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Rokbak celebrates three years of high-quality hauling and positive growth

In September 2021, the Rokbak brand was born. Three years later, its distinctive articulated haulers can be found all over the world. Here, three team members discuss their own reflections on the journey so far and celebrate some of the company's defining features...

September 2021 was a notable month. Cristiano Ronaldo became the all-time leading goal scorer for men's national football teams. SpaceX launched the first all-civilian spaceflight. And the U.S. recorded its lowest-ever levels of people living in poverty. But in Motherwell, Scotland, the celebrations were centred around something altogether more groundbreaking: the launch of the Rokbak brand.

Since rebranding three years ago, the Scottish articulated hauler manufacturer has carved out a unique identity based around robust and reliable products, an unwavering commitment to customers and an instantly recognisable brand.



"We had a solid product line at the time of launch, but introducing any new brand has an element of risk," says Jacqueline Reid, Rokbak Head of Marketing, Communications and Product Management. "However, we had great support from Volvo Group and a clear understanding of who we

are and what we stand for, so we were able to create something that perfectly encapsulates our company, our people and our products. And since we launched our customer focus areas, we've been able to evolve that even further."





Getting started

Launching the Rokbak brand proved a huge success and led to five accolades at the Marketing Society Star Awards 2022. The company has gone on to become a leading name in articulated dump trucks in just three years, with its distinctive machines delivering productive and profitable performance to customers worldwide, in demanding applications such as construction, quarrying and mining.

"We set out to create something that not only we could be proud of but that others would be proud to represent," adds Robert Franklin, Director of Sales for the Americas. "Three years later, we have a strong brand, a strong team and a growing dealer network, all with a positive outlook on the future."

In fact, North America has been one of the biggest success stories for Rokbak. It was here that the company's first machines were delivered in 2021, with a pair of RA30s sold to earthmoving, utility and clearing company Linco Construction of Houston, Texas, via Easton Sales and Rentals.

Since then, both RA30 and RA40 models have provided excellent performance in all hauling conditions to customers around the world. From muddy terrain to slippery slopes, from scorching heat to sub-zero conditions, these trucks are moving earth and materials in the UK, Ireland, France and Germany,

and on to Indonesia, Papua New Guinea, Australia and New Zealand.

"We're proud of the market image and enthusiasm generated by the Rokbak brand," says Scott Pollock, Senior Product Manager. "Our team members and external partners embraced the opportunities it presented, fostering stronger relationships and delivering a more solidified market presence."



Scott Pollock, Senior Product Manager.



Setting itself apart

Rokbak's success is rooted in its commitment to customers, which emphasises close collaboration with dealers and building personal partnerships with end users and owners. This strategy has been a cornerstone of Rokbak's growth, with its dealer network expanding as the brand's reputation continues to grow and customer satisfaction increases.



Robert Franklin, Director of Sales for the Americas

"We're fortunate to benefit from strong word-of-mouth referrals and have a wide range of customers and dealers who

have a positive view of Rokbak," says Robert. "We've had several third-party approaches to work with us due to this. We have a different approach to others, and customers have confidence that their dealer has solid support from the OEM."

Rokbak's culture of openness extends to its Motherwell facility where it regularly welcomes dealers, customers and operators to tour the factory, take a training session or catch up with colleagues.

'Bak to the future

Ambitious goals were set for Rokbak prior to its launch, which the company has not only met, but exceeded, including in sustainability, as Jacqueline explains:

"Rokbak has introduced clearer communications and built a stronger dealer network. We've also improved our product sustainability through reduced fuel consumption and adapting to alternative fuels such as HVO. We're increasing the time between maintenance intervals, to keep uptime high and reduce material disposal to further reduce our impact on the environment.

"It's amazing to think how far we've come in three years. We have the tools and the people to prepare us for future growth too. We're always moving forward, and already looking forward to the next three years."

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Welcome to issue 88

In this issue the team at Hub-4 present you with another bumper edition reporting on the latest news from the Quarrying/Recycling & Bulk Handling Industries, including a review on the MRF's available in the UK

If you're starting to look at marketing in the last half of 2024 our media file with feature list can be found here, either PDF download or page flip version: <https://hub-4.com/pages/advertise-with-us>

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Our increasingly popular social media packages are also available across all our Twitter, Facebook & LinkedIn pages all of which can be linked with electronic web and e-newsletter advertising – why not enquire about our extremely competitive packages.

Equally important is our free weekly e-newsletter which is distributed to our readers and can be found on-line here: <https://hub-4.com/pages/newsletter>

Finally, our last edition in November of 2024 will focus on **a complete review of Shredders available in the UK**, and I welcome any editorial contributions on these topics.

John Edwards
Editor

NOVEMBER | DECEMBER 24



SHREDDERS - a review of the latest models.

MOBILE PROCESSING & MATERIALS HANDLING EQUIPMENT - material handlers, mobile stackers, mobile conveyors, mobile radial stockpilers, mobile tracked conveyors.

QUARRYING - Open topics for this issue

RECYCLING - Open topics for this issue

BULK HANDLING - Open topics for this issue

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Published six times a year.

The EMS Waste Services story dates as far back as the 1940s

The EMS Waste Services story dates as far back as the 1940s when founder Alf Stuart bought a second-hand Dodge and began to transport cattle around Exeter. Transport has always been the backbone for the company with a Volvo Truck dealership formed from this side of the company, the move into warehousing soon followed. Not one to miss an opportunity, Alf's son Roy, already in the business, grabbed a chance to open an inert landfill facility at Hill Barton and took the next step for the company and their first into waste management. Further expansions within the farming and transport sectors eventually saw the company step up their presence within the recycling sector in 2009 with the acquisition of EMS Waste Services Ltd. Between 2012 and 2015 the Stuart family added further interests in waste management to the fold in the shape of Devon Contract Waste skips, AJS skips, ASAP skip hire and Bay skip into the fold, along with the addition of a new scrap recycling facility to boost the range of services offered to their growing list of clients throughout Devon and the surrounding areas. Further acquisitions have seen the company increase their vehicle fleet for the recycling business expand to almost 50 units and employing over 120 staff to process over 150,000 tonnes of waste on an annual basis.

To handle much of this incoming waste the company has invested in a state-of-the-art Kiverco picking station enabling them to double their throughput at the plant. Whilst having the ability to increase production with a new plant, the company realised a new machine for loading the plant was also required and with an eye on reducing their carbon footprint as well as reducing harmful fumes created by standard diesel-powered machines, the Stuarts decided that a new electric material handler would be the ideal way forward for them.

Speaking to the market the team at Hill Barton opted for a new Sennebogen 818E electric drive with K10 ULM boom and stick configuration allowing an impressive 11m reach. Supplied by Molson Green, part of the larger Molson Group based just up the M5 at Avonmouth, the Sennebogen has an operating weight of around 22 tonnes and to meet with the company's requirements for an electric machine, is fitted with a 90kW electric motor replacing the standard Cummins diesel engine. A fixed trailing cable supplies the Sennebogen with power and whilst this is ideal for a machine that remains stationary, we all know these machines do have to be relocated from time to time. As the cable gives a modicum of flexibility for the 818E, this isn't too much of an issue, but should the machine require a little more mobility, Sennebogen designers have replaced the standard cast counterweight with a powerpack solution for short-distance mobility.



Working from the fixed electrical connection, the Sennebogen is almost silent apart from the noise generated by the hydraulic system. More importantly, it generates no exhaust fumes making it ideal to work inside the recycling centre.



Sitting on a four-outrigger undercarriage, identical to that found on the diesel version, it is only the material handler's upper structure which has come on for any cosmetic changes. On the offside of the machine, the former home for its diesel engine is now filled with a state-of-the-art 90kw, 400V electric motor. The only major change lies behind the hydraulically elevating Maxcab where a larger vertical electric cabinet has been fitted.

While there is an obvious cost implication to buying a highly specified electric material handler, this cost is hugely offset against the machine's lower maintenance costs. The electric drive machine offers significantly longer maintenance intervals compared with diesel engines along with reduced maintenance costs, as there is no need for fuel and oil filters or oil changes, although these will have to be considered with the use of the powerpack. Another notable plus point is the massive reduction in vibration throughout the machine when in use thanks to fewer moving parts. An added bonus for production is that when connected to the power cable, the electric-powered 818E will instantly be ready to work with no waiting for the engine to reach optimal working temperatures. All of this equates to almost a 50% reduction in service and maintenance costs over a fossil fuelled machine.

The 818E supplied to EMS happily sits adjacent to their in-feed hopper on the Kiverco picking station with the machine using its 450 litre NPK selector grab to pre-sort and load the

incoming material into the plant. With its hydraulically elevating cab rising over 6m off the ground, the operator's eye-line is now around 5.5m giving them an unimpeded view across the incoming material and the in-feed hopper of the picking line. The comfortable and well-appointed cab offers a quiet and relaxing workspace and even at full elevation, is an impressively stable location.

Handling in excess of 150,000 tonnes of material on an annual basis with the Sennebogen will not only reduce the plant's cost per tonne but also reduce their carbon impact hugely over a year. Dave Peacock for Molson Green said, "We are seeing a huge increase in customers looking at swapping diesel-powered machines for their electric equivalents as they are providing lower running costs over the year as well as reducing a company's impact on the environment."





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MCLANAHAN OPEN DAY

Goonvean Aggregates Ltd. // Cornwall, U.K. // 10 October 2024

McLanahan and Goonvean Aggregates are inviting you to join them on-site for a tour of their aggregate processing operation. Learn how Goonvean was able to increase efficiency, productivity and profitability with a McLanahan Wash Plant.

Explore McLanahan's wash system and learn why Goonvean partnered with McLanahan to install an UltraWASH Modular Wash Plant, UltraSAND Plant and a 10m EcoCycle High-Rate Thickener.

Discover The Process On-Site With McLanahan & Goonvean Aggregates!



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McLanahan to host first ever open house event at Goonvean Aggregates

McLanahan Corporation, a leading global provider of material processing equipment, is excited to announce its first ever open house event in the United Kingdom at Goonvean Aggregates on 10 October 2024. This exclusive event will offer attendees a unique opportunity to explore McLanahan's innovative solutions and gain valuable insights into the world of construction and demolition (C&D) recycling.

The open house event will feature a comprehensive agenda designed to showcase McLanahan's expertise and the benefits of its equipment. Attendees can expect:

- **Engaging Presentations:** Expert presentations from McLanahan representatives and Matt Penny, Managing Director of Goonvean Aggregates, will delve into the latest trends, best practices, and case studies in C&D recycling.
- **In-Depth Site Tours:** Guided tours of the Goonvean Aggregates facility will allow attendees to witness McLanahan's equipment in action and observe firsthand how it contributes to efficient and sustainable operations.
- **Networking Opportunities:** The event will provide ample opportunities to connect with industry professionals, share knowledge, and explore potential collaborations.

