



**UNTHA**

shredding technology

The reliable brand!

# REFERENCE BOOK



**COMPETENCE BUILDS TRUST: WASTE SHREDDING SOLUTIONS FROM UNTHA**

## COMPETENCE BUILDS TRUST









UNTHA's positioning promises uncompromising reliability. We consider trust in partnerships as a key to success and we keep our promises 100 %!

This applies to all our products and services. Our customers can rest assured that by opting for UNTHA they have made the best and most sustainable decision.

We have been a reliable and competent partner in the shredding industry for more than 40 years. Based on the latest technologies and with the help of our highly qualified staff, we develop and produce innovative and tailored shredding solutions for waste shredding and RDF/SRF production. Our every thought and action revolve around our customers and markets.

We provide outstanding products and services of the highest quality and reliability and are therefore able to strengthen our customers' market position.

### APPLICATIONS:

-  Industrial and commercial waste
-  Domestic waste
-  Bulky waste
-  Waste wood
-  Pulper ropes
-  Production waste
-  Plastic bales
-  and many more



**TR**



**XR3000 mobil·e**



**XR**



**SYSTEM SOLUTION**

### DEAR READER,

With more than 40 years shredding experience, we could talk for hours about the projects that UNTHA has tackled since the business was first established. But some of our most exciting achievements have actually occurred in the past months alone.

It is during this time that our reputation for manufacturing best-in-class waste to energy systems has really grown. We have now sold the iconic XR waste shredder to dozens of clients worldwide, in countries including Austria, Germany, France, the UK, Ireland, Finland, Poland, Turkey, Portugal, Mexico, the USA, South Korea and Vietnam.

These projects see the XR – renowned as one of the most flexible waste shredders on the market – processing Municipal Solid Waste (MSW), Commercial & Industrial waste, production waste, bulky waste, wood and pulper ropes, to name just a few applications. In some instances the technology is acting as a robust pre shredder, whereas on other sites it provides a single-step shredding solution for alternative fuel production, e.g. biomass, RDF or SRF.

At the same time, our TR secondary shredder has continued to provide the answer to particularly challenging waste management scenarios in all corners of the globe. With the pioneering Eco-Drive concept, this technology is as well known for its energy efficiency and environmental robustness, as it is its performance.

The versatility of these machines is all part of UNTHA's commitment to wholly satisfy clients' WtE requirements,

however complex. We can even supply auxiliary equipment such as conveyors, over-belt magnets, fire suppression technology and eddy current separators, to give our customers a turnkey package from one trusted supplier.

As you can see, it's been a very exciting time in our business unit. And, with so much to talk about, it's hard to condense everything into one publication. However, we've chosen a selection of interesting highlights that hopefully indicate just what our waste shredding solutions are capable of. If you have any further questions, please don't hesitate to contact us.

Enjoy reading!



*Peter Streinik*

Peter Streinik  
Head of  
Business Unit Waste



*Christian Lanner*

Christian Lanner  
Technical Director  
Business Unit Waste





Country: Vietnam  
Input-Material: Footware waste  
Throughput: 10 t/h < 80 mm  
Scope of delivery: XR3000C with frequency inverter, control cabinet room, horizontal conveyor belt, elevating conveyor belt, overband magnet, fire supression system

“The XR3000C is in operation in Hon Chong Plant since September 2015. We are using this machine to produce alternative fuel out of waste from shoe factories all over South of Vietnam which consists out of rubber, leather and other textiles. This material has a very high caloric value, but is one of the most difficult materials to shred. Even though this is such a tough application, we can operate the machine almost 24/7 with very easy and simple weekly maintenance.”

*Truong Xuan Bon (Operations Manager)*



Country: Germany  
Input-Material: Industrial and household waste  
Throughput: 60 t/h < 200 mm  
Scope of delivery: XR3000R with frequency inverter, control cabinet room

