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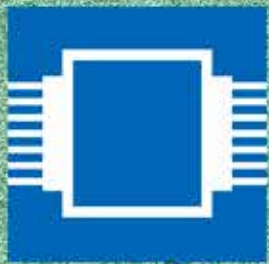
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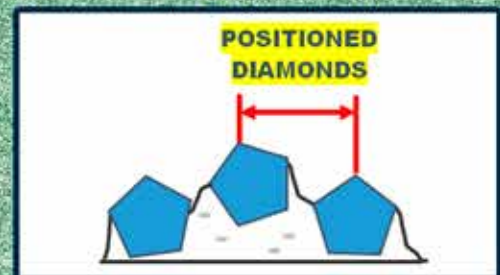
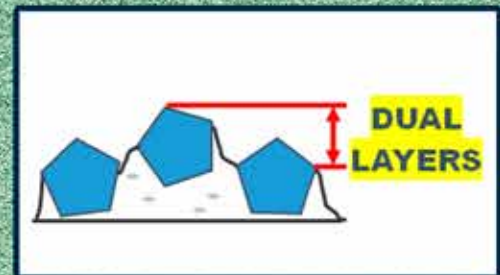
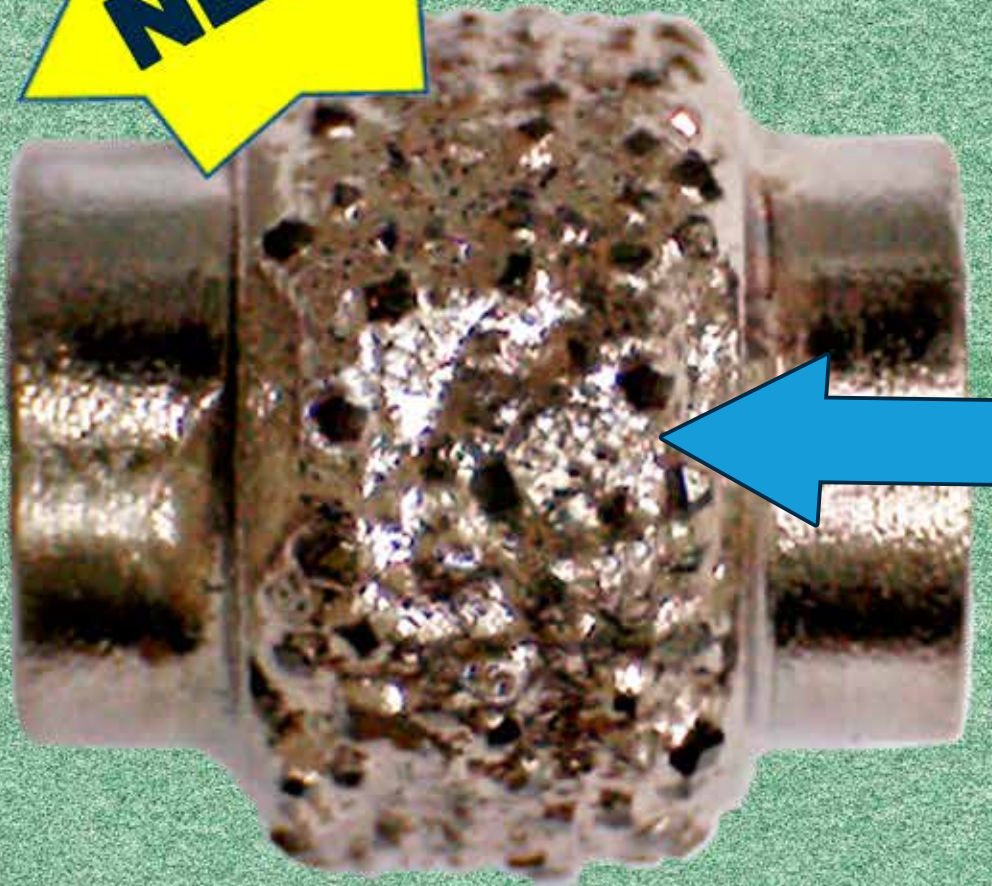




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# Instability has become the norm

Dear Reader

Here we are again, one year has past and a new one is just starting. As usual our last issue of the year is a combined New Year and January issue focusing on the forthcoming World of Concrete show in Las Vegas on 3-6 February.

World of Concrete is expanding and so is the US construction industry, due mainly to the recovering US economy. This year's World of Concrete will be the biggest in six years. PDi Magazine, along with its sister publication PDa Magazine, will be exhibiting on booth C4236 in the Central Hall. All are most welcome to come and visit.

This issue has a special focus on World of Concrete and will be distributed at the show. It also contains information about concrete sawing and drilling equipment and diamond tools that have been launched during the year. There is also the annual PDi Concrete Cutting Survey that estimates the current size of the global concrete cutting industry. In this issue there are also two features about compact loading equipment and waste handling equipment.

I also would like to mention that PDi has appointed a new writer, David Ehrenstråle, who has replaced Heikki Harri, our former specialist writer on recycling equipment. I would like to thank Heikki for his great work and support to PDi over many years. I also would like to welcome David, with many years' experience in the crushing and recycling industry, like Heikki. David has been a contributor for many years to our Swedish demolition and rental magazines.

Now what prospects do we have for 2015? It is a difficult question to answer, in particular at this time. Judging from what is happening with terrorism and wars around the world the situation will continue to be unstable. The recent tragic incidents in Paris will not make an already tense situation any better. As a publisher of magazines we express our deepest condolences to those affected by the tragic events in Paris and at the publication Charlie Hebdo.

The market however looks like it will move in the right direction during 2015, at least that is the message we are receiving from the industry. The US market is about to pick up, and the construction sectors are doing better and better and are an important motor for the whole global industry. In Europe things seem to be stable and the market will pick up by between 2% to 5%, depending on regions. Some markets, like Spain and Italy, will remain low, but are considered to have reached bottom.

I believe this situation is about the same in Asia, except for Japan, which is experiencing a construction boom. India is also doing well and in 2015's first issue of PDi we will published a survey of the Indian concrete cutting and demolition industries. The construction market in Australia declined in 2014 compared to 2013 and it is believed that the market will decline slightly more in 2015.

South and Central America is looking good with a number of countries, such as Mexico, Brazil and Colombia steaming ahead. Many South American markets are known to have a parallel economy. Even if the official position is unstable the construction industry is often living its own life with plenty of projects going on. Brazil is a good example and in 2015 work will be completed for the Olympic

Games in Rio de Janeiro in 2016. But before that PDi Magazine will stage the Latin American Concrete Cutting and Demolition Forum in Rio de Janeiro, 1-2 October 2015.

I hope to see you at World of Concrete.

**Jan Hermansson**  
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*Words from the IACDS President*

# "We all have the same Problem"

A good and safe working environment is without doubt a competitive advantage and an issue of strategic importance for contractors in the Western world. To attract competent and skilled craftsmen, the working environment has high importance, which means the physical and psychosocial environment.

This is rather obvious for larger companies, especially in Northern Europe. Most large companies have solid programmes and systems for dealing with working environmental issues. But how can we, as an umbrella association for concrete sawing and drilling and demolition contractors, help our member associations or member companies with fewer resources?

In Sweden our mother organisation, the Swedish Construction Federation, where the Swedish Concrete Sawing and Drilling Association belongs, is about to implement their 'Zero Vision', which means zero tolerance in terms of working environment related injuries. Tens of millions of Swedish kronor are being invested. This includes cost free advisory information sessions, training, tools and other means. We have implemented the identification system ID06 and the new competence database. This is to ensure that an operative has the necessary education and competence to work for serious contractors.

From next year Sweden will introduce a new law whereby every worksite should have a presence ledger. I think you would agree that this is very important ingredient if you want to create order, which we all understand is necessary to create a safe, calm and attractive working environment. But on the reverse side of the coin, with all these regulations and provisions, is that the competition easily gets distorted. Most of the members in the Swedish branch associations for concrete sawing and drilling and demolition are following the set provisions, even though there is sometimes a certain delay. But many other contractors close their eyes because



of ignorance or for cost reasons and gain an enormous competitive advantage, compared to other contractors that follow the regulations and therefore need to keep a high price level. I think Sweden is far behind some other Western countries in terms of what I have explained. We also have far higher costs and prices for concrete cutting services than many other countries.

But regardless of which country and its regulations, we all have the same problem. Our clients compare the offers they receive from serious contractors. They are normally at more or less the same level. Maybe it is more the methods they propose that keep them apart. Now clients know what their jobs will cost to do it the proper way. Clients also have offers from less serious players that normally are 20% to 30% cheaper. It is the clients' responsibility to make the right choice and keep the unserious contractors out of the business. It is the clients' responsibility and it is also my call to all of us not to be naive. No one can make the same job 20% to 30% cheaper if it is done properly. If an offer seems too low to be true then it probably is.

Finally I hope to see you at Intermat in Paris in April where the International Association for Concrete Sawers and Drillers will hold its annual meeting. There will be about 30 concrete cutters from Sweden attending the exhibition. See you in Paris!

**Lars Sandström, President of IACDS**



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## Words from the EDA President

# Demolition makes recycling possible

The demolition industry is, as is the case with most specialized activities, unknown to the general public.

In our case, the fact that we 'brake, knock down and blow things up' could make the activity a bit more odd and interesting. But our work has for many years been far more than just breaking structures part.

I am not going to say that we 'deconstruct' as we tend to be very careful with that word, using it only when we have no other option to promote our message, as it usually has a different meaning for us than it does for the public.

The European Demolition Association has being very active in Brussels with the European Union and many related institutions to make sure we share the key message 'demolition makes recycling possible.'

Construction and demolition waste means 20-40% of the waste produced in European countries, by weight. Yes it is a rough figure, depending on the year, country, situation of the construction industry, but it does provide an estimate. And yes, demolition waste is a major part of the total figure.

But our industry does not consider the waste materials produced, in fact we try our best to handle, segregate and value those materials to recycle them back into the market, generating a circular economy.

We just found out that the new president of the European Commission, Jean-Claude Juncker, has decided to drop some key legislative proposals, which had being cooking in the EU environment for a while, one being the updating of the waste framework directive and the circular economy package. This means we have to refocus our message, and keep working even harder at EU level to emphasize the importance of

our industry. So I take this opportunity to inform you about this, and to share with you again our key message: 'demolition makes recycling possible.'

**Pilar de la Cruz**  
**President of the European Demolition Association**

#### About EDA

The EDA was founded in 1978 and is the leading platform for national demolition associations, demolition contractors and suppliers. The EDA has a strong focus on developments in Europe, which are of interest to the demolition industry.

info@europeandemolition.org  
www.europeandemolition.org



**Pilar de la Cruz, EDA President, VD Voladuras Demoliciones y Desguaces SA, Spain**



**Ian Osborne (picture) has joined as business development director and Kristoffer Johnsen joined as operations manager.**

## Tractive strengthen its positions

Tractive has begun a series of initiatives to leverage the small but creative company. Tractive's first step was the expansion of the management team. Ian Osborne joined as business development director and Kristoffer Johnsen joined as operations manager. Osborne was formerly with Blount International where he held a number of roles including director of research and development and business development. Johnsen is a recent graduate of Gothenburg University who interned at Tractive, showing aptitude for process and organization.

The existing management team consists of

chief engineer and managing director Anders Johnsen, chief financial officer Ingrid Johnsen, marketing manager Marie Peil and engineering manager Martin Persson. "We intend to build the company in the right way by going after expansion in four key areas of product development, distribution expansion, manufacturing expansion in capability and capacity, and new, talented people," said Anders Johnsen. "After many years of industry rumours, it is time to dispel these and show the world what this little company is capable of."

**www.tractive.se**  
**www.pentrunder.com**

## N+P announces further co-operation with Dyckerhoff

N+P has announced that the company will expand its cooperation for the delivery of high quality Subcoal® pellets with Dyckerhoff in Germany. Dyckerhoff is on the market for 150 years and belongs to the leading international brands in the building materials industry.

Subcoal® is produced at the Qlyte facility in Delfzijl, the Netherlands. The Qlyte facility produces about 65.000 tonnes of Subcoal® pellets per annum for this it processes approx. 100.000 tonnes of non-recyclable paper-plastic waste fractions which otherwise would have ended in landfill or waste incineration. The Subcoal® is used to replace lignite dust or bituminous coal at power stations, lime kilns and cement kilns.

Dyckerhoff started to use Subcoal® two years ago and since this period both N+P and Dyckerhoff have worked together to improve the alternative fuel for optimal use in their kilns. The cooperation has led to a new Subcoal® fuel which is used at the Dyckerhoff kiln in Lengerich. Furthermore the kiln in Geske will continue to use the standard Subcoal® quality. In 2015 the cooperation will grow to approx. 18.000 tonnes per year.

**www.np-recycling.nl**

## Intermat on course

The Intermat construction equipment exhibition, to be held at the Paris-Nord Villepinte Exhibition Centre, France, from 20 to 25 April, will add a further 375,000m<sup>2</sup> of exhibition area to the show. About 85% of stand space has already allotted and the majority of the market leaders are already booked. About 238 new brands are registered including the return of the Manitowoc Crane Group and Manitou.

The show has confirmed the participation of 38 out of the world's 50i largest construction equipment manufacturers. These include, in alphabetical order CNH Industrial, Doosan, Hitachi Construction Machinery, Hyundai Heavy Industries, JLG, John Deere, Kobelco Construction Machinery, Komatsu, Kubota, Liebherr, Liugong, Sany, Shantui, Terex, Volvo Construction Equipment, Wirtgen Group, Wacker Neuson and Zoomlion/Cifa.

The two day pre-Intermat event in January ahead of the show is also shaping up to be a prime occasion to discover innovations and new solutions. Up to 90 companies have signed up for the event. During pre-Intermat, the results of the Innovation Awards will also be revealed, with more than 80 innovations taking part in the competition.



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**HUSQVARNA DXR 250**  
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**William Greenwood.**

## The Concrete Cutters Pride

William Greenwood, working for Axiom Concrete Sawing in Boston, US, shares some of his thoughts about being a concrete cutter.

To me the Concrete Cutting Nutters Group on Facebook shows a worldwide pride in their work when individuals post on Facebook. As a concrete cutter you are exposed to equipment that you've never seen before, new ways to complete projects, equipment that has been modified by brilliant individuals like Paddy Brosnan.

I love my job and this is how I can describe it. The phone rings. A job needs to be done, but first calculations. I take the information to do my take off. I crunch the numbers with the feeling of trying to beat the other three or five companies that I am bidding against. The adrenaline is pumping while numbers are flying through my head when estimating the work and what time it will take. I am imagining how I should approach the job with the task of making it the fastest and safest way.

The calculator is clicking constantly. I shave a little here and there and add a bit at the end. Pulling up dsm and typing in the job information. Typing feverishly to get the proposal in on a timely basis. Scanning and e-mailing it to the client. Now it is just to wait for a hopefully positive answer. I wait and wait and finally get the call to negotiate my numbers. Little bickering back and forth and finally the words I have been waiting for. 'Ok the job is yours'. Then receiving the contract, getting it signed and insurance certificate and sending it.

Then starting the job, cutting, hitting steel and sparks fly on occasion, demotion by hand and with Brokks. Removing concrete, coring holes, then we pick up some extra work down the street cutting some asphalt. Asphalt, how I love the power of the saw slicing through the pavement, the smell of the asphalt getting cut. It's like a game trying to out cut the same as the previous day. Finishing the jobs from start to finish and just before you leave you look it over, feeling proud of the clean cut straight. All the cuts I made and at some instance I had to make some radius cuts. That was a challenge.

As I walk away moving on to the next job and slightly turning my head back a little tear pops out from your eye with pride. Maybe in 25, 50 or even 100 years from now someone's going to see my cuts that I made with pride today. That is the concrete cutters pride for me. Maybe they will say that the guy who made that cut back then had to be a professional. Then reality comes into play and I think that the English boys would have stitched drilled instead. The Southern boys from the US would have hand sawed it and the rest of the world would have track sawed it, but Tengo, he would have head butted it.

## Strong performance at bcIndia

The bauma Conexpo show, bC India, held in December in the India Expo Centre in Greater Noida, Delhi, consolidated its position. The third edition of the show attracted 26,000 visitors and 635 exhibitors from 25 countries. "Our exhibitors have so much trust in our brand and are continuing to support bC India in what is still a difficult economic environment," said bC Expo India organizer chief executive Igor Palka. "The event is now a firm date in the calendar for many companies and it has established itself. We have had a lot of positive feedback and delighted about that."

The exhibitors were pleased with the quality of the trade visitors. "We had visitors from all over India but also international ones. We only had genuine customers, there was no wasting time, they were here for business," said ACE executive director Sorab Agarwal. "The quality of visitors was very high, including good buyers, contractors and the like. bC India is a good opportunity to meet new customers," said Gmmco/Caterpillar associate vice president Tanmay Majumdar.

"We had many customers and very serious enquiries. The visitors were seriously interested in our products. We launched a new product here and in that respect it was very important for us to be here to use bC India as a platform," said Larsen and Toubro general manager Sandip Choudhuri. "bC India is very important for the Wirtgen Group. Here in India, bC India is the most professional trade fair. We'll participate in the next bC India, too," said Wirtgen India chief executive Ramesh Palagiri.

bC India provided an opportunity for new business. "We had customers coming and buying equipment right off the booth. We are very excited about the profile of the customers here at bC India," said Terex India general manager Rajesh Shrivastava.

"bC India as usual came out very well. The quality and the delivery of bC India is unbeatable. We will definitely participate in every edition of bC India," said Schwing Stetter India general manager S. Baskar Babu.

[www.bcindia.com](http://www.bcindia.com)

## Show success in Egypt

The first Veronafi exhibition held in Egypt at the Cairo International Convention and Exhibition Centre in December attracted 3,000 specialist operators, as well as official delegations from 16 countries from Africa, the Middle East and Europe. Buyers took part in a series of meetings with more than 120 exhibitors from Egypt, Italy, China, India, Turkey, Russia and Poland. In addition there was a programme of training and updating events, such as the course for architects organised by the Marmomacc Stone Academy, a seminar on restoration and conservation of the cultural heritage and the annual general meeting of the African Union of Architects.

Egypt is a natural gateway for all markets in Africa and the Near-Middle East. With \$12bn (EUR9.8bn) of investments planned for work to double the Suez Canal, there are excellent opportunities for companies in the building sector capable of internationalizing their business. "These considerations three years ago saw the creation of the MS Marmomacc Samoter Africa and Middle East project working alongside Egyptian partners Art Line and Expolink, and with the support of Maurizio Massari, Italian Ambassador to Egypt, and Massimiliano Sponzilli, Director of the ICE Italian Foreign Trade Agency in Cairo," said Veronafi chief executive Giovanni Mantovani. "This first edition of the event achieved all our objectives and we have already scheduled the next show for 2-5 November 2015, together with Projex Africa, a new exhibition dedicated to building, innovative materials and sustainable construction."

Mantovani, as a member of the Italian-Egyptian Business Council, met Egyptian Minister for Industry and Trade Mounir Fakhry Abdel Nour in Cairo, who in 2013, made his first official visit abroad to Veronafi to attend Marmomacc, the international marble, technology and design exhibition.

"Our relationships with Egypt institutions are very good," said Mantovani. "This, combined with the success of the first edition of MS Marmomacc Samoter Africa and Middle East and our international trade player experience, means we can look optimistically towards strengthening our future in the area by examining other partnerships in strategic areas for us, such as agriculture, agricultural machinery and food."

## Intertech 2015 in Indianapolis

The Industrial Diamond Association of America has announced that the next Intertech 2015 conference on super abrasives and ultra-hard materials will be held 19 to 20 May at the Marriot Downtown in Indianapolis, Indiana. Since the first Intertech in 2000, the conferences have been recognized as the leading technical conferences on diamond and cubic boron nitride and their application.

Diamond and cubic boron nitride are revolutionizing the manufacturing landscape as mesh crystals, polycrystallines, nanodiamonds and CVD materials continue making great strides across all industries. In machining, grinding, sawing, drilling, polishing and every other material removal application these super abrasives are reducing costs and increasing productivity. Whether you are responsible for a manufacturing operation in aerospace, medical or automotive or you are in an engineering position to develop an innovative new operation for optics, woodworking or the oil and gas industry, this conference will introduce you to new products, ideas and groundbreaking application developments.

For conference details and to submit an abstract to present a technical paper highlighting your company's leadership on this international stage visit [www.intertechconference.com](http://www.intertechconference.com).