McLanahan and Goonvean Aggregates have established a strong and enduring partnership, with Goonvean successfully utilising McLanahan's equipment to enhance its operations and improve efficiency. McLanahan supplied an UltraWASH Modular Wash Plant, UltraSAND Plant and 10m EcoCycle High-Rate Thickener. The collaboration has resulted in significant benefits to Goonvean including increased productivity, improved product quality and enhanced environmental sustainability.

"Since we chose McLanahan as a partner, we've been quite productive in the way we've been able to reutilize and adapt the plant to our bespoke nature for the product we're looking to produce," said Matthew Penny, General Manager of Goonvean Aggregates. "The dialogue and feedback have been very strong and allowed us to end up with a plant that meets our requirements and needs."

The open house event at Goonvean Aggregates offers an invaluable opportunity for industry professionals to learn, network, and discover how McLanahan's equipment can elevate their operations. Whether you're a seasoned industry veteran or just starting out, this event is not to be missed.

To RSVP or for more information, please contact visit <https://info.mclanahan.com/mclanahan-open-house-goonvean-aggregates>.

Agenda:

- 9:30 – 10:00: Open/registration – coffee & pastries
- 10:00 – 10:30: Presentation with Matt
- 10:30 – 11:30: View the site, meet with sales
- 11:30 – 12:00: C&D presentation
- 12:00 – 1:00: Lunch
- 1:00 – 1:30: Presentation with Matt
- 1:30 – 2:30: View the site/meet with sales
- 2:30 – 3:00: Tailings management presentation
- 3:00 – 4:00: View site/meet with sales



Parnaby Cyclones supply Hamilton Waste & Recycling with a state-of-the-art Washing & Separation Plant

Hamilton Waste & Recycling Ltd was incorporated in 2002 when the Hamilton family purchased the long-established firm of WM Finlayson & Sons. Since then, the company has rapidly grown to become one of the largest independent waste management companies in Scotland.

With over 110 employees Hamilton's sustained investment has seen it double the size of its processing and storage facilities in recent years.

During this period, it has also increased its collection fleet by around 10% – a move which saw it become one of the first companies to introduce electric vehicles. The company's commitment to quality is evident in its accreditations. It recently gained the only Pass 402 accreditation in Scotland. It has also received pass 109 accreditation for its recycled plasterboard derivative.



Investment in new equipment and technology:

Fully committed to investing in new equipment and technology to recycle as much waste as possible while diverting this material away from landfill. The company have invested heavily in waste management processing and recycling technology at their transfer stations, which ensures that as much waste as possible is recycled and diverted from landfill.

Recently the company has invested in a new state-of-the-art Washing & Separation Plant which has been supplied by Parnaby Cyclones of Chilton, near Ferryhill in County Durham.

The new plant was commissioned in August 2023 and is now fully operational on a new site at Loanhead, near Edinburgh and is based around the Parnaby natural medium barrel and cyclones-density washing system which included a comprehensive specification.

Ian Parnaby – Project Manager, commented "Our sales and design team worked with Hamilton Waste & Recycling to provide a bespoke proposal to achieve their requirements and to suit the site layout.

"After the build was complete a Parnaby site engineer stayed on-site 5 days a week to provide equipment training and to show how the Hamilton team could get the best out of the plant."

Stuart Elliott – Site Manager, Loanhead, commented, "We put in the foundations and assisted with the erection of the plant. We have had very little niggles since commissioning, but one phone call to Parnaby, and it is always resolved quickly! Parnaby are a phenomenal company and very knowledgeable and they spent a lot of time teaching us how to operate the plant effectively to maximise production



Project duty:

With a project duty of 30-40tph of C+D and skip waste, 60/40 blended feed nominally <40mm feed size. The plant produces:

- 20mm x 40mm aggregate,
- 10mm x 20mm aggregate,
- 4mm x 10mm pea gravel,
- 2mm x 4mm or 0-4mm grit sand,
- 63um x 2mm soft sand,
- Coarse organics, wood polystyrene plastics etc.

A <63 microns silts-filter cake is produced from a Parnaby 2m wide multi-roll belt press filter which is sent to landfill.

The system also includes a fully closed loop water treatment system.

Production process:

All incoming waste is delivered to Loanhead from the Hamilton Smeaton Recycling Centre.

Material is fed into the hopper by wheeled loader which then travels up the primary conveyor passing under a magnet to reduce tramp metal that could cause blockages and directly into a 30'0" long - '630' barrel where the material is scrubbed. Here the organics and plastics are liberated out of the barrel onto a trash screen with the aggregates and sand screwed up to the rear of the barrel to the logwasher.

The logwasher then applies a final scrub and liberates any trapped material from the end and feeds this onto the trash screen which incorporates a sand recovery beneath allowing the underflow [-1mm] to be fed back to the cyclone.



From the logwasher the clean aggregates and sand are fed onto the primary rinsing screen with the -4mm delivered to the primary cyclone feed tank. The underflow from the screen - 2mm is then delivered to the secondary cyclone where it is cleaned and sent to drainage and stockpile.

The large aggregates are fed onto the aggregate screen and then through a picking station via an Eddy current separator and drum magnet where small pieces of non-ferrous and ferrous metals are removed. Remaining materials are then fed onto a sizing screen which delivers a 4-10, 10-20 and 20-40 aggregate to respective stockpiles.

Parnaby philosophy:

Parnaby Cyclones has a primary objective to provide their clients with unique differentiators which provides much more flexibility with our systems. This allows our clients to adapt to the current market and opens the equipment to accept a wider range of materials feed so that our clients can extract value from more challenging sources. We can integrate density separation processes into the overall solution for coarse and fine materials allowing heavier contamination to be removed such as dense plastics, saturated organics, gypsum, and wood.



Parnaby Cyclones have pride in their customer service and support, as a family business it is their core principle to create a working partnership with their clients helping them achieve their goals and provide high quality, reliable products to safeguard their future. Their experienced team can provide excellent support for maintenance and provide competitive spares at a rapid response time if required.

Robin Stevenson MD - Hamilton's Waste & Recycling Ltd, commented "Partnering with Parnaby Cyclones on this project was absolutely the right decision for the Hamilton business they have been with us every step of the way and any issue was resolved very quickly.

"Through design, construction and commissioning all the way through to our current operational state, Parnaby has been with us on every step of the journey.

"Reducing waste, conserving natural resources, and driving the local circular economy is at the heart of our philosophy, and the quality and performance of the Parnaby equipment is enabling us to deliver this with confidence.





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Rep-Tec drives innovation with new energy-saving Twin Ram Balers



REP-TEC, one of the leaders in baler technology, is proud to announce the launch of its latest innovation: Twin Ram balers equipped with energy-saving inverter drives. This new, innovative addition to their suite of Twin Ram models underscores their commitment to providing sustainable solutions that not only enhance operational efficiency but also contribute to significant cost savings for their customers.

The introduction of energy-saving inverter drives to power the main motors represents a major leap forward in baler technology. These advanced drives enable precise control over motor speed, optimising energy usage during the baling process. Compared to traditional systems, the addition of these to REP-TEC's latest balers results in a remarkable energy saving of over 25% on comparable models. This innovation not only reduces operational costs but also minimises the environmental impact of baling operations, making it an ideal choice for businesses who are striving to meet their sustainability goals.

"This new addition to our Twin Ram balers is a game-changer for our customers," said Mark Doherty, Sales Director at REP-TEC, "These energy-saving inverter drives are a significant enhancement that align with our vision of promoting energy efficiency and sustainability. With over 25% energy savings to be made, customers can also improve their productivity as they can adjust the motor speed based on the specific demands of the baling process. Maintenance costs are greatly reduced as the advanced control over motor operations reduces wear and tear on the equipment and extends the lifespan of the baler. Having that level of control only enhances overall machine performance."

Colm Grimes, Managing Director of REP-TEC adds, "Like our baler refurbishment service, this innovative addition to our new balers helps us contribute to a more sustainable future within this industry. It minimises the environmental impact of baling operations and reduces carbon footprint. As a company, we are committed to innovation that delivers real value to our customers, and these balers are a perfect example of how we are achieving that."

Factory Expansion and New Appointments

To support the growing demand for their innovative solutions, REP-TEC recently announced the expansion of its production facilities. The new factory, a state-of-the-art space, will be dedicated to the assembly of Twin Ram balers and will significantly enhance REP-TEC's manufacturing capacity. This expansion will also accommodate the increasing demand for their baler refurbishment service, allowing them to continue to meet customer needs with high-quality products, service, and support.

In line with their growth, REP-TEC has also made two key appointments to strengthen its leadership team. They welcomed Ryan Barker as their new Operations Manager and Mark Doherty as the new Sales Director. Both men come with many years' experience in the industry from site installation, service management, equipment commissioning to growing sales and delivering innovative customer solutions. Their extensive experience and leadership will be instrumental in driving sales and operational excellence at REP-TEC.

These developments mark an exciting new chapter for REP-TEC as they continue to innovate and lead the way in sustainable baler technology.

For more information, please visit www.rep-tec.co.uk

Eriez® Suspended Magnets are producing significant ROI by protecting critical equipment in Recycling and Crushing Operations



Eriez® CP-20 and TP-25 Suspended Permanent Magnets are quickly gaining recognition across a wide range of industries for their versatility and positive return-on-investment (ROI). Operators are realizing the tremendous cost-saving benefits of installing these units upstream of crushers, shredders, grinders and other expensive size reduction equipment.



According to Eriez experts, tracking studies and customer testimonials, the expense of one of these high-powered permanent magnets is easily justifiable when considering that the magnet's price point is significantly less than the cost of downtime and repairs associated with damage to essential equipment. Eriez suspended magnetic separators are most effective for the removal of unwanted iron from heavy burdens of bulk materials being transferred on conveyor belts. The safe and reliable tramp iron removal provided by these Eriez magnets safeguards costly processing machinery and assures the purity of the product.

Chris Ramsdell, Eriez Separation Product Manager, reports that demand for Eriez CP/TP Suspended Magnets is expanding considerably in correlation with the growing trend for mobile systems, such as mobile recycling plants and mobile aggregate processing plants. These magnets offer a powerful permanent magnetic field combined with a small installation

footprint, making them ideal for mobile systems. Also, the self-cleaning magnets offer hydraulic drives for installation locations where power is not readily available. "Installation is quick and equipment protection--along with accompanying savings--is immediate," Ramsdell says. CP-20 Series Magnets provide a continuous and uniform magnetic field across the feed belt to remove damaging tramp iron while TP-25 Series Magnets utilize a powerful twin pole magnetic circuit to provide maximum ferrous removal at higher suspension heights.

