this decision is made and the parties have agreed in concept as to how green development on the project will be addressed, the legal professionals can craft the contract documents to fit with the parties objectives. Being green can be achievable if the proper steps are taken.

ABOUT THE

Laura Colca is a partner in the law firm Goldberg Segalla, where she is a member of the leadership committee of the Corporate Services and Commercial Litigation practice group. Laura is also a member of the National Association of Women in Construction, as well as Professional Women in Construction. Laura has counseled countless clients on all types of business transactional matters, including representing owners and contractors on both private sector and public construction projects. She can be reached at 716.710.5840 or lcolca@goldbergsegalla.com.

are built to exact requirements.



LEGALSOLUTIONS

What Makes A Good Arbitrator? What Makes A Bad Arbitrator?

A s a member of the construction industry, at some point during your career, you will likely engage in arbitration. Arbitration provisions are prevalent in construction contracts and disputes giving rise to arbitration are difficult to avoid. Oftentimes, arbitration is a good way to resolve a dispute because handled well, it can be a cost-effective, efficient, proper way to resolve a dispute. However, there are other times when the results of arbitration leave a bad taste in the mouths of all participants. So, what makes for a good arbitrator and what makes for a bad arbitrator?

This analysis is my opinion. It is based on 35 years of practice as a construction lawyer, my role as counsel for parties in many arbitrations, and my role as an arbitrator sitting in judgment of claims on many occasions.

THE ARBITRATOR'S ROLE

Being an arbitrator is not easy. You are called upon to decide complex cases, award money or other relief, and to determine who is right and who is wrong in a dispute. In all likelihood, if the parties could have determined on their own who was right, who was wrong, and how much money was owed from one party to another, they would not be in arbitration. Therefore, once we get to an arbitration hearing, both sides strongly believe in their case and it is the role of the arbitrator to consider the matter and then render a fair, competent, and thorough decision.

Arbitrators who are well respected are those who exhibit appropriate professionalism throughout the process. This starts at the pre-hearing conference in which the arbitrator takes control of the proceeding and establishes a fair and efficient schedule for all activities to occur prior to the actual hearing. This can include the exchange of documents, depositions if appropriate, a site visit, and other tasks to make sure that everybody has a fair and equal opportunity to prepare for the hearing.

Arbitrators are often criticized for not enforcing their orders. The arbitrator will issue an order setting a schedule with deadlines, address discovery issues, address the exchange of documents, and then ignore enforcement of the order when circumstances arise. An arbitrator should enforce the rules of arbitration.

Arbitrators get paid for their services. In fact, arbitrators receive advance deposits to cover their fees. Seeking payment from a losing party after issuing a decision will be difficult for an arbitrator to accomplish. Therefore, the need for advance deposits exists. But a good arbitrator must keep track of his or her time, provide a fee statement that is all encompassing and shows the parties that the time billed was properly incurred. The parties should know in advance if the arbitrator is going to charge for travel time, study time, or other activities outside of the actual hearing.

FAIR TREATMENT

By Thomas L. Rosenberg

Perhaps the greatest criticism of arbitrators is how he or she handles the hearing. Is the arbitrator engaged in the hearing? Is the arbitrator too engaged, meaning does the arbitrator make up for the weaknesses of a party or unrepresented party who may not properly articulate his or her case or ask the right questions? Should the arbitrator do so? Does the arbitrator express or convey a certain bias in favor of a party or in favor of a type of party such as architects, general contractors, subcontractors, or others? Does the arbitrator appear to be favorable to the local lawyer he or she may know as opposed to nonbiased, and treat everybody in the hearing room fairly and

about the AUTHOR

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equally? Arbitrators need to be fair. Arbitrators need to be professional. Arbitrators need to manage the process efficiently and economically. To do otherwise gives rise to a poor process for all involved.

DISCOVERY DISPUTES

Arbitrators are often called upon to address discovery disputes. The parties may argue over whether all documents have been produced. The parties may argue over dilatory tactics in producing documents. The parties may argue over the availability of witnesses, damage calculations or other matters. The arbitrator's role is to make sure that the parties have all the information that they need to properly pursue and defend the claims that are being made in the case. An arbitrator should be proactive in the process in order to make sure that the parties comply with their obligations. This may require periodic conference calls with counsel. It could even require meetings or conferences with counsel and the parties so that everyone involved in the process has an understanding of the expectations and

obligations placed upon the parties throughout the arbitration.

E-DISCOVERY ISSUES

Everyone who has been in an adversarial proceeding knows that electronic discovery is out of control. Everybody knows that on large projects the documents can number in the millions and the burden upon parties to produce all electronic discovery can be insurmountable. The costs can at times outweigh the amount in dispute. A good arbitrator gets ahead of this e-discovery issue and properly manages it. A good arbitrator working with the parties establishes a process and a means for producing e-discovery that is fair. Such a process must not only be fair but take into account the costs involved in producing e-discovery, as well as the amount in dispute in the case. It makes no sense to produce millions of documents, which are maintained electronically by many people in a company, when the claim existing between the parties is only \$20,000. Rather, a process to produce only that which is absolutely necessary to the claims and defenses

can be created and followed under such circumstances.

REACHING THE DECISION

Lastly, a good arbitrator writes an award or decision that conveys to all parties the basis for the award. Sometimes these decisions can be extremely short and simply state who won, how much and why, or they can be extremely long addressing all of the evidence presented in the case, the credibility of the witnesses, and issue conclusions about the amount in dispute, who won and why. Regardless of the length of the decision, what must occur is for the arbitrator to base his or her decision upon the facts presented at the arbitration, apply the applicable law, and make it clear to the parties why the arbitrator has reached the decision issued.

CONCLUSION

There are good arbitrators and bad arbitrators. A good arbitrator treats this process extremely professionally and thoroughly. Hopefully, you will have more experiences with good arbitrators than bad arbitrators.





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TECHNOLOGY SOLUTIONS



By Greg Austin and Xia Cao

S ince the mid-2000s, shotcrete usage in underground construction has soared because contractors can install it more quickly and efficiently than traditional cast-in-place concrete systems. Project teams have supported adoption of the technology based on what has been described as a meaningful schedule acceleration of the time typically required to complete a foundation. For large-scale projects, that can translate into millions of dollars through accelerated occupancy and timely project completion. Enabling this surge in shotcrete use are advancements in waterproofing systems designed specifically for the material.

Below-grade construction with cast-in-place concrete requires installing forms in the excavation, pouring concrete, waiting for it to cure, and finally removing all the forms. Shotcrete application is typically faster because it can be done quickly by qualified nozzle operators without the need for concrete formwork. However, it does come with its own set of risks.

For example, shotcrete use can lead to voids in concrete walls and behind rebar. These problems, in turn, allow water to migrate around and into a structure should the waterproofing system fail. Water migration can derail timely project completion at great cost, while exposing the structure to leaks and flooding over its useful life. Also, the force of shotcrete spray can damage waterproofing membranes, as can the impact of adjacent building construction and flaws introduced by rebar, electrical, or plumbing contractors.

HIGH-PERFORMANCE WATERPROOFING SYSTEM

When first working with shotcrete, contractors tried adapting preapplied waterproofing solutions traditionally used with cast-in-place applications to shotcrete projects. After shotcrete placement onto the waterproofing membrane, contractors were forced to seal leaks by drilling holes through the shotcrete wall in trouble spots and injecting grout. As contractors could not see or track the pattern or extent of the vulnerability, the only method of filling the void or defect with grout was timeconsuming trial and error. This blindside approach produced only limited success or outright failure.

One solution to these deficiencies is use of an effective shotcrete waterproofing system, comprised of a membrane, grout-injection tubes, and grout. A tough composite membrane can stand up to the force and application of shotcrete, while a polymer-mesh-reinforced cavity sits between a layer of plastic film and a nonwoven, semipermeable geotextile.

In step one of the application process, the contractor attaches the membrane to the soil retention wall—typically a combination of piles and lagging. Before applying the shotcrete, the contractor fastens a spaced matrix of injection tubes onto the geotextile of the membrane. In step two, the grout is injected through the tubes after the shotcrete wall has cured. This can be one to two months after the construction of the wall and is a process that can be completed as construction on the project moves beyond the foundation (allowing for schedule acceleration).

During injection, the reactive grout fills the cavity created by the membrane and permeates through the geotextile. As a result, it forms a monolithic curtain wall of grout, proactively sealing voids in the wall itself and creating a high-performance waterproofing system bonded to the shotcrete.

This two-step method stops leaks before they happen, ensuring construction stays on schedule, liabilities are minimized, and the waterproofing solution shields the structure from water

ABOUT THE

Greg Austin is the global product director, specialty building materials, for GCP Applied Technologies. Based in Cambridge, Massachusetts, he has a background in consulting and more than 5 years of experience in waterproofing system development and construction materials. Austin can be reached via e-mail at greg.austin@gcpat.com.

Xia Cao is principal scientist at GCP Applied Technologies. She has more than 12 years of experience in waterproofing system and building materials development, and more than 20 years in material science and process engineering. She can be reached via e-mail at xia.cao@gcpat.com.

infiltration throughout the design life of the project. Combining preapplied membrane technology with injected leak-sealing materials results in a fully integrated waterproofing system. With this type of technology at their disposal, engineers and general contractors are increasingly turning to shotcrete to accelerate their high-profile, high-risk projects.

REBUILDING MAJOR HIGHWAY SYSTEM

The Alaskan Way Viaduct in Seattle is a north-to-south traffic corridor that carries tens of thousands of commuters through the city daily. Built as a bridge in 1953, the viaduct was damaged in 2001 by an earthquake. In 2013, construction crews began replacing it with a 2-mile long tunnel beneath the city at a projected cost of \$4.5 billion.

The tunnel's north and south portals span about 2,000 ft and start at grade before plunging about 80 ft deep. Adding to the complexity, multiple highway lanes merge into different levels of the tunnel. Further, the jobsite sits at sea level in a city known for its extremely wet climate.

Waterproofing of the viaduct began in June 2013. The waterproofing contractors installed about 350,000 sf of shotcrete waterproofing, or 600,000 sf of waterproofing membrane in total. In addition to protecting the viaduct, an additional 150,000 sf of membrane was utilized on the portals and the viaduct's operations buildings. Multiple systems were employed to accommodate the use of both shotcrete and cast-in-place concrete.

Despite soaking rains and leaky ground, the team completed the project in 2016, on time and without incident. Field engineers were onsite throughout the waterproofing process, ensuring proper installation of the waterproofing systems, training contractors, and troubleshooting any issues.

TACKLING THE CHALLENGE

In 2014, general contractor Turner Construction was tasked with building the Golden 1 Center, new home to the National Basketball Association's (NBA's) Sacramento Kings. The owners gave Turner less than 2 years to complete the 17,500-seat, \$507-million arena.

Turner chose F.D. Thomas as the waterproofing contractor to take on the challenges of a stadium that sits below the water table and is adjacent to two major rivers. For its waterproofing system, the contractor selected an integrated waterproofing membrane.

