PCD
PROFESSIONAL CONCRETE DRILLING & SAWING
Your Gateway to North, C
Volume 3
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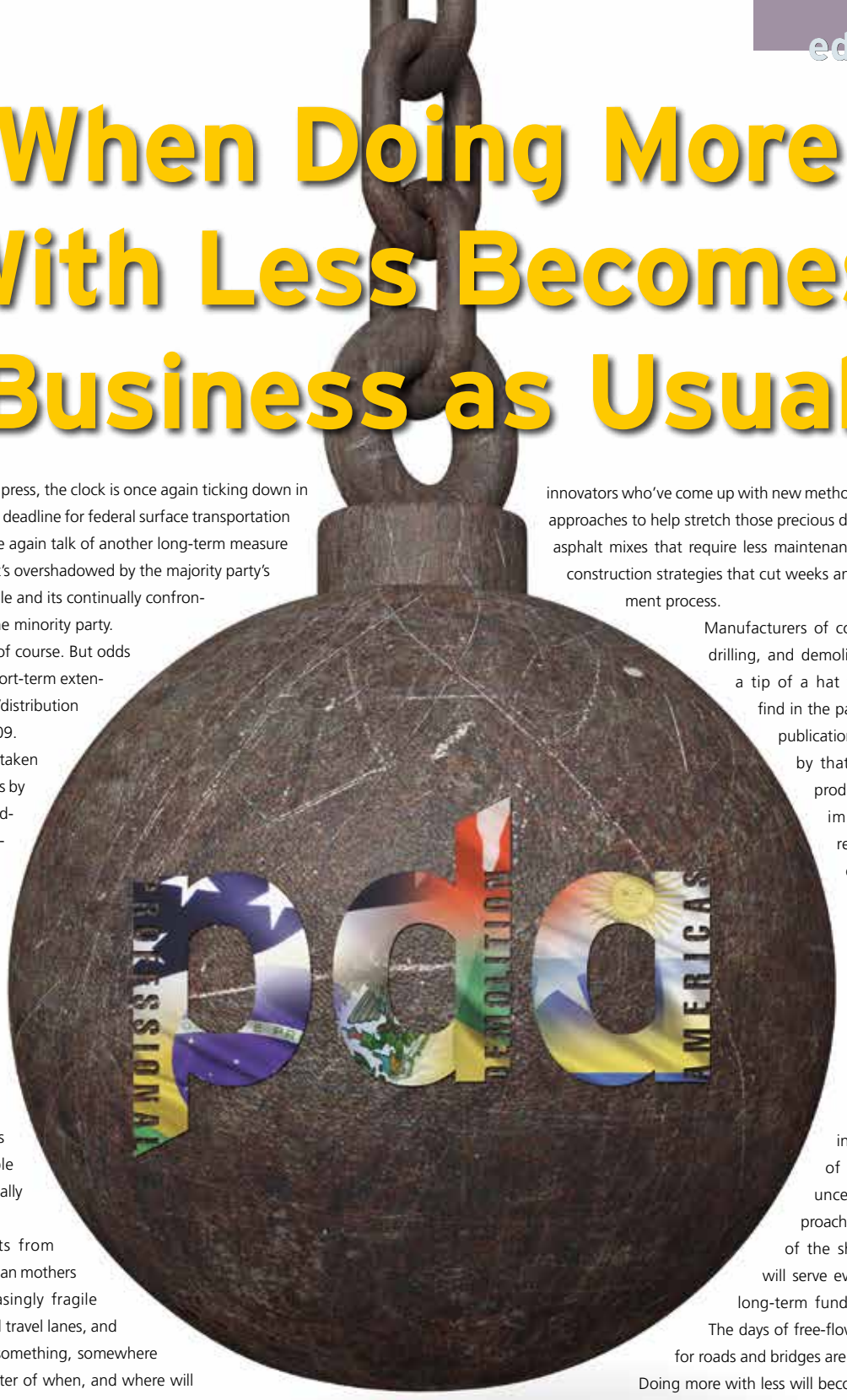
When Doing More With Less Becomes Business as Usual



As this issue of PDa goes to press, the clock is once again ticking down in the U.S. toward yet another deadline for federal surface transportation funding. While there is once again talk of another long-term measure taking shape in Congress, it's overshadowed by the majority party's legislative leadership struggle and its continually confrontational relationship with the minority party.

Anything can happen of course. But odds are there will be another short-term extension of the current revenue/distribution formula, the 35th since 2009.

Some U.S. states have taken matters into their own hands by restructuring their own funding streams and even implementing new or increased gas and sales taxes—a pretty gutsy step in today's tax-averse world. Others that haven't followed suit—for whatever reason—have watched the once-reliable flow of federal dollars become increasingly thinner, all while the gap between their infrastructure needs and the resources available to pay for them has gradually widened.

Meanwhile, motorists from long-haul truckers to suburban mothers must contend with increasingly fragile roads and bridges, crowded travel lanes, and the underlying sense that something, somewhere has to break. It's just a matter of when, and where will I be when it happens.

Fortunately for all travelers, and those firms that provide concrete services, there are some heroes to this otherwise sad legacy of inaction. They're the state and local public works officials who continually cobble together maintenance plans that somehow, some way, keep their respective transportation systems functioning so that the rest of us can get where we need to go safely (albeit with a few more bumps or additional travel time).

Their cause has been aided in recent years by academic researchers and engineering innovators who've come up with new methods, materials, and project approaches to help stretch those precious dollars, from concrete and asphalt mixes that require less maintenance to accelerated bridge construction strategies that cut weeks and dollars off the replacement process.

Manufacturers of concrete cutting, sawing, drilling, and demolition equipment deserve a tip of a hat too. As you'll regularly find in the pages of PDa and its sister publication, PDi, rarely a day goes by that there's not some new product innovation aimed at improving efficiency and reducing the owner's operational costs—savings that help make them more competitive and appealing in the eyes of budget-minded public agencies, without compromising the margin needed to stay in business.

If there's a silver lining to this growing cloud of transportation funding uncertainty, it's that the approaches and innovative mindset of the short-term extension era will serve everyone well whenever a long-term funding strategy is enacted. The days of free-flowing government money for roads and bridges are likely a thing of the past. Doing more with less will become business as usual, as it has already in many locations.

But assuming…OK, hoping that a sound funding plan lasting more than a few years eventually becomes reality, contractors will be able to help their still-heroic public sector clients make what money is there go a little bit further, and makes these roads and bridges a little bit better.

So thank you heroes, one and all, for the perseverance and good ideas. Keep 'em coming.

Jim Parsons, *Senior Editor*
jim.parsons@pdamericas.com

Event Calendar

Conexpo Latin America
October 21-24, 2015
Centro de Eventos y Convenciones
Espacio Riesco, Santiago, Chile
www.conexpolatinamerica.com

Edifica 2015
October 21-24, 2015
Esåacio Riesco, Santiago, Chile
www.feriadelaconstruccion.cl

World of Concrete
February 2-5, 2016
Las Vegas Convention Center,
Las Vegas, USA
www.worldofconcrete.com

Bauma 2016
April, 11-17, 2016
Munich Exhibition Center,
Munich, Germany
www.bauma.de

Construction Expo 2016
June, 8-10, 2016
Immigrantes Exhibition Center
São Paulo, Brazil
www.sobratema.com.br

ConcreteShow 2016 Brazil
August 24-26, 2016
São Paulo Expo, São Paulo, Brazil
www.concreteshow.com.br

Latin American Concrete Cutting & Demolition Forum 2016
August 25-26, 2016
São Paulo Expo, São Paulo, Brazil
www.latindemoforum.org

DEMCON 2016
September 29-30, 2016
Infracity, Stockholm, Sweden
www.demcon.se

Global Construction Industry on Highest Risk Since First Quarter 2015

According to the latest update of Timetric's Construction Risk Index (CRI), the overall level of risk facing the global construction industry picked up in the third quarter of 2015, rising to its highest level in four quarters. This entirely reflects a worsening risk profile across most emerging markets, offsetting a marginal improvement among advanced economies. A total of 15 out of the 50 countries in the CRI recorded improvements in their risk profiles. The U.S. posted continued growth in its economy and construction industry, while South Korea benefited from a recent upgrade of its sovereign credit rating. As a result, the U.S. rose by two places to 4th place in the rankings, remaining behind the top three of Sweden, Switzerland and Singapore. There is no change at the bottom of the CRI rankings, with Greece, Argentina, and Venezuela remaining the highest risk countries. Malaysia was the worst performer in the Q3 update, with its risk profile deteriorating in the face of a major corruption scandal engulfing the country's prime minister, and a sharp decline in its currency.

Based on aggregate risk scores for the major regions, the Asia Pacific region was the worst performer in the Q3 update. In addition to Malaysia's problems, there are particular worries over the outlook for China's economy, with the country's policymakers facing the challenge of rebalancing the economy while still trying to maintain a high rate of growth. In view of China's significant role in supporting growth in Asia and also in its trading partners, a sharp slowdown in China's economy would be felt widely across the globe. Low oil prices continue to contribute to a worsening risk profile for the Middle East and Africa, derailing investment in new and ongoing infrastructure and building projects. However, Eastern Europe remains the highest risk region, in part owing to impact over the past year of the fallout from Russia's intervention in Ukraine. According to Danny Richards, Lead Economist at Timetric's Construction Intelligence Centre, "The likelihood that the U.S. Federal Reserve will raise official interest rates in the near future, and thus bring to an end nearly seven years of ultra loose monetary policy, will have severe implications for many emerging markets that have become accustomed to cheap foreign capital. Indeed, a return to more normal levels of the cost of borrowing in advanced economies, particularly the U.S., will result in capital flowing out of emerging markets, and contribute to a further weakening in their currencies."

CONEXPO Latin America Attracting International Attendance

CONEXPO Latin America will be the new industry gathering place in 2015 for construction industry professionals. The exhibition will be held October 21-24 in Santiago, Chile (Espacio Riesco), co-located with Edifica and EXPO HORMIGÓN. Here are five reasons to attend:

Attendees from across Latin America and the world

CONEXPO Latin America is attracting broad interest with advance registrations already coming from more than 30 countries across Latin America and globally.

Latest product innovations on the exhibition floor

Visitors will find an international variety of equipment, technology and services in one place, and can speak directly to product experts about performance capabilities to advance productivity, efficiencies, safety, and sustainability. CONEXPO Latin America covers almost 430,000 ft2 (40,000m2) of exhibits, education, and networking. There are more than 20 product categories and five international exhibit pavilions.

CONEXPO-quality education

Education complements the exhibits, with six education conferences on industry best practices featuring regional and international experts on topics such as aggregates, crane and rigging safety, powered access market, ready mix concrete operations, ready mix concrete technical issues, and telematics.

CONEXPO-quality event for all of Latin America

Not all industry professionals can travel to the internationally-known CONEXPO-CON/AGG in the U.S., so show owner and producer Association of Equipment Manufacturers (AEM) is bringing that same CONEXPO quality experience to Latin America—with less travel time for attendees, no need for visas, and in the Spanish language.

Industry support enhances show experience

More than 75 industry official supporting organizations and publications underscore the value that is seen in CONEXPO Latin America as an industry gathering place offering true value and return on investment. AEM highly values and appreciates the essential support of the magazines, chambers, and organizations who help it build high-quality events.

www.conexpolatinamerica.com

HTC Appoints Eric Wickberg VP of Sales

HTC, Inc. has announced the appointment of Eric Wickberg as new Vice President of Sales for their U.S. business. Eric has more 20 years' experience in industrial sales and services, working for companies such as Emerson Process Management; Graco; Milestone AV Technologies; and, most recently, Andersen Windows. He has a degree in Chemical Engineering and an MBA from the University of Minnesota.

Wickberg will be responsible for the sales operations of HTC, Inc. focusing on developing the business.

"Eric is a great leader for our rapidly growing sales team," says Per Ohstrom, President of HTC Inc. "His experience and strong customer focus will help us continue to offer the best solutions in grinders and diamonds." ment and tooling for concrete grinding and polishing.

www.htc-floorsystems.com

Hartl Crusher Announces U.S. Subsidiary

HARTL Engineering & Marketing GmbH proudly announces the formation of Hartl Crusher North America LLC, based in Henderson, Nev., with Martin Hartl named vice president. The new US company is a wholly owned subsidiary of the Austrian-based innovator of high mobile crushing and screening equipment – better known under the name HARTL Crusher, where the balance between innovation, high quality, and more than 40 years of experience in the crushing and screening arena is achieved, and make an exceptional product portfolio of bucket crusher and screener. The new Hartl Company is the result of intensive marketing and customer research over the past few years across North America. Hartl's mission is to offer the best market products through a selected dealer network, backed up through professional factory support. Based in Henderson, close to Las Vegas, the company will support existing and new customers and dealers in the U.S. and Canada. A central spare parts depot, training center, and demo area will be created at to provide a solid base for long-term support and success of the Hartl Crusher product range.

"The Hartl History in the United States goes back to the 1980s when my father Franz and his brother Adolf Hartl started to market their skid, wheel, and track-mounted crushers along with their screeners and recycling plants," says Martin Hartl. "As the industry's first Austrian exhibitor, they were already offering mobile crushing and screening solutions at Conexpo/Chicago in 1981." Hartl adds that it's a honor to introduce his company's latest bucket crushers and screeners to the North American Market.

"I definitely look forward to building and strengthening our long-term relationship with customers and dealers in this great industry and market," he says. "The success for all of us through this relationship is my goal."

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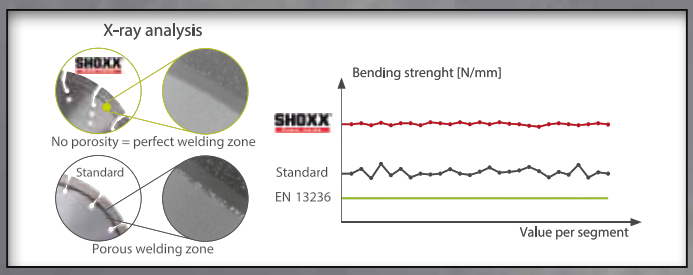

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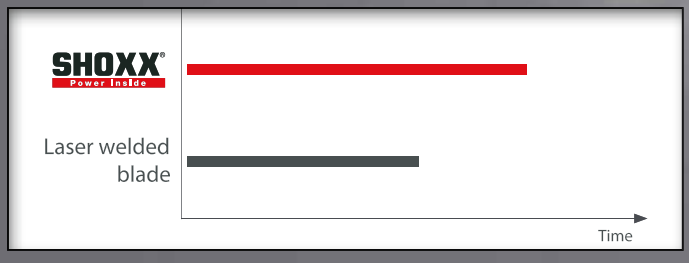

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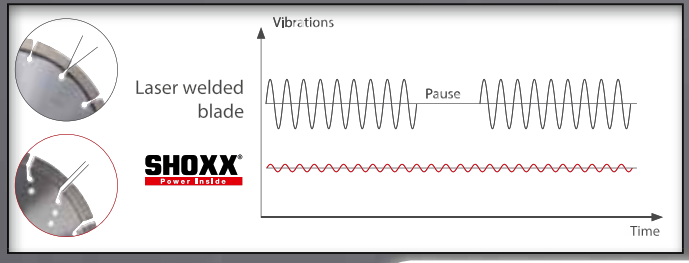

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Travis Body & Trailer Announces New Director of Operations

Travis Body & Trailer, Inc., a leading manufacturer of end dumps, bottom dumps, transfer trailers and specialty dump trailers, has hired Jerry Guerrero as its new director of operations. Travis created this new position to keep up with the latest production processes and techniques, improve operational efficiency, and increase trailer output.

Guerrero brings more than 25 years of experience in the manufacturing and automotive industries to his new role, which will focus primarily on introducing advanced plant management and Lean manufacturing production systems. These new techniques will manage and drive cultural change to improve and sustain higher levels of operational performance.

Other skills Guerrero brings to Travis include strategic and tactical planning, management and leadership with high-level complexity projects, and experience in crisis management.