For more information on Eriez CP/TP Suspended Magnets, visit <http://erieznews.com/nr546>



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See how it works



AI: a catalyst for material circularity



Artificial intelligence (AI) and deep learning are revolutionising the way material recovery facilities (MRFs) operate by not only increasing efficiency but also enhancing sorting granularity. By leveraging technologies like computer vision, machine learning and robotics, AI is enabling MRFs to sort waste more accurately, efficiently, and sustainably. Additionally, these technologies are unlocking completely new applications. Dr. Volker Rehrmann, EVP and Head of TOMRA Recycling, discusses the potential of AI for the recycling industry.

We are all striving for a genuine circular economy. However, this requires consistently high-quality recovered materials and as many materials as possible to be fed back into the cycle. This is not yet possible with today's processes, and many recovered materials are downcycled. To avoid downcycling in favour of using high-quality recyclates, sorting must become more granular.

The good news is that AI is now making this possible. What's more, AI will become a catalyst for material circularity. Such advanced technologies significantly improve the sorting and classification of recyclable materials and help to meet the increasing demand for more recycled content.

Before we look at how AI is changing resource recovery, it's worth clearing up a common misconception. AI is not just the latest buzzword but has always been at the heart of our industry. TOMRA's research and development teams have been developing AI-powered sorting solutions for years. Even our first TOMRA machines some 30 years ago were able to make decisions about which material to sort into which container. And the ability to make decisions like a human is the very definition of AI.



When we talk about AI today, we are referring to the latest developments in the field of deep learning. This is a subcategory of machine learning that has found its way into our industry thanks to the advancement of computing power over the last decade.

So how is deep learning changing resource recovery as we know it today?

1. Deep learning provides more flexibility. With the ever-changing composition of waste, sorting systems need to be agile enough to adapt to new market requirements. Instead of replacing hardware components or even machines, modern deep learning technologies can be retrofitted with regular software updates as soon as they have been trained by our experts. This allows technology suppliers to respond more quickly to customer needs.

2. Sorting itself will improve considerably. Conventional sorting systems have already achieved a remarkable degree of accuracy and effectiveness, such as advancements in separating single- and multi-layer PET trays. By combining existing optical sorting systems, which are based on near infrared (NIR) and/or visual information sensors (VIS), with deep learning technologies, as is the case with our AUTOSORT™ with GAINnext™, we can achieve the highest sorting granularity currently available. This allows us to sort by material type and colour and now, thanks to deep learning, also by shape, size, dimensions or other details. It solves previously impossible tasks, such as sorting food-grade vs. non-food-grade PET, PP and HDPE. This is a milestone for our industry, especially as GAINnext™ enables us to achieve the purity rate of over 95% required for food safety in Europe.
3. Deep learning will further advance the automation of plants. The value of deep learning lies in object recognition using full-colour cameras. In other words, GAINnext™ sees what the human eye can see. We can automate sorting tasks that previously had to be carried out manually, enabling us to process larger quantities of recyclable materials quickly and efficiently.
4. Last but not least, we can take a big step toward process optimisation with the help of data. AI-powered sorting systems generate huge amounts of data on material composition, sorting efficiency and plant performance. By analysing this data, operators can identify optimisation opportunities and act accordingly. Additionally, the possibilities reach beyond sorting systems. Cameras based on deep learning can be placed at key points in the sorting circuit to keep an eye on the entire process and material flow. This allows plant operators to continuously monitor the quality of sorted streams, material loss and even ensure compliance with food recycling regulations.

Our industry is at an exciting turning point. We are convinced that the use of deep learning will drive the circular economy forward at a time when it is most needed – legislation is tightening and customer demand for technologically advanced solutions is increasing. At the same time, we need new markets with higher value products to emerge and further boost our industry. Here at TOMRA, we are excited to be part of the AI revolution!

What is deep learning?

Deep learning is a subcategory of AI. It imitates the way the human brain processes information. It is a special technique within machine learning that uses artificial neural networks that are trained by huge amounts of data to recognise and store certain patterns and later apply them to new data. TOMRA's AI experts feed thousands to millions of images into the network as training material until it learns to distinguish certain visual characteristics of material types such as specific bottle caps or packaging shapes. This enables deep learning to solve some of the most complex sorting tasks when combined with existing sensors.

Adding value to IBA

Parnaby Cyclones offer a unique system to wet separate incinerator bottom ash that has already been processed on a dry basis. The efficiency improvement gained by wet separation position our clients very well to capitalise on additional value within this recycling sector.

The primary system we propose provides the client the ability to isolate the aluminium and ash/aggregate away from the other non-ferrous metals. This produces high value, pure outputs

rather than a mixed concentrate, while also maintaining high throughput capability with a relatively small footprint.

Our system provides high levels of separation efficiency on 3mm to 80mm IBA, with throughput of up to 20tph. The system is designed to maintain its efficiency regardless of the moisture content of the feed material, therefore providing consistent performance all year round.



PROCESSING EXCELLENCE SINCE 1973

Parnaby Cyclones

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A clean sweep for circularity



IBA is an abrasive mix of concrete, glass, ceramics and metals.

Good housekeeping and plant efficiency go hand-in-hand for any materials recovery operation. Leading IBA processor Blue Phoenix has found a winning formula to keep things both clean and productive thanks to the support of bulk handling specialists Martin Engineering.

Blue Phoenix operates 11 incinerator bottom ash (IBA) plants in the UK, stretching the length and breadth of the country, processing more than 1.5 million tonnes of IBA each year. With operations across Europe, North America and Australia, Blue Phoenix is the world's largest IBA processor, specialising in recovering ash residues from the EfW (Energy-from-Waste) process.

Blue Phoenix extracts the ferrous and non-ferrous metals, then produces a range of manufactured aggregates that meet standards such as the UK's SHW (Standard for Highways Works) 600 series for use in bulk fill applications.

While it's an impressive circularity success story, it's not without its challenges – IBA is highly abrasive, containing a mix of concrete, glass and ceramics, with metal pieces that can rip belts and damage processing plants. Storing IBA outside means the material gets exposed to all weather conditions so it can contain substantial amounts of moisture, causing it to become sticky and hard to handle. And IBA's cementitious properties mean that it can generate its own hotspots during storage.

This can make IBA prone to material carry-back resulting in spillages, buildups and blockages, all of which create safety risks and production inefficiencies. And that's on top of the extreme wear and tear on conveyor systems, including issues like belt cleaner blades corroding to mainframes and tensioners seizing. To add to the processing challenges, EfW operators need to continually move their IBA on to Blue Phoenix who, in turn, must process it continually and get the manufactured aggregate out of the gate in good time. >



Blue Phoenix has more than 200 conveyor belts across its UK plant network.

Unscheduled downtime has serious consequences for the supply chain and so keeping plants running efficiently is critical. Furthermore, all 11 of the Blue Phoenix plants in the UK are discretely housed inside industrial units, and they each occupy a relatively small footprint, so a clean and tidy operation is paramount.

"Good housekeeping is the cornerstone of everything we do," says Nigel Mitchell, Operations Director at Blue Phoenix UK. "Health and safety, production efficiency, plant profitability, environmental impact, you name it, they are all compromised without high standards in day-to-day housekeeping."

"In fact, you can tell a lot about the culture of a place from its on-site housekeeping. And besides, when things are clean and tidy it's much easier to see how a plant is running and where there are potential problems." That's especially the case for material spillages, buildups and blockages; all issues that Nigel and his team have been on a mission to address in partnership with leader in materials handling solutions Martin Engineering.

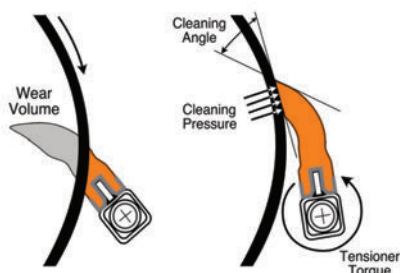


Martin Engineering's QC1™ 'Pit Viper' primary polyurethane blade system has proved vital to control carryback and spillage.

Each Blue Phoenix plant has a network of approximately 20 belts, ranging from 600mm to 1600mm wide, mostly fast-running, many with small head drums, and some with eddy current separators. The belts are made from PVC which is durable but can be difficult to keep clean. "We'd had belt cleaners from another supplier at most of our plants but we struggled with the lack of continual service support to ensure they performed at their optimum best."

Having had enough of the difficulties with other suppliers, Blue Phoenix turned to Martin Engineering in 2018 which led to the installation of QC1™ 'Pit Viper' primary polyurethane blades on a few critical belts at five operations.

The Pit Viper is designed to achieve a higher level of productivity for the lowest cost of ownership of any urethane precleaner. Manufactured with Martin's unique Constant Angle Radial Pressure (CARP) technology, its curved blade maintains consistent belt cleaning pressure as it wears, delivering effective performance throughout its life.



Martin Engineering's Constant Angle Radial Pressure (CARP) technology ensures consistent belt cleaning pressure is maintained throughout the life of the blade.

And besides offering outstanding belt cleaning the Pit Viper is designed to simplify blade replacement, making it possible to quickly and easily replace the blade without any specialist tools by removing and reinserting a single retaining pin – essential when abrasive materials make frequent replacement a necessity.



The Pit Viper cleaning blade can be replaced without any tools by removing and reinserting a single retaining pin (shown bottom right of picture).

"We'd tried various products to keep conveyor belts clean, but as volumes increased and plants have been operating with higher throughputs it became clear that we needed a customised approach to ensure materials were flowing through our process as efficiently as possible," said Nigel.

"We were looking to partner with a provider that would take an open-minded approach, to work alongside us to understand the specific issues at each point in the process and help us solve the problems on an ongoing basis, rather than just sell us their products."

After performing well at the first five plants, it wasn't long before Blue Phoenix sought a national deal to install and maintain Pit Vipers throughout their national network. In addition, several of Martin's 'set-and-forget' SQC2™ secondary belt cleaners were also installed following successful trials.



Martin Engineering's Pit Viper belt cleaner hard at work.

As more belt cleaners were installed, and Martin's technicians closely monitored their performance, tailored improvements were made to further optimise belt cleaning capacity, including fitting stainless steel parts to address corrosion

issues. By 2021 almost every belt in the Blue Phoenix network - more than 200 conveyor belts in total – was being kept clean by a Martin system incorporating the blade and tensioner mounted on a mainframe.

Regular servicing of the blades and tensioners is key to ensuring constant cleaning pressure and this is done with the support of Martin's nationwide service partner Wright Engineering, who happened to build some of Blue Phoenix's newer plants (and fitted them with Martin belt cleaners from the outset). Yet keeping the plants clean and running at their best is about a lot more than belt cleaners and periodic servicing.

Indeed, it's the Blue Phoenix workforce that continually monitors things on the ground: "Our plant teams are the eyes and ears of productivity and they each have responsibility for a different work zone," said Nigel. "Every member of the team takes responsibility for maintaining our high standards of housekeeping. To facilitate that we have an extensive training programme which includes, for example, virtually all of our operational employees participating in Martin Engineering's Foundations™ seminars for belts and belt cleaners.

