

PROFESSIONAL DEMOLITION AMERICA

Your Gateway to North, Central and South America

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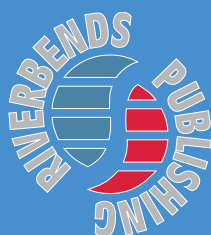
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"Change Is In the Air"

You've no doubt heard the expression, "make hay while the sun shines." What began centuries ago as a literal admonition for farmers to utilize favorable dry weather for hay-making tasks is now a reminder to those in any industry to make the most of a favorable situation.

And for the past several years, most contractors in the U.S. and elsewhere in the Americas have been doing just that. An economic expansion with superb staying power has created a steady stream of construction work across a variety of sectors. When one area shows signs of a pullback, another rises to take its place.

This has been particularly beneficial for contractors with the versatility to quickly direct resources from one type of work, say highway and utility infrastructure, to projects in multi-family housing or renovation.

But nothing lasts forever. Construction's longtime sunny skies are increasingly dotted with clouds that may not bring a dooming deluge comparable to the 2008 recession, but could well present new challenges and compound others.

One issue should already be apparent to most PDa readers—the skilled labor shortage, a problem that has become more acute as supply falls further behind demand. Engineering News-Record magazine's 20-city average price for skilled labor, released in early July 2018, is 2.3% higher than at the same time last year. That tracks with the Construction Labor Research Council's projected 2.5% union labor shortage for 2018, up from last year's predicted increase of 2.1%.

Many contractors have reportedly begun to offer signing bonuses to lure craft workers, along with free training to cultivate even the most rudimentary technical skills.

Low material prices, a boon to project owners' budgets that helped lift construction out of the recession, are also a thing of the past. Along with increased demand, the imposition of 25% and 10% tariffs on imported steel and aluminum,

respectively, will almost certainly make those materials more expensive.

Though many industry observers believe the U.S. has sufficient steelmaking capacity to compensate for overseas supply losses, even minor pressure on supply chains could result in extended delivery schedules, complicating project logistics and adding an unwelcome measure of instability and uncertainty to contractors who operating on the figurative edge financially. And if you've fueled your vehicles lately, you've likely noticed an uptick in gas prices.

The good news is that a downturn is no imminent. Dodge Data & Analytics shows construction starts are holding steady compared with last year, with a rise as of much as 3% by the end of 2018.

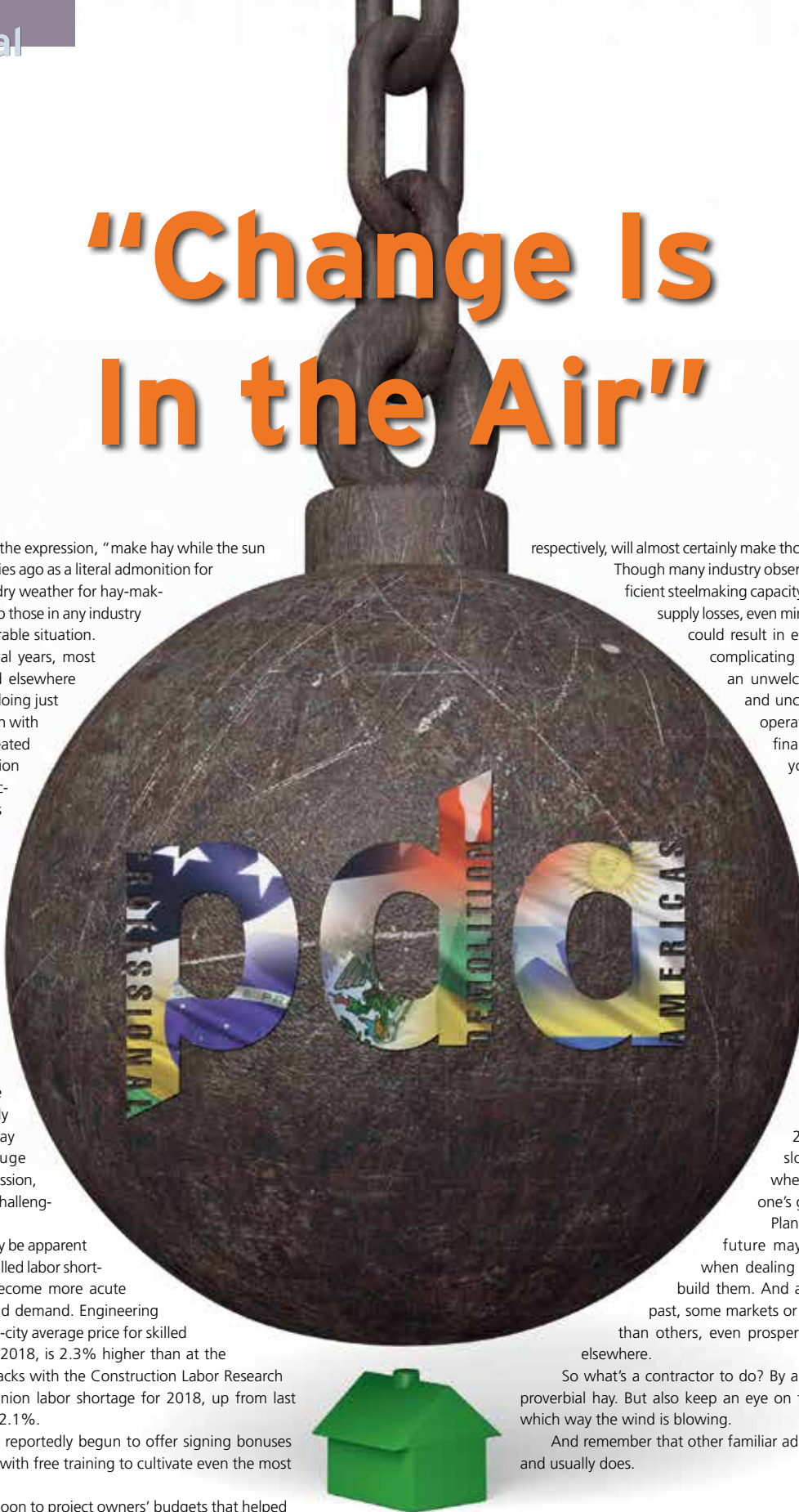
After that, the picture gets hazy. Next year should remain good, industry observers say. But once the calendar flips to 2020, the likelihood of a slowdown increases, though when and by how much is anyone's guess.

Planning for that not-so-distant future may not be easy, particularly when dealing with backlogs or trying to build them. And as has been the case in the past, some markets or geographic may fare better than others, even prospering amid sharp downturns elsewhere.

So what's a contractor to do? By all means, keep making that proverbial hay. But also keep an eye on the skies and get a feel for which way the wind is blowing.

And remember that other familiar adage—anything can happen, and usually does.

Jim Parsons, Senior Editor
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John Lagemann.



Scott Harris.

AEM Elects new Vice-Chair, Director in Lagemann and Harris

The Association of Equipment Manufacturers (AEM) has elected John Lagemann, Senior Vice President Sales & Marketing—Regions 3 & 4, Deere & Co., as its new 2nd Vice Chair. He fills the unexpired officer term of Jim Walker of CNH Industrial, who recently retired. In a related move, AEM elected Scott Harris of CNH Industrial to its Board of Directors to fill Walker's unexpired 2018 Board term. Lagemann has served in AEM leadership roles since 2011. He currently chairs AEM's AG Sector Board. Harris, who recently transitioned to CNH's Ag side as Vice President, Case IH North America, had served as a director on AEM's CE Sector Board since 2016.

"We are very pleased to announce John's expanded leadership of AEM and welcome Scott to its Board of Directors," says said Dennis Slater, AEM president. "Their knowledge and dedication exemplify the active company participation that under AEM's success and growth for its members, the equipment industry, and the overall agriculture- and construction-related sectors."

"We also take this opportunity to publicly thank Jim Walker for his years of leadership as an AEM of and Board member, and his support of the AEM staff," Slater adds.

AEM officers and directors work on behalf of all member companies, giving their time and talent to provide strategic direction and guidance for the Association's business-development initiatives in areas such as public policy, market data, and exhibitions, as well as technical, safety and regulatory issues, and education/training.

www.aem.org

Construction Employment Rises Despite March Dip in Demand

Construction employment increased by 228,000 jobs over the past year despite a weather-related dip last month, and the industry's unemployment rate fell to 7.4/5, the lowest yet for March, according to an analysis of new government data by the Associated General Contractors of America.

"Construction employment indicators are still signaling strong demand on an annual basis, even though unusually bad weather in several regions probably depressed hiring in March," says Ken Simonson, AGC's chief economist. "Employment is rising twice as fast as for the overall economy, pay rates and growth are outpacing the private sector as a whole, and the industry's unemployment rate was the lowest ever for March."

Construction employment totaled 7,150,000 in March, a dip of 15,000 for the month but an increase of 228,000, or 3.3%, over 12 months. Year-over-year growth rate in industry jobs was more than double the 1.5 percent rise in total nonfarm payroll employment. Hourly earnings in the industry averaged \$29.43 in March, a rise of 2.9% from a year earlier. That put average pay in construction 9.7% higher than the average for all nonfarm private-sector jobs, which rose 2.7 percent in the past year, to \$26.82.

The unemployment rate in construction dropped from 8.4% a year earlier to 7.4% last month—the lowest March rate since the series began in 2000. The number of unemployed job seekers with recent construction experience declined to 696,000 in March 2018, which was the lowest total for March since 2001. Residential construction—comprising residential building and specialty trade contractors—shrank by 7,000 jobs in March but added 114,200 jobs (4.3%) over the past 12 months. Nonresidential construction (building, specialty trades, and heavy and civil engineering construction) employment also increased by 114,200 (2.7%), over 12 months, despite a drop of 8,200 jobs in March. Construction officials said the new employment figures show the industry continues to create high-paying, long-term jobs but that there is a critical need for more workers. They urged officials at all levels of government to re-invigorate and adequately fund career and technical education programs.

"Construction offers great careers, with above-average pay both for entry-level workers and for the industry as a whole compared to the private-sector average," says Stephen E. Sandherr, AGC's chief executive officer. "To make sure students and workers displaced from other jobs have the chance to gain the skills needed to succeed in growing sectors like construction, government officials must do their part. That means funding up-to-date career and technical education and training, and allowing the industry to collaborate in providing opportunities."

www.agc.org



Aquajet Systems Introduces Specialized Training Academy to North America

Aquajet Systems AB provides North American operators advanced training in the use of hydrodemolition through its new Aquajet Academy. The six-step training program covers aspects from streamlining work to cutting-edge techniques, allowing operators to increase jobsite efficiency and safety. Aquajet Systems specialists host the Academy program periodically throughout the year.

"We've always offered product training to ensure ease of use, but on a smaller scale," says Roger Simonsson, Aquajet Systems AB managing director. "This program helps hydrodemolition operators increase their bottom line by using the equipment, and accompanying attachments, to the fullest extent."

The training program incorporates individual courses offering more extensive training and adaptation to each customer's knowledge and experience:

- **Products:** During the two-day course operators get to know their hydro-demolition machine from the inside out. The practical portion gives operators hands-on experience setting up and maneuvering the machine while the theoretical course includes a deep overview of the operations manual.
- **Hydrodemolition:** The two-day course focuses on the concrete removal process. Operators will explore the robot's various programmable settings, learn how to enhance precision and efficiency, and improve jobsite safety.
- **Streamlining Work:** Aquajet instructors

spend two days at a customer's jobsite, adapting training to suit the contractor's specific line of work.

- **Safety and Technique:** Often referred to as the most important part of the training program, this one-day course educates operators on the power and risks of the highly pressurized water used in hydrodemolition. It provides tips on how to best calculate pressure, flow, and reaction force, as well as techniques for safe and efficient operations.
- **Service:** Operators spend a full day learning how to maintain and adjust the robot's components to ensure equipment longevity.
- **Train the Trainer:** This three-day course makes prepares students to become certified Aquajet instructors, with the capability and knowledge to hold courses on their own. Participants must be a distributor or customer of Aquajet, with at least one year of experience and obtain the required licenses.

Aquajet maintains small class sizes during each course, teaching approximately five students at a time to ensure a high level of individual attention and support. The course can also be adapted to specific operator skill levels and experience. For novice students, instructors will explain hydrodemolition basics before diving into the functionality of the Aqua Cutter robots. Skilled operators learn new techniques and specific settings that heighten efficiency.

GSSI Announces New Sales Restructuring to Better Serve Customers

GSSI has reorganized its sales department into four regional territories to support further growth in its concrete inspection, non-destructive testing, and utility locating markets. With the new structure, application specialists will be based in the Northeast, Southeast, Northwest, and Southwest, making sales staff closer in proximity to customers. In the Northeast territory, Peter Masters will serve as application specialist.

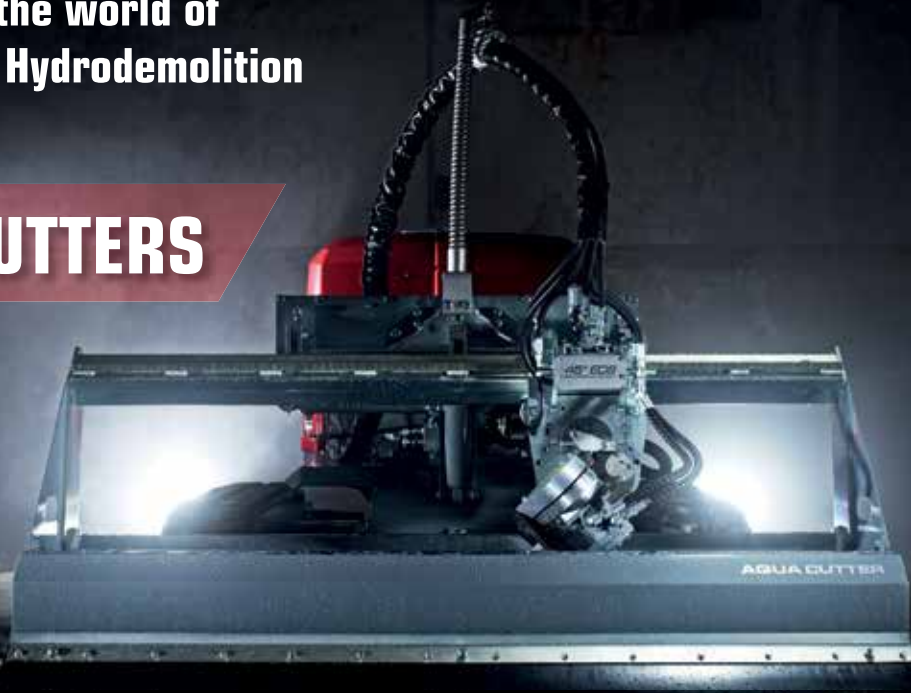
The Southwest territory will be served by Michael Phillips, who recently joined GSSI as an application specialist. The Northwest territory will be served by Tom Timperman, who has been with GSSI for two years as the Search & Rescue Product Specialist. Bruno Silla will serve the Southeast territory. Bruno has been a concrete application specialist with GSSI for four years. He is actively involved in the Concrete Sawing and Drilling Association (CSDA), serving as the GPR Committee Vice Chair, and Next-Gen Committee Vice Chair.