Rainstorms dumped 3 ft of water on the excavation before F.D. Thomas began installation. Despite the flooding, the contractor completed the job in just 45 days. Stuart Hunter, vice-president of F.D. Thomas's waterproofing division, credits his colleagues, the teamwork of Turner, and the concrete, rebar, and plumbing subcontractors—as well as the waterproofing system—for executing the task under pressure and finishing 15 days early. Since opening in September 2016, Golden 1 Center has operated without interruption due to leaks or flooding.

CONCLUSION

Advancements in waterproofing have enabled the rapid growth of shotcrete usage in traditional structural applications. With this type of technology available, contractors, designers, installers, and engineers will continue to expand the use of shotcrete, reaping the associated schedule benefits.











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You have many options when choosing a partner in acquiring, protecting, and servicing heavy equipment, which is why we are committed to providing an excellent experience regardless of the type of machines you need, the industry you work in, or the size of your company.

At Cat Financial, we believe that having a single provider for your equipment needs and financing solutions can streamline the process and help establish a lasting relationship for years to come. Plus, you can trust the expertise from our experienced team to help you make strategic business decisions that facilitate growth. ■



Contact your local Cat dealer or visit **www.catfinancial.com** to learn more about current offers and the solutions available for your business.

PURCHASE EQUIPMENT

Working capital loans Revolving lines of credit Operating leases High approval rates Quick credit approvals

RESELL EQUIPMENT

End-of-term solutions to keep your business running

Purchase, refinance, and return options

Low prices on used equipment at catfinancialequipment.com

Transferrable Equipment Protection Plans



PROTECT EQUIPMENT

Protection beyond standard warranty

Physical damage and commercial general liability insurance

Equipment Protection Plans

MANAGE YOUR ACCOUNT

24/7 online account access

Commercial account at any participating U.S. Cat dealer

Unmatched industry expertise
FINANCING AND EXTENDED PROTECTION BUILT FOR THE WAY YOU DO BUSINESS

For a limited time, take advantage of **1.9%** financing for **36 months**, plus a **3-year/3,000 hour** Powertrain + Hydraulic Equipment Protection Plan (EPP) for new Cat® Utility Compactors. Get the coverage you need to protect your business and give you peace of mind along the way.

Contact your Cat dealer today.

www.catfinancial.com



1.9% **36 MONTHS** PLUS 3-YR/ 3,000 **POWERTRAIN +** HYDRAULIC EPP

Terms subject to change. Certain restrictions apply. Offer valid from January 1-December 31, 2018 for qualifying customers. Special financing and EPP offer applies to Cat Utility Compactors models: CB1.7, CB1.8, CB22B, CB24B, CB24B, CB24B, XT, CC24B, CB32B, CB34B, CB36B, CC34B. 3-year/3,000 hours Powertrain + Hydraulics EPP offer available through Cat Financial Insurance Services only. This special offer available through participating Cat dealers in North America only. Contact your Cat dealer to confirm participation and to see if you qualify.

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DEMCO SIDE DUMPS



Side Dump Trailers

or more than half a century, Demco has used the phrase "Doing Our Best to Provide You the Best" to describe our commitment to customers, suppliers, co-workers and management in our on-going quest for excellence. Since the beginning, Demco has pursued a dream to fill needs, provide solutions, and compete in an existing market place. But, with a new generation and a new economical environment come new challenges to fulfill new dreams.

DEMCO FACILITIES

Demco's production facilities are located in Boyden, Iowa, and Spencer, Iowa, and cover 450,000 square feet. We have invested extensively in keeping our employees safe, while continuously updating high-tech automated equipment to improve our quality of products and increase productivity. These investments help us to build new and more advanced products at a competitive price.

Our Boyden location houses the corporate office. Our inside sales staff resides there, along with the majority of other office personnel. In our manufacturing plant, we fabricate Grain Carts, Grain Wagons, Sprayers, and Booms for the Agricultural Market. We make 5th Wheel Hitches, Supplemental Braking Systems, Tow Dollies, and Tow Bars for the RV Market, along with Trailer Components for various applications.

Our Spencer location manufactures Trailers and Agriculture products. Our facility is located in the Spencer manufacturing space. Our trailer products include steel and Aluminum Grain Trailers, Gondola Trailers for the recycling market, Drop Deck Trailers, and Side Dump Trailers. Ag products include Grain Tank Extensions for all makes and models of combines, Head Transporters for hauling corn

and bean heads, and other numerous

products for the agriculture industry.

Industrial Park on 35 acres of

land with 154,000 square feet of

THE DEMCO BRAND

The Demco brand name is synonymous with quality and performance in the trailer and agriculture industries. We understand that your equipment needs to perform every day and that breakdowns are not an option.

Demco is the leader in the industry for steel grain hopper trailers. Designed for the grain harvester by the grain harvester, our steel grain trailer is known as the work horse of grain trailers.

The Aluminum Grain Trailer was designed by farmers for the transportation of grain from the field to the farm or from the farm to your market. One of the most notable features of a Demco grain trailer is the ground clearance from the hopper allowing the best clearance in the industry.

Diversification is often a necessity in today's competitive business climate. Our trailers have expanded from Agricultural based grain trailers to Side Dump trailers, Steel Drop decks, and our Gondola Scrap Recycling product trailer.

Demco Side Dump trailers have the lowest center of gravity in the industry. The bottom of the tub actually sits inside and below the top of the chassis frame rails. This allows for increased stability when hauling as the weight of the load is closer to the ground than those whose dump bodies sit entirely above the chassis frame rails. The low center of gravity reduces the risk of tipping over the trailer during the dump cycle without sacrificing proper dump angle and creates a lower loading height. Innovative design is one of the hallmarks of the Demco Side Dump's success within the side dump marketplace. Many of these features are exclusive to Demco Side Dump Trailers. They are intended to reduce total cost of ownership by decreasing maintenance, increasing durability, and enhancing resale value.

Demco's drop deck trailers and Gondola Scrap trailers offer a multitude of hauling solutions that our

customers demand. Demco Manufacturing leads the steel drop deck trailer industry by providing quality workmanship into each trailer. The attention to detail in both design and construction is unrivaled. The Gondola trailers are utilized to haul scrap/recycling items from the original site to the Shedders or Balers, then the Gondolas are frequently utilized to haul shredded, baled, or prepared product to market.

A PLACE OF LEADERSHIP

Demco occupies a position of leadership in a specific segment of today's global marketplace with a well defined line of quality products serving multiple needs world-wide. Offering Agricultural, Construction, Recycling, RV aftermarket, Trailer components, and Towing products for consumer rental markets, Demco has earned its place with the right combination of skill and technology needed to produce the best products available without compromise. We enjoy long-term relationships with our clients and look forward to this continuum with our new clients.

DEMCO

DIFFERENT NAME SAME GREAT QUALITY



Featuring our **NEW 53 foot Gondola** with 7 foot sidewalls Your lightweight alternative for hauling scrap





Doing Our Best to Provide You the Best www.demco-products.com • 800.543.3626

DEUTZ CORPORATION

n jobsites all across the Americas, whenever productivity and profitability are on the line, you'll find DEUTZ engines getting the job done. Each and every day.

DEUTZ Corporation, a subsidiary of DEUTZ AG, is totally dedicated to providing the high-quality support customers across the Americas have come to expect and deserve. And, as the needs of our customers have grown, so has our footprint.

From our 137,000-square-foot headquarters in Norcross, Georgia, we are committed to providing optimized power solutions, from the drawing board to prototype to production release. From this location, we serve as a sales, service, parts, and application center for the Americas. Here, we employ more than 300 people who are committed to serving the needs of our OEM and distribution partners, fully supporting a product range of 25-to-830-hp diesel and natural gas engines.

A short drive from our headquarters in Norcross will take you to our 120,000-square-foot, value-add production and DEUTZ Xchange facility in Pendergrass, Georgia. Our DEUTZ Xchange teams have remanufactured nearly 18,000 engines over the past 10 years. DEUTZ Xchange remanufactured engines are immediately availability when customers need an engine right away. In addition to servicing customers all across the Americas, we have exclusive agreements with JLG and Terex AWP reconditioning programs.

When it comes to after-sales support, we have DEUTZ end users covered. We ensure that technicians at 300-plus service partner locations across the Americas are trained and ready to provide high-quality service to all DEUTZ engine customers. Our mission is to guarantee that each DEUTZ engine customer will encounter a highly trained service staff with the tools and know-how to get the job done right the first time. And, when it comes to overall service, our coverage is solid—and growing.

All DEUTZ-authorized service providers are required to have the latest



DEUTZ proprietary service diagnostic programs and specialized service tools on hand. But, when an issue arises that requires our help, our Norcross service team is there to lend their expertise. Each week, our service team handles around 300 calls during business hours and supports not only engines, but also tools and service programs.

Along with providing diagnostic programs and tools, DEUTZ Corporation ensures that our service partners receive the best technical service available in the industry. Between the training that takes place both in our Norcross training center and out in the field, we train more than 1,100 service professionals each year.

Our service team has taken great strides to speed up the warranty claim process by adding a world-class warranty disassembly area in Norcross, which allows us to make quicker decisions regarding warranty claims.

We know that customers don't have time to wait for DEUTZ Genuine Parts when their productivity is on the line. That's why we've stocked nearly 15,000 line items with a value of over \$23 million in our 97,000-square-foot warehouse in Norcross.

In 2016, we launched a series of DEUTZ Power Centers and Service Centers to complement our existing distribution network. These centers, located in the metropolitan areas of Kansas City, Missouri; Chicago, Illinois; St. Louis, Missouri; and Charlotte, North Carolina, serve as one-stop shops, supporting OEM partners and end users who need quick, reliable access to DEUTZ Genuine Parts and service, new engines, and DEUTZ Xchange remanufactured and brand-new engines. In addition to handling DEUTZ engine needs, each location is also fully authorized to provide parts for and perform complete service on Terex Genie aerial lifts.

DEUTZ is also making significant investments in gas and diesel electric hybrid technology, and even battery-only solutions being actively developed by our E-DEUTZ program. Our electrification strategy is at the forefront of the industrial powertrain business, helping our customers embrace tomorrow's world today—truly an example of the DEUTZ Difference.

It might be possible for some engine manufacturers to become complacent after decades of serving as a market leader around the world, and it might be possible for some subsidiaries to rest on a record of success that spans decades. However, it's not in our nature, because we're driven to work as hard as our OEM partners and customers do—every single day.

SETTING THE STANDARD WHEN PROFITS AND PRODUCTIVITY ARE ON THE LINE.



REMANUFACTURED TO ORIGINAL DEUTZ FACTORY STANDARDS.

- We are so confident about the quality of DEUTZ Xchange engines that we offer a national three-year limited, fully transferrable warranty.
- DEUTZ Xchange engines are assembled with 100% genuine DEUTZ replacement parts and undergo a 300-point reconditioning process, which includes all the latest engineering advancements.



DEUTZ Xchange provides a no-hassle core return policy, and speedy delivery.