"Jerry's leadership skills, certifications and extensive understanding of operational management philosophies make him a valuable asset to the Travis team, and he will be immediately impactful in all aspects of our production," says C.K. "Bud" Hughes, Travis Body & Trailer president. Prior to joining Travis, Guerrero worked as a plant operations manager at Taxa, Inc., in Houston, where he helped transform a shop into a manufacturing facility and increase productivity and output. He earned certifications in numerous manufacturing and plant management areas, as well as completing Six Sigma Black Belt training and Toyota Production Systems. Guerrero earned a bachelor of arts degree from Escuela Normal Urbana Federal in Nuevo Laredo, Mexico; an Associate degree in business administration from Glen Oaks Community College in Centreville, Mich; and a Master of Business Administration degree from Western Michigan University in Kalamazoo. He resides in Katy, Texas, and is married with three children.

Construction Expo 2016 in Brazil will Highlight Innovative Sollutions for Urban Infrastructure

The Brazilian Association of Technology and Construction will officialy launch the third edition of the Construction Expo - International Fair and Congress of Buildings & Infrastructure Works, June 15-17, 2016, at the Sao Paulo Expo Exhibition & Convention Center. Considered the leading trade fair for the Brazilian construction business, the Construction Expo 2016 is expected to attract the interest of professionals in the field of engineering and construction, as well as public managers, consultants, and public and private institutions. The Expo will present several cases of success, national and international of urban projects in various sectors, involving various technologies and systems with the joint participation of various levels of government in collaboration with the private sector.

One of the Expo's goals is to bring together public officials, mayors, governors, and secretaries working in areas facing works and urban infrastructure, with everyone involved with the construction chain. The expectation of Sobratema is to receive around 300 exhibitors, who will occupy a total area of more than 430,000 ft2 (40,000 m2), and attract an audience of 20,000 visitors. Thematic salons will help visitors to better understand the functioning of various building systems and their innovative ideas. In the exhibit halls, equipment manufacturers, construction companies, engineering firms, and public managers will have the opportunity to learn about technological innovations being integrated into building systems. Apart from the fair, visitors will also have the opportunity to follow Construction Congress 2016, a series of lectures, seminars and courses that will serve as inspiration to the city managers across the country. Much of the presentations of Construction Congress will focus on urban development, and address issues of great importance for public and technical administrators of public and private sectors, resulting in a broad debate on the main needs for improvement of urban infrastructure.

www.constructionexpo.com.br

CONSTRUCTION EXPO 2016

New CEO at Pullman-Ermator

Petra Bengtsson has been named CEO/President for Pullman-Ermator. She has been Pullman-Ermator's operations manager since 2009, and is the daughter of the company's founder Torbjorn Bengtsson. Pullman-Ermator's focus continues to be on expansion and product development to further strengthen its' position as the market leader of industrial HEPA extractors, air cleaners, and wet/slurry vacuums. "Maintaining and optimizing a clean working environment as well as protecting the workers' health are both current areas of growth and will be so for many years to come," Bengtsson says. "It is very inspiring to take on the challenge to further develop our company in these areas."

The company's growth, during the past five years, has been strong and steady. During 2008 Pullman-Ermator established a sister company to develop and run its U.S. operations in Tampa, Fla., where sales figures have not only met but exceeded expectations. "With the product lines currently being marketed, we expect to continue to present a strong presence in the U.S. and Europe," Bengtsson says. "This is where we are putting our primary focus during the coming three to four years." Jonas Eriksson, who has been with the company for nine years will step in as Product Manager. Fredrik Akermark has been named International Vice President of Sales and Marketing. He has worked within the U.S.-based Ermator, Inc., for the past seven years.

www.pullman-ermator.com

2016 C&D World To Be Held in San Jose

A tour of the world-class Zanker Resource Recycling Facility will be part of the 23rd C&D World 2016, the Annual Meeting of the Construction & Demolition Recycling Association (CDRA) on May 1-3, 2016, in San Jose, Calif. The CDRA's Annual Meeting is the only event that focuses on C&D recycling. For 2016 the show is going back to its roots in providing a tour of a local recycling facility, which it did the first six events, starting in 1993. In 2016, the tour is being taken up a notch by show attendees being allowed to visit Zanker, which has seven recycling lines, all certified under the Certification of Recycling Rates (CORR) program. As always, the newest concepts and the most useful information will be provided during the Annual Meeting's sessions, and on the show's exhibit floor, which will be located next to the session rooms.

www.cdrecycling.org

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Caterpillar Launches New Excavator

Caterpillar's 336F L/LN XE excavator, which replaces the Cat336E L/LN H, features a Cat C9.3 ACERT engine that meets EU Stage IV emission standards. The new model delivers estimated fuel savings of up to 20 percent compared with the standard 336F L/LN, and up to 25 percent compared with the previous standard 336E L/LN with no compromise in performance or added maintenance costs.

The Cat336F L/LN XE comes equipped with the new integrated Caterpillar production measurement payload system, which enables operators to weigh loads on-the-go and deliver exact truckloads, while allowing managers to monitor productivity.

www.cat.com

Chicago Pneumatic's New Generators

International construction equipment manufacturer Chicago Pneumatic has unveiled its new range of mobile diesel-powered generators for the European market. The CE-compliant CPDG range includes five models available in 9, 14, 20, 30, and 40kVA ratings.

"Our new range of CPDG generators are built to offer maximum versatility and a wide range of features to fully meet the mobile power requirements of the general construction and rental industry," says CP product marketing manager Angel Nieto. "Easy-to-use controls and fast maintenance accessibility mean the generators are never idle for long, and a high-capacity fuel tank provides for extended run-times between refuelling to ensure maximum productivity from the generator and those working on site."

The CPDG range has been designed to be straightforward and uncomplicated, with user-friendly controls and gauges enabling operators to get the generators up and running quickly. Equipped with a Kubota diesel engine and automatic voltage regulator, the new CPDG generators provide operators working on European construction sites with a consistent and reliable power source.

An extra fuel filter with water separator kit is included as standard. The emergency stop button, fuel filling point, coolant filling point, and cable entry are all easy to access from the outside of the machine.

Electric Dumper to be Fitted With McLaren NuAir Tires

McLaren Industries, a leading manufacturer of OEM and aftermarket tracks and tires, has joined forces with construction field innovator EcoVolve. The Irish green-tech manufacturing company recently unveiled its ED1000, a fully electric high tip dumper. Fitted with McLaren's NuAir solid cushion tires, ED1000 operators will experience unmatched stability, toughness, and smoothness of ride.

"We are thrilled to partner with McLaren," EcoVolve owner Sean Breen says. "EcoVolve prides itself as an innovator, so it was a natural fit to join a company also renowned for pushing technological boundaries."

The 100-percent electric ED1000 has no fumes, requires no fuel or fuel storage and produces very little noise. The nimble dumper transports easily, and was made for city or residential settings, as well as night work. An integrated charging system automatically picks the correct voltage from a power source, and charging overnight allows the ED1000 to go a full workday without stopping.

In conjunction with a unique steering system, McLaren NuAir tires significantly reduce unwanted tire marks on surfaces, making the ED1000 ideal anywhere cleanliness is mandatory, such as clean rooms, shopping malls, hospitals, and food processing plants. Because NuAir tires last four to five times longer than pneumatic tires with zero downtime from flats, they maximize the efficiency and productivity of the ED1000 for any construction or demolition project.

Hatz Launched New Engine at Intermat

At the recent Intermat show, German engine manufacturer Motorenfabrik Hatz introduced the 4H50TI, a new version of the 2 litre turbo engine 4H50TIC that was introduced in 2014.

The 4H50TI was developed specifically for export to countries where only diesel fuel with high sulphur content is available. This is in particular importance for many markets in Africa, South America, and Asia.

By adapting existing components, such as common rail, injectors, and a high-pressure pump, plus eliminating sulphur sensitive components such as an exhaust gas recirculation oxidation catalyst, the engine can be operated with diesel fuel with sulphur content of up to 5000ppm.

Latin American Concret & Demolition Forum Joi With Concrete Show Bra

Due to a many construction events in Latin America and Brazil in 2015 the Latin American Concrete Cutting and Demolition Forum, scheduled for October, was postponed. New dates and venue have now been finalized—August 25-26, 2016, in São Paulo in conjunction with the annual Brazilian Building and Construction Machinery Exhibition Concrete Show.

Concrete Show Director Cassiano Facchinetti.

A couple of years ago, Professional Demolition Americas, in conjunction with its sister publication PDi, began promoting a new event, the Latin American Concrete Cutting and Demolition Forum, originally scheduled for October 2015 in Rio de Janeiro. Due to several other exhibitions and conferences taking place in Brazil and Latin America this year, it was decided to postpone the Forum.

Partnership with Concrete Show

During the last six months, negotiations have taken place with the global events, marketing and communications services business UBM. The company's subsidiary in Brazil is organizing Concrete Show, the country's largest building and construction machinery exhibition, held annually at the São Paulo Exhibition and Convention Centre. The negotiations have resulted in the first Latin American Concrete Cutting & Demolition Forum to be held in parallel with Concrete Show 2016, on August 25-26.

"For the Forum, I think the cooperation with the Concrete Show is a great settlement where we can attract a much larger audience then if we would have organised the Forum on our own," says Jan Hermansson, president of Riverbends Publishing and editor-in-chief of PDa magazine. "Having the venue in São Paulo provides also a bigger area of uptake, which will organize the Forum in cooperation with us."

Perfect new location in São Paulo

It is believed that the Forum, in conjunction with Concrete Show, will have a much bigger impact. It will be much easier for contractors to attend the Forum, as the biggest population of contractors are concentrated around the city and state of São Paulo. The São Paulo new Exhibition and Convention centre is also a hub in the Latin American market, and is undergoing an extensive re-modelling.

Besides expanding the exhibition area, the conference facilities has been expanded and improved, providing a perfect platform for conferences.

"I think that São Paulo Expo and the Concrete Show itself can provide the right means to really place the Latin American Concrete Cutting and Demolition Forum on the map as a qualifying conference for concrete sawing and drilling, demolition, hydrodemolition, recycling and concrete floor grinding and polishing," says Hermansson.

The exhibitors at the Forum will have greater opportunities and more space to show their products in direct connection to the Forum's audience indoors, and with demonstrations outside. At the same time, they will also enjoy the benefit of displaying new products to general visitors of the exhibition. Concrete Show 2015 attracted 25,000 visitors and 550 exhibitors.

"We think that the partnership between the Concrete Show and Latin American Concrete Cutting and Demolition Forum will be a mutual benefit and we look forward very much to this arrangement," says UBM Brazil show director Cassiano Facchinetti.

The focus of the Forum will proceed exactly the same as originally planned. Some of the lecture topics will include new product and techniques for efficient and safe concrete sawing and drilling, demolition, hydrodemolition, recycling, and concrete floor grinding and polishing. There will also be several presentations of projects in Latin America and from other parts of the world. The full program with rates is now available on the Forum's website, www.latindemoforum.org.

The Forum offers a special hotel package at a hotel near the exhibition centre. Links for reservation with a special Forum deal may also be found at the Forum's website.

Same supporting industry associations

The Latin American Concrete Cutting and Demolition Forum is supported by a number of industry associations:

ALEC, Associação dos Locadoras, Brazil (Brazilian Rental Association)

SOBRATEMA, Associação Brasileira de Tecnologia para Construção e Mineração

ABRECON, Associação para Brasileira Reciclagem the Residuos da Construção Civil e Demolição, Brazilian Association for Recycling of Construction and Demolition Waste

ABEMI, Associação Brasileira de Engenharia Industrial

IACDS, International Association of Concrete Drillers and Sawers

EDA, the European Demolition Association

ICPCS, International Concrete Polishing & Staining Conference Institute of Demolition Engineers

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LATIN AMERICAN Concrete Cutting & DEMOLITION FORUM

New Dates & Venue
SÃO PAULO, BRAZIL, 2016
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UBM

More information on the supporting associations is available on the Forum website, as are opportunities for suppliers and associations to become sponsors of the event.

About UBM and São Paulo Expo

UBM helps businesses do business by connecting them with a targeted, qualified audience, through live events, press releases, and other digital and print media. UBM helps professional people in more than 20 countries by enabling them to connect with each other and with the markets they serve.

UBM has a staff of 5,000 embedded in the many specialist communities UBM serves. The company organizes hundreds of live events each year, and provides a range of related market-leading digital and print marketing and media products, and support professional marketers and communicators through targeting, distribution, and monitoring services.

UBM Brazil has organized the Concrete Show Brazil for many years at the São Paulo Expo, which is owned by GL Events. Since its acquisition in 2013 GL Events has initiated a R$300M investment plan aimed at modernizing the venue, refurbishment of the existing 430,556 ft² (40,000m2) pavilion, construction of a 538,195 ft2 (50,000m²) exhibition venue, and a 107,639 ft² (10,000m²) convention center. Several stages of the modernization process have been completed.

GL Events Brazil is part of one of the world's largest groups in the event industry. It has offices in the states of Rio de Janeiro, São Paulo, Minas Gerais, and Paraná. GL Events Brazil is the only Latin American group working throughout the event production chain of conception, venue administration, design, construction, structure supply, catering services, accommodation, exhibition organization, and production of brand events.

www.latindemoforum.org

Caterpillar Launches 313F GC Excavator

The new Cat 313F L GC hydraulic excavator is designed for performance at a low cost per hour. It has a Cat C3.4B engine that meets US EPA Tier 4 Final/EU Stage IIIB emission standards, making it light on fuel with no need for diesel exhaust fluid. The 313F also has a single-pump hydraulic system, and comes equipped with a long undercarriage, a full size Roll Over Protective Structure cab, and easy-to-reach service points.

The 313F L GC has a 70 hp (52kW) engine and a choice of high power and economy modes to manage fuel consumption. There is also an engine idle shutdown feature that stops the engine after a pre-set idling interval.

The machine's simple hydraulic system delivers ample power for digging, lifting, and attachment use. The load-sensing pump and main control valve calculate work demands to deliver the needed stick and bucket force. The 313F L GC can also be equipped with high- and medium-pressure hydraulic circuits along with a quick coupler to handle a range of Cat buckets and work tools.

The machine's undercarriage provides a stable work platform, while a selection of track shoes and blade options help tailor the machine to specific applications. Booms and sticks are multi-plate fabrications using internal baffles, and castings and forgings in high-stress areas. The 15 ft (4.65m) boom can be used with either the 8 ft (2.5m) or 10 ft (3m) stick.

The simplicity of the 313F L GC contributes to its low owning and operating costs. The machine has a pilot manifold in the valve block to eliminate the need for a pilot pump, filter, or lines. The fuel system and manual priming pump reduce the need for multiple filters, and the engine's diesel particulate filter is compact and maintenance-free. Wide service doors provide access to cooling, pump, and engine compartments, and everyday maintenance points are reachable at ground level.

Cat Link technologies are integrated into the machine's monitoring system, and are designed to improve fleet management. Events and diagnostic codes, as well as information and capabilities such as hours, fuel consumption, idle time, machine location, and geo-fencing are transmitted to a secure web-based application called VisionLink, allowing the machine owner and dealer access to machine data.

Genesis Attachments Announces Jaw Armor for Severe-Duty Contractor Grapples

Genesis Attachments' Jaw Armor protective system is now available for severe-duty contractor grapples.

Jaw Armor is a weld-on modular system constructed of abrasion-resistant, proprietary GenGuard steel that maintains structural integrity and virtually eliminates the need for build-up and hard-surfacing of the protected wear areas. Attachments protected with Jaw Armor not only deliver productivity, up-time, and value, but also far exceed normal wear cycles.

Full and tine Jaw Armor kits are available for new and existing Genesis contractor grapples. Genesis Shear Jaw Armor™ is also available for new and existing Genesis shears.

Superior, Penetrating Stain Resistor from Ameripolish Now Available in Water-Based Formula

Ameripolish SR² WB Stain Resistor is a water-based, fully penetrating stain repellent specifically formulated to protect polished, dyed and non dyed concrete from oil, water-based stains and acidic etching agents. It is a great alternative where solvent-based products are not applicable.

The sub-surface, penetrating agent SR² WB provides stain repellency from within instead of forming a topical guard on the surface. This allows the surface to breathe and not trap moisture.