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Event Calendar

DEMCON 2018

September 27-28, 2018
Infracity, Stockholm, Sweden
www.demcon.se

M&T Show 2018

Cooperation with Bauma,
Messe München
November 26-29, 2018
São Paulo Expo, Exhibition
& Convention Center, Brazil
www.mtexpo.com.br

Bauma CONEXPO 2018

December 11-14, 2018
HUDA Ground,
Gurgaon, Delhi, India
www.bcindia.com

World of Concrete Asia 2018

November 19-21, 2018
Shanghai New
Exhibition Center
Shanghai, China
www.en.wocasia.cn

Bauma China 2018

November 27-30, 2018
Shanghai New
Exhibition Center
Shanghai, China
www.bauma-china.com

Concrete Show 2019

February 13-15, 2019
São Paulo, Brazil
www.concreteshow.com.br

CSDA Convention & Tech Fair

St. Petersburg, Florida, USA
Venue and dates to be decided
www.csda.org

Demolition Rockies 2019 US National Demolition Association Convention

March 23-25, 2019
Aurora, Colorado, USA
demolitionassociation.com

Bauma 2019

April 8-14, 2019
Messe München,
München, Germany
www.bauma.de

IACDS Convention 2019

April 15, 2019
Messe München,
München, Germany
www.iacds.org

Genesis Attachments Hires New Northeast, Mid-Atlantic Regional Managers

Genesis Attachments announces Mike Keremes has joined its sales team as northeast regional manager. Covering New York, Vermont, New Hampshire, Maine, Connecticut, Rhode Island, Massachusetts, and New York City, Mike will provide attachment, parts and service sales and application support to the demolition, scrap and material handling industries. His extensive background in heavy equipment sales will also be conducive to his management of Genesis' dealer presence and activities in the region.

In the Mid-Atlantic, 20-year sales veteran Rick Woodrum will cover West Virginia, Virginia, Delaware, Maryland, New Jersey, Eastern Pennsylvania, and Washington, DC, with attachment, parts and service sales and application support to the demolition, scrap and material handling industries. Rick will also manage Genesis' dealer presence and activities in the region.

www.genesisattachments.com



Mike Keremes.



Rick Woodrum.

Construction Employment Increases in 250+ U.S. Metro Areas Worker Shortage

Construction employment increased in 256 out of 358 metro areas between April 2017 and April 2018, according to a new analysis of federal employment data released today by the Associated General Contractors of America. AGC officials said that the data showed a continuation of strong labor demand amid shortages of qualified workers.

"Industry demand is still showing strength, as construction employment reached a new high in 54 metro areas," says Ken Simonson, AGC's chief economist. Despite these signs, however, "further growth in the industry may increasingly be stymied by a lack of qualified workers."

Dallas-Plano-Irving, Texas, added the most construction jobs during the past year (12,400 jobs, 9%), followed by Houston-The Woodlands-Sugar Land, Texas (12,200 jobs, 6%); Phoenix-Mesa-Scottsdale, Ariz. (11,000 jobs, 10%); Midland, Texas (8,000 jobs, 31%); and Las Vegas-Henderson-Paradise, Nevada (7,700 jobs, 13%). The largest percentage gains occurred in the Midland, Texas, metro area, followed by Merced, Calif. (29%, 700 jobs); New Bedford, Mass. (20 %, 500 jobs); Atlantic City-Hammonton, N.J. (19 %, 1,000 jobs); and Weirton, W.Va.-Steubenville, Ohio (19%, 300 jobs).

The largest job losses from April 2017 to April 2018 were in greater St. Louis, Mo. (-3,100 jobs, -5%), followed by Middlesex-Monmouth-Ocean, N.J. (-2,900 jobs, -7%); Montgomery/Bucks/Chester Counties, Penn. (-2,800 jobs, -5%); Minneapolis-St. Paul-Bloomington, Minn. (-2,400 jobs, -3%) and Columbia, S.C. (-2,200 jobs, -11%). The largest percentage decreases for the year were in Bloomington, Ill. (-16%, -500 jobs), followed by Bismarck, N.D. (-15%, -800 jobs); Auburn-Opelika, Ala. (-14%, -400 jobs); Battle Creek, Mich. (-12%, -200 jobs); and Columbia, S.C.

Association officials said that despite these widespread employment increases, many contractors report difficulty in finding qualified workers. With the national unemployment rate at a 17-year low and many metro unemployment rates at new record lows for April, finding workers is not expected to get easier in the near future. They added that education and training initiatives are the best way to increase the pool of skilled workers, creating a new generation of carpenters, electricians, and others, while giving Americans access to highly rewarding work.

"The good news is that the strong economy is driving demand for many types of construction projects," says Stephen E. Sandherr, AGC's CEO. "All that economic activity means that there are fewer, qualified, workers available for construction firms to hire to keep pace with demand."

www.agc.org

AEM Wins 'Gold Circle' Marketing Excellence Award for CONEXPO-CON/AGG

ASAE: The Center for Association Leadership has selected the Association of Equipment Manufacturers (AEM) for a Gold Circle Award, recognizing excellence, innovation achievement in association/nonprofit marketing, membership and communications programs. AEM is one of 14 Gold Circle Award honorees nationwide in 2018, winning for its CONEXPO-CON/AGG 2017 marketing campaign. The Association's comprehensive CONEXPO-CON/AGG exhibition marketing campaign invited attendees to "imagine what's next" for the construction industries. A highlight was an interactive 360-degree virtual reality demonstration as part of the show's new Tech Experience. The result: CONEXPO-CON/AGG in 2017 was one of its largest ever, attracting nearly 128,000 attendees.

"We have a great team of talented and dedicated professionals whose innovative outlook, creativity and hard work produced an outstanding effort that translated into measurable results," says Nicole Hallada, AEM vice president marketing & communications. "They truly deserve this best-in-class recognition from their association community peers."

Hallada notes that AEM's CONEXPO-CON/AGG marketing campaign included research and data mining, coupled with a variety of communications channels to target qualified industry professionals. AEM's CONEXPO-CON/AGG marketing campaign included research and data mining coupled with a variety of communications channels to target qualified industry professionals. Tactics included digital marketing, print and electronic mailings, website and content marketing, social media, public relations, exhibitor engagement to help them promote their show presence, a support organization program, and a media advertising trade-out program. Gold Circle Award honorees were recognized during special ASAE ceremonies in May in Washington, DC.

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Below: Nicole Hallada, AEM vice president marketing & communications.





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Brokk's Biggest Int

Four New Power

Brokk has done it again, but this time more powerful than ever and maybe even more innovative. In April this year, four new Brokk models were released. The company's biggest product launch ever.



Brokk represents an unprecedented success story. When the industry believes that the bow on the demolition robot product line can not be stretched any further, Brokk surprises with new healthy pursuits. As Brokk has been quiet on the new product front for some time, nobody attending the company's international dealer meeting in March expected to see any new robots showcased. But there they were, the new Brokk 170, Brokk 200, Brokk 300, and Brokk 520D, a diesel version of the Brokk 500.

Very strong sales growth since 2016

Since 2016, Brokk has shown a very powerful sales increase, perhaps the largest ever in the company's history. The US market has grown fast and strong as well, resulting in a wholly owned sales and service subsidiary. And there's last year's acquisition of Aquajet Systems in 2017, which brought a highly profitable hydrodemolition manufacturer into the fold. What makes sets Brokk's machines—and now, Aquajet products—apart from others? PDA's own theory is that the demolition industry's own development and provided an ideal backdrop for Brokk and Aquajet's keen commitment to developing their products for multiple applications (Perhaps Brokk could have developed even faster in a larger ownership context, but would the industry have been mature enough for it?). Now, the aim is to reach the next level where demolition robot and hydrodemolition technology will be integrated with each other. A good example today the Swedish demolition contractor Rivkompaniet, which uses both Brokk machines and hydrodemolition technology at the renovation project of the 8-story Sergelhuset in downtown Stockholm.

"An important part of our success is our relationship

with the users of our technology," says Brokk CEO Martin Krupicka. "We do not sell our clients just products without an effective solution that makes them more efficient and profitable in their work.

Here, Krupicka refers to Brokk SmartPower,™ a concept launched in 2016, but one that might not have proven as successful had it been introduced earlier.

Technically, SmartPower incorporates a brand new electric drive line combined with a new monitoring system. It enables Brokk to get much more power in a machine without getting up in size. A good example of this is the development of Brokk's machines in the 3t class, where the Brokk 260 has a power output of 30 hp (22kW), the Brokk 280 with SmartPower has 36 hp (27kW) and the brand new Brokk 300 with the second generation SmartPower has a full 50 hp (37kW) power output.

"The SmartPower concept delivers the optimum machine solution to all of these sectors, with the focus being that the machine will last for a long time and operate as much as possible," Krupicka says.

In addition to the increased power output, SmartPower is the first electrical system developed from scratch inhouse to cope with the challenging environment of demolition robots (i.e., vigorous vibrations, dust, etc.). By removing 70% of cables and connectors, as well as brand new proprietary components, Brokk has significantly increased operational reliability over time.

Krupicka admits a Brokk can be a hassle too. "If a problem occurs, priority number one is to get the machine in place as soon as possible," he says. "That is why we

have placed great emphasis on both the technical design of the machines and the level of competence of our service technicians globally. I think we have reached so far today with our latest product news and with Brokk SmartPower that we have managed to create a formula for the ultimate machine solution for demolition robots. And we are quite proud of that."

If we mention SmartPower, we also need to mention SmartDesign and SmartRemote that are also part of the new Brokk SmartConcept.™ SmartDesign is based on the fact that the operator can easily maintain the machine daily in as easy a way as possible, without having to lift the hoods for control or lubrication, and that the entire machine is built to be easy to service and maintain continuously in the workplace.

SmartRemote is about ergonomics and productivity for the operator. Ergonomics are based on Brokk's patented solution to have the handle around the waist to remove weight from the shoulders and back, as well as the joysticks' design with short joysticks that make the operator rest the arms on the box. And productivity is optimized by using more expensive professional radio communication technology, and the design of the control box makes the operator no need to look down or depend on the screen to drive the Brokk machine.

Brokk's four new models

With its four new models, this formula is further consolidated. Before presenting the four new models recently launched, it was recognized that there was quite a gap between Brokk 160 and Brokk 280. By launching Brokk 170,

roduction Ever:

erful Machines



which will phase out Brokk 160, as well as the launch of Brokk 200 the gap has been filled. But that is not enough. Similarly, the additions of the Brokk 300 means an eventual phase-out of the relatively new Brokk 280.

This launch is Brokk's largest ever and the new models can easily be described as Brokk 170 is the lightweight and strong model while the Brokk 200 is powerful and flexible. Brokk 300 is the versatile and top-returning and the Brokk 520D diesel-powered is really a heavy model that can handle any tough environment where there is no electricity available.

Brokk 170, weighing 1.6t, takes the best from Brokk 160 and incorporates the complete Brokk SmartConcept,™ the power of SmartPower, the reliability of SmartDesign, and the ergonomics and productivity of SmartRemote. That makes Brokk 170 the ultimate construction tool for the construction industry. With a 32 hp (24kW) SmartPower electronics, this lightweight machine produces 15% more power than the predecessor. It develops impressive impact with the new hydraulic breaker Brokk BHB 205 and brutal power with the new concrete crusher Darda CC440. It has nevertheless retained the same compact physical dimensions as the Brokk 160, and the many tools are equally suitable for both models.

The new Brokk 200 defines a new weight class for demolition robots that fill the gap between Brokk 170 and Brokk 300. And it does it by squeezing the power of one 6,834-lb (3,100kg) heavy Brokk 280 in a handy package of just 4,630 lb (2,100kg), a dividend of the Brokk SmartPower technology. This 37-hp (27.5kW) machine can carry gear that is a weight class higher than its size, and it has the

hydraulic power to handle it. Unlike Brokk 170, Brokk 200 is equipped with the new breaker Brokk BHB 305, which gives 40% greater impact, and the new, powerful Darda concrete crusher CC480.

The Brokk 200 has 15 percent longer vertical and horizontal reach, despite much the same compact dimensions as the Brokk 160. The extra chassis length and machine weight guarantee outstanding balance even when handling the heavier and more powerful tools. All in all, the Brokk 200 sets a new standard for compact remote controlled power and is a suitable machine for heavy work in hard-to-reach locations.

Brokk 300 is a good example of how quickly Brokk's demolition robots are developed to meet the industry's ever higher demands. It's equipped with the more powerful Brokk BHB 455 breaker that gives 40% greater impact. Provided with the new generation of Brokk SmartPower technology, the power increases to 50 hp (37kW), providing the hydraulic flow and pressure required for the machine to efficiently drive its heavier and more powerful tools.

Brokk 300 is slightly longer than Brokk 280 and weighs 1,110 lb (500kg) more, but still has the same width and height and can thus enter the same narrow spaces. A new arm system extends the vertical and horizontal range to 21.3 ft (6.5m) and 20 ft (6.1m), respectively.

"With its power, reach and stability, this model will be highly appreciated in the industry," Krupicka says.

Last but not least, Brokk sets a new standard for diesel-powered robots with the Brokk 520D with a larger hydraulic breaker that gives 40% more impact than Brokk 400D, as it replaces. The environmentally friendly 5t machine

is available with a Tier 4 Final Kohler engine that meets the new emission standards in North America, or a Kubota engine for South America.

The new Brokk 520D is a bit heavier and longer than the predecessor Brokk 400D with a larger BHB 705 breaker and nearly 10 in (250 mm) longer working range. Thanks to robust arm systems and increased hydraulics, the Brokk 520D can use the heavier and more powerful tools already available for Brokk 500 released last year. As crown of the work, the Brokk 520D is also equipped with the smart enhancements Brokk SmartDesign that facilitates day-to-day maintenance and increased operating time.

What will be the next step?

These four new demolition robots reflect Brokk's unwavering focus on innovation, higher performance, and more operating time for customers all over the world. Each of these new models offers the very latest of what the technology can achieve in terms of robust reliability and power versus weight. The new machines will be delivered this summer. As mentioned, Brokk has not stopped surprising the demolition world during the last decade regarding with its new launches and in the past two years the rate of development has been extremely high. It will be interesting to see how Brokk and Aquajet can take demolition and hydrodemolition techniques to new levels.

www.brokk.com



Brokk CEO Martin Krupicka (left) and Sales Manager Joakim Furtenback.

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Stay in the Cab!

Steelwrist, a well-known manufacturer of among others tiltrotators and quick couplers, is now also entering the demolition and recycling industries with their new systems for quick and easy tool changes. The manufacturer has recently set up their own US subsidiary in Berlin, Conn.

Over the last decade or so, every professional excavator operator has learned that fully automatic quick coupling hydraulic systems are now a powerful and competitive asset in the demolition and recycling industry. As the demands for increased safety, efficiency and improved material separation in the workplace has become more prominent, the need to change tools more often has

also increased. This has correspondingly increased the demands placed on demolition and recycling equipment, especially in "heavier" applications.

Four well-known systems

Today, modern operators strive to get in-and-out of the excavator as little as possible to change tools. When there is a real need, the break in work needs to be as short as possible, with little oil spill, and with a small risk as possible of injury to anyone. Ultimately, this needs to be accomplished with as much efficiency and flexibility as possible.

Historically, in the demolition and recycling context, four automatic quick coupling systems have dominated the market: Likufix, VarioLock, and OilQuick with OilQuick being the biggest. In the Nordic markets of Europe, OilQuick is considered being very advanced and has dominated to market so far. The Likufix system is owned by Liebherr, and is strong in German-speaking markets, with a strong link to operators of Liebherr excavators. Lehnhoff, currently owned by Komatsu, manufactures VarioLock. OilQuick is a particularly well-known system, being a particularly appreciated quick coupler system among heavy demolition contractors, especially in Europe. Engcon, as with OilQuick, is a Swedish manufacturer, and has developed EC-Oil. This is being used by demolition contractors increasingly in Nordic countries, but OilQuick's more

advanced system, dominates the market.