912 Series



1013 Series





2011 Series

2012 Series

WHY BUY NEW, WHEN YOU CAN BUY DEUTZ CHANGE®

Call us direct today at 770-564-7335! Or visit your authorized DEUTZ Distributor for more information > www.deutzamericas.com/xchange



The Inventor, The Innovator, The Standard

F or nearly 25 years, Express Blower, Inc. has been leading the pneumatic blower truck market through technological innovation, state-of-the-art systems, and practical experience, resulting in a greater number of largesize pneumatic blower machines working in the field today than any other manufacturer. The mantra, "We are selling a business, not just a piece of equipment," is ingrained in Express Blower's culture and is reflected in the equipment and services provided to its customers.

THE EQUIPMENT

All **Express Blower**[®] (EB) product lines are designed to blow a variety of organic materials from mulches to compost to soil blends to some aggregates, saving customers time and labor, increasing their profitability and versatility, and decreasing the seasonality often found in construction and landscaping work. With more than 60 years of design and development behind it, EB machines are the most powerful on the market today.

Because a purchase can truly be a business opportunity and not just another tool in the shed, the potential for profit is key and can provide the following opportunities:

- Reduce the number of workers required for labor intensive, low profit jobs such as mulching, leaving the rest of the crew available to do more profitable work.
- Complete more jobs in a day due to the speed an EB can apply materials.
- Provide access to the proprietary Terraseeding[®] process, which is the calibrated injection of seed into the blow stream for turf, erosion control blankets and berms, and green roofs.

- Help take the seasonal nature out of a businesses' workflow.
 Work all year long due to the power and versatility of its machines.
- Increase customers' satisfaction by delivering a consistent, professional, and efficient service, creating a greater opportunity for repeat business.



What began as a true bark or mulch blower truck has given way to a variety of Express Blower machines, some of which are powerful enough to productively blow **aggregates** as large as 1.5inch round rock at distances in excess of 1,850 feet and compost and soil blends more than 2,000 feet*.

One size does not fit all: Integrated PTO powered units. Truck/trailer mount. A variety of body sizes from semi-trailer size to a compact skid. Plus, EB now also offers the retro Express **Mulcher** with walking floor and hose reel for companies interested in a more economical machine strictly for mulches and wood chips applications. The Express Mulcher makes quick work of coarse, dry lightweight materials often found with mulches, compost, and playground chips. Its attractive price point and simplified design makes the Express Mulcher a perfect machine for an already existing business or as an entrylevel unit into the pneumatic blower market.

THE COMPANY

Express Blower, Inc. began more than 60 years ago when Rexius Forest By-Products, Inc. developed the pneumatic conveying system for use in their wood waste and mulching business. In 1994, Rexius began manufacturing the units for worldwide distribution. In 2002, Express Blower was acquired by DHG, Inc. and became a sister company to FINN Corporation, which has been in business for more than 80 years and manufactures HydroSeeders[®], Straw Blowers, and Bark Blowers. Express Blower and FINN operate separately vet under the same ownership and each company maintains its own unique sales and manufacturing process and structure.

Express Blower, Inc. builds its equipment at its corporate facility in Fairfield, Ohio, and also at its satellite location in Eugene, Oregon. Providing the most experienced and knowledgeable people in both the sales and the support of its equipment, Express Blower is known for developing close relationships with its customers. Onsite operator training, expert technical support, exceptional parts availability, and an exclusive owner's conference are a few more reasons people choose Express Blower.

Whether it is for erosion control, green roofs, landscaping, construction, playgrounds, aggregates, or Terraseeding, EB equipment reduces labor requirements, saves job time, expands capabilities, and provides great profit potential. When you work with Express Blower, you are working with the people who know blower trucks and their markets best.

*Performance may vary depending on type and quality of material used, operator proficiency, and jobsite setup, requirements, and specifications.

Express Blower, Terraseeding, and the Express Blower design logo are trademarks of Express Blower, Inc. HydroSeeder is a trademark of FINN Corporation.



YOU DON'T NEED MORE PEOPLE... You need more machine

Whether you are looking to increase your current green business' profitability and productivity, or you are an entrepreneur looking for an opportunity to capitalize in an emerging market, Express Blower, Inc. has the expertise and equipment to help you realize your vision. We are the INVENTOR, the INNOVATOR, the STANDARD. Call us.

Pneumatic Blower Equipment for:

- Green Roof Material Installation
- Erosion Control Blankets/Berms
- Terraseeding[®]/Topdressing
- Landscape Mulching
- Playground Chips Installation
- Animal Bedding & Mud Control
- Aggregates

CONTACT US TODAY



541.434.7100 800.285.7227 www.expressblower.com info@expressblower.com

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G as detection has come a long way since the first portable gas detector with a catalytic diffusion sensor was introduced decades ago. New technology has led to the development of sophisticated, yet simple to use, gas detectors that can run for their entire lifespan without ever needing to be charged or calibrated. Gas Clip Technologies' continued development and refinement of advanced low-power photometric infrared technology for LEL measurement helps save more lives and makes compliance to safety regulations simple.

Gas Clip Technologies is leading the gas detection industry with new innovations every year that are designed to keep things simple. Recently added to its family of portable gas detectors is a maintenance-free multigas detector that provides 3-years of continuous runtime with no charging or calibration necessary—the Multi Gas Clip Simple Plus. Finally eliminate the risk of



being exposed to hazardous gases due to a gas detector running out of battery in the middle of a shift. Hydrogen sulfide (H2S), carbon monoxide (CO), oxygen (O2), and combustible gases (LEL) can all be detected with this simple-to-use and simple-to-maintain detector. Just turn it on and have worry-free assurance that you will be warned of the most common life-threatening gases 24/7 for 3 full years.



WHAT MAKES THIS ULTRA-DURABLE DETECTOR ABLE TO PERFORM SO WELL FOR SO LONG EVEN UNDER THE HARSHEST OF CONDITIONS?

The Multi Gas Clip Simple Plus uses a low-energy infrared beam of light inside the sensor that detects combustible gases. This sensor technology has an extremely low drain on the battery, allowing the battery to last for years at a time. Non-infrared (pellistor/ catalytic bead) combustible gas sensors, which were the only combustible gas sensors available for many years, contained two beads and a filament which needed to heat up to detect gas. That continual heating process used an enormous amount of energy which quickly consumed the battery power of the detector. By the end of a shift, and sometimes even before a shift was over, gas detectors would need to be recharged. The Multi Gas Clip Simple Plus is always charged up and ready to perform.

The pellistor/catalytic bead combustible gas sensor required continual calibrations because it gradually degraded over time due to exposure to typical sensor poisons such as H2S or silicones. It was also susceptible to breakage when the detector was accidentally dropped and bursting when it was suddenly exposed to a high level of gas concentration. The sensor could become instantly inoperable without the user's knowledge. The infrared combustible gas sensor in **Gas Clip Technologies'** detectors contains no fragile filament or bead to get poisoned, to break or to burst. It fails to safe, so the detector will notify you immediately if the sensor fails at any time during operation.

The **Multi Gas Clip Simple Plus** is the simplest to use and easiest to maintain gas detector available today. It comes with a 3-year warranty and no hidden service or monthly fees. All detectors are quality tested before they are shipped. Any necessary warranty work is handled quickly and efficiently by **Gas Clip Technologies'** certified service technicians at no cost to the customer. The service department is second to none. ■

For more information, visit **www.gascliptech.com**.



Portable gas detectors you can count on

MGC Simple & Simple Plus the multi gas detectors that you never have to charge



MGC Simple & MGC Simple Plus

Two or three year run time with no charging
 Detect in oxygen deficient or oxygen

- enriched environments
- LEL sensor is immune to sensor poisoning
 Fails to safe
- Simple, one button operation
- 100% Quality control tested
- Full two or three year warranty



Our Family of Products



Multi Gas Clip

The portable multi gas detector that can run continuously for two months on one charge due to advanced infrared sensor technology. Tests for combustible gases (LEL), H₂S, CO and O₂.

Multi Gas Clip Pump

Compact, light-weight, handheld/wearable multi gas detector with internal pump draws from 75 ft. & runs for five days on a single charge. Tests for combustible gases (LEL), H₂S, CO and O₂.





Single Gas Clip Eliminate downtime with our ultra-reliable

portable gas detector. Tests for H_2S , CO or O_2 .



Single Gas Clip Plus Hibernate mode offers extended life option

when detector is not in use. Tests for H_2S or CO.

Compatible Docking Stations Portable, durable 4-bay dock stations

for up to four detectors at once with the push of a button.

MGC Simple Clip Dock, Multi Gas Clip Dock, MGC Pump Clip Dock & Single Gas Clip Dock





The Isuzu FTR. Vocationally Versatile.

he Isuzu FTR has been on the market for about 2 years and while some have stereotyped the FTR as another "box" truck, not so fast my friend! The FTR is a great platform for a number of body applications, especially those in construction. As seen here, the FTR makes a great dump body for moving dirt and debris or as a stake bed for delivering materials. Whatever your needs might be, the FTR is worth considering.

Shaun Skinner, president of Isuzu Commercial Truck of America, knows the versatility of the FTR is its strength. "The FTR is a great work truck that fits a number of needs across a lot of vocational markets. From refrigerated applications to construction, how our customers use the FTR continues to grow. It has a great platform that can easily be upfit to carry freight but has also been upfit with dump and chipper bodies for those vocations needing more payload in rugged environments."

RUGGED ENVIRONMENTS

Rugged environments are something that construction professionals are familiar with. From the downtown rebuild to the new shopping plaza and everything in between, constructions sites are notorious for rough terrain and tight quarters. Maneuverability and visibility are paramount when driving through the maze of equipment and on-site



obstacles. Those are key strengths of the FTR. As a matter of fact, the FTR is the best in class when it comes to maneuverability and visibility. With a 50-degree inner wheel cut, the FTR has a better turning diameter than trucks with conventional cabs. This reduces the cumbersome three-point turns, and the low cab forward design provides the driver and passengers better horizontal and vertical visibility in front of the truck. Maneuverability and visibility help ease the driving effort while also helping enhance the safety for the driver and the surrounding environment.

As mentioned, payload is also very important and the Class 6 FTR's 25,950 GVWR gives body companies plenty of room to work with when building your truck. Most FTR dump trucks are built on the shorter 152-in. and 170-in. wheelbases with 14-to-16-ft bodies and can accommodate payloads +/-10,000 lbs. That is some real heft in a short wheelbase.

FTR's Class 6 rating also means most drivers aren't required to have a Commercial Driver's License and hiring a non-CDL driver alone can save contractors on labor costs and expand their labor's versatility on site. To be safe, always check your state's regulations as there may also be requirements for trucks with air brakes like the FTR.

EFFICIENT AND DURABLE

The FTR is powered by the renowned Isuzu 4HK1-TC engine, a 5.2L turbocharged four-cylinder diesel engine that carries a B-10 durability rating of 375,000 miles. That means that 90 percent of the 4HK1-TC engines should reach 375,000 miles before needing any major overhaul repairs. Isuzu diesel engines are known for their quality and durability. That is why Isuzu trucks boast a lower cost of ownership and the less maintenance also means more uptime.