## Phase I of Modderfontein city project in South Africa kicks off

The first phase of the US 7.25bn Modderfontein city construction project located in North-Eastern Johannesburg has finally begun. According to the property developers Shangai Zendai, several electrical substations have already been erected, while at the same time the first phase of road extension is being worked on. The spokesperson for Shangai Zendai Ann Sun said that the road extension will involve expansion of the Centenary Road from R25 to the K113 Northern provincial road.

The design phase for the residential development is also being worked on and would be launched to the public in the first half of 2015.

Upon full completion, the Modderfontein development project is expected to be able to accommodate 100 000 residents and different businesses which will ensure that 200 000 get employment. The development is located 7 km from Sandton, and has a floor area of 12 million m<sup>2</sup>. It is also 20km from the original city center in Johannesburg. Its location is also effective due to the fact that it's near transport stations such as the OR Tambo International Airport and Gautrain Station with links to financial hubs. According to the Chairperson and Founder of Shanghai Zendai Zikhang Dai, in the next three years, the company will use US 0.26m to create a great city. The Modderfontein city development project will be based on ideals of access to information technology and cost-effective integrated public transport system according to earlier reports.







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# AR Demolition test Rammer power and precision

*The UK demolition company AR Demolition, has put its faith in two Rammer hammers. Although both hammers are both performing breaking duties, the factors in their selection are markedly different.*

In 20 years, AR Demolition has grown from a sole trader operation to an award-winning demolition company with an annual turnover of around £15M (EUR19M) and a reputation for the training of its personnel. AR Demolition prides itself on a no-job-too-small philosophy, which has seen the company tackle everything from bus stops and bungalows to major industrial sites, factories, fire-damaged structures and disused quarry plant. More recently, the company has been engaged in the demolition of former newspaper

print works where heavily reinforced, vibration-resistant concrete floors presented a major challenge.

## Tough mission

The former Northampton Chronicle newspaper works featured large, heavy printing presses on heavily-reinforced concrete pads and foundations that are up to 6m thick in places. "This is potentially a demolition man's worst nightmare," said AR Demolition managing director Richard Dolman. "The only solution on a contract like this is sheer fire power, tackling heavy duty concrete with equally heavy duty breaking power. We are clearing the site in advance of the construction of a new supermarket and cannot afford delays. So we chose a breaker that was as reliable as it is powerful."

## "Rammer is a great tool"

AR Demolition's tool of choice is the Rammer 5011. Mounted on a demolition specification Volvo EC460 CL

hydraulic excavator, the 4.75t breaker utilizes maximum power with an operator-selected slow impact rate to provide optimum breaking and concrete shattering power. "The Rammer 5011 is a great tool," said Dolman. "Used and looked after properly, Rammer hammers are real thoroughbreds. They are a world leader for a reason."

While the Northampton Chronicle works required fire power, a simultaneous partial demolition contract at the nearby Bridgnorth Aluminium processing factory required more of a delicate touch. "Our work at Bridgnorth requires far more precision," said Dolman. "We are removing floors and foundations from within a building that is to be retained to facilitate a ground-up internal rebuild. All of this work takes place in a factory, parts of which are to remain live throughout the demolition process. So while the foundations are equally challenging here, our primary concern was precision and the control of noise and vibration."

To meet these specific criteria, AR Demolition selected a Rammer 3288. Mounted on a Hitachi Zaxis 225 excavator, piloted by twice winner of demolition operator of the year David Simmons, the 2.4t hammer has proved equal to the challenging task, punching through

the concrete with relative ease. "The Rammer 3288 allows us to penetrate the ground precisely where we need to without causing damage to anything around us," said Dolman. "And once the ground is penetrated, the 3288 allows us to hit it with maximum force."

AR Demolition's purchase of the two Rammer hammers sums up the company's approach to business and staff retention. "At AR Demolition, we pride ourselves on providing our customers with a quality service. And we believe that starts from the bottom up, providing our operators with the highest possible levels of training, and equipping them with the very best equipment available," said Dolman. "Our operators love the Rammer hammers and are genuinely excited when they get an opportunity to use them. They are now an integral part of our equipment fleet. Having experienced them for themselves, I really don't think I could convince our operators to switch to another hammer now."

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# No slip-ups in banana warehouse demolition

***In Sweden a former warehouse at Gothenburg Harbour's Banana Pier has been demolished using Volvo Construction Equipment machines to make room for two world-class events.***

Sweden's Frihamnspiren or Freeport, which opened in 1922, was the heart of Gothenburg's harbour. It consisted of three main piers covering 20 acres. Now a total transformation of the entire Frihamnspiren area is taking place to make room for the Volvo Ocean Race 2015 finale.

One of the buildings to be removed was a 585m<sup>2</sup> warehouse at the Banana Pier, which was in use until the end of the 1990s, receiving Sweden's banana imports. The dock had buildings to house nine banana boats, which now dock further out at a modern container port.

Volvo excavators had the task of demolishing the large warehouse and dealing with harmful substances. In total, approximately 20 employees worked at the

site and the project took three months to complete.

## **Plain sailing**

The work, directed by the Municipal River Bank Development, went to contractor Corvara Miljörivarna last spring. There was a tight deadline, with the warehouse to be demolished initially for the Swedish Touring Car Championship, Gothenburg's city race, in June this year, in order to improve the audience's visibility of the track. The area will now be used to welcome the Volvo Ocean Race teams, as they reach the end of their journey in June 2015.

"We had about a week to pull the factory building down, but finished with some time to spare," said Corvara Miljörivarna supervisor Johan Nonnen. "We met with a lot of obstacles, but we are a certified demolition company and can confidently get the job done. We also use the best equipment, including three Volvo excavators, an EC360LC, EC250D and EC160CLC, and a Volvo L60G wheel loader equipped with hammers, crushers and grapples. The warehouse demolition produced about 200t of waste material. We are always careful with demolition, but this was an extremely large warehouse in the middle of town, and on the water, so the demolition was performed with extra caution."

## **Special mission**

"The Volvo Ocean Race is a world class event and Gothenburg is consolidating its position as one of

Northern Europe's leading events cities," said Mayor of Gothenburg Anneli Hulthén.

In addition to the recent changes, a new River City development is under construction to celebrate the city's 400th anniversary in 2021. A city park and promenade Älvstaden will accommodate 1,000 new homes and create many new jobs. The new Hisings Bridge will replace the Göta Älvbron bascule bridge in central Gothenburg, carrying road vehicles and trams.

[www.volvo.com](http://www.volvo.com)





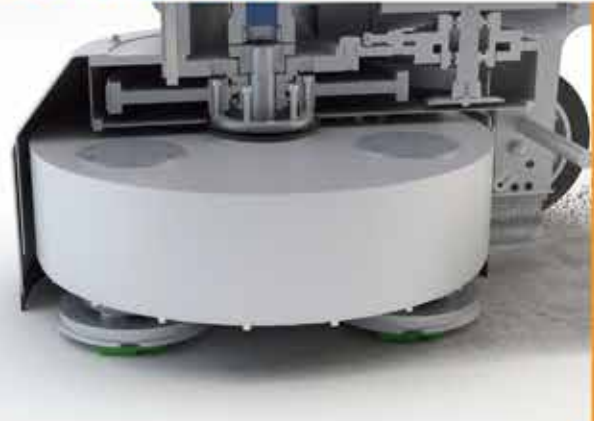


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# Husqvarna's new package set-up for DXR Demolition Robot

Husqvarna's new DXR set-up consists of three packages; the additional feature package, the enhanced cooling package and the heat protection package. All three provide increased precision, performance and protection in demolition work, especially in high ambient and radiant temperatures.

## Axial rotation of grapples and shears

The additional feature package allows users to control one extra hydraulic function, such as axial rotation of grapples and shears. Users also have access to additional tools like vertical mills. Cylinder protection is included in the AFP to protect against bumps and blows.

## "Saving time and money at full power"

The cooling package holds the same features as the AFP, but also contains a cooling kit. The CP is compatible with DXR 2/300 series and can work continuously with full power on sites where the ambient temperature is up to 55°C. "Traditionally, when working in high temperatures, you are somewhat restricted if you want to keep full power and load throughout the job," said Husqvarna global product manager Lars Gustafsson.

"With the new Cooling Package you save both time and money and can stay on full power the whole time."

## Heat protection fits all three largest models

The heat protection package

can be used on DXR 270, DXR 300 and DXR 310. It has the benefits of the CP and AFP, but also contains steel tracks, steel feet, heat protected hydraulic hoses, special hydraulic oil, fire-resistant oil and compressed air hose to breaker. It protects vital parts from damage caused by both radiant and conduction heat. "The steel details are added to cope with heat – and makes it possible to operate the machine in high radiation heat in front of the machine in an efficient way," said Gustafsson.

All three packages can be bought with a new DXR directly from the factory. The components are also available for aftermarket installation, but the packages are different for aftermarket installation.

[www.husqvarnacp.com](http://www.husqvarnacp.com)



# Maximize performance with Diamond Products

Diamond Products has released new heavy-duty orange high-speed cutting blades called the H.D. Maxx and are available from 250mm to 500mm diameter.



The Maxx offers heavy-duty quality with a long life and fast cutting performance. The blade features heat isolation slots in the segment that keeps the blade cool during high speeds, which extends the cutting life. The blade core has angled gullets for even more cooling action. These features, along with the high quality diamonds, create the ultimate blade for life and speed.

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## Dedicated Demolition Line - DLP/DRP

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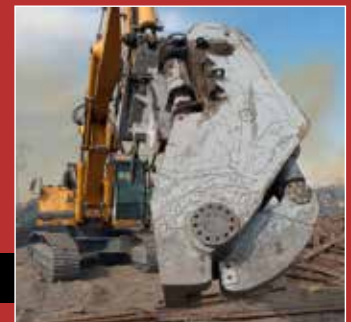
## Static pulverizers - DSP



## Scrap shears - DRS



## Railcutter - RC







## ***PDi looks at the latest in feature-rich compact skid steers and tracked loaders for construction and demolition applications. Jim Parsons reports.***

A new year means a fresh round of construction industry trade shows and equipment demonstrations designed to help contractors, rental companies, and others gear up for the coming construction season.

### **Squeezing every penny**

How willing these prospective customers are to update their inventories with the latest and greatest, of course, remains to be seen. While a generally brightening economic picture typically puts people in a buying mood, construction and demolition contractors are, by nature, conservative when it comes to financial outlay, and rightly so. Having already invested in the equipment already at hand, it makes sense to squeeze every last operating hour possible from a machine before consigning it to the second hand market or scrap heap.

Contractors have learned through observation or hard experience that few things are a given in today's environment. Not even the hottest, seemingly rock-solid market is immune to sudden political or economic upheaval, natural or human-made disasters, or any number of other disruptions, both simmering and unforeseen. The healthy backlog that was in place when signing the purchase agreement may have withered to nothing by the time the equipment is delivered.

Such caveats are nothing new to equipment manufacturers. Indeed, turning sceptical shoppers into confirmed buyers is a challenge that inspires many companies to continually push the boundaries of innovation.

And having tapped the best minds and resources to offer a quality product, the satisfaction of selling that product to someone who could have just as easily walked away is the proverbial 'icing on the cake.'

The product descriptions that follow offer insight into what factors and attributes the manufacturers of compact skid steers and loaders consider as deal makers for prospective users this year. And there are a lot of them, size, sustainable lifting power, ease of maintenance, ergonomic and safety features, and reliability.

The manufacturers' skill at meeting stricter emissions standards without compromising performance is also on display, a reminder that a viable solution can usually be found for even the most complex of challenges, including convincing a buyer that yes, it is time to stop kicking the tyres and saying 'maybe next year,' and instead, say 'yes, this is the year.'

### **Doosan debuts DL250TC-3 wheel loader**

Doosan will debut its DL250TC-3 wheel loader at World of Concrete. The 128kW Tier 4i-compliant machine features a hydraulic quick coupler, enabling operators to easily change and operate a variety of attachments, including general purpose, light material or multi-purpose



buckets, as well as pallet forks. Additionally, a parallel lift linkage system allows for good visibility to the work area in front of the machine. The system keeps the work tool parallel to the ground, as it is lifted, ideal for lifting pallets or loads that need to stay level. The DL250TC-3 has an operating weight of 14.41t, a 2.7m dump height, and bucket breakout force of 35,224Nm.

### **New Holland introduces a variety of Tier 4F skid steer solutions**

New Holland Construction's L216 skid steer loader, with radial lift, is the Tier 4F evolution of the L215 model and takes the lead in its category by providing 188Nm of peak torque, a 27% increase compared with the previous generation.

The four-cylinder, turbocharged 44.7kW engine in the L216 skid steer delivers 15% more power and boasts up to 725kg of operating capacity. With the auxiliary hydraulic flow, the hydraulic power of the L216 model is increased to 70litres/min, providing significant advantages in terms of speed and productivity when operating hydraulic attachments.

The L213 radial lift model completes the New Holland compact skid steer loader range, now powered with an improved 2.2 litre, Tier 4i compliant engine with 36.5kW. This unit develops torque up to 143Nm, and is designed for even more efficiency and reliability thanks to new stops that allow the loader arm to lean directly into the chassis for superior digging and pushing strength.

New Holland's mid-size skid steer models meet the Tier 4F emission standards with a diesel oxidation catalyst only solution that delivers considerable benefits in fuel saving, performance and maintenance convenience.

The L220 model gets tougher with a four-cylinder, turbocharged 50kW engine that delivers a 12% increase in power, and it is tuned for a 22% boost in peak torque to 208Nm and a rated operating capacity of 905kg. The Tier 4F L218 model remains at 44.7kW of gross power,



but with a 7% increase in peak torque to 183Nm and an 818kg operating capacity. Using the proven DOC only exhaust after treatment system, these machines provide greater convenience and maintenance free operation with no requirement for filter regeneration or replacement. Both models also feature electronic engine control, which provides superior engine efficiency and enhanced responsiveness to operator commands.

The New Holland mid-frame line also includes the C227 compact track loaders, which are powered by a 55.2kW, turbocharged FPT Industrial engine complying with Tier 4i emission standards. These radial lift compact track loaders provide excellent pushing and digging force thanks to a rated operating capacity of 1.23t and a bucket breakout force of 32.3kN. In the high-end segment, the L230 skid steer loader and the C238 compact track loader meet the Tier 4i emission regulations with the new turbocharged 67.1kW engine designed by sister company FPT Industrial. The 3.4litre engine delivers torque of 383Nm at an engine speed of 1,400revs/min with a 13% increase in pushing power. These machines are effective in the toughest applications that require massive breakout force and demanding hydraulically powered attachments. The L230 skid steer loader delivers up to 1.36t of rated operating capacity while the C238 compact track loader tips the scales at 1.72t. The large frame offering also includes the L223 skid steer loaders powered by a Tier 4i compliant, turbocharged FPT Industrial engine with 74 horsepower. With a bucket breakout force of 32.3kN, these machines enable operators to tackle even the toughest jobs.

The New Holland 200 Series features the vertical lift geometry of the patented Super Boom design. Standard on the L218, L220, L223, L230, and C238 models, the Super Boom design delivers best in class dump height and reach and enables the operator to load material right up to the centre of the truck bed, so it can be loaded much faster from one side. The L213, L216, and C227 models, with their radial-lift boom geometry, are ideal for digging and pushing operations or for applications where maximum reach is needed at medium height. The 200 Series offers the combination of a long wheelbase, a low centre of gravity, and ideal weight distribution, resulting in good stability and a smooth, more productive ride at work. The anti-bounce glide ride option prevents the arm from bouncing when travelling, ensuring that the bucket stays full even on rough terrain.

An optional self-levelling system provides increased attachment control since the bucket stays parallel to the ground during loader lifting operations, preventing material spillage and increasing precision on load handling operations. The dozer style undercarriage of the compact

track loaders is engineered to hold fast on steep slopes and take command of muddy or sandy terrain. Furthermore, the models of the 200 Series can boost up to a 13% increase in operating capacity when mounted with additional counterweights.

Starting from the L218 model, high-flow auxiliary hydraulics are offered as an option to provide up to 55% more flow for the most demanding attachments. Available on the L230 and C238 models, the exclusive enhanced high flow option increases the pressure of the auxiliary hydraulic system by 70bar, resulting in incomparable hydraulic power for larger attachment operations. The auxiliary hydraulics, included as standard feature in every skid steer and compact track loader of the 200 Series, are provided with proportional control integrated in the right joystick and are suited to handle most common hydraulic attachments.

The 200 Series cab is designed for comfort and all-round visibility. The low threshold offers an excellent front view and the large side windows give the operator full control over the machine and the critical zones on the wheels or tracks. The rear window is bigger than before and, together with the Super Boom design, provides unobstructed visibility to the rear. The roof window offers a clear view to the bucket at full height.

## Technical specifications

Skid Steer Loaders	L213	L216	L218	L220	L223	L230
Engine (kW)	36.5	44.7	44.7	50	55.2	67.1
Operating capacity						
-50% of tipp. load (kg)	590	725	818	905	1,020	1,360
Bucket breakout force (kN)	19	23.4	24.7	32.5	32.3	38.3
Max. dump height (m)	2.25	2.25	2.38	2.40	2.62	2.66
Compact Loaders	C227	C238				
Engine (kW)	55.2	67.1				
Operating capacity-50% of tipping load (kg)	1,225	1,723				
Bucket breakout force (kN)	32.3	32.7				
Max. dump height (m)	2.5	2.66				

## Makinex launches new Cormidi 85 dumper

The latest addition to the line of Cormidi narrow-access dumpers distributed by Makinex of Australia has arrived. Manufactured in Italy, the new Cormidi 85 is a high performance compact dumper that efficiently transports bulk materials. With only 835mm width, the Cormidi 85 can easily handle the narrowest of spaces and all types of terrain. Featuring a Donaldson dual air filter system for greater engine protection, the skip capacity of the new Cormidi 85 is 15% greater than the previous model. The new dumper also travels at an increased speed.

The Makinex range of Cormidi Dumpers start at a tiny 740mm width, allowing the unit to easily navigate the narrowest passages and traverse a variety of terrain and virtually any other uneven surface at an angle of up to 20°. With a load capacity up to 2t, the dumpers can lift, shift, load, transport, and store any materials. High tipping features available on some models enable the dumper to drop materials directly into trucks. The fully hydrostatic configuration eliminates the expense of replacing expensive cables and belts, helping reduce maintenance costs. For most Cormidi models, service is as simple as a change in fluids, which can be done easily and quickly.

## Bobcat's M Series additions feature Tier 4 non-DPF emissions solution

Bobcat has expanded its M-Series skid-steer loader line with the launch of the new S450, which is less than 1.5m wide for working in confined areas. With a spacious cab, a 20% increase in auxiliary hydraulic pressures, and a non-diesel particulate filter engine, the 36.4kW S450 replaces the K-Series S130 skid-steer loader. The S450 has a low operating weight and an optimum reach for loading or unloading palletized materials from trucks or backfilling around foundations. For faster travel speeds, the S450 has an optional two-speed drive, with a top speed of 10.5km/h in low range and 15km/h in high range when equipped with optional selectable joystick controls.

For tight-space applications where a compact track loader is needed, Bobcat's new T450 reintroduces a compact track loader platform size, making it suitable for accessing and working in confined areas, often replacing tasks previously done with manual labour and tools. The machine's rubber track undercarriage minimizes ground disturbance.

The T450 loader features a radius lift path, providing operators with good reach and visibility. An optional enclosed cab with heat and air conditioning is available. Air conditioning is a new option for this size of Bobcat compact track loaders. Also available for the first time in a Bobcat compact track loader this size, is a two-speed drive system provides faster travel when desired, with a maximum speed of 12km/h in low range and 18km/h in high range.

The Tier 4 Bobcat non-DPF solution was achieved by designing an ultra-low particulate combustion engine, in which a specially designed engine combustion chamber significantly reduces particulate matter created during combustion. As a result, Tier 4 emissions compliance





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can be achieved without using a DPF. For more than a decade, Bobcat loaders have been equipped with standard machine shutdown protection that monitors engine and hydraulic functions. Now, instead of shutdown being the only solution, the system monitors coolant and oil temperatures and manages the engine to prevent them from reaching a point where the machine must be shut down.

Another new feature is cold-weather protection. Whenever the engine temperature is too low, the loader will temporarily limit the maximum engine speed 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.