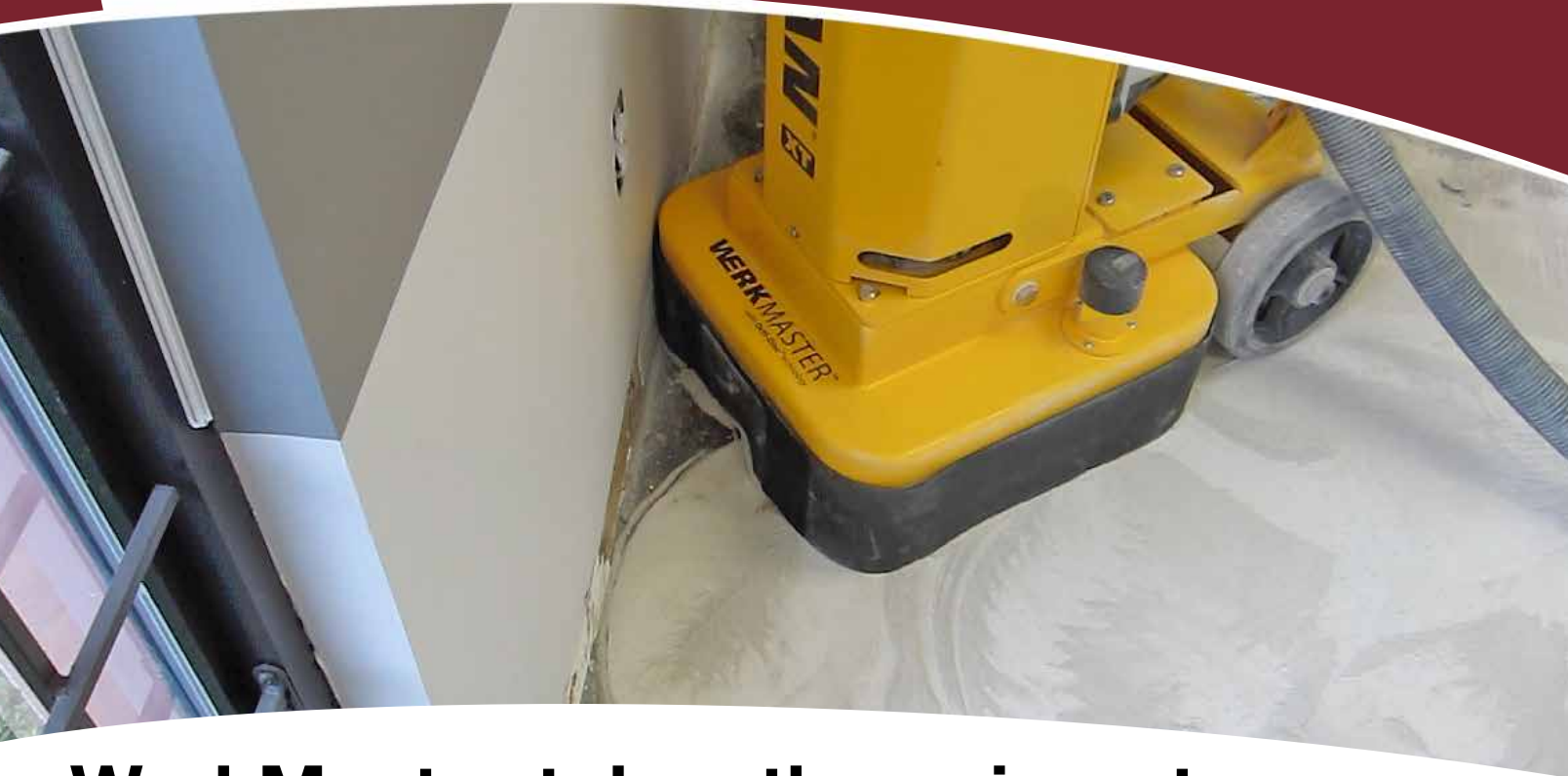
What generally differentiates the fully automatic quick couplings is the design, which effectively divides the four manufacturers into two groups. This is most clearly apparent in the locking mechanism itself for when the quick coupling closes and the connections are being protected. Likufix and VarioLock's "female" connection sides are exposed horizontally, while the comparable coupling sides for OilQuick and EC-Oil are vertically exposed. The vertical locking function has proved preferable as it more efficiently prevents dust and harmful particles getting into the sensitive parts of the system.

Steelwrist's fully automatic SQ mountings and Qplus

A new development emerged 2017 that shook up the market. A new Swedish manufacturer appeared, Steelwrist, with a new automatic quick coupling system that also possesses a vertical locking function to better protect the sensitive connection area.

Steelwrist itself is not a new company. It has manufactured and sold a series of tiltrotators, quick hitches, and mechanical and hydraulic attachments since 2005. Its new quick coupling system is called the SQ, and offers quick and safe tool replacements in just a few seconds directly from the cab. Initially the products were launched solely to the Swedish market, but success has seen the range

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now available internationally. Since 2017, Steelwrist has founded its US subsidiary with sales, service, and inventory in Berlin, Conn.

PDa's editor-in-chief had the privilege of recently meeting the company's founder and chief executive, Stefan Stockhaus, and the company's US Sales Coordinator Sofia Danielsson, at Steelwrist's plant in Sollentuna, north of Stockholm, Sweden. Both the SQ Series and Qplus are fully compatible with OilQuick's OQ hitches. In order to make operation as efficient and easy as possible for contractor and operators, Qplus maximizes oil flow, prolongs operating time, and enables easier service when compared to alternative solutions. Steelwrist automatic oil couplers follow the internationally expanding symmetrical standard, and possess a wedge lock system to ISO 13031: 2016. In addition to complying with ISO 13031: 2016, Steelwrist brackets and tiltrotators also include the patented "Front Pin Lock" technology, which increases operator safety by ensuring that the attachment is not "lost."

New, smart and easy business focused solution

The tool attachment market has tended to be limited when it comes to product choice. Depending on which standard system contractors in different countries choose, the user is bound to that standard without many alternatives. With its new SQ series and Qplus, Steelwrist has sought to simplify this for the contractor by making its system compatible with OilQuick. However, when a similar name as OilQuick was chosen, namely OQ, this was not warmly welcomed.

"Our intention was to make it easy for the customers to know which products are compatible with each other, and to build an international standard for automatic oil connections," Stockhaus says. "This proved to be very sensitive to OilQuick AB's management, who chose to apply for trademark registration of OQ the day after our product launch. We therefore chose to change product designations to Steelwrist SQ. We have received a great reception since the product launch and for us, the name is not important, since we believe that customers already understand that Steelwrist SQ is fully compatible with OilQuick OQ."

Steelwrist did have an alternative solution to not making a compatible system, but this was rejected.

"The world does not need a new connection system," says Stockhaus. "Instead the excavator owner needs a cost effective standardised solution for easy replacement of work tools. Now, we focused on making the product even better while maintaining compatibility."

What is even more interesting is what Steelwrist has accomplished with the Qplus inside couplings. Since initial production of the series began, improvements in the connections have substantially increased flow capacity. Depending on the coupling size, the flow area has been increased by up to 37%. In addition, the customer also benefits through increases in operational time, as the time required between sealing changes has increased. Essentially, the change is now much easier and faster than previously, and without the need for special tools.

"We are now building up production capacity further to meet



Steelwrist founder and President Stefan Stockhaus.

demand, and Qplus is standard in all SQ deliveries since November, 2017," says Stockhaus.

Today, Steelwrist's fully automated quick couplers include SQ auto connect systems in three sizes—SQ60 for 12t to 20t excavators, SQ70 for excavators between 18t to 33t, and the recently launched SQ80 for excavators between 25t to 43t.

"It is in this segment that our automated quick couplings become really interesting for the demolition and recycling market," says Stockhaus.

The investment in a fully automated quick coupling system for a demolition or recycling contractor results in a significant increase in both efficiency and safety in the workplace. It is also considerably more environmentally friendly, as any oil spill is radically decreased. The amount of sorting at the worksite can be increased through the easy use of several types of attachments. For the contractor however, the first thought is cost.

The pricing levels of the existing systems vary in terms of function

The Steelwrist automatic quick coupler SQ70 with Qplus.



The new Qplus system includes a new sealing method that makes sealing exchange easy, increases oil flow which increases operational time.

and price. It is probably true that for many years, manufacturers have not invested in developing or simplifying their solutions, or in making them more cost-efficient.

With its new fully automated quick coupling system and Qplus, Steelwrist has delivered a solution with a significantly lower purchase price in comparison to the big selling OilQuick. In addition, it possesses a higher degree of simplicity in order to replace, for example, seals without recourse to special tools.

www.steelwrist.com

Specialty Contractor Coast Cutting & Coring Ltd., a division of Westcoast Cutting & Coring Group Ltd. based in New Westminster, BC, took on a thrilling saw cutting mission where the Ruskin dam was reinforces for seismic events.

This was a concrete sawing and drilling job of epic proportions—20 million lb (9 million kg) cut and removed above and below water, 5,000 holes cored to depths up to 39.4 ft (12m), and approximately 7,500 ft² (697 m²) of surface scarified—completed in phases over a three-year period.

The site was Ruskin Dam, a 361 ft (110m) long, 193.6 ft (59m) tall concrete gravity dam structure in Mission, British Columbia. Built in the 1930s, the dam's ogee-type spillway consists of seven radial gates. An adjacent powerhouse, accessible by a truss bridge from

offices on the west side of the river, contains three 35-megawatt turbine-generators. A US\$625-million seismic upgrade project, begun in 2012, would also improve the reliability and efficiency of the electrical generation system with the installation of new equipment. Other project elements adding a new two-lane road and pedestrian walkway over the dam, and restoration of the powerhouse's heritage.

In 2015, Coast Cutting & Coring Ltd., a division of Westcoast Cutting & Coring Group Ltd. based in New Westminster, BC, was awarded the concrete sawing

and drilling work. Tasks included cutting and removal of four existing piers, the bridge deck, and sections of the spillway; cutting free old generators, intakes, gate slots, and draft tubes; and creating new steps on the spillway for pier forms. In addition, deep hole drilling was specified for the installation of seismic anchoring and the spillway surface required scarifying for reinstatement.

A priority on planning

A number of factors complicated this job. A large

In the Dam

Updates were required at the 361 ft (110m), 195 ft (59m) tall Ruskin Dam.



New steps were cut in the 60-degree sloped dam wall for the installation of new steel formwork.

portion of the work was done on the face of the dam spillway, which was on a 60-degree slope with limited access. In addition, the project's general contractors specified a 1-inch tolerance for the form work. And, the reservoir below the work area contained salmon that were spawning, making protection of wildlife and water within the reservoir a critical planning consideration.

Cutting of the dam structure and powerhouse was performed simultaneously, with 30 operators working six days a week in alternating shifts during each phase of the work. Tasks on the dam section started with slab

sawing and removal of the 19.7 ft (6m) wide concrete bridge deck. Holes cored through the deck allowed steel shafts from the old gates to be cut free. Lengths of concrete railings were braced with knee braces and cut for removal. Deck pieces were slab-sawed between the bridge beams with a Husqvarna 4800D, leaving three bridge beams in place. At this point, wire saws were positioned on both sides of the beams to cut them free. The beams were supported, then removed one at a time by crane.

Slots cut into the dam intakes for new gates

measured approximately 59 ft (18m) tall and 26.2 ft (8m) wide. These gates allow intake water flows to be stopped for generator maintenance. The lintel beam and sill beam were cut and then chipped out to save existing reinforcement for structural tie-ins. Concrete was cut with Husqvarna hi-cycle hand saws, while the chipping was performed with a Husqvarna DXR310 demolition robot.

Coast Cutting & Coring then cut four free-standing piers, three of which were 39.7 ft (12m) square and 6.7 ft (2m). The piers were divided into 48 pieces, each

n Business



Cut sections were removed by crane and placed on a nearby floating barge.

weighing approximately 35,000 lb (15,876kg). One of the piers, poured against a rock face, was approximately one-third larger than the others. This pier was cut into 58 pieces. Scaffold and platforms were set up for access to one side of this pier, and a narrow hanging platform positioned on opposite side to provide access for slurry containment and wire access.

Operators cored 2-in (5cm) diameter holes through the piers for wire access. The contractor employed two Hilti DSW 3018 wire saws and manipulated the wire to perform two cuts at the same time, either horizontally or vertically or opposite directions, to increase productivity and schedule. Cut pieces were lifted out by a 275t crane set up on a floating barge nearby. The crane placed the pieces onto an adjacent barge as the work area was too far from shore, and when the barge was full it transported the concrete to shore to be removed from site and recycled. Sections of scaffold were taken down after two rows were completely cut, and this process was repeated seven more times.

The final pier removed was the larger structure that was poured against the rock face. Having no access to the backside of the pier, the contractor made a grid pattern of 39.4-ft (12m) deep intersecting core holes used Weka SR68 drills. This allowed sections to be cut free with a wire saw. As each cut intersected with another, holes had to be cored from front face to intersect and the pier was cut into 58 pieces.

With the project reducing the name of dam gates from seven to five, new steps were cut in the 60-degree sloped dam wall for the installation of new steel formwork. A combination of wall sawing and wire sawing was performed using a Husqvarna WS 482 wall saw, a Pentruder 8-20 wall saw, and the company's Hilti DSW3018 wire saw. Operators started at the top and bottom of the spillway simultaneously because the schedule only allowed 17 days to complete this task. The 14.8 ft (4.5m) wide steps began with a 17.7-in (45cm) high, 60 cm deep pattern, and gradually increased to 50 in (127cm) high by 35.4 in (90cm).

From the top, the steps were cut vertically down by custom blades from Cyclone Diamond Products



Operators started at the top and bottom of the spillway simultaneously to complete the task on schedule.

and powered by the Pentruder wall saw. Corners were finished by CW630 chain saws from ICS, but also core drilled vertically and horizontally to create wire access holes to finish the end cuts. Working from the bottom required a different strategy because of the step's depth. A series of 7.1-in (18cm) holes cored vertically down past the required depth of the step allowed operators to push the wire down using pulleys rather than pulling it. As work continued, two more crews began working from the top and bottom of the wall, coring pilot holes vertically and horizontally. This allowed a rock drilling contractor to create openings for dowel installations that would anchor the new piers to the bedrock.

Coast Cutting & Coring was also asked to remove 6 in (15cm) off the surface of the spillway and create a rough surface. Water blasting was used for a portion of this task, but was time-consuming process led to the use of diamond cutting tools. The area was a 39.4-ft

(12m) square that was wall cut into 16 smaller 9.8-ft (3m) square panels.

As wall sawing of the panels progressed, a wire saw crew placed diamond wire into the cuts and performed pull cuts to achieve the new surface profile. Each piece took about two to three hours to complete. After each row of four pieces were lifted out, a Husqvarna DXR310 demolition robot fitted with a milling head scarified the surface so that new concrete could be poured onto it. This task was particularly successful and the contractor finished a full three weeks ahead of schedule.

But wait, there's more...

