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# A Restructuring of Murray Plant for Attachment Sales



**Since Blue Group purchased Murray Plant back in 2019, it has always been our goal to grow the business to become a leading attachments distributor throughout the UK. In recent years Murray Plant have grown significantly, taking on several new brands and product lines. As part of our long-term growth strategy the decision has been taken for all current product ranges sold by Murray Plant Ltd, to be sold and serviced through our three core regional businesses- Blue Southern, Blue Central and Blue Scotland.**



Blue Scotland will keep the Murray Plant trading name, operating as 'Murray Plant – A Blue Scotland Company'. However, both Blue Southern and Blue Central will acquire the attachment product lines and continue to operate as usual under their current trading names.

Our product ranges include attachments from world leading brands such as Rammer, Allu, Fortress, Xcentric, Pladdet, OilQuick and more. Spare parts for all these brands will now be stocked at our two dedicated Blue Spares facilities based in Warrington and Stirling, for improved access to parts and quicker lead times.





By bringing our attachment products into the three core Blue businesses this allows us to offer regionalised sales, service and administrative teams to provide customers with more comprehensive levels of service and support. With additional local depots and access to more engineers, our customers will benefit from faster response times and reduced downtimes.

The restructure will be effective as of 1st April 2022 and will see minimal change for our existing customers as their local sales and service representatives will remain the same, but with additional staff resource being added across all departments to better support our customers. All members of staff previously working for Murray Plant will continue to support our range of world leading attachments by joining the regional business local to them depending on whether they were previously based out of Stirling or Warrington.

We look forward to continuing our strong relationships with existing customers and creating some new ones too, as we strive to increase our attachments offering across the UK.

## Regional contact details:

### Blue Machinery Southern

Harbour Road Trading Estate, Portishead, Bristol BS20 7AT  
01275 285285 (For Service Option 1, Sales Option 2)

### Blue Machinery Central

Main Office - New Cheshire Business Park, Wincham Lane,  
Wincham, Northwich CW9 6GG

PDI Centre - Hurleston Business Park, Chester Rd,  
Nantwich CW5 6BU 01606 261262

### Murray Plant - A Blue Scotland Company

9 Craigleith Road, Broadleys Business Park, Stirling FK7 7LQ  
03330 151 505

### Blue Machinery Spares

Warrington Depot - Appleton Thorn Trading Estate, Appleton  
Thorn, Warrington WA4 4SN 0345 130 0669

Scotland Depot - 9 Craigleith Road, Broadleys Business Park,  
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# Welcome to issue 76

## Welcome to our third special exhibition preview of the year...

In this issue the team at Hub-4 present you with another bumper edition reporting on the latest news from the Recycling, Quarrying & Bulk Handling Industries, including a spotlight on the forthcoming bauma Exhibition where the Hub magazine will be distributed.

Also included in this edition a focus on some of the leading OEM's in the Recycling Equipment sector.

Our November edition sees the return of our bi-ennial edition of our **MADE IN IRELAND** special which will focus on the leading companies and what they have achieved in the last two years.

**John Edwards**  
Editor

## NOV/DEC 2022

**MADE IN NORTHERN IRELAND REVIEW**

**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

Editorial copy deadline 7th November 2022 Advert copy deadline 14th November 2022



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**Published six times a year.**



# Molson Green provides reliability and quality

**“Our success depends on the reliability and quality of the equipment we run.” These are the words of Ace Liftaway’s Operations Manager Russell Delves when we met up with him at the company’s huge recycling centre near Romsey, north of Southampton.**

The company was set up in 1988 by current Managing Director Philip Liddell working from home with a single skip truck. In just over thirty years of operation and constant reinvestment, the company now runs in excess of 45 trucks and over 32 items of plant and machinery handling in excess of 75,000 thousand tonnes of waste on an annual basis.

The 15 acre site is home to a number of processing areas handling general skip waste along with C&D and wood waste. Delivered by their own large fleet of skip wagons along with independent hauliers, processing the material and getting it back out of the door as quickly as possible has driven the company to invest in a number of material processing machines from the single source suppliers at Molson Group.

The quick and effective recycling of C&D waste is handled by a pair of machines from the Terex Finlay range of equipment offered by Molson Finlay. Incoming material is put through a new 883+ Spaleck heavy-duty screen to ensure even the most awkward of material is processed efficiently. The Spaleck screen box has a unique, stepped, 3D punch plate top deck combined with flip-flow bottom deck technology and allows flexibility to work in a range of difficult materials.

The vibrating screen is almost blockage and maintenance free and has a processing range between 1mm and 120mm. Powered by a Tier 4F 4.4 litre Caterpillar engine, the 883+ is very quiet in operation and ideal for noise sensitive areas. The 30.5t screen boasts 3 hydraulically adjustable conveyors to discharge the material. The folding side conveyors extend over 4m away from the machine allowing a large amount of material to be processed before needing to be removed. The oversize material coming off the main conveyor is stockpiled on site before being processed through the site’s wash plant.

“The EA are very hot on contaminants, so we clean the material before we crush it into a 6F5 product.” Russell comments. Crushing is carried out by another Terex Finlay product, a J-1170 jaw crusher. “The two machines work excellently together and deal with all of our C&D waste very effectively.” Russell commented “The 883+ Spaleck has particularly impressed us with its ability to screen the difficult material we can get through here on occasions. It is also rare that we have to stop if the material is damp too as it handles the wet material well too, something we were never able to do in the past.”

Wood waste is also the domain of machinery from the Molson Green range but this time the initial processing work is undertaken by a Terex Ecotec TDS 820 slow speed shredder. The TDS 820 runs two twin 2m long shafts and its design

features and build quality have impressed the team at Ace Liftaway massively since its introduction to site. “We operated a shredder from another manufacturer previously and we were constantly having issues with the shaft jamming and breaking. This has not been the issue with the Terex.” Russell comments. Thanks to the self-cleaning 7-7-4 shaft design, hydrostatic drive and independent gearboxes for each shaft, ACE Liftaway are able to customise the shredding program to reduce potential wrapping of material on the shafts and maximise up time and production. The material produced from the shredder is fed onto another Terex Finlay 883+ inclined screen with an 80mm top deck and 10mm bottom deck. Anything oversize is recirculated back into the shredder via a large tracked conveyor. “The products we get from the wood recycling usually goes into the manufacture of Stirling board and chipboard. We will recycle 100% of our wood waste entering the site.” Russell explains.







Whilst the TDS 820 is predominately used for the wood waste operations, the company also uses it for reducing oversize general waste down to an RDF specification. "Using the shredder for this application has enabled us to massively reduce the waste we need to send to landfill on an annual basis." Russell comments "The use of the shredder on general waste allows us to recover more materials and has ultimately made a massive impact on our expenditure when it comes to sending material to landfill. It has come to a point where we are now looking at adding another unit just for this purpose and ultimately saving us money and reducing the impact on the environment."

"To keep pushing the company forward and to aim to recycle as much of the material entering our waste stream as possible, we need to invest in reliable and productive kit." Russell concludes "Whilst the kit plays a massive role in our operation, it is only as good as the back-up and service a manufacturer or dealer can deliver. We have had issues with certain manufacturers in the past, hence the move to Molson where I have to say they are by far the best company we have dealt with. You can pick up the phone to them and speak to someone knowledgeable and always get an honest answer to any question we pose. As far as I'm concerned, Molson Green are the company to deal with in the recycling sector."





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# Molson Group bring their service portal into play

By John Edwards



**From 1 April 2022, changes to UK law mean that many people and businesses who use red diesel (AKA rebated fuel; gas oil; tractor diesel) will need to switch to more costly white diesel, which carries the full Fuel Duty rate...**

This change to the red diesel rules is part of the Government's 2050 net-zero decarbonisation plan. It is aimed to encourage the wider use of white diesel and greener fuels by the commercial sector, especially in mining, quarrying, construction, plant, logistics, leisure, and highway maintenance.

At the recent Hillhead exhibition, I had the opportunity to sit down with Jason Powles, Chief Operating Officer at Molson Group to discuss the recent changes on diesel fuel and the reaction from the construction, quarrying and recycling industries and Molson's take on it from a dealer 'point of view'.

Jason, "The economic impact of the rules change has been catastrophic for some businesses; a number of our clients have seen their fuel bill triple and with the volumes they're buying, it is a significant concern."

We discussed the practicalities and agreed that everyone has an opinion on the future of diesel power - with some arguing

that with the advent of electrified equipment it is on its way out, with others saying it will always have its place. One thing however is certain; alternatives are available, and some are becoming more realistic options in terms of practicality and cost. Many OEMs agree that the option of hydrogen propulsion is many years away and it is obvious with the industry where it is, that the problem is not going to go away. The hybridisation and electrification of construction equipment is a trend that has been gaining momentum and is a choice now often made in the Recycling Industry where this mode of propulsion is comparatively easier.

## **How viable are hydrogen fuel cells in construction equipment?**

Hydrogen fuel cell (HFC) technology and its potential application in construction equipment is being increasingly discussed, but there are questions surrounding how cost-effective it can be in real world applications.

It is a fairly simple concept; HFCs combine hydrogen and oxygen to produce electricity, which runs a motor. The only by-products are heat and water.

With compact fuel cells that take up less space than batteries, equipment manufacturers can be more creative in machine design. Unlike traditional lead-acid batteries, hydrogen fuel cells have no power degradation, and refuelling takes about three minutes, much like an internal combustion engine.



However, the big downside is expense, with the cost being higher than more time-tested technologies but this should decrease as adoption increases. On the positive side, there is no grid dependency and solar power can be harnessed to make hydrogen on-site so, in concept, it could be a sustainable technology.

Jason, continued, "One of the biggest considerations around the electrification of equipment on construction and quarry sites is of course infrastructure; you need somewhere to plug in.

We partner with the most innovative suppliers in the waste sector like Sennebogen who have an impressive electric heritage. Furthermore, we are also leading the rollout of new electric drive products from brands such as Terex Ecotec. Our clients know that we have the practical working knowledge to recommend an electric option where it's appropriate;

"Electrification will however certainly proliferate at the smaller end where they can 'plug-in,' or on sites with fixed infrastructure. For instance, two fairly static machines operating on a waste site are comparatively straight forward for the adoption of electrically driven machines.



## The Environmental, Social and Governance Agenda (ESG):

What are the Environmental, Social, and Governance (ESG) criteria? Environmental, social, and governance (ESG) criteria are a set of standards for a company's behaviour used by socially conscious investors to screen potential investments. Environmental criteria consider how a company safeguards the environment, including corporate policies addressing climate change, for example. Social criteria examine how it manages relationships with employees, suppliers, customers, and the communities where it operates. Governance deals with a company's leadership, executive pay, audits, internal controls, and shareholder rights.

Jason commented "The Government's Net Zero Strategy is driving the transition to cleaner energy and greener

technology. Businesses will need to prove net zero carbon emissions by 2050 and of course, capturing and reporting on emissions will become ever more important as a result.

## How do you capture that CO2 data?

Molson Group has been developing a solution; a bespoke telematic software platform that will give companies clear insight across their entire fleet - recording CO2 output by day/machine/operator. Soon we will launch the platform accompanied by a range of other services and products which will not only enable the recording of data, but also offer tools and guidance to meaningfully change behaviours and practices."

With a clear path a client can then decide if the application can only embrace diesel usage, then how can he change the way he burns it.

While diesel engines become cleaner, smaller, and more efficient, construction equipment manufacturers are also developing diesel-electric solutions that allow them to meet the performance requirements needed for off-highway equipment, as well as operating within changing environmental regulations for both noise pollution and carbon emissions. Furthermore, pairing diesel engines with an electric drivetrain can offer the same benefits expected of electrification – improved fuel efficiency, reduced noise, lower operating costs, and reliable power – but with the added durability that is expected from diesel engines.

Jason explains further "We will be able to offer real, practical solutions. We're currently trialling our new technology with a number of clients and demonstrating how knowledge will change behaviour - if an operator can clearly see fuel usage and CO2 emissions they might turn the air-con down a few degrees or reduce idling time in order to improve the numbers.







And on the crushing and screening side of things we can offer insight on machine set-up - having the screener level for instance improves throughput, thereby reducing the cost/tonne and the CO2/tonne. This maximises machine performance at the lowest cost level and we can prove this by analysing the data through our platform and feeding back information to drive behavioural change.

Infact, we'll be able to impact at all the core stages that a company must address as part of their net zero carbon strategy; stage 1 is measurement, stage 2 is defining actions in your own business to reduce carbon emissions, and stage 3 is reviewing your supply chain for their carbon emissions.

We're starting with ourselves; collecting data and applying powerful actions such as introducing electric cars and solar panels.

This is smart for the planet and smart for business too. We know that companies who don't take action to achieve net carbon zero emissions are fast becoming significantly less attractive to banks and investors than those who do, and the performance of your supply chain is a huge part in that. Because we can demonstrate that the third stage of the portal

offers advice to our suppliers, we are improving Molson Group's financial security from an ESG perspective.

## How will the market react?

All of these changes are prompting huge advances in technology and behaviour, and the market will quickly realise the importance of tools for measuring and tracking performance.

Jason added "We're working closely with manufacturers as they define the key drivers to change - I do not see a world where electric is going to be completely dominant due to the difficulties siting an electric feed or hydrogen tanks but right now, no one knows precisely what role diesel, electric or hydrogen will play.

As the conversations continue, we know that small changes can make immediate impact, "I believe at a local level that if each client can reduce their fuel burn by 2 litres/hr across their entire fleet, it will make them significant savings". By giving businesses the tools, data, analysis and support they need to take the big decisions, Molson Group is playing a key role in transforming the sector.

## Key part of the offering:

With 25 years' industry knowledge, Molson Group realise that driving insight from data is the key to a sustainable future. Jason acknowledges "We offer advice with every machine we sell, so we can make a significant impact by offering the right equipment, at the right price, with the right strategy – all driven by the data we are now able to gather.

Technical expertise is critical – we have built a dozen-strong team whose sole focus is to analyse the data, not just within our company but from our customers as well. We've gone 'live' with half a dozen customers and are evaluating performance over the next three months, capturing feedback, ironing out any bugs and then a full launch with core modules being developed over the next 3-6 months".





# Liebherr's X-factor cuts fuel costs

Since their launch in 2016, Liebherr's XPower wheel loaders have established a solid reputation for performance and reliability. But at a time when industry is struggling to cope with soaring diesel costs, it's the machines' fuel efficiency that is also proving to be a winner with customers across the globe.

An XPower loader can use up to 30 per cent less fuel than its predecessors and that's a result of some clever thinking by Liebherr engineers. Let's explain: While a conventional machine will have both an engine and a counterweight, a Liebherr's power train is at the rear, thus becoming part of the counterweight. That means the over-all weight of the machine is reduced and less fuel is required to move it.

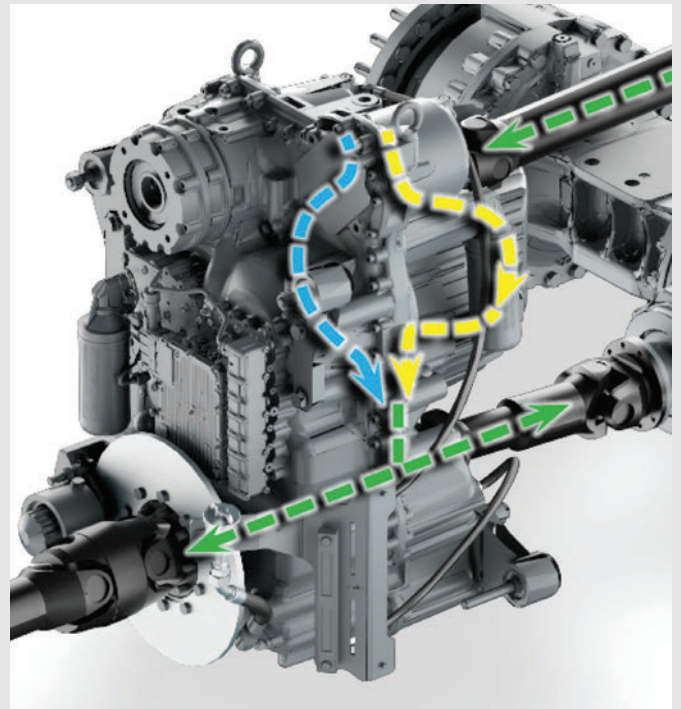
The engines will deliver maximum power at around 1,000-1,200 rpm, a rev count that helps save fuel as well as minimising wear and tear on components. The Liebherr Power Efficiency (LPE) optimises the interaction between engine, gearbox and working hydraulics, monitoring what the driver is instructing the machine to do and then matching engine, transmission and hydraulic settings accordingly. And it's all achieved seamlessly and automatically without any operator input.

## LIEBHERR

**Fuel Efficient Wheel Loaders**

### XPower innovation

Design engineers came up with more innovations during development of the XPower family. For example, although Liebherr's wheel loaders have traditionally been equipped with hydrostatic drives – a set-up that's ideal for digging and short loading cycles – a lock-up torque convertor is more efficient in acceleration over longer distances and when climbing.



**The answer?** A Continuously Variable Transmission (CVT) gearbox that effectively provides the operator with both hydrostatic and mechanical powertrains.