#### Technical specifications

##### Skid Steer Loader S450

Rated operating capacity (kg)	590
Lift path	Radius
Engine (kW)	36.4
Lift height to hinge pin (m)	2.7
Operating weight (kg)	2,280
Auxiliary hydraulic flow (l/min)	63.2
Length w/standard bucket (m)	3.2
Width w/bucket (m)	1.6
Height (m)	1.9

##### Compact Track Loader T450

Rated operating capacity-35% of tip (kg)	635
Rated operating capacity-50% of tip (kg)	907
Lift path	Radius
Engine (kW)	45.5
Lift height to hinge pin (m)	2.8
Operating weight (kg)	2,789
Auxiliary hydraulic flow (l/min)	63.2
Length w/standard bucket (m)	3.2
Width w/bucket (m)	1.4
Height (m)	1.9

#### Also from Bobcat, new Tier 4 600 frame-size loaders

Bobcat has released its first Tier 4 600 frame size loaders, the S630 and S650 skid-steer loaders and the T630 and T650 compact track loaders. With 55.2kW engines, these loaders provide operators with all of the same performance benefits of the previous Tier 4i models and meet emissions standards without a DPF.

The S630 and T630 loaders feature a radius lift path, providing operators good reach and visibility at mid-range heights. The S650 and T650 models feature a vertical lift path, providing operators the ability to lift heavier loads higher, making it easier to clear high-sided truck boxes and feed wagons, as well as place pallets.

All four Tier 4 600 frame loaders offer operators a two-speed option for faster travel when desired. The S630 and S650 skid-steer loaders have a maximum speed of 11km/h in low mode and 20km/h in high mode, while the T630 and T650 track loaders can travel at a top speed of 11km/h in low mode and 17km/h in high mode.

Bobcat provides owners and operators even more simplified maintenance with the new 600 platform loaders. A 500h engine oil and filter change interval replaces the previous 250h interval to help reduce overall routine maintenance costs. An air filter equipped with a built-in pre-cleaner filter provides longer-lasting performance in high-debris applications. Owners and operators will also benefit from a cartridge style block heater that is easy to install and use, to assist with engine starts in cold conditions. The Bobcat 600 models feature the first all steel suspension designed to reduce vibration and noise. The rollers are suspended by steel leaf springs to minimize ground vibration. The steel rollers are permanently sealed and lubricated. As with all M-Series loaders, the 600 loaders feature a cab-forward design that moves the operator closer to the attachment and provides unmatched visibility in all directions. The optional deluxe instrumentation

panel monitors key loader functions, and the keyless start helps prevent theft. The 127mm full-colour LCD screen offers better readability and operator interaction. Easy-to-read virtual sweep gauges allow operators to quickly read and understand the machine's performance. Operators also have the choice between standard foot pedal hydraulic controls, the advanced control system, or selectable joystick controls on all machine models. The hydraulic systems on M-Series loaders have been engineered for higher standard flow and pressure to provide increased attachment performance. Engine power and hydraulic flow are matched to the loaders' rated operating capacity, size, and weight.

#### Technical specifications

Skid Steer Loaders	S630	S650
Rated operating capacity (kg)	989	1,220
Lift path	Radius	Vertical
Lift height to hinge pin (m)	3.0	3.1
Operating weight (kg)	3,452	3,657
Auxiliary hydraulic flow (L/min)	87.1	87.1
High-flow option (L/min)	115.5	115.5

Compact Track Loaders	T630	T650
Rated operating capacity (kg)	1,012	1,166
Lift path	Radius	Vertical
Lift height to hinge pin (m)	3.0	3.1
Operating weight (kg)	3,965	4,228
Auxiliary hydraulic flow (L/min)	87.1	87.1
High-flow option (L/min)	11.5	11.5

#### Upgrades to Case's skid steers and track loaders

Case Construction Equipment has updated its skid steer loader and compact tracked loader ranges to offer more engine and hydraulic power, best-in-class breakout forces, increased productivity, and lower emissions, while maintaining outstanding cab space and all-round visibility over a broader spread of machines. The 10 compact models, seven skid steers and three tracked loaders, deliver improved efficiency through the use of Tier 4 engines, providing increased power and torque and reduced operating costs. The SR160 replaces the SR150, one of the company's best sellers, and features a larger and cleaner engine delivering up to 15% more power. The 44.7kW turbocharged Tier 4F engine has been installed without any impact on the machine's compact dimensions. The smallest SR130 is now powered by a Tier 4i engine that uses internal cooled exhaust gas recirculation without the need of additional particulate filters. The mid-range SV185 and SR175 skid steers are powered by Tier 4F engines delivering 44.7kW and 50kW respectively. However through the use of a turbocharger and common rail fuel injection with electronic control, there is no requirement for regeneration on these engines. A maintenance free diesel oxidation catalyst system enables compliance with stringent Tier 4 standards. Similarly, the SR200 and TR270 machines use a 55.2kW turbocharged engine to meet Tier 4i without regeneration. The most powerful SR250, SV300, TR320, and TV380 models all use a 67.1kW turbocharged engine with multiple injection high-pressure common rail, plus an electronically controlled waste gate that delivers superior pressure stability within the turbocharger. Fuel injection, exhaust gas recirculation, and DPF after-treatment are managed by a control module to meet Tier 4i emissions standards.

All of these engine designs allow the Case skid steers and compact loaders to perform like competitive machines from the next higher class, delivering improved productivity and easier operation. The SR160 is a typical example of the improvements that have been made, offering 15% more power, 27% more torque, and a 19% increase in hydraulic flow compared with the previous, similarly sized SR150.

The proven Case Power Stance skid steer chassis rides



on a 21% longer wheelbase, delivering improved stability and operator comfort. This additional length also permits higher lift capacities and breakout forces. The lift arm cylinder geometry, pushing directly onto the chassis, adds to the pushing capabilities of the machines, delivering best-in-class bucket and lift arm breakout forces. All models benefit from a cab that is 25% wider than on previous generation machines. With plenty of room for the operator, the Case loaders deliver more headroom and legroom than any competitive model. A wide door, repositioned grab handles, and a lower threshold all contribute to easier cab entry and exit. All models have suspension seating, with optional heated seats. When specified with full glazing, the cab offers a sealed, dust-free environment with lower noise levels. The compact tracked loaders feature a simple, robust undercarriage. A rigid track frame with fewer moving parts delivers improved durability and less maintenance than a suspension type track system. The raised final drive has an oversized bearing for increased component life, while lifetime sealed and oil-lubricated rollers and idlers reduce the possibility of dirt and sand ingress. All Case skid steers and compact track loaders share the same wide cab structure, which can be tilted forward to access service points for maintenance. And even with the increasingly sophisticated technology required to meet Tier 4 standards, the Case compact loader range is simple to maintain. As one of the most versatile machines on site, the Case skid steer loader and compact tracked loader ranges can be ordered with a huge range of attachments, from wheeled excavators and compactors, to planers, broom buckets and even cement mixers. Standard hydraulic couplers and connect under pressure fittings allow rapid changes between attachments without additional tools. Many attachments can also now be changed without the operator having to leave the cab, thanks to the optional hydraulic coupler.

#### Technical specifications

Technical specifications							
Skid Steer Loaders	SR130 SR160		SR175 SV185		SR200	SR250	SV300
Engine power (kW)	36.5	44	50	44	55.2	67.1	67.1
Operating capacity-50% of tipping load (kg)	590	725	790	840	905	1,135	1,360
Bucket breakout force (kN)	19	23.4	32.3	24.7	32.3	33.3	33.7
Max. dump height (m)	2.25	2.25	2.47	2.38	2.5	2.56	2.62
Compact Track Loaders	TR270 TR320		TV380				
Engine power (kW)	55.2	67.1	67.1				
Operating capacity	1,225	1,451	1,723				
Bucket breakout force (kN)	32.3	38.7	33.4				
Max. dump height (m)	2.5	2.60	2.67				





### New Case F Series compact wheel loader is perfect in every mission

Case's new F Series range of compact wheel loaders sets new standards of productivity, versatility, comfort, all with low cost of operation. The four-model line delivers high levels of performance in every task with the powerful, highly efficient new hydraulic system. The low cab means the new compact wheel loaders move efficiently on site and are easy to transport. With the low cab profile, the 21F and 121F fall under the 2.5m threshold so that they can easily travel under a 4m bridge when loaded on a truck. The narrow turning radius further adds to their agility in tight spaces. Operators enjoy the superior com-

fort of the cab, maximizing productivity with minimum fatigue, and waste no time in daily maintenance tasks, as all service points are easily accessible from the ground.

The new F-Series is designed to minimize the time needed for servicing and attachment changeover. The optimum weight distribution enables the new compact wheel loader to lift a much bigger pallet load than its predecessor. For example, at the low end of the range, the 21F XT is designed to lift up to 2t, which is 400kg more than the 21E model it replaces. Changing attachments for different tasks takes only a matter of seconds because the connectors are automatically depressurized and hand tools are not needed. Maintenance is also very quick and easy, with all service points accessible at ground level.

The new hydraulic system delivers the power needed to operate even the most power-hungry attachment. The high flow option, available on the 221F and 321F, increases flow from 70 to 130litres/min, enabling the use of powered attachments, such as snow blowers or asphalt planers. The new loaders feature a 4-wheel drive hydrostatic transmission that offers a 33km/h high-speed option on the 221F and 321F models with 2-gear mechanical gearbox. Turtle and rabbit speed can be engaged under load. The new inch and brake pedal progressively disengages the transmission in the decelerating phase while progressively engaging the brakes, giving the operator minute control of the machine at low speeds. The high flow option comes with the creep speed, which provides maximum hydraulic flow at constant speed in the 0 to 5.5km/hr range, ideal for tasks such as snow blowing, asphalt planning, sweeping, trenching and compacting.

The cab of the new F Series provides a comfortable and safe work environment with features such as the 10 air vents, ergonomic layout, standard tilting adjustment of the steering wheel and the Case all-in-one joystick with adjustable wrist rest.

#### Technical specifications

	21F	121F	221F	321F
Straight tipping load (t) - XT	3.0	3.2	3.1	3.6
- Z-bar	2.7	2.9	3.1	3.6
Fork payload-80% (t) - XT	2.0	2.2	3.1	3.6
- Z-bar	1.8	1.9	3.1	3.6
Bucket size range (m3)	0.7-1.0	.09-1.1	1.0-1.2	1.1-1.3
Engine (kW)	43	48	55	55
Weight (t)	5.4	5.7	6.0	6.5
Cab height (m)	2.46	2.46	2.63	2.68

### JCB's 300T and the 205 models feature emissions compliant engines

The 300T model compact track loader from JCB's large platform range features the company's own Tier 4F Ecomax engine. It uses up to 9% less fuel than the previous Dieselmex engine while achieving Tier 4 emissions standards without the need for any exhaust gas after treatment. The engine change also signals a move to electro-hydraulic controls for the large platform models, which also benefit from improved cooling and air filter service life with active scavenging, reduced fuel consumption, an optional powered quick-hitch, and a reversing cooling fan.

JCB's 205 skid steer, from the company's small platform range, features a fuel-efficient, Tier 4F engine from Kohler's Global Power Group. Like JCB's

Ecomax engines, the water-cooled Kohler direct injection engines also meet the next stage of emissions regulations without the need for a DPF.

JCB's large platform skid steers and compact track loaders are equipped with a new air filter design that features an active scavenging pre-cleaner, allowing JCB to extend air filter service life up to 500h, depending on application. A reversing fan is also available as an option for machines working in dusty environments. The reversing fan reverses the airflow to remove any debris build up that may have accumulated on the protective grating over the cooling pack. It will automatically run every 30min or can be overridden manually. In addition, the skids steers and compact track loaders include an auto-idle feature.

The large platform loaders feature the electro-hydraulic control levers already proven on the small platform machines. The system offers operators three levels of response, from slow modulation for fine trimming work, to faster and more responsive controls for digging and loading work. The electronic control system also allows the option of specifying H-pattern controls rather than the standard JCB ISO pattern. This will improve integration in mixed fleets where operators have experience with alternative control patterns.

JCB's skid steer and compact track loaders have become synonymous with operator safety, visibility and cab comfort, thanks to the single loader arm, or Powerboom, design that allows the operator safe access through a full-size cab door, rather than having to climb over attachments to enter and exit the cab. The JCB skid steer cab is 33% larger than competitive models, 46% larger on small platform models, and thanks to its tilting design, delivers 24% better service access. It also provides 60% better all-around visibility than the average twin arm skid steer and track loader. More than 30 attachment families are available from the JCB dealer network for these machines.

### Wacker Neuson launches skid steer and compact track loaders

Wacker Neuson has introduced a new line of skid steer loaders and compact track loaders to the North American market. The first of the company's new skid steer include the SW 24, a radial lift unit that delivers 1.07t of rated operating capacity at 50% of tip load, and a lift height up to 3.18m. The vertical lift SW 28 skid steer brings maximum reach, making it ideal for loading and unloading, and delivers 1.27t of rated operating capacity at 50% of tip load with a lift height up to 3.4m.

Wacker Neuson's new compact track loaders include the radial lift ST 35, which delivers 1.59t of rated operating capacity at 50% of tip, load and a lift height up to 3.18m. The vertical lift ST 45 delivers high operating capacity and extended lift





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height, making it ideal for digging and loading. The ST 45 delivers 2.04t of rated operating capacity at 50% of tip load, and a lift height up to 3.4m. All Wacker Neuson skid steer loaders and compact track loaders are powered by a 55.4kW turbo charged Perkins Tier 4F diesel engine with a maintenance-free, flow-through after-treatment design. Because Wacker Neuson controls the design and manufacturing of the loaders, the company was able to choose the perfect engine to meet the latest Tier 4 standards.

### Terex introduces compact PT-35 track loader

The 1.2m wide PT-35, the smallest compact track loader in the Terex line, is for working in tight situations where access is limited. Featuring a 3-cylinder, turbocharged Perkins 403F-15T diesel engine, the 27kW Tier 4i compliant PT-35 delivers .37kN of peak torque, a tipping load of 953kg and a lift height of 2.6m. The PT-35 loader works on soft or sensitive surfaces with minimal damage or impact. It comes standard with 279mm wide general purpose tracks fitted on the patented Terex Posi-Track undercarriage technology and suspension. All Terex compact track loaders, including the new PT-35 model, utilize a proprietary all-rubber track, rather than a rigid track with steel-embedded tracks mounted on an existing skid steer chassis. This enables Terex loaders to produce greater efficiencies in operation and speed because of their lighter weight. This set-up gives the PT-35 loader more traction, higher flotation, and better operating comfort so operators can make full use of the machine's higher travel speeds, up to 10.5km/h.

Terex also offers a special turf track for working on fragile surfaces. These tracks feature a special smooth tread that enables the PT-35 to tackle virtually any surface with barely a trace. Scuffing and rutting is practically eliminated, even when used on sharp turns. Terex recommends its turf tracks for applications where the surface needs special protection and the conditions are generally dry. The Terex PT-35 loader is designed with front-mounted, quick-connect hydraulic fittings and an electronic connector for control of a wide range of standard attachments such as augers, backhoes, brush cutters, levellers, pallet forks, box rakes, snow blades and blowers, tillers, and trenchers, as well as general purpose, light material and multi-purpose buckets.

### Optimized boom on new John Deere E-Series loaders help improve performance

John Deere's newest additions to the E-Series line of skid steer loaders and compact track loaders feature design and performance enhancements based on customer feedback. Two skid steer models, the 318E and 320E and two compact track loader models, 319E and 323E, include upgraded boom performance, auxiliary lines that are integrated through the boom for improved visibility and added protection, and cab improvements aimed at improving operator and machine productivity, uptime, and lower operating costs. John Deere offers all major control patterns on these models to meet customers' specific needs. This includes traditional hand and foot controls, hand only controls, or low-effort, electro-hydraulic joystick controls in both the ISO and H patterns. The E-Series features an exclusive option that allows the operator to switch between all three industry control patterns, so contractors can choose the control pattern they are most comfortable using. The mid-frame models also include improvements that enhance performance and make the machines more versatile. The optimized boom design provides best-in-class performance throughout the lift path. It also offers greater reach at truck bed height



and increases lift height to the hinge pin.

Other new features include connect under pressure auxiliary hydraulic couplers and courtesy lighting that stays on up to 90s after the engine is shut down. In addition to the standard improvements, the mid-frame E-Series models offer several options that further enhance ease of use and productivity, including a new keyless start sealed switch feature with an anti-theft system and a ride control option that features shock absorbing boom cylinders that cushion bumps. Another option gives customers the ability to convert the foot throttle pedal into a decelerator pedal for dozing and loading applications. The mid-frame models boast several features from their D-Series predecessors, including a pressurized cab, auto-idle and best-in-class service access. In addition, options such as the reversing fan can be set to automatically reverse to clear core-clogging build-up. The 318E, 320E, 319E, and 323E are powered by Yanmar Tier 4F diesel engines. The engines in all E-Series models feature cooled exhaust



gas recirculation with an exhaust filter consisting of a diesel oxidation catalyst and diesel particulate filter. All models are compatible with more than 100 available Worksite Pro attachments.

### Cat® D Series loaders boast improved engine, interior environment

Caterpillar's six model D Series line of skid steer loaders features a completely redesigned cab, new lift arm design, and increased engine performance. The four newest D Series models are replacements for their B3, C, and C2 Series predecessors. The new D Series large frame models are the 246D and 262D with rated operating capacities of 975kg and 1.23t, respectively. They feature an electronically controlled engine that meets Tier 4F emissions standards. The Cat C3.3B engine provides 55kW with 8% more torque and a 6% increase in fuel economy, compared with the previous models.

The D Series introduce a new standard in sealed and pressurized cab design. The Cab-One structure is one-piece modular construction instead of the two-piece cab design found on competitive skid steer loaders. The Caterpillar design provides superior sealing, which allows doubling the cab pressurization attained with the previous design. The result is a cleaner working environment. In addition, the improved HVAC system supplies 20% more airflow and approximately a 50% increase in heating and cooling rates. The cab and operator station incorporate many new features. Seat options include a high-back, heated, air suspension seat with integral seat mounted joystick controls. All air suspension seats feature independent arm bar/joystick control adjustments. This arrangement also allows the entire seat/joystick control package to move up and down as a unit, minimizing operator fatigue and maximizing comfort.

Also new in the D Series cab is an electronic dial type throttle that permits precise engine speed settings. When the dial is in the high-idle position, the foot throttle functions as a decelerator pedal. The decelerator allows an added degree of control, permitting the operator to modulate travel speed during manoeuvres or to regulate engine speed when using hydromechanical work tools.

A new throttle smoothing feature monitors accelerator pedal movement when the machine is travelling over rough terrain, and it then clips the extremes of pedal travel to yield steady, even travel speeds.

Lift arms for all D Series machines are a new tubular design that presents a narrower profile. The sleek lift arm design improves sight lines to the sides of the machine, to the tyres and to the work-tool coupler interface to provide enhanced visibility and site safety. The available automatic coupler is electrically actuated, replacing the previous hydraulic system. The new coupler is simpler in design, eliminating hoses and connectors, and easier to install as an accessory in the field.



## Gehl's new R Series radial-lift skid loaders

Gehl's new R150 skid steer loader, with 680kg capacity, joins the R135, replacing the 4240E, and the R165, replacing the 4640E Power2. With maximum torque ratings from 146Nm on the R135 and R150 to 241Nm on the R165, the machines are equipped with the power needed to tackle demanding jobs. The loaders feature a new operator station with an integrated digital display, new load arm design with increased visibility, and Yanmar-powered Tier IV engines that incorporate diesel particulate filter technology. This engine technology does not require fuel after treatments, such as urea. The new R Series also feature standard proportional auxiliary hydraulics for maximum precision and infinitely adjustable flow control. Flow rates are from 64.4litres/min on the R135 and R150, to 71.4litres/min on the R165. Impressive breakout forces deliver optimum digging and lifting performance. Faster cycle times further enhance productivity. Pressure-relieving hydraulic couplers make attachment changes simple and safe.

The operator's compartment includes a front lifting restraint bar and armrests with multiple adjustments and a mechanical or air-ride suspension seat option. A cab forward design and lowered rear towers provides visibility to the bucket edge and rear of the machine. The optional pressurized cab enclosure, with sound reduction material and a rear-mounted air filter, provides a cleaner, quieter, climate-controlled working environment. The new R Series skid loaders also include many other features such as the manual Quick-a-Tach or hydraulic Power-a-Tach attachment systems, HydraGlide ride control and the Hydraloc safety system. A variety of options and attachments allow users to customize machines.