In addition to the large amount of work completed on the dam spillway, work at the nearby powerhouse required cutting a 29.5-ft (9m) diameter steel pipe, dissection of a stator into six pieces, removal of numerous concrete bases, a creation of 5x24.6 ft (1.5 x 7.5 m)

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Concrete sawing and drilling work involved the cutting and removal of four existing piers, the bridge deck and sections of the spillway.

openings between the three levels of the powerhouse to aid in the cooling of the new dam generators.

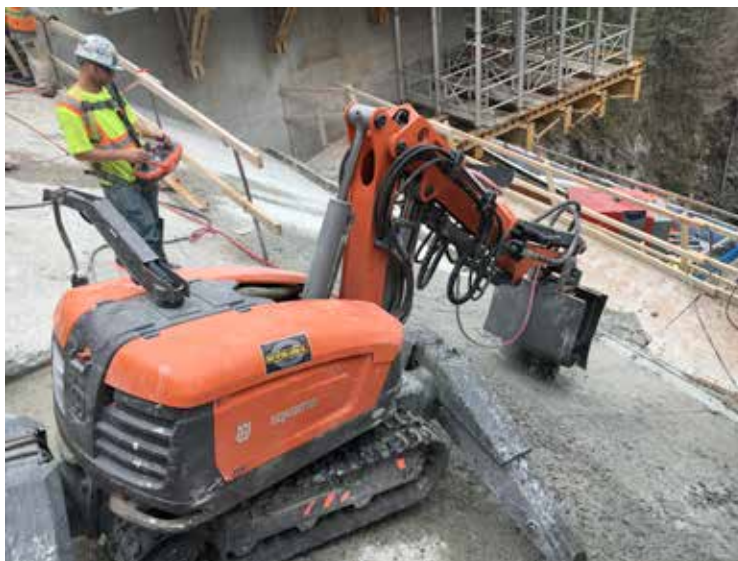
On the reservoir side of the dam, underwater wall sawing techniques were employed to cut slots for the coffer dam. A Husqvarna WS 360 hydraulic wall saw fitted with a 24-in (61cm) blade made the required cuts. Each slot took seven days to complete with a crew working 12-hour shifts.

Over the three-year period of the Ruskin dam spillway and powerhouse job, Coast Cutting & Coring Ltd. helped the general contractor remove 10 million tons of concrete. To complete the sawing and core drilling tasks safely on the 60-degree slope of the dam wall, specialized work platforms were erected and all workers were fitted with harnesses and fall arrest equipment.

To make sure the salmon living in the dam reservoir remained healthy and unharmed during the work, a three-tier slurry containment system was employed. On every scaffold platform, a rubber membrane was installed and slurry pumped into totes. From there, the slurry was pumped across to the

other side of the dam where it was processed. Shrink wrap was used around the scaffold decks to prevent any

overspray containing the slurry and two gutter systems were installed to capture any that escaped.



Picture above: The contractor scarified approximately 7,500 ft² (697 m²) of concrete surface.

“Our work at Ruskin Dam was arguably the most challenging project we have ever done—it certainly had the most demanding schedule,” says Dario Babic, a partner with Coast Cutting & Coring Ltd. “We believe this was the largest concrete sawing and core drilling project in Canada in terms of volume. We worked six days a week with alternating shifts on an open platform, sometimes in snow and icy conditions, and had to be extremely careful when it came to the control and containment of slurry.”

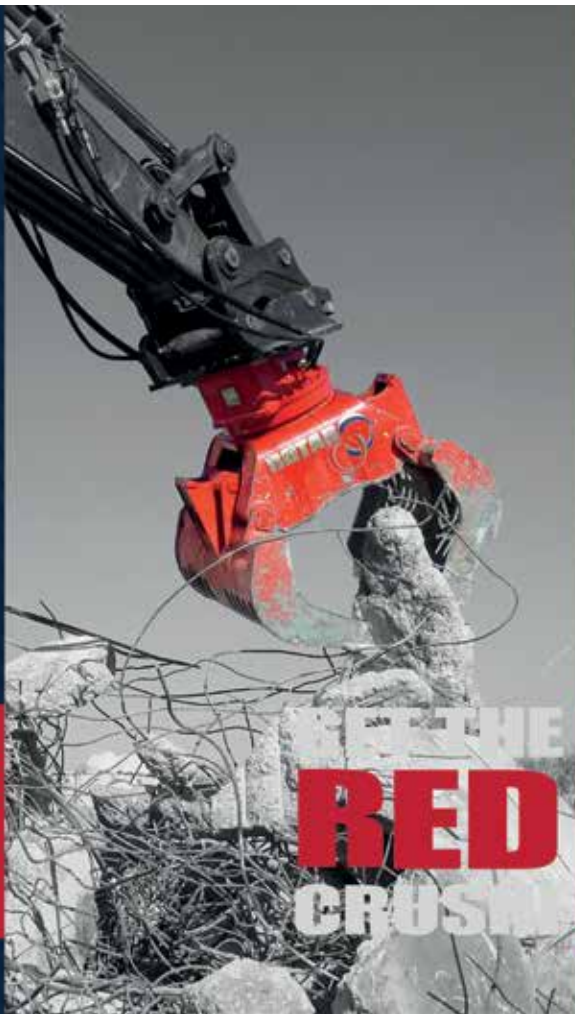
Babic adds that the work was completed ahead of schedule and within budget, and additional phases were awarded based on the success of original contract.

“Most importantly, we left the jobsite with zero lost time incidents,” he says. This was possibly the most satisfying part about the whole job.”

The upgrade and reinforcement work at Ruskin Dam was completed

September 2017.

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Exact, Efficient, and Easy Hydrodemolition With the New Ergo

Aquajet Systems' annual "Hydrodemolition Days" at its Holsbybrunn, Sweden, headquarters provides suppliers and customers an opportunity to see new products with displays and demonstrations. This year's event, in April, attracted more than 150 people from all corners in the world—a reminder of the interest in and need for hydrodemolition technology in many different contexts, regardless of country.

Excitement was in the air on the first day, as visitors gathered in one of the manufacturing halls in front of a temporary building scene. Aquajet Systems CEO Roger Simonsson welcomed the guests, reminding them that Aquajet Systems celebrates its 30th anniversary this year. Simonsson hinted at something special to come with his closing statement, "Now, we will put in the next gear."

Next up was Martin Krupicka, CEO of Brokk AB, which acquired Aquajet Systems in 2017. Krupicka gave an interesting lecture on Brokk's history, technology, product method, and its product line. He also collaborated in how Brokk and Aquajet Systems together face a new chapter in which the Brokk method and Aquajet Systems method can be linked together.

New ERGO and some more

And then it was time for what everyone had been



waiting for. With a light and sound show worthy of a "Star Wars" movie opening, Aquajet Systems Design & Engineering Director Ronnie Hilmersson entered the stage. He started a little cautiously in presenting Aquajet's new Super Lance System 3000, a new lance system with capacity up to 43,511 psi (3,000 bar). Another feature was the reduction of the lance diameter from 1.7 in (45mm) to 1.4 in (36mm), as well as some improvements on the nozzle. The system is easy to mount and equipped with standard couplings for a more flexible system.

Then, as expected, Aquajet's new product concept, ERGO, was introduced. Hilmersson emphasized that ERGO is a groundbreaking system for simple, safe, and versatile work in industrial operations and, in particular, hydrodemolition work. The heart of the system is the new ERGO Controller, which weighs only 216 lb (98 kg) and is smooth and easy to maneuver and move. "It's like a small and smooth robot without the crawler tracks," Hilmersson said. ERGO Controller is the power source for running the other new products in the ERGO family. Everything is innovative in the smallest



Aquajet team members include (from left) Marianne Hilmersson, Stefan Hilmersson, Peter Bigwood, Bjarne Axelsson, Patrik Andersson, Martin Krupicka, Roger Simonsson, Ronnie Hilmersson and Dennis Hilmersson.

detail including the new control box, a number of new hydraulic quick-connect solutions, and a “start kit” called ERGO Go. Next to be announced was the ERGO Climber, a frame system that can be quickly built using standard scaffolding pipes. It is packed with effective water nozzles that effectively remove damaged concrete in very difficult and confined areas. A complete system measures 5 ft2 (1.5m2), and has a total weight of 279 lb (85kg). The system is so easy to manage that one worker can carry all parts. The next important tool in the ERGO system is ERGO Spine, a rail system for different types of convex or concave surfaces, such as concrete pillars. Like ERGO Climber, ERGO Spine is very light-weight. New aluminum rail reduce the weight significantly and the 6.5 ft (2m) rail sections weigh only 44 lb (20kg). ERGO Spine’s flexibility increases accessibility significantly at work, and can be adapted for use with a Brokk robot. In addition,



the system can be extended and expanded as much as needed. Each section between the supports measures two meters and, for example, a complete 6.5 ft2 (2m2) ERGO Spine system weighs a total of 276 lb (125 kg).

“Our new ERGO family will take the hydrodemolition technology and industrial cleaning work several steps further,” Simonsson said. “The new technology is considerably more accessible and efficient to work with. ERGO also opens up for other entrepreneurs than specialized hydrodemolition contractors to start working with this technology. An exciting future lies ahead of us.”

Aquajet from start to finish

After getting a closer at the new products, visitors were treated to an interesting and fun “history lesson” from Aquajet founder Stefan Hilmersson. He traced the company’s origins from its founding as a hydrodemolition contractor



to becoming the world’s biggest manufacturer of hydrodemolition equipment. That was followed by live demonstrations of the new products outdoors, and a day-ending banquet. Day 2 was devoted to various product and business meetings between the manufacturer and its customers, as well as separate meetings with Aquajet’s distributors worldwide.

www.aquajet.se

BossTek Introduces New Industry-Leading Warranty

BossTek has increased the warranty term for its direct drive fan motors to 5 years or 5,000 hours. The new warranty applies to the entire lineup of the company's atomized mist cannons. As industrial dust emissions become more heavily regulated, the improved warranty offers customers peace of mind and reflects BossTek's commitment to superior durability and return on investment from its products. Available in four sizes depending on the needs of the application, a single DustBoss® unit can cover up to five football fields with billions of mist droplets approximately 50 to 200 microns in diameter. The huge coverage area is achieved by using the vertical adjustment and optional 359° oscillator. The tiniest droplets are small enough to travel with dust emissions, collide with particles too small to see and drag them to the ground. The larger droplets deliver surface suppression, without excessive pooling or saturation of material.

DustBoss units are a one-touch operation, allowing workers to turn them on and walk away. The water pressure emitted from the mist nozzles is harmless, the maximum amount of water used is 39 gal/min (147.6 liter/min). Fans are guarded against reach-in injury, creating a safe and cost-effective operation. The cannons can be mounted on a tower, steel skid or wheeled frame. They can also be purchased as Fusion™ units that feature an enclosed tank and gen set on a roadworthy trailer for applications that lack easy access to water and power or require exceptional portability.

www.bosstek.com



The industrial fan and misting ring work in tandem to offer wide area coverage.

GSSI Unveils All-In-One GPR Concrete Inspection System

GSSI announces the new StructureScan™ Mini LT — the latest member of GSSI's popular all-in-one ground-penetrating radar concrete inspection systems. With all the capabilities of previous versions of the StructureScan Mini, the new StructureScan Mini LT features a lower price point that makes it even more affordable. Rugged, compact, and flexible, StructureScan Mini LT is ideal for locating rebar, conduits, post-tension cables, and voids. It can help identify structural elements, including pan deck and concrete cover, and provide real time determination

of concrete slab thickness. StructureScan Mini LT is the perfect entry-level concrete inspection system.

Backed by a two-year warranty, the integrated all-in-one concrete inspection tool comes with an antenna, positioning system, and control unit combination. It features an easy-to-use interface and six-button control options. With its 1.6 GHz antenna, the StructureScan Mini LT offers superior target resolution, reaching depths of 20in (50cm).

Featuring a rugged and compact design, StructureScan Mini LT is IP 65-rated to withstand a jobsite's toughest conditions. Users get first-in-class data visualization with a high-resolution full color display with an easy user interface and different operation modes tailored for beginner to advanced use. The StructureScan Mini LT also makes it easy to customize the data display with a variety of color adjustments. Real-time migrated data, onscreen reference markers and multiple display modes are also available. Other useful features include an ergonomic handle, positioning lasers, and 4-wheel drive.

www.geophysical.com



KINSHOFER Multi-Quick Processors Offer Versatility & Industry-Leading Jaw Change-Out Times

KINSHOFER'S Multi-Quick Processors, featuring best-in-class cycle times, jaw change-out times and power-to-weight ratio, allow demolition and recycling industry contractors to use one attachment with several jaw sets instead of buying several tools for different applications. Contractors can choose from six to eight jaw sets, depending on which of the four MQP models they choose, including dedicated concrete, steel or tank jaws, as well as combination and specialty jaws. KINSHOFER's MQP features the company's DemaPower™ cylinder technology. The cylinder uses four chambers instead of the



two found in other attachments, resulting in 20% more surface area within the cylinder. That allows the MQP to exert up to 25% more power from a smaller attachment, resulting in the best power-to-weight ratio in its size class. Higher power in a smaller tool also improves efficiency and performance in high-reach demolition, a practice that's becoming more common in the U.S.

KINSHOFER's double-acting speed valves and innovative cylinder technology also gives the MQP superior jaw closing and opening speed — cycle times as fast as 5 seconds. Competitive models use a single-acting speed valve that allows only for a fast opening speed or closing speed, not both. With attachment's fast cycle times and high power, contractors can complete jobs as much as 20% faster, improving ROI. Contractors can change KINSHOFER MQP jaws faster, easier and more safely than competitive models thanks to the company's DemaLink™ system. Operators only need to manually remove one pin from the attachment during change-out, compared to three with many competitors. In addition, DemaLink allows two people, or a single skilled operator, to switch out jaws in minutes and get back to work quickly. In comparison, competitive models often need to be taken to a shop and take hours to switch.

KINSHOFER's jaw offerings include the Combi jaw for primary demolition and a mixture of concrete and steel; the Demolition jaw for primary demolition of heavy concrete structures; the Pulverizer jaw for primary or secondary demolition, pulverizing concrete during or after the job, as well as some steel cutting; the Steel jaw for primary and secondary demolition of steel structures and

scrap; the Tank Shear jaw for primary and secondary demolition, including demolition of tanks and cutting steel plates; and the Universal jaw for primary and secondary demolition of concrete decks. The MQP Steel and Combi jaws feature the company's DemaGuide™ system, which uses a guide plate to provide additional stability at the pivot point. The extra stability means greater cutting efficiency and precision. The cylinder also features a trunnion design, ensuring compactness, a better center of gravity and an optimal closing force curve. Once the shims show signs of wear, maintenance crews can adjust the jaw tolerance by simply tightening the main pin.

KINSHOFER reinforces the MQP with twin rotation motors, boosting rotation power and reducing the risk of the attachment shifting or rotating on its own. The MQP also includes a safety system that reduces the risk of dangerously high pressures within the rod cylinder.

To reduce replacement costs and service downtime, KINSHOFER manufactures all wear parts for easy onsite replacements and exchanges across jaw types. In addition to offering exchangeable cutting edges, an industry standard, KINSHOFER features crusher attachment teeth that can be quickly replaced on site.

This ease of replacement combined with KINSHOFER's performance-enhancing features delivers a low cost of ownership and fast ROI. Additionally, the company designs the tool's oil distributor to include an extra channel to allow for water spray or grease systems. The KINSHOFER MQP is suitable for 18t to 65t carriers.