"Contractors and floor owners are realizing that acrylic guard products can be difficult to maintain and sub-surface, penetrating sealers like SR² WB are the future for stain protection," says Clif Rawlings, VP of Key Accounts and U.S. Distribution at Ameripolish, Inc.

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CDE Held Wash Plant Demonstration Event in Texas

Materials washing specialists, CDE Global held a demonstration event for Fort Worth, Texas, October 6-8. The event took place at a sand and gravel pit operated by Metroplex Sand & Gravel, where a selection of equipment from the CDE portfolio will be operating, including the M4500 modular washing plant. This plant integrates a feed system, aggregate screening, sand washing, and stockpiling on a single chassis allowing for rapid deployment on site, while also minimizing the space required to accommodate the plant. The M4500 has a maximum feed capacity of 450 tons per hour via direct feed. If required, the plant will also accept crushed material directly to the feed boot from a transfer conveyor.

The 3 in (76mm) material is delivered to an oversize stockpile from the top deck of the 20x6 in (508x152mm) rinsing screen on the M4500, with the material being transferred to the AggMax portable logwasher. Once the gravel has been scrubbed to remove clays it is stockpiled into two product grades -.25 in to .5 in (-6.35mm to 12.7mm), and .5 in to 1.5 in (12.7mm to 38mm) Larger material will be delivered to the crushing circuit before being returned to the M4500.

The AggMax also includes a dewatering screen at the rear which will accept the lightweight organics floated off from the gravel fraction and dewaters these before stockpiling in a product bay underneath the machine.

The -1/4 in (-6.35mm) material is sent to the sand washing element of the M4500 which is configured with a dual-pass cyclone arrangement. The sand material is first delivered to two 25 in (635mm) cyclones where the first separation occurs. The material is then discharged from the cyclones to one side of an A-Series VibroSync split dewatering screen before a coarse sand is stockpiled via a radial stockpile conveyor. Some material is allowed to pass through the dewatering screen to the sand plant sump and this material is then sent to the Counter Flow Classification Unit (CFCU),which facilitates further density separation by using an upward flow of water to carry lighter particles up while allowing the heavier particles to fall to the bottom of the CFCU tank. The material from the bottom of the tank is then delivered to the second side of the split A-series VibroSync dewatering screen and a 100-18 mesh fine sand product is stockpiled via the integrated M4500 stockpile conveyor.

Meanwhile the lightweight material from the CFCU is delivered to an additional EvoWash 71 sand washing plant where a 200-400 mesh cushion sand product is stockpiled.

The plant also includes an AquaCycle A600 thickener which accepts all the waste water, and minus 200 mesh fines which are dosed with a flocculant on entry to the tank. This facilitates the settlement of the fine particles to the bottom of the thickener tank while the clean water overflows the peripheral weir and is recycled to the wash plant.

Introduction of the AquaCycle thickener achieves 90 percent recycling of process water and as, a result significantly reduces the volumes of fresh water required to feed the plant. It also reduces the space required on site to accommodate settling ponds and increases health & safety on site.

Speaking about the decision to choose a CDE wash plant, Keith Newell of Metroplex says, "We were introduced to CDE at the 2014 ConExpo Con/Agg show. Shortly thereafter, a member of our team visited the GS Materials Plant in North Carolina. We were immediately impressed by the plant's ability to manage gradation and silt cuts – producing a golf course spec sand the first pass. With conventional classifying equipment and sand screws this is difficult to say the least."

The new wash plant is currently approaching the end of the install phase, a process that Keith Newell explains has gone very well.

"The modularity and relatively small footprint of the M4500 is an obvious plus, and the time it has all taken to come together has been shorter than we would have thought possible" he says. "The quality of equipment design and the strength of its manufacturing is truly remarkable as well, as is the precision with which the plant fits together. Perhaps most important, the AquaCycle thickener greatly diminishes our freshwater requirements."

As with all CDE installations the Metroplex project was delivered according to the CDE project management system – ProMan. This is another benefit of the CDE approach according to Newell.

"From the design phase, engineering, and installation, the professionalism and expertise of CDE's personnel clearly matches the quality of their equipment," he says.

www.cdeusa.com

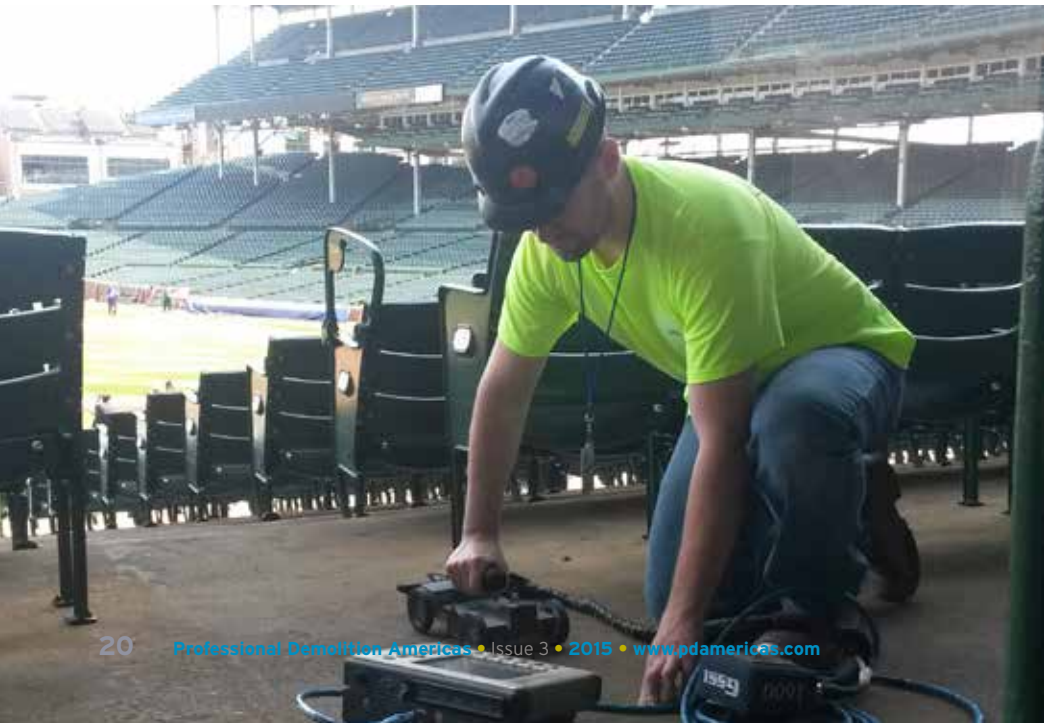
Komatsu's New 47-ton Class Hydraulic Excavator

Komatsu Europe International has introduced the PC490/LC-11 hydraulic excavator to the European market. It has an operating weight between 46.5 and 48.9 tons, and is powered by Komatsu's EU Stage IV engine of 362 hp (270kW). "This new excavator does so much more than simply meet EU Stage IV emission regulations," says Komatsu product manager Vince Porteous. "It offers significant advances in fuel consumption, provides 3G communications, improves operator comfort, and includes new safety features."

The PC490/LC-11 uses AdBlue additive to reduce NOx emissions and a variable geometry turbocharger and an exhaust gas recirculation valve for temperature and air management control. With a heavy-duty undercarriage, the PC490/LC-11 retains the same lift capacity and lateral stability as the previous model. The operator can select the lift mode to raise hydraulic pressure and increase lifting force by up to 7 percent. The hydraulic system has been upgraded to reduce hydraulic loss and improve efficiency. All major components on the new PC490/LC-11 have been designed and produced by Komatsu. This integrated design uses a closed-center load-sensing hydraulic system that takes hydraulic efficiency to the next leve. Variable speed matching technology allows the engine speed to adjust based on the hydraulic pump output for both light- and heavy-duty applications. The excavator is equipped with the Komatsu equipment management monitoring system, which gives operators and technicians greater monitoring and troubleshooting capabilities. The device continuously monitors all critical systems, provides preventive maintenance alerts, and offers troubleshooting assistance to minimize diagnosis and repair time. The PC490/LC-11 is equipped with the latest Komtrax remote monitoring technology with data access through the web or through Komtrax Mobile or Smartphone. Komtrax is further enhanced to monitor AdBlue levels, diesel particulate filter regeneration and provide fuel theft alerts through 3G telecommunication. A new operator identification system reports key operating information for multiple operators.

Non-destructive testing methods are greatly preferred for locating buried metal targets or electrical conduits in existing structures. Bruno Silla at GSSI fills you in.

For many decades, X-ray technology was the predominant non-destructive technique used to locate and identify embedded targets. While concrete X-ray technology is still useful in some rare cases, concrete scanning using ground-penetrating radar (GPR) is now seen as the most efficient process.



GPR - the Smooth Way

GPR technology allows personnel to work quickly, efficiently, and accurately in real-time. GPR is not radioactive, and personnel can work safely around other construction trade workers on the jobsite. And, most GPR equipment is affordable and easy to use. Emily Hammer, of Chicago, Ill.-based Hard Rock Technologies, explains that scanning concrete using GPR helps with problem solving and avoiding potential problems.

"Scanning concrete with GPR may cause some minor delays, but it results in a better product and avoids much longer delays that would happen from hitting a water main or causing a conduit to shut off," Hammer says. "It also helps avoid the cost of damaged structure and pipes and the time spent repairing them."

What's at stake in identifying what's beneath the surface?

If embedded or buried obstructions are hit during concrete cutting, the results can be disastrous – from project delays, cost overruns, to worker hazards. Cutting rebar that is strengthening the slab steel beam structure could cause damage, including structural failure. Cutting electrical conduit can result in a job shut down or cause serious injuries. Take the examples offered by Matt Aston of Ground Penetrating Radar Systems, Inc. (GPRS), located in Toledo, Ohio. He was recently in the field when he got an urgent call from a customer who was working at a manufacturing facility outside of Detroit.

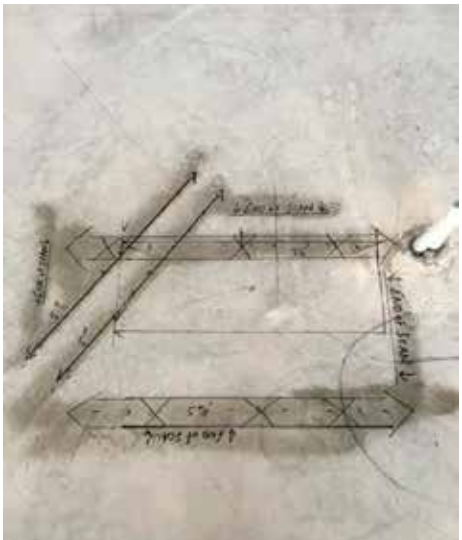
"He told me that they were 10 to 15 feet [3 to 4.5m] into a 50-60 foot [15-18m] trench and had just cut through a bank of 480 volt electrical conduits," Ashton recalls. "The operator got stuck on the saw for three to four seconds before the breaker tripped and the power was cut off. Luckily, he was okay, except for being a little sore."

At another site, what should have been a simple job to cap a hospital sanitary line, a concrete cutting firm used a jackhammer to break through a wall to cap the line. Unfortunately, on the other side of the wall was a 16ft2 (1.5m2) electrical closet containing more than 20 electrical conduits, which were all broken or destroyed. The hospital had to shut down the power to the kitchen for the 400-bed hospital and make catering arrangements for two or three meals before power to kitchen was restored.

"The hospital president called me to a meeting to ask what it would have cost to scan the area," says Aston. "I told him it would have cost in the range of $600-700. Instead, their spending for electrical repairs and food was around $200,000."

Selecting the right equipment

GPR equipment for scanning concrete takes a beating,



Ground Penetration Radar Saves Money and Avoids Hazardous Conditions on Job Sites

so it must be durable and rugged. It should also be easy to use, with an intuitive and bright display and high image resolution. For example, New Jersey-based Atlantic Subsurface Imaging (ASI) uses the SIR-4000® high-performance GPR data acquisition system coupled with a GSSI 400 MHz antenna to locate underground utilities and obstructions up to 8 ft (2.4m) beneath the surface. Results can be given to a client immediately to avoid damaging underground utilities and machinery along with preventing injuries to workers while excavating. Designed to operate with both analog and digital antennas, the fully integrated equipment made by GSSI provides a simple user interface, plug-and-play GPS integration, and WiFi enabled data transfer capabilities. ASI President and Owner Nancy Walker says her company selected the system because of its higher resolution, advanced filters, and weather resistant design.

Ashton's firm uses a variety of antennas, depending upon the application. For concrete services, the firm primarily uses a 1600 MHz antenna in conjunction with GSSI's SIR-3000 and SIR-4000. They also have about twenty of GSSI's StructureScan™ Mini, an all-in-one GPR system specially designed for concrete inspection. The lightweight handheld system locates metallic and non-metallic targets within concrete structures up to a depth of 20 in (508mm). The system incorporates an auto target feature that marks the detection of features of interest. This function also estimates the depth of targets and automatically adjusts the depth scale.

Hammer's company uses the SIR-3000 with multiple antennas. They use the 1600 MHz antenna for real-time scanning with no filters for most construction work. The 2000 MHz Palm antenna is used when the customer is cutting or drilling close to a wall or on beams.

Tips and best practices

Prior to concrete cutting, use GPR to determine the location and depth of rebar, conduit, and any other obstructions to avoid. This information allows the operator to know what can be cut, the depth of the cut, and what locations to avoid. Acknowledging that GPR is far from perfect, Ashton says its use helps contractors know what hazards are buried in or below concrete slabs or underground and know the potential for enormous cost and inconvenience if any services to the building or operations are interrupted. Ironically, Aston has found that a lot of times his firm is called out after the concrete cutters have hit something and there's nothing else left to be worried about. As he sees it, the problem is that the jobs are bid very competitively, so you have companies fighting over small margins. When there's that little room it is tough to make a decision to include something that was not included in the bid. If they choose not to spend on GPR services, they wind up cutting something, and paying more in repairs then they would have if they had bought the GPR.

Follow CSDA guidelines

There is growing support for the industry-wide training/certification program being developed by the American Society for Nondestructive Testing (ASNT) and the Concrete Sawing and Drilling Association (CSDA) over the past few years. The program will codify the practices for cutting contractors to provide owners, architects, engineers, general contractors, and government officials with a valuable pre-qualification tool that acknowledges sound business practices. Walker is a huge proponent of the new proposed CSDA standards

"The certification application process gave us an opportunity to do a self-assessment in areas such as safety, training, quality control, customer satisfaction, and compliance management," she says.

Walker explains that among other items, proposed standards will include concrete scanning best practices that can be used when developing a scope of work that requires concrete cutting. Hammer affirms the need to develop national standards, noting that for the past three years she has been working on updating imaging best practices and incorporating them into CSDA industry standards. She notes that her firm already uses the practices outlined in the CSDA's Ground Penetrating Radar for Concrete Imaging and recommends others adopt the guidance. Also recommended is use of CSDA's Depiction/Marking of Existing Subsurface Embedments, which provides an overview and methodology for properly marking out embedments found with GPR. The guidance includes the preferred marking color, use of any temporary marks, marking of exclusion zones on either side of GPR scanning areas, and how to mark depths.