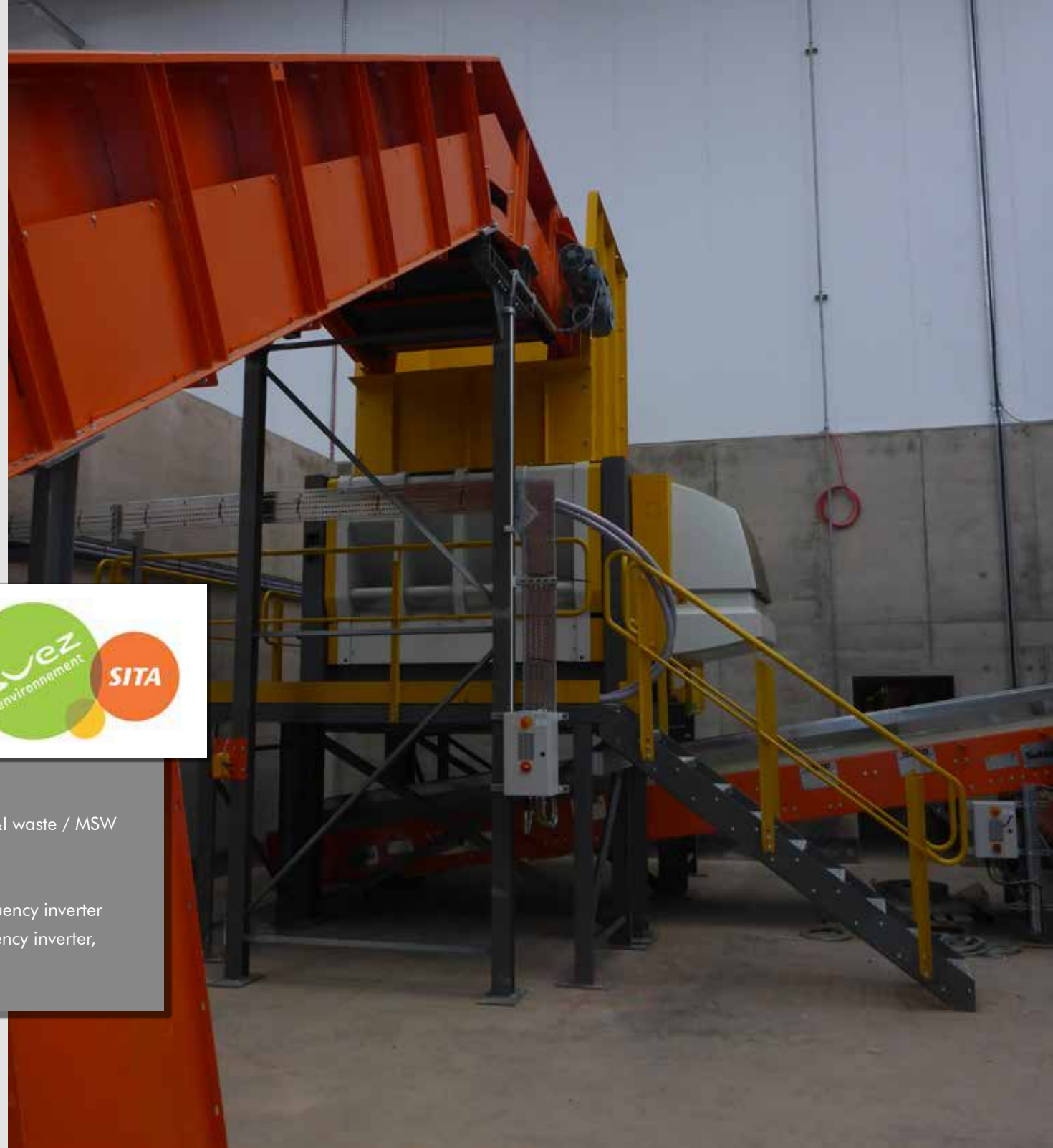


“In view of the required installation situation, the compact design of the XR3000R was a decisive factor for us. Moreover, we were impressed by its high throughput performance, with a constant particle size guaranteed over the entire wear period. The XR3000R also enables a targeted improvement in maintenance and upkeep, and guarantees the required high system availability”.