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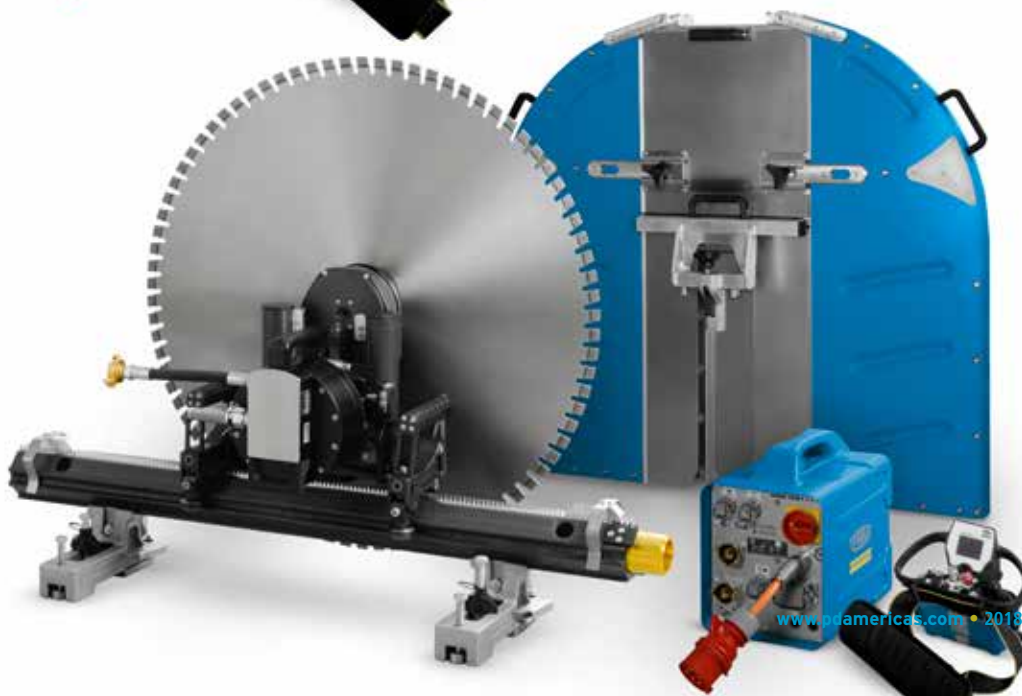
Tyrolit WSE 1621 Heralds New Era in Wall Saws

With the introduction of the WSE1621 wall saw system, TYROLIT proves once again that you do not have to compromise on performance and weight. On the contrary, completely redesigned premium wall saw system sets new standards in its class with its ultra-compact and especially lightweight system components as well as many digital equipment features. Virtually all day-to-day tasks can be mastered easily, with a maximum depth of cut of 27.75 in (705mm) and a blade diameter of 63 in (1,600mm). Other features include a 23-hp (17kW) water-cooled motor, a handy remote control with color display, and innovative communication interfaces.

The WSE1621 combines an especially high performance with compact dimensions and a previously unrealisable weight for its class. All components have been redesigned from scratch and uncompromisingly configured for an optimal weight/performance ratio. For example, the saw head and the ultra-compact motor, which has a tool-free quick-release feature, only weigh approximately 77lbs (35kg). The construction of the WSE1621, in conjunction with the newly developed,



The user-friendly TYROLIT WSE1621 makes the cut with its ultra-compact and especially lightweight system components as well as many digital equipment features (©Tyrolit).



especially lightweight blade guard, makes using it almost child's play.

The new wall saw system is completed by a control unit that has been reduced to the size of a doctor's case and it has state-of-the-art communication interfaces. The bright colour display also provides the operator with details about all relevant information that is needed before, during and after the cutting process.

Tyrolit also relies on the revolutionary P2® drive concept for the latest member of its wall saw family, which stands for consistently high performance and maximum reliability with significantly reduced service costs. This modular system, enabling system-independent use of individual components within different applications, has also been successfully integrated. For example, the convenient controller and the compact main motor are also suitable for wire sawing and drilling in addition to wall sawing.

TYROLIT recommends fitting the new WSE1621 with wall saw blades that use TGD® technology for optimum application results.

www.tyrolit.com

shows

FRENCH CONNECTIONS:

A Paris Intermat Diary

Enjoy PDA Magazine's Senior Editor Jim Parsons diary from the Intermat trade show in Paris and everything that comes with a visit to the vibrant capitol of France.

"You're cute!" I hadn't expected to receive such a compliment, even in a city as closely associated with romance as Paris. But neither had the young lady at a sidewalk café expected to be gifted a rose from a somewhat older (OK...a lot older), still jet-lagged construction journalist whose innocent mangling of basic French made it pretty obvious he was a first-time American tourist. So what? It's Paris, after all.

The fact that I was even in Paris was itself rather bit mind-boggling. Since January, when PDI Editor-in-Chief Jan Hermansson had extended an invitation be part of the team covering INTERMAT, one of Europe's major construction trade shows, I'd embarked on a personal crash course to learn everything about a city I knew mostly by reputation, movies, and many summers devoted to watching the Tour de France. From the first pages of Hemingway's *A Movable Feast*, though I knew my allotted one week would hardly be enough. Making the most of every moment in the City of Light was a must.

Business before pleasure...sort of

It's probably overly simplistic to characterize INTERMAT as being just like Bauma and ConExpo-Con/Agg, the other members of the construction industry's megashow triad, with the main difference being that most everything is in French. Well, that is true to a point.

According to organizer Comexposium's post-show report, approximately 30% of the 2018 show's 173,300 visitors were, like me, from outside France, representing 160 countries. So even the most rudimentary *Parlez-vous anglais?* was usually enough to break the ice at any booth. (Better rudimentary than rude, I suppose.)

And besides, "construction" is a universal language at shows like these. INTERMAT offered an expansive assortment of equipment displays, outdoor demonstrations, and vendors eagerly touting their latest and greatest offerings, rekindling relationships with longtime customers,



Trade shows can indeed be "tire-ing."

or helping potential buyers understand why their products and services are that much better than the other fellows' down the aisle. It doesn't take long to figure out that absent Bauma's sheer size and Conexpo's Las Vegas glitz, INTERMAT is a distinctly French affair.

Where else, for example, would the first booth visitors of the morning be treated to champagne, or sample complimentary plates of cheese and fruit instead of the trade show staples of candy or pretzels? And I was pleased to discover that Brokk's field-cooked French sausage sure tasted like a sans-sauce version of the Virginia pork barbecue I've eaten most of my life.

The expansive indoor displays of the larger equipment manufacturers—think Volvo, Doosan Bobcat, etc.—included "Fan Shops" where visitors could purchase the same kind of gear one associates with favorite sports teams. Giant video screens were also oft-employed attention-getters, as were in-booth participatory games such as the slot car track at Swedish telematics provider, TelliQ.

Matched against Rudy, a TelliQ representative, I managed my best laps as long as I stayed focused on keeping my car literally and figuratively on track. Rudy, being a typical multi-tasking Millennial, had no problem manag-

ing his car while pitching TelliQ's services. Concentration ultimately did him in, but he would "live" to race again against the next booth visitor.

Though several exhibitors splurged on in-booth entertainment for their socials or to lure passers-by, none could top CASE's high-energy co-ed dance team, which performed rhythm-heavy routines using the company's equipment displays as backdrops. Other booth hostesses could be found throughout the show, and it was usually PDI's global sales director Andrei Bushmarin who found them.

And unlike ConExpo, where casinos and other entertainment diversions are literally across the street, INTERMAT is sort of a world unto itself, being held far from the city center at the massive Parc des Expositions. Indeed, the closest many exhibitors get to seeing the Eiffel Tower is in the souvenir shops at nearby Charles de Gaulle Airport, as most their off-hours time is spent at nearby hotels and shopping centers. One U.S. vendor lamented there was very little "Parisian" about his visit, and that any envy expressed by friends' back home was sadly misplaced.

On the town

Not so for me and my PDI colleagues, all of whom, being old Paris hands, were as eager to introduce me their favorite neighborhoods as they were to revisit them. Our restaurant and pub searches took us through the narrow, bustling streets of the famed Latin Quarter, Montparnasse, and Montmartre neighborhoods—little changed from the days of Hemingway, Stein, and countless generations of bohemians (aside from the neon signs and omnipresent tourists wielding selfie-sticks, of course).

And the food—magnifique! Not interested in bringing extra pounds home as souvenirs, I stuck with seafood—mussels, salmon, and a risotto dish that I regretted wasn't bottomless. While I had relied on my colleagues' wine sense for drinking, I was gratified to locate a Frog pub which had a decent American-style pale ale on tap. And oh yes, restaurants in Paris make pretty good French onion soup and French fries. Imagine that.

They also have a knack for creating ambience in the most unexpected of ways. In Montmartre, an Algerian-born acoustic guitarist who had been serenading a group of Spanish diners in the next room happened by our table. PDI Europe editor, the amazingly multi-lingual Mikael Karlsson, struck up a conversation, and before we knew it, our guitarist had pulled up a chair for an impromptu performance.

Quite an interesting repertoire too—from Jacques Brel to Frank Sinatra and the Eagles—perhaps a salute to me and my fellow American, PDI sales manager Darren Dunay. I'm not sure if other patrons were more

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entertained or bemused by my attempt to sing along with “Hotel California.” (You think it’s easy to keep up with Spanish guitar licks on that song? Try it!) But at the end of the evening, it was our accompanist who took home the well-earned extra euros; not me.

Nevertheless, the revelry proved a welcome balm following my up-close-and-personal experience with another French tradition—labor strikes. None-too-pleased with the current government’s proposed economic reforms, France’s public-sector unions have littered the spring months with a series of work slowdowns and protests, some of which have become rather violent. (In fact, the hotel where Jan and Andre were lodging still bore scars of a demonstration from the previous week.)

Among the disgruntled groups is the transit union, responsible for operating the nation’s train system, including the one I was counting on to transport me daily from my Montparnasse hotel to INTERMAT and back. While the union had the courtesy to announce service disruption days in advance, the actual nature of those disruptions seems to be part une surprise.

That’s why one afternoon found me on the platform of the Parc des Expositions transit station along with several hundred other inconvenienced passengers waiting for our idled train to proceed. All announcements were in French (well, duh!), which did this innocent abroad little good in figuring out what was going on. Luckily an INTERMAT visitor from Belgium noticed my dilemma and translated—the electrified system had been shut down because of strikers occupying the tracks. All traffic on the



north side of Paris was affected.

“We don’t know what’s happening,” my multi-lingual life preserver sighed. “We just have to wait.”

And wait we did for about an hour, until another announcement in French sparked a rush to reboard the train. The tracks had been cleared and power restored. The doors closed and...nothing. Seems the engineer spotted someone walking on the tracks toward the station. He doesn’t appear to be a striker or even a vagrant; just a casual dude with a backpack and an iPhone. Despite being roundly cussed out (I suppose) by one of the station attendants, who apparently had no arrest powers, the dude simply shrugged his shoulders, got off the tracks, and ambled on his way.

With more disruptions waiting at the Gard du Nord station, I began searching for an alternate route. Paris’s famed Metropolitan subway was operating normally, but which line on the multi-colored map would get me back to my hotel?

“Parlez-vous anglais?” I asked the station guide? He nodded. Yay me!

My language success was short-lived, as feeble attempts to pronounce Denfert Rochereau station drew only curious looks and head shakes. The only other thing I could think of to say was that my station was adjacent to the Paris Catacombs.

“Ah, catacombes!” my guide realized, and within a few minutes, I was on the right Metro line home. Though the communication gap was largely my making, I couldn’t help but recall Mark Twain’s observation about Americans’ frustration at their inability to make French people understand their own language.

Grand finale

Still, I felt “baptized” as a Parisian by the transit experience, endowing me with the confidence to handle any circumstance for the remainder of my visit, which included a “tourist day” walking tour of all the city’s picture-postcard sites—the Eiffel Tower, Arc de Triomphe, Champs Elysees, the courtyard of the Louvre, the Quais de la Seine, Notre Dame—as well as landmarks meaningful only to fan of the aforementioned Tour de France. (Traveling alone means

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it's OK to seek out street corners and underpasses only because they're part of the peloton's route every July.)

After a week's worth of seeming endless walking and gawking, it was time to go home. But Paris wasn't done with me yet.

A morning stroll through the neighborhood around my hotel led me to an open-air street side market, offering all kinds of fish, cheese, farm-fresh fruits and vegetables, and even some cheap clothes. With a small tub of au revoir strawberries (so named because of my impending departure and their short remaining time outside my belly), I found a sunny park bench and reflected on the week's adventures—the restaurants, the people, the trade show, the transit strike, the girl...

Ah yes, the girl and the rose. How could I forget?

It was late in Montmartre, and we were in search of one last beer before Ubering back to our respective hotels. Having found a half-closed pub, we were sitting outside, enjoying the cool of the evening when I discovered a long-stemmed rose under my chair. Had it been dropped? Forgotten? Collateral damage from a lovers' spat?

It'd be a shame to just leave it there, I thought. And with a lively trio of young people just a few tables away, the solution seemed obvious.

"Mon cheri," I said to the young lady among them. "For you." She beamed...and asked in English if I was an American. (No Maurice Chevalier moment for me.)

Explaining that I simply thought it was a Parisian tradition to give flowers to pretty girls, I returned to my PDi colleagues, who congratulated me on my boldness.

"Thank you!" the girl called after me. "You're cute!"

Well, perhaps this isn't quite the romantic interlude that Victor Hugo or Ernest Hemingway would craft, but it sure made my day. Shoot, it made my whole week. And what a week it was.

Merci beaucoup. And goodnight, Paris.



ALL BREAKERS BIG AND SMALL

There's not much contractors can do to accelerate the transition from winter to spring; that's Mother Nature's job. But thanks to breakers, they can do something about turning old concrete into rubble for disposal, recycling, and other uses regardless of what the calendar says. Likewise, breaker manufacturers know that even the best products can always be enhanced or adapted to meet new needs or integrate new technologies.

So, whether you're ready to get to work, or still waiting for those last piles of snow and ice to melt away, now is an ideal time to take a look at the latest in demolition breakers and associated equipment.

Meet JCB's Contractor and Professional Breaker Series

JCB Attachments offers two ranges of hydraulic breakers designed to work with its excavators, backhoe loaders and compact machinery lines. Contractor hydraulic hammers have been specifically designed for all brands of excavators and tool carriers. The range now includes 14 models, from the compact HM012T that tips the scales at just 264.5 lb (120kg) operating weight to suit mini and micro excavators, through to the 3.8t HM380T, designed to work with 40t to 60t excavators. HM033T and above Contractor breakers have accumulators to protect the carrier machine from hydraulic pressure spikes, reducing possible wear and tear on the hydraulic system.

Hammers for use with equipment above an 8t operating weight come as standard with a refillable auto greasing system, ensuring the breaker always receives the correct amount of lubrication throughout the working day. This cuts downtime and boosts productivity. Twin oval tool retaining pins are included on heavier models, delivering double the life of a standard pin, as they can be rotated to wear on both sides. Smaller breakers are equipped with a single tool retainer. Two-speed control valves allow the operator to customize tool speed and stroke length, depending on the material that is being broken. This increases productivity and reduces the risk of damage to the breaker and the carrier. Internal control valves deliver higher efficiency against competitive products with external valves. This includes reduced maintenance as the

oil flow is improved, reducing heat buildup in the system and protecting internal seals. Heavier models also feature blank firing protection, further cutting the potential for damage to the breaker and wear to the carrier machine.