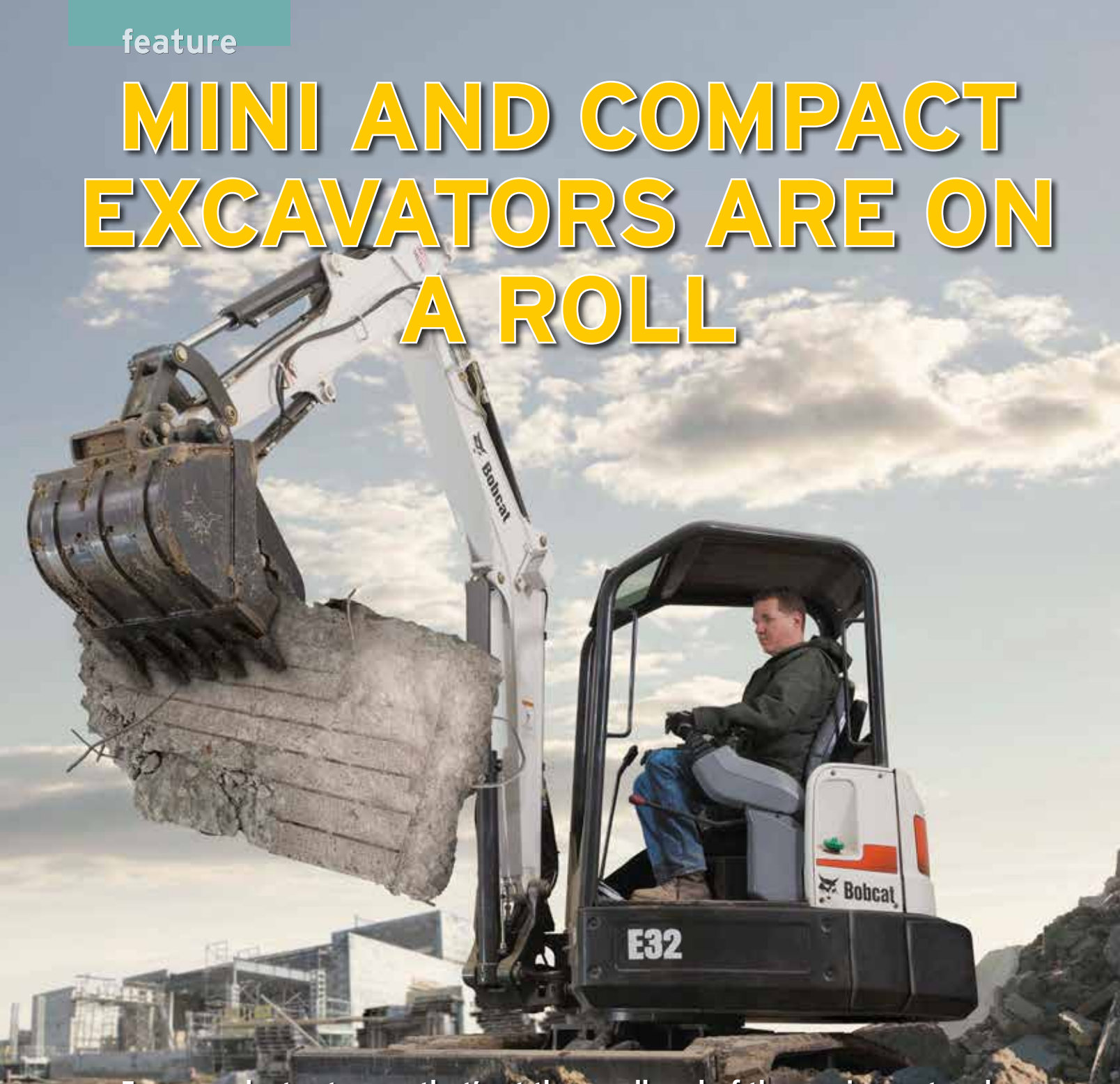
Maintain good communication with imaging contactor

Another tip for concrete cutters is to maintain good communication with the imaging contractor to avoid misinterpretations of data. Hammer explains that the area is first laid out by the contractor and then Hard Rock scans the concrete. "Without the GPR, it's just a concrete floor," she says. "With the GPR equipment we are able to gather the data and transfer it onto the slab in a way that communicates what is going on in the slab. Then we communicate verbally with the contractor on what the marks mean. This may cause a changed layout or confirm that the original location was acceptable."

There must be communication between the two on what the markings mean because there is not yet a standardized marking system.

"My marks look different from another contractor's," Hammer says. "CSDA is also trying to standardize the markings, but even when that is done, communication would still be important so all parties have an understanding of what is going on."

MINI AND COMPACT EXCAVATORS ARE ON A ROLL



For a product category that's at the small end of the equipment scale, mini and compact excavators have been making big headlines over the last several months. One reason is the achievement of regulatory-mandated emissions improvements in the machines' motors that, thanks to some innovative engineering, have had minimal effect on performance and fuel consumption. If anything, these mighty midgets work better than ever, providing contractors with the performance, versatility, and reliability they crave for jobs small and not-so-small.

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Introducing the Husqvarna PG 820 RC, our first remote-controlled floor grinder! The PG 820 RC offers very high productivity, powerful performance, and outstanding ergonomics. The remote control is key on this machine. It enables the operator to move around the jobsite, correcting hosing, moving the dust collector, inspecting the floor, and preparing the next set of tools. This leads to increased productivity and less fatigue on the operator. The remote control unit can optimize the grinding parameters to assure quality for a specific application, enabling consistent operation and results even when changing operators.

The PG 820 RC is one of the most powerful and efficient machines on the market. It is an excellent choice for concrete floor preparation and repair, as well as all polishing and grinding applications. To learn more visit our website, **www.husqvarnacp.com**, or call your Husqvarna representative.

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As illustrated in the examples below, the new and upgraded models are also easier and more comfortable to operate, easing the exertion of operators who may have to spend many hours in the cab. Better that they concentrate on the job at hand rather than the pain in their backside or inconveniently located controls.

Indeed, with so many features available in today's mini and compact excavators, just having them available in a contractor's equipment inventory is enough to bring smiles to the faces of everyone—owners, operators, and mechanics. And after proving themselves on the jobsite, the contractor's bottom line will likely look a lot better too.

Volvo EC20D compact excavator packs a mighty punch

The new EC20D D-Series compact excavator from Volvo Construction Equipment (Volvo CE) features a Volvo D0.9A Tier 4 Final engine that is 10 percent more fuel efficient when equipped with the auto engine shutdown option. This option also provides better resale value for the machine through lower hours and longer service intervals. A new automatic idling system further reduces fuel consumption and noise disturbance by switching engine speed to idle if the controls are inactive for more than five seconds.

The EC20D offers the roomiest cab in its class, with no extra auxiliary floor pedals, excellent all-around visibility, and intuitive controls for unparalleled operator comfort and productivity. The cab is safe and easy to access via a wide door with three contact points, or when fitted with a canopy, using a large handrail. With superior noise and vibration insulation, the EC20D keeps the operator comfortable throughout the day.

All controls are ergonomically placed, and the large travel pedals allow the operator to easily manoeuvre the machine in tight spaces. The fingertip roller offers precise boom offset and convenient attachment use. To achieve maximum efficiency, a high-speed travel switch is located on the dozer blade lever for fast backfilling, while a single-acting auxiliary button on the front of the right joystick ensures easy hydraulic breaker operation

When it comes to durability, the EC20D packs in decades of Volvo engineering with additional D-Series refinements. The robust rear counterweight is made from a single piece of cast iron, providing outstanding impact resistance and shielding of all vital components — from hydraulic lines and pumps to the fuel tanks and cooling pack. The unique high-profile design wraps around each side of the machine for superb protection. The flat, toughened glass used on all four sides of the cab guarantees that replacements can be fitted simply and quickly.

The robust dozer blade is equipped with a welded-on cutting edge for superior wear resistance. A durable upper lip provides added protection against damage in tough applications, as well as excellent balance when using the blade as a stabilizer. The sturdy structure and the curved profile of the blade ensure outstanding performance for both dozing and backfilling applications.

The swing frame, the boom and the arm ends are also cast, providing excellent stress distribution. Hardened pins and bushings are designed to keep tight pivot tolerances for minimum wear. All these design features ensure the machine is ready to work year after year — backed by the Volvo Lifetime Frame and Structure Warranty. The boom, arm and frame of the EC20D are fully covered under the warranty, ensuring Volvo CE or an authorized dealer will repair or replace boom, arm and frame components as necessary during the period of initial ownership or for the full life of the equipment — whichever is less.

Not only is the D-Series highly durable, it is also easy to maintain thanks to its excellent built-in service features. Daily service points are centrally grouped under the newly redesigned rear engine hood. With the Volvo patented multifunctional hydraulic oil filter, filtration occurs when the tank is filled. While the machine is working, the oil returns via the drain lines through the filter, ensuring constant filtration. The transparent housing on the filter bowl also enables easy oil level checks and enables early detection of contamination.

In addition to simple service requirements and excellent durability, the superb uptime of the EC20D is made more productive by its sheer versatility and performance. Maximum lifting capacity reaches 542 kg at ground level with the blade down. The EC20D also has a hydraulically extendable undercarriage that can be extended or retracted to suit jobsite requirements and fit through tight spaces. Furthermore, the state-of-the-art hydraulic system is primed to deliver superior performance no matter the application. The EC20D offers best-in-class maximum flow for attachments at (43 litres/min), along with in-cab flow adjustment to match the attachment speed to operator needs.

The boom is slightly offset to the left, which helps maintain visibility when working in tight spaces. These machines are designed so that the swing post and cylinder stay within the track width when offset to the left. This not only helps avoid the risk of damage to the swing offset cylinder and post when working alongside obstacles, it also allows the operator to dig flush against a wall.

New John Deere 17G & 26G compact excavators make a sizable jobsite impact

John Deere continues to upgrade its G-Series excavator line-up with the introduction of the 17G and 26G compact excavators. These machines offer a Final Tier 4 compliant engine without the need for an after treatment device, a spacious cab, and smooth, responsive hydraulic controls. The nimble excavators were designed with the rental, commercial/residential building, landscaping, underground, and site development industries in mind.

The 17G and 26G incorporate a 10.8kW and 4.9kW Final Tier 4/ EU Stage IV diesel engine without the complexity of an aftertreatment system. This means the customer has no DOC and no DPF, and thus no requirement for DEF. The noticeably quiet engines allow contractors to work at any place, at any time.

The 26G utilizes the same operator's station as its 35G brethren (open station or cab with heat only). The hinge portion of the door design was simplified to provide better visibility. Additionally, the door width was increased to allow for easier entry and exit from the cab, which also has a larger front window.

Within the operator station a new seat with adjustable wrist rests for daylong comfort was added and a suspension seat is standard. The foldable travel pedals are positioned to provide efficient operation with maximizing foot room and low-effort pilot controls deliver exceptionally smooth, combined-function performance.

While focusing on improving uptime, John Deere added

a third service door to both excavators to provide improved access to the cooling core and other daily checkpoints. The cores were positioned side-by-side rather than being stacked inline to permit easier access. Extended fluid and lubrication intervals and sight gauges help keep maintenance and expenses at a minimum. Similar to all G-Series models, the compact excavator includes unique features such as an oil-impregnated boom, arm, and bucket bushings to help deliver unsurpassed long-term durability. Both models also come equipped with rubber tracks.

Those operators looking to expand their equipment utilization can look no further than John Deere's Worksite Pro™ attachments. A manual wedge-style quick-coupler speeds switchover, going from buckets to other attachments in minutes. Previous D-Series attachments will work on both the 17G and 26G as well.

Tier 4-compliant Bobcat E32 and E35 excavators boast new features

Bobcat Company has released two new Tier 4-compliant compact excavators, the E32 and E35, both of which include a non-DPF (diesel particulate filter) engine solution. The new Bobcat® excavators feature a forward-mount instrumentation system that provides operators the same functions, aesthetics and visibility as instrumentation available in Bobcat loaders. The 25kW engines provide unmatched power, excelling in a variety of high load conditions — due to class leading multi-function cycle times.

The E32 conventional tail swing excavator and the E35 Zero Tail Swing model can perform well in tight spaces and under high load conditions — with sustained multi-function cycle times — and sustained travel speeds during pushing and climbing functions. Additionally, these 3- to 4 ton M-Series excavators provide increased fuel efficiency to reduce operating costs when operating in the machine's

Eco-Mode setting.

Another new feature of the new Tier 4 excavators is cold weather protection. Anytime the engine temperature is too low, the excavator will temporarily limit the maximum engine speed (rpm) to prevent premature component wear or failure. Engine idle speed is also raised slightly to help the engine reach its operating temperature faster. As soon as the engine warms up to a predetermined temperature, the protection mechanism will deactivate.

A new forward-mount instrumentation system designed for enhanced functionality and improved ergonomics is standard in the E32 and E35. The new instrumentation panel and control switches have been designed to be more ergonomic for the operator. The new instrumentation panel presents these buttons in front of the operator, where they are easier to identify and reach. From the operator's viewpoint, the location of the panel also aligns with the existing cab components and work group structures to maintain visibility to the attachment.

The optional deluxe instrumentation panel features multi-lingual functionality, similar to other Bobcat products. It also offers multiple capabilities from analyzing user statistics, to integrated attachment operating guides controls, vitals and diagnostics. The new instrumentation system includes the functionality to capture individual fuel usage and real-time fuel consumption, as well as idle-time data. The deluxe excavator instrumentation can help owners and fleet managers better understand and evaluate their performance and costs, as well as assist them with identifying opportunities to improve machine and operator efficiencies and protect their investments.

Both Tier 4 excavator models can be equipped with the optional extendable arm, which is a telescoping arm that provides more dig depth and reach. The extendable-arm option can give operators as much as 762mm more reach when at full extension, which minimizes repositioning the machine and saves operators valuable time. Bobcat E32 and E35 excavators with the extendable-arm option are clamp-ready — an industry exclusive. The clamp capability is an ideal solution for operators wanting to pick up and place materials such as rocks, landscaping materials and debris in site preparation applications.

Like all M-Series excavators, these new Tier 4-compliant models feature an independent boom swing for offset operation. Features such as auto-idle throttle and auto-shift travel are standard equipment for the new excavators. Auto-idle throttle contributes toward reduced fuel consumption and easier communication between the operator and workers. The excavator will automatically idle the engine when the machine functions are not used for approximately four seconds, saving valuable fuel. Auto-shift travel automatically shifts the machine out of high range without having to manually downshift. A battery run-down protection feature automatically shuts down the battery when lights are left on after work is completed. In addition, the models feature a piston pump and closed centre valve system that senses loads, delivers smooth control and provides exceptional metering.

Technical specifications

	E32	E35
Tail swing	Conventional	Zero
Engine (kW)	25	25
Operating weight (kg)	3,258	3,387
Dig depth (m)	3.1	3.1
Reach at ground level (m)	4.9 5.2	
Bucket digging force (N)	30,995 30,995	

Terex TC16 and TC29 excavators increase productivity, profitability

The new Terex® TC16 and TC29 compact excavators are designed to enhance jobsite productivity, efficiency and cost-effectiveness, while allowing operators to work with precision and power. These models offer many of the same popular features as the predecessor models, such as the adjustable Knickmatik® boom system and Terex Fingertip controls, with enhanced capacities of their Tier 4 Final Mitsubishi® diesel engines. The productive horsepower and improved fuel efficiency with electronic governance of the new Terex TC16 and TC29 compact excavators allow operators to dig deep, reach far and lift heavy loads at a low cost of operation, increasing return-on-investment.

Compact and reliable, these Terex compact excavators are able to tackle a wide range of jobs, from trenching and excavating to ground levelling, backfilling, grading and contouring and loading/unloading. Weighing in at 1,724kg, the TC16 compact excavator offers a dig depth of 2.2m and a maximum reach of 3.9m. Weighing in at 2,926kg, the TC29 compact excavator achieves a maximum dig depth of 3m and a maximum reach of 5m. These Terex compact excavators come equipped with broad rubber tracks that provide excellent traction and low ground pressure. The tread pattern is designed to provide a large surface area for exceptional ground contact and to improve ride comfort.

Both units are engineered with load independent flow distribution (LUDV), which means the available hydraulic flow on these excavator is proportionally distributed to provide hydraulic power when and where it is needed. All functions can be controlled simultaneously and independently from one another, and the system enables operators to precisely control all functions at every motor speed, independent of the load, to maintain a consistent level of productivity. Large amounts of hydraulic oil in the auxiliary hydraulic circuit mean that these Terex excavators can be controlled precisely at all times, and work attachments such as hydraulic hammers, cutting units and auger drills can be operated productively. These Terex compact excavators are also equipped with an auto-idling system to help improve fuel economy while lowering engine noise when the excavators are not carrying a load or in use. And, their two-gear drive motor offer automatic speed changes for agile movement on jobsites.