In slower digging applications the hydrostatic option will be more in evidence but when travelling over longer distances the mechanical drive kicks in.

### XPower benefits

- **Minimal Tyre Wear** - Automatic traction control and automatic limited slip differentials on front and rear axles as standard. Liebherr customers have confirmed that tyres on XPower loaders last longer than those of competing brands in the same application
- **Reduced Brake Wear** - With the hydraulic mechanical braking action of the driveline there is little brake wear
- **Axles** - There is no requirement for additional axle cooling on XPower machines





L 566 | 12.2 l/h\*



L 580 | 13.94 l/h\*



L 586 | 16.59 l/h\*

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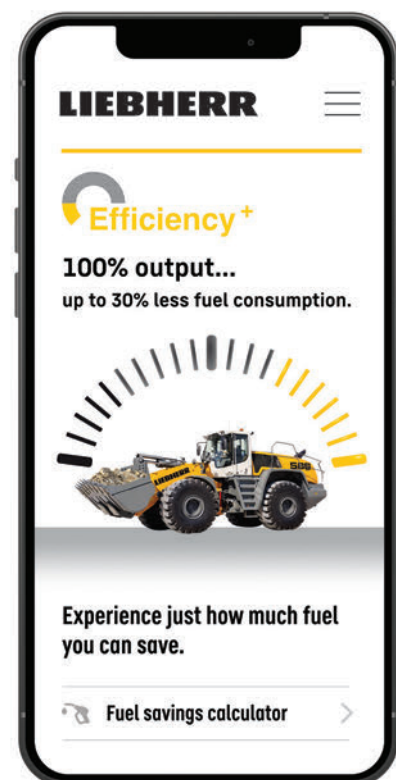
The XPower range of wheel loaders returns outstanding fuel efficiency. The Tier V compliant engine works with the CVT power-split driveline to automatically select the most efficient ratio between hydrostatic drive for short loading cycles and distances or mechanical drive for long distances and ascents.

Additionally the Liebherr Power Efficiency (LPE) system regulates all power management processes in the machine to ensure maximum performance from every drop of fuel.

\* Figures are a guideline based on the actual average of the model's global population in LiDAT and are subject to specific site conditions, materials, application and operator use. See how much you can save with Liebherr's real-time fuel calculator.

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# Low-carbon secondary aggregates shipped into London by sea

**The first sea shipment of construction aggregate derived from Cornish china clay waste has been brought into London by UK recycled materials specialists GRS.**

The delivery marks the start of an exclusive deal which enables GRS to import more than half a million tonnes of secondary granite – branded Enviroc® – from Cornwall into London each year by ship, with a fraction of the embodied carbon of other construction aggregates.

London developers looking to build greener can specify the GRS material, available in bulk or bags, for almost every construction application from sub-base and capping layers to structural concrete and asphalt, and even decorative landscaping.

Recognised by leading green building rating systems as one of the most sustainable alternatives to newly quarried aggregates, Cornish granite has previously been used in a handful of London developments, including the Olympic Park. But its widespread use has been constrained by the belief that transporting it into London is not viable.

Yet in partnership with the Port of Tilbury, GRS has invested £4 million in a new Molson CDE aggregates processing plant on the dockside to produce a range of high-quality, certified single-sized products to meet the needs of construction across London. Because of the plant's location, that material can be delivered across the capital by road, rail and even river using GRS's wholly owned Thames freight business Walsh Marine.

Power for the aggregates plant is supported by an on-side wind-turbine and the stone washing system uses rainwater that is recycled and reused time after time. Silt washed off the stone is collected for use in land remediation schemes further down the Thames and GRS says these 'fines' may themselves be used to produce a lightweight aggregate in the future.

For centuries, the production of china clay (kaolin) has shaped the Cornish countryside. For every tonne of china clay extracted, around 9 tonnes of granite by-product are generated – this has built up into enormous waste piles estimated to be around 500 million tonnes which are now the

source for Enviroc aggregates. The new venture sees GRS's Cornish subsidiary Maen Karne haul the raw material from a china clay pit near St Austell to nearby Fowey harbour where it is loaded onto ships to make the 400 nautical mile trip to Tilbury for processing.





Antony Beamish, Managing Director for GRS Trading, said: "This major investment allows us to turn an industrial by-product into a high-quality construction aggregate, Enviroc. By also transporting this material by water we can achieve unparalleled environmental performance – an independent study suggests the carbon footprint is on average 47% lower than the equivalent primary aggregates. That makes Enviroc arguably the UK's most sustainable aggregate. Using it in combination with low-carbon cement, for example, could produce the lowest carbon concrete achievable.



"We anticipate that Enviroc will change the way materials are specified on major construction jobs. Contractors can count on a consistent, quality product that meets specification and

at the same time know that it is the most sustainable aggregate there is – a UK-sourced, industrial by-product transported by water. It does not get better than that."

Aggregates make up the single biggest volume of any materials needed for virtually every construction scheme, and London consumes about 10 million tonnes each year. With recycling of demolition and excavation waste virtually at its maximum in the capital, GRS believes the way to further improve the sustainability of aggregates is

to use secondaries and transport them as efficiently as possible. Last year GRS announced an exclusive deal to bring to market millions of tonnes of granite aggregate arising from British tungsten mine which has reopened in Devon.

Besides a marine wharf and processing plant at Tilbury, GRS is recommissioning a rail freight terminal to be able to transport secondary aggregates more widely across Greater London and the South East. Transporting aggregates by river and rail significantly reduces road miles and traffic congestion and represents a fraction of the carbon emissions of road haulage. It also frees up road vehicles to focus on 'the last mile' to deliver products to construction sites – and GRS runs one of the most modern, clean, and safe HGV tipper fleets in the capital, accredited to FORS Gold standard.

The inherent characteristics of granite mean that Enviroc is one of the most durable, versatile, and consistent secondary construction aggregates available. GRS is able to make and supply the vast majority of typical aggregate products including type 1 sub-base, 6F5, single sizes, coarse sand, mortar sand, etc.



Enviroc also complies with the requirements of British Standards for use as concreting aggregate, as unbound and hydraulically bound aggregate in civil engineering works and road construction, in applications such as drainage trenches, earthworks and capping; and in bituminous materials and surface treatments for roads, airfields and other trafficked areas.



# Hanson UK takes another step towards CCS at Padeswood



**Hanson's Padeswood cement works in Flintshire has been shortlisted for funding as part of the Department for Business, Energy and Industrial Strategy's (BEIS) Phase 2 Carbon Capture and Storage Cluster Sequencing process.**

The announcement is another step towards installing carbon capture technology at the site and establishing the UK's first net zero cement works as part of the HyNet decarbonisation cluster.

In October 2021 HyNet and East Coast Clusters were selected as the Track 1 CCUS clusters and BEIS has now selected 20 projects from these clusters to proceed to the due diligence stage of the Phase 2 process.

If Padeswood is selected for funding, it would set the UK construction industry on a path to achieving the government's binding net zero targets by capturing and storing 800,000 tonnes of CO<sub>2</sub> each year and will enable Hanson to produce net zero carbon cement as early as 2027. It would also secure 222 jobs, create 54 new highly skilled full-time roles and up to 350 jobs during construction.

Cement is a key component of concrete and an essential construction material with no viable alternative but is carbon intensive to make. As a result, the only way to produce the cement the UK needs without emitting large amounts of carbon, is to capture and store emissions.

CEO Simon Willis said: "We are delighted to have made the shortlist for the next phase of government funding, but there is still a way to go before we can realise our ambition for CCS at Padeswood.

"Government funding is essential and would give us the confidence to invest in a carbon capture plant which would help secure a sustainable future for the UK cement industry and be a huge leap forward in the construction industry's decarbonisation plans."



# Weir Minerals partners with Eriez to offer world-class coarse particle flotation systems

**Weir Minerals, a global organization that engineers, designs, supplies and services market-leading products and bespoke Integrated Solutions for the mining industry, and Eriez Flotation, the global leader in specialized flotation equipment, have announced a cooperative agreement to design and develop coarse particle flotation (CPF) systems.**

Course particle flotation facilitates more efficient separation, while also reducing water and energy consumption and producing safer tailings.

"This cutting-edge technology is a step-change improvement over conventional flotation systems," Eric Bain Wasmund, Ph.D., Professional Engineer, Vice President of Eriez Global Flotation Business said.

"The cooperation allows both companies to better connect the Eriez equipment with the slurry classification and conveying expertise of Weir Minerals. As mining companies look to optimize their plant and processes while also reducing their carbon footprint, we'll see CPF being more widely adopted," Ricardo Garib, Division President of Weir Minerals said.

"This agreement enhances Weir Minerals' all-of-mine capabilities. From the pit to the processing plant, with leading brands such as Warman pumps, Cavex hydrocyclones, GEHO positive displacement pumps, Linatex rubber products and Enduron HPGRs, Weir Minerals takes a holistic approach to plant and process optimization.

"We have an Integrated Solutions team – made up of a diverse range of product experts, process engineers, design engineers and materials scientists, among others – that works closely with miners to deliver reliable solutions that help solve their specific problems. In the current regulatory environment and with an increased focus on ESG issues, miners are being asked to produce more with less and CPF systems are a vital technology that allows them to do that," Garib said.

Eriez's market-leading products include the HydroFloat® Separator for coarse particle mineral concentration, which delivers the capacity of a density separator while maintaining the selectivity of a flotation device. Using a novel aeration system to disperse fine bubbles into a fluidized-bed environment, the HydroFloat® Separator significantly increases the selective recovery of coarse particles by applying flotation fundamentals to gravity separation.

"Weir Minerals has a long history of innovative engineering and we're excited to partner with a company like Eriez because its technology perfectly complements the solutions



The HydroFloat® Separator has been designed for coarse particle mineral concentration, delivering the capacity of a density separator while maintaining the selectivity of a flotation device.



Using a novel aeration system to disperse fine bubbles into a fluidized-bed environment, the HydroFloat® Separator significantly increases the selective recovery of coarse particles by applying flotation fundamentals to gravity separation.

Weir Minerals currently provides. Ultimately, it's about delivering the best outcomes for our customers," Garib said

"We're proud of the work we do to harness the latest technologies to efficiently process the minerals that will be essential for a future in which mass electrification will play a vital role in the transition to a low carbon economy."





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**VEGA**





## Glass recycling company Recresco increases waste management capabilities by installing state of the art metal sorting technology

**Leading UK glass recycling company Recresco, has made a significant investment into state-of-the-art metal sorting technology at its Ellesmere Port site. The project will see shredders, Xray fluorescence technology and briquetting machinery installed and operational by the end of September to efficiently sort, shred and compress the aluminium bottle tops from co-mingled glass collections for smelting.**

Glass collections often see aluminium caps still attached to containers with rubber, cork or plastic seals still in place. Caps are traditionally removed at the glass reprocessor and sent to a scrap yard where they often become waste product due to being a very lightweight component of the batch. Recresco sees around 20 tonnes of metal lids move through its Ellesmere Port plant every week.

Once caps are removed from glass bottles, the innovative Redwave machinery removes other metals and the 'ATM' press places caps under 500 tonnes of pressure forming furnace ready briquettes suitable for smelting. The innovative process of sorting, shredding and pressing the caps into metal briquettes leads more aluminium into a furnace ready product, maximising recovery of aluminium for more sustainable and efficient end use.

The investment worth around £5.5M sees a £3.5M commitment from Recresco with the remainder being supported by EU grant funding awarded in 2019 under the EU European Innovation Council (EIC) Accelerator programme which supports individual Small and Medium Enterprises (SMEs), to develop and scaleup game-changing innovations.

Recresco purchased the site it occupies at Ellesmere Port in 2020 in a multimillion-pound deal. Since then, the company has made significant improvements installing a state-of-the-art Research & Development Centre, investing in ground-breaking sorting technology, IT upgrade program, companywide safety systems and general site improvements.

Recresco Director Tim Gent, said, "At Recresco we feel strongly about reducing waste and achieving the most positive environmental outcomes for glass. By taking the same approach to the by-products of glass recycling, we can efficiently drive more waste product into sustainable end use.

"We have a passion for innovation, always looking to new technologies and systems that make all of our activities more energy efficient and environmentally sound. This investment is part of our overall journey to minimising our environmental impact while maximising yield and we look forward to seeing the positive results from this project." concluded Gent.





# MCLANAHAN ULTRAWASH

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[mclanahan.com](http://mclanahan.com)



# bauma supporting program with information highlights

- Innovation hall bauma LAB0 bundles several formats at the same time
- Five key themes as a common thread
- Virtual reality and target group-oriented promotion of young talent

In addition to the exhibitors and their exhibits, the bauma, which takes place from October 24th to 30th at the exhibition center in Munich, also offers an extensive supporting program with diverse, partly new formats this year. This means that bauma will once again be THE meeting place for the industry for a week...

One of the strengths of the world's leading trade fair is its multifaceted supporting program. At this, established companies, start-ups, associations and research institutions present groundbreaking solutions and discuss the major current trends in the industry.

## **bauma FORUM with a daily changing theme**

This year there is a new central place for knowledge transfer with the innovation hall bauma LAB0. For example, the bauma FORUM with lectures, presentations and panel discussions will be located here. From October 24th to 28th, the forum program will be dedicated to a different one of the five main topics of bauma every day. These range from "Tomorrow's construction methods and materials" to "Mining - sustainable, efficient and reliable" to "The road to zero emissions".

On October 24th, the winners from the five categories of the bauma Innovation Award 2022 will also be presented in the forum. With the award, the Verband Deutscher Maschinen- und Anlagenbau e. V. (VDMA), Messe München and the central associations of the German construction industry research and development teams from companies and universities that bring practical cutting-edge technology for the construction, building materials and mining industry to market maturity. The award winners have an equal focus on resources, the environment and people.

## **Science Hub and Startup Area**

The Science Hub is located in the immediate vicinity of the Forum. In this area, ten universities and scientific institutes provide information on the latest status of their research. Here, too, the five key themes serve as a source of structure.

Another segment of the Innovation Hall in the International Congress Center Munich (ICM) is the newly created Startup Area, in which promising young companies can present themselves to the specialist public.

## **MiC 4.0 booth demonstrates new data interface**

In order to develop a uniform, manufacturer-independent and machine-independent communication around the construction process, the VDMA and the main association of the German construction industry founded the working group "Machines in Construction 4.0" (MiC 4.0) at bauma 2019. One of the results so far is the MiC 4.0 bus. This is an open, manufacturer-independent data interface between the construction machine and the attachment. A demonstrator of the new interface can be seen in action at the MiC 4.0 booth in the innovation hall LAB0.

The VR Experience proved to be another visitor magnet in 2019. At bauma 2022, this will focus on the digitization of construction sites with a thematic reorientation. Visitors to the VR Experience can immerse themselves in the construction site of today and tomorrow and personally experience the interaction between man and machine in digital space. The bauma VR Experience will also be part of the innovation hall LAB0 this year.



## **Career prospects for young people**

THINK BIG! – an initiative of the VDMA and Messe München – is aimed primarily at schoolchildren. In the ICM, companies present "hands-on technology" with a large workshop show, hands-on activities, games and information about a professional future in the industry.

All details on the main topics of bauma, the exact lecture topics and dates and - where necessary - the registration options can be found at [bauma.de](http://bauma.de)





# Save up to 25% on fuel with RM machines

**Electrification expert RM Group launches innovations at bauma for cost effective and efficient crushing and screening...**



RUBBLE MASTER has been powering its mobile processing plants with electricity for decades. Using this expertise, RM Group continuously sets standards in the energy efficiency and cost effectiveness of its machines. That is why with the tagline "Meet the future", RM Group is already displaying technology at this year's bauma that is still a dream of the future for others.

And with the revolutionary new development of the RM H50X hybrid screen, customers are saving even more fuel costs. In addition, the RM XSMART software solution and other new digital innovations demonstrate how operators and machines can network intelligently to get even higher output. As a result, mobile RM crushers and screens can be combined in a versatile, flexible and efficient way. But the best is only the start: because in order to be able to offer perfectly matched crushing and screening trains, RM customers can look forward to another product innovation.

"Meet the future" at stand B2.236 and 12B.B12.11 and at our sales partners C. Christophel GmbH and Jürgen Kölsch GmbH at stand FN.1024/1

## **Electrification benefits customers and the environment**

Even at a time before steadily rising fuel prices, the electrification of RM machines was a key economic as well as ecological argument. As part of the RM NEXT philosophy, the



RM Group is consistently supporting electrification and offers all of its crushers and screens as hybrid versions as a matter of principle. These machines can also be operated fully electrically. A special focus is on combining machines to form crushing and screening trains so they can be operated together. This means, for example, that the crusher can also power the screen. That is how customers can save time and money because they only need to refuel and service one engine. RM hybrid machines consume up to 25 percent less fuel than diesel-direct systems. If a crusher equipped with a hybrid drive system also powers an electric screen - a standard set-up with RM - even greater savings can be achieved. With this technology the savings are much higher than with conventional diesel-hydraulic systems. Another advantage, in addition to lower operating costs, is that the machines can be used in emissions-sensitive areas. At bauma, RM demonstrates the many capabilities offered by using its electric-powered crushers and screens.