# Doosan wheel loaders boast improved fuel efficiency and more

***Doosan has introduced its first Tier 4F compliant wheel loaders, the DL300-5, DL350-5, DL420-5, DL450-5 and DL550-5, featuring improvements in fuel efficiency, operator comfort, serviceability, reliability, and remote monitoring.***

The five new loaders replace the previous Tier 4i models and are powered by Scania diesel engines. The engines are optimized for use with a high-pressure common rail fuel delivery system and a cooled exhaust gas recirculation system. Additionally, the wheel loaders use a variety of after treatment systems, as part of the Tier 4F

and allow the machines to have more traction when working.

Updates to improve serviceability include a new air cleaner with longer replacement intervals. Additional oil sampling ports improve predictive maintenance procedures and various fluid pressures are now viewable from the dash panel. Available as a factory installed option is an auto-greasing system. For applications in mining and infrastructure market segments, Doosan offers a high-lift configuration for all the new loaders, providing additional dump height.

Options for the loaders include a hydraulic locking front and conventional rear differential, axle oil cooler hydraulic load isolation system, fingertip 3-lever controls, electric joystick steering, rotating beacon, rear-view camera, 110V plug heater, rubber fender protectors, and full fender with rubber protector.

The loaders feature three selectable work modes, economy, standard and power, to balance fuel consumption and machine power to the working conditions. All Doosan loaders come with a standard 3-year subscription to Doosan Telemetric, which allows equipment owners and fleet managers to remotely monitor machine location, hours, fuel usage, engine idle versus work time, error codes, and internal temperatures. Machines can be monitored via an online Doosan Telematics account.



compliance, such as diesel exhaust fluid, which is used with SCR technology and stored in a DEF tank.

### Many helpful features

Cab enhancements include an improved adjustable steering column and a new fuel consumption gauge. Updates to the keypad on the dashboard make it easier to review, adjust settings, and clean and maintain it. An auto-shutdown system helps reduce fuel consumption when the machine is sitting idle from 3 to 60min. Limited slip differentials are also included

### Technical specifications

	DL300-5	DL350-5	DL420-5	DL450-5	DL550-5
Engine (kW)	201	202	257	257	283
Operating w.(kg)	18,980	19,750	23,035	25,795	31,705
Bucket capa. (m3)	3.2	3.7	4.2	4.8	5.7
Dump height (m)	2.8	2.9	3.1	3.3	3.4
Breakout force (kN)	168	164	210	231	246



## Hitachi ZX170W-5 - a perfect choice

German contractor Forst-und Baggerbetrieb Horn has bought a new Hitachi ZX170W-5 as the flagship machine in its fleet of construction equipment. The Zaxis wheeled excavator was delivered to the Ohlsbach-based company by the country's Hitachi dealer, Kiesel.

Founded in 2000 by husband and wife team, Norbert and Christine Horn, Forst-und Baggerbetrieb Horn has 18 employees, working on a wide range of local construction projects.

The company had previously owned a Hitachi ZX160W wheeled excavator, with 9,000h, and this had a significant bearing on the choice of the new machine. "We were very happy with the ZX160W, and even though we had no doubt in our minds, we thought we would test the new Zaxis model against two other brands before making our final choice," said Christine Horn. "The Hitachi came out on top with its overall performance, lifting capacity, compact size and fuel efficiency. It was the perfect choice for our requirements."

Kiesel manages Forst-und Baggerbetrieb Horn's after-sales service requirements. "The Kiesel service team is very good, well known and quick to respond to our needs," said Horn. "We prefer to use Hitachi parts to optimise the performance of the machine, which is important for high levels of productivity and meeting deadlines. Kiesel's sales representative is also friendly and professional, and we consider our relationship to be perfect, just like family."

"The ZX170W-5 is the perfect solution for our earthmoving work. It does everything that I need it to do and I can even drive it between sites without the need for transportation even if it has to move up to 20km/h," said operator Marco Volland, an operator with ten years' experience, the past six with Horn.



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**World of Concrete 2015  
is looking good. In fact,  
it's looking really good.**

This year's World of Concrete show, to be held at the Las Vegas Convention Center in February, is set to be the largest in more than six years, bringing hope that the US market is back on track. The latest economic news has good tidings for everyone, including most sectors of the construction industry.

The 2015 edition of the industry's only annual

international event designed specifically for commercial concrete, and masonry professionals promises more than 526,760m<sup>2</sup> of indoor and outdoor exhibition space, and more than 1,300 exhibitors. "The show will feature tools, construction machinery, construction equipment, safety training courses and training, technologies and unlimited networking opportunities to





# CONCRETE course

## World of Concrete Exhibitors 2015 - A Selected List

*Current as of 12/17/14*

<i>Exhibitor</i>	<i>Booth no.</i>
Allen Engineering Corp	O31342
Allen Engineering Corp	O31541
Allen Engineering Corp	O31551
Allen Engineering Corp	O31436
Allied Construction Products, LLC	C3349
Honda Power Equipment	O30109
Honda Engines	C4427
American Shotcrete Association	S10839
Ameri-Coatz	S13025
AmeriPolish, Inc	O40849
Aqua Blast Corp	S12723
Aquafin Inc	S10549
Aquajet Systems AB	S12800
Ashine Diamond Tools	S12529
Atlas Copco Construction	C4503
Aztec Products Inc.	O31740
Beijing Jingtai Diamond Tools	S11930
Blaklader LLC	O30419
Blasters/Blasters Ready Jet, Inc.	C6485
BlastPro Manufacturing, Inc.	S11439
Blastrac	S10117c

provide new ways to sustain and grow businesses,” said WOC director Jackie James. “The outdoor exhibit areas, including the popular Artistry in Decorative Concrete, make WOC in particularly an event to attend in 2015.”

For those in the concrete sawing and drilling, demolition, and concrete floor grinding and polishing sectors, WOC is an ideal venue to learn about new products,



methods and to win more jobs, make more money, and streamline business. Contractors and suppliers can make

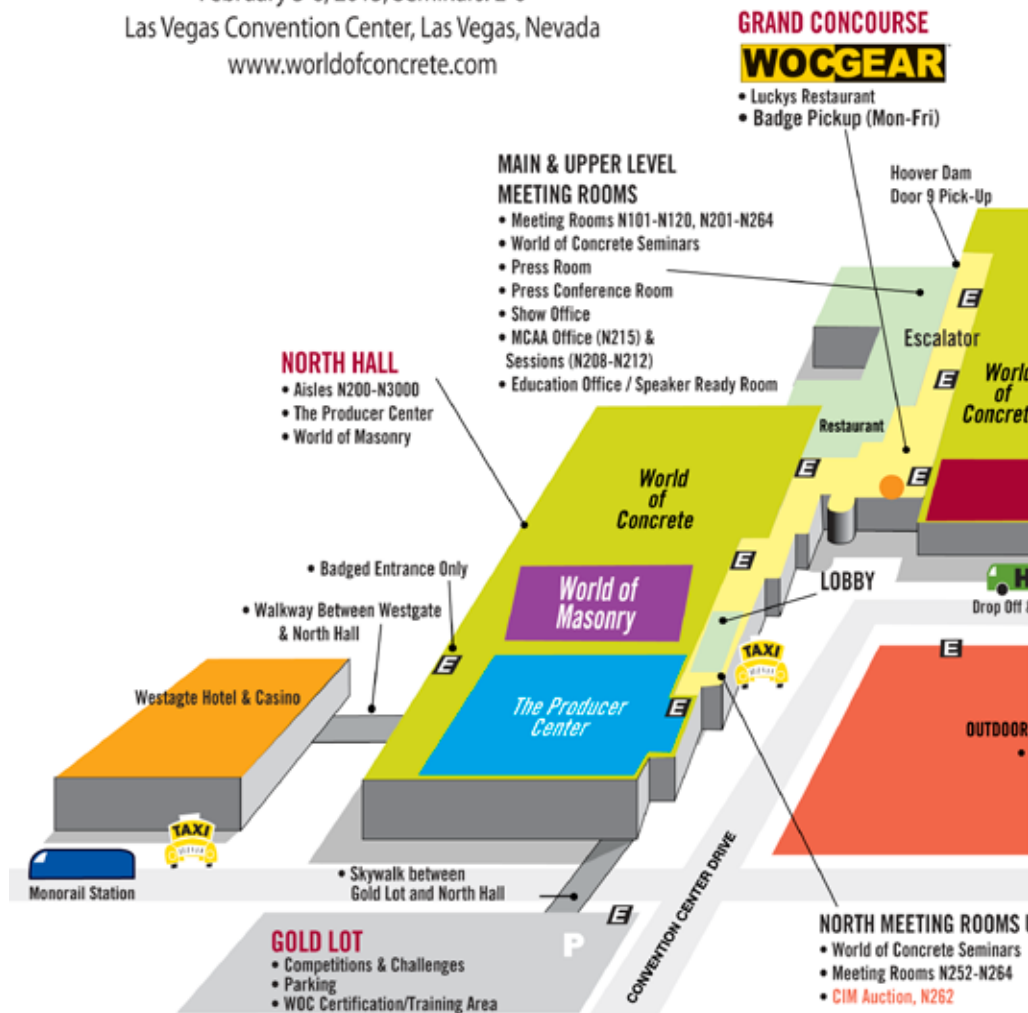




Exhibitor	Booth no.
Blastrac	S10117b
Blount Inc	O31669a
ICS Blount, Inc.	O31669
Blount Inc	O31669b
Blount Inc	O31669d
Blount Inc	O31669c
Bobcat Co	C5479
Bosch Power Tools & Accessories	O30200
Bosch Power Tools & Accessories	O30412
Allmand Brothers	N1857
Allmand Brothers	N1857
Briggs & Stratton Corp	O31614
Briggs & Stratton Corp	O31614
Brokk Inc	C4237
OSA Demolition Equipment	C6049
Caterpillar Inc	C6061
Chicago Pneumatic	O31054
RAM Trucks	O30399
RAM Trucks	C4840
CASE Construction Equipment	C5948
Concrete Polishing Association	
of America	S13120
Concrete Show South America 2015	C3048
Conjet AB	S12107
CONTEC North America	O40665
Contech Corporation	S13146
Phoenix Curb Machines	O30518
Con-Tech Manufacturing Inc.	N425
CS Unitec Inc	O31322
Disco Diamond Tools	C3561
DEUTZ Corp	N2637
Diamond Blade Warehouse	S11239
Diamond Productions Canada	S11449
Diamond Products	O32145
Diamond Products	C4876
Diamond Products	O32167
Diamond Speed Products, Inc.	S12939
Diamondtec International Inc.	S12408
Diasen USA, LLC	N1370
DITEQ Corporation	C4641
DITEQ Corporation	O31864
Dixie Diamond Mfg Inc	C3251
Doosan Infracore Construction	
Equipment America	C5487
Doosan Portable Power	O31629
Concord Terrazzo Co, Inc N368	
Drumcutters Inc.	C6518
Dust Control Technology C6902	
Dustcontrol USA	O30225
Dynamic Diamond Tooling	O32032
EDCO - Equipment	
Development Co., Inc	O30648
Edilgrappa	N2563
Erie Strayer Co	N445
ERKET GmbH & Co. KG	C3049
Ermator LLC	S10627
Everdigm Corp	C6503
Cardi America LLC	O32023



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new contacts and strengthen their industry connections.

Targeted areas of the show's indoor and outdoor exhibit areas include the Producer Center, Technology for Construction, Material Handling, World of Masonry, Concrete Repair and Demolition, Decorative Surfaces, and many others. WOC is also a place to learn to work smarter and leaner. Thanks to a number of seminars, delegates can get their questions answered. Seminars will provide an opportunity for industry veterans and newcomers to learn new skills, practical solutions, and creative strategies to improve the quality of their work, and their business.

## Information about the show

### Monday, 2 Feb

Education programme only

**3-hour Seminars** 8:00 am - 11:00 am;  
1:00 pm - 4:00 pm

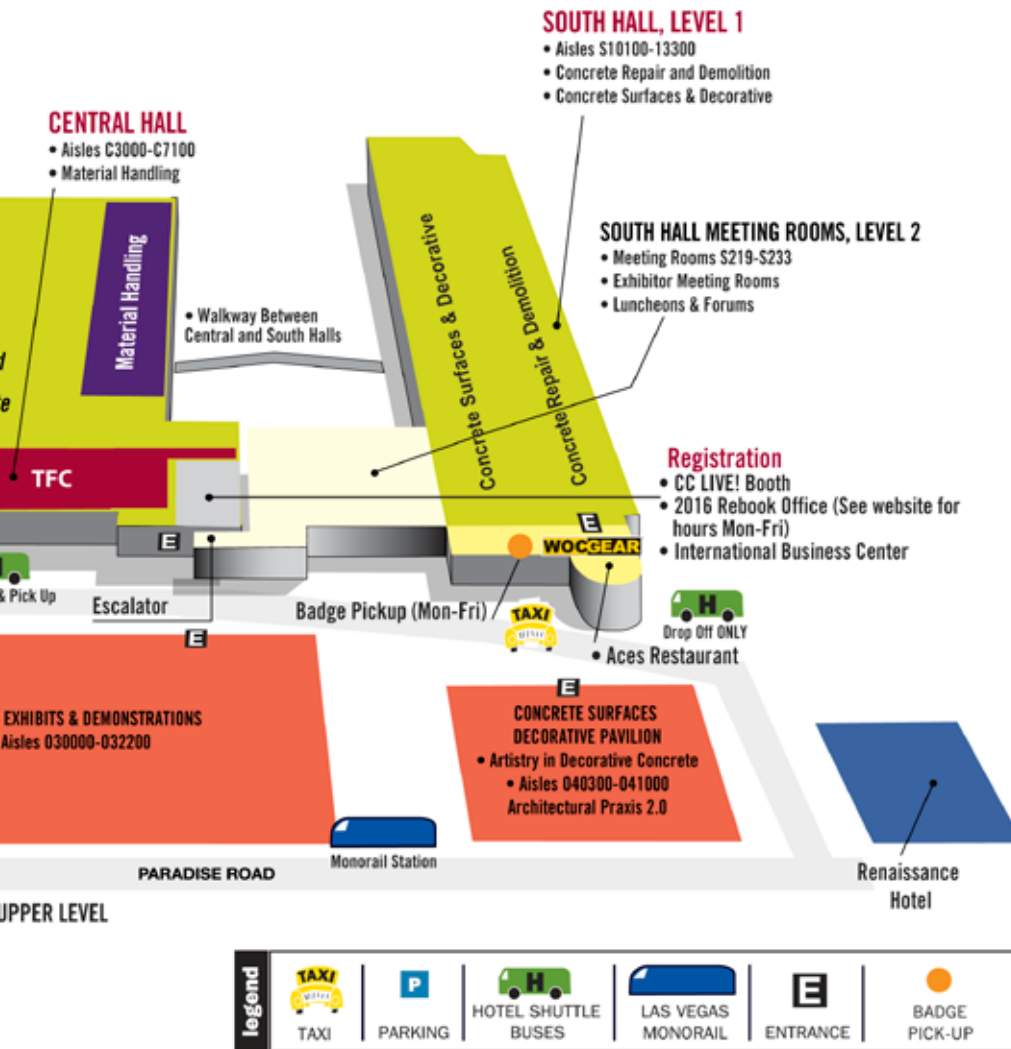
**90-min. Seminars** 8:30 am - 10:00 am;  
10:30 am - 12:00 pm; 1:30 pm - 3:00 pm;  
3:30 pm - 5:00 pm

**WOC 4-hour Certification seminars:**

8:00 am - 12:00 pm; 1:00 pm - 5:00 pm







Exhibitor	Booth no.
E-Z Drill Inc	C4327
Fuzhou BonTai Diamond Tools	S11831
Gehl Co	C6143
General Equipment Co	S11645
Diamond Vantage	C3361
GSSI	C4126
Diamatic	S10117
Diamatic	S10117a
TEC/HB Fuller Construction Prod.	S12027
Hangzhou Genesis Hardware	C4349
Hatz Diesel of America Inc	N2021
Hebei Jikai Industrial Group	S11823
Helly Hansen, Inc.	S13008
Henan He Hui Abrasives & Tools	S12628
Hilti, Inc.	O30700
Hilti, Inc.	O30700a
HTC	S11039
HTC	O31034
Huada Superabrasive Tool Tech.	S12038
Hunter XCI	N1419
Husqvarna Construction Products	C4303
Husqvarna Construction Products	O30272b
Husqvarna Construction Products	O30272
Husqvarna Construction Products	O30272c
Husqvarna Construction Products	O30272d
Husqvarna Construction Products	O30272e
Husqvarna Construction Products	O30272f
Husqvarna Construction Products	O30272a
Hyundai Construction Equipment	C5881
International Concrete Repair Inst	S10539
International Equipment Solutions (IES)	
dba Genesis Attachments	C4217
International Equipment Solutions (IES)	
dba Paladin Attachments	C4319
Intl Grooving & Grind. Assn (IGGA)	C4225a
IPC Eagle	S12351
Jetstream of Houston LLP	S11613
Jiangsu The Lus Diamond Tools	S11833
John Deere Construction & Forestry	C5461
Klindex SRL	O30751
Latin American Concrete	
Cutting & Demolition Forum 2015	C4236
Levetec Surface Preparation Equip.	S11651
Liebherr Concrete Technology Co.	C6760
Maddock Construction Equipment	N3053
MAEDA USA	O31065
Makita USA, Inc.	O30044
Makita USA, Inc.	O30044a
MALA GeoScience USA, Inc	N1812
MB America, Inc.	O30500
Merit Engineering	
MFG Construction Products	N1838
Milwaukee Tool	NES06
Multiquip Inc	C4802
Multiquip Inc	O31945
Multiquip Inc	O31840
Mustang Mfg Co Inc	C6143
National Construction Rentals	N2148



Exhibitor	Booth no.
National Equipment Register	C3056
National Fleet Tracking	C4159
National Flooring Equipment	S10615
NewGrind Inc.	O31563
Nextgen Construction Data	N3016
NLB Corp	S11407
Power Pusher	S13106
Ocean Diamond Inc.	S12807
ONFLOOR Technologies, LLC	S10919
PDi Magazine (Professional Demolition International Magazine)	C4236
PDA Magazine (Professional Demolition Americas Magazine)	C4236
Pearl Abrasive	S12039
Power Curbers & Power Pavers	C5412
Power Kleen Corp	N315
Powertrack International Inc	C6278
PR DIAMOND PRODUCTS INC	N2263
PROSOCO, Inc.	S11907
PROSOCO, Inc.	S12007
RGC/Reimann & Georger Corp	S11639
Runyon Surface Prep	
Rental & Supply	O40745
Bretac	C6589
SASE Company Inc.	O40622
Scanmaskin Sweden AB	O31250
Scanmaskin Sweden AB	S10515
Shingo Grinding Wheel	S12440
SIMA	O32132
Sobratema	C4254
Smith Manufacturing	S10754
DEWALT	NES05
Stanley Hydraulic Tools	C7003
Stihl Inc	C4631
Stoneterra, Inc.	N3056
Superabrasive, Inc.	S11339
Superabrasive, Inc.	O31418
Superior Concrete Products	N951
Superior Concrete Products	O31644
Tempest Technology	S12151
Terex	C5861
Terramite	C6885
Terrco, Inc.	O30427
US Saws	S11107
US Shotblast Parts & Service Corp	S10150
Volvo Trucks	C6402
Wacker Neuson Corporation	O31708
Water Recycling International, Inc.	N219
World Diamond Source	S11307
World Tech Solutions	N462
Universal Polishing Systems	O40337
Xingyi (China) Polishing Machine	S10543
Xtreme Polishing Systems	S12206
Xiamen Murat Import & Export	S11922
Yantai Diany Saw Mfg Co., Ltd	S12533
Yanmar America	
Construction Equipment	C5685
Zhengzhou Sinoblade Industrial	S11941

## Tuesday-Thursday, 3-5 Feb

**Exhibits:** 9:30 am - 5:00 pm

**3-hour Seminars** 8:00 am - 11:00 am;

**90-min. Seminars** 8:30 am - 10:00 am;  
1:30 pm - 3:00 pm

**WOC 4-hour Certification Seminars:**

8:00 am - 12:00 pm; 1:00 pm - 5:00 pm

## Friday, Feb 6

**Exhibits:** 9:30 am - 1:00 pm

**3-hour Seminars** 8:00 am - 11:00 am

**90-min. Seminars** 8:30 am - 10:00 am

## Registration Information

Exhibits-Only: \$80 online and onsite

Education Programme:

\* 3-hour Seminars: \$170 onsite

\* 4-hour Certification Seminars: \$215 onsite

\* 90-min. Seminars: \$130 onsite

## Coming events

Future editions of WOC:

\* 1-5 February 2016

\* 17-20 January 2017

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WOC is not solely a North American Event. WOC Europe will be held 20-25 April in Paris, alongside Intermat, to meet the needs of the European concrete market and to tie in better with visitors' demands to have an overall view of the sector.