The Knickmatik® boom system on the new Terex TC16 and TC29 compact excavators allow operators to work closely alongside walls or other existing infrastructure, as well as drive parallel to a trench or drain while working on it without turning the superstructure. The units' offset boom

design means that these excavators can move to either side at full digging depth. In addition, the Terex excavators' top-mounted neck cylinders are designed to provide additional clearance for the operator to load large, high-walled trucks and containers while protecting them from damage. End-position cushioning on both units' hydraulic cylinders reduces vibrations and allows operators to work comfortably.

A spacious, ergonomic cab with exceptional visibility in all directions keeps TC16 and TC29 excavator operators focused and productive. Both models are equipped with pilot-operated controls that provide both easy operation and changeable control patterns to best suit the operator's preference. Fingertip controls (electro proportional) on right joystick, actuation via rollers, are standard on both units, providing additional control for work attachments, including buckets, grabs, hydraulic hammers, cutting wheels, and augers.

Yanmar introduces ViO25-6 mini excavators to North America

Yanmar Construction Equipment Co., Ltd. is proud to present the latest line up of its popular ViO25-6 mini excavators featuring improvements in comfort, reliability and safety. These new excavators replace the ViO27.

In terms of comfort and ease of operation, the new excavators feature flat step and floor mats as well as automatic room lights that activate when the cabin door is open. A large LED back-lit monitor displays useful operation information.

These new models are more efficient and cost-effective when it comes to transporting them. They weigh 2,500kg with the canopy; 2,660kgwith the cabin. This allows them to be safely transported with the rubber crawler tracks and aluminium loading ramps on 3-ton class trucks.

In a continuation of designing equipment to be safe for operators, the ViO25-6 mini excavators follow major safety standards, including TOPS (tip-over protective structures) and Headguard safety standards in the two-post canopy, and the ROPS (roll-over protective structures) and FOPS (falling object protective structures) safety standards in the four-post canopy and cabin.

The new excavators are also equipped with Yanmar's "SmartAssist Remote," which allows for machine settings, including limits on boom height and arm retraction, to be managed over the internet.

Technical specifications

	ViO25-6
Operating weight (kg)	2,500
Rated output (kW/min-l)	2,500
Bucket capacity (m3)	.08

Max. digging depth (mm)	2,540
Max. digging height (mm)	4,460
Max. horizontal reach (mm)	4,400
Fuel tank capacity (l)	29.2

Wacker Neuson expands its compact excavator series with EZ 17

Wacker Neuson has introduced a new 1.7-ton compact excavator that delivers excellent power and manoeuvrability. The EZ 17 is the smallest zero tail model by Wacker Neuson and combines a compact foot print, expandable undercarriage and 2-speed drive. The new EZ 17 provides maximum manoeuvrability and accessibility.

Wacker Neuson's EZ 17 is a productive and versatile digging machine offering a maximum digging depth of 2,469mm, and a strong bucket breakout force of 18,700N. This new excavator can access hard to reach areas, such as backyard landscaping applications. The expandable undercarriage is adjustable from 990mmto 1,251mm to travel through narrow passages and gates. Once the machine is in working position, the undercarriage can expand to provide additional stability and lifting capacity. Additionally, low ground pressure protects existing landscaping and turf from being disturbed.

The EZ 17 is powered by a Tier 4 Final, 12.8kW Yanmar diesel engine that offers excellent power, fuel economy and quiet operation. The 2-speed drive on this zero tail excavator allows the machine to travel up to 4.6kph. The machine also features a LUDV load-sensing hydraulic system for smoother operation and improved performance when using multiple functions. This advanced system deliver can deliver full power even with fine movements and it's also more efficient.

The operator's station on the EZ 17 sets new standards for reducing operator fatigue and increasing productivity. Even with its compact structure, there is plenty of leg room and the easy to reach controls are arranged for intuitive operation. The EZ 17 also features an ISO or SAE pattern control depending on the operator's preference.

Like all of Wacker Neuson's excavators, the EZ 17 is designed and built with quality components that contribute to the machine's long life. An innovative cooling system allows the unit to work at full load in temperatures up to 45°C, and also ensures a low temperature level that significantly increases the life of individual components. Routine maintenance is also made easy with best-in-class service access.

Hitachi's new mini excavators

Hitachi Construction Machinery (Europe) used Intermat to introduce the new ZX17U-5, ZX19U-5, and ZX26U-5 mini excavators. Designed to be user-friendly, offering high levels of performance, comfort, and durability, the Zaxis-5 models can be easily transported between sites on a trailer. They are ideal for working in narrow or confined spaces and are suitable for utilities, foundation work, landscaping and indoor demolition or construction projects.

The ZX17U-5, ZX19U-5 and ZX26U-5 are more productive than other brands of mini excavators of this size with better fuel consumption. Research shows that the cycle time is quicker and workload is greater than previous models. Due to greater hydraulic efficiency, the new Hitachi mini excavators are also capable of higher levels of productivity than previous Zaxis models, using the same amount of fuel.

The versatility of the new ZX17U-5 and ZX19U-5 is highlighted by the expandable crawler tracks. They can be retracted or widened, depending on job requirements, from 980mm, for working in small spaces or being loaded on to a truck, to 1,280mm for greater stability. The extra piping and 1-2 way selector valve on the ZX26U-5 highlight the machine's versatility, allowing for the quick replacement of attachments. The ZX26U-5 also has the smallest front swing radius, at fully offset, in its class, making it ideal for working in narrow job sites.

Operator comfort was a key factor in the design of the cab in these excavators. It features a wide adjustable sliding suspension seat, which is surrounded by user-friendly controls within easy reach. Hydraulic pilot levers are used to operate the front, boom swing, travel and blade. Noise levels, even with the canopy design, are lower than previous Zaxis models and competitor machines, allowing operators to work more comfortably.

Mustang 250Z offers impressive dig depth and reach

The all-new Mustang 250Z compact excavator brings 203mm deeper dig depth and 211mm additional reach at ground level compared with the previous model, the 270Z. The new 250Z is equipped with a 15.2 kW electronically-controlled Yanmar Tier IV emissions-certified diesel engine. No engine regeneration is required on the 250Z, reducing downtime on the jobsite. Low exhaust position on the machine reduces noise, increases safety and improves visibility. Cold-weather starting is easy with an electric glow plug starting aid, reducing the need for block heaters or starting fluid.

The operator's station on the 250Z is built for optimal productivity and controllability. Joystick controls, operated by simple wrist movements, reduce fatigue during a long work day. The controls on the 250Z include a proportional auxiliary hydraulic rocker switch with detent on the joystick. This allows the operator to adjust the hydraulic flow for precise attachment performance while keeping his/her hands on the joysticks. The operator can easily select standard ISO or an optional backhoe control pattern with a turn of a mechanical lever. The two-position, high speed travel switch is conveniently integrated in the blade control lever for easy accessibility.

A digital operator interface features an hour meter and clock, recordable maintenance history with adjustable time intervals and reminders, fluid levels, fluid temperature, and more. Machine hours can be reviewed for the past 90 days

without starting the engine. Multiple language selections are also available.

The operator's compartment is designed with comfort in mind. A four-way adjustable seat offers custom height, weight and backrest positions with a retractable belt. Elevated, folding travel pedals allow for additional foot room when performing stationary work. An optional cab enclosure with heat provides comfort and protection in extreme weather conditions.

Auxiliary hydraulic flow rate up to 51.3L/min, paired with high system pressure up to 206 bar, deliver more hydraulic muscle to power demanding attachments and deliver superior digging and breakout forces. The two-way and one-way auxiliary flow valve allows for direct-to-tank bypass, while return flow selection is standard equipment. Two variable and two gear pumps bring simultaneous operation without loss of power.

Tool-free access panels give quick and easy access to the hydraulic tank, engine compartment, control valve, air cleaner and control pattern valve. A standard track drive system (compared with an offset track drive on the 270Z) provides long life and allows for easy aftermarket track replacement.

The 250Z, along with the other Mustang compact excavators, feature a Zero-Tail-Swing design to maximize productivity in confined spaces. The cast side protectors add armour at the base of the upper structure. Other important performance features include a high-strength boom with sliding cylinder guards that protect the rods from damage. The Power-a-Tach® hydraulic quick coupler enables attachment changes by the flip of a switch inside the cab. The operator leaves the seat only to engage and disengage the safety pin.

Technical specifications

	250Z	
Weight (kg)		
	Canopy	2,685
	Cab	2,820
Max. digging depth (mm)	2,950	
Gross power (kW)	15.2	
Net Power (kW)	14.7	
Width (mm)	1.500	
Bucket breakout (kg)	1,850	

Caterpillar launches 313F L GC excavator

The new Cat313F L GC hydraulic excavator is designed for performance at a low cost/h. It has a Cat C3.4B engine that meets US EPA Tier 4 Final/EU Stage IIIB emission standards that is light on fuel with no need for diesel exhaust fluid. It has a single pump hydraulic system, and comes equipped with a long undercarriage, a full size Roll Over Protective Structure cab, and easy-to-reach service points.

The 313F L GC has a 52kW engine and a choice of high power and economy modes to manage fuel consumption. There is also an engine idle shutdown feature that stops the engine after a pre-set idling interval.

The machine's simple hydraulic system delivers ample power for digging, lifting, and attachment use. The load sensing pump and main control valve calculate work demands to deliver the stick and bucket force needed. The 313F L GC can also be equipped with high- and medium-pressure hydraulic circuits along with a quick coupler to handle a range of Cat buckets and work tools.

The machine's undercarriage provides a stable work platform and a selection of track shoes and blade options help tailor the machine to specific applications. Booms and sticks are multi-plate fabrications using internal baffles and castings and forgings in high-stress areas. The 4.65m boom can be used with either the 2.5m or 3m stick.

The simplicity of the 313F L GC contributes to its low owning and operating costs. The machine has a pilot manifold in the valve block to eliminate the need for a pilot pump, filter, or lines. The fuel system and manual priming pump reduce the need for multiple filters, and the engine's diesel particulate filter is compact and maintenance free. Wide service doors provide access to cooling, pump, and engine compartments, and everyday maintenance points are reachable at ground level.

Cat Link technologies are integrated into the machine's monitoring system and are designed to improve fleet management. Events and diagnostic codes, as well as information and capabilities such as hours, fuel consumption, idle time, machine location, and geo-fencing are transmitted to a secure web-based application called VisionLink, allowing the machine owner and dealer access to machine data.

Kobelco launches SK17, SK25 compact excavators

Designed for tight working spaces with short 1.6m and 1.4m front minimum swing radii respectively, the SK25 and SK17 combine that manoeuvrability with long reaches. The 2,690kg SK25 features a digging depth of 2.7m and a swing speed of 10rpm. Kobelco says the machine boasts a digging force of 19,820N and a maximum digging reach of 4.8m, making it capable for loading, placing and dozing applications. The SK25 can be outfitted with either steel or rubber track shoes and a ROPS/FOPS cab or a canopy.

The 1,740kg SK17 is the smallest of all Kobelco's excavators and features a digging depth of 2.2m and swing speed of 9.5 rpm. Its hydraulic side frames are capable of retracting to 940mm to enter tight areas and extending to 1,270mm for added working stability. Adding to the machine's manoeuvrability is its dozer blade design which allows for quick detaching and attaching. The SK17 has a maximum digging reach of 3.6m and a digging force of 12,600N.

Both machines feature a large cab with ample floor space and large travel pedals. A backlit display comes standard on the SK25 giving the operator at-a-glance updates on operation and machine status. A boom light comes standard on both machines along with a travel alarm and a pattern changer with a blade cutting edge.

In the U.S., a new 6-in-1 Blade for Kubota's compact excavator

The new Hydraulic 6-in-1 Blade for the KX040-4 Compact Excavator makes levelling and backfilling—even on inclines and uneven terrain—incredibly easy. Operators will benefit from improved efficiency and greater productivity.

The blade's capacity has increased almost .57m3 over the standard blade, and now enables six different positions: left-end up, right-end up, left-end forward, right-end forward, raised, and lowered. Just by moving the dozer lever, operators can angle the blade right or left to push soil aside while the machine moves forward, eliminating the need for repetitive right-angle positioning while backfilling trenches. The operator can command all six functions simultaneously for more convenient landscaping, shaping and backfilling control.

Additionally, contractors can operate the rocker switch on top of the blade control to tilt the blade 10 degrees up or down, and now simultaneously twist the control handle to angle the blade 25 degrees left or right. This feature makes it ideal for contractors to dig ditches easily, flat or tilted. The angle blade also allows operators to work efficiently in confined spaces, alongside walls and near busy roads.

At 1.8m wide, the blade impressively stretches across the entire machine width, even when tilted. The tilt function gives contractors the flexibility to shape foundation edges for runoff, and then complete the job with slopes and swales for ample water drainage and a professional look.

Designed with a standard-equipped, durable Bolt-On Cutting Edge (BOE) that protects the blade during heavy-duty dozing operations, the 6-in-1 Blade is ideal for the toughest jobs in the most confined spaces. The tilt cylinder is covered for added durability and increased protection from soil and rocks. The reversible cutting edge is divided into two sections to easily invert the edge for continued use, easy maintenance and simple replacement.

The dozer blade's thick side plates improve the tie-down point's durability and allow contractors to use them as lifting points, along with the lifting point on top of the boom for convenient 3-point craning of the KX040-4. Additionally, the float feature design makes ground finishing work quick and easy without having to adjust the dozer height. After backfilling, contractors can simply travel backwards along the covered ditch with the dozer in the float position to put the finishing touch on a backfilled trench.

Blowing Out

Atlas Copco's hydraulic breaker attachments help Silverado Contractors demolish San Francisco's Candlestick Park safely and efficiently

When the permanent residents of Candlestick Park—the San Francisco 49ers and San Francisco Giants—decided to move on to greener fields, Lennar Urban made the return. The Miami, Fla.-based developer has plans to convert Candlestick Point, the formation which the stadium is named after, and adjacent Hunters Point Shipyard into 700 acres (283 hectares) of mixed-use buildings, shopping centers, and much-needed housing. But before stores and houses can go up, the stadium had to come down.

A Unique Challenge

Demolishing Candlestick Park proved to be a unique challenge for Oakland, Calif.'s Silverado Contractors Inc. due to its sheer size, reinforced-concrete wind baffle and thick concrete wall — all features that contributed to the massive responsibilities it once held. Candlestick Park stadium opened as a ballpark in 1960 after the New York Giants moved to San Francisco, and it was converted into a football stadium during the 1970s. The stadium housed nearly 70,000 fans during a big game, prevented gusts of wind from blowing field goals and extra points astray, and withstood years of earthquakes, including one measuring 7.1 on the Richter scale in 1989.

It was a 132-ft (40m) tall, 630,000 ft2 (58,529m2) layer cake of about 96,000 tons of reinforced concrete and steel. The original plan detailed imploding the stadium. However, the developer and Silverado had to consider the Bay Area Air Quality Management District's dust exposure requirements and noise concerns from the surrounding neighborhood. That changed the plan, and using excavators fitted with hydraulic attachments became the best solution.

"We've done some selective demolition of other stadiums in the past, but this is the first time we've ever demolished an entire stadium," says Andrew Baird, Silverado Contractors project manager.

The demolition contractor tackles a wide range of projects, from selective demolition to complete building and bridge removal, primarily on the West Coast.

"Taking down the structure piece by piece, one section at a time was the only way we could ensure the safety of crews during demolition while minimizing dust," Baird says. It also was a rare opportunity not many contractors get to experience—the complete demolition of a stadium, which hasn't occurred on the West Coast since Seattle's Kingdome demolition about 15 years ago.

t the Candle

But in November 2014, the memory of that project would take a back seat to what was in store for the Candlestick Park stadium. Silverado began the demolition of the stadium by stripping out all 68,500 seats and performing hazardous material abatement, a feat that took several months.

By February 2015, Silverado was ready for the next phase of the project: demolition. About 30 laborers stripped and gutted all non-recycleable debris from concession stands, bathrooms, and luxury suites. When spring came it was time to bring out the heavy hitters: a team of Silverado equipment operators and several hydraulic attachments, including Atlas Copco breakers. They were ready to face heavy demolition starting with the stadium's main structure.