**From stand-alone crushers and screens to complex crushing and screening trains: the best solution for every application.**

RUBBLE MASTER created the market for compact crushers more than 30 years ago, moving on-site recycling of C&D waste away from the niche and developing it into a profitable business model worldwide. Decades of expertise in crushing and electrification were later joined by screening equipment. RM NEXT mobile processing machines have raised the bar to a completely new level of efficiency in recent years. In the meantime, RM Group offers highly efficient, custom-built and integrated solutions ranging from stand-alone machines to complex trains consisting of crushers, screens and stockpile belts. This enables the customer to successfully build up its business in the recycling and natural stone processing sectors and to grow with RUBBLE MASTER. In addition to the many ways in which RM products can be deployed and combined, the RM Group will be displaying two completely new developments at bauma that represent a key expansion to the product range.

**Presenting two revolutionary new product developments**

In addition to ease of operation, RM NEXT focuses on even greater efficiency and electrification, enhanced safety for operators, even easier operation, modularisation, and even better service provided through digitalisation. Now, two more products have been developed from the ground up according to the RM NEXT philosophy, significantly expanding the product range: the new RM H50X scalper, which will be exhibited at bauma, and the RM J110X jaw crusher. An incredible number of ideas and customer specifications have gone into both products, elevating processing machines to a completely new level. It goes without saying that both machines have been developed with hybrid drive systems from

the outset and equipped with the latest digital solutions to offer operators even greater energy efficiency, productivity and reliability for the future. Over the next few weeks leading up to bauma, more details on the new products will be revealed step by step through RM social media channels. Follow the latest updates on LinkedIn, Facebook, Instagram and YouTube!

**The future has already begun: digital solutions and networked machines increase efficiency**

In addition to electrification, RM Group focuses intensively on digitalisation to give customers a full overview of their machines while operating even more efficiently. Using the RM XSMART app, machine operators can network with their machines either using an app on their mobile devices, or by using the browser app. Fleet management, condition monitoring, end-to-end reporting, and troubleshooting support make everyday life much easier and, at the same time, increase productivity.

RUBBLE MASTER, however, goes one step further by networking the machines with each other. In a networked crushing and screening train, the machines can communicate with each other so that they can adjust their output to the utilisation of the upstream and downstream units or react to an event such as one of the machines in the train switching off. This means that machines are not overloaded, nor do they run idle. That is why autonomous crushing and screening is the next logical step RM Group will be presenting in the near future.

Ultimately, together with RUBBLE MASTER you are already equipped for the job site of the future.







**THINK  
FURTHER.  
THINK  
FUTURE.**

At Hyundai Construction Equipment, we never stop looking to the future and we'd like to share our latest thinking with you at Bauma 2022. Be one of the first to see our Hydrogen fuel cell excavator, along with new products and new technologies on our biggest and best stand yet. So, visit us at Stand FM.813A and see the machines of today and the future. We look forward to seeing you there.



BAUMA 2022,  
OCTOBER 24-30, MUNICH  
**STAND FM.813A**

**HYUNDAI**  
CONSTRUCTION EQUIPMENT



# bauma 2022: SENNEBOGEN launches battery-powered telescopic crawler crane on the market

**At bauma 2022, SENNEBOGEN will present the first battery-powered telescopic crawler crane: the 653 E Electro Battery. The new 50-ton battery-powered crane combines the benefits of battery technology with the proven advantages of the telescopic crawler crane concept: This means you work completely emission-free and remain maximally flexible thanks to the Dual Power Management System.**

The machine, developed in collaboration with Dutch dealer Van den Heuvel, forms the first battery-powered telescopic crawler crane in the range. Through the close contact of the dealer Van den Heuvel with Dutch crane rental companies and construction companies, valuable market requirements from the progressive Dutch market were brought into the development partnership. The official product launch is scheduled for bauma 2022.

## **Maximum flexibility thanks to Dual Power Management System**

With the 653 Electro Battery, you can work fully electrically on any type of construction site and for an unlimited period of time. This is because, like SENNEBOGEN's battery-powered material handler 817 Electro Battery already launched on the

market at IFAT, the 653 Electro Battery electric crane equipped with a 210 kWh battery pack can be operated both in battery-only mode and while charging from the mains. As soon as the machine is connected to the mains, the mains power is used for lifting activities, excess power fed into the system simultaneously recharges the batteries.

Thus, in the future, you will not only continue to benefit on the construction site from the flexibility of the telescopic crawler crane itself, which is characterized by unique off-road mobility and maneuverability - even with a load on the hook - but now combine this with the technological advantages of SENNEBOGEN battery technology.

## **Zero emission on the construction site**

The 653 Electro Battery is not only fossil fuel free, but also operates with less vibration and quieter than its diesel-powered counterparts. In addition to the positive carbon footprint, the machine has the added benefit of reduced service requirements, as maintenance procedures such as engine oil changes are completely eliminated.

## **On display at bauma 2022**

The world premiere of the 653 Electro Battery will take place from October 24 – 30, 2022 at bauma in Munich. Discover the new battery crane and many other innovations at our booth at open-air site FM.712.

World premiere of the first battery-powered SENNEBOGEN telescopic crawler crane at bauma 2022: the 50-ton SENNEBOGEN 653 Electro Battery.







# "On your site": Liebherr at bauma 2022

- **Innovative Liebherr construction machines on the outdoor grounds at booth 809-810 / 812-813**
- **Liebherr components in Hall A4, Stand 326**
- **Liebherr tool attachments/implements and quick coupler systems in Hall B5, booth 439**
- **Additional booth of Liebherr concrete technology in Hall C1, No. 425 with a focus on mixing technology for precast plants**
- **Efficiency, digitalisation and service, as well as product responsibility: Liebherr showcases over 70 exhibits and various solutions from its high-quality portfolio, which meets individual customer needs on every construction site**

At bauma 2022 from 24 to 30 October 2022, Liebherr offers visitors unique opportunities to discover first hand the latest developments from the areas construction machines, cranes, material handling technology, mining and components. In line with the motto "On your site", the Liebherr Group shows that Liebherr can always be found at its customers' side – whether it is directly on the construction site with high-quality machines or through individual advice, global services and comprehensive solutions.

The Liebherr booths at Bauma 2022 offers space for more than 70 exhibits on the outdoor grounds with an area over 14,000 m<sup>2</sup> (Booths 809-810 / 812-813). Numerous new products and developments from the areas construction machines, cranes, material handling technology, mining and components are on

show. In addition, Liebherr presents the latest component developments in Hall A4 (Booth 326). In Hall B5 (Booth 439) interested parties can find out more about new products from the comprehensive programme of Liebherr tool attachments/implements and quick coupler systems. Products from Liebherr Concrete technology are exhibited at the main booth in the outdoor area as well as at an additional booth (425) in Hall C1, where the focus is on mixing technology for precast plants.

Visitors also have the opportunity to obtain information about the training and entry opportunities in the Liebherr Group at the Career Point of the Liebherr booth on the outdoor grounds, as well as in the ICM Foyer (Booth 105).





# Beyond Undercarriage: Berco to release details of its transformation at Bauma 2022

- **Berco to convert into a global system solution provider**
- **Aftermarket at the forefront - spin off in a dedicated organisation**
- **Data Excellence - the new source of Berco's value-based engineering solutions**

Berco, a leading manufacturer and supplier of undercarriage parts, has chosen Bauma 2022 to reveal to the world the company-wide transformation which it is undergoing. The Italian company is setting its path to become a truly global service provider, reaching far beyond the delivery of components for the undercarriage, to satisfy a diversity of market segments.

Proximity to both Original Equipment and Aftermarket customers is at the heart of this new strategy, with data management gathered through Berco's latest digital applications playing a key role. This, ultimately, will further strengthen its technical expertise when creating tailored solutions for each customer around the world.

Berco's transformation is designed to satisfy the market demand to meet increasingly individual requirements. To this end, Berco has decided to increase its technical presence in the geographical areas closest to its customers. The US, firstly, will receive additional focus, with the company strengthening its level of support on the ground. This approach will soon be replicated in other important markets such as Asia, where Berco will not only offer support to its important Asian customers, but equally to its American and European ones, whose presence in the continent is growing.

"In collaboration with our customers, our goal is to develop the best solution for each of their specific requirements and applications in any environment, wherever in the world," says Piero Bruno, CEO of Berco.

The key step forward involves the placing of the Aftermarket at the centre of the company's development. This has resulted in the creation of a spin-off, solely dedicated to the Aftermarket, with all its operations bundled. The focus of this business entity will be a customer-specific service based on a new supply chain concept. This dedicated team is headed by Diego Buffoni and located in Bologna, Italy.

The core impact of this transformation process, however, is the incorporation of 4.0 digitalisation standards. With over 100 years of expertise in both development and engineering, Berco is now benefitting even more due to its approach to data management. Data which are generated in the field by Berco's latest patented 'Smart Undercarriage' system as well as by the revamped 'Bopis Life' application, are evaluated and processed through the company's R&D department. The data archive will be the source for any future systems solutions for both Original Equipment and the Aftermarket.

Berco's novelty solutions will be presented and on display at Bauma, at the thyssenkrupp Group booth A5.449.



## Supporting UK Materials Handling Association (UKMHA)- Safely Using Forklift Trucks for Waste and Extractives Operations



**As we head into October, we are keen to support the UKMHA (formerly known as FLTA) in their Safety Convention promoting best practice and providing safety advice for all forklift operator training on 17th November 2022.**

The UKMHA is keen to discuss the safe and efficient ways in which forklift trucks should be used onsite in a bid to decrease the number of accidents happening.



We have a large number of customers operating within the waste recycling and extractives sectors and understand how using forklift trucks in this environment can be challenging. Our goal is to discover how we can create safer ways of working.

### 1. Check your Equipment and Attachments

Counterbalance trucks play an integral role across many industry sectors due to the large range of attachments that can be used to carry out numerous tasks on just one piece of equipment– this includes attachments such as rotating forks, barrel clamps and tipping skips. It is important that attachment training is delivered on all individual equipment types due to its wide diversity; a 'one size fits all' training approach is not supported.

Changing an attachment alters the characteristics of the forklift truck and this must be accounted for e.g., a counterbalance forklift truck may have a rated load capacity of 200kg when fitted with standard forks. If you are using a bale clamp, factors like the weight of the clamp and the extension of the load centre must be taken into account and a new, smaller capacity calculated and clearly marked on the forklift truck.

### 2. Check the Suitability of your Staff

There are significant steps to ensure your employees are adequately trained for the work activities they undertake and the equipment they will use. These steps are defined by the HSE and include the following:

- Suitable training method
- Delivery of training
- Effective evaluation of training
- Refresher training

However, training is just the first step. There must always be a high level of competence maintained and demonstrated when using the equipment – this must include risk assessments, maintenance plans and any health and safety updates/changes to the equipment.

Staff must be regularly monitored to ensure there is no complacency creep or cutting corners when operations get busy, or staffing becomes limited.

Remember when hiring, operatives may have a forklift truck license certificate for basic training, but are they suitably trained to use different attachments on this machinery in a more complex working environment?

### 3. Check your Surroundings

Particularly in a waste recycling environment there will frequently be loose debris around. It is important that there is a clear pathway for your forklift truck to travel through.

Always check blind spots for any pedestrians and continually check around as you are operating the equipment.

Always plan the route from A to B before travel to avoid any machine collisions on site or any roads that may not be suitable for your equipment type.



**We continue to provide a quality training service to our customers and provide as much information as possible on the safe use of forklifts. If you have any questions about training, standards or general health and safety, please contact our team - we are happy to help – 01246 386900!**



# BHS-Sonthofen: Looking forward to a reunion with the industry

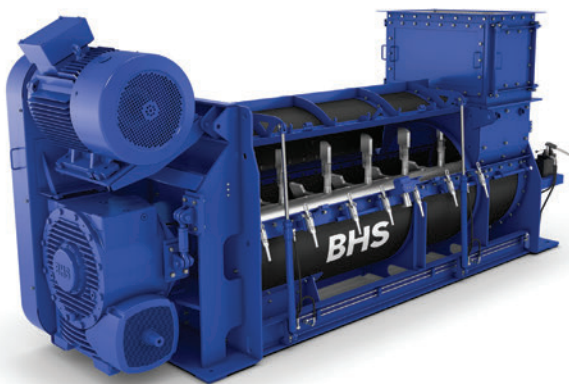
## Exhibition of mixing and crushing technologies at bauma 2022...

BHS-Sonthofen will be presenting its wide range of mixing and crushing technologies at this year's bauma in Munich. The team is looking forward to meeting its customers, distributors and partners in person again from 24-30 October 2022 at booth 449 in hall B2. At the world's leading trade show, the technology expert will be exhibiting the twin-shaft batch mixer, which is considered the benchmark in mixing technology, as well as a single-shaft continuous mixer, a rotor impact mill and a rotor centrifugal crusher on a total floor space of 391 m<sup>2</sup>.



The twin-shaft batch mixer from BHS-Sonthofen is the benchmark in mixing technology.

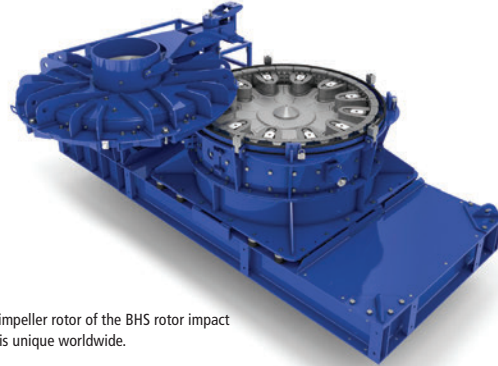
"The machines are clearly the main attraction at bauma. That's why we keep the lid open when we present our machines – so that visitors can take a look at the inner workings of our mixers and crushers," says Bahar Yerlikaya, Marketing Manager for the Building Materials Machinery division at BHS-Sonthofen and emphasizes: "We are pleased to be present again on site in Munich for our customers and partners after an interruption of almost two years. After all, digital technology cannot replace personal contact."



The BHS single-shaft continuous mixer is the perfect solution for mixing fine materials.

### The right mixer for every project

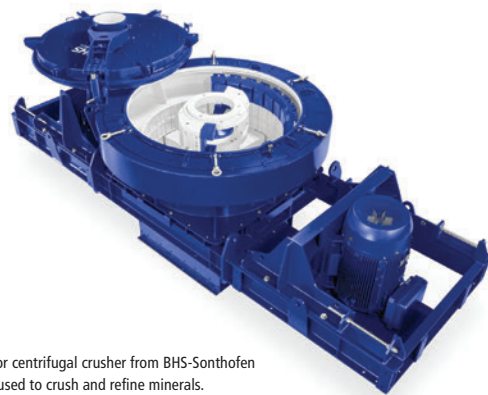
At the BHS booth, the twin-shaft batch mixer of type DKXS 4,50 takes center stage. In major projects throughout the world, the twin-shaft batch mixer from BHS-Sonthofen is being used to produce all types of concrete. Due to the increasing demand for fast and efficient construction, the demand for high-performance mixers continues to rise as well. The DKXS 4,50 is particularly suitable for industrial mixing processes in



The impeller rotor of the BHS rotor impact mill is unique worldwide.

the medium to high output range and delivers four and a half cubic meters of hardened concrete per batch. The three-dimensional mixing principle of the mixer leads to a more intensive material exchange and thus to shorter mixing times with less energy requirement. At bauma, visitors can learn about the standard mixer's globally proven, comprehensive modular system and the wide range of mixer sizes and accessories that are available.

In addition to the twin-shaft batch mixer, BHS will also be presenting a single-shaft continuous mixer of type MFKG 0520



The rotor centrifugal crusher from BHS-Sonthofen can be used to crush and refine minerals.

at bauma. With its continuous mixing system, the mixer is the right solution for mixing fine materials – whether dry, moist, pasty or suspension-like mixtures. The special feature of the BHS single-shaft continuous mixer is the self-cleaning rubber trough, which prevents caking of hardenable mixing material on the inner wall of the trough.

### Efficient crushers for stone and sand production

With its continuous mixing system, the mixer is the right solution for mixing fine materials - whether dry, moist, pasty or suspension-like mixtures. The high-performance crusher with vertical shaft is ideally suited for the production of quality sand. BHS will also present a rotor centrifugal crusher of type RSMX 1222, which is used for crushing and refining mineral materials.

BHS-Sonthofen at bauma: Booth B2-449 in Munich, Germany, 24-30 October 2022



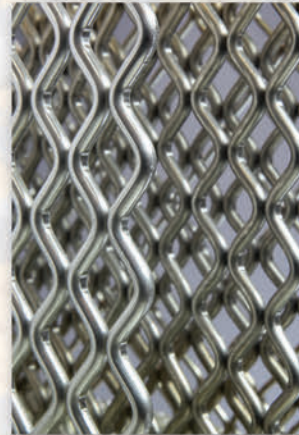
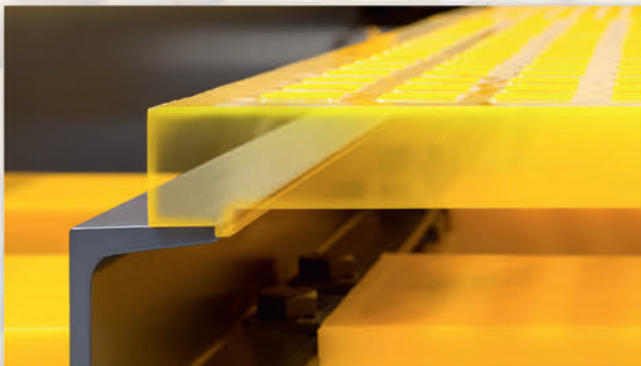
**TEMA Isenmann Ltd** are widely recognised as a UK leader in the design and manufacture of industrial screening systems. At Bauma 2022 we will be joining our colleagues from around the world on the ISENMANN Siebe GmbH stand.