*Markus Frank (Plant Manager)*



Country: UK  
Input-Material pre-shredder: C&I waste / MSW  
Input-Material post-shredder: Light fraction out of C&I waste / MSW  
Throughput pre-shredder: 6 t/h < 200 mm  
Throughput post-shredder: 3 x 12t/h < 30 mm  
Scope of delivery: 1 x XR2000R with frequency inverter  
3 x TR3200 with frequency inverter,  
fire supression system





Country: South Korea  
Input-Material: pre-treated mixture of light fraction from MSW, C&I and C&D waste  
Throughput: 10 t/h < 50 mm  
Scope of delivery: XR3000C with frequency inverter, control cabinet room



“Our family-run business is incredibly passionate about renewable energy, from solar power to alternative fuel production. Now that our new SRF plant is up and running, with state-of-the-art configurable technology in place, the next step is to investigate relationships with different customers. We can satisfy varied specifications, and look forward to improving South Korea’s resource agenda.”  
Geumju Kim (President)



*Saubermacher*

Country: Austria  
Input-Material: C&I waste  
Throughput: 25 t/h < 80 mm  
Scope of delivery: XR3000C with frequency inverter,  
control cabinet room, fire suppression system,  
horizontal conveyor belt, elevating conveyor belt

“When investing in our single-step shredding process, the machine’s resilience against ‘unshreddable’ items was key. We’re primarily processing bulky and commercial waste which means, on average, we’re encountering one large foreign object per hour. We needed the confidence that our new machine could cope with this, without impacting on our uptime or maintenance schedule.

What is also striking about the UNTHA XR3000C is its energy-efficient drive concept. We had read and heard lots about it, so our expectations were high. However, we have not been disappointed. We have significantly reduced our power consumption in comparison to our previous shredder.”

*Wolfgang Kremsl (Head of Investment and Technology International)*

Country: Austria  
Input-Material: MSW, C&I waste, bulky waste  
Throughput: 15 t/h < 200 mm (Bulky waste)  
20 t/h < 200 mm (C&I)  
30 t/h < 200 mm (MSW)  
Scope of delivery: XR3000R with frequency inverter



"Clever and reliable solutions like the XR series are the most economical on the long run..."  
Johann Handler (Site Manager)



Country: Honduras  
Input-Material: Industrial waste  
Throughput: 7 t/h < 50 mm  
Scope of delivery: XR3000C with frequency inverter



“The decision was well studied and it was the result of a consensus amongst professionals from different areas of the plant after comparing the technical specifications, the shredding principle, the technological innovations, the efficiency in energy consumption, the after sales technical service assistance and out of all the evaluated brands we chose UNTHA as it truly fulfilled with these requirements and above all for the human warmth of the attention in our own language.”

*Jorge Alberto De Jesus Bueso (Head of Environmental Management and Alternate Fuels)*



Country: USA  
Input-Material: C&I waste  
Throughput: 8 t/h < 60 mm  
Scope of delivery: XR2000C with frequency inverter, control cabinet room, horizontal conveyor belt, elevating conveyor belt, overband magnet, fire supression system



„We selected the XR2000 because the slow speed design was suitable for our application. In addition, as we compared several alternatives, we liked the efficient power consumption, the robust construction of the system and the easy access for maintenance.“

*Alan Greer (Business Manager)*



Country: Germany  
Input-Material: Waste wood  
Throughput: 35 t/h < 120 mm  
Scope of delivery: XR3000C mobil-e



„This UNTHA technology makes us 70 % more economical than if we were using diesel power and 30 % more economical than the conventional star-delta drive. The low speed nature of this shredding system also keeps the noise of our pellet production at a very low level, as well as producing a very low amount of fine particles.“  
Thomas Breitsamer (Managing Director)



Country: Austria  
Input-Material: Wood waste and C&I waste  
Throughput: 15 t/h < 80 mm (C&I waste), 32 t/h < 100 mm  
Scope of delivery: XR3000C mobil-e

“We have the first UNTHA XR mobil-e in operation in Austria. The shredder can handle different materials at two different locations on the premises. In contrast to conventional diesel-powered shredders which – in addition to creating a high level of noise emission – result in disproportionately high pollutant emissions, the XR mobil-e shredder runs purely on electricity and is almost carbon neutral, as the electricity comes from 100 % renewable energy sources. That means we have taken another important step towards reducing carbon dioxide emissions!”