The partnership between S.E. Intermat and WOC organizer Hanley Wood will create an opportunity for industry players along the concrete chain in Europe and French-speaking African and Middle Eastern countries. This partnership will allow Intermat to present a range dedicated to the concrete sector.

Organised within Intermat under the banner 'Be concrete,' the exhibition will occupy the front part of the exhibition centre's Hall 7. WOC Europe will fill out the extensive range traditionally on offer at Intermat across 20,000m<sup>2</sup> of exhibition space of the specialists in plant and equipment for the production, transport, handling, and laying of concrete.

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# Scanmaskin launches the SMART grinder/polisher



**Enough with having all the right equipment and tools but still not getting a perfect final result. Scanmaskin has developed the ultimate machine system for accurate concrete floor grinding and polishing.**

During the last decade concrete floor grinders and polishers have become more and more sophisticated. But still a lot has been left to operators to create an optimum surface. Estimating hardness of the surface, choice of the right diamond tool and right speed, has often separated good and bad results. Scanmaskin is now launching a new machine system guiding operators through the job and to an optimum final result.

To grind and polish concrete floors may seem at the first sight as a rather easy mission. This is partly due to all fancy grinders and polishers that have been launched in the last decade. Therefore many concrete cutters and demolition contractors have started to offer concrete floor grinding and polishing along with their other services. Even if the current machines and tools for concrete floor grinding and polishing are very well developed and easy to handle there are still important decisions left for contractors to consider.

## The concrete floor helper

But the concrete floor grinding and equipment manufacturer, Scanmaskin, has decided to make life easier for contractors by developing the new Scancombiflex 800 DSP. Just in time for World of Concrete in Las Vegas Scanmaskin is launching a new type of smart floor grinding and polishing machine, which the manufacturer considers an innovation for the industry. "This is world news! The new Scancombiflex 800 DSP represent something new that the industry has never seen before," said Scanmaskin president, Claes-Göran Bergstrand. "The thing is that even if you have the best possible remotely controlled grinder or polisher,

**The control panel that is guiding the operator through the work if set in automatic mode.**

there are a number of other parameters that need to be considered to achieve the best possible surface with highest possible efficiency and quality."

The choice of diamond tool is paramount, the grinding or polishing speed is important and it is just as important to determine the hardness of the concrete to be ground and polished, which depends on choice of tool and speed. The wrong choice of tool that does not correspond with the surface being treated results most often in increased costs. The wrong set up also affects the wear on the machine. "But the Scancombiflex 800 DSP is the optimum helper. The machine provides guidance in all steps. Thanks to the new integrated computer the machine gives accurate guidance to the operator through the control panel," said Bergstrand.

## Choosing tool, speed, estimate hardness

The new Scancombiflex 800 DSP guides operators through the whole grinding or polishing process. It recommends the kind of tool that should be used, the speed to reach an optimum wear and it senses the hardness of the concrete surface to reach the optimum performance for the treatment process. Before the work starts the operator programs the machine with the result he would like to achieve. During the operation the machine reads the treatment and provides continuous feedback if something in the work needs to be changed, such as change of tool, increased or decreased speed. This is obtained from sensors fitted on the machine and data collected in the main computer.

"There are many advantages with this machine and I believe that our clients will be thrilled when they get to test it. The feature that I particularly like is when the machine responds on the speed. If the grinding goes to fast and the wear is too high, which wears out the tool too fast or if the machine goes to slowly, the Scancombiflex 800 DSP always aim for the best overall economy and performance," said Bergstrand.

## How it works

At start up of the machine the operator can choose on the control panel if he wants to operate manually or automatically. With the manual option the operator receives, through sensors, feedback and warning when the tool wear is too high or when the tool is worn out. The sensors are

analog that continuously measure the wear or thickness of the tool. With manual mode the operator selects the speed and the tools.

If instead the automatic mode is chosen a series of images will appear on the control panel where the machine has calculated the condition of the concrete and which tool is the best for the work. A separate test of the material can also be made with the Mohs hardness test, so called Rope test.

To get the most from the machine operators should preferably use tools from Scanmaskin. "The machine is optimized for use with our tools and with the information the machine provides it calculates the hardness of the binder and the diamonds the tool is built of," said Bergstrand.

Scanmaskin has about 10 different binders for the diamonds and each binder has different hardness. This is clearly shown on the control panel. Besides that the machine finds the optimum speed for the work depending on the hardness of the surface and the tool. The machine also calculates the optimum forward speed, which is also controlled by sensors. Other important features include the machine's ability to measures the power output by comparing the wear reported by the sensors. This determines if the right type of tool has been used or concrete hardness selected. The machine system can also estimate how much time is left before the tool needs to be changed.

"For us Scancombiflex 800 DTS is a real revolution to the industry and we are really excited to introduce it at World of Concrete in Las Vegas," said Bergstrand.

Scanmaskin will exhibit at World of Concrete on booth S10515.

**[www.scanmaskin.se](http://www.scanmaskin.se)**







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# Motocut turns pile-breaking into a breeze

*A small Finnish town of Kerava, which sits on the highway linking Helsinki and Lahti, is the home to a young and dynamic company Motocut. A rookie player in the demolition game, Motocut specializes in pile cutting and breaking techniques. Andrei Bushmarin reports.*

A man with a hammer is becoming extinct on demolition sites. With deadlines always shrinking and safety requirements getting ever more stringent, demand for technology intensive demolition equipment is growing across the industry. It also applies to such a niche area as breaking down of piles. There are different tools for different kinds of piles, but Motocut aims to cover most of pile breaking applications with its solution.

## Starters with plenty of experience

Motocut was founded by Teppei Morimoto and Antti Mäkelä, who both had a previous track record in pile breaking. Teppei Morimoto, Motocut's creative force, had learnt the nuts and bolts of the trade while working for a specialist cutting contractor for eight years. It was Morimoto who three years ago came up with the idea of a pile-cutting machine, which should turn this usually slow and labour-intensive process into a simple task. He used his garage to build the first prototype. Shortly after Motocut obtained the international patent for its invention and, with the aid of a government-funded grant, produced the first five machines for Finnish and Swedish customers. Business development and customer relation is the area of responsibility of Antti Mäkelä, whose background veers from professional poker to pile cutting.

## Partnered with ALLU

For any enterprise, the start-up stage is always the

hardest. One way to give a business a leg-up is to join forces with an established player with a good reputation and well-developed sales network. Motocut followed that path by partnering with Finland-based ALLU. Having met at a trade show in Sweden last summer, the two companies agreed on cooperation. ALLU, which bought three of the first five machines, now represents Motocut in Scandinavia. According to Mäkelä, it is Scandinavia and Russia that the company is focusing on at present. He said that once the Motocut brand has gained recognition there, the company will be able to expand further afield. This might happen soon given that Motocut's business in Scandinavia is growing rapidly.

In January past, Motocut signed a contract with Norway-based Hallingmast for delivery of a custom-built pile breaker in spring 2015. In some countries, excavators lack articulating devices to mount the pile cutter on and that presents a problem for Motocut at the moment. To overcome this, the manufacturer has started to develop its own articulating system called Mototilt. Its price will only be one third of that of existing articulating systems, promises Morimoto.

## The pile cutter

Weighing 300kg, Motocut's pile cutter is suitable for excavators with operating weight of 5t upwards, with the recommended hydraulic oil flow of 50litre/min. The machine comes complete with two diamond blades, which cut the pile on two sides simultaneously. A small portion of the concrete remaining in the middle of the pile is snapped out by the grapple claw. A trapezoidal screw moves back and forth through the cutting unit, and each blade is pressed to the pile by the springs. The sawing process does not involve any direct force, which allows the blades to last longer.

The device is controlled from the cab using a display unit, which can be programmed for different cutting patterns. Operational safety is guaranteed by



**Motocut's Chief Executive Officer Antti Mäkelä.**



**Motocut's chief designer Teppei Morimoto.**



**Motocut's pile cutter in action.**

the fact that the operator does not have to stand next to the pile during cutting. The grapple claw makes it possible for cut-off pieces to be stacked onsite. With only one excavator and one operator needed to perform a pile-breaking job, the project scheduling is also made easier. All these benefits were recognized by the Finnish Quality Association that granted the Quality Innovation of the Year award to Motocut in 2012.

**[www.motocut.fi](http://www.motocut.fi)**







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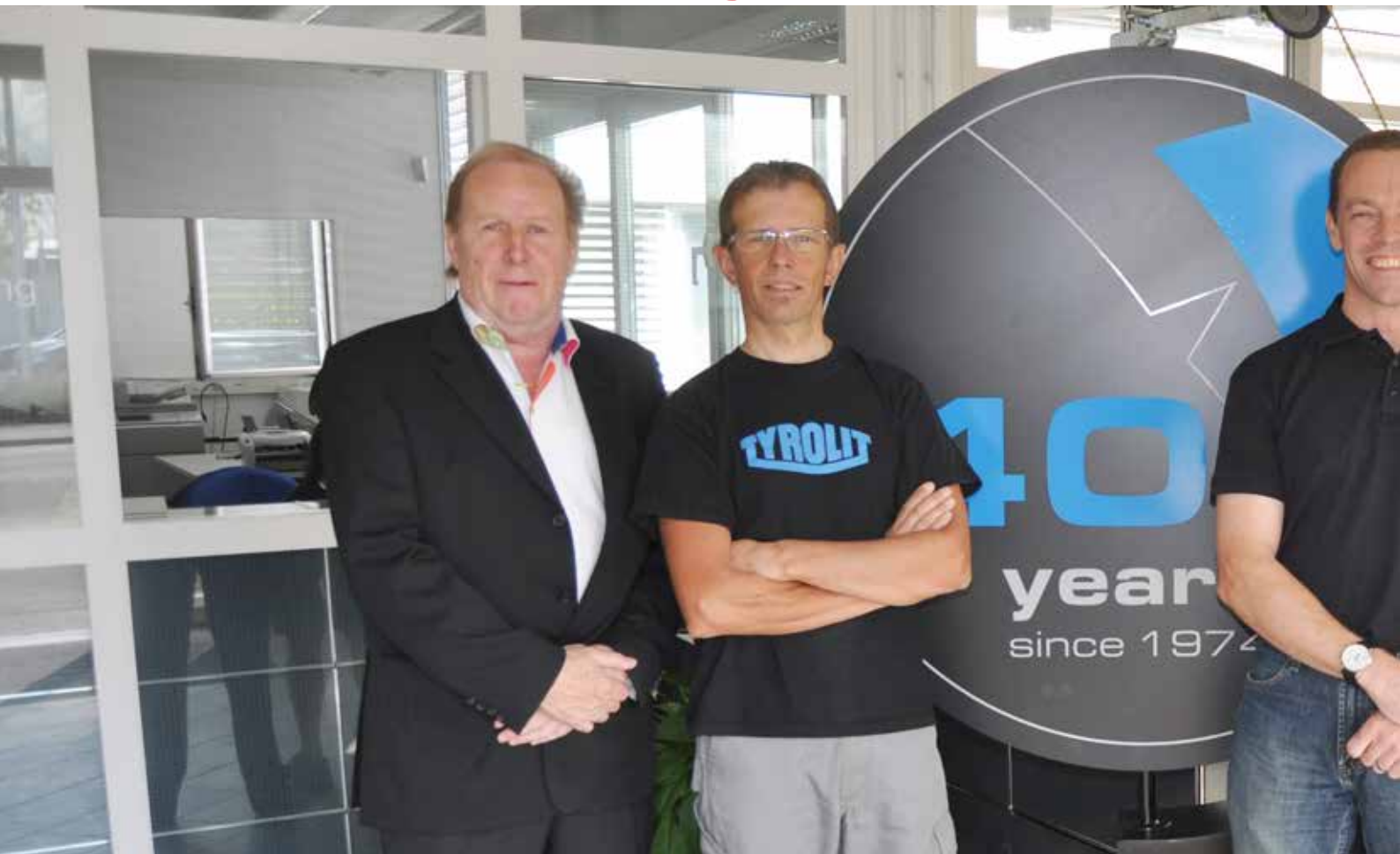


Quici lift





# Reliability permeates



The Tyrolit Hydrostress management in Pfäffikon. From the left: Harry Nick, Business Unit Manager, Marcel Haussener, Manager Assembling & Service, Pascal Schmid, Head of Research

***PDi 4-2014 featured Tyrolit's premises in Austria and continues in this issue with the manufacturer's development of machines and equipment for concrete sawing and drilling in Pfäffikon, Switzerland. PDi's Jan Hermansson reports.***

Harry Nick, Business Unit Manager and Christian Brunner, Head of Marketing Machines in front of a unique solution for cutting large round openings.

It is wonderful day in September and Tyrolit Hydrostress is meeting up at the plant. Tyrolit Hydrostress, originally called, Hydrostress was founded in 1974 by Hans Bieri. In 1991 Hydrostress and Tyrolit started a successful cooperation. With the integration of the Hydrostress company 10 years later Tyrolit could further strengthen its strong market position as a manufacturer of machines and tools for concrete sawing and drilling. Although Bieri sold his company there are still some his grandchildren working in the company.



## A home for concrete cutting equipment

During the first decade of the company Hydrostress developed and manufactured equipment for sawing and drilling, but also carried out work as contractors. Hydrostress was one of the few companies when the industry was in its infancy. The company has been home for several key personnel within the Swiss, Austrian and German concrete cutting industry and is where they learned their profession. But a lot has changed since then. Now, with increasing automation about 55 employees are working in research and development, marketing, service and assembling. Next to the in-house production Tyrolit Hydrostress also cooperates with partners from all over the world. Most of them are Swiss respectively are based in Europe. Domestic sales in Switzerland have been allocated to Nestag since 2013 when Tyrolit Hydrostress bought the company. However former owner Donat Fritsch is still heading the company until 2015.

## Finding new markets

Hydrostress's strongest market is Europe. "Here we have built up a very good foothold over many years", said Hydrostress marketing machines manager Christian Brunner. However business unit manager Harry Nick highlights that they also see a big growth potential in Asia and the Middle East. With products customized for their regional needs extra efforts are made to improve the Tyrolit presence in this area. Hydrostress is satisfied with the current market situation in Europe. Switzerland and France are



# tes everything



and Development, Claude Jacot-des-Combes, Manager Finance and Administration, and Christian Brunner, Head of Marketing Machines.

also up, Germany is fine and the UK is slowly picking up. The Nordic region and Italy are also fine. Nick also said that Russia is a very interesting market and business is good. High cycle or high frequency equipment is currently dominant in Europe and is also becoming increasingly common in the US. But on many other foreign markets hydraulic concrete cutting equipment is still popular, in particular in special applications like offshore, nuclear and power plants.

## A faithful staff

Hydrostress is like a big family and most of the staff have been with the company for many years. Several of the employees have worked there for nearly 30 years. The production is based on what Nick calls 'a one piece flow system', which means that the same person makes a machine from the start to finish. Hydrostress has used this production method for the last four years. Each workstation is also mobile as all parts and tools are loaded on a movable trolley. The new high cycle equipment from Tyrolit Hydrostress dominates production. Next to several local service facilities around the globe also Tyrolit Hydrostress domiciles a so called center of competence for service and repair works of electric and hydraulic equipment. Close to the production facilities is a test centre where all machines are tested including prototypes. New machines also go through field tests before they are released to the market. The Tyrolit Hydrostress engineers carry out the field tests with a number of pre-chosen contractors. The Tyrolit Hydrostress

plant in Pfäffikon covers an area of 3,800m<sup>2</sup> and includes production and test facilities and service centre and offices.

## The magic behind P2

Nick recalls when the high frequency equipment started to show up on the market and remember it as a complete mess. "During this first period when a lot of different high frequency systems where released I think the contractors where a bit confused as the new technique was not reliable. One should know that electricity and water is not a good combination when things are not done properly," said Nick. "But I am very proud about our P2® system that I consider the most sophisticated electric high cycle system on the market."

Brunner agrees, adding: "Customers love the P2 technology and its convincing benefits. Our remarkable increase in sales clearly proves this."

P2 stands for Permanent Power and is Tyrolit's platform for newly engineered electric high frequency products.

"When developing our flagship, wall saw WSE1217\*\*\*, we had to think outside the box to reach our project goals with reliability and performance clearly in the centre of all considerations. At that time the construction industry simply didn't offer any innovative and satisfying solutions. Finally it was the car industry and their concepts for electric driven cars that gave us impulse to develop and implement a similar technique. The result was our P2® technology. Currently three systems are based on this promis-



Well organised and neat production premises in Pfäffikon.



Hydrostress first track guided wall saw



One of the first vacuum fixed wall saws.



Entrance to the Tyrolit Hydrostress premises in Pfäffikon.



The Tyrolit Hydrostress Service Center in Pfäffikon.



The most recent wall saw from Tyrolit Hydrostress, the WSE1217\*\*\* with P2® Technology.



ing platform with more products in the pipeline” Nick explained.

“Part of the secret was to use so called permanent magnets. This allows manufacturers to develop HF systems with lower motor rpms and a very high level of efficiency while still keeping weight and dimensions at a low level. Lower motor rpms reduce the load on machine components which results in a higher lifetime of parts and a reduction of breakdowns. At the same time service and repairs are less expensive as delicate machine parts are no longer required respectively have to deal with much lower loads. Because the whole system generates a lot less heat the efficiency and therewith the output power is very high. Heat usually eats a lot of power and has a negative impact on the reliability,” Brunner illustrated.

### Three strategically goals

In line with the overall Tyrolit strategy there are three main strategic goals that Tyrolit Hydrostress are focusing on. One is the transfer of focus from hydraulics to high cycle techniques. Tyrolit Hydrostress are in the process of building up the same internal knowledge in high frequency techniques, as they possesses in hydraulics. The second is a focus on new products and activities for the construction trade business. These ambitions will address dealers and rental companies in particular.

The third strategy is special projects that include sectors like nuclear, offshore, tunneling, under water applications, grinding, ship and aircraft industry and other sectors involving more complicated concrete sawing and drilling applications. The Tyrolit Hydrostress professional standard range is built in a way to customize each product system for special applications. “One big advantage with our special projects sector is that we get to test our standard products thoroughly, which also makes it possible to improve and develop

them continuously. But when it comes to special projects we don’t do the actual job, as we don’t want to compete with our clients.

We only provide the products and tools for the special application and we are ready to back up our clients with special knowledge if needed,” said Nick.

### New products

To develop and launch new products or systems is a long process, which Nick calls the ‘stage gate principle’. A new product or idea is often the result of a mix of ideas from clients and staff at Tyrolit Hydrostress. Often an idea is presented to the research and development department, which if approved a prototype is built and tested. Pilot machines will be built and tested by selected clients. If successful the products are presented internally to all Tyrolit companies prior to launching on the market. On average the process takes about two years and the company normally has a good idea of new products five years ahead. Currently there are about five new product development projects in process and some will be released in 2015. “One of our strengths during a product development project is that almost the whole company is involved in the project, not only the R&D department, but also the sales and marketing department,” said Nick.

### Reliability is paramount

Reliability is the most important value and watchword at Tyrolit Hydrostress in Pfäffikon. The fact that clients should get reliability when buying from Tyrolit Hydrostress is drummed into all parts of the company. Reliability is the keyword in personal contact, reliability in information and presentation, training, manufacturing, service and on the worksite when using tools and equipment from Tyrolit Hydrostress. “I am very proud about the working principles we follow in Tyrolit Hydrostress,” said Nick. “Our motto is reliability and that is what we want to be best at, to deliver reliability in all aspects in particular when it comes to our products. We also want to be quick to solve problems so our clients can be back in production as quick as possible.”

[www.tyrolit.com](http://www.tyrolit.com)

### Correction from PDi 4-2014

In PDi 4-2014 and the article about Tyrolit a spelling mistake occurred. PDi accidentally spelled Tyrolit TGD-technology TDG. TGD means Tyrolit Grain Distribution and refers to how the diamond grain is distributed according to a certain pattern in the segment. So, TGD is the correct spelling and nothing else.



Test run with the new DME36\*\*\* drill motor from Tyrolit Hydrostress.





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# *PDi Concrete Cutting Survey 2014*

# “The show

***In PDi's annual year-end concrete cutting survey we try to estimate the global concrete sawing and drilling market. We look at figures that are available for the year and forecast what we think the future might bring for our industry. PDi's Jan Hermansson reports.***

How did 2014 the global concrete sawing and drilling business perform? Judging from the comments at the last meeting of the International Association for Concrete Drillers and Sawers in Madrid in June, the situation is satisfactory in various markets.