"There's nothing else like Foundations in the industry and it's been an invaluable part of the training for our teams to help them understand things like preventive maintenance. Now they're able to identify potential issues – not just relating to belt cleaners, but rollers and bearings, belt condition and mistracking, and so on – and report any issues so they can be dealt with as part of scheduled maintenance before an unscheduled breakdown happens.



Martin Engineering's Foundations training program gives production and maintenance teams invaluable insight into every aspect of conveyor safety and operation.

"As a result of our work with Martin, since 2018 we reckon we've seen an 80% reduction in spillage compared to the days when scrapers were not being maintained. Back then we had people sweeping the floors almost constantly – and that's not a good use of anyone's time, let alone the skilled people we employ.

"So we've come on leaps and bounds, but we're not sitting back, we believe there are always better ways of doing things. The belt scrapers are working really well, but what's key is that the arrangement with Martin, and Wright too, gives us confidence in the products, and confidence in the people that

we have to support us, to both maintain and continuously improve the performance of our plants. We never feel alone."

"Every challenge we've thrown at the Martin Engineering team has resulted in them coming up with a solution. Thanks to open dialogue and a partnership mindset between Martin Engineering and Blue Phoenix, a bespoke approach and a drive for continuous improvement is helping to maintain productivity in a sector that is proud to deliver circularity."

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Unsafe disposal of electrical items causes daily fires: Veolia urges caution to keep people safe

- **Veolia records one preventable fire a day from residents putting dangerous items in bins**
- **The campaign aims to raise awareness of the danger real people face from vehicle and facility fires**
- **Residents should not put vapes, electrical items, batteries, or gas canisters in the bin as they are extremely flammable when crushed**
- **Veolia carries out around 500 million collections a year**
- Electrical items - items with batteries, plugs, cables, or hidden batteries such as those found in children's toys and electrical toothbrushes - can be recycled but they must be handled safely at dedicated facilities. Residents can find local recycling points at recyclenow.com/recycling-locator
- Batteries can be easily recycled at dedicated recycling points, which can be found at recyclenow.com/recycling-locator
- Gas bottles and nitrous oxide (Nox) canisters need to be handled safely during disposal. In most cases, residents needing to dispose of gas bottles or canisters can take them to their local Household Reuse and Recycling Centre, but this should be checked locally.



Veolia, the UK's leading resource management company, has launched a UK-wide campaign to combat a rise in fires across its operations that has reached, on average, one preventable fire every day. The campaign aims to educate the general public on the dangers of certain waste items and how they put the people who handle waste in danger as well as cause damage to vital recycling infrastructure.

The fires occur across the country in Refuse Collection Vehicles (RCVs) in residential areas and in waste management facilities, due to residents putting dangerous items in their recycling or rubbish bins and on-street litter bins. This puts both Veolia staff and the general public in direct danger.

The campaign videos, published across social media, contain real footage of the fires and explosions caused and focus on the danger of four items that are commonly misplaced in household bins and how they can impact the people who collect, sort, and process waste.

- Used vapes should be taken back to retailers, never placed in household recycling or rubbish bins or in on-street litter bins.

Vapes, electrical items, batteries, and gas canisters become extremely flammable when they are crushed. This puts both collection crews and the staff at recycling and waste sorting and processing facilities at risk of burns, chemical exposure and smoke inhalation - injuries that can be life-changing. It also causes damage to vital recycling infrastructure.

Residents can visit veolia.co.uk/dangerous-waste to watch real footage of what happens when dangerous items enter the waste stream and learn more about how to safely dispose of these materials.

Cory Reynolds, Director of Corporate Affairs, Veolia UK, Northern Europe Zone, said: "At Veolia we pride ourselves on carrying out essential services whilst putting safety first in the workplace, and we do not accept our people or the communities we serve being put in danger. This campaign is necessary to educate residents on how to ensure their waste is safe, and we ask everyone to make these simple changes that will greatly decrease the chance of fires in collection vehicles and sorting facilities. This will have a huge impact on keeping the vital industry we work in safe and ensure that the people that handle waste are kept out of harm's way whilst protecting the valuable materials residents work hard to separate for recycling."



Hybrid Recycling Power from Kobelco

Serving the wider Rugby and Coventry regions, Clews Recycling Ltd is investing heavily in plant and infrastructure to achieve their goal of zero waste to landfill by the end of 2025 and to keep pace with ever changing waste management regulation.

Already having significant outlets for a range of recovered recyclables, their drive to divert the last few percent of residual waste to landfill and increase operational efficiencies, centres on ramping up production of Refuse Derived Fuel (RDF).



The busy transfer station has seen recent upgrades to the picking line and baling for export capabilities that will enable them to transport bales of waste this year. General Manager Jamie Clews commented, "We have to ensure the material segregation and picking lines are continually running and producing the recyclables to the quality standard needed. With tight margins, reliability of the plant is essential to minimise downtime and ensure we are always hitting our targets and maintaining an efficient operation."

Clews Recycling's dedication to their customer base is pinned around their drive to offer a comprehensive and customer focussed service. "We are not the biggest recycling company in the region, but we aim to be the most flexible." Jamie commented. "We offer a range of services to meet our client's needs and to provide the right mix at the best cost, being smaller we can be more adaptable than the national waste companies."

Another step in reducing the operational costs for the company has recently been realised with the addition of their first hybrid machine on the fleet. "We are constantly evaluating our fuel costs and have looked at bringing in electric machines onto the fleet." Jamie commented. "Going



fully electric did not suit the infrastructure of the site and would have had very high set up costs. A good compromise was going for a hybrid machine in a bid to lower our fuel consumption and to reduce our carbon footprint. We have looked at many of the alternatives on the market and found the Kobelco SK210H to be ideally suited to our needs. Molson's Sales Manager, Dan Bailey, worked with us to arrange with Kocurek to have a raising cab system fitted and to add a number of other extras, despite all these additions he was still able to offer a good lead time with the SK210H.

'In our experience, few manufacturers either want to supply tracked high rise cabs to a waste spec or are prepared to listen to your requirements and try to sell you something you do not want.

We prefer tracked machines with the hydraulic cab raise rather than wheeled 'Rubber ducks,' for the work in our transfer station as we consider they are intrinsically safer when loading at height such as walking floor trailers. The ability to see into the trailer ensures the operator can avoid damaging the trailer, check the waste quality as it is loaded, ensure a good payload and allows excellent all round vision which is essential in today's safety first environment' Jamie added.

The SK210LC Hybrid has been brought to the market by the leading Japanese manufacturer to offer fuel savings in certain applications where repetitive slewing of the machine is undertaken. Unlike some manufacturers who downsize their engine in a bid to obtain fuel economies, Kobelco use a standard Hino 4-cylinder diesel delivering 124kW. This allows the machine to perform in line with the standard SK210 excavator. To achieve fuel savings, Kobelco has fitted a 567V Lithium-Ion battery to store energy recovered from the three phase swing motor and energy recovered from the hydraulic system. This stored energy is then used when raising the boom reducing the load on the engine and in turn reducing the fuel consumption. This ingenious system enables the SK210LC Hybrid to return fuel burn figures in the region of 6-7 litres per hour, almost half of the figure used by a standard machine. To ensure fine particles of material aren't drawn onto the radiator and ultimately affect the cooling ability of the unit, Kobelco fits a fine mesh screen just inside the rear compartment. Easily removable, the screen can be cleaned at regular intervals simply by hosing the material off.

As the Kobelco will spend some of its time on the transfer station sorting out wastes on the ground, the decision to go for a standard excavator configuration was seen as a logical one opposed to a more expensive dedicated material handler specification more suited to loading recycling equipment and trucks. Fitted with a heavy-duty Demarec selector grab, the incoming waste can be quickly sorted into relevant waste streams and stockpiled in bays ready for outward loading. Despite the raising cab now having a substantial screen protection to both the cab top and windscreen, the operator says the view from the heated, air suspended seat is very good. Along with a full suite of LED working lights, the Kobelco has been fitted with a sturdy bucket ram guard to keep it from any potential damage whilst loading trucks. The outer edges of the upper structure have also been fitted with heavy-duty side impact protection designed to keep panel and component damage to a minimum.



Even with a standard 5.64m boom and 2.94m stick, the impressive load-over ability of the Kobelco allows it to safely fill the walking floor trailers collecting from the transfer station. The raising cab has been designed and fitted by Ipswich based Kocurek. With over 15 years of experience in the delivery of high-rise cabin conversions, the Kocurek Hydraulically Raised Cab (HRC) has solved the problem of operator visibility for loading the high-sided trailers. The conversion mounts the original cabin onto a new cab base designed specifically for the SK210 allowing the cab to rise approximately 2 metres vertically with a 200mm forward arc.

With the cab raised to its full height the operator has an excellent view across the top edge of the trailer and allows them to load the material each side of the cross members in the trailer. As the material is loaded it is pushed down to compact it and ensure each truck leaves the depot fully freighted.

During its first few months of operation the Kobelco has performed as expected. "We've not had to use the Molson back up as the machine has not missed a beat!" Jamie commented. With the arrival of the SK210LC Hybrid and the other investments being made the company is moving ever closer to achieving their goal of becoming a more sustainable waste recycling company.



Ward unveils UK's most technologically advanced waste plant

Fourth generation family business, Ward, is the largest independent metal recycling and waste management company within the UK. Its operations contribute to environmental sustainability by reducing waste and promoting the reuse of valuable materials. Driven by an aim to divert 100% of material from landfill, Ward has invested in creating the most advanced Construction and Demolition waste plant in the UK...

Metal recycling and waste management specialist, Ward, has unveiled its state-of-the-art material recycling facility in Ilkeston, believed to be the most technologically advanced processing plant in the UK.

Following extensive research throughout Europe to find the right plant, equipment and technology, Ward has invested more than £10 million and worked with a range of partners to complete refurbishment and upgrade of its Ilkeston processing site.

Kiverco was selected to design, manufacture and install this large-scale recycling plant. With an increased capacity to now sort up to 50 tonnes of material per hour, the facility can process 150,000 tonnes of construction and demolition waste each year.