*Johann Struber (Managing Director)*



Country: USA  
Input-Material: Automotive carpets  
Throughput: 4 t/h < 60 mm  
Scope of delivery: XR3000C with frequency inverter,  
control cabinet room



“We required a machine that maintained consistent throughput, was inexpensive to maintain, and was designed with safety in mind. The XR3000C fulfilled all of these requirements. The slow rotor speed reduces the potential for frictional heat build-up in the material while still maintaining ample throughput. The robust wear parts are extremely forgiving to foreign material which inevitably finds its way into our pre-shredded material. The machine parameters are customized easily, allowing us to adapt the shredder quickly to different types of materials that need processing. I also can't say enough about the service UNTHA provided during the installation and after the shredder was commissioned. The service staff is extremely knowledgeable and is truly a partner after the sale and will go out of their way to make sure the shredder is meeting your expectations.”

*Adam McAnally (Operations Supervisor)*



Country: Belgium  
Input-Material: Ppulper ropes  
Throughput: 5 t/h < 50 mm  
Scope of delivery: XR3000C with frequency inverter,  
horizontal conveyor belt, control cabinet room  
elevating conveyor belt, overband magnet



"We were looking for an on site solution for the treatment of our pulper residues, a difficult to handle mixture of waste plastics wrapped around steel cables. After an extensive comparison of different potential machines we chose for the UNTHA XR3000C. Important criteria were the capacity, low speed and high torque and an acceptable maintenance cost. The project, apart from the shredder, consisted also of peripheral equipment such as conveyors and metal/plastics separation. It was engineered and delivered in an efficient and correct way with a very satisfying result."  
*Johan Dhaese (Group Energy & Environment)*

Country: South Korea  
Input-Material: pre-treated mixture of light fraction from MSW, C&I and C&D waste  
Throughput: 13 t/h < 50 mm  
Scope of delivery: XR3000C with frequency inverter control cabinet room