ISENMANN Siebe GmbH will be exhibiting their full range of products, including woven wire, self-cleaning harp sieves, fan sprays and polyurethane in both tensioned and modular formats. You will also have the opportunity to discover the proven industry standard WS85, the most versatile and cost-effective modular system. It achieves excellent results with all separation sizes in many applications, including but not limited to Sand and Gravel, Granite, Quartzite, Silica Sand, Limestone, Coal and Ironworks Materials.



Customers choose our products due to highly customised solutions according to their needs, combined with a cost-effectiveness guarantee. Meet our on-site service team at bauma to discuss customer support services, such as screen deck inspections and reports, technical & engineering solutions and cost-per-tonne contracts.

TEMA Isenmann are proud to be part of a worldwide group of companies that includes world leaders in the materials screening industry.



In recent years, health and safety has increasingly become the focus of attention. With the patented WS 2.10 magnetic mounting system, you can achieve both higher occupational safety and lower downtimes. Take the opportunity to have a closer look at this system. In addition to the screen panels that are compatible with WS85, you can experience chute liners as well as cross member and shaft tube protection.

If you wish to separate materials that are difficult to screen, take a closer look at our modular concept finger screens and tension mats. Both special solutions can be retrofitted to conventional screening machines and are particularly suitable for moist and sticky materials.

## Your benefits

- » high quality polyurethane
- » different choices of polyurethane hardness
- » optionally resistant to hydrolysis and microbes
- » widest selection of apertures  
(from 0.1 mm to 250 mm)
- » consistent product quality and accuracy of separation
- » many panel lengths and widths

**Custom applications are always a welcome challenge!**



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Halle  
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# Doosan 'Transparent Bucket' makes Bauma Award

**The industry's first wheel loader 'Transparent Bucket' system developed by Doosan Infracore has been selected as a finalist in the Digitalisation category of the Bauma 2022 Innovation Awards. Among 41 innovations out of 133 that have been chosen in five different categories in the pre-selection process, the Transparent Bucket could scoop another important award to go alongside several others it has won around Europe in the last 12 months.**



To have reached the round of finalists is already a distinction for the candidates for the Bauma Innovation Awards. From this group, an expert jury will select the three nominees for the award in each of the five categories that as well as Digitalisation, include Climate Protection, Mechanical Engineering, Building and Research. The 15 nominated innovations will be officially announced by the organisers in early September 2022.

VDMA Construction - Equipment and Plant Engineering and VDMA Mining, together with Messe München and the partner

associations, HDB, ZDB and bbs, are conducting the multi-stage application process and hosting the awards ceremony at the Court Church of All Saints in Munich.

VDMA represents around 3300 German and European companies in the mechanical and plant engineering industry. This innovative industry is export-oriented and predominantly made up of SMEs, employing around four million people in Europe, including more than a million in Germany alone.

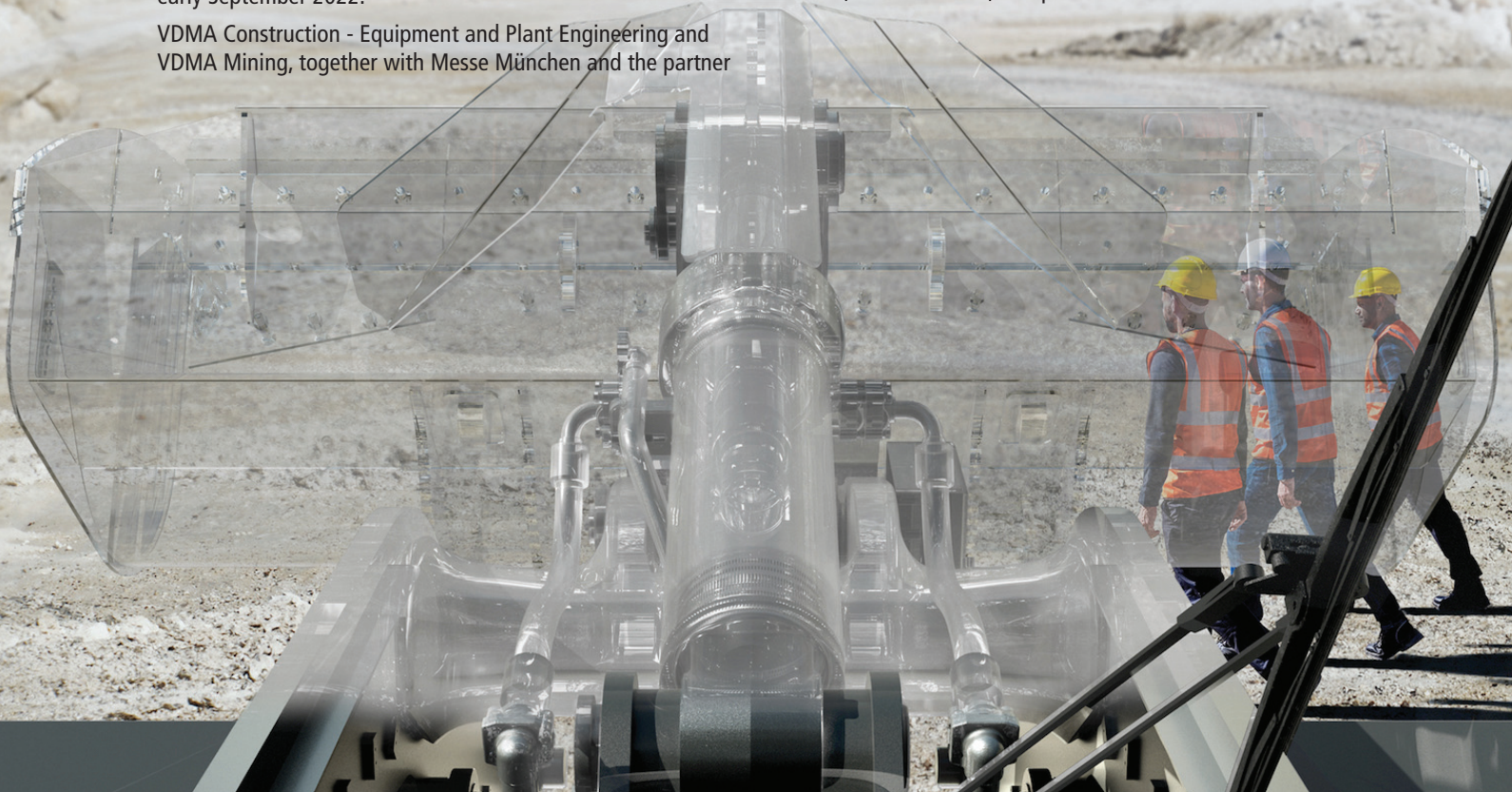
## **Doosan Transparent Bucket Increases Safety**

The Transparent Bucket is a system that allows the wheel loader driver to see blind spots in front of the bucket on the machine, using the monitor in the cab. The innovative system records images in front of the wheel loader with top and bottom front-loaded cameras and shows combined images on the cab monitor in real time using a curved projection method.

Owing to blind spots caused by the buckets on wheel loaders, the area in front of the machines has been considered an area of major concern in terms of safety. With the new Doosan Transparent Bucket function, however, the driver can easily check the blind spots in front of the bucket via the cab monitor, to increase safety and prevent accidents. Another advantage of the Transparent Bucket system is that it can significantly improve work efficiency by providing a forward-view perspective for the driver during loading/unloading or when carrying materials such as aggregates, sand and soil.

## **Patents Applied for in Korea, North America, Europe and China**

Doosan Infracore is the first company in the world to develop and apply a front projection function with the Transparent Bucket for construction machines and has applied for patents in Korea, North America, Europe and China.





The PC4000-11 electric drive excavator, set to be one of the highlights from Komatsu at the forthcoming Bauma 2022 exhibition in Munich next October.



## Komatsu to highlight 'ground breaking' developments at bauma

**What Komatsu calls 'ground-breaking future technologies, digitalisation, electrification and their path towards carbon neutrality' will be amongst the highlights of what guests visiting their stand forthcoming Bauma 2022 exhibition in Munich next October can expect.**

Recognising Bauma's standing as the world's leading trade fair for construction machinery, Komatsu will use the occasion to unveil a mix of 27 brand-new and well-recognised machines in what their distributor in Ireland, McHale Plant Sales says will be 'a technology fest' that will demonstrate 'the advanced thinking that the Japanese manufacturer brings to the construction equipment sector.'

Alongside latest-generation versions of their heavy-duty HD785-8 dump truck and their powerful D71 PXi dozer, models on show will span the spectrum of all that is new in the Komatsu construction equipment portfolio.

Spotlighted will be an ultra-short tail, ultra-maneuvrable, ultra-low emissions PC228USLC-11 excavator; a WA475-10 wheel loader with new grab linkage boom designed for forestry, timber and agriculture use; a tight-tail wheeled PW98MR-11 midi excavator that bridges the gap between compact and construction-sized machines; and an even more

versatile EU Stage V power upgraded WB975-8 backhoe loader; and a K100 boom change system for their PC490HRD-11 demolition excavator.

Amongst other topics of prominence will be Komatsu's march towards electrification (displayed in their giant PC4000 mining excavator), alongside their long-term goal to achieve carbon neutrality and zero carbon emissions by 2050, and their 2030 commitment to halve CO2 emissions and increase the rate of renewable energy their machines use to 50% compared to 2010 levels.

Other Bauma features will be their SmartConstruction – Earthbrain development which Komatsu describe as a 'new way of working and a unique solutions to support and improve your business.' How Komatsu's Komtrax Next Generation and Komtrax Data Analytics wireless monitoring systems can simplify decision-making for those working to deploy equipment effectively, improve fuel efficiency, maximise productivity or plan periodic maintenance will also feature.



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# Blue solutions for a greener future: CDE to showcase some of Europe's most innovative waste recycling operations at bauma

**CDE, a leading global provider of sand and aggregate wet processing solutions for the natural processing and waste recycling sectors, will highlight the role of its technology in supporting the circular economy and zero waste agenda at this year's bauma.**

As the construction sector continues to cope with the availability and cost of raw materials, CDE will demonstrate the potential of construction, demolition and excavation (CD&E) waste to address the challenges facing the sector.

On October 26 and 27, it will be joined on stand by a number of its European customers for a series of round table discussions on the future of recycling, and, as part of the

bauma exhibitor forum on October 24, will deliver a lecture on the topic of "Creating valuable in-spec products from CD&E waste".



CDE's Head of Business Development for North West Europe, Eunan Kelly, observes: "In the current economic and social climate, with materials costs rising, resources depleting, and regulations calling for the adoption of sustainable solutions, we should look to the technology of today to produce the sustainable construction materials of tomorrow; how CDE's waste recycling solutions in their trademark blue can support the industry to transform CD&E waste into certified, in-spec sand and aggregates."





Earlier this year, a package of European Green Deal proposals were presented with a view to make sustainable products the norm within the EU internal market. The revised Construction Products Regulation (CPR) emphasises the value of construction to the EU, as a key employer and economic contributor. It does, however, also highlight the adverse impacts the sector has on the environment, as one generating some 30% of the EU's annual waste and contributing significantly to its domestic carbon footprint and emissions.

### Stimulate economic growth

The construction industry is a major economic driver; in the EU alone, 25 million people are employed across 5 million companies, according to data from the revised CPR. So, when the Covid-19 crisis gripped economies and construction output fell to some of its lowest ever levels, it was no surprise that robust recovery plans with clear focus on investments in infrastructure were announced by nations around the world to rebound and stimulate economic growth.

However, the cost of raw materials and their availability remained a deepening challenge for the sector.

### Take, make, waste

Materials shortages and their rising costs are not entirely symptoms of the pandemic, but they have been exacerbated by it and have become more acute, CDE's Business Development Manager for the DACH region, Christoph Baier, explains.

"Every day we continue to extract our fast-depleting natural resources to support rapid urbanisation and our modern, technological lifestyles. Essential to this is sand, the second most consumed natural resource after water and the most consumed solid material on earth."

In April, the UN Environment Programme (UNEP) published 10 recommendations to avert the impending sand crisis. It referenced how the use of sand, gravel, crushed stone and aggregates has tripled in the last two decades, reaching an estimated 40-50 billion metric tons per year (UNEP 2019).

"This, in the context of projected increases in global populations and urban living," Christoph continues, "demonstrates how demand will only rise, while resources will only deplete, unless we adopt long-term attitudinal, regulatory and technological change to ensure not only the sustainability of companies within the construction sector – and with it the livelihoods of those employed within it – but also the sustainability of the very planet."

"It's clear the consequences of a linear take, make and waste economy are catching up to us."

While Covid-19 economic recovery packages may help to stimulate growth, they must be conditional on building back greener, more sustainably, Christoph adds.

"We can set out ambitious plans to build and grow, but we must ask ourselves how sustainable this is without a new approach to how we extract and manage the lifecycle of finite natural resources."

### Rethinking construction waste

A circular approach is the only answer, Eunan corroborates.

"It can be the means to equip us with the resources needed to supply a sector charged with a key role in the economic recovery while addressing our collective environmental footprint by reducing waste-to-landfill volumes and extending the lifespan of precious natural materials. All the while continuing to supply a resource-intensive sector with the materials it requires; materials often trucked out of our urban centres where they are needed most."

He says the technology needed to extract recycled sand and aggregate resources from CD&E waste that are equivalent to their virgin quarried counterparts is already in operation throughout Europe.

Proven solutions "Many businesses are already on this pathway," he says, "and we will welcome many of them to join our upcoming round table discussions at bauma to share insights with the industry as we work to demonstrate that we can pursue commercial opportunities in a sustainable way."





CDE supports materials processors to realise the value locked in CD&E waste. Using highly innovative wet processing technologies that scrub material, float off lightweights (demolition debris) and classify end products, this waste stream can be repurposed to produce washed materials free of contaminants and suitable for use in high value construction projects.

To date, CDE solutions have supported companies around the world to divert over 100 million tonnes from landfill.

"These are far from 'alternative' materials," Eunan explains.

"Many material processors utilising CDE technology are successfully producing CE- and BSI-certified concrete products, including competitive concrete for non-structural – but still high value – construction projects, with some applications successfully achieving beyond C45 spec."

In Norway, Velde Pukk AS plays a significant role in meeting the material demands in Stavanger. Utilising high-quality recycled aggregates and its on-site concrete batching plant, the firm supplies the construction industry with a CE-certified concrete from 100% recycled aggregates.

DA Mattsson, based near Stockholm in Sweden, diverts almost 100% of its incoming CD&E waste from landfill through its CDE wet processing operation. The company produces high quality sand and aggregates that meet EN 12620 specification, and it supplies these concrete materials to the Stockholm construction market.

They join some of the most advanced waste recycling plants designed and engineered by CDE in the DACH region, including the Switzerland-based WALO AG, whose 200tph CDE plant is processing a range of extremely variable feedstock, including excavation material and railway ballast. With sustainability as a focus, the plant features both closed-circuit water management and photovoltaic energy systems.

Similarly, in France, in the Greater Paris region, a 135tph wash plant enables Sodextra to produce a range of high quality and consistent in-spec concrete sand and aggregates called eco-

sand and eco-gravel, thus ensuring Paris is now also building in a sustainable way.

### Rising to the challenge

"We are faced with a myriad of challenges, Eunan says. Set against the backdrop of the Covid-19 pandemic and continued rises in the cost of raw materials, these issues have been heightened and highlight the urgent need to radically adjust how we utilise the resources around us in a more circular fashion."



Christoph agrees: "We can build back greener using sustainably sourced and recycled construction materials. CDE technology is demonstrating the potential of CD&E waste streams and we look forward to welcoming some of our most pioneering customers from the French-speaking, DACH and Scandinavian regions to join us at bma to talk about their vision, discuss best practice and share their experiences of collaborating with CDE."

CDE will attend bma 2022 in Munich (October 24-30), stand 528 Hall B2. On the stand, using a combination of 3D animations, 360-degree virtual tours, 3D-printed models and augmented reality, the company will introduce a new way of immersing visitors in its process engineering expertise and some of its most innovative projects and products, including the leading AggMax and EvoWash technologies.





# Hyundai adds HW150A CR to wheeled excavator line-up

**Hyundai Construction Equipment is building upon the success of its growing A-Series range of wheeled excavators, with the launch of the compact radius HW150A CR. Following the launch of the larger HW170A CR, the HW150A CR promises to become the flagship of the A-Series wheeled excavator range, in answer to the growing demand for a more utility and service oriented wheeled machine in the 15-17 tonne segment...**

## Features include:

- Powerful Stage V-compliant Cummins B4.5 diesel engine requires no EGR
- Load sensing hydraulic system delivers load independent flow control
- Excellent controllability in simultaneous multiple function operation
- Repositioned upperstructure contributes to shorter slew radius
- Increased lifting capacity and improved stability

## Compact excavator

The HW150A CR joins the established HW140A, HW160A and the compact radius HW170A CR in the Hyundai line-up, providing a specification and operating weight to suit every application. The larger HW210A sits in a class above, though it delivers the same combination of controllability and productive power.