The 5.2L power plant outputs 520 lb-ft of torque and 215 hp through an Allison 2550 6-speed automatic transmission. This combination is not only durable, but highly efficient and B-20 compatible for those that prefer to use biodiesel. Fuel savings and low maintenance costs will always be at the forefront when purchasing work trucks. That is why it is tough to look past the efficiency and durability of the FTR that helps provide a low cost of ownership while holding a strong residual value synonymous with the Isuzu brand.

LEGENDARY QUALITY

Isuzu has vast experience building low cab forward medium-duty trucks were first delivered to the North American market in 1984, and since then, over 500,000 trucks have been delivered. In 1986, Isuzu trucks became the best-selling low cab forward trucks in America-an accolade that still holds true today. The low cab forward design has shown U.S. business owners a smarter way to work with trucks that are maneuverable, efficient, and deliver remarkable quality and durability that can only come from a century of expertise. Along with a class-leading warranty and legendary quality, owners also enjoy the peace of mind and a low cost of ownership that is synonymous with the Isuzu brand.



GET YOUR CLASS 6 ISUZU FTR WORKING FOR YOUR BUSINESS THIS YEAR

APR RATES AS LOW AS

2.79 %

ON ALL NEW ISUZU FTR TRUCKS

See Your Local Isuzu Dealer For Further Details www.isuzucv.com



Vehicles shown with optional equipment; some equipment is dealer installed. F-Series vehicles are assembled from component parts manufactured by Isuzu Motors Limited and by independent suppliers who manufacture such components to Isuzu's exacting standards for quality, performance and safety. The 2.79% APR finance offer expires 12/31/18 and is only available through Isuzu Finance of America, Inc. Finance terms are limited. Participating dealers only. Credit approval required. Please see your authorized Isuzu dealer for qualifying information. Truck bodies represented herein are products of the Morgan Corporation.

COMPANYPROFILES

ISUZU MOTORS AMERICA, LLC

A World Class Leader for Power Solutions

suzu is a global leader and producer of on-road commercial vehicles, off-road Diesel engine applications and stationary engines. Their consistent focus is on "creation without compromise" to build and maintain a world class organization for power solutions. Over the years, through the expansion of their manufacturing operations, Isuzu products have continued to benefit people in over 100 countries. Their engine manufacturing has now exceeded 26,000,000 globally. Isuzu ensures the most advanced performance and services, with a goal to become the new international standard of excellence in product development, quality, manufacturing systems and customer support. With an uncompromising commitment to continual improvements, Isuzu helps build better products and better partnerships for customers throughout the world.

ISUZU PRODUCTS AND SERVICES

Isuzu Diesel engine products have proven to be Reliable, Eco-friendly, Durable, and Technologically Advanced since 1916. Their Tier IV and beyond products, branded under Isuzu REDTech[™], provide quiet, low maintenance and fuel efficient solutions for existing and new applications needed today and into the future. From 11.8 hp to over 500 hp, these engines use a unique technology without a DPF (Diesel Particulate Filter). Each engine is precision tuned for its highest





efficiency, while reducing oil and fuel consumption. A long-lasting and robust fuel injection system is incorporated for excellent fuel economy and extended service life. Stringent criteria of lowering NVH (noise, vibration, harshness) are engineered into every Isuzu engine. Each application is designed to meet customer specifications and is engineering validated for each environment. Isuzu REDTech[™] engines with reliable performance, durability, and high thermal efficiency help eliminate downtime. All of this is supported by a Distributor and Dealer network along with dedicated corporate professionals who are disciplined in engineering, manufacturing, and management to ensure the right solutions for their customers.

NEW ALTERNATIVE FUEL OPTION COMING TO MARKET: 4HV1

Isuzu is launching a new alternative fuel 4HV1 4.6L engine with a NG rating range of 78 to 83 hp and a LP rating range of 63 to 82 hp for use in off-highway and industrial applications. It is a natural progression and already proven successful in the Isuzu Commercial Vehicle CNG segment. Current production is targeted for 2019 paving the way for future engine ranges within this new Isuzu category.

ISUZU REDTECH™ POWER UNITS

Isuzu Diesel offers a range of standard to customizable power unit configurations rated from 11.8 to 188 hp. These products are backed with limited warranties based on years or hours of service, whichever comes first. Pictured below are the Tier 4 Final 3CH1at 18kW, 4LE2X at 30-49kW, 4JJ1X at 52-84kW, and 4HK1X at 129-140kW. These products are available to fit numerous industrial and off-highway applications where reliable, ecofriendly, durable, and technologically advanced power is needed in every environment. More information can be obtained by contacting an Isuzu Diesel distributor in your area or going directly to **www.isuzuengines.com**.





4LE2X P/U 30 - 49 kW



4JJ1X P/U 52 - 84 kW



Isuzu Diesel Power Units are reliable, eco-friendly, durable, and technologically advanced to meet all your applications.

ator :: Road Roller :: Truck Crane :: Backhoe Loader :: Concrete r Crane :: Motor Grader :: Skid Rock Drill :: Road Paver :: Fork-Combine :: Power Generator :: erial W Putform :: Water, let

Compressor:: Draina

HJJLX Tier 4 Final power unit with accessories

Compressor :: Drainage Pump : Pump :: Oilfield Mud Pump :: Pivo

Every Isuzu Power Unit is built to your exact requirements. Every engine has been proven with over 100 years in manufacturing and over 26 million Engines worldwide. Isuzu has been providing solutions for you to wash, light, power, pump, cut, drain, haul and heat with applications for every environment. We can help you with your powering needs today. Contact your local Isuzu Distributor or us direct at 734.582.9470.

HHK1X Tier 4 Final power unit with accessories



Mi-T-M CORPORATION

Manufacturer of Quality Equipment with a Story to Tell

n 1971, AJ Spiegel worked 120 hours a week and traveled more than 100,000 miles a year. He was committed to promoting his new pressure washer by attending trade shows and exhibitions all over the country. "It was important to me to personally present my product—no matter where I had to go to do it," he states.

Raised on a farm near Peosta, lowa, just down the road from today's 1-million-square-foot manufacturing facility that is home to the Mi-T-M Corporation, Spiegel was never a stranger to hard work. "We knew what work was seven days a week," he says. "We knew we had to be there 14 times a week to milk the cows. From an early age, work ethic was very prominent in my life."

During his days as a painting contractor, Spiegel sold truck-mounted 10,000 psi water blasters. This is what inspired him to

develop something more portable and practical for contractors. His very first pressure washer, the Mighty-1000, was developed from Spiegel's idea of what the industry needed—a compact, portable, 1,000 psi pressure washer. It was the very first self-contained, gas-powered pressure washer on the market.

MIGHTY WITH PURPOSE

Spiegel named his company, Mi-T-M, as a response to the "mini-craze" of the 1970s. "Everything was mini," he says. "That image was the opposite of what I wanted for my company. My company was destined to be 'Mighty'." So he paired that with the Roman numeral "M" and the rest is history. In 1972, Spiegel was building and selling his first model to local farmers and paint contractors, but it was the success at trade shows that really generated sales. "It was a hit. We had all sorts of requests for that machine." he says, so in 1973 Spiegel began to focus solely on his growing pressure washer manufacturing company. In 1978, the company had

eight employees and in 1982 that number doubled. Two years later it doubled again. Today, Mi-T-M employs more than 450 talented and dedicated people.

Like the growth of the organization, Mi-T-M's product line also expanded. Mi-T-M now manufactures more than 200 different models of pressure washers including gasoline, diesel, and electric powered in both cold and hot water models. In 1998, water reclaim and treatment systems were added to the product mix, followed by air compressors and industrial wet and dry vacuums in 1999. Always looking to diversify, Mi-T-M began manufacturing industrial generators, multipurpose air compressor/generator combinations, air compressor/generator/welder combinations, jobsite boxes, portable heaters, and transfer pumps.

PRESSURE WASHER POPULAR

Of the many models of pressure washers manufactured by Mi-T-M, hot water pressure washers have grown in popularity. They are ideal for removing heavy mud and muck from equipment, vehicles, and trailers, as well as removing grease, dirt, and grime around buildings.

Powered by a gasoline 389cc Honda GX390 overhead valve engine with direct drive AR pump, the 3500 PSI HSP Series is a top seller. This powerful washer is designed for industrial

and commercial cleaning and is extremely reliable. The durable, reinforced powder coated steel roll cage frame makes it almost indestructible, but it is still easy to move around any jobsite. It features a unique burner design for better fuel efficiency and a patented Electro Magnetic Firing (EMF) system. This EMF system eliminates the need for a 12 volt battery to operate the burner.

For even more cleaning power, the HSP Series washer includes a built-in low pressure detergent injector and comes with a 50-foot steel wire-braided high pressure hose, 48-inch adjustable pressure insulated dual wand, and four quick connect nozzles for a variety of cleaning tasks. It carries a 3-year Honda engine limited warranty and 7-year AR pump limited warranty.

Built to blast away mud, grease, and grime, the HSP Series hot water pressure washer is one of a kind and can handle tough cleaning and demanding jobsites. It is a great addition to any contracting fleet.

See how to use this hot water pressure washer here: www.mitm.com/ support/videos/how-to-use-a-hotwater-gas-pressure-washer/

YOUR JOB IS IMPORTANT TO US

Having the right equipment for a job is important and at Mi-T-M all equipment comes with a guarantee of unbeatable customer service and technical support. For more information on Mi-T-M Corporation's complete line of products and customer service, visit **www.mitm.com** or call 800.553.9053. ■

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 Wet/Dry Vacuums • Jobsite Boxes • Portable Heaters • Water Pumps • Water Treatment Systems

ON CENTER SOFTWARE

Today's construction industry is highly competitive and contractors face a wave of new technology that may—at times—feel more like a tsunami. With Silicon Valley pouring billions into artificial intelligence, virtual reality, and robotics, many contractors are struggling to make sense of the best tech available to help them grow their business.

Whether you are a large commercial construction company or a familyrun plumbing contractor, one thing is certain, contractors need solutions designed to save time, reduce costs, improve productivity, and strengthen profit margins. Building and preserving a project backlog is one way contractors can gain some stability and it starts with faster takeoff, more accurate estimates, and fewer errors.

For 30 years, On Center Software has helped contractors bid and win more work by transitioning them from manual to digital takeoff. Our full range of industry-leading takeoff and estimating software tools are intuitive and easy-to-use. They empower all construction trades to swiftly adjust cost and easily see profitability. This means contractors can stress less and protect profits throughout the job.

POWERFUL ESTIMATING TOOLS

For many estimators, being able to highlight, measure, record, assemble, summarize, price, submit, track, and manage all projects right from their laptops can be a huge competitive advantage. When a construction business can automate their workflows from bid to build to completion, it is much easier to handle change orders, addendums, and alternates than with manual, siloed tools.