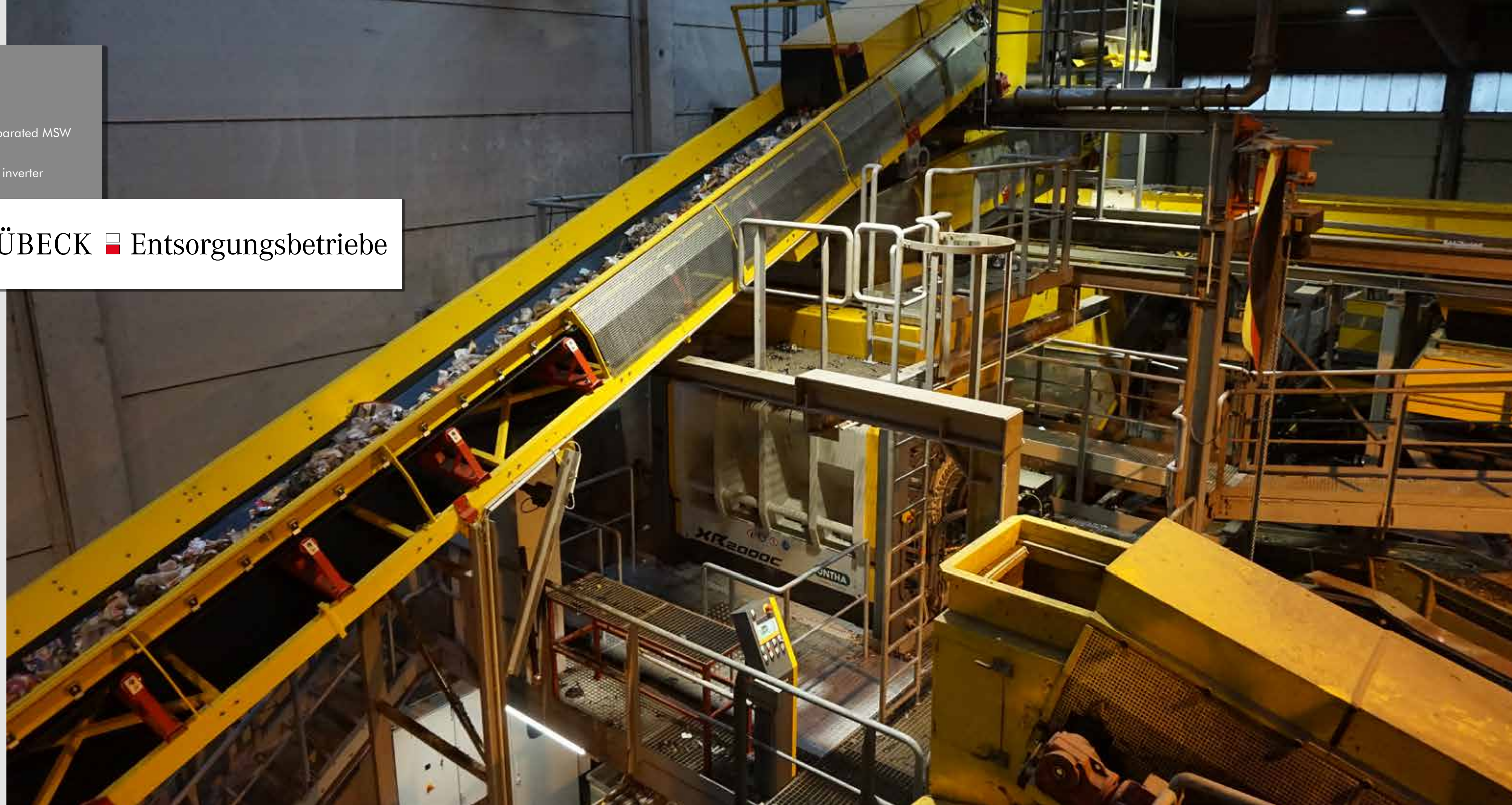
**PERITUS**  
EQUIPMENT



“The reason why we choose UNTHA is clear: The XR has high throughput and is a strong machine against foreign objects. Another positive aspect is the simpler process line comparing to high speed machine.”  
Sang-Min Han (Director)

Country: Germany  
Input-Material: pre-shredded, screened,  
FE-separated and air-separated MSW  
Throughput: 20 t/h < 150 mm  
Scope of delivery: XR2000C with frequency inverter

## LÜBECK Entsorgungsbetriebe

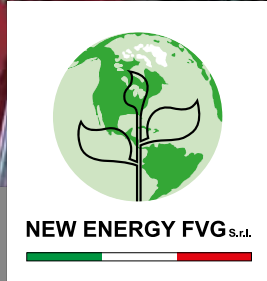


“The management of the entire project of exchanging our 12-year-old post-shredder by an UNTHA XR2000C for our bio-mechanical treatment plant (MBA Lübeck) by UNTHA as the general contractor worked out very well.

The downtime of the entire plant was reduced to a minimum thanks to the detailed project management so that we could put the plant back into operation very quickly.”

*Matthias Benthien (Plant Manager)*





Country: Italy  
 Scope of delivery: XR3000C mobil-e,  
 XR3000C with frequency inverter

XR3000C mobil-e  
 Input-Material: pre-shredded, screened, FE-separated  
 and air-separated MSW in bales  
 Throughput: 25 t/h < 100 mm

XR3000C  
 Input-Material: pre-shredded, screened, FE-separated  
 and air-separated MSW  
 Throughput: 15 t/h < 40mm



„This mobile machine was one of the best investments in our plants in the past few years. We can shred our material precisely to the required output size, all in a single step. The power consumption is very low and our staff has fun working on the machine: It is extremely quiet and simply very convenient and easy to maintain. For future projects at other sites, this mobile machine can be transported and taken into operation very quickly. This significantly facilitates our growth plans. For this reason, the decision to expand

our plant by a second stationary machine was more than adequate. We can leverage all the mentioned benefits and produce a precise and small output size of 30 or 40 mm on a slow-running machine. The fact that these two machines are identical in their operation and wear and spare parts as well as their maintenance is a huge benefit for us. The team from Ecotec Solution is always available and of excellent assistance. We are very happy with both the machine and the service!“  
 Paolo Bonacina (Owner)



**LOGICA**  
Riciclaggio Inerti s.r.l.  
Recupero e smaltimento rifiuti

Country:	Italy
Input-Material:	Industrial waste, bulky waste and rolled material
Throughput:	12 t/h < 80 mm
Scope of delivery:	XR3000C mobil-e

“We had been looking for a sturdy machine which would be able to shred our tough material to 80 mm in a single step. The tests run with our own material convinced us of the shredder’s efficiency. Furthermore we were very satisfied with the precise output grain size. Finally we opted for the mobile version of the UNTHA XR3000C as it assures a certain flexibility and - when necessary - allows a fast adjusting. The shredder’s special configuration for tough applications also opens doors for new materials, e.g. the shredding of pulper ropes etc.”