Already a popular choice with leading national rental businesses and contractors, the Hyundai A-Series machines have taken operator comfort and control to a new level, delivering a highly productive excavator, with attractive total cost of ownership for customers. The HW150A CR uses the same Cummins B4.5 diesel engine as the HW140A, HW160A and the HW170A CR, with an output of 129kW (173hp) at 2,200rpm.

This 4.5-litre engine uses a wastegate turbocharger and a proven Flex Module after-treatment system. This two-can exhaust system brings together a Diesel Oxidation Catalyst (DOC), Diesel Particulate Filter (DPF) and Selective Catalytic Reduction (SCR) to meet the EU Stage V emissions regulations. There is no requirement for costly Exhaust Gas Recirculation (EGR) and the engine has no requirement for manual DPF regeneration. A reversible cooling fan is available for dusty working environments.

The engine drives a Bosch Rexroth load sensing hydraulic system and a fully hydrostatic, four-wheel drive powertrain. The load sensing system allows load independent flow control, which makes it easier for the operator to work boom, dipper arm, bucket and slew function simultaneously. This improves controllability and boosts productivity, while reducing fuel use and cutting emissions.

## Stable construction

As with the other models in the A-Series range, the upperstructure has been repositioned on the lower chassis, contributing to a reduced tailswing, while increasing stability during travel and improving lifting and digging capabilities. A new swing bearing design offers improved stability and durability, while new, lighter mud guards, cover the whole wheel, turning with the wheel when steering. Safety valves are available on the ram lock cylinders on the front, steering axle.

The extremely short swing radius allows the machine to confidently work within confined job sites, without risk of impact. The HW150A CR features an automatic digging brake, that locks the front axle oscillation and the service brake, allowing the operator to start work as soon as the machine stops travelling.

Customers can specify the lower chassis layout of the machine to suit their specific operational requirements. The lower attachments, including dozer blade and front and rear outriggers, are fully interchangeable. The rear parallel-frame dozer blade has an increased range, delivering additional stability while digging or lifting and boosting productivity in site clearance. The additional reach also provides space around the wheels for maintenance. Preparation for a towing hitch is offered as an option.

The HW150A CR has a revised front attachment design, with the dipper arm hydraulic cylinder reversed to provide increased protection of the ram. The machine can be delivered with a choice of monoboom or two-piece design, to suit the customer. The boom and arm cylinders have safety valves as standard, to boost safety on site.

## Cab design

All A-Series excavators benefit from the latest Hyundai cab design, with improved steps for easy access. The cab features increased glazing on the door and roof hatch, for improved visibility and the upper and lower windscreen glass comes with larger, parallel wipers for improved coverage.

The cab features Hyundai's 8" touchscreen display, for access to all machine functions and controls settings. There is also a Jog Dial Module and function switches, to navigate menus within the touchscreen.





Despite its compact radius dimensions, the engine cover size has been reduced, to further improve visibility to the rear of the machine. Wheeled A-Series models feature Hyundai's Advanced Around View Monitoring (AAVM) system, that uses cameras to provide the operator with a 360° view of the machine on the in-cab monitor. The system includes Intelligent Moving Object Detection (IMOD) alerting the operator to the presence of other workers or objects within a 5m range of machine operation.

The steering column has been improved, with three-way adjustment that allows any operator size to get comfortable. Proportional joystick controls are standard and joystick

steering with directional control can also be specified as an option. All working functions are at the operator's fingertips, with ram-lock switches and directional control integrated into the lever head. Cruise control and an optional ride control function are available for smoother travel, with less operator effort required.

The excavator boasts a revised pedal layout and an improved floor mat to make it easier for the operator to clean the cab floor. Forward, neutral and reverse can now be accessed through a switch on the servo lever, rather than through an additional pedal, further improving space on the cab floor.

Auxiliary attachment hydraulic flows and pressures can be stored in a memory that can be accessed through the on-board machine display. This allows the operator to rapidly switch between attachments, reducing unproductive downtime. The attachment controls now feature a continuous operation detent, for breaker or crusher use, further improving convenience for the operator.

"The all new HW150A CR is born from the requirements of urban job sites. Its rear short radius allows for top manoeuvrability as well as for operator convenience and safety," said Peter Sebold, Product Manager at Hyundai Construction Equipment Europe.

"We made the choice of using components and systems from reputable suppliers, which already pays off in terms of performance and durability. The powerful engine, in combination with load sensing hydraulics, gives the machine smooth controllability, along with high performance, as well as an enhanced versatility. A wheeled excavator just the way you want it. No frills, easy to handle and thoroughly robust."

#### Quick Specifications

- Model HW150A CR
- Engine Cummins B4.5
- Max Power 129kW (173hp)
- Operating weight (mono/2pc) 16,870/17,170kg
- Max. digging depth 5,130mm
- Max. digging reach 8,370mm
- Tail swing radius 1,800mm
- Bucket Breakout Force (ISO) 102.9kN
- Arm Digging Force (ISO) 66.4kN





# TWIN RAM FULLY AUTOMATIC BALERS



CK International's fully automatic Twin Ram balers are ideal for use in waste transfer stations or as part of a larger recycling MRF system where high volumes of waste materials such as RDF, SRF, plastic, PET, cardboard and paper are processed.

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# SAVE MONEY AND TIME





# J&S Vicary take delivery of the first JENZ HEM841Z PTO Chipper in the UK

**Following the acquisition of the JENZ dealership earlier this year, CRJ Services is thrilled to have delivered our first JENZ chipper into the UK market to a long standing customer - J&S Vicary Agricultural & Forestry Contractors.**

J&S Vicary is a Yorkshire based family run business, who provide a wide range of agricultural and forestry services throughout the UK. They specialise in large scale wood chipping, heavy duty mulching and the supply of quality wood chip and wood fuels.

Chris Vicary, Director at J&S Vicary, is a long standing JENZ customer, having operated JENZ chippers and high-speed shredders in their machinery fleet for many years. Before their recent purchase, J&S Vicary used a JENZ HEM593Z PTO for their chipping service, and a JENZ BA725DL high-speed shredder for the shredding of roots, stumps, and brash material.

Many of J&S Vicary's customers send their chipped and shredded material as fuel to large scale biomass energy plants or use their material in their own biomass boilers. As there are varying grades of biomass fuel, the quality of the finished material delivered by J&S Vicary is of paramount importance, as it will determine the value their customers can receive for their biomass material.

Aside from the quality of the wood chip being produced, another key factor in J&S Vicary's service is the speed in which they can process the material, which is determined by the quality and capacity of the chipping machinery being used.

At the time of purchase, J&S Vicary's JENZ HEM593Z was the largest PTO chipper in the JENZ range, delivering output of approximately 270 m<sup>3</sup>/h. As Chris is always keen to be running the best equipment available, when the announcement of the larger HEM841Z came, he decided it was time for an upgrade.

The new HEM841Z boasts a larger infeed area, measuring 1400mm wide x 820mm high - a 20% increase in infeed area



from the HEM593Z. This larger infeed size results in an approximately 37% increase in output capacity, up to to 370m<sup>3</sup>/h.

"We have used JENZ chippers and high-speed shredders for many years now. I am always impressed with the quality of the machinery, and the material being produced. Our new, larger HEM841Z chipper allows us to process greater volumes of material, compared to our previous models. This was also our first time dealing with CRJ Services since they took over the JENZ dealership, and I have been impressed with the communication and support we have received from them, in particular Mike and Richard."

Chris Vicary – Director at J&S Vicary Agricultural & Forestry Contractors

"I'm delighted to supply not only the first chipper sold by CRJ Services, but also the first of the new JENZ HEM841Z into the UK market. It also seems fitting to be supplying this machine to one of the most loyal JENZ customers in J&S Vicary. It has been a pleasure to deal with Chris and his team, and I thank them for their business."

Richard Newton – Sales Manager at CRJ Services Ltd.





# TOMRA Recycling Sorting helps Green Recycling achieve its goal of establishing the UK's first picker-less C&I MRF

**Essex-based waste management and recycling solutions provider, Green Recycling, has set its sights on becoming the UK's first picker-less C&I MRF and has teamed up with TOMRA to help achieve this goal.**

Green Recycling installed a latest edition AUTOSORT™ unit at its C&I plant in November 2021 to recover fibre from the end of its process line. The AUTOSORT unit combines near infrared (NIR) and visual spectrometers (VIS) to accurately and quickly recognise and separate different materials according to their material type and colour, extracting high-purity high-value end fractions.

Jamie Smith, Operations Director at Green Recycling, comments: "Due to the location of our plant, we have really struggled with recruiting labour historically. We were heavily reliant on foreign nationals who, understandably, wanted to return to their homelands when COVID-19 struck and then could not easily return because of Brexit regulations. The pandemic made us realise that we needed to change the business and move away from our reliance on manual picking. We have always had a keen interest in automation and artificial intelligence so over the past year we have invested heavily in automation to enhance our screening, sizing and separation operations, including ballistic separators, automated magnets and eddy current separators.





"We saw the AUTOSORT™ unit as a key enabler in moving closer towards a picker-less plant model. We previously had a team of four manual pickers sorting out the paper and cardboard. Since installing the AUTOSORT, we have been able to redeploy these employees into new, more technically-skilled and appealing roles across the plant."

"Rarely does equipment work from the moment you press the start button but the installation of the AUTOSORT unit was seamless and as soon as it was plugged in, we doubled our paper and cardboard production from c.50 tonnes to 100 tonnes per week. This extra capacity came at exactly the right time as some of our infeed material suppliers almost doubled their volumes of C&I waste which we simply wouldn't have been able to cope with had we still been reliant on manual picking."

The team at Green Recycling has been so impressed with the AUTOSORT technology that they have recently installed four additional AUTOSORT units which are programmed to automatically recover plastic film, cardboard, wood, bottles and other rigid plastics. The original AUTOSORT unit has switched to recover mixed office paper. This additional sorting equipment has taken Green Recycling one step closer to having the UK's first picker-less C&I MRF.



Jamie adds: "With the new TOMRA equipment in place, even if we were to have several staff members off at the same time, our plant can continue running. AUTOSORT will enable us to future-proof our operations and ensure we are able to adapt to any future changes in C&I waste arisings."

## Brian Gist, Head of TOMRA UK, comments:

"The past two years have changed MRF operators' views on how best to staff their processing plants. One of COVID's lasting legacies will be how people work."

C&I waste volumes are skyrocketing, but operators are still facing staff shortages as there is a real lack of appetite from UK residents for taking on dirty and repetitive manual labour such as waste picking. Even though COVID restrictions have now been fully lifted, there is no continuous arrival of new labour entering the UK due to Brexit.

Over the past 18 months, TOMRA Recycling Sorting has experienced a surge in enquiries from C&I plant operators who are looking to investigate automation as a means of future-proofing their operations. These operators are recognising that greater automation will negate the risks associated with labour shortages and will help them to cope with varying waste tonnages, higher C&I recovery and recycling targets and any future changes in waste material composition.

With the right sorting equipment in place, it is easy to make simple programme adjustments to equipment to allow for any short or longer-term changes in the volume or composition of infeed material. This ability to adapt sorting operations at the flick of a switch has been embraced by many of our customers over the past two years. We predict even more investment in automation and plant upgrades in the C&I sector over the coming months and years as operators seek to embrace the commercial and operational benefits that the latest automated sorting technologies offer."

[www.tomra.com/recycling](http://www.tomra.com/recycling)







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# Vitafoam overhauls foam processing operation with new UNTHA shredder

**Vitafoam has invested in a new UNTHA XR shredder, to modernise its foam-processing capabilities at its plant in Middleton, Greater Manchester.**

"When looking to replace the shredder, we returned to UNTHA two decades later, because we remain confident they are a market leader in this complex field and that the modernised XR will benefit our operations," continued Martin. "It also makes more commercial sense."

Gary Moore, sales director at UNTHA UK, added: "When Vitafoam came to us 20 years ago, the firm was a pioneer – being forward thinking and one of the first organisations to install the single-shaft XR equipment."

"Both businesses, as well as the XR shredding technology, have advanced a lot since then, seeing Vitafoam benefit from easier maintenance and reduced energy costs with the updated XR model."

"Companies may buy cheaper shredders, but it's important to look past price alone," Gary concluded. "It boils down to how long the machinery will last and how efficient it is to run, which demonstrates the true value and whole-life return on investment from a machine."



Forming part of The Vita Group, Vitafoam processes 'waste' foam-based materials – such as trims and offcuts – for remanufacturing.

The firm has procured the new XR2000 shredder to replace the XR model it first purchased from UNTHA UK over 20 years ago.

The equipment will continue to process seven tonnes of foam per hour – equating to 14,000 tonnes of material salvaged for re-use each year.

Commenting on the investment, Martin Banks, project manager at Vitafoam, said: "Our decision to buy an XR back in the early 2000s was because it was the best machine available at the time to meet our process requirements and increase production throughput."

"Foam is notoriously difficult to shred – the way it condenses typically takes a lot of energy to process – so we needed a machine that would be up to the job."

The new XR processes polyester, polyether, and reticulated foam to a particle size of <150mm.





# Scottish waste specialist adds JCB Stage V 560-80 Wastemaster to its fleet

**A leading waste management company has added a brand-new JCB Stage V 560-80 Wastemaster telescopic handler to its impressive fleet of over 20 JCB machines.**

Glasgow-based J & M Murdoch will be using the JCB Stage V 560-80 Wastemaster telescopic handler for loading and distributing paper, cardboard, plastic and timber at the company's four recycling centres across Scotland.

Supplied by dealer Scot JCB the JCB Stage V 560-80 Wastemaster telescopic handler has been purpose built to meet the unique requirements of the waste and recycling industry. The world's number one telescopic handler is designed perfectly to operate in some of the most arduous conditions and demanding environments.

J&M Murdoch Managing Director Drew Murdoch said: "We choose JCB for the reliability plus they produce machines that fit all the needs of our business. We like dealing with Scot JCB as the service and back-up is first class.

"We've had a load of JCB Wastemasters over the years – they're very good machines, they're reliable and they tick all the boxes. We like that they're designed specifically for the waste industry. If you go to another manufacturer you can buy a telehandler but with a JCB Wastemaster you can add the full range of attachments: forks, buckets, clam shells, bale claspers – you name it – so the versatility is unbeatable."

The JCB 560-80 Wastemaster's efficient Stage V JCB DieselMax engine now has a larger power capacity of 130hp (97kw). The CommandPlus cab is 12% larger with a 50% reduction in cab noise giving a best-in-class 69dBA. A 14% increase in upward visibility through new, seamless one-piece curved glazing ensures best-in-class visibility too.

J&M Murdoch has been providing transportation, waste management, disposal and recycling services to central Scotland for over 50 years. It runs a fleet of 70 HG vehicles and 22 machines – the vast majority of which are JCB. The fleet covers 10,000 miles across Scotland and J&M Murdoch handles almost 500,000 tonnes of waste across its four sites per annum.





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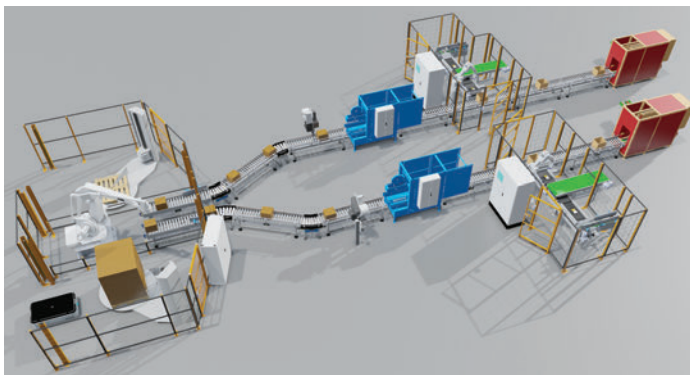
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## RMGroup to showcase collaborative industrial robots and AMR systems at PPMA



**Leading robotics and automation company, RMGroup, will be exhibiting on stand H70 at this year's PPMA show, held at the NEC, Birmingham on 27-29 Sep. In providing a single-source solution for multi-functional systems, the company will be using live demonstrations to show how industrial robots and AMR technology can combine to increase efficiency and space optimisation.**

On show will be the ASTI Ebot 350 box moving Autonomous Guided Vehicle (AGV), along with the ABB IRB industrial robot demonstrating a palletising and de-palletising process. To add to that, RMGroup's sales team will be on-hand to preview the

latest robotic solutions offered by the company for multiple pick, place and palletising applications.

Commenting on the forthcoming event, RMGroup's Rosie Davies said: "We are really looking forward to PPMA this year. Having attended every year since 2014, we are pleased to support the show and always use it as a platform to showcase new products and innovations."

Being the first integrator in the UK to be accredited under the RIA/BARA Robot Integrators Certification Scheme, RMGroup supplies and manufactures a wide range of manual and automated packaging systems.