When estimators use On Center's fully integrated software—On-Screen Takeoff[®] (OST) with Quick Bid[®]—they not only improve their bid-to-win ratio, but reduce rework and save takeoff calculations for the next bid. These integrated tools are designed to speed up the process and improve accuracy for material takeoff and estimating. By keeping a digital, historical record of bids and jobs, it is easier for a construction business to get a jump start on the next bid.

With On-Screen Takeoff, everything required for the next estimate is just a few clicks away. No more triple checking spreadsheets. By sharpening accuracy, construction businesses can position themselves to consistently beat the competition.

For example, many contractors use Quick Bid's eQuotes feature for current

ARE YOU READY TO TRANSFORM YOUR BUSINESS? SEE FOR YOURSELF WHY ON CENTER SOFTWARE IS TRUSTED BY MORE THAN 40,000 USERS.

pricing of suppliers and vendors and for generating change orders that can be priced independently or included as part of the entire job. Automatic calculations also mean greater accuracy and less time calculating results.

WIN MORE PROFITABLE WORK

With On-Screen Takeoff and Quick Bid, any construction business can quickly respond to questions and verify bids. With On-Screen Takeoff, it is as simple as the click and drag of a mouse to view electronic plans, takeoff multiple quantities, spot revisions, create RFIs, and more. This allows estimators to easily add alternate pricing for items the client may want to see as an add or deduct.

Starting a new project bid or budget is also much simpler when you can create databases where all material pricing, production rates, and more are stored—rather than searching through spreadsheets. Since much of what estimators do is very repetitive, they can pull this information with the click of a button using Quick Bid. Together, these tools can put a construction business in a position to bid and win more work. It is a huge game-changer to be able to compile itemized costs, labor rates, change orders, and materials to precisely predict the cost of a job to avoid bidding too high or too low.

SAVE TIME AND MONEY

Estimating is the cornerstone of every construction business. Many construction businesses

find significant savings in eliminating the need to print, handle, and store bulky paper-based plans and other documents. Electronic documents imported directly into On-Screen Takeoff allow estimators to easily takeoff all aspects of the project. The estimator specifies and views individual conditions directly on the computer screen.

Being able to save takeoff calculations for incoming

addendums before bid day means fewer errors and rework. Instead of estimators spending hours and days sifting through marked-up plans and prior estimates, they can shorten the time spent quantifying plans and reworking measurements.

With the overlay feature of On-Screen Takeoff, estimators can more easily compare, side-by-side, two versions of a drawing as deleted items are in red, and added items are in blue. This makes it easier to instantly spot plan revisions. Using time-saving takeoff tools means your business can improve accuracy, present more professional bids, and win more profitable projects.

GROW YOUR BUSINESS WITH ON CENTER

By catering to all construction sub-industries—from general contractors to plumbers and electricians—On Center Software is helping contractors leave manual takeoff behind, improve productivity, and grow their profits. ■

For more information, visit www.oncenter.com/schedule-demo.



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Like a large, hairy creature, hidden details can sometimes leave an enormous footprint on profitability.

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T HE POWER GRIPZ, founded in 2012, is dedicated to producing the highest quality gloves in the industry.

Founded on the need for innovation in the industry, The Power Gripz remains committed to superior innovation for customers worldwide, offering multiple styles of leather protectors and work gloves that meet and exceed industry standards, and the standards of its valued end users.

For more than a century, other manufacturers offered nothing in terms of innovation. The Power Gripz changed all that bringing innovation and solutions to industries—and more importantly to end users. The Power Gripz is the first choice in grip solutions and has been embraced by end users in a variety of industries.

THE POWER GRIPZ , originally designed by linemen—for linemen has expanded to fully service most all industries for hand protection, while



TPG3-CLIMBER-PS XL/Length 13 in.



TPG3-014K-BARE/Length 14 in.

delivering Quality, Durability, and Performance. The Power Gripz offers choice and selection for any job. From Cut Resistant and Standard Protectors, including Standard Cuff, Bell Cuff, and Contour Cuff, to Low Voltage options in both 10-inch and 13-inch lengths. The Power Gripz also features a complete line of work gloves including highly durable all leather, cut resistant, thinsulate cold weather, FWR, and Mechanic styles. The Power Gripz uses only the highest quality materials ensuring ultimate protection and maximum comfort.

NEW OFFERINGS FOR 2019

New offerings for 2019 include The Power Gripz BARE SERIES, our topquality HIGH AND LOW voltage leather protectors featuring a natural grip for those that prefer a traditional protector, as well as a DRIVER & CLIMBER STYLE WORK GLOVE.

End users ask and we listen. Those who demand and choose reliable, unsurpassed quality in the tools they put to work choose THE POWER GRIPZ.

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B ased in Michigan City, Indiana, Sullair is one of the largest air compressor manufacturers in the world. Sullair has an extensive global distributor network that serves customers in nearly every corner of the globe.

For more than 50 years, Sullair has remained a leader at developing innovative compressed air solutions with world-class efficiency. As one of the first to execute rotary screw technology in air compressors, Sullair equipment is known around the world for its legendary durability.

Following an acquisition by Hitachi in 2017, Sullair is using the combined strengths of both compressor companies to provide high efficiency, high quality, and optimized air solutions satisfying customers' operating needs.

Since 1965, Sullair has built a promise to customers on three pillars: reliability, durability, and performance.

RELIABILITY

Customers who work with Sullair have found that the intangibles make all the difference—things like trust, confidence, and peace of mind. They go to work every day having full faith in their equipment, as well as the knowledge that dedicated distributors and Sullair personnel have their back every step of the way.

DURABILITY

Built to last, Sullair compressors are in it for the long haul, driven by the

design of the legendary air end. On jobsites all over the world, Sullair compressors stand the test of time, running consistently today like they did on day one.

PERFORMANCE

Sullair compressors do what they're supposed to do, and they do it well for years, if not decades. It's not uncommon to see 30- or 40-yearold Sullair compressors working on the roadside.

The Sullair vision for success is twofold: produce clean, quality air for the job at hand and provide cost-effective solutions for now and the long term.

COMMAND THE JOBSITE

The Sullair Portable compressor fleet is ideal for tackling a variety of applications. With a range of sizes, pressures and flows—along with a complete selection of Air Tools—the Sullair lineup offers maneuverability, easy maintenance, and an air end built to stand the test of time. Proof can be found on jobsites around the world—from construction to mining and more—where Sullair compressors are delivering increased productivity day in and day out.

The workhorse of the elite Sullair mobile fleet is the Sullair 185 Tier 4 Final portable air compressor, a compact design for easy maneuverability and impressive fuel economy with a 20-gallon fuel tank providing up to 10 hours of use drive this unit's versatility. The 185 includes the legendary Sullair 14-Series air end to help provide long-lasting durability. Plus, the Sullair 185 includes an enclosed large tool box—perfect to carry Sullair construction air tools to and from the jobsite.

The Sullair 375 Series of air compressors provides higher pressures in a compact package—helping maximize rental opportunities.

Sullair offers four models in the 375 family with rated pressures from 150 to 200 psi providing air flow up to 425 cfm. This versatile product offering provides air power for applications ranging from general construction to abrasive blasting to optical fiber installation.

The 375 Series maximizes engine power into pressure and air flow volume, allowing users to run at a higher power with the flip of a switch on select models within the family. The engine-mounted after-treatment allows Sullair to package the engine into a 25 percent smaller footprint compared to previous Sullair models, helping with towing and jobsite maneuverability. Swing doors provide maximum access for all service and maintenance items.

All Sullair 375 Series air compressors feature the legendary Sullair 16-Series air end as well as Sullair AWF[®] All Weather Fluid, helping ensure compressor operations in even the harshest conditions. The Sullair 375H, 400HH, and 425H compressors feature Caterpillar C4.4 engines, while the 400H features a Cummins QSF3.8. ■





COMMAND THE JOBSITE WITH ROADSIDE RELIABILITY

Versatile Sullair compressors offer elite maneuverability, easy maintenance and an air end built to stand the test of time.

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enderson-based Xtreme Manufacturing LLC is known today as one of the leading manufacturers of telehandlers for the North American market. Xtreme telehandlers are widely used for lifting materials in the construction, mining, energy, infrastructure, oil and gas, and agricultural sectors.

Founded in 2003, Xtreme Manufacturing was born from Don Ahern's personal experience in the rental industry, struggling to find a reliable telehandler for his fleet. Inspired to produce his own machine that overcame common engineering faults of products available at the time, Don purchased Western Attachments Company in 1999, an Oregon-based forklift company that specialized in rough terrain vertical mast forklifts.

In January 2003, Don rebranded Western Attachments Co.

rollers for smoother operation and minimal maintenance, and specially designed controls that allow the operator to keep one hand on the steering wheel at all times. A wider than industrystandard outrigger stance provides additional stability, and standard auxiliary hydraulics means that the lift can be fitted with a wide range of attachments for flexibility on the job.

The 70 ft maximum lift height on the XR1570 overshadows its other striking feature, which is its extensive forward reach. At its maximum, the XR1570 can reach 53 ft, 10 inches with a lift capacity of up to 3,000 lbs, making it an alternative to a crane. This substantial forward reach is particularly useful in solar projects, culvert projects, wind farms, infrastructure, steel erections, stick framing applications, as well on jobsites with difficult access, such as for masonry contractors working on restoration projects.

as Xtreme Manufacturing and launched the first Xtreme telehandler, the XRM945. With a maximum reach of 45 ft, the XRM945 had a lift capacity of 9,000 lbs.

Foreseeing anticipated growth of the company, Xtreme Manufacturing relocated from Oregon to Las Vegas, Nevada in 2003. Increasing demand for products and the larger scale of the equipment brought Xtreme to relocate to a new corporate headquarters in Henderson, Nevada, in 2016.



ALTERNATIVE TO CRANES

Due to its versatile lift height, lift capacity and forward reach, the Xtreme XR1570 has become a popular product within the construction industry as it can be used as an alternative to cranes. This presents real cost savings to a contractor, as it requires only one certified telehandler operator, versus a crane that requires one certified crane operator, a crane oiler, and a

EXCEPTIONAL PERFORMANCE

Offering the largest range of heavy-duty and high-capacity telehandlers in North America, Xtreme's product line currently includes 17 models of telehandlers with capacities ranging from 5,900 lbs to 70,000 lbs and lift heights ranging from 19 ft to 70 ft. Designed to outlast and outperform anything else in the industry, Xtreme has set the standard for safety, productivity, and reliability.

At World of Concrete 2018, Xtreme Manufacturing unveiled four new telehandler models to its range, including the Xtreme XR1570. Recognized as the World's tallest fixed boom telehandler, the Xtreme XR1570 high-capacity roller boom telehandler is the ideal balance of reach, height, capacity, and maneuverability. Delivering an impressive 70 ft maximum lift height, and a 15,000 lbs lift capacity, the XR1570 is an incredibly versatile material lift engineered to withstand the toughest working conditions.

THE XTREME DIFFERENCE

All Xtreme telehandlers, including the XR1570, share key attributes that constitute "The Xtreme Difference," including 360-degree operator visibility from the cab, an integrated machine rated lift point for suspended loads, long-life boom

crane flagger. In addition, telehandlers are widely known to offer significant productivity benefits over cranes in many applications, as they do not require any set-up or dismantle, and are able to pick and carry the load.