## **IACDS provides a guideline**

The IACDS meeting mainly reflected the development in 2013 and the first half of 2014. But the remainder of 2014 has shown growth on most markets compared to the figures in June 2014. The umbrella association contains national concrete sawing and drilling associations in Europe. In addition the US, Japan, Russia and Australia are also members, which all together represent a large part of the global concrete cutting market. Countries and areas with substantial concrete cutting activities that are not part of the statistics for this year and 2013 are China, India, South America, Brazil and other markets in South America and the Middle East. From contacts in these markets the current situation is assessed as good and slightly growing in these areas.

Currently the strongest concrete cutting market is Germany with about 1,200 concrete sawing and drilling contractors where about 674 belong to the German sawing and drilling association. The German association is very strong, but the number of members has decreased slightly. The market situation is still good.

In Sweden it is about the same, where the market is still strong and the number of contractors is about the same in 2014 as in 2013. The Austrian concrete cutting market also reports a positive economy and has been since about the middle of 2013. However the market is stronger in the east compared to the west. In Spain it is believed that the crisis hit bottom in 2013 and a small upward change is reported, however it is very small. Italy is struggling like Spain, but the concrete sawing and drilling industry has been doing well, due to a number of larger projects in the country.

A special concrete cutter Facebook group was recently established in Italy called Italian Concrete Cutters and Drillers Association. The Belgium market is experiencing an upturn after years of crisis. The UK concrete cutting industry is currently showing optimism. The UK association members report improved trading, although pricing remains competitive. Reports from suppliers are showing vast improvements in sales, which has increased staffing levels. Some large contracts, particularly in the south of the country, have boosted confidence in the industry. Water authority, rail and nuclear contracts are at a forefront of government and private sector expenditure for the foreseeable future.





# 2014 must go on"

The Swiss market reports that the economy continues to be good and has been for many years. However, Donat Fritsch, from the Swiss association, said that the 2013 federal examination of concrete cutting apprentices resulted in an 80% failure, which came as a shock. The complete vocational training system had to be renewed. The 2014 federal exams, however, resulted in more than an 80% success.

The Japanese association reported that there are currently a lot of projects involving concrete sawing and drilling in the country. Despite a good market situation there are rising problems with material and labour shortages. The Japanese concrete cutting and sawing industry has remained on more or less the same level since 2010 with a slight increase every year, however on a much lower level than between 2007 to 2013.

The US concrete sawing and drilling market benefits from a growing building and construction sector. The wheels have started to spin faster and faster in the US, which is something that is not only positive for the US, but also for the rest of the world. Non-residential building is up by about 4% and residential building 3%. It is mainly in the northeast and the south central parts of the US where there is most construction activity.

It was also reported that the Hong Kong construction market is still booming and both concrete cutters and demolition contractors have plenty of work. These are the latest updates and figures from various markets.

## Waiting with investments

Although the world is facing political difficulties, the

construction industry has kept its balance. Maybe the world is now more able to cope with political conflicts and remain calm. Although contractors are busy there exists a certain reluctance towards investing in new machinery and new systems. The increase in the economy has started and some of the driving forces of the economy have been down

like China and US and the hope for a real boost are set for 2015 and 2016 with the US taking the lead. There is caution that also is contagious, which mainly allows contractors to go on using their old systems and investing mainly in consumables. To hire new personnel is also something that will have to wait until the market shows clear signs of growth.

## 2014 Concrete Cutting Market

Country/Association	Association Members	Total number of contractors	Average revenue company in US\$	Estimated total US\$	Most recent date info provided
Australia	220	620	800'000	496'000'000	2014/06/12
Austria	37	130	800'000	104'000'000	2014/06/12
Canada	28	350	600'000	210'000'000	2012/03/06
China (5)	-	1'000	300'000	300'000'000	2012/03/06
Czech Republic	-	50	500'000	25'000'000	2012/03/06
Denmark	35	150	600'000	90'000'000	2012/03/07
France	35	250	1'400'000	350'000'000	2011/05/07
Germany	674	1'200	600'000	720'000'000	2014/06/12
Ireland	40	-	300'000	12'000'000	2008/05/03
Italy	-	200	600'000	120'000'000	2012/03/06
Japan	110	1145	1'200'000	1'374'000'000	2014/06/12
Korea	-	730	1'000'000	730'000'000	2005/06/02
Netherlands	110	400	500'000	200'000'000	2012/03/06
New Zealand	40	120	500'000	60'000'000	2005/06/22
Poland	-	120	400'000	48'000'000	2012/03/06
Portugal	-	30	300'000	9'000'000	2012/03/06
Russia	-	400	600'000	240'000'000	2012/03/06
Spain	21	120	500'000	60'000'000	2014/06/12
Sweden	102	350	1'100'000	385'000'000	2014/06/12
Switzerland	86	300	1'000'000	300'000'000	2014/06/12
Turkey	-	80	600'000	48'000'000	2014/06/1
United Kingdom	74	250	1'200'000	300'000'000	2014/06/12
Brazil	-	400	400'000	160'000'000	2012/03/07
India	-	700	400'000	280'000'000	2012/03/08
United States	292	2'000	1'500'000	3'000'000'000	2014/06/12
Totals	1'904	10'895	Ø 17'700'000	9'621'000'000	



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# Concrete cutting equipment releases during 2014



Three winners (left to right): Mikel Jaroslav, the Czech Republic (third place), Jan Läderach, Switzerland "TYROLIT Cutting Pro Competition European Champion 2014" and Luigi Zamperini, Italy (second place).

**2014 has been a comparatively normal year for the global concrete sawing and drilling industry. There has been the usual launch of new products and other news from the market. PDi's Jan Hermansson summarizes the year.**

Delegates of the IACDS annual meeting in Madrid last year.



## First some business briefs

At last year's World of Concrete show HTC Americas announced that Per Ohman had been appointed new president for the US subsidiary and PDi issue 5 reported the appointment of Stefan Lind as the new chief executive for the entire HTC group.

Tractive, manufacturer of Pen-truder concrete cutting and drilling equipment, announced that the company DDE Demolition and Drilling Equipment with Robin Jackson in South Africa started selling Pentruder equipment. DDE has sold Brokk demolition robots in South Africa with great success since 2008 and will now focus even more on the construction business.

In February last year Tyrolit held the final in the international Tyrolit Cutting Pro Competition. The final was again held in Innsbruck. 27 national champions

from 14 countries were competing and Switzerland's Jan Läderach won the trophy this year. Luigi Zamperini, Italy came second and Mikel Jaroslavon, Czech Republic, came third.

Diaquip UK Manufacturing has established themselves globally over the past four years. A further 10 distributors joined during 2013. The directors aimed to bring in 15 more distributors during 2014.

In April 2014 the National Association of Concrete Drilling and Sawing in Russia organized the first specialized exhibition of diamond technology in construction. Main idea of exhibition was to popularize technology of

concrete drilling and sawing in construction. For manufactures and distributors it was a unique opportunity to show new machinery and diamond tools. It is planned for the exhibition to be held annually.

News from the US market was that Tractive announced at last year's World of Concrete that the manufacturer had reached an agreement with US company ICS Blount which has taken over marketing, sales and service of Pentruder equipment in North and South America.

Last spring several new Facebook groups for concrete cutters was established on internet. The biggest one, Concrete Cutting Nutters Association, has today well over 2600 members worldwide and are aiming to become a full blown association in the near future.

Also in 2014 the International Association for Concrete Sawers and Drillers and the European Demolition Association merged their annual meetings in the Deconstruction Forum. The meeting in June, gathered over 200 delegates from Europe and many other countries, and took place in Madrid, Spain.

During 2014 Cuts Diamant announced that it had opened its own branch in Canada to strengthen its commercial presence in North America and to provide quick deliver-





ies and an efficient after sales service. The branch is located in Strathmore, near Calgary and represents a further step to improve the Cuts Diamant services in Canada and the US.

During September the bi-annual Nordic demolition and concrete cutting exhibition DEMCON took place at InfraCity, Stockholm. Along with the show the Swedish Demolition Award ceremony took place for the second time. The organizer SCOP also announced that, together with its US joint venture partner, Riverbends Publishing, it will to organize a special forum for the concrete cutting and demolition industries in South America in October 2015. The forum, called Latin American Concrete Cutting and Demolition Forum 2015, will be held on 2-3 October 2015 in Rio de Janeiro.

The Hilti Corporation has completed its new Innovation Centre in Schaan, Liechtenstein, and is another step in Hilti's intention to further strengthen the Schaan site as a centre of excellence for cutting-edge technology and highly innovative products.

Ukrainian diamond tool manufacturer Diamantwerk launched their new Allinclusive drill bit restoring module that can be used to replace drill bits on site in just 10 to 15min. The module incorporates flux and a brazing alloy and only needs heat from a blow torch to remove the old bit and braze on the replacement diamond tipped drill bit. The concept has already been employed extensively on many construction sites in Russia, including projects associated with the winter Olympic games in Sochi. Diamantwerk continued the development of the Allinclusive technology that will allow the restoration of a diamond drill bit without gas or electricity. Besides that, the replacement module will be able to be installed on any metal core mandrel not originally intended for the module change system.

DiamantWerk, which also celebrated its 20th anniversary 2014, has also developed Smart technology, which is a diamond blade with improved safety. The blade is equipped with special indicators that show the improper use of the tool. During curve cutting, binding, extreme loads and continuous work the indicator shows that it is time to stop and is the signal to view the cutting method and rest the tool. Such methods allow an increase in diamond tool life. The core of the blade saves its hardness until the full wear of the diamond layer.

#### Handheld news

iQ Power Tools of Moreno Valley, California, US, has introduced the PC912, the world's first dust control power cutter. The PC912 is a hand-held, gas-powered 305mm saw that provides all the benefits of a standard cut off saw for concrete and masonry, plus an integrated dust collection system.

Husqvarna launched during 2014 their new Prime product range of electric cutting equipment bringing the advantages of current high-frequency technology to new levels of efficiency and usability. Headlining the products are the K 6500 and K6500 Ring cutters, which both deliver 3-phase 5.5kW and single-phase 3kW power outputs, with the advantage of in built digital processing to ensure opti-



mum power and revs/min for each job. Husqvarna's Prime also includes the DM 650 drill motor, which delivers 3-phase 6kW and single-phase 3kW on the spindle. Weighing just 14kg, the DM 650 is ideal for core drilling to depths between 100mm and 600mm. The torque boost feature reduces speed to increase drilling torque, making the drill ideal for a wide



  
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range of heavy-duty applications. The power behind Prime is the PP 65 air-cooled electric power unit. The 10kg unit delivers up to 16A and 530V in 3-phase, and 10A and 240A in single-phase.

The PP 65 can think for itself to automatically detect and set up connected equipment and the power source. A digital menu and display panel allows users to ensure efficient equipment control and service. Included in the new Prime line is also the new wall saw WS 220. The Husqvarna WS 220 is a compact and powerful electric wall sawing system for blades of 600mm to 900mm diameter and capable of sawing through 390mm thick walls. The engine delivers 6kW on the spindle and weighs 19kg. Power the wall saw does the new Husqvarna PP 220, which is a water-cooled, 7kW power pack for Husqvarna WS 220 wall, saw, equipped with wireless remote control.

Hilti released their next generation of TE 70 comb hammers, which unleash power and speed while maintaining maximum protection and comfort. With a 1.8kW motor, the TE 70 delivers adequate power for fast drilling in various applications.

The TE 70 has been upgraded to include active vibration reduction and active torque control. For added operator protection, the ATC reduces the possibility of twisting should the drill bit catch. The AVR system dramatically reduces the vibration to the operator and cutting fatigue. CS

CS Unitec debuted the ETN 162/3 P diamond core drill, manufactured by Eibenstock that can be used wet or dry, hand-held or stand-mounted. The 19A, 110V motor drills holes up to 150mm diameter in concrete, reinforced concrete, brick, block, and stone. Electronic torque limitation and speed control guarantee constant speed, even under load. The slip clutch prevents jamming and allows hand-held operation.

### New core drilling equipment

New core drilling equipment was also introduced during the year. Hilti extended its drilling range with a new system for wet applications called DD 160. Designed for rig-based wet coring with up to 200mm core bits, the DD 160 belongs in the mid-range of Hilti's drilling equipment.

Tyrolit Hydrostress released their water-cooled drill motors DME36MW\*\*\* and DME36UW\*\*\* based on the company's P2 technique. Boasting a power of 3.6kW, the new motors cover a diameter range of 50mm to 450mm. With DME36MW\*\*\* and DME36UW\*\*\*, Tyrolit Hydrostress is targeting concrete drilling contractors.

Germany-based Kern-Deudiam bought the XXL drill rig programme from another German company Longdia. Accord-

ing to Kern-Deudiam, the transition went smoothly, with Longdia customers being able to purchase spare parts or to buy a new drill rig. A new guide roll system and a fine feed gearbox have been introduced. The KDS-XXL series covers a drilling range of up to 350mm and comes complete with a quick-change clamping system. The system weighs 22kg and offers the possibility of 0-55° diagonal adjustment.

Spanish company Sima has released two new drill motors for construction materials, the Drill-4 and

Drill-9. Both models have a power rating of 3.5kW and come equipped with a two-speed gearbox and a safety clutch.

Weka has enlarged its drill rig range with the new diamond drill rig KS30 and KS30S and KS30E versions, which are suitable for Weka diamond core drill types DK26, DK32, SR25 and SR38. It has a number of benefits, such as low weight and maintenance pared with high stability and low vibration. It is equipped with a quick change plate, angle adjustment and makes set up and transportation easy, thanks to the roller guide system, the vacuum foot and transport wheels. Weka KS30 is 950mm long, can carry drill bit diameters up to 350mm and lengths up to 560mm. The feed case of the KS30 is fitted with a ball bearing roller guide with the rollers moving on guide rails. Roller adjustment is made by two eccentric shafts. A circular level enables an exact vertical adjusting of the drill column. A stop pin is used for loosening the drill bit. The complete drill system weighs 13.9kg and was launched at the Bebosa exhibition in Germany.

### New floor saws

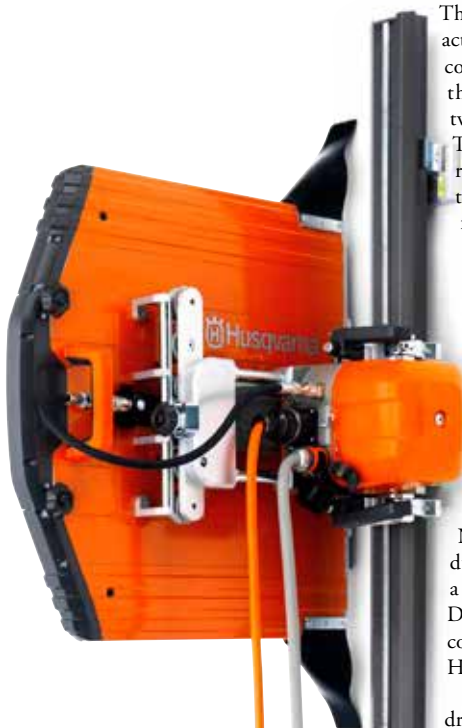
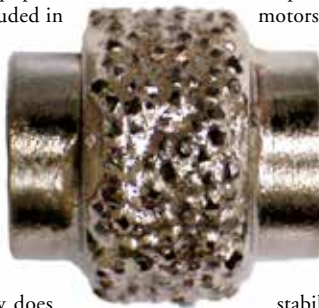
Wakra Maschinen created their first dry-cutting floor saw model Dicorona. The latest developments at Wakra are the dry cutting machines Dicorona 273 at 17kW and Dicorona 473S at 34 kW. In electric floor saws, Wakra has released a very compact machine, which is driven by an 11kW electric motor.

The Australian company Makinex, based in Sydney, has been providing equipment to the construction, landscaping, infrastructure and related industries since 2004. Makinex's latest range of floor sawing machinery includes three petrol and electric models. They boast a number of improvements aimed at enhancing ergonomics and productivity. Sturdy and easy-to-operate, the machines are designed for concrete cutting at a depth of up to 153mm using a 350 or 400mm diameter blade without needing to reconfigure the pulley system.

Russian manufacturer DUS from Petersburg has developed an electric floor saw DUSFS 270. The floor saw is powered by a 7.5kW electric motor and accommodates diamond blades up to 800mm in diameter and has a maximum cutting depth of 320mm.

Tyrolit Hydrostress has expanded its floor sawing range with another model featuring the company's innovative power transmission system. Designed for cutting asphalt, green and cured concrete to a depth of up to 480mm, the new 55kW FSD1274\*\*\* floor saw boasts a three-speed gearbox, which ensures optimum blade speeds and long blade life.

Husqvarna Construction Products used the last World of Concrete show to unveil two new floor saws complying with the latest Tier4 Final/Stage III B emission regulations. Sturdy and powerful, the FS 5000 D and FS 7000 D are designed for heavy-duty applications. The





bigger FS 7000 D is a walk-behind model suitable for roadwork, large sawing jobs and deep floor sawing. The smaller FS 5000 D is perfect for small to mid-size jobs, service work and floor sawing. As with all Husqvarna machines, great importance is attached to ergonomics and user-friendliness.

Italian Cuts Diamant has released a new series of walk behind saws. The series is available in four versions, depending on the maximum diameter of diamond blade of 350, 400, 450 and 500mm, the machines can be fitted with different engines.

Another Italian manufacturer, Sea Technology, used Samoter to present its new model Seafloor 500. Powered by a 10kW Honda engine, the compact and powerful Seafloor 500 has a cutting depth of up to 190mm and comes standard with a 500mm diamond blade.

### New diamond wires

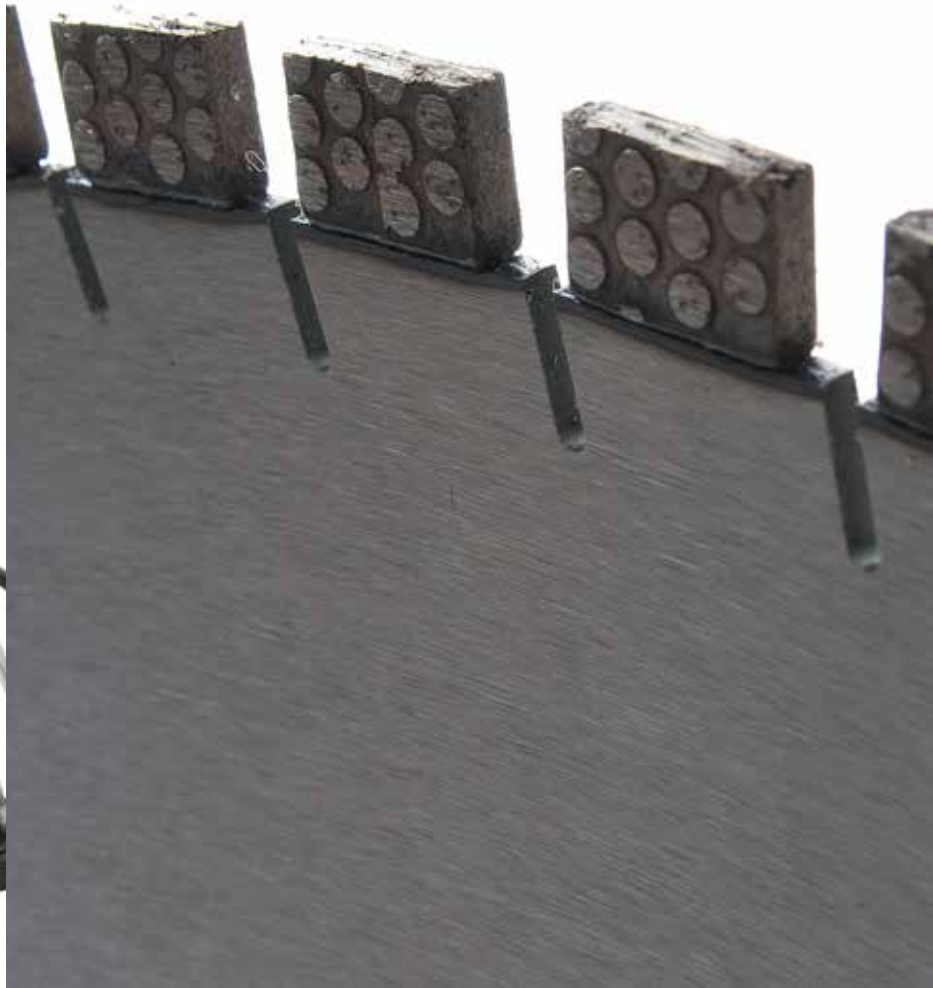
2014 was also the year when Widecut from Korea launched their new series of brazed diamond wires. Brazed beads are made by sticking diamonds on a steel body with a mixture of chemical paste and heat treated in a furnace. There are three advantages why brazed wire became one of the most demanding diamond wire types. First, sticking diamonds on a steel body by using the paste gives a strong bond of the diamonds. Paste wraps the diamonds up to half way. When there is strong hold of the diamonds they can work longer and thus, operators can use the wire longer. Second, controlling distance between the diamonds is possible. Thus, Widecut can create a 'chip pocket' or gap between the diamonds, which makes the exiting of sludge much easier. Also, 'chip pocket' makes a good path for easy water flow, which enhances the wire performance. By using paste, a double layer of the diamonds is possible. This enables control of the diamond layer, which links to lifetime of the wire. Therefore, brazed wire will be a popular tool because it will give fast speed and good and constant life and incorporates the advantages of sintered and electroplated wires.