"It's a fairly challenging project because it's such a big structure and very different from a typical building," Baird says. "But after reviewing structural elevations and breaking into it, you realize it's like any other building, just on a much larger scale."

Cutting Steel Faster then Breaking Concrete

Before the hard-hitting demolition could begin, Silverado had to ensure everything was in position. Operators using an excavator fitted with a hydraulic shear attachment cut out the steel retractable bleachers, giving the crew access to the field for sorting rubble.

Cutting through the steel sections was considerably faster than breaking through a concrete area. It meant they could get onto the field and in position faster, which is why it was a good starting point for Silverado's crew. Once the crew was in formation it was time to tackle the stadium's concrete wind baffle and upper deck as well as its lower reserved seating and boxes. The team of operators used a wide range of equipment and attachments, including aerial lifts, excavators, hydraulic breaker attachments, shears and water sprayers. The play: demolish from top-to-bottom and clockwise from the stadium's southwest corner.

"We chose Atlas Copco breakers because they're a proven product, are simple to maintain and have fantastic hitting power," says Sean Holifield, Silverado Contractors operations manager.

Excavators fitted with Atlas Copco HB 2500 and HB 5800 breaker attachments smashed reinforced concrete walls, while another excavator with a hydraulic shear attachment cut rebar and steel supports as they emerged from the crumbling concrete. "We used those breakers nearly all day every day and with minimal downtime," Holifield said.

Both breakers feature Atlas Copco's ContiLube™ II lubrication system, which automatically greased wear bushings to minimize wear and virtually eliminate downtime from manual greasing.

"Productivity is critical in this industry," said Dana Creekmore, Atlas Copco regional channel manager, west. "And much of that productivity boils down to your equipment, from using breakers that require minimal maintenance to simply having the right attachment for the job."

Silverado Contractors' operator uses Atlas Copco's HB 5800 breaker to demolish reinforced concrete walls as thick as 18 in (457mm).

Silverado Contractors' high-reach excavator and Atlas Copco's HB 2500 breaker knock out Candlestick Park's concrete wind baffle.

Below: An Link Belt excavator sorts rubble from Candlestick Park before it's crushed onsite or shipped out for additional processing—roughly 98 percent of the material will be reused or recycled.

The threat of downtime was minimized, but the risk of dust was an ongoing concern, particularly on one of the highest points of the project—the wind baffle.

"It sat about 120 ft (36.6m) off the ground, and it could have been quite a logistical challenge to get the breakers in there as well as water to suppress the dust at the right points," Holifield says. "It would have been fast and easy to knock it down with a ball and crane, but the amount of dust and debris would have been a huge concern."

Manually spraying water on the points of impact and debris drop zones would be nearly impossible with a wrecking ball because of its inaccuracy. Using handheld breakers would have been more precise, but put operators in harm's way. The stadium's walls were up to 18 in (457mm) thick, and needed heavy-hitting power to come down.

"Dust control was a major concern not only on the wind baffle, but nearly the entire project. And we had to tackle it on two fronts—at the point where we were breaking material and where it hit the ground," Baird says.

Silverado attached spray nozzles to the excavators, which automatically released water to control dust at the tip of the breaker. This ensured excavator operators had a clear view of the work and eliminated the need for manual dust control, which meant crews could remain a safe distance away from any falling debris. Silverado also had operators controlling nozzles on aerial lifts that were set farther back than the excavator, spraying the point where debris hit the ground.

For the wind baffle, Silverado called in its high-reach, 76-ton excavator and Atlas Copco's HB 2500 hydraulic breaker. The excavator's boom could reach as high as 130 ft (39.6m), putting the baffle within the breaker's striking distance and the operator out of range of falling debris. Outside the stadium, the operator pushed the breaker's chisel against the baffle's curved concrete wall and perforated it. With an impact rate of 580 blows per minute, it didn't take long to knock out chunks of concrete and rebar, causing the baffle to sag then collapse onto the upper deck.

"Without the breaker attachment, we would have had a real difficult time breaking down that wind baffle while suppressing dust. It would be nearly impossible to get the same control with a ball-and-crane," Baird said.

While work was going on above, an operator using another 76-ton excavator and Atlas Copco's HB 5800 breaker delivered as many as 480 blows per minute to tackle the thick reinforced concrete walls below. They teamed with another excavator operator who was using shears to take out lower seating sections, which also were made of reinforced concrete.

"Watching the large breaker work in conjunction with the shear attachment is fairly amazing because what they accomplish together is much more than what any one machine can do on its own," Baird says.

The breaker smashed through external concrete walls and pillars, while the other excavator reached in with its shears and removed the mangled pieces of rebar and steel sheets from the upper deck. "Not only was it less hassle to have two excavators, but it also was more efficient," Baird says.

Because each excavator was equipped with its own attachment—one for breaking and one for cutting—the crew didn't have to stop and switch attachments. They demolished the area from the baffle's peak to the last row, one section at a time, in just hours. As each section came down, another crew moved in to sort rubble.

They used an excavator with a bucket to separate twisted rebar from the concrete, and they stockpiled it onsite before crushing it for backfill on the new site or recycling for road building. The crew also sorted and shipped stockpiled rebar and non-ferrous metal for recycling. In all, about 98 percent of the rubble from the stadium was recycled.

"This project required a lot of teamwork at every level to allow our highly skilled operators to succeed," Holifield says. "From our superintendent, Oscar Reyes, overseeing our entire workforce, Andrew Baird coordinating them and their equipment, and the reliable customer support from Atlas Copco's Dana Creekmore, ensured that we were always pushing forward."

Before finishing demolition in late August, Silverado's crew continued to rely on Atlas Copco breaker attachments to demolish the remaining concrete slabs. They even brought in reinforcements—the HB 4700 and HB 3100 breakers. It's true with football and sometimes it's true with stadiums: what goes up, must come down. And oftentimes, including the Candlestick Park stadium demolition, gravity is the enemy—from kicking up dust as debris hits the ground to eliminating a fast and easy way to demolish, such as imploding. But there's always a victor who masters the challenge. Just like a winning drive that scores a touchdown, Silverado Contractors ran a flawless offense against dust generation and downtime, which ultimately won them the game of safe and efficient demolition.

Silverado Contractors' operators work together using a variety of hydraulic attachments, including breakers, shears and water nozzles, to demolish the entertainment gate at Candlestick Park and control dust generation.

Powerful By Definition

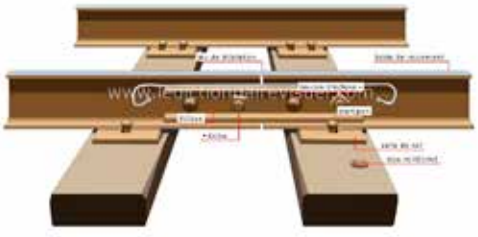
Anderny is a commune in the Meurthe-et-Moselle department of Lorraine in northeastern France, with only 305 inhabitants. But it has a very special recycling center: the TRI Service Recyclage, where around 3 million concrete rail ties are to be crushed and separated from the metal supports and reused in different applications. For the past 50 years, concrete ties have gradually replaced wooden units due to improved stability in the mounting position, and improved usability for mechanized operations of construction and maintenance. Today, concrete ties are standard for all major or high-speed railway lines.

Any tie that is no longer useful to perform its function is "cleaned" of any metal materials inside before being crushed and fed into two fixed installations—a jaw crusher and a screener. Once recovered, the leftover material is re-used in the construction of jersey barriers for the motorway company, stabilized, as a material for building substrates in high lift works (e.g., roads, ports, car parks, airports, etc.), and as a base for future installation of new railway ties.

The fundamental equipment for performing handling of inert material on the inside are a Liebherr 924, a Liebherr 926, and a Komatsu PC240, all of which have been fitted with Trevi Benne demolition equipment. They include two rotating model FR 20RD pulverizers and two models FR 23P Premium Line rotating pulverizers with Impact Booster power multiplier devices. The owner of the TRI Service Recyclage says he was extremely satisfied with the speed and crushing power of the standard series FR 20RD, but needed a greater daily output without changing the equipment weight.

The Impact Booster is an integrated device that allows to multiply the excavator's operating pressure in the crushing of the material. If the pressure of the excavator is no longer sufficient to break it, the Impact Booster automatically comes into play automatically. This allows the incoming pressure of the of the operating machine to be multiplied from a pre-calibrated level of 3,626 psi (250 bar) to a peak of 10,878 psi (750 bar).

Trevi Benne presented the first Impact Booster equipment at BAUMA in Munich in 2013, and this equipment is simply the fruits of months invested in research and design, bench testing and hundreds of hours of onsite testing. Working with a below standard pressure and operating flow provides advantages such as reducing fuel consumption 20 percent, reducing opening/closing cycle time to 3.5 seconds, reducing overall equipment weight, and increasing power performance by 25 percent.



These were the ideal reasons to test out the new model that comes with a FR 23P Booster. Not only is it more powerful by definition, but it is also significantly faster cycle in the open/close cycle, which specifically translates into a higher daily output. Thanks to the new FR 23P—used with the same machinery and the same operator— the center has gone from 320 sleepers demolished per day to 400.

CRUSHING HARD

As replaceable as they are, demolition attachments are an indispensible tool for specialist contractors. As the industry matures, they get increasingly more powerful and sophisticated. Breaking, crushing, pulverizing, tearing, and shearing are just the start of things they can do.

Tank cutter from the "Black Forest"

German Darda, based in the town of Blumberg amidst the famous Schwarzwald (the "Black Forest"), has recently launched the TC120 model of tank cutter for cold cutting of steel containers and slabs of up to .6in (15mm) in thickness. Designed for 3-ton to 8-ton mini-excavators or a Brokk 260 demolition robot, it weighs 595 lb (270kg) with the rotary drive, and boasts a cutting force of up to 660kN (60t). When dealing with steel walls up to .2 in (5mm) thick, its cutting performance can reach as much as 295 ft/h (90m/h). The TC120 easily cuts structural steel, stainless steel plates, and all kinds of tanks. The cutter is operated from a safe distance without the need for mobile scaffolding. The process of cold cutting excludes the risk of a fire or explosion when dismantling tanks with residual content. Thanks to its compact dimensions, the TC120 tank cutter can operate in limited-space areas.

www.darda.de

German contractor chooses a Hydraram crusher

In early March 2015, Germany-based specialist demolition contractor AWR Abbruch GmbH took delivery of the Hydraram HCC-120V concrete cutter crusher suitable for 86- to 150-ton excavators. Weighing in at 13-ton, the cutter crusher boasts a jaw opening of 7.5 ft (2.3m) with the crushing force of 240t (2,391kN). Designed for demolition of heavily reinforced concrete structures, it features blades in the back of the jaws to effectively cut steel reinforcement. Hydraram's HCC-Series of concrete crushers are available in 14 models, fitting carriers from 2- to 150-ton. Manufactured from durable HARDOX-400® steel, they come equipped with a speed valve, a heavy-duty double ball bearing swivel head, and a rotary motor.

www.hydraram.com

Okada expands pulverizer range

Japan-based Okada Aiyon has extended its OSC series of pulverizers by introducing new OSC-500AV model for 40- to 100-ton excavators, boasting a crushing force of 1,115kN (125t). Now Okada's series of concrete pulverizers includes seven models ranging in operating weight from 617 lb (280kg) to 11,949 lb (5,420kg). The brand-new OSC-500AV features an enhanced box welded structure frame to accommodate a large jaw with the 8.5 in (215mm) cutting blade and a speed valve. Since the launch of the first model in 1987, Okada has produced and sold some 1,000 units of the OSC

ON ATTACHMENTS

pulverizers. The OSC series will be on display at Bauma Munich in April 2016.

www.okada-aiyon.com

Genesis extends its 'Jaw Armor' system to grapples

Genesis Attachments has announced that its "Jaw Armor" protective system is now available for heavy-duty grapples. "Jaw Armor" is a weld-on modular system constructed of abrasion-resistant, proprietary GenGuard steel that maintains structural integrity and virtually eliminates the need for build-up and hard-surfacing of the protected wear areas. According to the manufacturer, attachments protected with "Jaw Armor" not only increase productivity and uptime, but also exceed normal wear cycles. Full and tine "Jaw Armor" kits are available for new and existing Genesis grapples. Genesis Shear Jaw Armor™ is also available for Genesis shears.

www.genesisattachments.com

Dehaco launches a new line of compactors

Netherlands-based supplier Dehaco has added a new range of compactors to its already ample product line. Brand-named Hyrax, the new compactors boast a slew of improvements on the existing models. Fitted with a dual load transducer without reduction gears, they feature the in-house Dual Power System (IDP System®), which controls the rotation direction of the motors. The name

"Dual Power" refers to the two operation modes to which the Hyrax compactors can be set using a lever on the pulling head. Each setting has a different effect on the compactor's operation so it must be selected according to the job specifications. The compactor's pulling head contains rubber elements to dampen vibrations to the crankcase. To prevent the crankcase detaching from the pulling head due to the wear of the rubber elements, the Hyrax compactors feature a Safety Belt System, which ensures that the two parts can never come apart. Several Hyrax compactors are now being tested by Dehaco customers.

www.dehaco.com

Robi attachments cut into the French market

French specialist contractor Clavel TP is using a Robi RP30 pulverizer from the Finnish manufacturer Ramtec to perform secondary crushing of reinforced concrete debris on a recycling site in south-central France. Weighing in at 3,924 lb (1,780kg), this model fits 18- to 28-ton excavators and boasts a 2.8 ft (870mm) jaw opening and long wear-resistant cutting blades. With the maximum crushing and cutting force of 770kN (86.5t) and 1,350kN (151t) respectively, it makes light of the task of pulverizing big chunks of concrete and cutting various steel structures. According to Ramtec, Robi attachments are getting increasingly popular in France courtesy of an efficient marketing campaign being conducted by its French dealer Escomel.

www.ramtec.fi

NPK beefs up four product lines

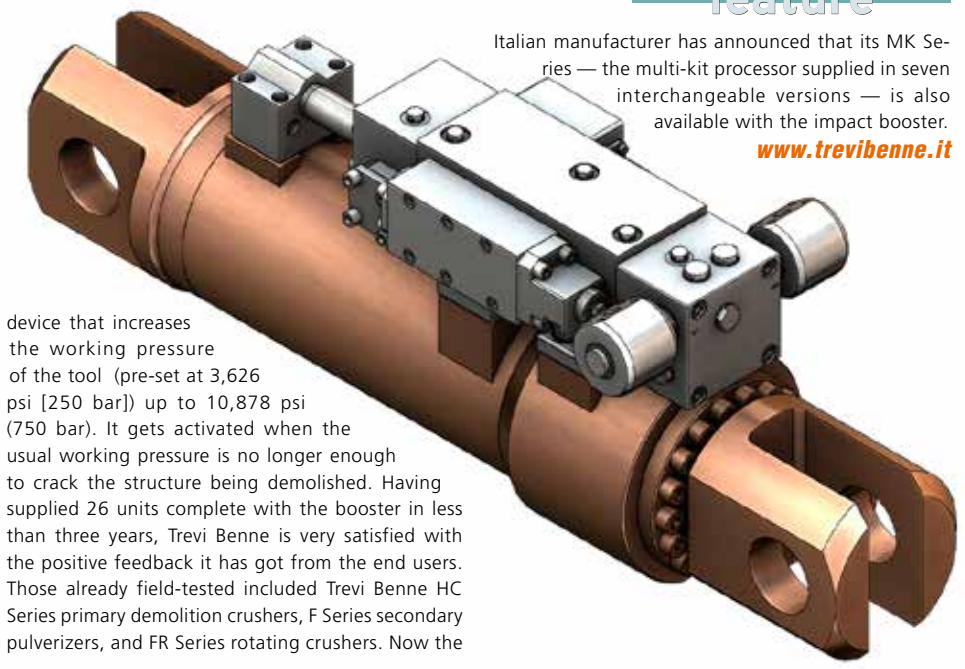
Japanese heavyweight NPK, renowned as the inventor of booster mechanism, used Intermat to showcase a raft of new products. On display in Paris there were G-18JX concrete cruncher, PH-07hydraulic breaker, DG-14 sorting grab, and C-3D compactor. Apart from the standard booster mechanism, the G-18JX cruncher features a large jaw opening and a bolt-on tooth plate allowing for quick and easy teeth replacement. The new PH-07 breaker comes equipped as standard with an "easy-to-switch" anti-blank hammering system and a redesigned soundproof bracket. The DG-14 demolition and sorting grab is a versatile, 360° hydraulically rotatable attachment manufactured from a wear-resistant steel alloy. It is complete with a hydraulic rotator, whose speed is unaffected by variation in oil flow. The grab is designed with a flat-top mounting which allows using any bolt-on adaptor bracket. The new C-3D compactor comes with a hydraulic rotator, which increases its manoeuvrability and makes it suitable for work in confined and inner-city areas.

www.npk.eu

Trevi Benne keeps "boosting up" ' its Premium Line

Italian attachment specialist Trevi Benne keeps expanding its Premium Line of demolition tools equipped with the impact booster first presented at Bauma Munich three years ago. The impact booster is a hydraulic device that increases the working pressure of the tool (pre-set at 3,626 psi [250 bar]) up to 10,878 psi (750 bar). It gets activated when the usual working pressure is no longer enough to crack the structure being demolished. Having supplied 26 units complete with the booster in less than three years, Trevi Benne is very satisfied with the positive feedback it has got from the end users. Those already field-tested included Trevi Benne HC Series primary demolition crushers, F Series secondary pulverizers, and FR Series rotating crushers. Now the Italian manufacturer has announced that its MK Series — the multi-kit processor supplied in seven interchangeable versions — is also available with the impact booster.

www.trevibenne.it



High Production From Sandvik

Sandvik Construction's compact QS331 has been designed to accept large feed sizes and achieve high production capacities. This produces benefits for customers by delivering improved productivity on such applications as Type 1, crusher run, or in primary gravel crushing.