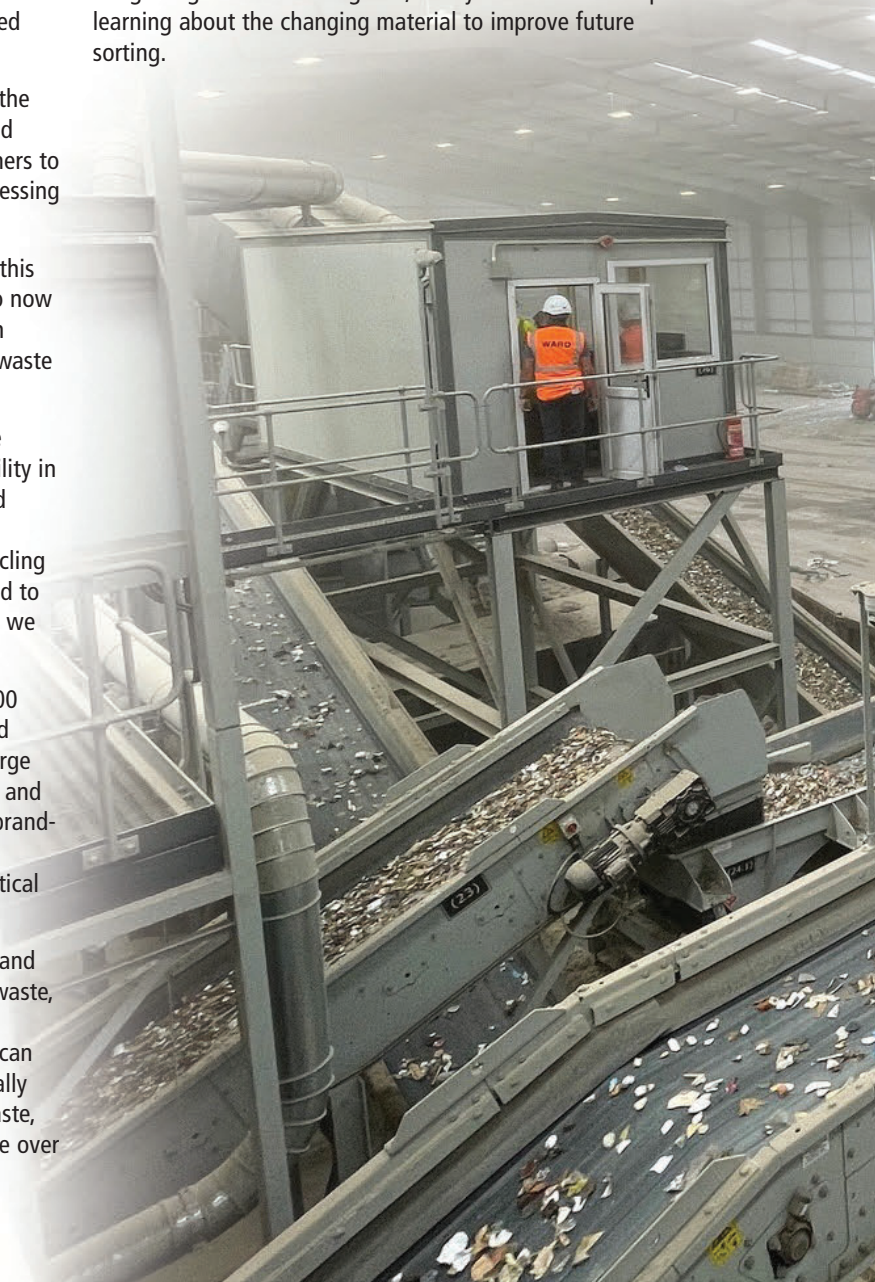
Donald Ward, Operations Director at Ward explains: "We wanted to create the most technologically advanced facility in the UK. After months of research into the equipment and technology available, we were pleased that Kiverco and Pellenc ST were able to partner with us to build the recycling facility and supply the quality of optical sorter we needed to maximise recycling and achieve the high-quality outputs we were striving for."

"We've transformed our existing site by building a 50,000 square foot unit, improving groundworks throughout and installing a new power supply for all new equipment. Large sections have been re-concreted, new drainage installed and we've created a new wood recycling reception area. A brand-new material recycling plant has been built in the new building and installed by Kiverco, including the latest optical sorting technology available from Pellenc ST."

The plant has been designed to process all construction and demolition waste, as well as commercial and industrial waste, sorting this mixed waste into the separate elements of plastics, wood, metals, stones and soils. The equipment can recover at least 20 different products with an exceptionally high level of purity from construction and demolition waste, where products such as hardcore and stone must achieve over 97% purity levels.

Extensive research was undertaken to combine the best technology on the market. Ward has worked with a range of best-in-class manufacturers to supply and build the most effective and advanced solution.

The optical sorting machines from Pellenc ST optimise the sorting process, guaranteeing high levels of purity, recovery and throughput, reducing the need for manual sorting. It can pick and sort tiny fragments of wood, plastics, cardboard, polythene and other materials, while eddy current separators, magnets and air systems help separate tiny particles of ferrous and nonferrous materials more effectively. By integrating Artificial Intelligence, the system can also keep learning about the changing material to improve future sorting.





Donald continues: "One of the key benefits of the new plant the ability to maximise material recovery and help us further divert waste away from landfill. We're now able to process two and a half times the previous tonnage and have a huge improvement in the quality of the outputs, which can lead to offering customers better value for money. Metals, plastics, cardboard, wood and UPVC are particular streams we have improved, which has increased the volumes to recycle with local partners reducing our business carbon intensity."

The plant installation began mid 2023 and, following a period of testing, it became fully operational earlier this year.

These investments have allowed the company to grow, increasing its processing capacity and maximise the materials recycling, diverting over 95% from landfill.

Ward's new technologically advanced recycling facility in the Midlands



Inside Ward's state of the art waste plant



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Fire Hazards and Prevention for Metal Recycling Facilities

In 2023, it was reported that the UK Fire and Rescue Service attended approximately 300 significant fires at waste and resource management facilities. Metal recycling facilities handle a range of combustible and flammable materials including lithium-ion batteries which increases the risk of fires. Companies should have awareness of the hazards that exist and what resources there are to combat them in order to maintain a safe working environment.

Causes of Fires

Lithium-ion batteries are likely to be the number one cause of fires at metal recycling sites. These batteries can be found in vapes, children's toys, electric scooters, discarded mobile phones and laptops. In the last year, there have been over 1,200 battery fires within Refuse Collection Vehicles and waste and resource management facilities, which is an increase of 71% on the previous year. The batteries are often damaged when they are collected or handled by waste processing equipment and readily catch fire, often setting fire to the materials around them. More specifically, lithium-ion battery fires will generate their own oxygen and in turn, are very difficult to extinguish, which only adds to the risks associated with lithium-ion batteries if not collected, stored and disposed of properly.

Highly reactive metals, such as magnesium and aluminium, also poses a fire risk. Commonly used for their lightweight and durable properties, these metals are highly flammable in their powdered or fine forms. During the shredding, cutting, or crushing of the metals, these dust particles can easily ignite. If not properly controlled, this can lead to severe fires or even explosions. Facilities must take precautions to control dust accumulation and ensure proper ventilation and cleaning to minimize the risk of ignition from reactive metals.

Flammable liquids and gases such as fuels, oils and coolants are commonly stored as waste at end-of-life vehicle sites (ELV) and

as materials used on site for the operation and maintenance of plant and equipment at metal recycling facilities. These substances can easily ignite when exposed to sparks from welding, cutting or dismantling processes. A hot work permit system should be put in place to help control any activities which involve heat, sparks or open flames. The Control of Hazardous Substances Hazardous to Health (COSHH) Regulations outlines that businesses must adequately control exposure to materials in the workplace that can cause ill health. Part of this regulation requires businesses to provide information, training and instruction for employees, including cleaning and maintenance staff.

Fire Prevention Plan

Guidance from the Environmental Agency is available to help businesses prepare their sites in the event of a fire by creating a Fire Prevention Plan. Applying to operators that accept any amount of combustible waste, the guidance has been designed to meet three key objectives:

- To minimise the likelihood of a fire happening
- To aim for a fire to be extinguished within four hours
- To minimise the spread of a fire within the site and to neighbouring sites

Businesses are required to identify all of the possible causes of a fire, and then outline the measures that will be put in place to address those risks. Sites must consider additional fire risks posed by both planned events and reasonably foreseeable unplanned events. The Environmental Agency expects the Fire Prevention Plan to meet all three objectives.

For further information and advice, contact Certora Training on 01246 386900.



Kiverco completes second recycling plant for Britaniacrest, celebrating 16 years of partnership

Kiverco, renowned for producing the world's toughest recycling plants, has been focused on building long-term customer relationships for over 30 years. One customer who has been partnering with Kiverco for over 16 years is Britaniacrest a Surrey-based waste management company. Having outgrown their existing recycling facility, Britaniacrest recently turned to Kiverco again to discuss plans for an innovative solution to handle two parallel waste streams: Construction and Demolition (C&D) waste and Commercial and Industrial (C&I) waste.

In collaboration with Britaniacrest, Kiverco designed and delivered a bespoke, cutting-edge recycling plant to meet their key objectives; to divert waste from landfill, to generate energy from waste, to reduce labour costs and to increase operational uptime.

Having worked with Kiverco for 16 years, Britaniacrest has always been impressed by the durability and longevity of Kiverco's equipment. Kiverco's brand promise for consistently delivering high purity levels in waste sorting and delivering more uptime during shifts were also pivotal factors in its selection. Having a reliable recycling plant capable of high levels of throughput is essential to waste management companies such as Britaniacrest, and the long-standing relationship between the two companies has evolved into a



trusted partnership, which played a significant role in their decision to invest in a much larger Kiverco plant. Kiverco is the no 1 provider of recycling plant for C&D waste in the UK.

The newly installed Kiverco recycling plant boasts an impressive throughput of up to 50-60 tonnes per hour. Maintaining consistent high throughput levels is a top priority for Kiverco, who prides itself on being "Proudly Predictable." This commitment to high performance levels, high purity of recovered products and reliability throughout entire shifts ensures maximum return on investment for customers.





Speaking about the project, Sales Manager JP Devlin said, "I was involved in installing the Britaniacrest plant 16 years ago when I worked as a fitter. Now, being part of the process of selling their new Kiverco plant makes me extremely proud that they have chosen Kiverco once again. It's a pleasure to collaborate with the team at Britaniacrest on this exciting new project, which will feature some of the latest industry technology. This will future-proof their business for many years and provide a significant return on investment for Britaniacrest."

Ray Foss from Britaniacrest, said, "We have been working with Kiverco for many years and have been consistently impressed by the durability of their products and their exceptional aftercare support. When it came to upgrading our facilities, we needed a trusted partner who understands the work we do, and Kiverco has once again delivered with an impressive plant. The team listened to our needs and provided a solution

to enhance our purity levels with a fines clean-up. We relocated our existing Kiverco trommel, which we've had for nearly 16 years. It has been reliable throughout, and after some modifications and maintenance, it's been brought back to life. We expect to get another four or five years of use from it. Now, we're diverting nearly 100% of our waste from landfill—everything is separated, baled, and exported. I highly recommend Kiverco, and I've already referred them to other customers interested in waste plants."