### New diamond tools

Cuts Diamant has released the new diamond blade EC 620, which is suitable for cutting asphalt and green and cured concrete. This diamond disc is particularly suitable for companies renting machines and equipment. They can offer customers a diamond blade that can cut concrete and asphalt, without the need of having to mount and remove the diamond blade according to the material to be cut.

Shinhan Diamond has launched a third generation of their Arix diamond tools. According to the manufacturer, drilling speed has increased by 30% with the G3 core bits, compared to the current Arix products. At the same time, service life has been extended by 20%. This has been achieved by improving the grip of diamond particles inside the bond. Having started with core bits, Shinhan Diamond plans to extend the technology to other types of its diamond tooling.

Cuts Diamant has joined the ranks of the manufacturers that embrace positioned diamond technology. The core bits, with positioned diamond for both dry and wet applications, are now available from the company. For dry coring of masonry and lightly reinforced concrete, Cuts Diamant offers the core bit CF 101 and the 271. For wet drilling of heavy reinforced concrete as well as masonry, the company recommends the core bit CF 380.



# Heger strengthens its positions

The German diamond tools manufacturer Heger Excellent Diamond Tools, located in Heitersheim south of Freiburg, spent a lot of energy establishing and settling the new organisation after the split from the American shareholder in April 2013. After one year the focus changed back to product development and improvement and for spring 2015 several products will be launched.

The diamond wall sawing series TWD, covers the full range of machine power and concrete behaviour. The segments are manufactured using the Xflow dotted segment technology. Metal bond and diamond specification uses state of the art technologies to reach highest levels of performance.

In drilling the two universal drill segments BC34 and BC36 have been introduced. Heger also developed a new drill rig series to fulfil requests from drilling professionals. The development team has been listening to drillers for many months and

combined many suggestions into the new rigs. These include new material for the guiding wheels to absorb vibration and guarantee an easy movement of the gearbox driven motor slide.

As a Weka service station, Heger can also provide Weka motors and take over maintenance and service in-house. For 2015 Heger will introduce a 'Rent and Service' offer to provide an alternative to the drilling industry for leasing or renting high quality motors.

For floor sawing products for asphalt and concrete there are new specifications, which will be launched in the summer.

The biggest change in 2015 will be the move to a new production plant. The manufacturing space will be enlarged significantly to further increase in-house production. Construction has started and the move will take place in June.

[www.heger.com](http://www.heger.com)



# New Tools for a

**2014 was a year of challenges and tragedies. Wars and strife kept breaking out all over the world, sometimes in places we could least expect. ISIL, Ebola and the Russian-Ukrainian conflict were the buzzwords of the year. Let us hope that 2015 will provide solutions to the challenges we are all facing. Andrei Bushmarin reports.**

Tagliomuro from Maxima.

The diamond tooling industry was dramatically affected by the ongoing geopolitical disturbances. The Poltava-based manufacturer Diamantwerk was forced to suspend production until the conflict between Russia and Ukraine eases. The plummeting ruble and sanctions imposed by the West on a belligerent Russia, turned this once voracious market into virtual non-existents. While waiting for politicians to find a way to reboot relations, manufacturers try to offset their losses by going elsewhere with their new products.

## Widecut premieres a vacuum-brazed wire

Last year, Korea-based diamond wire specialist Widecut debuted its latest model made by the vacuum-brazing technique. The new wire has diamond particles embedded into the bond at different depths, creating a dual layer pattern. Once the first layer is worn out,

development. The result was a raft of new products the German manufacturer launched in 2014. For wall sawing applications, it introduced the TWD diamond blades fitting machines of different power rates. The blades come equipped with segments manufactured by Heger's Xflow dotted segment technology for high-performance cutting. Also new from Heger are two universal drill segments BC34 and BC36. They are said to have met with such a success that the manufacturer had to stretch its capacities to fulfil all incoming orders. On top of that, there are products in the pipeline for floor sawing applications, which Heger is now fine-tuning for an expected launch in summer 2015.

[www.heger.com](http://www.heger.com)

## Maxima unveils two new products

Italian diamond

tool  
manufac-  
turer Maxima,

is steadily growing  
into a major force in  
the international market.

Last year, Maxima increased its range with two new products aimed at concrete drilling and cutting professionals. Designed for wet drilling of concrete and masonry, the new Corona TRE 450 core bit is made from corrugated steel to improve exit of the slurry during operation. Complete with laser-welded segments, the core bit offers a maximum drilling depth of 450mm. Another novelty from Maxima is the wall saw blade Tagliomuro 5. It is manufactured by 2D technology, which ensures bi-dimensional positioning of diamond particles during sintering. Intended for heavy-duty sawing with machines with the power rate

the second takes its place to continue cutting while simultaneously increasing the tool's life. Designed to cut steel and heavily-reinforced concrete, the new model ensures minimum vibration during operation and a smooth surface of the cut.

[www.widecut21.co.kr](http://www.widecut21.co.kr)

## Heger burst into activity

Following a buyout of its US shareholder and the subsequent restructuring in 2013, Heger Excellent Diamond Tools shifted its focus back to product

TWD from Heger.

Venom from Levanto.





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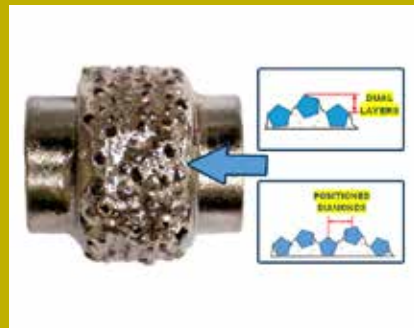
## Levanto goes north

Established in Helsinki in 1937, Levanto Diamond Solutions is one of the oldest manufacturer of diamond tools for mining and construction applications. Having prioritized Scandinavia and Russia as its key markets, the company has been consolidating its position there in the past decade. Last year its focus was on Norway where Levanto took over two local players - Scan-Diamant and Constec. Levanto's best-known products for construction are Trombi core bits and Venom diamond blades. The segments of the Venom series have been recently re-designed to increase the tools' lifespan and to improve cutting performance. The segment now features a V-notch to boost cutting performance, while its larger size contributes to higher durability. The Venom blades are available for wall and floor sawing machines in 350mm to 1,600mm sizes.

[www.levanto.fi](http://www.levanto.fi)

Corona TRE 450  
from Maxima.

## Widecut's new vacuum brazed wire



Widecut's vacuum brazed wire has distinctive features and include dual diamond layers, which provide a similar effect as sintered wire. After wear of the first diamond layer, the second diamond layer emerges to continue. This provides the advantage of fast cutting speed from the exposition of diamonds on the surface with a long life.

Widecut also provides distance between the diamonds, which allows fast cutting speed. Often brazed wires are used on steel cutting jobs and the distance between the diamonds gives gap for the sludge to exit. Brazed wire also ensures a smooth cut surface and minimum vibration during sawing.

[www.widecut.com](http://www.widecut.com)

## Quick-changing device from Cuts Diamant

Another Italian manufacturer, Parma-based Cuts Diamant, has designed a quick-fixing kit, which enables fast and easy changeover of core bits. It allows users to save a lot of time and effort on site and eliminates the possibility of damage to the core bit's thread. The kit consists of a 1in mandrel and a 1in core bit connection. From one side, the mandrel is attached to the drilling machine and from the other side to the core bit connector. The latter is then screwed onto the core bit. In order to speed up the changeover process, the manufacturer recommends a few connectors screwed onto the core bits of most usable diameters in advance.



[www.cutsdiamant.com](http://www.cutsdiamant.com)



# Hydrodemolition a concrete removal method for our time

***“With the current emphasis on efficiency, cost-effectiveness and health and safety, hydrodemolition provides a concrete removal and refurbishment system for modern working conditions,” said Aquajet Systems key account manager Patrik Andersson in a paper given at the recent WJ-TA-IMCA Expo in the US. Here is a summary of his speech.***



**Many of our concrete structures needs urgent repair and continous maintenance.**



**Above: A hydrodemolished surface. Below, new concrete poured that bonds perfectly.**



The rattle of jackhammers is still a feature of construction, maintenance and demolition sites, but in recent years the use of hydrodemolition robots has proven to be so effective that many contractors and public sector organisations are investing in the machines. Although the universal use for this form of concrete removal is some way off, the advantages mean that it is fast gaining ground. Advances in automatic robotic technology mean that this equipment can now cope with almost 95 % of all concrete repair tasks.

## Two main types of repair

The most common reasons for concrete damage are alkali silica reaction, corrosion from salt or acid rain, physical damage from traffic, the weakening effects of the freeze-thaw cycle, chloride carbonation, and corrosion from steel reinforcement. The two main types of repair method are jackhammers and hydrodemolition.

Jackhammers represent a low initial investment, but they are labour intensive and have many disadvantages. A jackhammer can cause damage to the rebar, and leave corroded and damaged rebar behind. It is all too easy to remove bad and good concrete alike, and to leave an insufficient bonding surface. The vibrations can create additional cracks, and cause stress to the structure and operators and it is noisy.

Hydrodemolition avoids the problem of hand-arm vibration syndrome that often afflicts operators of jackhammers. It can lead to considerable pain and time off work, and may result in permanent disability. A related condition is vibration white finger that can damage circulation in the fingers and lead to spells of numbness.

Hydrodemolition however is a tool for today's requirements. Amongst the benefits are a selective removal system, no cracking, no dust pollution, a superior bonding surface, and no rebar damage. Add to this the faster working speed, the substantial savings on labour, and the quiet operation of the hydrodemolition machine, and it can be seen why this method of concrete removal is steadily increasing in popularity.

Hydrodemolition benefits operators and other site workers, and the people living and working in the

vicinity of the site. The hazard of air-born silica dust and other particles is virtually eliminated as the particles are trapped in the runoff water, and injuries caused from the constant vibrations and heavy lifting of the jackhammers are avoided.

## The method and its benefits

A hydrodemolition robot uses high-pressure water, which is directed at the surface of the concrete, where it penetrates the voids and micro-cracks. When the water pressure inside the voids overcomes the pressure of the concrete, a blast enabling concrete removal in a controlled manner. Selective removal is one of the basic principles of hydrodemolition. It means only the removal of the concrete needed for the refurbishment, leaving the good concrete and the steel reinforcement undamaged. Hydrodemolition also provides a better bonding surface. Independent tests have proven the bonding to be at least 50% higher than that of a surface prepared with jackhammers or sandblasting machines.

When rebar or other embedded steel is struck by a jackhammer, vibrations will travel deep into the concrete to areas of sound concrete. Micro-fractures and loosening of the rebar is often the result, and this can cause areas of potential future problems once the concrete is replaced.

Aquajet Systems has been in the hydrodemolition business since the early 1980s, and working with customers has continually advanced and improved the technology. In 1998 Aquajet became the first ISO 9001 certified hydrodemolition manufacturer in the world.

**[www.aquajet.se](http://www.aquajet.se)**





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## Volvo teams up with LEGO Group to make miniature marvels

At the Nuremberg Toy Fair in Germany, global toy giant LEGO Group unveiled the latest flagship model in its LEGO Technic line—a Volvo L350F wheel loader. The remotely controlled model, consisting of over 1,600 individual pieces, is the result of eight months' collaboration between the LEGO Technic team and Volvo Construction Equipment. It can also be reconfigured into an equally impressive A25F articulated hauler. "We wanted to cooperate with a premium toy manufacturer, just as we are a premium player in the construction equipment sector," said Volvo CE global brand management director Mats Bredborg. "Volvo CE and the LEGO Group together create a perfect match, culturally and in what we try to achieve in our products."

LEGO Technic is a 37 year old sub-brand of the LEGO Group, popular for its innovative and technically advanced models. In contrast to the main LEGO lines, the bricks are supplemented with a wide variety of interconnecting plastic rods and parts, such as gears, axles, pins, and

beams, to create complex movable elements. The models aim to replicate both the form and function of their real life counterparts as closely as possible. In order to capture a true likeness of the L350F wheel loader, the LEGO Technic designers studied the Volvo machines in great detail, taking the time to visit a construction site and operating them. "The Volvo team readily offered helpful suggestions and gave us greater insight into how the real machines are built and operated. Both parties are perfectionists who are keen to get it right," said LEGO Technic design manager Jeppe Juul Jensen.

The result is a highly sophisticated model that drives, steers, lifts, and loads, even over difficult terrain. In addition, the filters can be removed, the radiator swings out, the pistons move and even the engine is painted green, just like a real Volvo L350F. The model's loader arm can lift more than 1kg, and the bucket is the largest individual element ever created by LEGO Technic. "We are extremely happy with the outcome, both from a functional and design



LEGO Technic design manager, Jeppe Juul Jensen assembles the Volvo L350F wheel loader.

point of view," said Bredborg. "LEGO Technic has captured the profile, expression and power of the machines in an incredible way, as well as including lots of cool features like a heavy lift boom and high dump height. The LEGO Group also shares our core value of safety, and these machines have been thoroughly tested."

The LEGO Technic Volvo L350F wheel loader is aimed primarily at children between the ages of 11 and 16 but will most likely also appeal to adults. In fact the LEGO Technic already attracts a wide adult fan base, with a loyal following among those who appreciate the complexity and ingenuity of the designs. It was just such an appreciation that helped trigger the L350F cooperation in the first place. After a joint Volvo/LEGO project, in which LEGO Technic elements had been used to create a production line concept demonstrator at Volvo, a friendship struck up between Volvo engineer

**The smaller toys are not suitable for outdoor play, but the big ones are.**



Johan Sahlström and LEGO engineer Anders Gaasedal Christensen. Thanks to their prompting, the idea of cooperating on an actual Volvo model was born, and the first L350F rolled out of the factory in Billund, Denmark last August.

"Like Volvo CE, our reputation has been built on yellow machines and the Volvo L350F carries on that tradition in style, pushing the boundaries of creativity and functionality even further," says LEGO Technic marketing manager Niels Henrik Horsted. "Not only will the L350F/A25F be our star machine for 2014, it may even be our best seller ever."





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# PDi's annual Demolition Robot feature

***PDi's annual Demolition Robot feature is not that full with news this time. However Husqvarna is launching a new package for its DXR robots. With the show World of Concrete just days away the market can expect news to be launched but not pre-viewed in PDi this time. Mikael Karlsson reports.***

Husqvarna has added a new package set-up for

its DXR demolition robots. This consists of the additional feature package, the enhanced cooling package and the heat protection package. All three provide increased precision, performance and protection in demolition work of all kinds, especially in high ambient and radiant temperatures.

The additional feature package allows the user to control one extra hydraulic function precisely, such as axial rotation of grapplers and shearer. Users also have access to additional tools like vertical mills. Cylinder protection is included in the additional feature package to protect against bumps and blows.

## **Full power at 55°C**

The cooling package holds the same features as the additional feature package, but also contains a cooling kit. The cooling package is compatible with DXR 2/300 series and can work continuously with full power on sites where the ambient temperature is up to 55°C. This enables higher productivity and efficiency.

"Traditionally, when working in high temperatures, you are somewhat restricted if you want to keep full power and load throughout the job," said Husqvarna Construction Products global product

manager Lars Gustafsson. "With the new cooling package you save both time and money and can stay on full power the whole time."

For example, the cooling package is excellent when removing dross in steel works, a place where the ambient temperature is always high.

## **Deals with radiation heat**

The third heat protection package can be used on DXR 270, DXR 300 and DXR 310. It holds all the benefits of the cooling package and the additional feature package, but also contains steel tracks, steel feet, heat protected hydraulic hoses, special hydraulic oil, fire resistant oil and compressed air hose to breaker.

It protects vital parts from damage caused by radiant and conduction heating. This is the package for working with DXR in industry and kilns with high radiation and convection heat.

"The steel details are added to cope with heat and makes it possible to operate the machine in high radiation heat in front of the machine in an efficient way," said Gustafsson.

All three packages can be bought with a new DXR machine directly from the factory. The components are also available for retro fitting, but the packages differ when ordering for retro fitting.

**[www.husqvarnacp.com](http://www.husqvarnacp.com)**

**The heat protection package with steel feet and steel tracks mounted on one of Husqvarna's DXR robots. The cooling package has all the benefits from the additional feature package, but also enables full power in high ambient temperatures.**

# Conjet gets tunnel vision

In the US the Pennsylvania Department of Transportation selected hydrodemolition surface preparation for the \$18.8M(EUR15.1M) rehabilitation of Pittsburgh's Liberty Tunnels. Hydrodemolition, the fastest and thus most cost effective method, was utilized to prepare the tunnel walls for a new, shotcrete surface.

## Only a fraction of the cost

The project will increase the service life of the Liberty Tunnels and repair deterioration from 90 years of wear and tear. The entire area of concrete to be removed will be 19,785m<sup>2</sup>. Since the hydrodemolition began in April 2013, the travelling public has experienced few delays. Hydrodemolition makes it possible to remove concrete between the hours of 10pm and 6am.

Because it is more efficient than jackhammers, hydrodemolition is only a fraction of the cost, according to Ed Liberati, chief engineer at Hydro-Technologies, subcontractor for the Liberty Tunnel project. "Conjet are the best in the field. There are some competitors, but we believe Conjet to be the best," said Liberati. "They help us to develop the right specialty products we need to do the project efficiently and keep on schedule."

The Liberty Tunnels are a pair of tunnels 1,795m long that allow motorists to travel between the South Hills of Pittsburgh and the city, through Mount Washington. There is an inbound tunnel and an outbound tunnel, each with two lanes of traffic. The tunnels were constructed from 1922 to 1924 and were vital in the expansion of the South Hills suburbs by providing a direct route to the city, eliminating the time-consuming task of navigating around or over Mount Washington. Repairs are difficult with a traffic volume of 48,000 vehicles/day and extremely heavy traffic during rush hours and special events in Pittsburgh.

## Night work

The heavy traffic, limited hours and special events have made the rehabilitation of the tunnels extremely difficult. Every night the hydrodemolition equipment and crews enter the tunnel after the closure and get as much done as possible before shutting down the equipment, cleaning up debris, then exiting the tunnel before the 6am opening. If the tunnel is

not opened by 6am, the contractor would be assessed liquidated damages of EUR6,264/h until the tunnel is opened to traffic. That leaves only eight work hours per night. During sporting events and concerts, the hours are slashed even further.

For the Liberty Tunnel project, hydrodemolition was superior to other methods of removing the deteriorated concrete from the tunnel walls such as jackhammers. Hydrodemolition only necessitates three to four people to operate the robots whereas jackhammers would have needed around 30 workers.

"Given the allowable working hours there would be no chance to complete the job in one construction season using different methods," said Denis Mazzoni, project manager at Swank Associates, the general contractor for the Liberty Tunnel project.

Hydrodemolition utilizes a high-pressure water jet operated by a hydrodemolition robot. On the Liberty Tunnel project, two Conjet 363 vertical robotic units performed partial depth, selective removal hydrodemolition on the tunnels' vertical wall horseshoe profiles that have 4.42m posted vertical clearance and leaving the sound concrete intact. The Conjet robot is versatile for high-speed, selective, vibration free removal of damaged concrete. Powered by a 11kW electric motor, Robot 363 can handle the rotors and the oscillation tools efficiently. It can withstand reaction forces working with high-pressure pumps up to 550kW. The removal area can be as wide as 2m. After the hydrodemolition removal, the entire surface is water-blasted ready for the shotcrete application.