The S-type gyratory cone crusher has proven itself in stationary applications for more than 30 years, becoming one of the most reliable cone crushers on the market and now in a fully mobile version. Customer benefits are delivered, as the S-type gyratory cone is able to accept a feed size up to 90 percent larger than current standard cones.

The CS430 cone crusher sets the 36 ton mobile QS331 apart. There is a choice of three concaves and four bush settings to control the closed side settings and material gradation. Due to the large feed acceptance, jaw crusher production may be optimized by opening the CSS, thereby reducing fuel consumption and wear.

Doppstadt Upgrades Shredder

Waste recycling equipment manufacturer Doppstadt has updated its shredder DW 3060 to the DW 3060 Type D with an enhanced power unit. "We extended our proven technology, not least in view of the exhaust standard Tier 4 final, and decided on the Mercedes OM 460, with an MTU unit," says Doppstadt product manager Thomas Diekmann. "At the same time the unit increases the torque and reduces the consumption values." In this configuration the machine, equipped with a mechanical direct drive and a reinforced Bosch-Rexroth planetary gear, can meet the Tier 4 final standard limit values and without a particulate filter. While the exhaust gas values are reduced, ease of use for operators has been increased. By means of the new, multifunctional display, machine data can be read or regulated. All relevant machine parameters are displayed visually and acoustically on the multi control. The use of replacement components enables even untrained service personnel to carry out maintenance and repairs. Doppstadt has simplified the electrical system and noise insulation at the radiator door guarantees a balanced noise level. A new automatic comb pressure system intensifies the shredding efficiency. In case of overload, the system prevents a machine standstill. The automatic Doppstadt pressure preselection system Variocontrol registers the load conditions during the shredding process and adjusts the shredding comb pressure accordingly. Thanks to replaceable tools, the DW 3060 Type D can be adjusted to various shredding requirements.

Rockster Expands Business in South America

Rockster will attend the Conexpo Latin America Show in Santiago de Chile, October 21-24, 2015. At booth number 1231 COP3 (pavilion 3), Rockster will inform potential customers about the latest developments like the impact crusher R1100S or the R1100DE hybrid crusher.

"Our main target for the show is to interview new business partners in Latin America, with whom we can build an effective Rockster dealers network," says Rockster country manager for South America Perry Holt.

Based on the Rockster R1100 impact crusher, the new R1100S has a fully hydraulic gap adjustment, a new central control unit for automatic start up, continuous feeder regulation, and a new radio remote control with display, including adjustment of engine, rotor and vibro speed. Moreover, it's equipped with the patented double functional return/stockpile belt and has a longer screening box for increasing the output.

Rockster also will introduce the new hybrid impactor to Latin America. This unique hybrid drives technology helps save fuel and increase the performance remarkably. Any load peaks are cushioned by condensers (also known as power caps), which buffer the energy. The diesel engine operates nearly constant at optimal speed to drive the generator for the electric motor. The fuel consumption is greatly reduced and maintenance costs are minimized. With this technology, owners save up to 4,200 gallons (16,000 liters) of diesel fuel, easily boosting performance by as much as 30 percent.

Many of Rockster's South America clients are working with the patented DUPLEX system, which permits the flexibility to use both an impact and jaw crusher on the same chassis. Therefore they save time and money with different applications such as demolition debris, asphalt, and natural stone.

"The rapid change of jaw to impact crusher was amazing," says Alfredo Contecha, CEO of the Colombian road construction company Ingeneria de Vias. "I can save a lot of money thanks to the higher percentage of cubic material produced by our Rockster, which reduces the need for expensive powder cement per kilometer of road build."

The Floating Project in Colombia

Since 1992, Trevi Benne Spa of Vicenza has been a leading manufacturer of technologies and equipment for demolition, recycling, forestry, and earthmoving. Exports make up almost 85 percent of Trevi Benne's sales, and over the last five years the company has turned its attention and commitment to the South American market.. Because this is a market that lately has shown good interest and curiosity for European technology and demolition systems, the company ahs educating and setting up a distribution network, identifying and relying on an importer for each country.

One example of this productive relationship is Josè Caraballo, owner of DOMATO S.A. based in Bogota. Josè's growth of technical know-how, his knowledge of the territory, and regular visits to customers and local businesses have led to one of the biggest shipments of equipment that Trevi Benne has delivered so far. Completed in late July and shipped in containers, the equipment arrived in September at the port of Cartagena. Once customs clearance was taken care of, the goods were delivered to the customer.

The equipment included:

- **5 HC Series primary demolition crushers (2 x HC 15 and 3 x HC 40 models);**
- **5 PMG Series demolition / sorting grabs (3 x PMG 12S and 2 x PMG 20S models);**
- **4 WT Series tree shears (2 x WT 015 and 2 x WT 020 models);**
- **2 WE Series root stump cutters WE 010 model.**

Simone Piva, manager of the South American market for Trevi Benne, personally oversaw the whole order, from the negotiations with the Colombian importer, to the assembly and testing directly on site in Barrancabermeja, where a "training day" for staff was organized on the use and maintenance of the equipment.

"We are talking about a set of 16 pieces of equipment that will be installed on a fleet of VOLVO EC 220D and EC 380D excavators, owned by the NAVELENA consortium," he says.

The NAVELENA consortium, of which the Odebrecht Group is a part, is mainly involved in the study, development, and construction of major projects. In Colombia, the group will be involved in expanding the Rio Magdalena, the most important river in Colombia, in order to make it fully navigable, increasing its size and favoring the maritime traffic.

The course of the river has formed long strips of sand islands with natural vegetation. Over the years, various communities of residents and fishermen have created harbors, walkways, and small concrete piers. Hence, the need for equipment to perform the various phases of deforestation and demolition. Most of the consortium's fleet of Volvo excavators has been set up in a "dredge" version for navigation and to safely perform every stage.

The HC 15 and HC 40 primary demolition crushers will be used to demolish concrete structures, separating the framework rod directly on site. The WT 015 and WT 020 tree shears will be used for the felling and deforestation of shrubs and trees on the islands, taking advantage of the ability to work in critical conditions and difficult access. Thereafter, the WE 010 root stump cutters will be used to extract the tree stumps from the ground.

With this equipment it will be possible to clear out all root systems from the ground, reduce the size of the extracted roots, and prepare the site for the next phases of transformation. The PMG 12S and PMG 20S demolition/sorting grabs will complete the job by targeted selection and specific separation of the aggregate to special recycling centers. Once the remediation procedures have been completed, the islands of earth and sand will be removed with excavators and loaders.

Brokk Introduces New Product Range for Explosive Gas Environments

Brokk has introduced an entirely new range of explosion protected demolition robots, called "Brokk Ex," designed to be safely operated in environments where explosive gas might become present. The Brokk Ex range is available for all sizes of Brokk machines, from the extremely compact Brokk 60 to the big and very powerful Brokk 800. The machines have the same industry-leading performance and can use the same broad range of powerful attachments as the standard Brokk machines.

The Brokk Ex machines are classified up to Equipment class 3G IIA T3, according to the ATEX 1994/9/EC directive. This means that they can be used in what the ATEX directive calls "Zone 2," where explosive gas, vapor, or mist is not likely to occur in normal operation, but could occur for short periods of time.

"This is an exciting new step for Brokk," says CEO Martin Krupicka. "We have received an increasing number of requests for explosion proof machines, where customers want to take the unique compact and flexible performance of Brokk machines to these kinds of hazardous areas."

The Brokk Ex machines are especially interesting for applications within oil and gas, mining, and tunneling industries, as well as applications in other hazardous and potentially explosive environments. All the standard benefits of Brokk machines—compact size, powerful attachments, flexibility of the three-boom system, precise remote operation, and more—are now available also in these hazardous environments. Designed to tackle a wide range of different demolition task, the Brokk Ex machine brings safety, efficiency and versatility to almost any job.

"Yet again, this shows Brokk's dedication to continue push the boundaries of what is possible to do with demolition robots," says Krupicka. "Over the last few years, we have added to the versatility of Brokk machines by introducing new attachments. Now we add a whole new area of operation."

Eaton Launches New GH001 EverCool™ Air Conditioning Hose

Eaton power management of Switzerland has launched a new patent-pending GH001 EverCool air conditioning (A/C) hose, which features nearly zero permeation and potential refrigerant gas loss. The unique hose was developed to provide maximum performance for a wide variety of refrigerants and refrigerant oils, and is ideal for use in mobile A/C and refrigeration applications within buses, trucks, and other large commercial vehicles. The core tube consists of a dual-extrusion veneer bonded to a second layer, minimizing effusion while maximizing oil and refrigerant compatibility.

"The GH001 EverCool hose meets the high standards of equipment manufacturers requiring longer hose life, greater temperature resistance and better kink resistance" says Eaton Product Manager Johannes Kammerlohr. "By virtually eliminating refrigerant loss, the hose demonstrates Eaton's dedication to creating reliable and environmentally friendly fluid conveyance solutions."

Many mobile applications use very long lengths of A/C hose on both the pressure and suction side. Utilizing long hose lengths maximizes the value of the GH001 A/C hose, helping eliminate refrigerant loss and the ensuing need to top off the system over time.

This new generation of hose technology helps satisfy the collective needs of the global mobile equipment market, which utilizes a variety of refrigerants to meet specific performance requirements. With exceptional performance and hose life in mobile A/C and refrigeration applications, the GH001 A/C hose answers increasing global demand for reduction in emissions of greenhouse gasses.

Built to withstand temperatures ranging from -40° to 284° F (-40° to 140° C) , the GH001 A/C hose exceeds the SAE-specified maximum rating of 257° F (125° C). This hose is available with a factory crimp fitting system. To learn more about Eaton's hydraulic products, visit www.eaton.com/hydraulics.

General Equipment's Gas-Powered Surface Grinder Ideal for Many Applications

General Equipment Company's SG24/GH gasoline-powered surface grinder was designed for targeted use by contractors and homeowners alike. It features various grinding systems for breaking up deposits, cleaning/polishing concrete and tile, producing exposed aggregate slabs, and other general concrete grinding applications.

Powered by an industrial quality Honda 11 hp (8kw) engine, the SG24/GH includes dual counter-rotating multi-accessory discs that rotate at 250 rpm and offer a maximum grinding width of 24 in (609mm). The unique design balances forces to help reduce operator fatigue while enhancing machine control. Furthermore, an adjustable operator handle accommodates different user heights and preferences.

A wide range of industry-standard interchangeable attachments are available, including grinding stones, scarifiers, wire brushes, the SCRAPE-R-TACH® coatings removal system, DIAM-A-TACH® diamond grinding stones, and Pro Polish™ concrete floor polishing system. Also, the counter-rotating discs can be removed to attach standard 10 in (254mm) diameter, multi-segmented dry diamond discs for other applications such as removing plastic overlays and epoxies. Caster wheel height adjusts to accommodate different multi-accessory requirements.

The SG24/GH has a unitized, welded-steel plate frame, high capacity self-aligning ball bearings and V-belt/spur gear transmission for maximum durability and reduced maintenance. A 3 in (76mm) diameter vacuum attachment port and safety/dust shield assembly kit also come standard.

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Tranformation from Warehouse to Biblic

Interior Demolition Strategy Resurrects a Refrigeration Warehouse for New Biblical Museum.

When Washington, D.C.'s new $800 million Museum of the Bible opens its doors late next year, visitors may not realize that its 40,000 historic artifacts and high-tech interactive displays are housed in a building that itself has a rather interesting story to tell.

A Perfect Fit for a Museum

Constructed in the early 1920s just two blocks from the National Mall, the eight-floor, 311,272-sq ft heavily reinforced concrete building was originally a refrigeration warehouse, complete with a second-floor rail connection. Over the decades, the building's interior was reconfigured to support other uses, most recently a showroom for interior furnishings.

Though numerous other historic buildings have been renovated successfully into new uses, the old refrigeration warehouse presented some unique caveats for the museum's developers. Its designation as a historic structure prohibited any teardown or drastic modification to the distinctive masonry exterior. Inside, the limited clearance afforded by the 12 ft high floors might have been suitable for storage, but it was hardly suitable for creating an open, inviting, comfortable learning environment for visitors.

The solution was some "inside the box" thinking—demolish every other floor and the existing roof, and reinforce the support columns and walls. The strategy would retain the building's structural integrity, yet substantially increase vertical floor clearances that could then be remodeled into expansive exhibit halls, research and presentation areas, and a grand entrance lobby.

Brokks in Combination with Conventional Excavators

Clark Construction Corp., of Bethesda, Md., the contractor for the museum renovation, delegated this "addition by subtraction" strategy to Berg Corporation, a full-service demolition firm based in Baltimore, Md. To carry it out, Berg first had to demolish the "Hyphen Building," a 30-year old, 50,600-sq ft infill structure abutting the old warehouse and the Washington Office Center, part of which will also be incorporated into the new museum.

For this assignment, Berg drew on its fleet of Brokk remote demolition machines in tandem with conventional excavators. The machines effectively nipped away elements of the Hyphen Building without damaging the adjacent building.

"With the Hyphen Building within an inch of the Office Center, the Brokks gave us control for what was a very surgical job," says Berg Corporation President Zach Gilden.

Removal of the Hyphen Building provided the staging area Berg needed to begin work on the refrigeration warehouse in February 2015. First, all salvageable interior finishes and roof improvements were stripped away, leaving the building's 8- to 10-inch thick reinforced floor slabs ready for removal. Because the number, size, and shape of the interior support columns varied by floor, Berg performed a detailed structural analysis

Refrigeration cal Museum

to determine those components that could be removed or modified, and those that had to be left in place.

Because the windows could not be removed, the Brokk remote control machines were well-suited for the zero-emission environment.

"We wanted the biggest, heaviest hitting models we had," Gilden says, "yet be light enough to be supported by the floors as we worked on them."

The fleet selected for the job included a Brokk 90, 180, 250, and 330, plus two 260s, all fitted with Atlas Copco breakers and other attachments. The full interior demolition process began on the eighth floor. With extra bracing installed on the upper portions of the perimeter columns to support the exterior walls, Berg workers removed the floor and the building's existing concrete roof.

Moving to the sixth floor, Berg workers reinforced the interior columns by cutting slots on two opposite sides, installing steel bracing, then repeating the procedure for the other two sides. Shoring was then installed underneath the slab edges, readying the floor and its support beams to be demolished by the Brokks in 5,000-sq ft sections. This section-by-section process of cutting, column reinforcement, and demolition worked its way across the floor, with the remaining edges chipped away using hand tools. The Brooks were then relocated to the fourth and, subsequently, second floors, where the process was repeated.