Like all Xtreme telehandlers, the XR1570 benefits from a heavy-duty, all-steel construction designed to deliver a long working life. Weighing in at 47,100 lbs, the XR1570 has a robust chassis with a 147 inch wheelbase, ground clearance of 15 inches, and a turning radius of 15 ft, 10 inches. Many options are available for the XR1570, including a choice of open and enclosed cabs, with heat and air conditioning, as well as multiple fork tines and carriages, including a side tilt carriage. The XR1570 can be further customized with attachments, including a 72 inch pole grapple, sling mount, truss booms, and buckets.

Using a 134 hp, Tier 4-Final Deutz engine, the XR1570 is equipped with a 72 gallon fuel capacity and has a 72 inch fixed carriage. The lift utilizes a C-class carriage to handle the higher capacity loads.

Designed to provide a long working life, all Xtreme telehandlers are backed by an industry-leading 10yr-5yr-2yr warranty, and are built in the USA. The new Xtreme XR1570 is available to order now. ■

PUTTING EVERYTHING WITHIN REACH

Reach for the stars and stripes. With a maximum lift height of 70 ft. and a forward reach of 53 ft. 10 in., the Xtreme XR1570 will help you reach new heights and expand horizons from sea to shining sea. Designed with safety, reliability and serviceability in mind, Xtreme proudly manufactures in the U.S.A. to help you build your American dream.

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COMPANYPROFILES

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he Alliance Tire Group (ATG), Inc., is one of the fastestgrowing manufacturers of off-highway tires in the world. ATG's Galaxy brand is a global leader in tires for skid steers, loaders, telehandlers, and other construction and industrial equipment.

Galaxy tires are purpose-built to handle the real-life challenges modern contractors encounter on the jobsite, and help make crews more productive and profitable. And, with more than 2,000 patterns and sizes across the Alliance, Galaxy, and Primex brands, ATG has one of largest and most diverse off-road and industrial product lineups in the business.

MORE SOLUTIONS

IDEO

Galaxy SDS (Severe Duty Solid) and radial OTR (off-the-road) tires provide modern contractors with more solutions than ever. The rugged, solid SDS tires play a tireless defense, warding off damage from sharp metal, jagged concrete, and grinding pavement. Meanwhile, the Galaxy radial OTR line goes on the offense, increasing fuel efficiency and tire life, improving traction and flotation, and reducing wear on machinery.

GLOBAL TEAM

As a major global supplier for some of the world's most trusted equipment manufacturers—including CNH, John Deere, and Caterpillar—ATG has won positions on hundreds of OE fitments.

The ATG global R&D team maintains constant contact with customers in the field. World-class engineers collaborate closely with construction professionals and equipment companies every day, developing and refining tires to deliver premium performance.

Alliance, Galaxy, and Primex tires are backed by ATG's global team, too. With a nationwide network of warehouses and a dedicated staff of customer service and field engineering experts, ATG makes it easy to get the tires contractors need. And the company stands behind every tire with an aggressive, updated warranty program and a quick, streamlined warranty app. ■



A I Richmond began building auger boring machines under the name Richmond Manufacturing in 1961. By 1970, under Leo Barbera, Richmond Manufacturing spun off into American Augers and continued to focus on auger boring machines.

PRODUCTIVITY AND SAFETY

Over the years, the company has focused heavily on developing products and systems which improve productivity while increasing overall safety for underground construction. American Augers was the first company to eliminate chains and go completely to rack and pinion on all HDD (horizontal directional drilling) rigs.

Realizing the need for exit pit crews to be able to lockout drills so they can work directly on the drill string or exit side tooling, the company developed es!lok[®], in 2001. Oftentimes, drill operators may not be able to see the exit pit crew, and miscommunication with two-way radios can lead to unexpected movement of the drill pipe, which can cause serious injury and even death. This system allows workers at the exit side to "lockout" the movement of the pipe, increasing the safety for those working in the exit pit.

PIONEERING IDEAS

The company continues to drive the industry forward with new pioneering ideas. The most recent groundbreaking advancement is a new spin on the way the company started, with the new electric auger boring machine. Keeping fumes out of the pit is a big issue, especially with deep pit boring. This new machine has enough power to get through tough bores, is user-friendly, and can be operated out of the pit with the new remote control. The new electric auger boring machine has also proven successful in extreme cold jobsite locations.

In 2012, Charles Machine Works acquired American Augers and Trencor, which brought Trencor manufacturing under the same roof as American Augers in West Salem, Ohio. Specializing in large scale trenching and surface mining, Trencor has a history dating back to 1945 and is known for long lasting and reliable equipment. Both brands are now manufactured with quality, durability, and support in mind.

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American Augers / Trencor takes pride in the support they give customers around the world. Their dedicated service team is responsive, knowledgeable, and available 24-hours a day, 365 days a year. ■



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APPLIED MACHINERY SALES



ocated in Rock Hill, South Carolina, Applied Machinery Sales (AMS) has been doing business since 2010. President Garth McGillewie knows construction well. He grew up in construction, working in all facets of manufacturing, operations, field work, and import/ export. His business, AMS, is the exclusive importer and distributor for three lines of equipment, starting with



Merlo Telehandlers and Rotos, recently adding AIRO self-propelled manbaskets and VF-Venieri earthmoving machines.

McGillewie shares, "We only import and distribute machinery that exceeds what is expected. Our equipment, all built to a higher standard, offers better overall quality and many safety features. These machines are available through direct sales and our growing dealer network."



One word sums up how AMS adds value to the contractor: versatility. Each line of equipment offers the right combination of models and features so a contractor's needs and requirements can be met or even exceeded. ■

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Nimble and compact, the Roto offers a 360° slewing turret, independent jacking stabilizers, no flex boom, Tac-Lock attachment quick release, and the capacity to safely move materials and personnel at height. Plus, there are two real time safety systems, and a comfortable cab designed for operator efficiency. Lift up to 97'. Reach out to 83'. Visit the website to find your Merlo.

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CONVEYOR APPLICATION SYSTEMS

Ince 2004, Conveyor Applications Systems "CAS[®]" (www.slingers.com) has been the forefront leader in offering an extensive line of on-road and off-road "Slingers" along with Reloaders to the heavy-construction industry. As the only American Made Slinger Manufacturer, CAS was the first to introduce new patented technology that eliminated high wear maintenance items in the "traditional" Slinger truck and allowed for greater material "slinging" distance. The CAS line of off-road Slingers such as the AT7, TR20, and TR30 gives contractors flexibility by having the capability to sling material into locations that were once deemed impossible due to limited "truck access." Imagine having access to a tool that allowed placement of material wherever needed? CAS off-road Slingers, equipped with proprietary wireless technology, allows for wireless control as far away as 900 feet and when combined with an RL26HD reloader, the CAS off-road fleet has continuous working capabilities, which eliminates costly downtime.

Not to be outdone, the CAS on-road fleet gets a whole lot of attention as well, with the SuperTrack and all-new CAS Fat Boy Slinger truck. True to form, the new Fat Boy was a

CAS® SLINGERS DO THE WORK, SO YOU DON'T HAVE TO!

completely new design that took the Slinger truck industry by storm and eliminated many of the "issues" plaguing the "traditional" Slinger Truck design. The new sleek, lowprofile design is safer to operate and the zero degree feed floor, among the widest in the industry, reduces bridging and sticking. The CAS Fat Boy was built for the experienced Slinger Truck owners/operators and is packed full of functionality. Whether you choose the CAS Fat Boy or the SuperTrack, CAS Slinger Trucks are in a class of their own.

CAS Slingers are currently deployed across the globe in a variety of working environments, moving material faster and with less expense than traditional methods. The CAS Slinger ownership family is an invaluable partner in our quest to build the best, most advanced Slingers in the industry. As CAS owners continue to find new and exciting ways for CAS Slingers to be used, we gain valuable knowledge that we put to work every day to refine our Slingers. ■



COMPANY PROFILES

CURRY SUPPLY COMPANY

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urry Supply Company is a family owned business established in 1932. Over the past 80 years, Curry Supply has grown to be one of America's largest manufacturers and dealers of commercial service vehicles, with a team of committed individuals who bring their talents, skills, and passion to the table every day to help customers solve their most pressing commercial service equipment challenges.



Curry Supply services the oil and gas, construction, equipment rental, mining, agriculture, waste, rail, and a variety of other industries. Starting out as a general store selling supplies to the farming community in the 1930's, Curry Supply evolved through the years to include manufacturing capabilities of new equipment including vacuum trucks, winch trucks, mechanics trucks, on-road and off-road water trucks, on-road and off-road fuel/lube trucks, and others.

All engineering, manufacturing, assembly, painting, financing, shipping, and warranty are done inhouse. Sales and service are provided throughout the United States and international delivery is available.

Whether you are pushing, pulling, digging, scraping, or

hauling, Curry Supply has the standard and custom vehicles needed to keep you moving and making money. ■

For more information, call 814.793.2829 or visit **www.currysupply.com.**





stablished February 1998, familyowned and operated Dominion Equipment Parts LLC celebrates its 20th anniversary this year.

In just two decades, Dominion has become the OEM provider for Yanmar and Morooka equipment parts, developed its own brand of highquality rubber track replacements, and is one of the nation's leading track importers, supplying rubber tracks for 38 crawler equipment brands.

Dominion is also a distributor of undercarriage parts for top brand names including Bobcat, Caterpillar, Gehl, Kubota, Takeuchi, and Mustang, providing sprockets, rollers, and idlers. It is the solely authorized North American distributor of specialized, compact dumpers and concrete trucks manufactured by Fiori. Its geographic range includes the 48 contiguous United States, Canada, Mexico, and South and Central America.

Dominion initially shipped nationwide from Richmond, Virginia, its original base of operations. To improve delivery times, Dominion established distribution hubs in Dallas and Cincinnati, then added Jacksonville, Sacramento, Albany, and Portland. In 2015, it added a Canadian hub in Leduc, Alberta. Each was chosen for its logistical efficiency to give the region's customers sameday shipping with next-day delivery. Customers who choose to can also pick up their tracks or parts right from a regional warehouse, since each distribution hub also has a dedicated sales staff.

One of Dominion's greatest assets is a strong dealer network offering Dominion Rubber Tracks and associated



parts, including Yanmar and Morooka. The network includes United Rentals, the largest rental agency on the continent with more than 960 locations.

Going forward, Dominion is focusing on improving its inventory and distribution capabilities even further, as well as supporting the Fiori Group machines it introduced in 2016. The compact, user-friendly vehicles increase productivity, flexibility, and operator safety in confined spaces such as narrow lanes, alleys, and tunnels. They are ideal for working in crowded city centers or in environmentally sensitive habitats and valued landscapes with restricted access. ■

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Through our **www.DredgeandPitTrader.com** market place website, we offer our customers a world audience to sell their surplus equipment with maximum return.