## Andusia renew ARC Contract

**ARC (Amager Ressourcecenter) and Andusia have signed a new 3 year bulk shipping contract. The renewed contract will see Andusia supply the 'Copenhill' waste-to-energy facility, based in Copenhagen, Denmark, with 70,000 tonnes per year of plastic reduced RDF up to the end of 2025.**

This enables ARC to run to capacity and thus provide electricity and district heating to the capital's homes, comprising 90,000 households in Copenhagen.

The facility is easily spotted due to its tall sloped roof that doubles as a year-round artificial ski slope. As one of two plants in the capital, it plays a major role in the Copenhagen's ambitions of reaching carbon neutrality.





# Tidy Planet commissioned for first full-size RDF Small Waste Incineration Plant



**Headquartered organic waste and Energy-from-Waste (EfW) solutions specialist, Tidy Planet, has sold a new plant to Brooke Energy, in Exeter.**

The Small Waste Incineration Plant (SWIP) is replacing a redundant biomass facility that Brooke Energy recently acquired.

The new combined heat and power system will process three tonnes per hour – 24,000 tonnes per annum – of refuse derived fuel (RDF) from local waste collectors.

This will maximise waste throughput and energy recovery, while remaining within the local authority permitting regulations.

The plant is the first full-size RDF EfW system in the UK that uses industrial boiler manufacturer Sugimat's new solid waste-fuelled Horizon+ thermal oil boiler technology – specially engineered to process high-ash-content fuels – to produce thermal power for Turboden's Organic Rankine Cycle (ORC) electricity-generation equipment.

Commenting on the project, Glyn Brooke, director of Brooke Energy, said: "While we have extensive experience with the wood chip market – with three operating biomass-based power plants in the South of England – it's our first-ever RDF EfW facility.

"We wanted a compliant, future-proofed solution that would be quick to plan and implement – providing a faster route to generating both energy and revenue."

The heat generated from the facility will be sent to a local district heating scheme, while the electricity will be exported to the National Grid.

Simon Webb, managing director of Tidy Planet, added: "We're seeing rising demand for our SWIP solutions across the industry – and this one contains the largest solid waste-fuelled thermal oil boiler to be installed in the UK.

"Companies are feeling the pain with the rising cost of energy and waste disposal as the global legislation is making RDF difficult and expensive to dispose of.

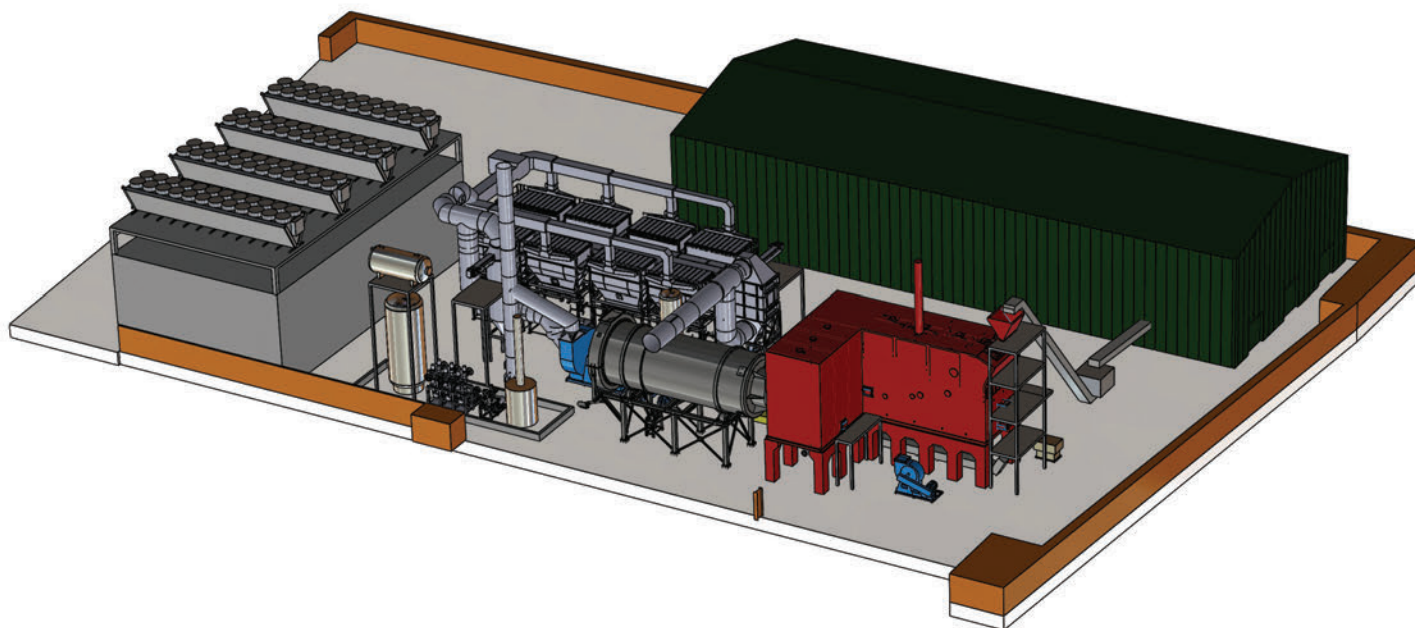
"As a result, more organisations are searching for alternative solutions that offer lower costs of energy production and a guaranteed future revenue stream."

The return on investment for the system – which has a 20-year design life – has been calculated at three years, depending on site-specific factors.

"Another crucial advantage of a SWIP, is that it can be permitted by a local authority in six to nine months," Simon added. "However, larger facilities outside of this scheme require a full permit from the Environment Agency – which currently takes years to obtain.

"Along with our partners, we're proud industry champions of 'recoverable energy', and it is great to be working with Brooke Energy to help the company close the loop and implement a more environmentally and financially sustainable energy model."

The new plant is set to be installed in 2023.







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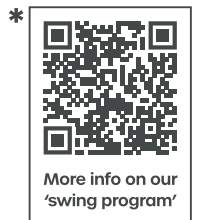
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**Every step of the way**



# We shall recycle (it is easy)

**A few tricks are often enough to improve recycling and reusing materials, even in the most "odd" processes**

**We read everywhere about the importance of recycling. How it is a mandatory duty. An act of awareness towards the planet and the environment.**

All concepts with which we are in full agreement. But ... (must there always be a but?) in some cases – the odd ones - to recycle, you need to think outside the box.



So we decided to sum up some of the odd processes that our clients have sent us. In most instances, we were stunned, others amazed. Well, we hope you'll be too and of course, if you have a bizarre story to tell we are all ears.

Picture this. A massive plant. A chemical company where the circular economy is in constant improvement. They had 150 thousand cubic meters of gypsum sulphate contaminated by nylon sheets. Using a Caterpillar 323 and a trommel screener MB-S18 with small size grids and et voilà the powder is cleaned from residue. Unconventional and effective.

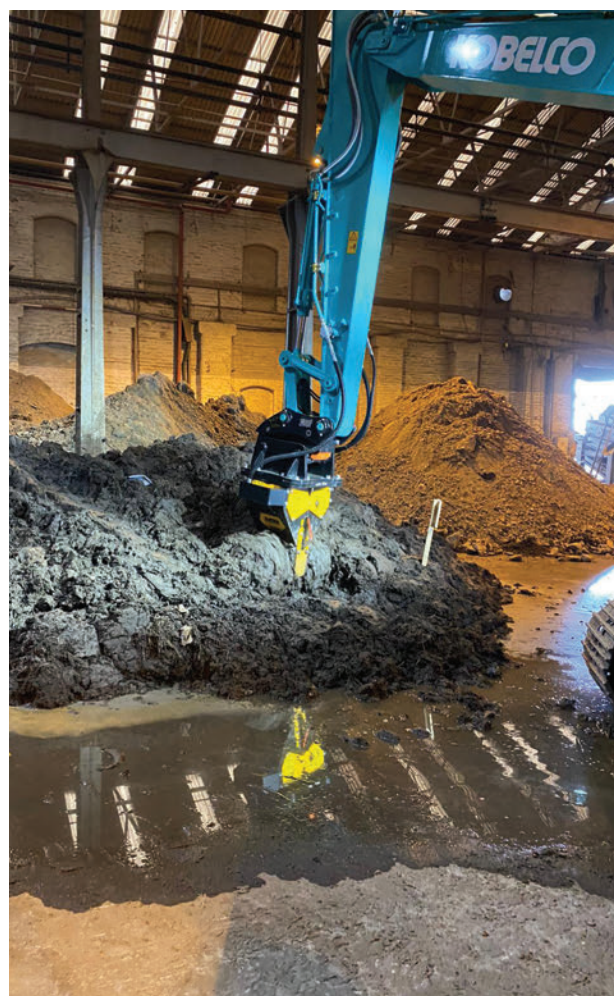


The beauty of the MB's rotary screener exchangeable grids is that they come in different sizes, in Chile to separate excavated soil from sticks and brushwood they used the MB-S18 mounted on Case 210 and they choose a bigger grid size.

Surely everyone agrees that reclaiming brownfields can be daunting. Luckily for us, this Scottish company is specialized in such challenging tasks. They use an MB-R800 drum cutter to mix sticky and wet materials before feeding the thermal plant,

optimising the entire process and increasing the plant efficiency. We are left speechless by this application, well done!

When we launched the shaft screener line, we envisioned them as versatile, due to the rotors change at the site. Due to the broad selection of shafts to choose from, we knew they could tackle several types of jobs. But little did we know that they could also: aerate salt, sift foundry steel fluff, and blend ashes.



All those different materials were wasted, but the aptitude to recycle has given them a new purpose. There is nothing we can say besides BRAVO!

All pretty impressive applications right? So let's see something more playful, after all, it is summertime here in Italy.

Hands up who grew up in the 80s!

Surely you will remember the summer bonfires on the beach. Be ready to be blown away.... Imagine using an MB-G900 grapple to make the biggest bonfire ever! WOW! Marshmallow anyone?

And if you double-park or forgot your keys inside a locked van let's move it out of the way with the MB-G900 grapple. Easy peasy.



## CK International has been transforming the world's recyclable waste for 25 years

### Why Bale?

CK International, a market leader in providing waste recycling solutions, manufactures an extensive range of robust, durable automatic balers. CK International has been transforming the world's recyclable waste for 25 years and have installed approximately 1,000 horizontal balers throughout the UK and Ireland as well as numerous installations in Europe, the Middle East and Asia.

The waste and recycling market is continuously expanding globally as more countries are putting efforts towards reducing their total environmental impact. Therefore, there is more dependence on producer responsibility and CK International thrive on being experts in satisfying customers' requirements, constantly developing more efficient, intelligent waste management solutions. More efficient intelligent waste management means greater savings for our customers. CK International's SMART Baler performance system gathers and shares real-time data about the balers performance that allows customers to analyse throughput, uptime versus downtime and anticipate upcoming measures for improving operational efficiently.



### Purity is powerful

With the increased demand for higher purity levels in recovered products, CK International are focused on retrieving multiple segregated waste materials with recyclable value for potentially more than one commodity, ultimately diverting recyclable waste and profits from landfill.

CK International supplied a Fully Automatic Twin Ram Baler which provides optimum bale weights on all materials to a Material Recovery Facility (MRF) customer in Ireland, AES Bord na Móna. The CKTR121-160T-110kW was specified because AES Bord na Móna had requested the need to bale multiple different materials in an ever-changing environment. The CKTR121-160T-110kW provides versatility when baling multiple commodity materials, ensuring the customer gets higher bale density throughputs while increasing return on investment (ROI). AES Bord na Móna process over 30,000 tonnes of material per year. They outlined a requirement for 12 tonne throughput per hour and maximum container weights. CK International provided the 110kW powerpack to ensure the throughput and 160 tonne compaction force to ensure the bale density was achieved. Moreover, the CKTR121-160T-110kW comes with a 1.1m x 1.1m cross section bale aiding higher throughputs, decreasing transport loading times and saving 25% on wire costs over standard mill size bales.



CK International carried out a cost-saving exercise to prove that by investing in the CKTR121-160T-110kW the baler would save the company over £125K per year, and that the machine return on investment would be 2.6 years.





Numerous enhanced design features, innovations and quality manufacturing from A-class materials ensure that CK balers are capable of processing higher quantities of materials. They also produce heavier bales while using less energy which results in the lowest possible operational costs.

AES Bord na Móna expectations were exceeded with the bale weights being achieved. AES Bord na Móna is processing the following dried mixed recyclables(DMR): OCC cardboard, PET and HDPE, aluminium cans, paper and pams. With the materials processed, ensuring no contamination is crucial. AES Bord na Móna are achieving optimum bale weights on their materials:

- PET and HDPE Bottles – circa 800kg
- OCC – circa 800kg
- Paper and pams – circa 900kg
- Aluminium cans - circa 580kg



## Durable in Dubai

Another recent customer of CK International's is DulSCO's MRF Plant in Ras Al Khor, Dubai. This state-of-the-art MRF in Dubai has a capacity of 80,000 tonnes per year and showcases CK's very own CKTR121-120T-74kW Fully Automatic Twin Ram machine. This project, highlights CK International's engineering and manufacturing fundamentals to

DulSCO, alongside the expertise of neighbouring engineering company Kiverco, has helped the company grow their overseas business by more than 600 per cent in the past year alone.

The waste separation plant is capable of sorting 240 tonnes of multiple waste streams per day. Waste is sorted into different types of dry mixed recycling based on material type before going through various processes, depending on the type of waste. Recovered and separated material is then compressed in compact bales and sorted, ready for collection and further recycling. DulSCO is processing the following DMR: OCC cardboard, PET, aluminium cans and paper. With the materials processed, ensuring no contamination is crucial. DulSCO are achieving optimum bale weights on their materials:

- OCC = 750kgs
- PET = 650kgs
- Aluminium cans = 680kgs
- Paper = 700kgs



International Sales Manager, Natasha Mitchell stated: "When developing an MRF sorting plant for DMR and light packaging, waste compaction is a key consideration. It is hugely important to make decisions on the waste compaction equipment early in the process and opt for the most experienced manufacturer with quality products and rapid aftersales service to ensure maximum production and minimum downtime.

CK International's products can be tailored to facilitate the customer's specific application(s) and can be incorporated into new or existing processing configurations that experience difficult contaminants. The technology provides an alternative to manual sorting which is both exhausting and expensive. If you are in need of baling or compacting equipment, put your trust in CK International!

CK takes great pride in working with customers to specify the correct application and requirements. There is a high level of detail incorporated into the machines from the design team. When it comes to production, CK have invested heavily in their facilities to ensure that they have the best equipment to produce high-quality machines.

During the entire life cycle of your baler, CK International provides first-class service with an exceptional technical support, engineering and aftersales team to assist you with any problems both on-site and remotely. CK International have a remarkable aftersales team with 20 field service engineers responding to customers 365 days a year, 7 days a week, 24 hours a day. By sharing knowledge and looking for the best solutions for your unique challenges, CK sets a goal to become your long-term partner for service and maintenance. Look at CK's extensive baler range on [www.ckinternational.co.uk](http://www.ckinternational.co.uk) for all your compaction and baling requirements.







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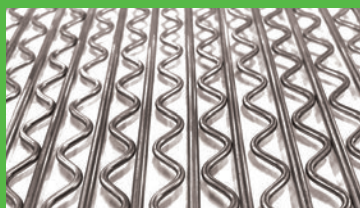
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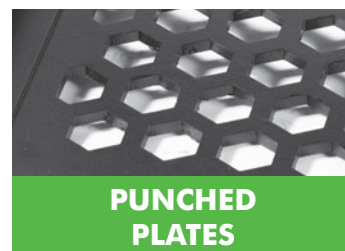
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## Waste management company hooked on Hiab

**Following a sustained period of increased demand, the UK's largest family-owned supplier of integrated waste management and environmental services, Grundon Waste Management Ltd, has invested in eight further pieces of equipment from world leading provider of on-road handling equipment, Hiab.**

The latest purchase, which includes three Hiab MULTILIFT Futura 12 skip loaders and three MULTILIFT Ultima 24S hook loaders, brings the company's total to 52 pieces of Hiab kit since their first purchase in 2004. There are also ten further products on order due to be delivered by the end of 2022.

The new skip loaders and hook loaders join Grundon Waste Management's 300+ strong fleet to support its nationwide operation in commercial waste management, compactor transportation, specialist treatment and disposal services.

Stephen Townsend, Group Fleet Engineer at Grundon Waste Management, commented: "We initially started working with Hiab for cranes back in 2004, when replacing older units. 18 years later and they are now one of our most trusted suppliers for handling equipment.

"For our latest purchase, we were looking to source equipment for a key account with tight criteria and product functionality. From previous experience with Hiab and understanding how they engineered lightness and key geometry benefits they were our go-to for this brief.

"The Hiab team assisted with this requirement fully, supported by the team in Ellesmere, from whom we received great customer support along with product knowledge and experience."

The MULTILIFT Futura skiploader and MULTILIFT Ultima hooklift form part of Hiab's wider MULTILIFT range which features a variety of pioneering load handling solutions.

Ben Cooper, Hiab MULTILIFT Sales Executive, said: "Grundon Waste Management is a long-standing, valued customer of ours and it has been a pleasure to watch them grow over the last 18 years and to be able to support them in that growth has been fantastic.



"We specially engineered the entire MULTILIFT range with significant innovations to ensure greater control, safety and productivity in any loading duty and it's great to hear these innovations are making a difference daily to Stephen and his team.