A team of five experienced operators were on hand to operate the equipment, supported by up to 20 laborers with concrete saws and other handheld tools. As the broken chunks of concrete fell away on lower floors, Bobcat skid-steer loaders quickly scooped up the debris, and deposited the material into chutes where it was channeled to the ground. There, the debris was gathered up for transport to a remote crushing facility and conversion into structural fill.

In the building's basement, the Brokks were put to work demolishing the floor slab and grade beams so that an additional five feet of underlying soil could be excavated and a new foundation slab installed. This created sufficient clearance for the installation of state-of-the art mechanical equipment and other systems that would make the museum a truly 21st Century facility.

By the end of July 2015, the major demolition work inside the refrigeration building was complete. Along recycling the building's dirt and concrete demolition debris, Berg sold the interior's steel components to a scrap yard for processing and resale to a steel mill for use in producing new material, while many of the architectural finishes were also reused.

"Logistics became a big issue because we wanted to move the loads out as quickly as possible," Gilden says. "Recyclers can be picky about what they receive, so we also had to make sure the material was properly sorted and 'clean.' Otherwise, they might turn us away, forcing us to find another destination."

By weight, 90 percent of the old building's construction and demolition waste ended up somewhere other than a landfill. Berg had other work to do on the building before construction could begin on improvements. For example, non-original masonry elements were removed from the façade, which will be acid-washed to give it a fresh look. That will set the stage for the next phases of the museum's conversion to begin, including construction of a new 200,000-square foot addition on the site of the razed Hyphen Building.

Topping the combined structures will be a curving aluminum-framed glazed curtain wall roof element containing a 500-seat performance hall, ballroom, restaurant, and function spaces that will extend across the roof of the Washington Office Center.

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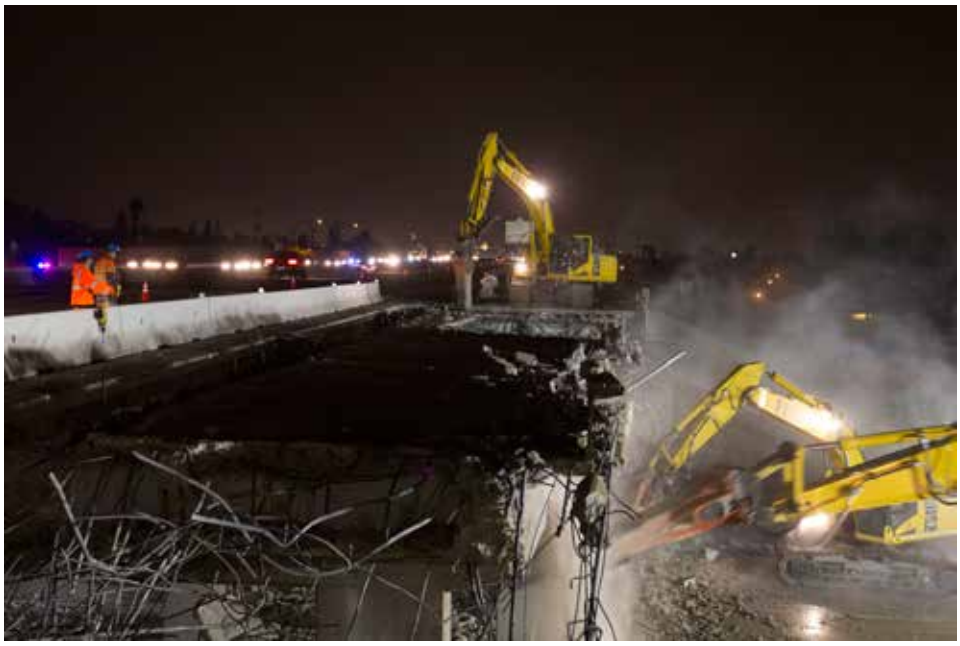
Rammer 4099 Helps "Beat the Clock" on Highway 91

Safety, environmental and timeliness issues had to be all carefully accounted for when it came to the demolition of a highway overpass in southern California. Helping to ensure that the project was completed on time with a minimum of delays was a Rammer 4099 breaker that worked for 22 hours straight.



Removing a sizeable structure, such as a highway overpass, requires planning and preparation before the first piece of equipment rolls onto a worksite. This is particularly true when the demolition project occurs on one of the most heavily congested freeways in southern California. Safety and environmental issues including dust suppression, sound suppression, re-routing of automobile traffic, and the recycling of scrap and other re-usable materials must also carefully be considered.

Widen the Route 91 Corridor in Corona

These variables all came in to play when Environmental Remediation Services, Inc. (ERSI), a customer of Tracey Road Equipment, was contracted to help widen the Route 91 Corridor in Corona, Calif. A key part of the project was bridge demolition at the Interstate 15 and 91 Corona interchange. To help alleviate traffic congestion flowing through Corona, a majority of the work had to be done at night. Working over active railroad tracks and storm runoff channels added another wrinkle to the project.

"The close proximity of the railroad tracks had to be accounted for," says ERSI Superintendent Glenn Beam. "The trains were running close by the overpass, so that gave us a limited work window."

One of the plan's primary considerations was having to perform much of the demolition work in elevated conditions over long periods of time. For that reason, ERSI chose the Rammer 4099 hydraulic hammer to demo the overpass.

"We were working the Rammer 4099 in high elevation scenarios for a solid 22 hours," Beam says. "It got no break and performed extremely well. It's the best power-to- weight hammer. For the Komatsu 360 Excavators we use, the 4099 has optimal balance and torque."

So that the highway never had to be shut down completely, the work was done in phases, allowing ESRI to build back what was taken out and add the new lanes, all while keeping the lanes opened that weren't demolished.

451 cubic yards removed fast

As work began, excavator crews started in the middle of the overpass and moved outward.

"To balance the load, we sectioned the bridge in half," Beam says. " The excavators then worked in opposite directions. We had a slotted deck that allowed us to drop the concrete and rebar below."

The demolition team then focused on lightening the girders. "The Rammer 4099 hammer knocked the concrete off and it fell to the deck," Beam says. "Then, we pepper-screwed the rebar and it fell on top of the concrete. We did the same thing with abutments, pepper-screwing the end-caps."

Helping to accomplish this is the fact that the frequency range of the Rammer 4099 is 400-560 blows per minute. This enabled a total of 451 cubic yards of concrete to be removed in a very limited period of time.

Along with executing the Route 91 Corridor project with precision and accuracy, ESRI beat the anticipated completion date.

"Because of the performance of the 4099 Rammer hammer, we were able to open up the Interstate 15 and 91 Corona interchange 11 hours ahead of schedule," Beam says. "The Corona site presented both intense and extreme conditions. The 4099 hammer was running for 22 straight hours and it never skipped a beat."

Ayrton Senna Highway Rehabilitated With Cold Recycling

The SP-070, also known as the Ayrton Senna Highway, is another motorway in Brazil where the time-saving, cost-efficient and eco-friendly benefits of the cold recycling process have been put to the test. The SP-070 is an important transport link between São Paulo and Campos do Jordão, Vale do Paraíba and Rio de Janeiro, as well as being the main access route to Guarulhos International Airport. Since 2009, it has been operated by Ecopistas, which has a 30-year concession for the maintenance of the Ayrton Senna Highway.

Structural repairs have been carried out on a 21.7 mile (35km) section east of São Paulo, especially since the 10 in (25cm) cement-bound base course underlying the asphalt had been severely damaged due to the high daily volumes of some 125,000 vehicles in each direction, of which 15 percent comprise heavy vehicles. Both Ecopistas and Fremix Engenharia e Comércio Ltda., the company contracted to rehabilitate the road surface, decided to use the technology that would deliver the best results in the fastest construction time— recycled material with foamed bitumen, produced in Wirtgen's mobile cold recycling mixing plant KMA 220.

When selecting the optimum rehabilitation method, the contractors also needed to meet one strict condition—on working days, the construction work on this vital transport route was restricted to an overnight 8-hour window, as even the most minor closures for road work can cause massive traffic hold-ups. The tight timeframe meant that a thick asphalt pavement was out of the question. While the thicker asphalt layers produced in conventional rehabilitation processes need to cool for about four days, Wirtgen's cold recycling technology allowed the pavement to be repaired section by section before being immediately reopened to traffic. Further advantages of using this process include rapid completion of the work, a minimal number of transport journeys, and complete recycling of the reclaimed material. All in all, this adds up to a very cost-effective and eco-friendly process.

The approximately 10-cm asphalt surface course and the underlying 10 in (25cm) cement stabilization layer, both requiring rehabilitation, were milled out separately and conveyed onto trucks. For this task Fremix used two of Wirtgen's large milling machines, the W 1900 and the W 200. The reclaimed material was transported by truck to a mixing location set up in close proximity to the site. Here, it was crushed using a state-of-the-art Kleemann MC 110 Z EVO track-mounted jaw crusher to ensure that the grain size did not exceed .7 in (20mm), and that the material had an optimal composition. Using two Wirtgen mobile cold recycling mixing plants KMA 220, the reclaimed material was then recycled into a top quality mix with foamed bitumen (BSM). The KMA 220 is easy to transport and can be quickly set up on site. As a result, the two plants were quickly installed next to the motorway, greatly reducing the number of material transfers.

Loudon International and its engineers were in charge of the mix design and quality monitoring. Working with the technicians from JBA Engineering and Consulting Ltda., they provided support for the preliminary investigations and project execution. Using the results of preliminary tests carried out with the Wirtgen laboratory scale foamed bitumen plant WLB 10 S, the quality of the foamed bitumen and the optimum composition of the mix – obtained in combination with the Wirtgen laboratory-scale twin-shaft compulsory mixer WLM 30 – could be precisely identified before construction work commenced. The formula finally selected comprised 1 percent hydrated lime, and 2 percent bitumen. The hot bitumen is foamed in the expansion chamber of the KMA 220 by adding air and water. This produces foamed bitumen which is 20 times the volume of the original product. The foamed bitumen is combined with the hydrated lime and the reclaimed material to produce a homogeneous mix.

The recycled reclaimed material was paved a 20 cm-thick first layer compacted by both a 14 ton Hamm 3414 compactor and a 9 ton Hamm HD 90 tandem roller. The HD 90 completed the compaction of the 5 in (13cm) thick second layer on its own. The Vögele SUPER 1300-3 tracked paver was used to apply an unusually thin .7 in (2cm) surface course. A Hamm GRW 280 rubber wheeled roller took care of the final compaction of the asphalt mix. Ecopistas, the concessionaire, is impressed by Wirtgen's cold recycling technology and sees it as an excellent, eco-friendly solution for the structural repair of the Brazilian road network. Based on the excellent results obtained, the company is planning to make further investments in this technology in the coming years.

Atlas Copco TEX 830 Rivet Buster is Light-weight and Powerful

The Atlas Copco TEX 830 rivet buster gives contractors a light-weight and easy-to-use tool for demolishing concrete, metal and steel on construction and renovation jobs. The rivet buster has an 8 in (203mm) stroke, weighs just 30 lb (13.6kg), and generates as many as 1,140 bpm for consistent, hard-hitting power.

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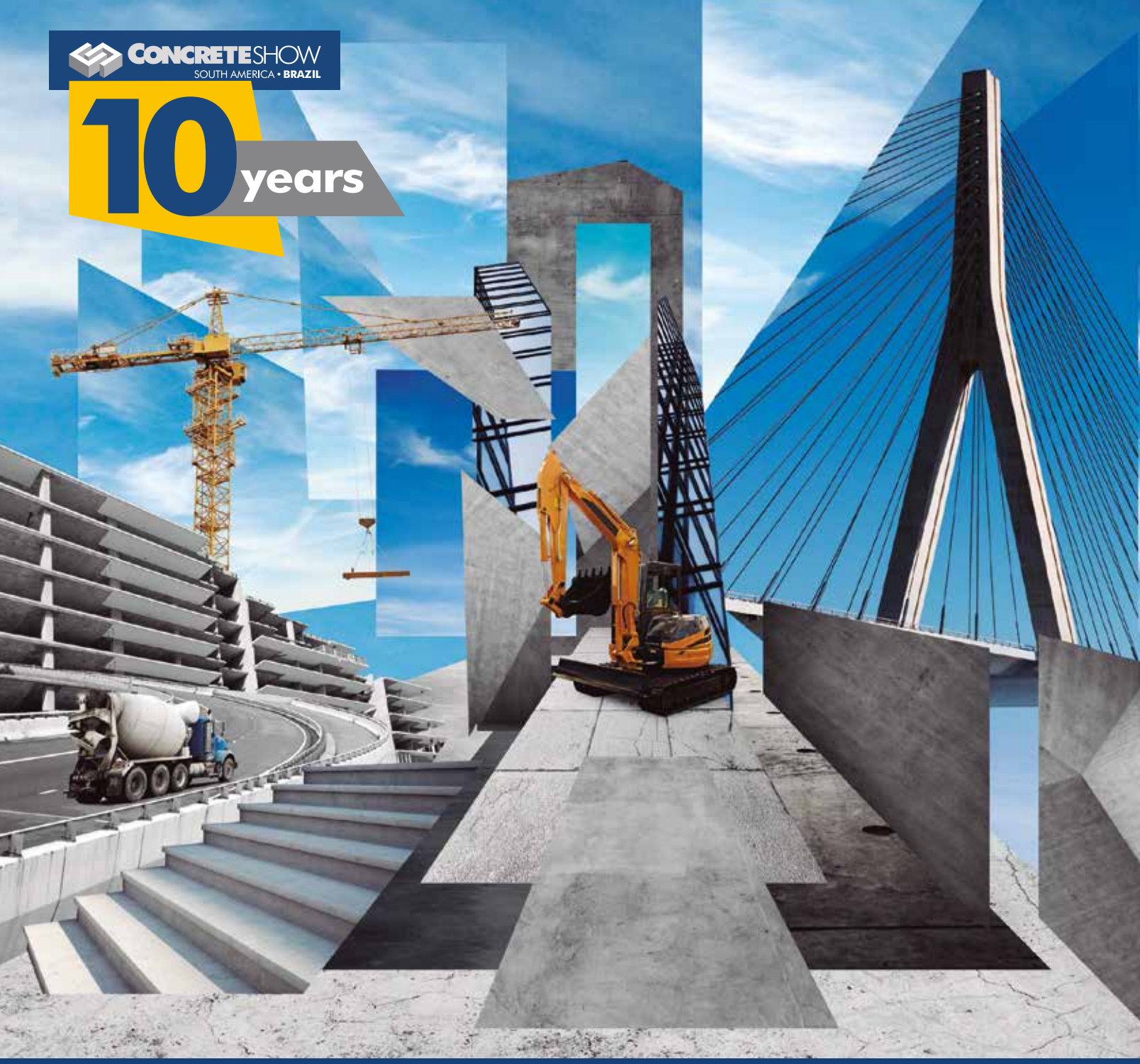

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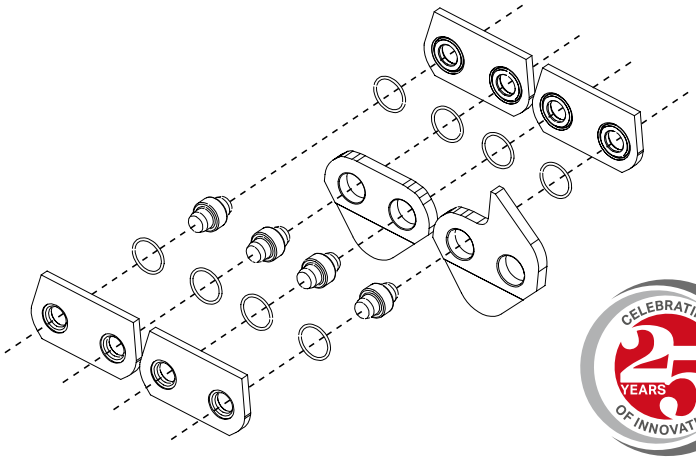

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