Contractor breakers use a single scaled design with the same maintenance requirements for each model. This ensures that dealer and customer service staff, particularly in a rental operation, can easily work on all hammers in the range. JCB Professional breaker range has been designed and built to work in specialist dedicated breaking applications. They are supplied "ready to go" with hoses, hangar bracket,moil, and chisel tools. Their solid body design provides maximum strength with lower weight and the low maintenance accumulator helps reduce maintenance costs.

Exact match of tool and piston diameter maximizes blow energy transfer and energy not absorbed by the material being broken is used to lift the tool which pressurizes the accumulator ready for the next blow. Reusing this energy increases impact force and reduces running costs. All JCB breakers are silenced as standard to reduce noise pollution. Compatibility is guaranteed and the full hydraulic hammer range is backed by JCB's global service network.

www.jcb.com

Epiroc SB hydraulic breakers feature industry-first integrated water port for dust suppression

Epiroc's premium SB series hydraulic breaker attachments are the industry's only breakers to come standard with an internal water port for dust suppression, a feature that can assist in compliance with new silica rule dust regulations. With an integrated water channel, operators can spray water at the source of dust creation to keep dust levels down. This improves the working environment, enhances visibility, and prevents dust from seeping into the bushings. SB breakers are also designed to protect operators and equipment by reducing noise and vibration. Designed for 0.7t to 24t carriers, SB series breakers combine superior efficiency and performance with high durability in a compact design. The range includes models to match any micro or mini excavator, backhoe, skid steer loader or demolition robot with service weights ranging from 120 lb (54kg) for the SB 52, to 2,350 lb (1,066kg) for the SB 1102.

Epiroc's EnergyRecovery technology absorbs recoil energy, mitigating anvil effect and increasing overall performance. The result is higher impact rate from the same hydraulic input with less vibration. The slim, compact design makes SB breakers easier to handle and improves operator visibility. All SB breakers come prepared for compressed air supplies. No modification or additional installations are required. The multifunctional design of the well-protected connection ports assures trouble-free operation, ease-of-service, and quick access. Side-positioned ports reduce risk to hoses and provide easy access for connecting compressor, water connection or Conti-



Lube™ II micro lubrication supply lines or for monitoring operating pressure. No special tools or adaptor fittings are required for servicing SB series breakers. The SB SolidBody concept utilizes a patented internal, integrated component design integrating the impact mechanism and the guide system into a single piece. This eliminates the weakest components of traditional breakers: damping and guiding elements, tie rods, parting lines and stud bolts.

The accumulator is cast into the body, further reducing the number of breaker parts and overall weight and maintenance. Gas pressure can be checked and adjusted in a matter of minutes. The supported diaphragm reduces strain and distortion, improving load distribution and service life. Dual tool retainer pins optimize tool load distribution, require less grinding and protect against accidental damage to the tool and breaker. Other standard features of SB breakers include integrated pressure relief valve for overload protection, Auto Start, air inlet for underwater applications, oil drainage plug, dust wiper, slip fit bushing, and dual tool retainer bars for better support.

Epiroc ContiLube™ II or ContiLube™ II micro now available for SB series

Many of Epiroc's rig mounted SB series heavy hydraulic breakers now feature the patented Intelligent Protection System (IPS). Seamlessly combining Epiroc's popular AutoControl and StartSelect functions, this fully automated system provides simpler, more efficient, and more



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economical operation than ever before. AutoControl optimizes breaker performance by automatically adjusting the piston stroke length. The StartSelect system offers manual switching between two modes: the AutoStart mode enables easy positioning at the beginning of the breaking cycle, and in the AutoStop mode the breaker stops automatically to avoid blank firing at the end of the breaking cycle. IPS permits more accurate and significantly faster positioning of the breaker, thanks to the centering effect, and avoids blank firing that often results in tool damage. This also eliminates mechanical strain on the carrier and the life of all wear components is extended. The physical load on the operator is minimized as well.

www.epiroc.com

The Start of Something Big for Mantovanibenne

This is going to be a very special year for the MBI Group due to the double anniversary that will be celebrated during INTERMAT in Paris—the 55th foundation anniversary of Mantovanibenne, flagship of the MBI Group, and the 20th of MBI France, the organization's French affiliate. The common theme alongside the MBI Group history is the desire for innovation and continuous improvement. Since the 1970s, Mantovanibenne has always tried to bring something new in the market of attachments, such as clamshell buckets or orange peel grabs. The decisive step in the Group history the 1991 launch of an entire line of demolition attachments, something almost unknown within Europe at that time. Today, as much as in the past, the intention to contribute to the evolution of working practices pushes the company to develop new ideas and transform them into reality to satisfy the always-changing market needs. At INTERMAT, the spotlight will be on the new CC60R demolition cracker, an attachment that is destined to influence the future demolition techniques, especially in the demolition of large infrastructures, where the external concrete structure incorporates a resilient metallic frame. This new 6.5t combines the typical physiognomy of a concrete crusher with some features of scrap shears, making the tool ideal for the demolition of concrete structures, heavily reinforced with steel bars or buildings with a steel frame. For example, the CC60R is very effective in the demolition of bridges and other infrastructures where a metallic skeleton is present and protected with a concrete coating.

The structure of the CC60R is asymmetrical, as its body is designed to host two different jaws. On one side,



there is a single jaw equipped with an interchangeable tooth and a shaped cutter. This shape grants maximum penetration of concrete and precise cutting of metal, while interchangeable blades and tooth enable fast and easy maintenance. On the other side there is a double jaw with two interchangeable teeth. This double jaw has a very specific design that allows an effective action on concrete and the oblique positioning of metal parts to be cut. In addition, a guide on the main frame keeps the jaws in perfect alignment to ensure maximum crushing and cutting power over the long term.

The MBI CC60R, is totally different from other "combi cutters" available in the market, as it's the only one with a double central pin system. This design creates a better geometry between the two cylinders and the jaws, increasing the force of the tool and enabling the delivery of higher crushing force, even at maximum jaw opening. During INTERMAT, other innovations are going to be presented; some of them regarding established MBI products that have been further improved to elevate quality standards in the market. For instance, the RP-IT line, a global benchmark for rotating pulverizers, sees its efficacy and durability features enhanced thanks to cast interchangeable parts. The MS line, instead, has been improved with a new design that augment the efficacy and includes interchangeable parts to facilitate maintenance.

In addition, some new smaller models have been added to the line as a consequence of the raising demand for small tools for mini excavators and high-reach applications. The SGR line, given the wider and wider range of applications found, has a new oleodynamic system that ensures the highest level of efficiency and reliability in each context. Given the very positive results of 2017, the product innovations ready for the market and the several ones still in development, the MBI Group expects a great 2018, as a right celebration of the successful MBI history.

www.mantovanibenne.com

Hilti's TE 2000-AVR demolition hammer delivers power and performance without the weight

The newest addition to Hilti's breaker portfolio, the highly versatile TE 2000-AVR is designed with maneuverability in mind. Its low weight makes it easy to handle, yet doesn't cut corners on tool performance. The TE 2000-AVR is the perfect blend of both power, ergonomics, and weight. At 26 lbf (35.2N) of impact energy, and 1,800 impacts per minute, the TE 2000-AVR boasts double the performance compared to tools in the same 27-42 lb (12-19 kg) weight



class, and similar performance to competitor tools in the 65 lb (29kg) weight class. Weighing in at 33 lb (15kg), it is easy to maneuver and transport throughout the jobsite, and ready for use in minutes. And with a t-handle design and exceptionally low vibration from Hilti's innovative sub-chassis Active Vibration Reduction (AVR) system, it allows for efficient performance and maximum working comfort. The TE 2000-AVR utilizes a brushless SR motor that eliminates the need for regular replacement of carbon brushes. And the detachable power cord allows for quick replacement of broken or damaged cords right on the jobsite. Tool electronics help ensure consistent performance in multiple power scenarios for the TE 2000-AVR. Whether running the tool from a wall outlet or a 100-ft (30.5m), 12-gauge extension cord, the performance will remain consistent.

The perfect match—Hilti's TE-SPX SM pointed chisel

Specifically designed for use with the TE 2000-AVR, the new TE-SPX SM pointed, self-sharpening, chisel features an innovative X-polygon wave design and tube effect that



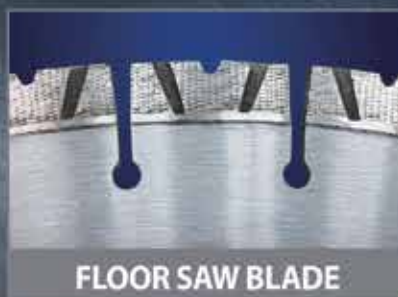
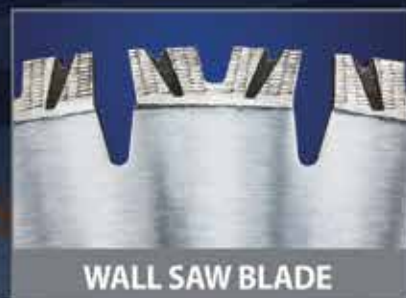
maximizes Hilti demolition hammer performance, reduces downtime due to sticking or jammed chisels, and provides optimized dust removal. With TE SPX pointed chisels there is no more re-sharpening, jamming or sticking like conventional chisels. The TE SPX is made from high-alloy steel and a unique induction hardening process for the highest reliability and reduced risk of chisel breakage.

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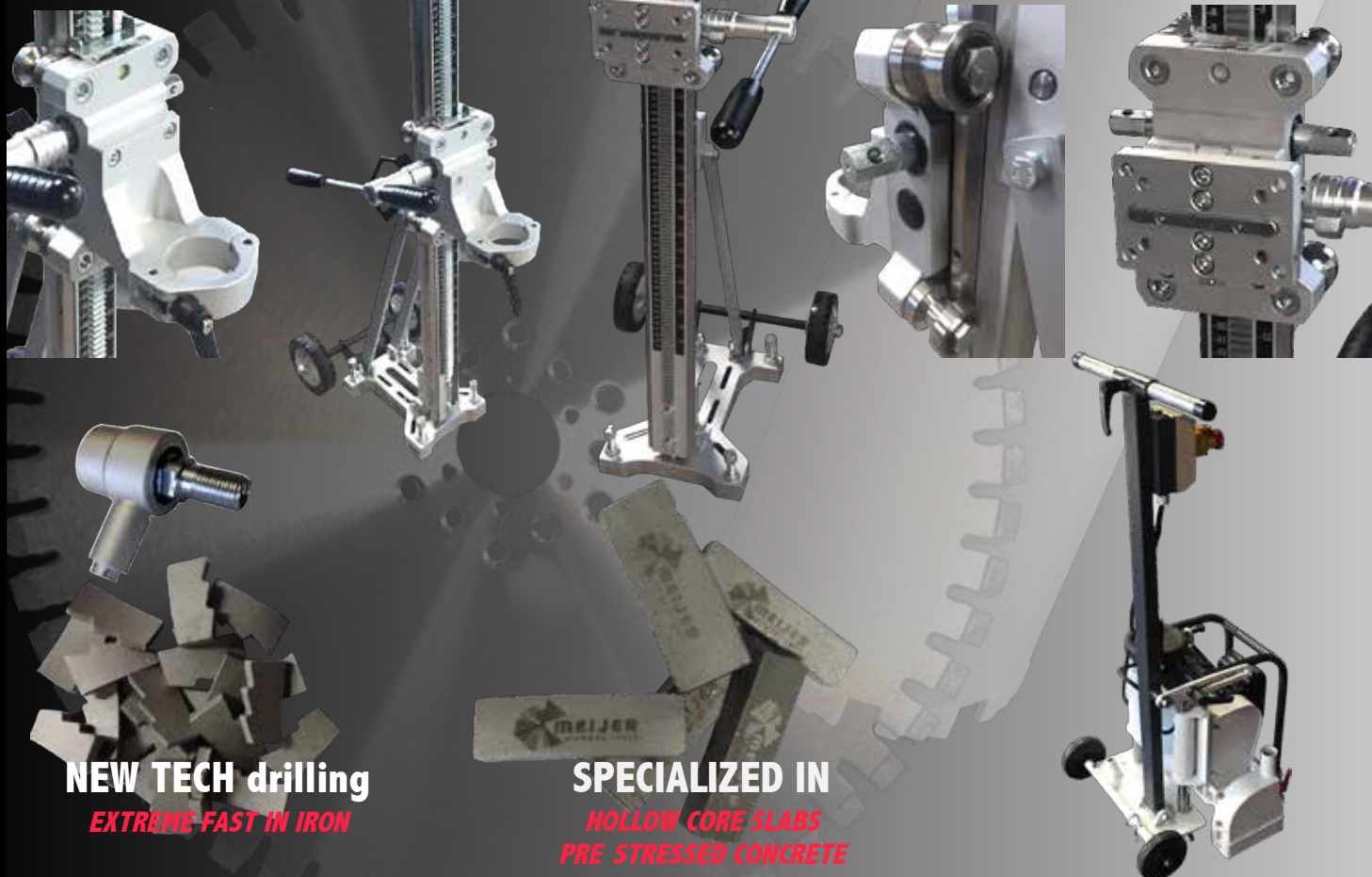


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Caterpillar's new B4, B4s, B6, and B6s hammers

Cat® B-Series hydraulic hammers, available in both silenced and non-silenced versions, are designed for “plug-and-play” operation with a range of compact equipment while also delivering optimum life-cycle value. The new hammers are suited for skid steer loaders, multi-terrain loaders, compact track loaders, 3t to 8t mini-hydraulic excavators, and backhoe loaders working in a range of construction and light-demolition applications, including site prep, landscaping, masonry, and concrete breaking. The B-Series hammers use a simple, reliable, industry-standard modular design with two moving parts in the piston and valve, ensuring reliability, versatility, ease-of-use and maintenance. Flat-top mounting enables a compact working envelope and compatibility with a full complement of brackets to suit preference of coupler, linkage kinematics, or machine size. As a package solution, the matching Caterpillar-designed hydraulic kits are also offered and the best fit for Cat machines, providing customers a breaker package with superior design and benefits.

Bushings are field-replaceable, and the lower bushing can be rotated 90 degrees for improved wear performance. Housings are designed to facilitate common maintenance items. Grease fitting and gas pressure check points are easily accessible, even when the hammer is mounted on the machine. Tool types for the new hammers includemoil, cone, parallel and transverse chisel, and blunt, allowing the hammer to be adapted to an extensive range of applications.

Technical specifications

Model	B4	B4s	B6	B6s
Oper. weight (lb/kg)	350/159	357/162	571/259	610/277
Energy class (lbf/N)	273/370	273/370	502/680	502/680
Blows per minute	600-1,100	600-1,100	500-900	500-900

www.cat.com

News from Arden Equipment

Arden Equipment announces the arrival of three new breakers: the AB082, which can adapt to excavators from 0.5t to 2t; the AB5052 for excavators from 45t to 80t, and the AB 6052 for excavators from 60t to 100t.