Dredge Central has a management team with decades of dredge building experience, so call 615.859.3733, or visit our location in Goodlettsville, Tennessee, only 25 minutes from Nashville International Airport BNA for solutions to your dredging challenges. ■

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EBERSPAECHER CLIMATE CONTROL SYSTEMS NA

The Eberspaecher Group is one of the world's leading system developers and suppliers of exhaust technology, vehicle heaters, and bus air conditioning systems. Eberspaecher is also a professional innovation partner for the automotive industry in air conditioning of special purpose vehicles and in automotive electronics.

Eberspaecher NA, formerly Espar Heater Systems, offers product solutions for climate control and sells and services fueloperated heaters and AC solutions for a variety of applications including trucks, school buses, vocational vehicles, vans, marine, military, off-highway equipment, and passenger cars.

Sales, After Sales Support, and Service groups, Eberspaecher reaches out to the market through a number of different channels including: OEM"s, OEM dealers, Large Distributors, Dealers, and Independents.

Eberspaecher heating systems utilize 12 or 24 volt battery systems and gasoline or diesel as an on-board fuel. They operate as diesel or gasoline furnaces with sealed combustion chambers. Eberspaecher Air heater's use forced air as a heating medium while the Eberspaecher Coolant heaters circulate the engine coolant to transfer heat.

BUNK HEATERS

Eberspaecher Air Heaters have heat outputs that range from 6,000 BTU to 41,000 BTU. These air systems are compact with all heat creation and fan distribution neatly packaged within the unit. The heaters have from two to four heat levels and cycle between these levels according to the temperature desired by the user.

ENGINE PRE-HEATERS

Eberspaecher Coolant Heaters have heat outputs that range from 5,500 BTU to 120,000 BTU. These coolant systems are compact with all heat creation, fan distribution, and plumbing neatly packaged within the unit. The heaters have from two to four heat levels and cycle between these levels to maintain a constant coolant temperature called for by the control unit.

By owning and operating its engineering and manufacturing facilities, Eberspaecher NA is meeting the specific needs of customers today and developing technologies for meeting the customer needs in the future.

www.eberspaecher-na.com



COMPANY PROFILES

EFFICIENCY PRODUCTION

fficiency Production—America's Trench Box Builder™—is an Arcosa Shoring Products Company. Efficiency provides the widest selection of standard and custom trench shielding and shoring systems, including:

- Steel and Aluminum Trench Shields
- Steel Manhole Shields
- The industry-leading Build-A-Box™ Aluminum Modular Trench Shielding System
- Hydraulic Shores, Rescue Shores, Hi-Clearance Shores, and Hydraulic Aluminum Shields

Efficiency Production's versatile products are designed specifically for safe and cost-effective installation of utility systems and infrastructure improvements. All products are P.E. certified to meet OSHA standards. Additionally, Efficiency Production manufactures the country's PREMIER Slide Rail System, supported by the manufacturer's *Special Operations Shoring Division*—the nation's most experienced team of Slide Rail experts and installers.

Efficiency also supplies and services a full range of construction support equipment, including:

- Stone Mizer™ Bedding Box Material Containers
- Porta-Tank[™] Water-tank and Power-Spray System
- Road Plate
- Pipe Pullers
- Fall Protection
- Tire Mud Cleaners

Founded by an underground contractor in 1971, Efficiency Production was the first company to commercially manufacture and distribute trench shields in the United States and Canada. Since then, Efficiency has grown to be the leading manufacturer of trench shielding and shoring equipment.

With a staff of professional engineers, product specialists, and a state-of-the-art manufacturing facility, Efficiency provides trench shielding and shoring equipment throughout the United States, Canada, South America, and many other parts of the world.

Efficiency also offers a full range of custom engineering support, including: pre-bid CAD system drawings; special application design for highly challenging jobsite conditions; sales, marketing, and customer service support; and onsite installation assistance from the country's foremost Slide Rail System and Trench Shielding Specialists.

For more information, call 800.552.8800, or visit www.efficiencyproduction.com.



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HANDY HITCH

Equipment for Road Construction and Maintenance



www.handyhitch.com

andy Hitch Manufacturing Inc. (part of the Rancan Group of Companies) is a leading North American company specializing in the design and manufacture of equipment for road construction and maintenance. With flagship products like the Profile and Contour gradermounted Packer/Rollers, Handy Hitch is a leader in its industry for supplying high quality, low maintenance, and versatile equipment that gets the job done easily and effectively.

PROFILE PACKER/ROLLER

The Profile frame has three main pivot points located at the rear of the frame. Each pivot point is linked via hardened steel pins and bushing to an arm assembly that is controlled by a hydraulic cylinder and central Pressure Relief System for down pressure control. Each of the three arms is then attached to a walking beam. Each walking beam has two 6,000 lb double-ended spindle and hub assemblies, complete with 14-ply smooth roller tires. The frame design enables you to follow the contour of the road by diverting oil from one hydraulic cylinder to another via the hydraulic pressure relief system. The Profile is attached directly to the rear of the grader; the lift assembly frame comes with a standard 24-inch offset. Available options are a quick attach plate and front steering pivot plate.

CONTOUR PACKER/ROLLER

Simple to use by a single operator, the Contour Packer/Roller has a unique independent contour frame system that allows the compactor tires to follow the exact contour of the road. This system maintains constant pressure by the tires on the road and leaves a smooth, uniform surface. The Contour machines are designed to mount easily to any brand of grader ripper bar. ■

Handy Hitch provides superior equipment to worldwide customers. For any questions or where to locate a dealer, call 800.665.2490.



Designs Award-winning Portable Construction Site Lighting



The award-winning Lind Equipment Beacon LED tower brings you all the light you've come to expect from traditional 4 x 1000W metal halide light towers, but in a completely unexpected package. Compact, lightweight, and truly manportable, the Beacon LED Tower can be transported with ease without any compromise in durability and stability.

The Beacon LED Tower puts out the same light levels as a generator light tower, but uses 80 percent less electricity. You can plug two Beacon LED Towers into a single 15A outlet, or use a small 1000W generator that stores easily in the cabinet. Beacon LED Towers can fit through man doors and you can transport two in the back of a full-size pickup.

And, the best part is that they are half the cost of traditional light towers.

Lind Equipment also makes a suite of temporary construction site lighting called the LED Jobsite. The LED Jobsite system is an award-winning system of purpose-built, patented plug and play LED temporary construction lights that you can mix and match to fit your project, and all the projects to come.

The LED Jobsite pays for itself on the first project, and will dramatically reduce downtime, site injuries, and maintenance and installation costs. Substantial labor savings will be realized as LED Jobsite lights require significantly less circuits and are easier to install, move, and take down. Adopting the LED Jobsite will pay itself back on the first project, and with the benefit of reusing the lights on multiple projects, you will further increase your ROI.

To date, the LED Jobsite has saved over 150 million kWh of electricity and reduced CO2 emissions by over 100,000 metric tons. ■

> See more about these products at Lind Equipment's booth C7406 at World of Concrete, or at www.beaconledtower.com and www.ledjobsite.com.



S eventeen years ago, the vision was to manufacture a mobile crusher that could attach itself to a range of excavators, with the crushing capabilities of a traditional crusher, but with the flexibility to crush on site and in difficult areas. Thus, Carlo Azzolin and his family introduced a new type of machinery to the market—the crusher bucket.

Present day, the family business known as MB Crusher, led by Azzolin's five children, has expanded worldwide, with seven international subsidiaries and an extensive network of dealers and distributors who sell to more than 150 countries.

FULL PRODUCT LINE

Over the years, the company expanded its first original BF90.3 crusher bucket, a patented jaw crusher, into a full product line with several model variations and sizes. Initially created for a range of excavators, the company has expanded its crusher line to include attachments for skid loaders, loaders, and backhoes.

CRUSH ON-SITE

The mobile crushers allow contractors to recycle waste materials immediately on the jobsite rather than have the materials transported to a static crusher. The crushing attachments can crush railway sleepers, hollow core walls, reinforced and nonreinforced concrete, natural stone, and asphalt into reusable aggregate materials for base or fill.

MULTIPLE APPLICATIONS

MB's crushing product line has expanded to include trommel screening attachments, 360° rotation grapples, dual and single head rotary drum cutters, for application in a wide range of industries and jobsites, including demolition, excavation, road work, quarries, mining, pipeline work, and environmental reclamation projects.

EVER-EVOLVING

The company has continued to shape and evolve the crushing industry while keeping in mind the customers' needs and providing them with a cost-effective and greener option for the environment. ■

For information, visit MB America's website at **www.mbamerica.com**, or contact the company at 855.MB.CRUSH (855.622.7874).

MB Crusher is the worldwide leader in producing and distributing equipment and accessories for the fields of earthmoving, demolition, and recycling. MB America, Inc. is located in Reno, Nevada, and is the American subsidiary of MB Crusher S.p.A.





Screed Support System Reduces Fill Volume by 85%

S pin Screed has developed and made available to contractors a screed support system that reduces the fill volume by 85 percent when compared with a pipe screed. The flat bar screed support system uses a plastic chair set on top of rebar driven to the proper grade. Instead of the contractor screeding off the top of a pipe, they screed off of the top of a flat bar. After the bar is removed, the small void left in the concrete is easily filled



by simply bull floating the area. There is no need to fill, and this produces a fast and flat surface every time. A video of this screed support system is available on the Spin Screed website: **www.spinscreed.com**

Eighteen years ago, Joe Churchill, an experienced concrete contractor, developer, and builder, invented the first light-weight roller screed to serve the needs of his own construction business. He called the roller screed the Spin Screed and trademarked the name after becoming convinced that the Spin Screed he had just invented was better than any screed on the market. After 18 years of production and steady growth, the Spin Screed can be found on some of the biggest projects in North America and 16 countries around the world.

Big name contractors like Kiewit, Flatiron, TIC, and others, as well as countless

small contractors, have discovered the benefits of the Spin Screed and put it to work on their jobs. The Spin Screed has been chosen to work on some of the biggest construction projects in North America, including the widest suspension bridge in the world and the world's longest floating bridge.

Put the Spin Screed to work on your job and begin to reap the benefits of this amazing screed. ■




American Manufacturing for American Workers

• uperior Tire & Rubber Corp. is a leader in the design and manufacture of polyurethane and rubber industrial components with more than 50 years of experience. They manufacture thousands of unique components, many of which for some of the world's most recognizable equipment brands: Caterpillar, Roadtec, Gomaco, Bomag, Carlson, among many others. Superior Tire's products are used in material handling, construction, agriculture, and in specialized manufacturing operations. Superior Tire's ability to keep up with the ever-evolving OEMs, as well as keeping an ear to the ground with equipment operators, has kept them far ahead of the competition and growing. During the past year, Superior Tire added two new facilities to its home base in Warren, Pennsylvania. The first is a 10,000-squarefoot mold manufacturing and precision machining operations facility. This business unit allows low volume/high precision work to be separate from high volume production manufacturing. Additionally, Superior Tire opened a 23,000-square-foot Distribution Center to significantly improve its fulfillment efficiency, allowing further expansion of manufacturing operations at the main facilities.