"For example, the ULTIMA hook loaders feature an integrated load weighing system meaning expensive, third-party weighing solutions are a thing of the past. The unique system calculates weight during the loading process, so users can work even more efficiently than ever before."

The MULTILIFT Ultima 24S hooklift features Hiab's Sequence Performance™ technology enabling automatic sequence control via a single lever movement for loading, unloading and tipping.

Meanwhile, the main equipment, sheeting system and Hydraulic Side Stops, which help to secure the load when operating different width bins or compactors, can all be controlled with Full Remote Control.





## Warwick Ward supply the whole solution for Hatfield Site Services

**Roy Hatfield Ltd (RHL) is a family-owned company which has been based in Rotherham, South Yorkshire for 50 years.**

In recent years, the company has evolved at a fast pace offering bulk commodity supply into heavy industry with an ever-increasing portfolio of secondary and virgin raw materials. Operating from a comprehensively licensed six-acre site the company is able to process thousands of tonnes of materials and industrial wastes. Resourcing, recycling, and reusing industrial wastes and by-products from heavy industry has been a core part of the business for the last 50 years, the business has been built on the core principles of sustainability long before the concept became widely known.

Today the company has four principal areas of operation - Metals and Minerals, Energy, Industrial and Environmental services which includes gypsum recycling, and the recently formed Hatfield Site Services (HSS) that utilises the experience within the business to provide site based, bulk handling and processing services.

HSS has recently been awarded a five-year contract to supply one of its key clients with Gypsum handling services for their plasterboard manufacturing business which supplies the UK and Irish Markets.

This contract is based across the two sites of Ferrybridge and Bristol with HSS managing both 24/7 operations, and handling over 40,000mt's per week combined.

Warwick Ward (UK distributor for both brands) worked with HSS to supply the handling equipment for both sites which at Ferrybridge included an 821G Evolution and 721G Loading Shovels, a CX180D tracked excavator and a Terex TWH220 Waste Handler to facilitate the rail discharge operations of the 1,500t gypsum trains 2-3 times per week from Hull docks. At Bristol they supplied 2 x 821G Evolution Loading shovels, a CX250D tracked Excavator and other ancillary equipment.

Hatfield also supply recycled gypsum to the client which is transported by road from the Hatfield's Recycling operation in Rotherham and is renowned in the industry for its high quality.

### **Supplying correct specification machines:**

Warwick Ward realised at the outset that it was important to provide machines with the correct specification to handle the 'dusty' environment because of the huge amount of gypsum particulates in the air that can ingress into the machines, therefore extra filtration and extra protection for the cooling packs and a BM Air system to keep the operator safe were specified on all machines.

Further enhancement comes in the shape of the cooling system's innovative "cube" design which ensures the best cooling efficiency if compared to overlapping radiators in conventional design: all the coolers are simultaneously crossed by the same air flow at the same temperature for increased reliability, preventing overheating failures on engine, transmission, and hydraulics.







## Full-Service Coverage:

As all the machines supplied by Warwick Ward have 5-year repair and maintenance contracts these are easily covered by their depots in Barnsley and Alcester providing quick response to any issues.

Gavin Longley - Business Development Director of HSS, commented, "We have worked with our client for a number of years, and we were awarded the contract on the back of our strong service delivery already being a key raw material supplier. We were in a unique position to be able to offer the handling on-site and supply the raw material alongside offering some great synergies to the client to improve safety, efficiency and quality. We also have a long-term relationship with Warwick Ward and they provided great support at specification stage, and the after sales support has also been great. A true partner we can trust and enjoy working with."

Ashley Ward, joint Managing Director of Warwick Ward, commented, "We have had a fantastic relationship with Hatfield's which has spanned 40 years! At the beginning my father and Roy Hatfield did business together in the seventies when in those early days our main business was in supplying used equipment.

"Recently I met Roy, and we reminisced over the old days, and I find it brilliant to see Roy's sons Mark and Grant pushing the business forward in a such a positive way, expanding and diversifying to significant effect.



"With Warwick Ward now firmly established as the largest Case Construction dealer in the UK and also being a main distributor for the Terex Ecotec range, we are more than capable of being a 'one stop shop' for Hatfield's in supplying all the equipment, parts, and service that they require. It has been fantastic for both businesses to continue working together, building on the foundations established over so many years. Long may it continue in the future which hopefully is an exciting one for both companies."



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# Waste management giant buys JCB 427 Wastemaster

**Ireland's largest biomass provider has purchased a brand-new JCB Stage V 427 Wastemaster wheeled loading shovel as part of its commitment to pursuing renewable energy.**

Crumlin-based McKinstry Group is moving into the export market with a new site in Belfast where it will be processing over 100,000 tonnes of biomass per year.

Supplied by dealer Dennison JCB the 427 Wastemaster wheeled loading shovel has been specifically tailored for the waste and recycling sector to provide unrivalled levels of productivity, comfort and safety.

McKinstry Group CEO Darren McKinstry said: "We buy JCB equipment because it is always reliable, and the aftersales and back-up is excellent. JCB is crucial to our group operations. Our relationship with Dennison JCB is a big factor in our decision to purchase JCB machines.

"The 427 Wastemaster is working as part of a fleet including a JCB Teletruk and a JCB 560-80 and it is performing very well. The machine is perfectly sized for the application we need it for which is loading and dealing with biomass and it is doing the job very well."

The JCB 427 Wastemaster is powered by a Cummins Stage V engine which has excellent low-end torque. A variable geometry turbocharger provides increased performance at low engine speed for improved tractive effort. The JCB 427 Wastemaster offers superior protection for machine and operator in the most challenging conditions. The ROPS and FOPS compliant JCB CommandPlus cab provides superb visibility inside and out.

McKinstry Biomass Ltd is part of the McKinstry Group and is Ireland's largest biomass provider. The recent acquisition of a waste processing site in the Belfast Harbour Complex will enable McKinstry to export processed waste wood product via cargo vessels to potential new customers on the UK Mainland and European destinations, significantly expanding its Biomass operation.





# STADLER Automated Bunker Management System delivers efficiency

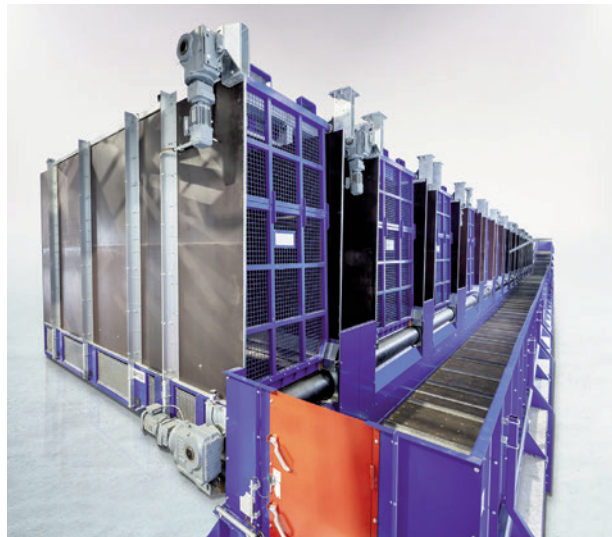


**STADLER's fully automated bunker management system (ABMS) has been installed in some of the most advanced light packaging sorting plants, where the output systems benefit from the automation of the baling process and the precise weighing**

**of bales which result in optimal loading for transport.**

The pursuit of a circular economy aiming for the ultimate goal of 100 percent reusable material is driving the demand for extremely high-purity recyclates that can compete with virgin material. STADLER is contributing to this evolution by designing and building state-of-the-art sorting plants capable of producing high-quality output that can be recycled into new products. Innovative thinking is the hallmark of its design teams and is applied to every phase of the process. The company is constantly looking at ways to further improve the operation, performance and efficiency of sorting plants.

STADLER developed its innovative fully automated bunker management system as part of the design of a state-of-the-art light packaging sorting plant. The bales are weighed to the customer's specifications by weighing cells positioned under the bunkers. When the specified parameters are reached, the baling process starts automatically: the ABMS checks that the baling line is free and the baling press is ready, empties the bunker and transports the material to the target baler, which produces the bale to specification. The bale weight and material data are recorded in the system, where it can be accessed at any time.



The ABMS delivers multiple benefits: "There is no manual baling, and no staff members have to permanently operate the baler," explains Tom Schmitt, Sales Manager at STADLER.

"Also, the precise weight specification – and consequently bale lengths – enable optimal loading of the bales because they are always the same size, with the advantage of the most effective utilisation of transport."

"The ABMS has been installed in our most advanced light packaging plants, where they are working very well," concludes Tom Schmitt. "The ABMS can be integrated in existing plants with bunker systems, and only requires some adaptations such as the installation of load cells, sensors and software."







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# What a difference a year makes: Rokbak turns 1!

**One year ago today, a bold new name was revealed to the construction world. Building on eight decades of hauler heritage, and seven previous years of major improvements, the Rokbak brand was immediately a hit worldwide.**

Celebrations are underway in Motherwell, Scotland to mark an extraordinary first year of operation for Rokbak. In the 12 months since Managing Director Paul Douglas announced the surprise rebranding of Terex Trucks at an online launch event, the company has enjoyed multiple successes, confirming the decision to replace an established industry name with a new, unique one was the right thing to do.

"We all had huge faith in the new brand and felt that its message of rugged reliability and strength, coupled with its strong hauling heritage and future-focused vision, was a winning combination," says Paul. "We fully understood the pressing reasons to rebrand – most notably, to better highlight the huge improvements to our haulers that had been made since the Volvo Group acquisition in 2014. And, gratifyingly, our customers and dealers recognised that too, and they've wholeheartedly embraced our new brand."



With a substantial order from Rokbak's UK dealer, Molson Group, during the launch event on September 1st — which was viewed by 600 people in 22 countries — this affirmation was virtually instantaneous. Paul has already described how some existing dealers were literally jumping for joy afterwards, and as Jacqueline Reid, Global Director Marketing Communications & Product Management, will reveal in a





forthcoming behind-the-scenes account, some prospect dealers who were uninterested in stocking the Terex Trucks range were very quick to get in touch and become Rokbak dealers.

The public was not shy in making its feelings known either, with thousands of new followers added to Rokbak's social media channels. Rokbak's appearances at UK trade shows attracted enthusiastic reviews from those getting their first real-life glimpses of the revitalised haulers. People were keen to get hold of the new machines, as well as the supporting merchandise, at the Balmoral Show just three weeks after the launch, as well as at Molson Group's Open Days, ScotPlant and Hillhead.

## Supplying demand

Rokbak's very first Sand-coloured machines were delivered to Easton Sales and Rentals and immediately sold to earthmoving, utility and clearing company Linco Construction of Houston. The two RA30s were put straight to work, helping with earthworks, underground utility and clearing work.

By then, orders were flowing in for RA30s and RA40s, with almost all dealers in the US confirming sales within the first couple of months. Over the last year, Rokbak has also seen a big increase in orders from the UK, as well as a high level of interest from France, Indonesia and Australia.

The company's US dealer network, in particular, has enjoyed significant growth over the past year. Determined to offer even greater support to its customers in the booming North American market, Rokbak has prioritised expanding its geographical coverage, initially adding ProSource Machinery in April to provide representation across Colorado and Montana. One month later, State Tractor & Equipment had been appointed to serve Kansas and Missouri, with TraxPlus joining the team in July to cover Louisiana and Mississippi.

## Cross-industry recognition

The rebranding team's hard work was officially recognized – several times – by those outside of the construction equipment industry throughout the year. First came the CeeD Industry Awards in February, then the company took home five Marketing Society Star Awards. And, last but definitely not least, Rokbak received its second consecutive RoSPA Gold Award, which followed on from four consecutive RoSPA Silver Awards, in recognition of its exemplary role in ensuring the health and safety of its employees.

Those employees will shortly be bringing their relatives along to the Motherwell factory for a family fun day as the celebrations continue. And customers and fans have the opportunity to join in with the fun virtually, with exciting content including behind the scenes stories from the team and videos going live on Rokbak's website and social media channels.

"The past year has been an incredible adventure for everyone at Rokbak and I want to thank everyone in our team for their hard work," concludes Paul. "The new name and colour really reinforce the point that our haulers operate on a completely different level now, and our customers have had nothing but praise for them.

"That means our dealers have never been happier, and that in turn has led to a buoyant mood at our factory, with more than 150 new colleagues now in place to support the increased demand. I don't think the expression 'a change will do you good' has ever been more appropriate!"







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## MJ Teale Recycled Sand & Aggregates invest in a new Tyrone International Recycled Aggregate Washing Plant

**The HUB-4 team recently visited this new state-of-the-art plant at their site close to Blackpool.**

Tyrone International have designed, manufactured, and commissioned this new recycled aggregate washing plant which includes a full water treatment system and a large overhead beam press manufactured by Fraccaroli & Balzan.



### About MJ Teale:

MJ Teale is a family run business established for over 50 years. During this time, it has gained a reputation for customer service and quality recycled products for the demolition, construction, and excavation industries.

Their focus is on offering complete material supply management, from collection to recycling and sustainable business solutions adopting sustainable and environmentally responsible recycling practices minimising any environmental impact.



### Problem solving:

MJ Teale was finding that a lot of material coming into their site was not suitable for dry screening and crushing and had to be sent direct to landfill which did not equate with their long-term business model of sustainability and the circular economy.

Looking to future proof their business, increase their production, produce a greater range of products, and have zero

aggregates going to landfill MJ Teale viewed a number of plants and it was suggested that Tyrone International would be the company to engage with and after consultation and numerous site visits Tyrone International were duly awarded the plant contract.

Josh Teale, commented, "Tyrone took us to a previous installation which we were very impressed with and on the basis of the build quality and their knowledge we subsequently gave them the contract to supply and install a turnkey solution.

"In particular, we were impressed by how easy the plant was to maintain. Everything was well laid out and easy to access and the design of the filter press is the most impressive we have ever seen.

"We needed a plant that could meet our current needs for material processing but one that could be easily expanded to increase production in the future. This was achieved by sizing the main components to meet our future requirements and installing a filter press whose capacity could be increased by 30% in the future with the simple addition of more filter plates into the existing frame.

He added, "We were very impressed right from the start and now the plant is running we are even more impressed by the quality of the products and the reliable production capacity!"



### A varied plant feed:

The new recycled aggregate washing plant is processing a combination feed of recycled materials containing anything from 'muckaway' to utility waste, trommel fines and the quantity of sand and the ratio of the sand/silt fraction completely varies in every bucket load going into the plant. However, the plant has been designed to accept a remarkably diverse feed whilst still retaining throughput.

Specified to process 60tph with up to 30% silt in the feed material the plant is currently achieving an average of 70tph and can be increased to 80tph by adding more filter plates to the existing filter press.



## The Tyrone International plant:

Commissioned in June 2022, the recycled aggregate washing plant with a full water treatment system and filter press was designed by Tyrone International to fulfil the processing criteria for the material feed.

The material is based on an all-in aggregate feed, using the customers' existing scalper which scalps off the +50mm with the -50mm being fed up the primary feed conveyor. The plant has been future proofed with the electrical control system and wiring installed to add a fully electric drive scalper next year.

Material passes under a belt magnet and is then fed onto a pre-screen to remove the -5mm sand. The remaining 5-50mm is then fed forward into a twin shaft log washer; a completely new design by Tyrone this incorporates a lot of new design features, including extreme ease of access for maintenance of all parts.

This improved access philosophy is seen throughout the plant and also on the trash and dewatering screen.

Fintan McKeever – Director of Tyrone International, took us through the process, "After passing through the log washer, material is then fed onto a rinsing and sizing screen which removes any sand that has been carried through.

"This gives the stone a final rinse before and utilising a double deck screen to size the material into clean 10/20/40mm aggregate.

Any fine sand from the pre-screen, trash screen and sizing screen is collected in a large sump tank which is situated under the log washer. It is then pumped to a Linatex cyclone which removes the majority of the silt; the underflow of this passes down to one side of a high-frequency dewatering screen which is fitted with spray bars. This washes the fine sand with any remaining silt passing through the deck and into a pump tank situated under the dewatering screen.

From here the fine sand is pumped up through a secondary Linatex cyclone which removes the remainder of the silt with the underflow passing on to the other side of the sand dewatering screen. Coming off the end of the dewatering screen is the facility to blend as much, or as little of the fine sand back into the coarse sand to make any particular grading."

All the trash material, polystyrene, plastics and small pieces of organics, wood exit the top of this cyclone with the silt and then flow by gravity down to a large high-frequency dewatering screen fitted with stainless steel wedge wire. This removes all the +1mm trash material, (keeping it out of the water treatment system); which is then deposited into a large skip.



The silt fraction and the water flow into the centre weir of the thickener tank where flocculent is added. Here the silt particles bind together and settle at the bottom of the thickener where a large rake is situated. Rotating slowly this rake incorporates large ploughs which pull the silt particles towards the centre. Because the ploughs are large a very deep, high-density sludge is achieved.

Fintan, added, "The rake can be raised and lowered to eliminate any issues with blockages and allows full control of the density of the silt. If the silt gets too thick the rake can plough back down through it allowing ultimate control of the density."