Arden's breakers are designed to meet all challenges on small and big jobsites. The valve system directly integrated within a soundproof abrasion-resistant steel container, allows greater efficiency. This cost-effective maintenance system makes it possible to change the hammer points faster, increase performance on jobsites. Arden Equipment has also improved its range of current couplers to increase safety. The UA 72H (36t to 53t) offers a patented, ISO 13031-compliant mechanical safety ratchet system to prevent accidental unlocking of the equipment. In addition, a new series of 2t to 36t couplers (UA13 to UA63) likewise brings safety to a new level. In addition to the cylinder and the safety valve, this new series brings two compression springs for and an axle locking pallet at the front hooks for double security. The new UA72H and UA 3 couplers are still equipped with the V-shaped hooks allowing them to be operated on buckets with different pin sizes.

Arden has also introduced the Arden Tilt, which incorporates the technology of a tilting system allows tilting of tools up to 180°. It is compatible with the Quick Arden coupler (QA) and the Uni Arden coupler (UA). The rotating system is a simple mechanism made of a central shaft and a ring-shaped piston. The technology uses moving splines, making it possible to convert the movement of the piston into a rotational movement that allows the shaft to tilt. Contractors can increase the versatility of excavators and backhoe loaders while ensuring tilting of any buckets or any other attachments.

www.arden-equipment.com

Rammer's biggest just got better

Rammer's new 9033 breaker, successor to the highly successful Rammer 7013, benefits from a number of key changes and improvements, many of which have been proven in smaller Rammer hammers. These have been achieved by equipping the new Rammer 9033 with many of the key features recently applied to other models in the Rammer 'large' and 'medium ranges'. Weighing in at 7t, the new Rammer 9033 is suitable for carriers in the 60 to 120t operating weight range.

Stroke length and idle blow protection can be easily adjusted, with the long stroke setting using a lower blow frequency for optimum breaking in hard materials, such as granite and reinforced concrete foundations. The short stroke setting delivers higher blow frequency which is ideal for softer materials, such as limestone. The idle blow protector on/off selector allows the operator to easily adjust the working mode to protect against idle strokes.

The new 9033 utilises long life, high tension VIDAT tie rods for improved reliability and lower operating costs. The tool retaining pins are locked by simple, reliable rubber rings, while the surface of the lower tool bushing has been specifically designed to provide longer tool life.

The Rammer 9033 also becomes the latest (and final) model in the Rammer large range to benefit from the addition of the Ramvalve overflow protection system, which monitors the oil flow through the hammer. If the oil flow exceeds the pre-defined setting, the valve adjusts the flow to a very low level and drops the hammer's impact rate. Ramvalve resets after the hammer re-starts with a correct oil flow. This highly effective system provides excellent protection against accidental overflowing and overpressure, enhances the hammer's reliability, and offers improved protection against oil spills.

To further extend the working life of the Rammer 9033, it is offered with three greasing options: a centralised manual option; carrier mounted Ramlube I automatic greasing; or Ramlube II, which utilises a cartridge mounted on the hammer to automatically deliver optimum levels of lubrication for greater wear protection



and a longer service life. The new model also comes equipped with Rammer's Ramdata II service indicator that allows operators and service personnel to monitor and

log vital service and maintenance information to further minimize downtime.

www.rammer.com

The atomized misting unit can deliver up to 62,800 ft² (5,834 m³) of coverage.

Mobile Dust Suppression Keeps Demolition Emissions From Leaving Site Line

River City Demolition of Iowa used BossTek's self-contained and mobile DustBoss® DB-60 Fusion® to suppress airborne dust created by the jaw processor and falling debris from a 5-story parking deck demolition project. The result was adjustable wide-area control of airborne and surface dust that reduced the need for manned hoses and maintained the air quality needed to comply with regulations. From the outset, planners realized that the downtown location of the parking deck would require dust control beyond the conventional approach of manual spraying with a fire hose.

"With occupied buildings on two sides and city streets on the other two, we wanted to find the best method available to suppress the demolition dust and prevent its migration," says Operator/Estimator Josh Runyon. "We knew our water trucks could help control surface dust on the ground, but our big concern was finding a way to address airborne dust, something that could knock down particles and keep them on-site."

Because of the close-in location and confined space, River City crews decided to use a jaw processor to pulverize the concrete and take the parking decks down a section at a time. That helped avoid dust clouds from large sections falling at once, but Runyon stressed the need for containment when he spoke to BossTek Sales Manager Mike Lewis.

"When Josh called us, we had a DustBoss® DB-60 Fusion™ on hand, which is one of our larger designs that's equipped with its own generator for locations without convenient access to power," Lewis says.

With all components mounted on a road-worthy trailer, the system gave River City crews the versatility to position the fan-driven unit wherever it was needed on a given day. The water source was a municipal hydrant located nearby, fed by a standard 2-in (50.1 mm) hose.

The DB-60 Fusion forces water through a circular

stainless steel manifold with 30 atomizing spray nozzles, then launches millions of tiny droplets with a powerful 25-hp (18.6kW) fan. Atomized mist droplets of 50 to 200 microns in size are thrown out in a 200 ft (60m) cone at an adjustable 0 to 50° elevation angle, capturing airborne dust particles and dragging them to the ground. Unlike industrial sprinklers used for the same purpose, which can require 500 gal/min (1,893 liters/min) or more of water, the DB-60 uses only about 23 gal/min (87 liters/min).

Rather than have personnel handling hoses to suppress the dust, the single atomized misting unit delivers 62,800 ft² (5,834 m³) of coverage, while using far less water than hoses and sprinklers, helping contractors avoid over-saturation and run-off.

At just 80 in (2.03m) wide, the system can be placed virtually anywhere dust suppression is needed and adjusted based on changes in wind or work activity. The optional dosing pump is powered from the standard 120V electrical outlet on the gen set, allowing operators to precisely meter surfactants or other additives. The unit's versatility makes it suitable for uneven ground, as well as open spaces or tiered terrain.

Water sources can vary, and the unit requires a constant supply pressure of just 10 psi (.069 bar). Standard municipal water pressures are generally around 40-50 psi (2.76-3.44 bar). The water is delivered to the atomized misting unit through a hose with a cam-and-groove quick disconnect coupling leading to the booster pump. For use with a non-potable water source, the Fusion can be equipped with a number of filter options.

From the beginning, Runyon's suspicions proved correct. "It was one of the dustiest projects I've ever worked on," he says. "But the DustBoss did a great job. We could locate and aim it perfectly each day, and neighbors seemed



Once the DB-60 is positioned as needed, it can run unattended all day.



The downtown location required dust control beyond manual spraying.

pleased with the dust management. In fact, we didn't receive a single dust-related complaint during nearly three months on the job."

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"Perfect Pairing"

A few tips for Kinshofer for choosing an excavator demolition attachment to boost productivity.

By Francois Martin,
KINSHOFER North America general manager

It could be argued a good beer goes well with just about anything. After a hot summer day on a demolition job, though, a light beer with lime will probably taste more refreshing than a heavy stout. Finding that perfect malt after a long day feels great, and finding a perfect-fitting demolition attachment will get that beer served up a lot sooner. With hundreds of sizes and styles of demolition attachments on the market — from small grapples to massive pulverizers — it's not as easy as picking one, attaching it to an excavator and expecting top production. Like a good beer, some tools just fit better at different times.

Making the Perfect Match

First, consider the type of work the attachment will perform. Multi-quick processors, shears, crushers, pulverizers and demolition grapples tend to be the top picks for primary demolition. The choice depends on the type of material, and how it needs to be broken up. Crusher and pulverizer attachments, for example, best tackle jobs made up of mostly concrete. Choose a crusher — or "cracker" — if the structure is composed of concrete with little or no rebar, and if it's necessary to break the concrete into chunks large enough for easy sorting and recycling. A pulverizer better handles concrete that's heavily reinforced with rebar. It will break the concrete into small pieces and cut through the embedded rebar, allowing the concrete to fall to the ground rather than hang onto the rebar.

Pulverizers also can break concrete into manageable

sizes during secondary demolition. If the demolition involves both crushing concrete and cutting steel, contractors should consider combi-crushers that incorporate both cutting edges and teeth. For a job that is primarily steel, a demolition processor with shear jaws or a mobile shear attachment will work best compared with a tool meant for multiple types of material. When working jobs with light materials, such as wood or brick, use a demolition grapple. Besides breaking apart materials, rotating grapples work well for sorting during secondary demolition, and increase versatility and productivity by allowing a wide range of movement.

For versatility across different demolition jobs, a multi-quick processor often fits best. The attachment's interchangeable jaws handle numerous materials. The jaw types include crushers, pulverizers, a combination of both, and steel-cutting jaws. Some manufacturers offer additional specialty options for timber, large vessel, and heavily reinforced concrete. While multi-quick processors may cost as much as 20% more than other attachments, they more than make up for that difference in their versatility achievable through the interchangeable jaw sets.

Powered Up

A longstanding rule of thumb holds that the larger the cylinder, the more powerful the tool. Because of this, contractors seeking more demolition power in the past had to buy or rent a larger excavator to handle the larger attachment. That's no longer the case. As manufacturers incorporate more technology into attachments, some are achieving as much as 25% more power without increasing the cylinder size. Additional chambers built into the cylinder allow for as much as 20% more surface area, resulting in an attachment with the same power as a tool two sizes larger. This technology gives contractors access to higher crushing and cutting forces previously provided only by larger and costlier tools and carriers. The high power-to-weight ratio — higher on attachments with this technology than any other tool in its size class — also provides more efficient high-reach demolition.

Some attachments with innovative cylinder technology reduce carrier fuel consumption by up to 20% compared with other models. In some cases, the attachment's efficient design allows it to function normally when the carrier is set in economy mode, achieving the same performance as competitive attachments on an excavator running at full throttle. When combined with double-acting speed valves, the advanced attachment designs not only offer improved power and efficiency but also improved productivity. Together, the enhanced cylinder design and double-acting speed valves deliver faster cycle times — from 3.8 seconds to 5 seconds on bigger tools — and as much as 20% more power than conventional cylinders.

If the Tool Fits

Of course, the best attachment in the world still needs a suitable carrier to perform well. Too heavy an attachment can cause excessive wear to the excavator and will affect performance. In addition, tools that are too heavy for a machine are a safety risk for other workers near the carrier while an attachment that is too small reduces productivity. Also ensure the carrier has enough hydraulic capacity to feed the attachment. Inadequate flow or hydraulic pressure will slow the tool's cycle times, reducing productivity. Too



little pressure also results in less closing force or torque, depending on the attachment. Also check the attachment's hydraulic circuit requirements. For example, rotation shears and multi-quick processors require two double-acting hydraulic circuits, one circuit for opening and closing the jaw and one for 360-degree rotation. Attachments that don't rotate, such as static pulverizers or shears, only require one double-acting circuit.

Easy Fix?

One method for choosing a low-maintenance attachment is to find a tool with no or very few protruding parts, such as hydraulic hoses. These can be easily damaged during operation, particularly in harsh demolition environments. Look for attachments with these components enclosed within the tool yet are easy to access through service openings. Also keep wear parts in mind. Shear and crushing attachments' cutting edges and teeth need to be replaced when worn. Exchangeable cutting edges are an industry standard, but it's still smart to ensure they are available. When considering multi-quick processors, pay attention to how quickly jaws can be switched out. Some manufacturers build multi-quick processors with jaws that operators can change within minutes on site, compared with the hours needed to bring many other attachments back to the shop to exchange. Workers only need to manually remove one pin from quick-exchange models during change-outs, compared to three from many other manufacturers' processors. The rest of the jaw exchange process is done hydraulically from the safety of the cab. This system also virtually eliminates the danger of the jaw falling and injuring a worker after the last pin is removed.

Choosing the most effective pairing of tool and carrier goes beyond application and power. Carefully consider every aspect of the attachment and carrier to form a pair that will boost productivity, ROI and, potentially, open up opportunities to work in new applications. The right choice will mean the perfect match.



Air Filtration News from Husqvarna



Using an air scrubber is a great idea to further clean air in enclosed areas, and it is easy to use. Just plug it in, turn it on and it's ready to clean the air. When used in addition to a dust suppression system, it helps ensure your work space is well protected against airborne dust particles. Husqvarna's A-line features two of the most advanced and versatile portable air scrubbers available on the market. They are tested and certified for use as both Air Scrubbers and Negative Air Machines, making them the ideal complement to dust and slurry management equipment as well as other applications where air quality is essential. The A 600 and A 1200 are equipped with an efficient filter system and provide superior air quality – no matter if dealing with concrete dust, fine sanding dust or gypsum dust. The number of air cleaners needed for a particular job site should be calculated so that the entire air volume on the worksite is filtered at least six to eight times/hour. Both models feature two-stage air filtration. A pre-filter made of pleated polyester catches the larger dust fractions before the air enters the individually tested HEPA filter, ensuring 99.97% efficiency at 0.3 microns. Located inside a lightweight cabinet with sturdy aluminum frame and metal locking casters, the filter area is protected by a metal mesh.



The Husqvarna S-line (S 13, S 26 and S 36) consists of professional dust extractors designed to meet strict demands. These compact, lightweight machines are equipped with one, two or three powerful single-phase electric motors with separate cooling, capable of running continuously all workday. This makes them suitable for all construction, abatement and restoration jobs, as well as for use with electric power tool.

A dust extractor is a great substitute for a cube vac, as jet pulse cleaning of the conical main filter ensures dust is continuously collected throughout a full work day. A Longopac® collecting bag enables the machine to be emptied quickly and simply; the bags are completely sealed and mean the operator never comes into contact with the dust. Individually tested and certified HEPA filters ensure superior and safe dust collection, even on fine sanding and gypsum dust.

www.husqvarnacp.com

HTC Products Improve Worksite Air Quality

HTC has developed the Airflow™ Tool Holder to increase airflow across tools to improve diamond cutting and life. At the same time, the increased airflow creates a cyclone effect in the grinder head and enables the dust extractor to pull dust off of the floor more effectively. In addition, HTC's DURATIQ floor grinders feature AirFlow™ technology, which optimizes the airflow inlet at the base of the grinder head vs. the top of the grinder head to increase the amount of dust that is pulled off the floor. This creates a newly dust-free work environment



with less manual dust collection. Another HTC DURATIQ feature, the Mist Cooler System, keeps the tooling cool, which means improved performance and longer service life. What's more, the mist has the added benefit of suppressing any remaining airborne dust particles.

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Conjet Robot Contributes to Renovation of Sunken-Tube tunnel



The Conjet Robot 557 is being used to remove the top layer of the concrete floor in the underwater tunnel.

The underwater Maastunnel in Rotterdam, The Netherlands, was completed in 1942. Separate parts of the tunnel were built in a dry dock, floated into place, and sunk into a trench dug in the river bottom. The Maastunnel was the world's first rectangular shaped underwater tunnel built in this way.

After many years' service, the tunnel is undergoing badly needed renovation work. Some years ago, tunnel experts discovered that the concrete structure of the tunnel had decayed. In addition, the Maastunnel must soon comply with the latest EU laws and regulation for safety

in tunnels. This led to a complete tunnel renovation being planned as the best solution to meet modern requirements of tunnel safety and efficiency.

On 3 July, 2017, the two-year renovation and restoration of the Maastunnel began. Work will include concrete replacement, new signal and ventilation systems. Much of the old infrastructure, such as the huge, spectacular cast iron ventilation system, will also be restored and preserved as city monuments.

Hydrodemolition challenge

One major assignment of the project is

to renovate the 1m thick concrete floor of the tunnel, which lies 4.9 ft (1.5m) below the roadway. The top layer, with a thickness between 4.7 in (120mm) and 5.9 in (150mm), has to be removed with hydrodemolition and replaced by new concrete, with the existing rebar also being preserved.