When it comes to construction equipment components, Superior Tire has been designing and manufacturing rubber and polyurethane track pads for more than 40 years. Superior Tire's industry leading Cushotrac[®] Track Pads are used to protect existing infrastructure from damage caused by the steel grouser shoes found on crawler type construction equipment. Working alongside contractors, operators, and mechanics on jobsites allowed Superior Tire to develop many styles of track pads to meet virtually every application.

Aside from industry knowledge and stellar product offerings, Superior Tire also offers something none of its competitors do—written guarantees. Every Cushotrac[®] track pad comes with two guarantees to begin with: 100% Work-Life Guarantee and No Bond Failure Guarantee. In Superior Tire's application specific flagship products, the guarantees only get better. For excavators, their Cushotrac[®] ReDDi[™] polyurethane Bolt-To-Link track pad (an industry first) features a staggering 2-Year or 2,000-Hour Wear-Life Guarantee. For Asphalt Milling machines, Superior Tire's Cushotrac[®] Ultimate[™] track pad features a 2,000-Hour Wear-Life Guarantee, upgradeable to 3,000 Hours. No other competitor can offer this type of protection because no other competitor has put as much dedication and confidence into their products. ■

> For more information, call 800.289.1456, or visit **www.superiortire.com**.



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TALLMAN EQUIPMENT

allman Equipment Co., Inc. is an employee-owned company headquartered in Columbus, Indiana. Tallman Equipment provides a variety of services such as tool distribution, manufacturing, tool rental, and tool repair for electric utility companies and contractors throughout the United States.

Everyone at Tallman Equipment subscribes to the belief that anything worth doing is worth doing well. That belief is cultivated from the upper management down to the newest employee. We continually try to improve our procedures and processes, many of which were instituted due to the growing partnerships with our customers.

As an established distributor, we provide the industry with a diverse list of tools and equipment from industry leading manufacturers and suppliers. Tallman Equipment can virtually provide you with every brand of tool on the market. In addition to sales, Tallman Equipment is an authorized repair facility for warranty and non-warranty repairs for a large number of tool manufacturers.

Included in our services we specialize in the assembly, repair and testing of ground sets, jumper sets, fiberglass tools, hydraulic/electric pumps and hoists, winch lines, and transformer slings. Tallman Equipment also rents a wide variety of tools and equipment including stringing blocks, fiberglass extension arms, compression tools, dies, hoists, grips, and much more.





The **DDIN** DNRB-6 sets a new standard for rigging blocks. Featuring double-raced bearings, precision machined parts, reduced side-to-side play, ASME B30 compliant and a working load limit of 5,000 lbs (5:1 design factor). Each block is proof tested and serialized for traceability. Once you use this block you won't want to use any other.

For more information visit: WWW.TALLMANEQUIPMENT.COM/GOLDSTANDARD



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TBR STRATEGIES

hether you're in heavy construction, oil and gas, mining, or other sectors dependent on equipment reliability, your margins are getting smaller as your costs and expenses escalate. You need a way to maximize the ROI on your equipment investment by improving operator care and skills and increasing the teamwork between operations and maintenance. That's just a fraction of what we do for our clients at TBR Strategies.

TBR Strategies is one of the country's foremost asset management consultancies specializing in maintenance and reliability. Our consulting team has partnered with some of the world's largest companies in optimizing their equipment by leveraging a one-of-a-kind proprietary program of **Total Process Reliability**. Through these partnerships, we have delivered sustainable and ongoing improvements in equipment uptime, lower maintenance costs, and operator care and skill levels that have resulted in award winning clients.

The TBR approach to Total Process Reliability is designed to help your company transition from a reactive to a proactive organization based on five distinct phases. Total Process Reliability is all about achieving specific goals to become best-in-class. That translates to having zero defects and making equipment breakdowns a thing of the past. The results have been nothing short of miraculous



for leading companies across sectors that have seen major improvements in operational efficiencies that make the company stronger, more efficient, and more profitable.

We provide training and guidance to create a teamwork approach between operations and maintenance, refining the preventive maintenance process, and helping key stakeholders, managers, and the workforce become an active part of the process. ■

For more information on how we can help reduce your maintenance cost, visit **tbr-strategies.com**.





The Law Office of Adele L. Abrams PC is a multiattorney firm with offices in the DC area, Denver, and West Virginia. Our attorneys focus on representing employers nationwide in OSHA and MSHA litigation, and also provide incident investigation, safety auditing, and consulting services. The firm's attorneys hold professional safety and health certifications including CSP, CIH, CMSP, and engineering degrees. In addition to on-site services, we can provide web-based training and program development and review, including compliance with the OSHA crystalline silica standard. The Law Office also represents employers in state employment and environmental matters in MD, DC, PA, MI, WV, CO, and MT. We also handle federal matters in multiple US District Courts, the US Courts of Appeal (DC, 3rd and 4th Cir.), and the US Supreme Court.

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ockwheel Americas is a division of Alpine Equipment, a trusted supplier of equipment for the construction, environmental, underground, and mining sectors for more than 45 years. Our Rockwheel is a powerful and precise rotary grinder with tremendous torque allowing for rapid and precise removal of rock and concrete, filling the niche between bucket excavation, hammers, and blasting. These heavy-duty attachments are also popular for post-blast scaling in the mining sector. A wide product line is available to equip excavators from the 1-ton to 75+ ton class. Included in the Rockwheel lineup is the patented Cutter-Bucket combination, which is a revolutionary tool for trenching in rock and frozen ground. In the environmental arena, we supply innovative hydraulic rotary soil mixing attachments for use in remediation, stabilization, and solidification projects. All products are available on a rental basis with purchase option. Alpine's experienced team can help with job-specific customization and is always available for technical support, service and parts.







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RAMMER Seats North America opened its doors in Shannon, Mississippi, in 2014 as a production facility for seats in the construction, agriculture, material handling, and turf industries. Prior to this, GRAMMER Inc operated in Hudson, Wisconsin, from 2001 to 2014. Sales, marketing, and engineering continue to reside in Hudson to this day continuing to support its customers within the region. Today, the Shannon/Tupelo facility has incorporated assembly, foam and cushion operations, prototyping, quality care, warehousing, and shipping all under one roof. Day in and day out, heavy construction operators are exposed to intense vehicle vibrations, leaving them susceptible to back problems and even serious injury. GRAMMER seats are here to keep operators healthy, no matter how brutal the conditions. Built with advanced materials and industry-leading suspension systems, GRAMMER seats reduce the job's nastiest vibrations and maximize comfort.



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ifting Gear Hire (LGH), the leading expert in the rental of hoisting and rigging equipment, maintains a reputation for the safety, quality, and reliability of its equipment that is unmatched in the industry. Operating from 23 locations throughout North America, LGH has the most comprehensive inventory of rental equipment for all jacking, pulling, rigging, hoisting, and safety needs. LGH sets itself apart from competitors through a strict testing, inspection, and recertification regimen for each piece of equipment in its fleet. You won't find rusty parts or chain on any of our rentals, as all equipment is stored bare in a climatecontrolled warehouse, is chained to order, and receives a fresh coat of paint before each rental.

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e know the Fastener Market and have been serving it proudly since 1959. We stand out from our competitors because only Metallics can say we have the ability to manufacture exclusive, unique fasteners through our affiliate, Avanti Screw, Inc. This ability to manufacture coupled with our strategically placed location in Bristol, Connecticut, along with the highest fill rates in America, same day next day shipping, and personalized service when you call, clearly makes us, the Right Choice.

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THE TREND REPORT

Think Inside the Box

A conversation with Brad Deutser, founder and CEO of Deutser and the Deutser Clarity Institute

By Donna Campbell

When I visit jobsites and spend time in the trailer listening to the hustle and bustle of the morning meetings, the topic of safety catches my attention. "We've posted signs, had tailgate safety meetings, and talked to the crew every morning. What else can we do?"

Besides quoting the stale "create a safety culture," it's time to start thinking inside the box. Yes, that's right ... inside the box.

I had the pleasure of an engaging phone conversation with Brad Deutser, the author of the book Leading Clarity: The Breakthrough Strategy to Unleash PEOPLE, PROFIT, and PERFORMANCE. Brad is a thought leader on organizational clarity. His perspective on the dynamics of taking a humanistic approach to matters such as safety within an organization is revolutionary, and yet easily within the grasp of companies' leaders. Let's take a closer look "at the box" for a better understanding of clarity.

BUILD YOUR BOX

Each company's box is unique due to its challenges, but the structure and framework are consistent. The four sides of the box represent Direction, Operations, People, and Engagement. The bottom on the box represents the Foundation and the top of the box represents the Environment. So, what does all of this mean? Deutser breaks it down like this:

Direction: This side of the box is where the company's vision and values reside, along with strategy and leadership.

Operations: This side houses systems and processes, performance management, and adaptability.

People: This side of the box is about employee clarity and fit, customer focus, and communication effectiveness.

Engagement: The last side of the box brings together coaching and development, talent management, and team capabilities.

Foundation: This is where leaders invest smartly for what's important for the business to thrive and grow.

Environment: The top of the box considers the outside elements, the market trends and competitors, and the industrial forces that could influence the company.

The six sides of the box must be examined, thought about with focus, and put in writing. The connections between the six sides create the contents of the box. What's working? What's not connecting? Where do changes need to be made? What's missing to align and balance the sides of the box?

INSIDE THE NEW NORMAL

The following is an excerpt taken from Deutser's book: The shifting paradigm of going from outside to inside the box takes some getting used to. Leaders worry about losing the innovation and creativity that they previously believed comes from outside-the-box thinking. But, inside-the-box produces more efficiency, more alignment, more purpose, and is a far easier and more effective platform from which to lead. We have always believed that people universally want to support their company and contribute in a positive way. They, like people of all ages and places in life, need structure. They also need and crave definition, connectivity, and a reason to believe. The box provides the structure and the belief system for the company, the leadership, the board, and the workforce. It also provides a tangible thing for all to understand and hold on to. The reality, as our work has proven, is that when everyone is holding on to the same box, they come alive, encourage responsible creativity, and drive real innovation.

A STUDY IN CLARITY

You may be asking yourself "How do I get organized to gain clarity inside the box?" This is the point where I tell you to get the book. It walks you through all the tough thinking to realize what you have and what you need to create your box, understand your box, and work within your box.

When it comes to safety, there's a difference between compliance vs committed. Get inside your box and figure out the system or approach that best answers the need for your company and its employees. Have more meaningful conversations in your safety meetings. Use pictures of the jobsite and ask the crew what they see or don't see in the way of safety measures. This creates life-thinking behavior.

SUMMARY

I could have spent many hours on the phone with Brad Deutser. His delivery and way of explaining the process creates a happy space in the brain. I recommend his book for any company that needs to have a firm footing of which to operate, grow, and thrive.

FOR MORE

To get your copy of Brad Deutser's book, visit www.braddeutser.com. His website provides more information about the man behind the book and gives you resources, quizzes, and videos to find your clarity.

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