Kiverco, based in Dungannon, United Kingdom, is a recognised leader in the design and manufacture of recycling plant solutions. With a focus on building lasting relationships with customers, Kiverco designs and delivers bespoke solutions tailored to each client's specific needs. The company is known for its commitment to environmental sustainability and for providing cutting-edge recycling equipment.



Vital Metal Recovery in MRFs

Metal recovery and recycling from waste is not new, with evidence of such activity in Roman times. In materials recycling facilities (MRFs), metal recovery provides a vital financial lifeline. Bunting assists waste management companies and MRF designers in maximising metal recovery whilst maintaining high purity levels. On average, there is 8% metal in waste being handled in MRFs in the UK.

Bunting is one of the world's leading designers and manufacturers of magnetic separators, eddy current separators, metal detectors and electrostatic separators, with globally located manufacturing facilities.

The recovery of ferrous metals, such as steel food and beverage cans, commonly occurs early in the MRF. Overband Magnets, placed across or in-line with the conveyor transporting the waste, magnetically attract the ferrous metal before automatically transporting the recovered metal into a collection area. Low throughput MRFs commonly use Permanent Overband Magnets, with larger volume plants installing larger Electro Overband Magnets such as the ElectroMax.

The remaining mix of non-magnetic material contains non-ferrous metals, which are predominantly aluminium beverage cans. High in value and demand, aluminium cans provide a good financial return when supplied with the optimum purity specification. Installed after picking in many MRFs, the Eddy Current Separator uses strong magnetic forces to propel aluminium cans off a conveyor transporting the mixed waste and into a separate collection area or onto another conveyor.

An Eddy Current Separator is a dual pulley conveyor system, where the non-metallic rotor cover houses an independently

rotating high-speed magnetic rotor. Separation occurs when a non-ferrous metal particle (e.g. aluminium) is conveyed into the magnetic zone. The non-ferrous metal particle is exposed to rapidly changing magnetic polarity. This induces 'eddy currents' into the particle generating an electrical current



(Fleming's left-hand rule) that subsequently creates its own magnetic field. The two magnetic fields oppose each other (i.e. North vs North pole repulsion), causing the repulsion of the non-ferrous metal particle and change in trajectory. The measured positioning of a splitter enables the separation of non-ferrous metals from non-metallic material due to the altered and unaltered material trajectories.

At the Parry & Evans pre-sorted domestic refuse recycling site in Deeside, UK, the combination of the Bunting Overband Magnet, Drum Magnet, and Eddy Current Separator recover approximately 800 kg/hr of metal. A vital financial benefit to ensure the recycling operation remains viable.



Haulaway boosts recovery rates with new recycling plant

Established in 1991, Haulaway Limited has grown into a thriving third-generation family business based in Hailsham, East Sussex.

From humble beginnings with just two skip lorries, Haulaway has expanded its fleet to 21 vehicles, including skip lorries, 8-wheel tipper, a grab lorry, and a variety of rollovers and articulated vehicles. The company offers an array of services beyond skip hire, including tipper and grab hire, roll on roll off hire, bulk haulage, cardboard collection, trade waste disposal and a plastic recycling plant.

As Haulaway continues to grow, so does the volume of recyclable material they handle. This increase necessitated the installation of a new recycling plant to process their Dry Mixed Recycling (DMR) stream. After an extensive tender process, Haulaway selected Blue Machinery (Southern) to install the cutting-edge recycling plant at their Polegate Distribution Facility. Blue Southern assembled some of the world's leading manufacturers including Westeria, Tomra, BRT Hartner, and M&J to create a state-of-the-art system.

The Process

The process begins with material being fed into an M&J K210 7 Knife shredder. This functions both as a bag opener and shredder, efficiently opening bags but negating the blockages from a mixed feedstock that you get from a traditional bag-opener. The shredded material is perfectly sized at approximately 400mm for the optical sorters used later in the process.

Next, the material travels via a conveyor to the first quality control picking station where contaminants are removed before the main process. The remaining material moves on to a BRT Hartner ballistic separator, which sorts 2D materials from 3D materials and produces a 0-50mm ballistic fines. The 3D material is then passed through an overband magnet to extract ferrous metals before an eddy current system removes non-ferrous metals.

The remaining 3D material proceeds to a second manual picking station where 3D cardboard and various grades of plastic are recovered. Concurrently, the 2D material from the ballistic separator is directed to the first Tomra 2800 optical sorter, which removes film from the material. The remaining material then passes through a second Tomra optical sorter which takes the OCC leaving a mixed paper product as the drop fraction.

The plant has been cleverly reverse engineered meaning that optical sorters can easily be added to the 3D line in the future and phases 2 and 3 are already designed.

Capable of processing up to 10 tons per hour, the new plant became operational in March, and Haulaway is already seeing significant benefits. Sam Holloway, Operations Manager, commented, "The plant has been running smoothly for a few months now and has significantly increased our material recovery rates from our DMR waste stream."

Haulaway Limited's commitment to innovation and efficiency continues to drive their success, setting a high standard for recycling and waste management in the industry.



SCREENING MEDIA

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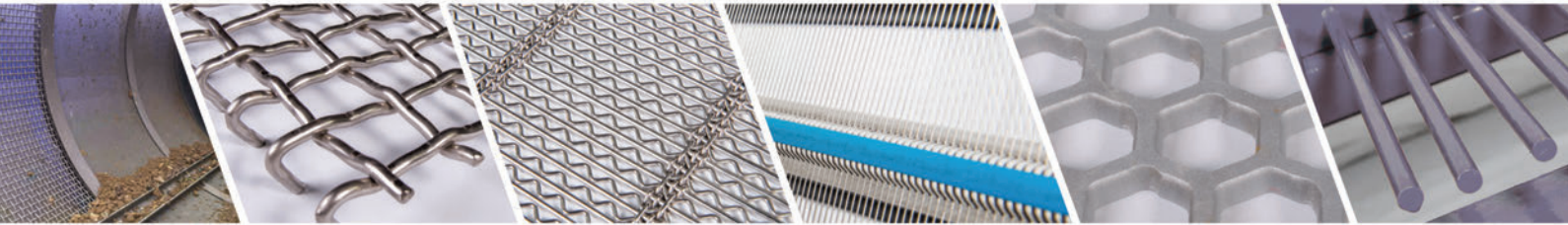
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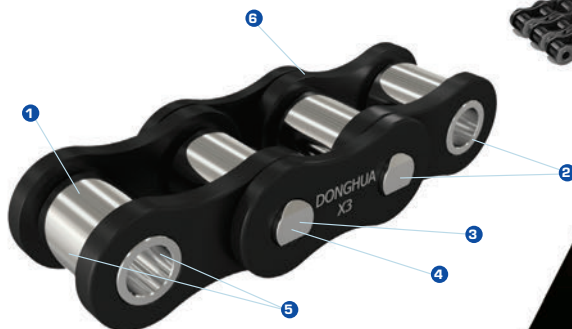


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15 Years of Excellence for Donghua Limited



Donghua Limited, a leading name in the chain industry, proudly marked its 15th anniversary in the UK in August. Since opening its doors in Wolverhampton in 2009, the UK arm of the Hangzhou Donghua Chain Group has earned a reputation for quality, innovation and exceptional customer service, establishing itself as a trusted partner for Product Partners, Stockists and Distributors across the UK and Ireland.

Over the past 15 years, Donghua Limited has significantly expanded its product range and services to meet the evolving needs of customers. The company offers an extensive portfolio of chains and sprockets, including conveyor chains, attachment chains, agricultural chains, leaf chains and roller chains. Recent product launches in the UK, such as EXL and X³ roller chains, demonstrate Donghua's commitment to staying at the forefront of the industry.

Donghua's dedication to excellence extends beyond products. Its on-site technical chain workshop in Wolverhampton is equipped to provide custom-built chain solutions, chain

cutting, measuring and matching services, as well as hot dip lubrication. Additionally, the company's range of branded lubrication sprays and chain tools offers customers further options to enhance chain performance and longevity.

In 2017, the company revolutionised the industry by launching the UK's first Chain ID App, a popular tool among engineers for quickly identifying replacement chains. This focus on customer-centric solutions has been key to building a loyal customer base.

"We're incredibly proud to celebrate 15 years of success in the UK," said Bob Wellsbury, Managing Director of Donghua Limited. "This milestone is a testament to the hard work and dedication of our growing team, as well as the loyalty of our customers. As we look to the future, we remain committed to providing innovative chain solutions and exceptional service."

For more insights, read Donghua Limited's special anniversary newsletter.

www.donghua.co.uk/chaintorque-newsletter



McHale promote the benefits of two new Metso machines

With recycling now, a top item on every equipment distributor and plant operator's agenda, investment in appropriate plant has become an even more focused operation. In that context, plant that straddles both mainstream crushing and quarrying applications and the somewhat individual requirements of a specialised recycling set-up ensures that buyers gain maximum return on their investment.

So said Metso's UK & Ireland distributor McHale Plant Sales whose work on behalf of the Finnish manufacturer dates back to 2015, and now includes responsibility for markets in Ireland, Northern Ireland, England, Scotland and Wales.

Overseeing their UK operations in Tamworth and Edinburgh is their recently appointed Company Manager UK, James Cliffe. A crushing and aggregates professional, Cliffe has truly 'been there, done that, and worn the T-shirt' joining the McHale organisation with a clutch of industry-related qualifications to his name.

Acquired at University of Derby and Cork and Waterford Institutes of Technology, his 'you name it' list of qualifications includes industry-related awards in the fields of Civil Works, Asphalt and Paving, Concrete, Quarry Management, and Minerals Extractives.

That said, it was his time at CRH Roadstone that really qualified him for his Metso UK role. There, as National Mobile Crushing Division manager and Location Manager at their Huntstown Quarry near Dublin, Cliffe had his hand on one of the two largest and busiest quarries in the Roadstone network delivering an extraction volume of 500,000 tonnes of material per month.

"In my position at McHale UK, I am fortunate to have this experience to draw upon when advising customers, and when talking to quarrymen about the benefits of Metso equipment that is totally familiar to me," he said.

In Cliffe's estimation, two new machines especially worthy of note, and which dovetail neatly into any eco-focused recycling operation, are two all-new, diesel-electric powered Metso Lokotrack EC models: a LT400J 68-ton mobile jaw crusher designed for primary crushing of hard rock and recycled aggregates, and a 50-ton mobile LT350C cone crusher for use



in secondary and tertiary crushing applications".