There are three types of tunnel repairs where hydrodemolition will be used. Type one includes areas where the surface of the existing concrete will be removed to a depth of 25mm in preparation for the placement of a 25mm shotcrete repair. Type two includes areas where deteriorated concrete extends to a depth greater than 25mm, but not deeper than the steel reinforcing bars. Type three includes areas where deteriorated concrete extends beyond the reinforcing bars.

Conjet will be exhibiting on Booth S12107 at the World of Concrete, Las Vegas on 3-6 February 2015.

[www.conjet.com](http://www.conjet.com)



Two Conjet Robot 363 hydrodemolition machines have been adapted to suit the curvature of the horseshoe shaped walls of the two Liberty Tunnels.

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# Hit, don't bite the Dust



**Many suppliers but few new releases during 2014 when it comes to new dust suppression units. That is the result when PDi scanned the market. MB Dustcontrol is the exception.**

Dust suppression cannons that spread a fine water mist has during the last decade become a very popular equipment for lowering dust particles in the air both indoors and outdoors. Each year PDi publish a special feature in issue 6 about new releases. But this year the response has been very weak which also confirms the fact that PDi throughout 2014 has reported very little about new releases. However, we have published a number of interesting case stories. But one manufacturer, MB Dustcontrol from the Netherlands reports a very positive 2014 and is aiming for further growth during 2015. MB Dustcontrol manufactures the brandname SprayCannon and has expanded their global sales network by appointing distributors in Norway, India, Belgium and Ireland, while also looking for more distributors around the world.

**SprayCannon for the best dust suppression**  
Earthmoving, demolition, recycling, bulk handling and soil remediation are the areas where MB Dustcontrol's SprayCannons can be of maximum help for dust problems. They are suitable for dust problems outside and inside. The SprayCannon series starts at a throw of 5m with the SprayCannon 5, up to more than 100m for SprayCannon 100, which can also reach a height of 40m. MB Dustcontrol

also manufactures SprayCannons to customers' specific requirements. For inside areas MB Dustcontrol produces high-pressure nozzle pipes, which can be mounted in ceilings or walls, which creates an extreme fine haze, leading to an increase in humidity. It will suppress the dust without wetting the floor or creating wind.

## 2014 a record year for MB Dustcontrol

Exhibiting at bauma, IFAT, Intermat was successful and brought new distributors, as well as new sales all over the world. Many realize the benefits of using SprayCannon dust suppression equipment, apart from complying with various countries dust emission legislation. Fine dust is very hazardous, so suppressing dust with SprayCannons will contribute to a better working environment for personnel, public health and areas surrounding a worksite. Instead of using a traditional fire hose for dust suppression, which has been proven not to suppress fine dust, the use of a SprayCannon achieves maximum dust suppression. It also consumes far less water and covers a lot more area together with better visibility for excavator drivers. SprayCannons are also very easy to operate especially when using a remote control. MB Dustcontrol sales to demolition companies internationally doubled in 2014. The awareness of the hazards of fine dust and the importance of suppressing it will continue to grow and will encourage and motivate more companies to invest in dust suppression equipment. MB will assist in finding the perfect customized solution for specific dust problems. At least 90% of dust problems can be solved with one of MB's SprayCannons as the company produces the largest SprayCannon series in the world.

## Searching for a distributor for the US

MB is not represented in the US and is searching for distributors for the North American and the South American countries. The company requests any interested parties to contact MB.

## New developments

MB has developed several new SprayCannons to satisfy the requirements of suppressing fine dust on small demolition and renovation areas, both inside and outside, as well as crushing and recycling operations. The SprayCannon 10 is suitable for larger inside areas and also on top of a crusher. The SC10 will throw 10m to 15m and uses a maximum of 90litres/h. Fan speed and water consumption can be adjusted and required electric of 110V or 230V. The SprayCannon 10 can also be used without water for ventilation.

The SprayCannon 15 with trolley, and more powerful than the SC10, is easy to move around and sprays 15m to 20m. It uses 350litres/h and is equipped with a pressure pump, which increases the pressure up to 40bar to create a very fine mist to suppress fine dust.

MB also has a series of self supporting SprayCannons, which consist of a SprayCannon equipped with a water tank and generator all mounted on a skid or trailer. The SprayCannon 15 self supporting consists of a SprayCannon 15, 1150litre water tank, 4kVA Honda generator and pressure pump. The SC15SS offers the possibility to rotate 359° horizontally and a tilting angle of -15° to +60°. This system sprays up



to 20m and can operate autonomously for four hours.  
**[www.spraycannon.com](http://www.spraycannon.com)**



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# Waste Hand

***Long gone are the days when we could leave waste on the site where it occurred or happily dump different types of waste all tangled up into one big lump. Separating and sorting before dumping is one of the keys in modern waste handling. David Ehrenstråle reports.***

By separating different types of materials before dumping them the chance increases of making them useful as raw materials for other processes than the one(s) that just rejected them. On modern dump sites, incoming material is placed in different stockpiles or containers depending of content. Metal scrap is sold, wood waste is reduced in size and used as biofuel, cardboard and plastics are recycled. Glass is recycled, or properly pulverized, used as a friction increasing component. Hazardous materials are passed on for recycling or destruction.

## **Time has changed, luckily**

Historically, mankind probably commenced the awareness of the importance of this by separating solid materials. Waste liquids were simply poured into the sea or the next nearby water course. Problem solved we thought, the liquid waste vanished out of sight. Out of sight for the person dumping it, because they would certainly pop up as a real nuisance for others downstream.



**Anaconda's new big 3-deck screen is called SR514. Below: The Arjes VZ 750 twin shaft shredding unit is powered by a Volvo Penta Diesel.**

Not only does separating and sorting help make us sustainable so that we can comply with laws and regulations. They will also reduce dumping costs. And in many cases they make business sense. Scrap iron has a commercial value and

crushed concrete can be used as base course or landfill thereby reducing the need to crush rock or gravel for this purpose, both virgin materials.

Forced by legislation and spurred by emerging market segments, equipment manufacturers develop new technologies and twist existing ones into new applications and solutions at a remarkable pace. Creative people working in innovative corporate environments have over the last decades launched products that allow the handling of waste better and wiser than ever before. PDi looks at some manufacturers and their developments.

## **Anaconda**

Northern Ireland-based Anaconda Equipment International designs and manufactures a range of mobile crushing, mobile screening and mobile conveying and stockpiling equipment for use in the material recycling industries. Their tracked and wheeled products are robust, user friendly and easy to move and designed to match challenging demands from the demolition waste recycling, compost and woodchip sectors.

A new, big three deck screen is being launched under the designation SR514 and a new screen for coarser materials, the FSL.

Arjes, based in Leimbach, Germany, offers individual shredding solutions for the processing of biomass, green waste, plastic, paper, domestic and commercial waste, industrial waste, scrap metal, used tyres and more. The goal is to advance the recycling market with innovative and economic solutions in the field of low-speed shredders. To achieve this they draw upon the years of experience in working with shredding technology. Based on over 25 years of experience in the business of recycling machinery Arjes develops individual shredding and screening solutions for the processing of waste wood, green waste, biomass, plastics, paper, domestic and industrial waste, scrap metal, used tires and other materials. For example their TriStar heavy-duty shredder utilises a triple-shaft technology. The secondary shaft utilises a hydraulic bearing with which even the hardest material can be processed with high precision, often removing the need for a secondary shredding pass. Thus the processed material can be passed on to subsequent stages for sorting and separating.

New versions of all shredder models will be launched during 2015. All will feature a Volvo Penta Diesel engine.

## **Doppstadt**

Doppstadt specialises in environmental technology and provides a complete range of mobile and stationary machinery for the recycling process. The roots date back to 1965 when Werner Doppstadt founded an agricultural company, today a worldwide partner for environmental technology for materials such as waste wood, garbage, industrial waste, bio-waste, excavated earth and green waste. There are customers in 40 countries around the globe and there are company headquarters in Germany and Austria.

With the new screen SM 518 Doppstadt updated the series for separation and sorting in the raw materials processing. The range offers economical and durable solutions for waste such as municipal solid waste and debris as well as for products made from waste such as compost and biomass





# Engineering Update



The Doppstadt SM 518 in use at a dump site.

fuels. A worldwide maintenance and repair support around the clock guarantees quick deliveries of spares.

## EcoStar

The Italian based company's slogan is 'screening good: money from waste' and is a statement of what they claim that their screening technology is all about.

EcoStar screens utilize a screen deck with a series of discs mounted on a number of parallel axles in order to separate material fed onto the screen into two fractions. The discs rotate, driven by the shafts upon which they are mounted, thereby dynamically forcing the material fed on-board to either pass over the screen or through the screen deck. This technology, to a large degree, prevents the material to clog or stick, even if it is plastics, car fluff or fractions of tyres.

The Italian-made EcoStar screen utilizes a technology (right) that will handle also cloggy and sticky materials thanks to an active, dynamic screening process.

## JCB

The UK based manufacturer JCB recently launched two new products, the 457WM, wheeled loader, meeting Tier 4 Final emissions standards and a new backhoe loader, 5CXWM.

The wheeled loader comes with a vastly improved operator's cabin, CommandPlus, new engine covers and a revised rear counterweight design. The loader adopts an MTU diesel engine contributing to a fuel saving of around 16% compared to its forerunner. The engine utilises an efficient combustion process in conjunction with a catalytic reduction system and does not need a diesel particulate filter. The loader can be equipped with a 5.5 m<sup>3</sup> bucket and puncture proof tyres for waste applications. The 457WM is the first machine to utilise JCB's next generation CommandPlus cab. It has A-pillars that have been moved to the same width as the rear of the cab, providing a larger interior with a panoramic front windscreen. The machine features revised pedals, a new adjustable steering column and seat-mounted hydraulic controls. Switches and

auxiliary controls have been positioned on the right hand A-pillar, providing the operator with a simplified interior and easy access. The 457 has two full colour LCD screens, one in the central console and a second at the top of the right hand A-pillar. This second screen incorporates access to the loader's operating menus and acts as a monitor for the machine's rear view camera.

The new loader is on line with a system JCB calls Live-Link. Fleet managers can remotely access the loader's fuel consumption, operating hours and fault codes. Working hour curfews are areas can be set outside, of which the machine will not function. This permits the owner to set a geographical



The new Demolitor 50 dust suppression gun from WLP has a throw distance of between 30m and 40m.



**DYNAMIC DISC SCREENS  
PATENTED**





**EcoStar.**



**The new RT-series of sorting grabs from Rotar features Hardox steel inlays on strategic places.**



area in which the machine can work. If the loader is taken out of this area it will not start, discouraging thieves from stealing the machine.

Thanks to its ability to power an extensive range of specialist attachments, the 5CXWM backhoe loader in JCB's Wastemaster line, is perfect for household waste recycling centres, transfer stations, sorting, shredding or baling facilities.

The machine, which meets Tier 4 Final emissions standards, offers versatility at a price less than a wheeled excavator. The ability to perform a variety of roles eliminates the need for other machines such as forklift or pallet trucks. This specialist new model incorporates additional length rear stabilisers and a front frame with top grab, both incorporating hydraulic legs. This combination raises the machine clear of the ground, offering improved views of bin, shredder or baler when compacting or loading material.

#### **MistAir**

Based on 50 years of experience, UK based Mist-Air Environmental specializes in systems in dust suppression, odour absorption, fly control, power pressure washing, washing of tyres and rims and rain guns. To reduce complaints their systems for odour control and absorption can be fitted inside or outdoors, depending on the application.

#### **Rotar**

Netherlands based Rotar develops cleaners, segregator buckets, shears and pulverisers, hammers, rail breakers, as well as equipment for demolition/sorting and landmines clearance.

Rotar developed a new range of grabs for sorting and demolition. The new line called RG-Series is available for excavators from 2t to 60t. The double framed main housing offers stability.

The rotator head is driven by a Parker motor. The single centred cylinder has a load-control valve as standard. The design uses Hardox in strategic positions. The new RG-Series is extreme service friendly thanks to a reduced number of components and connections, offering better reliability.

#### **Terex Finlay**

Northern Ireland based Terex Finlay, which has facilities in North America and India, has launched two new crawler mounted screens

and a new impact crusher on crawlers. These are the Terex Finlay 883+ Spaleck heavy duty screen, Terex Finlay 693+ Spaleck inclined screen and the I-100RS impact crusher. These machines are applicable for the processing of recycling and waste materials.

The 883+ and 693+ are the result of a joint partnership between Terex Finlay and Spaleck, focused on static recycling screening technology. At the heart of the mobile plant is a twin deck German designed and constructed screen box. The screen box is combined with flip flow technology on both the top and bottom decks. Screen mats on top and bottom decks are fastened without screws and have no edges that could cause difficulties and snagging. Screen mats can be changed quickly and there is an optimum product flow over the screen mats. Even large-grained material can be screened. Its processing capabilities and application flexibility make the machine a good tracked mobile solution for the processing and separation of recycling materials.

The new I-100RS crushing unit houses a direct drive 860mm x 860mm horizontal shaft impact crusher. The unit features an on-board 2.44m x 1.2m single deck screen for sizing and recirculating oversize material to the impactor. The screen can be quickly detached for applications that do not require resizing or recirculation. For rapid set-up times and easy moves from site to site the I-100RS features hydraulic folding of all conveyors. The machine has an electronic system that monitors and controls the speed of the rotor and regulates the heavy-duty vibrating feeder with integrated grizzly to maintain a consistent feed of material into the impactor. Natural fines from the grizzly can be diverted to a stockpile via an optional by-pass conveyor, or join the crushed product on the main belt. The standard hopper capacity is 2.3m<sup>3</sup>. The tracked mobility allows the unit to work in demanding of environments and features a quick set-up time. A key additional benefit is the inbuilt hydraulic assist apron adjustment of the impact chamber.

Terex Finlay 883+ Spaleck is for the processing and separation of recycling materials such as incineration slag, shredder light and heavy fraction, scrap metal, electronic scrap, bulky waste, compost, plastic fractions, biomass and topsoil.

#### **WLP**

Italy based WLP is launching two new models in their range of dust suppression guns, the demolitor 40 and 50. The smaller model has a theoretical throw distance of 20m to 40m, without wind and the 50 model 30 to 40m.



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## Chicago Pneumatic's new compressors

International construction equipment manufacturer Chicago Pneumatic has introduced new versions of its CPS 11.0 (7bar) and CPS 11-12 (12bar) portable compressors for the European market. The compressors feature EU compliant Stage 3B engines and a new electronic control panel, which makes them easy for users to operate, monitor and service.

The two compressors are perfect for surface drilling, abrasive blasting and ice blasting, and excel in road work and shotcrete pumping. The 12bar variant is also suitable for special applications such as fibre optic cabling, with the higher working pressure enabling the CPS 11-12 compressor to push cabling through longer pipeline distances without pressure loss.

The CPS 11.0 and CPS 11-12 compressors feature new EU Stage 3B emission standard compliant Deutz engines. The compressors' engines use exhaust gas recirculation technology in combination with a diesel

oxidation catalyst and, for the CPS 11-12 a diesel particulate filter, to reduce the output of particulate matter and nitrogen oxides.

Another major new feature is the central electronic controller that provides operators with an improved user interface and straightforward control and monitoring options. The electronic controls also make it easy for operators to quickly start and stop the compressor and regulate automatic cool-down after the unit has been running at full load.

With 175litre fuel tanks the compressors can run non-stop at full load for an entire shift without refuelling. A fully automatic step-less speed regulator also means the engine speed can be adapted to air demand.

Additional options include a braked undercarriage with a fixed or height adjustable tow bar, a non-braked undercarriage with fixed tow bar, jockey wheel, leg support and several towing eye options.

[www.cp.com](http://www.cp.com)

## Bretec Enhances Breaker Range

Sandvik Construction has unveiled two new C series M17C and L20C models from its mid-segment Bretec hydraulic breaker brand. The breakers incorporate a number of new features and updates over the M17 and L20 models they replace.

Designed for carriers in the 15t to 23t and 20t to 29t weight class, the M17C and L20C models weigh 1.24t and 1.65t respectively. Impact rates range from 280 to 760blows/min on the M17C, and from 390 to 700blows/min on the L20C.

In addition the new models incorporate many new features providing greater reliability and durability, as well as delivering reduced ownership and operating costs. These features include:

- **Round retaining pins** – Delivers extended life for lower cost of ownership and operation
- **New tool retaining system** – Permits faster tool changes for reduced downtime
- **Improved tool seal** – Protects tool, bushings and retaining pins reducing ownership and operating costs
- **Dust protected housing** – Prevents dust ingress for reduced wear and helps reduce noise levels
- **Idle blow protection** – Eliminates tie rod stress and oil overheating to protect against premature failure
- **Automatic greasing** – Auto lubrication now available as an option for greater tool protection

The M17C and L20C also benefit from durable hydraulic hoses as standard, a high pressure accumulator that protects against pressure peaks, improved gas sealing for extended service intervals and an improved and self-adjusting pressure control valve to eliminate oil spillages. The new Bretec models join a product range that now includes 10 models that are suitable for carriers in the 1.2t to 40t weight class. Bretec breakers are sold and



supported by a global network of dealers and distributors.

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# CSDA at World of Concrete

The Concrete Sawing and Drilling Association will be at the World of Concrete exhibition in February with an impressive line-up of events.

Having attracted 53 delegates to its first two appearances at WOC, the CSDA Concrete Polishing class is scheduled for 4-5 February at the Las Vegas Convention Centre. Over the same period, the association will hold a Core Drilling and Hand Sawing 101 class, incorporating classroom and hands-on sessions. Before these classes begin, the CSDA Estimating class is scheduled for 2-3 February.

In addition to these classes, CSDA's lead training instructor, Rick Norland, will hold a seminar on Maximizing Efficiency of Concrete Structure Modification/Demolition on 3 February. Delegates will learn how to combine impact breaking and crushing with concrete sawing and drilling techniques to maximize efficiency of removing or modifying concrete structures.

Inside the exhibition halls, the spotlight will be on contractors being honoured as part of the second Concrete Openings Awards. A ceremony for these awards is scheduled for 10:00am on Wednesday, 4 February at CSDA's booth

C4441 and follows the success of the inaugural ceremony at WOC 2014. Entries have been placed into three categories of Building Construction, Industrial Renovation and Infrastructure Renovation. A panel of judges will score each one based on set criteria.

"Our members have once again shown that they possess innovation and a complex skill set to successfully complete these challenging jobs," said CSDA executive director Patrick O'Brien. "Last year, our judging panel had a difficult time deciding which contractors should walk away with the awards and this year is no different."

Before the awards ceremony, the CSDA will hold a Board meeting on the morning of Wednesday, 4 February to review its 2014 accomplishments and all members and non-members are welcome to attend. Later that day, the association's Next Generation Committee will host a reception at the Renaissance Las Vegas Hotel next to the Convention Centre. The reception starts at 4:30pm and is for the next generation of operators, managers and owners who wish to learn more about the association or network with future industry leaders.

[www.csda.org](http://www.csda.org)

## CSDA 2015 Calendar

The CSDA has scheduled the following events for 2015.

Vinoy Resort, St. Petersburg, FL

Feb. 2-3 Training: Estimating, Las Vegas Convention Centre, Las Vegas

Mar. 31-Apr. 2 Convention: 43rd Annual Convention, Renaissance Vinoy Resort, St. Petersburg, FL

Feb. 4 Meeting: Board of Directors, Las Vegas Convention Centre, Las Vegas

Apr. 1 Exhibition: CSDA Tech Fair, Renaissance Vinoy Resort, St. Petersburg, Florida

Feb. 4 Ceremony: Concrete Openings Awards, Las Vegas Convention Centre, Las Vegas

Jun. 4-5 Meetings: Board and Committees, Sheraton Kansas City Hotel, Kansas City, Missouri

Feb. 4 Networking: Next Generation Reception, Renaissance Las Vegas Hotel, Las Vegas

Sep. 10-11 Meetings: Board and Committees, Denver Marriott City Centre, Denver, Colorado

Feb. 4-5 Training: Concrete Polishing, Las Vegas Convention Centre, Las Vegas

Nov. 2-3 Training: Slab Sawing & Drilling 201, St. Petersburg College, Clearwater, Florida

Feb. 4-5 Training: Core Drilling & Hand Sawing 101, Las Vegas Convention Centre, Las Vegas

Nov. 4-5 Training: Wall & Hand Sawing 201, St. Petersburg College, Clearwater, Florida

Mar. 30 Meetings: Board and Committees, Renaissance

Nov. 6-7 Training: Wire Sawing 201, St. Petersburg College, Clearwater, Florida

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