Dutch concrete and renovation contractor, Hompert-Renes B.V., chose hydrodemolition as the most viable and efficient demolition method due to the requirement for low levels of noise and dust emissions, and to avoid cracks in the tunnel structure. The hydrodemolition process also cleans



Hydrodemolition has been chosen as the most viable and efficient demolition method because of less noise and dust, and to avoid cracks in the tunnel structure whilst maintaining the original rebar.

section, then move on 30m forward to do another one, going back and forth like that to the other side of the tunnel. The Conjet uses 280 gallons/min (1,060 liters/



Gemeente Rotterdam (Municipality of Rotterdam) is responsible for the renovation of the Maastunnel, which has been a crucial road traffic link for the city during more than 75 years of operation.

the original rebar automatically.

"When it comes to the actual hydrodemolition, the work is quite ordinary since we are just removing concrete from the floor using two standard hydrodemolition robots," says Jurjen Volmer, owner of his own hydrodemolition company, Volmer Industrial Services, a subcontractor to Hompert-Renes. Volmer has four operators operating the two Conjet 557 hydrodemolition robots around the clock, Sundays to Thursdays. The remaining days are used for removal, cleaning and to refill the sections with new concrete. To safeguard the stability of the tunnel, due to its slurry bottom, the robots operate in 94 sections, each section 19.6 ft (6m) long and 22.3 ft (6.8m) wide. Workers demolish and remove the concrete in one

min) at 14,500 psi (1000 bar). While the actual demolition is quite simple with the standard Conjet 557 robot, the logistics of the operation are quite complicated. This is due to having to reach the 94 sections of the tunnel by specially constructed bridges, going forward and back again, and removing the demolished concrete out of the tunnel. Hydrodemolition has proven to be the best suited way of effectively dealing with the tunnel renovation, and the use of the Conjet robot has certainly made the demolition parts quite straightforward.

The hydrodemolition process started at the beginning of September 2017. Ten weeks later, approximately 550m³ of concrete had been removed from the 1,870 ft (570m) long and 22.3 ft (6.8m) wide concrete floor of the tunnel. As soon as the concrete top layer had been removed and the remaining rebar had been cleaned from rust, new concrete was immediately poured in place.

Jurjen Volmer, owner of his own hydrodemolition company, Volmer Industrial Services, is a subcontractor to the principle contractor, Hompert-Renes B.V.



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Dymatec launches P20W, a new version of bestselling P20 tracksaw blade with even longer life

Dymatec, a leading manufacturer and provider of specialist products for the diamond drilling and concrete cutting industries, has launched a new and improved version of its bestselling P20 diamond tracksaw blade, the P20W. The brand new P20W is still the fastest cutting tracksaw blade on the market and now lasts significantly longer. Designed exclusively by Dymatec in response to customer demand, the P20W is now one of the leading tracksaw blades available to diamond drilling and concrete cutting contractors. Jeremy Newton is Managing Director of Dymatec, he said: "Dymatec's

new P20W is an exciting new addition to our range of high quality diamond drilling and cutting consumables. The P20 has held the title of the bestselling tracksaw blade in the UK in recent years and we are delighted to now also offer an improved version to deliver even better results for customers.

"Blades are one of our most popular lines and we are constantly looking at ways to improve the performance of our products.

"With the P20W we have ensured it continues to be the fastest cutting blade on the



market and our design changes mean it now lasts even longer. Plus, the P20W is available at the same price as the P20 and we expect this product to be in high demand."

The P20W is available in a range of diameters up to and including 2200mm (86") and varying thicknesses, and is available to purchase now.

About Dymatec

Dymatec has been supplying the diamond drilling and sawing industry for over 20 years from its headquarters in Bedfordshire, England. As diamond drilling and sawing specialists, Dymatec provides only the highest quality products for ultimate performance delivering precise, effective and impressive results. Dymatec has extensive experience working with specialist diamond drilling companies both in the UK and internationally.

www.dymatecuk.com

Demolition Robots vs. Excavators

Hydraulic breakers are kind of dumb. Mounted on a carrier without the correct hydraulic oil flow and pressure, system back pressure and some consistent downward force, they just sit there, making noise and creating dust. Regardless of the carrier – excavator, backhoe or skid steer – they will not perform to their stated specifications without those four critical parameters in place.

By: Peter Bigwood, Vice President of Sales and Marketing, Brokk Inc.

And there, in a nutshell, is one of the key differences between an excavator and a demolition robot. In a sense, a demolition robot is designed from the attachment backwards. The oil flow and pressure – right where the hoses attach to the hammer – are calibrated to be exactly in line with the breaker manufacturer's requirements. The system backpressure is kept as low as possible, and the downward force that the arm can exert on the hammer is consistent with the demands of the breaker. In effect, the hammer and the carrier are perfectly matched so the hammer can operate at peak power and efficiency.

Not enough power

On the other hand, excavators are primarily designed to...well, excavate. But when it comes to demolition, just hanging a hydraulic breaker off the end of the boom is not enough to achieve the kind of concrete-breaking results that a robot can generate. An excavator's hydraulic system today simply doesn't provide what the hammer

Brokk demolition robots have a three-arm system that on some models can rotate 360 degrees to perform a range of tasks at nearly any angle.



A contractor attaches the Brokk 330D demolition robot to a custom platform and lifts it with a crane, using the breaker attached to the machine's three-part arm to chip away at the concrete silo.

needs to perform at its optimum level. It should not be surprising, then, that the single biggest difference between excavators and demolition robots is the power-to-weight ratio. Simply put, a 5t demolition robot easily handles a 1,600-lb (726.7kg) breaker designed to fit onto a 10t to 17ton excavator. And spoiler alert: the demolition robot would still outperform the much larger excavator in breaking concrete walls and ceilings. All that power in such a compact package opens up all kinds of possibilities to do work in limited access, confined spaces or where floor loads are an issue. Top-down demolition of high-rise structures is fast becoming the realm of the demolition robot. Instead of larger excavators and extensive shoring, contractors are deploying light-on-their-feet but powerful robots to achieve results that are also quicker and safer than traditional methods.



Contractors can operate the Brokk demolition robot's three-part arm with attachments for breaking, cutting and a number of other applications from a safe distance.

Much more than an excavator

A demolition robot is much more than an excavator without a cab. Look carefully at the arm system. There are three parts to it, compared to just two on a traditional excavator. Those three arms can be manipulated to achieve all kinds of geometric gymnastics, not only holding the hammer against the work at any angle, but providing significant downward force, even directly overhead. Available models range from a tiny 1,100 lb (500kg) to more than 12t, many offering zero-emission electric motors operating on 480-volt, three-phase power. There are diesel-powered versions for outside jobs, or for industrial applications where inside air quality can be properly managed. Outrigger legs on demolition robots provide a super-stable platform from which to operate. The entire machine is designed to withstand the rigors of the demolition process – vibrations and reactive forces – as well as the heat generated by the large hydraulic system packed into the compact cabinet.

High-capacity hydraulics found on demo robots lend themselves to a wide range of attachments beyond hydraulic breakers, making them even more versatile: crushers, rock drills, grapples, scabblers, core drills, and more can be mounted and applied across a number of challenging applications in tunnels, mines, metal processing plants and in nuclear facilities.

Demolition robots happily go where the operator sitting inside the cab of an excavator would rather not. And once they get there, their raw power and compact size make them an increasingly valuable addition to the construction equipment landscape.

Peter Bigwood is the vice president of sales and marketing for Brokk's North American subsidiary. He is a member of the National Demolition Association, and serves on the board of the Concrete Sawing and Drilling Association, and the safety committee for the Steel Manufacturers Association.



Doppstadt Inventhor Type 9 shredder



Doppstadt's INVENTHOR Type 9 shredder is a new high-performance machine that is setting new market benchmarks when it comes to quality and performance. By bringing together the most innovative mechanical developments, innovative control and regulation systems, and a new noise emissions concept, Doppstadt has created an environmentally friendly cost-effective one-stop solution for the recycling sector.

Thanks to its modular service-oriented construction and range of suspension variants, this machine is equally suited to use as a stationary fixture or in the service industry sector. Everything, from the drive to the housing and the quick-change tools has been designed with an eye to the future. The new VarioDirect Drive demonstrates its quality right from the start. It handles even the toughest shredding tasks without any loss of performance, giving it scope for future development and job-specific programs. From shut-down to running at maximum power, the shredding roller gets to work immediately, even under a full load.

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ties is to reduce exhaust and noise emissions. The INVENTHOR Type 9 meets the Euromot Stage IIIA and IV exhaust emission requirements and will also meet Stage V, when updated. It also performs all its tasks with very little noise. This shredder also features a new range of solutions when it comes to accessibility. The shredding comb provides generous access to the shredding space, meaning tools can be exchanged quickly and ergonomically. Large new glass fiber doors make daily maintenance tasks easier.

www.doppstadt.de





LaBounty MHP 350 Pulverizes with Power and Speed

LaBounty expands its mobile hydraulic pulverizer line with the introduction of the powerful MHP 350. Offering industry leading power-to-weight performance, the MHP 350 is engineered for high efficiency secondary demolition and concrete recycling. The all new design is optimized to pick-up, crush, and separate rebar from concrete faster than ever before. This power and speed combination is thanks to high tip forces, a large jaw, and fast cycle times. The new MHP 350 offers a large jaw opening to process the thickest concrete, and an optimized lower jaw angle to pick-up slabs with ease. Four-way indexable blades provide four usable cutting edges, while a cylinder-mounted speed valve provides fast cycle times. Other features include a fully protected end cap for durability, bolt-on replaceable lower platen for quick maintenance, and field-replaceable Swift-Lock teeth for reduced downtime.

www.StanleyInfrastructure.com/brands/LaBounty

Dynaset Website in French (Site web de Dynaset en français)

Dynaset has been serving customers in multiple languages for years. The company's talented group of employees are fluent in English, Finnish, German, French, Spanish, Russian, Chinese, and Portuguese, allowing the company to create new language versions of the company's website and technical documents to improve customer experience. New language versions help customers to understand the benefits of the company's innovative technology.

"Dynaset is already offering customer service in several languages and now, by adding content with additional languages to the website, the company will provide even better customer experience," says Sales Manager Anni Karppinen. "The content serves the needs of multiple customer segments and co-operation partners. Dynaset has recruited more French-speaking personnel in last few years to be able to improve its customer service in Canada and elsewhere. In addition to translating manuals into French, the company has released a French language version of its website to complement the current language selection. The website includes for example product descriptions, technical data, photos, videos, dealer locator, manuals, press releases, and information about applications and carrier machinery."

www.dynaset.com/fr



Mecalac Intensifies Its Business Development in the Americas

Export development is one of the priorities for the Mecalac Group, which has been designing, manufacturing and selling machines dedicated to urban construction sites for more than 40 years. On May 16-17, Mecalac welcomed its dealers from the US, Canada, Mexico, Colombia, and Chile to France for a close-up look at the product manufacturing process. In 2016 Mecalac North America, a new commercial subsidiary of the Mecalac Group, was established. The company's first dealer, LHE of Boston, launched the sale of Mecalac excavators from the MCR range of crawler skid excavators. From that time the distribution network has been extended with the aim of maximum coverage across both North and South America. Sales have since extended to the entire Mecalac Group product range, from wheeled excavators and loaders to backhoe loaders, dumpers, and compactors. The meeting with the American dealers provided an opportunity for each of them to visit the French factories where the excavators are made. The tour included Mecalac's Albens factory to view mechanical welding and hydraulics, and the Annecy-le-Vieux factory to see the machine assembly. There, the visitors also enjoyed face-to-face meetings with regular contacts within each of the departments. For Mecalac, this meeting was a pledge for the solid collaboration in markets with a potential to bring increased globalization to the Group.

www.mecalac.com/en/

New Date Set for M&T EXPO in Brazil

M&T Expo 2018 in Brazil, originally scheduled for June, was postponed due to the country's political strife that resulted in widespread transportation strikes that jeopardized logistics and presented potential risks to the safety of attendees. Tensions have eased, allowing the international trade fair of equipment for construction and mining equipment to be held November 26- 29, 2018, at the São Paulo Exhibition & Convention Center. Hours for the show will be 1pm-8 pm November 26-28, and 9am-4pm on November 29.

"We have spared no effort in bringing together all that is required to still hold the event in 2018 at same location and with the same conditions," explains Monica Araujo, Managing Director at Messe München do

Brasil Feiras Ltda. Afonso Mamede, President of Sobratema (the Brazilian Association of Technology for Construction and Mining), adds "We are looking forward to M&T Expo and are very delighted to meet the needs of our exhibitors and visitors."

www.mtexpo.com.br

CSDA Opens Registration for Next Classes

The US Concrete Sawing & Drilling Association (CSDA) has announced its 2018/19 training and certification schedule, with six hands-on courses planned at St. Petersburg College in Clearwater, Fla. The schedule includes a series of hands-on comprehensive introductory classes geared toward anyone wishing to expand his/her knowledge of cutting disciplines. They are followed by a series of advanced Operator Certification courses designed for experienced operators looking to gain proficiency in sawing and drilling techniques. Several additional training courses will be available in Las Vegas during World of Concrete 2019, providing additional training on concrete polishing, GPR, and estimating.

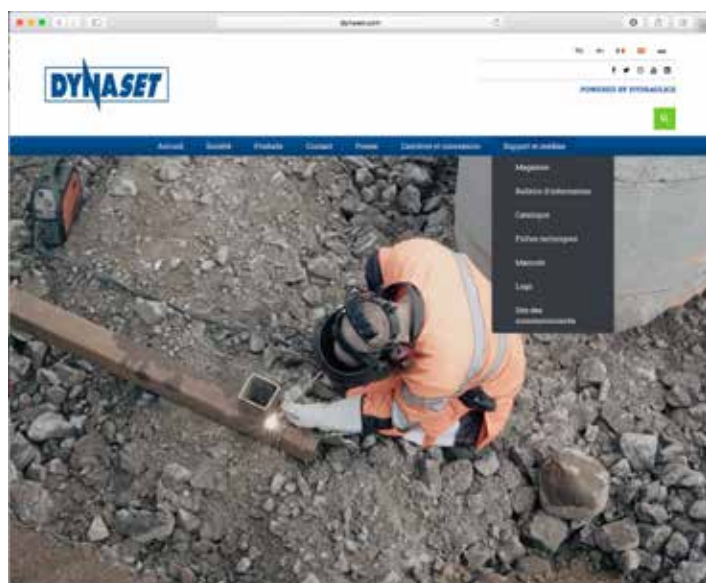
Classes in Clearwater, Fla.

- Oct. 15-16 Slab Sawing & Core Drilling 101 Introduction**
- Oct. 17-18 Wall & Hand Sawing 101 Introduction**
- Oct. 19 Wire Sawing 101 Introduction**
- Nov. 5-6 Slab Sawing & Core Drilling 201 Certification**
- Nov. 7-8 Wall & Hand Sawing 201 Certification**
- Nov. 9 Wire Sawing 201 Certification**

Classes at World of Concrete 2019, Las Vegas

- Jan. 22-23 Concrete Polishing**
- Jan. 22-23 Estimating Course**
- Jan. 24 GPR Methods & Theory**
- Jan. 24 Testing Methods for Concrete Polished Floors**

As part of its Train More Save More program, CSDA offers large discounts to companies that send multiple operators to sawing and drilling courses. For registration details and other important information about these classes, visit www.csd.org/training. CSDA also has an online training website consisting of 27 courses, available via www.csdatraining.com.



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