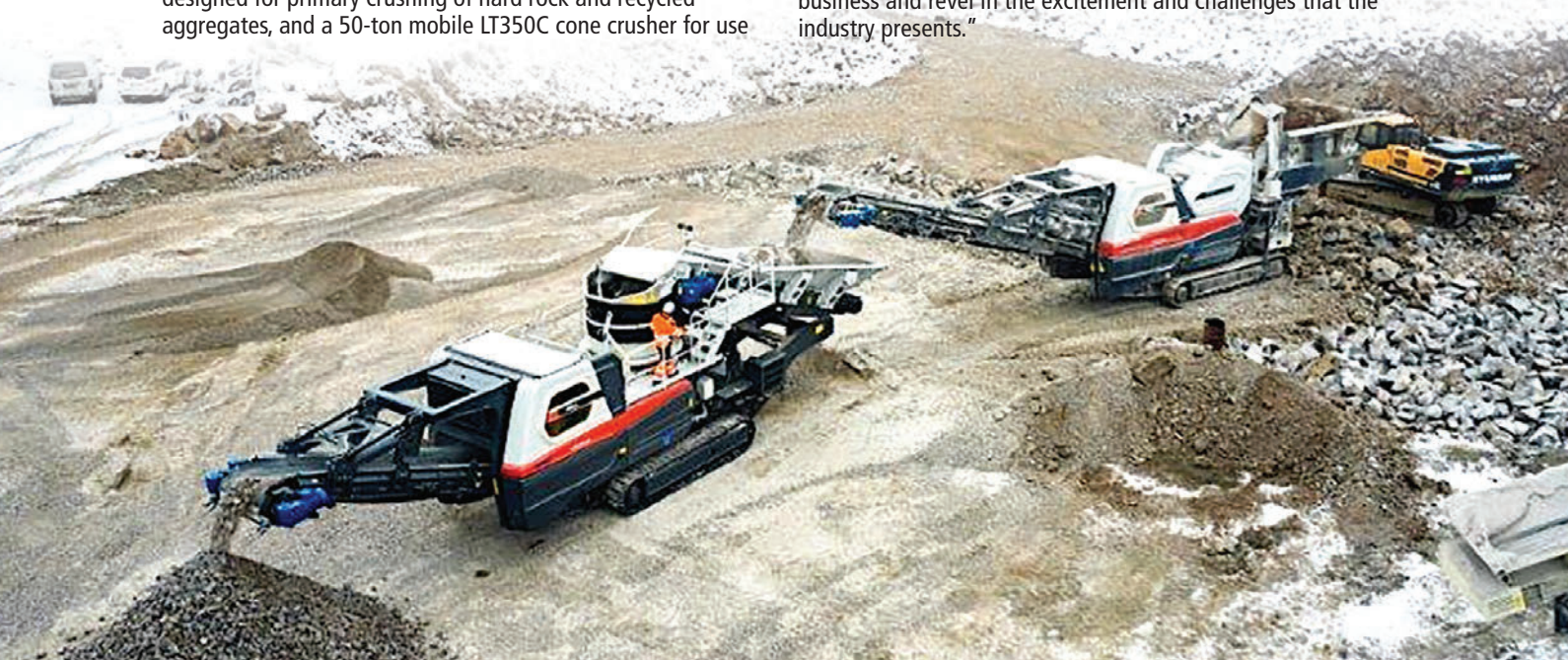
To reach high capacity, the LT400J is equipped with a proven Nordberg C120 jaw, a unit Metso says that can be 'seamlessly combined with conventional Lokotrack mobile crushers and screens to produce high quality aggregates'.

Another showstopper which Cliffe says 'is attracting a lot of interest' is the Metso Nordwheeler NW8HRC. Mounted on an articulated truck trailer and 'much talked-about' in aggregates circles, the Nordwheeler NW8HRC has high-pressure grinding rolls (HPGR) making it ideal for producing fine aggregates such as those required in road surfacing, waste processing, and concrete products production.

Thanks to its tow-away, easy-move, trailer-mounting, the Nordwheeler NW8HRC is fully mobile and totally transportable within the worksite and from site-to-site as required.

Approaching one year since taking up his appointment at McHale, Cliffe comments on what he terms 'the professionalism' of UK aggregates producers. "Here, distributors like us must be 'on our game' when it comes to making judgements, giving recommendations, and knowing the machine best suited to each customer's needs and priorities, and the applications they are gearing up to serve," he said.

Asked about the drawbacks, Cliffe replied: "surely, it is the competition within the marketplace to find first-class, fully-qualified and dedicated people who will commit to the business and revel in the excitement and challenges that the industry presents."



Unlocking the Full Potential of Retainers in Marketing, PR, and Event Management



In today's fast-moving business world, retainers aren't just a smart choice—they could be a strategic advantage. For businesses looking to adjust operations and focus on growth, retainers provide the consistency, expertise, and flexibility needed to stay ahead.

An Extension of Your Team

With a retainer, your provider (Agency, Freelance Professional, whatever your required resource is) becomes a true extension of your team, fully aligned with your brand's goals and messaging. This deeper relationship leads to quicker delivery, stronger cohesion with your company's broader objectives, and a better understanding of your ecosystem. Over time, this close integration delivers more refined, impactful campaigns while maintaining agility to respond to changing needs.

Even as your provider integrates with your team, they remain free from any "we've always done it this way" mindset, bringing fresh perspectives without losing sight of your long-term goals.



Strategic Agility and Proactive Support

Retainers create strategic partnerships that go beyond task execution. Your provider not only responds to your needs but anticipates market changes, offering proactive solutions as challenges arise. This close collaboration helps your business remain agile, ensuring your brand stays relevant while delivering consistent, effective messaging.

Responding to Business Restructuring and New Legislation

We've seen an increasing demand for retainer-based services as companies restructure their internal teams, particularly in response to new employment legislation. Businesses are streamlining, and many are outsourcing specialised tasks like event management to external providers, helping reduce overheads whilst accessing high-level expertise.

In this landscape, retainers offer a cost-effective and flexible solution, allowing companies to stay lean and focused on core activities while benefiting from the specialised services they need to thrive.

Staying Ahead of Trends, Avoiding Outdated Practices

For businesses without dedicated teams in marketing, PR, or event management, staying current with industry trends can be difficult. Retainers mitigate this risk by ensuring your provider brings the latest insights and strategies to your campaigns, keeping your business on the cutting edge and avoiding outdated practices.

Final thoughts...

As companies continue to navigate changing regulations and market dynamics, the value of retainers is more evident than ever. They provide consistency, flexibility, and strategic support, helping businesses focus on what they do best while ensuring their brand's messaging and presence are optimised for success.

From my experience, retainer-based partnerships aren't just about convenience, they're a key driver of growth and a powerful way to ensure long-term success.

The cost-saving benefits of reliable storage bay solutions

A well-designed, dependable storage bay is more than just a place to keep materials - it's a strategic asset that can significantly reduce costs and minimise waste throughout the handling and transportation process, according to Owen Batham, Sales and Marketing Director at Elite Precast Concrete.

By effectively protecting materials from water exposure, these storage bay solutions offer numerous advantages such as:

Preventing water damage

Water seepage is a silent culprit that can substantially increase the weight of exposed materials. This added weight not only compromises the integrity of the materials but also leads to inflated transport costs, especially when shipping charges are calculated based on weight, as waterlogged materials are often heavier and more challenging to manage. This increased difficulty in handling can:

- Extend processing times
- Increase additional labour hours
- Increase the risk of workplace injuries
- Raise potential damage to handling equipment
- Increase transportation costs

Keeping materials dry and shielded from the elements is crucial for maintaining their quality. Proper storage helps prevent:

- Degradation of material properties
- Mold and mildew growth
- Corrosion or rust formation

Enhanced operational efficiency

Keeping materials together and dry, means you know where materials are kept and dry materials are easier to work with, leading to smoother operations and potentially faster processing times

Lower energy costs

Dry materials often require less energy to process or transport, potentially reducing overall energy consumption.

Extended shelf life

Many materials last longer when kept dry, potentially increasing their usable lifespan and reducing the frequency of replacements.

Compliance with regulations

Proper storage can help businesses meet environmental and safety standard regulations related to material handling and storage.





Increased safety

Properly stored materials are less likely to become unstable or hazardous due to water damage, enhancing workplace safety and by installing an A1 fire rated storage bay system, businesses can protect their infrastructure and materials as they:

- Reduce the spread of fire
- Pay no contribution towards a fire
- Are compliant with standards
- Can be used as part of your FPP (Fire Prevention Plan)



Reducing overall costs

By investing in reliable storage bay solutions, businesses can realise significant cost savings through:

- Lower transportation expenses
- Reduced labour costs
- Minimised material waste
- Decreased need for material replacements
- Improved operational efficiency

In conclusion, implementing dependable storage bays, such as those built with Elite's interlocking concrete blocks is a proactive approach to protecting your materials and your bottom line.



The initial investment in quality storage solutions pays dividends by preserving material integrity, streamlining operations and ultimately reducing overall costs.

Elite Precast work with a number of specialist companies, who can design and fit roof structures to ensure the maximum use of space and a dry solution, call 01952 588885 and speak to Owen or Jess for more information or visit www.eliteprecast.co.uk





Weir introduces ENDURO® Orbital vibrating screens with all-bolted construction for longer service life

Weir, a global leader in innovative mining technology, has launched the all-new ENDURO® Orbital range of vibrating screens. Engineered for sand and aggregate, construction, and small tonnage mining operations, the new screens are designed to meet the most demanding of applications.

Featuring an all-bolted construction, the screens significantly improve reliability by eliminating welding in high-stress areas, removing the leading mode of failure in vibrating screens. Locking bolts ensure structural integrity and durability, facilitating easy maintenance with quick replacement of individual components without the need for extensive downtime.

The ENDURO® Orbital range is available in two screen types: the E series: Elliptical Motion Horizontal

Screens and the C series: Circular Motion Inclined Screens. Both screen types are designed with a commitment to innovation and quality, incorporating the latest technologies to deliver exceptional performance in a broad range of sand and aggregate and mining duties.

A wide operating window provides flexibility to adjust screen settings in line with changing applications or feed conditions, without compromising the equipment's structural integrity and minimising the risk of structural failure related to harmonic resonance.

The modular screen construction ensures that individual components can be easily replaced. Common interchangeable screen parts reduce inventory overflow and simplify maintenance. Both screens are digitally enabled, including our modular exciter technology, which senses and reports on the condition of the exciter.

The exciter itself features a bolt-on/bolt-off design, meaning they can be easily changed on site and refurbished in a mechanical workshop.



All ENDURO® products are fully supported by the Weir service network, offering unrivalled service, support, and local expertise across the globe. Weir continues to lead the industry in providing cutting-edge, high-performance solutions that are tailored to meet the unique requirements of our customers.

Corné Kleyn, Global Product Manager for Vibrating Screens said: "We at Weir are excited to bring this revolutionary new screening technology to the market. The team has worked hard for the past two years to bring our customers a product that is reliable with the lowest total cost of ownership. Our first screen has been successfully installed and commissioned at a large global customer and we are gaining momentum with more units planned for both the European and North-America markets".