A positive displacement pump extracts the sludge out of the centre of the thickener which is then pumped across to a large sludge holding tank where a stirrer keeps the silt in suspension. From here a twin centrifugal pump fills the press and creates the pressure required to force the water out of the sludge through the filter cloths attached to each filter plates.

When the water has filtered out of the cakes in the press the feed pump stops, and the press opens automatically and rapidly discharges ten cakes at a time.

## The Fraccaroli & Balzan (F&B) over beam filter press:

The Fraccaroli & Balzan overhead beam filter press at MJ Teale offers so much more than other presses in the marketplace.

Fintan gave us the facts. "The Fraccaroli & Balzan overhead beam filter press at MJ Teale has 100 - 2 x 2 metre square plates. The capacity can be easily increased in the future by simply adding 30 more filter plates into the existing press frame which gives our customer an inexpensive way to future proof their business and meet increased demand as their business continues to grow."



"The key thing about this press is that the overhead beams sit to the side which allows full access to everything on the top; unlike traditional overhead beams where everything sits in the middle and includes a chain drive mechanism and hooks on the chains to open the plates.

"There are very few wear parts on this press compared to other systems which ultimately results in a lower cost of ownership. On the F&B press, maintenance is super easy as everything sits to the side and there is full access round all sides of the press."

Fintan, continued, "There is a robot mounted on top of the press which has three functions – it opens ten plates and then shakes them and discharges ten plates at a time which other overhead beams do not do, and it also operates the automatic washing system which washes from the top down. This is completely different as alternate systems wash from the bottom up.

"It is an extremely fast system and incorporates a mobile walkway which follows the wash robot to collect the dirty water and return it to the thickener system. The mobile walkway also allows the operator to safely access the filter plates to quickly change the filter cloth when required, whereas on other presses it is more challenging to access everything.

"The whole system is automated, we have full remote access to all the control on the plant so if there are any alarms, operator problems or issues we can remotely dial into the plant and can access all the alarms and the history and can then offer advice to the plant operator as to what he needs to action.

"The whole design philosophy of this plant is making everything as easy as possible, easy to access, easy to maintain, easy to service which has been a total success."

We delivered this plant in the customers' company colours which we think look striking. We would like to sincerely thank MJ Teale for putting their trust in us and look forward to a long working relationship with their team"

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**VEGAPULS 6X, the radar chip would be right at the top. At the sensor's heart, it is the pulsating technology that empowers it to fulfil the highest expectations in terms of precision and reliability. And this is mainly due to its ability to self-monitor during operation, which makes it possible to seamlessly and continually diagnose the sensor performance and its accuracy as a system.**

This technology means it operates in virtually any level application you can think of - from measuring very light hydrocarbons in a storage sphere, high security floating-roof tank levels, to large rocks in a primary crusher. But some critical applications demand more than just 'a reliable measurement', they demand a high degree of safety too.

In light of this, THE 6X has now expanded its capabilities to SIL 2/3 conformance based on its highly comprehensive diagnostic coverage, while also adding in a new level of IT security, too. For SIL applications it has new test options to make verification easier, with the SIL-by-design architecture enabling it to utilise its full internal diagnostics for function testing. And, depending on the method chosen, it can attain a diagnostic coverage of up to 99.1% - a market-leading figure for a non-contact radar level sensor. In view of the increasing digitalisation in industry, another extremely important factor is ensuring effective protection against cyber-attacks. That's why it also offers an I.T. security standard IEC 62443-4-2, which means on your critical safety systems, you can combine both the highest cyber-protection currently established for the process industry with SIL 2/3. As one of the first field devices to do so, you can choose THE 6X when you need safety and security in your level measurement application.

If you want to know more, arrange a training session on this product, or get more information on these latest features contact [info.uk@vega.com](mailto:info.uk@vega.com)



# McLanahan offers Ultra range for your challenges in the construction demolition and recycling industry

**McLanahan has been in business for over 185 years and has been at the forefront of providing processing solutions for a variety of industries, including mineral processing, aggregate processing, agricultural and many others. In recent years, McLanahan has developed a full range of modular wet processing equipment to help with the challenges faced in construction demolition and recycling waste. This includes our Ultra Range - UltraWASH, UltraSCRUB and UltraSAND along with our range of Hydrosizers and Flat Bottom Classifiers. McLanahan is also one of only a few companies that designs and supplies a full range of water treatment and silt processing equipment.**

### **UltraSAND Modular Sand Plants**

With the greater separation efficiency of Hydrocyclones/Separators™, UltraSAND Modular Sand Plants are proven to provide a higher product yield compared to stand-alone processing equipment. Producers can achieve a much lower moisture content from the Dewatering Screen, depending on the characteristics of the sand.

### **UltraSCRUB Modular Scrubbing Plants**

Capable of removing water-soluble materials from the toughest of clays, McLanahan UltraSCRUB Modular Scrubbing Systems provide a flexible washing option for aggregate feeds. Arriving on-site in containerized modules, producers will benefit from the shorter lead times, quick setup and ease of transportation offered by the UltraSCRUB.

### **UltraFINES Modular Fines Recovery Plants**

UltraFINES Modular Fines Recovery Plants are a combination of a Sump, Pump, Hydrocyclones and a Dewatering Screen in a module that is specifically designed to recover fine solids from a wash plant effluent stream. The plant recovers material that is conveyable and stackable. This plant is suitable for multiple industries, including sand, iron ore, coal recovery, ash, industrial sands, frac sand and more. UltraFINES modular

plants recover fine solids to produce a stand-alone product and reduce the amount of solids reporting to the settling pond or downstream equipment.

### **UltraDRY Modular Dewatering Screens**

The UltraDRY Modular Dewatering Screen is quick to set up and can be easily added onto any new or existing equipment. The slow travel speeds of material through the Dewatering Screen allow for longer sand retention, which allow for longer sand retention to yield a consistently drip-free product that is stackable and conveyable.

McLanahan's Dewatering Screens use the highest G-force on the market, which enables them to handle the largest loads. An optional pump add-on can provide ideal water placement for a cleaner product while limiting water usage.

### **EcoPRESS Modular Filter Press Plants**

EcoPRESS Modular Filter Press Plants provide the ability to optimize tailings management with the recovery of clean, reusable process water. The EcoPRESS can address many typical issues associated with fine material processing, including full slurry ponds/tailings dams, high material handling equipment repair costs, limited expansion capabilities, environmental permit restrictions, high waste material handling costs and limited water availability.







While a lot of the material processed within the construction demolition and recycling industry can now be repurposed, one of the main challenges that remains is what to do with the silt that is removed at the end of the process. This is often a true waste material, but many companies continue to search for other uses for this material.

## EcoCYCLE Modular Elevated Thickener Plants

EcoCYCLE Modular Elevated Thickener Plants provide a compact and modular solution for water recycling and sludge handling. EcoCYCLE plants come complete with motor, Pump, floc dosing station, control panel and control cabin.

The biggest challenges that the construction demolition and recycling industry face today can vary from country to country depending on a variety of factors, including local legislation and incentives. In short, many businesses are typically driven by economic incentives; therefore, recycling needs to be more cost effective than sending the material to a landfill.

Other issues associated with the construction demolition and recycling industry are a set of acceptable quality standards for recycled material and its potential uses, e.g., load-bearing concrete. This could be assisted in the upstream sorting process by ensuring a more homogeneous material, such as separating materials like brick and concrete where possible before being processed. An element of this would include design. Many buildings and structures being demolished today were

designed and built decades ago when a recycling plan would have not been in the criteria. The subject of older buildings and structures leads on to another factor to be considered, which is contamination and classification of hazardous substances. Asbestos was commonly used in construction throughout most of the 20th century, and dealing with it still causes challenges to this day.

Given the long and rich history McLanahan has within our chosen industries, we possess world-class expertise when it comes to process engineering and have been providing specialized solutions for decades, e.g., frac sand solutions, specialty leisure sands and more. The fact that McLanahan has expert knowledge of the entire process from material processing through to water management also provides the industry with confidence that McLanahan can provide a complete solution. It is a little-known fact that McLanahan invented the Log Washer and obtained a U.S. patent in 1894. Fast forward to the present day and Log Washers are widely used within the construction and demolition recycling industry.

In order to best serve our customers in the construction demolition and recycling industry, McLanahan gathers as much information to help design the ideal solution. McLanahan takes a holistic approach to the entire process and asks the customer to imagine the worst-case scenario when it comes to processing material so that they will get a solution that is fit for purpose and can cope with any scenario. In addition, every project is treated in isolation to ensure it gets the attention it deserves. McLanahan also has a world-class testing facility to ensure each solution is correct for your challenge.

While there are a number of modular plant solutions available in the market, McLanahan is one of the only companies offering both custom and modular washing solutions. This, combined with years of processing design knowledge, provides unmatched industry expertise in providing the correct solution for your application.

McLanahan Corporation was founded in 1835 in Hollidaysburg, Pa., USA. Today, the company is in its fifth and sixth generations of family ownership with offices that provide local service and support in Asia, Australia and Asia Pacific, Europe, Latin America and North America.







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## Managing Conveyor Belt Carryback

"Carryback" is defined as the material that fails to unload from a conveyor belt, adhering to the belt and typically falling off at some point other than the intended discharge, and it's one of the main sources of fugitive materials, estimated to account for 85% of all conveyor maintenance issues. Accumulation on moving components from dirty belts can cause premature wear and require frequent cleanup, which exposes workers to potential workplace injuries and respiratory diseases.

It can be shown practically and theoretically that a conveyor belt cannot be cleaned 100%, because the surface of the belt and the blades are not without imperfections. However, this doesn't mean operators shouldn't take a proactive approach to keeping the belt clean. Most industries have gravitated to basic mechanical scraping with a metal or elastomeric blade for flat rubber or PVC belting as the best combination of effectiveness, ease of maintenance and low belt wear to yield the lowest cost of ownership.

### Belt Cleaners

Belt cleaning effectiveness varies day to day with changing conditions and the number and type of cleaners applied, as well as the maintenance they receive. Keeping the material in the process is always better than letting it accumulate on components and build up under the conveyor. Without effective belt cleaning, experience has shown that as much as 3% of the total cargo can be lost due to spillage, dust and carryback.

The exposure to hazards and injuries is also reduced when less cleanup is required, saving significant -- but seldom considered -- indirect costs. The key to consistent cleaning effectiveness is to control the process through proper selection, installation, inspection and maintenance of the belt cleaning system and establish a safe cleanup routine and schedule.

The use of multiple mechanical scrapers on a belt has been accepted for quite some time as an effective cleaning approach. In most operations, multiple cleaners are required to reduce the carryback to a safe, acceptable level while limiting manual cleanup to weekly or even monthly tasks.

### Effectiveness vs. Efficiency

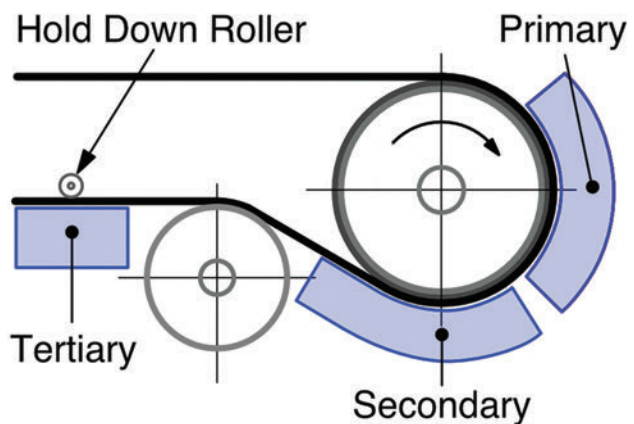
The undulating action of the loaded belt passing over idlers tends to cause fines and moisture to migrate and compact on the surface of the belt. The amount of carryback that clings to the belt can range from a few grams to a few kilograms per square meter. The level of belt cleaning required is a function of the operational schedule and method of collecting / disposing of the carryback that is cleaned from the belt or dislodged by return idlers and collects outside of the conveyor discharge chute.

When discussing the efficiency of a belt cleaner, it's meaningless to talk about efficiency without stating the initial level of carryback. When considering the beginning and ending levels of carryback as a measure of improvement, effectiveness is a better term. Some guidelines do exist. The U.S. Bureau of Mines states that an average of 100 g/m<sup>2</sup> of carryback is a reasonable level of performance for belt cleaning. At this level, a 1200 mm (48-inch) wide belt traveling 2 m/s and operating 24/7 would create a cleanup workload of about 7 tons per day, a significant labor investment that also increases worker exposure to a moving conveyor and the associated risks.

Carryback level determines the cleanup schedule, but in reality, a typical belt cleaner loses effectiveness over time due to wear, lack of inspection and maintenance. On systems with average or poor maintenance, effectiveness values are generally in the range of 40-60%, thus the need for multiple cleaners.

### Cleaning Location

Unfortunately, designers often focus on the lowest installed cost of the structure around the head and snub pulleys, without allowing enough space for optimum cleaner installation. The figure below shows the clear areas needed on a discharge chute for installation of belt cleaners in the optimum positions. The installations should be at an ergonomic height above the work platform to encourage proper inspection and service. Consideration in the design stage for locating cleaners in the optimum locations will lead to more effective inspections, maintenance and belt cleaner performance.



Belt cleaning positions

Belt cleaners can be placed anywhere along the return run of the belt, as long as the belt is supported in some fashion. Since it's desirable for the carryback cleaned from the belt to be returned to the main material flow, most belt cleaners are installed inside the discharge chute. Cleaning on the head pulley -- labeled the 'primary cleaning position' -- is preferred. Cleaning the dirty side of the belt before it reaches a snub, bend pulley or return idlers is considered less desirable, requiring a dribble chute for cleaners in the secondary position.

Typical installation of primary, secondary and tertiary cleaners



The secondary position is complicated by another fact: the nature of carryback is such that it can adhere to vertical

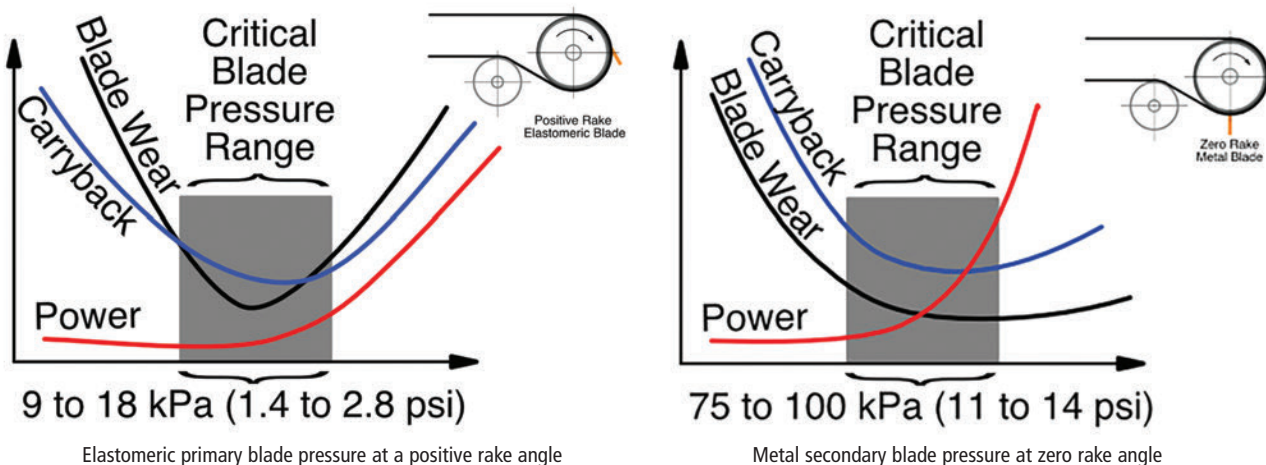


surfaces and not flow down a sloped dribble chute. A tertiary position is sometimes required for difficult materials or critical applications such as conveying over wetlands. In such cases, the tertiary cleaners are often enclosed in a spray box and the effluent directed to a settling basin.

## Belt Cleaning Pressure & Blade Wear

Without enough cleaning pressure, the blade cannot stay in contact with the belt, resulting in poor carryback removal effectiveness and increased blade and belt wear. With too much cleaning pressure, the cleaning performance declines due to deflection of the elastomeric blade or metal blade indentation into the rubber belt. Power consumption also increases dramatically with excessive cleaning pressure.

Keeping a belt cleaner properly tensioned is critical for maximum effectiveness and lowest cost of ownership. The cleaning pressure usually varies over time, based on the maintenance department's attention or lack thereof. Some manufacturers have begun to offer automatic tensioners and wear indicators which maintain the optimum cleaning pressure and alert operators when blades are worn.



Automatic tensioner maintains optimum cleaning pressure without operator intervention.

## Final Thoughts


Many belt cleaner systems are installed and forgotten. A survey of technicians indicated that about 25% of all belts have cleaners installed, and of that percentage only about 25% are properly maintained. Lack of inspection and maintenance results in a gradually lower level of effectiveness, higher operating cost and an increased exposure to the hazards associated with cleaning up carryback.

Effective belt cleaning starts in the design stage, with adequate space for cleaners and well-positioned work platforms for ergonomic inspection and maintenance access. Service-friendly designs improve production, minimizing carryback and prolonging the life of equipment. If the cleaners are located in the optimum positions and easy to access, it is more likely that regular inspection, cleaning and maintenance will be performed, delivering optimum results.



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