For more information about the ENDURO® Orbital range of screens, please visit our website - www.global.weir/enduronorbital or contact your local Weir representative.



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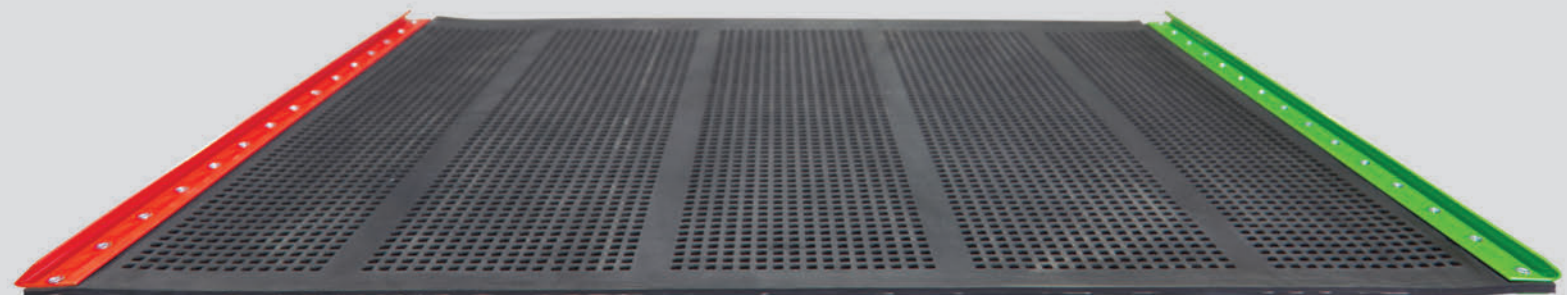
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Moving Walton's Mountain

A father and son team producing some of the finest architectural stone in the world relies on Liebherr equipment for extraction and processing duties.

Gwrhyd Specialist Stone is found high up in the Swansea Valley overlooking the Black Mountains of Wales and it's here that Michael Walton and son Charles have spent the last decade assembling a fleet of specialist equipment to help develop the site to its full potential.

Together they are responsible for the day-to-day running of a quarry employing 22 people to produce just 5,000 tonnes a year; quarries of similar size could output up to 500,000 tonnes a year but volume at Gwrhyd is small because of the specialist nature of its stone.

Liebherr has been an important supplier of equipment since the beginning. The operation still uses its original L 510 Stereo wheel loader and over the years it was joined by an L 509 Tele wheel loader and an R 926 G8 excavator, the latter now replaced by a slightly larger R 930 G8. 'The R 926 did exactly what we wanted it to do and served us well over the past few years,' noted Charles.

Working alongside another manufacturer's used 14t excavator, used for loading the site's two-deck screen, the new R 930 has been a hit with regular operator Jamie Evans who came off the 45-tonner originally used at the site. 'It was an ideal machine at the top of the quarry but as space got a little tighter, it proved to be too big,' he recalled. 'The R 926 was also great and a massive step up in comfort over the older model and it's now the same for the R 930. It's a really comfortable machine, still has bags of power but hardly uses fuel. We don't do a great deal of fine work here – we're usually flat-out moving the stone – but we're still averaging just over 16 litres per hour.'

Boom and stick options for the R 930 G8 model include standard mono boom, a straight demolition boom and a variable arm version, with Gwrhyd specifying the standard configuration which combines a 6.2m boom and 3.2m stick, topped off with a Miller Groundbreaking coupler for fast changes between buckets and a breaker. Regular use of the breaker means the excavator has a dedicated drain line back to the hydraulic oil tank to ensure the oil is returned to lower its temperature as quickly as possible.

The R 930 G8 tips the scales at just under 31 tonnes in its LC undercarriage version and has a Liebherr 7-litre, D 934 engine developing 245hp at 1800rpm. The engine is designed to deliver peak torque at low engine rpm, the R 930 achieving 1255Nm at just 1350rpm. That lowers internal and external noise levels and reduces fuel consumption significantly.





The excavator is used on a variety of duties, from front-line extraction to a current major programme of site development. Any spare time is spent moving a large pile of material left over from the previous owner's operations. That gets taken to the screener and a proportion is then cut into smaller blocks to increase the percentage of usable material being quarried. 'We are hoping to gain planning permission in the future to process the remaining waste material

into a variety of crushed and screened aggregates to further increase the percentage of materials we are able to win from the site,' said Charles.

With more than 100 years of reserves, Gwrhyd is set to continue producing its distinctive stone for the building projects of the future – and to provide work for future generations of Liebherr equipment.



Custom-built bucket by Ulrich Attachments helps set records at The Bristol Port Company

A 6.3m³ High Tip bucket is the star of the show at Avonmouth and Royal Portbury Docks.

The Bristol Port Company's buyer for plant equipment may have inherited Ulrich Attachments as a supplier from her predecessor but the relationship has gone from strength to strength, to such an extent that this year could be a record one for the partnership.



Lucy Ellis, project engineer (procurement) and her colleagues at The Bristol Port Company have purchased 24 attachments from British manufacturer Ulrich in the past 10 years.

Most of the buckets are the High Tip high-discharge buckets designed for light material or stone re-handling into high sided trucks and hoppers. Ulrich has been at the forefront of the development of these, and at Bristol Port, they are complemented by a pusher blade designed to reduce areas where grain may become trapped or lost, ensuring the maximum grain stays in the store.

Four of the Ulrich attachments were purchased since Easter – two 3.3m³ and one 5.3m³ High Tip as well as a 6.3m³ High Tip that was custom-designed for the port which has existed since Roman times.

Lucy said: "The bucket was designed to allow maximum capacity with good visibility over the top. It was an adjustment from an original design sent and has performed well, with no issues."

And three more stone buckets are now on order.

Ulrich's attachments are typically used across a range of front-end loaders on the company's Avonmouth and Royal Portbury



docks, which opened in 1877 and 1977 respectively, for bulk materials such as animal feed, stone, and gypsum.


Lucy added: "I have continued to purchase Ulrich Attachments as we have had good performance from them, and the price is competitive. I have also had good support technically and from the sales personnel."

"We have used a mix of suppliers in the past and we do tender out work and review costs and design before making a decision. But our service contact at Ulrich, Drew, is very helpful, and we have had a positive experience overhaul with them."


Ulrich national sales manager Emma Pierce said: "We redesigned the 6.3m³ bucket for them to better suit the application and the material they are working with. The material is a finely ground maize powder and they were finding they were losing a lot of material over the sides of the bucket."

"We looked at the design and went back with a solution, but they needed to see the leading edge of the bucket for health and safety reasons. So, our design team worked closely with Lucy and myself to come up with a new design to meet these needs and they ordered the bucket based on his new design."

The Bristol Port Company was formed in 1991 when entrepreneurs Terence Mordaunt and David Ord purchased the Port of Bristol from Bristol City Council. Since privatization, more than £600 million has been invested to create a modern, thriving business offering the full range of shipping, distribution, and logistics services.




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Next Issue



November | December 2024

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MOBILE PROCESSING & MATERIALS HANDLING EQUIPMENT - material handlers, mobile stackers, mobile conveyors, mobile radial stockpilers, mobile tracked conveyors.

QUARRYING - Open topics for this issue

RECYCLING - Open topics for this issue

BULK HANDLING - Open topics for this issue

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Advert copy deadline – 19th Nov 2024

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Elite Precast Concrete make bay-building easy

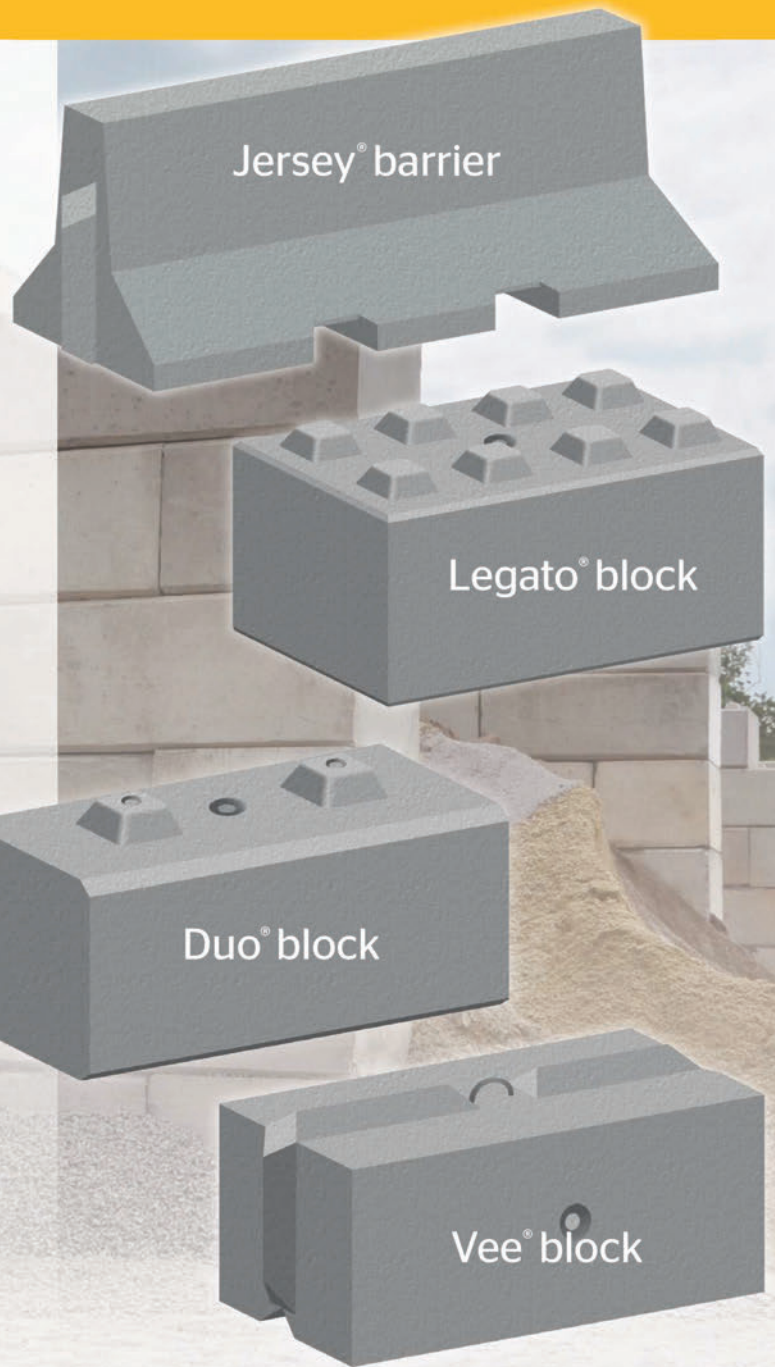
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