Roberto Tassi (Owner)



Country: Germany  
Input-Material: C&I waste  
Throughput: 17 t/h < 120 mm  
Scope of delivery: XR3000C with frequency inverter, horizontal conveyor belt, elevating conveyor belt, control cabinet room



„We were very impressed with the low electrical power consumption of the XR, which measured just 105kWh even with such high capacity. In fact, the energy efficiency made the switch to UNTHA easy. Whilst the XR has the same sized motor as our previous machine, we now have a bigger shredder with higher throughputs, but we haven't had to invest in a new power line or incur increased energy costs. This new technology is better for the environment too!“  
Johannes Lober (Company Owner)



Country: México  
Input Material: Pre treated C&I waste  
Throughput: 13 t/h < 70 mm  
Scope of delivery: XR3000C with frequency inverter, control cabinet room, horizontal conveyor belt, elevating conveyor belt, overband magnet

“As the market leader in environmental solutions in Latin America, Promotora Ambiental is bound to continue developing projects and innovative trends in the sustainability sector. Our RDF project (Refuse Derived Fuel) in Mexico is ambitious, unique and innovative. To develop it we required the help of key partners and leaders, committed to excellency and continuous improvement. In addition to that, customer service is a key factor for a successful project completion, implementation and startup for Promotora Ambiental. In all periods of this important project, UNTHA has proven to have all these qualities.”  
*Alfonso Perez y Tellez (International COO & Strategic Development Director)*



Country: UK  
 Input-Material: Pre-treated medical waste  
 Throughput: 10 t/h < 30 mm  
 Scope of delivery: XR3000C with frequency inverter, control cabinet room, horizontal conveyor belt, elevating conveyor belt, overband magnet, fire suppression system

“We went with UNTHA because we thought they offered the most professional approach. We had conversations with various manufacturers but UNTHA gave the best interrogation in terms of input material, output speeds and the final product.

The UNTHA system gives us the ability to take multiple inputs, whether that is pre-shredded material or rigid material – it’s all treated the same. We get a nice reliable throughput. And of course there’s the brand name and the fact that UNTHA is renowned for having very reliable kit. The initial support has been fantastic and the ongoing support has been really good. I can’t speak highly enough of the team.”

*Steve Kinley (Group Recycling Director)*



Country: France  
Input-Material: C&I waste, bulky waste  
Throughput: 15 t/h < 300 mm  
Scope of delivery: XR3000R with frequency inverter, control cabinet room



“So, when we saw the shredder’s specification on paper this wasn’t enough. We therefore travelled to UNTHA’s Austrian headquarters to watch the XR Ripper in action. During trials, the machine certainly surpassed our throughput expectations, demonstrating impressive robustness and uptime too. We were also very impressed with the low energy consumption of this modern technology. We now have a machine that will support our plant’s performance whilst upholding our commitment to the environment.”  
*Eric Bourgade (Production Manager)*



Country: Austria  
Input-Material: C&I waste  
Throughput: 20 t/h < 80 mm  
Scope of delivery: XR3000C mobil-e

“Operating the machine is easy as ABC and the maintenance procedures are very well described. You always know what you are dealing with and where you belong. The UNTHA team always have time for our concerns, we get information immediately and the spare parts are quickly available.”  
*Niki Stipits (Technical Managing Director)*



Country: Italy  
 Input-Material: Different solid waste, partial bales  
 Throughput: 25 t/h < 100 mm and 10 t/h < 40 mm  
 Scope of delivery: XR3000C mobil-e



“Thanks to the demo machine supplied by Ecotec Solution, we could put the machine to the test for one week on our own premises. My staff fell in love with the machine and the entire concept at first sight. Today, I would by no means want to give up on the UNTHA XR3000C mobil-e. The shredder distinguishes itself by its enormous flexibility. Thanks to its screen quick-change system we can adapt our output size in a very short time and easily serve diverse distribution channels for our materials. Additionally, the cutting system is simply unique. High throughputs with astonishingly low wear give us a competitive advantage on a daily basis. The possibility to buy the machine via a favourable financing model from Ecotec Solution made our investment easier.”

Luciano Porcarelli (Owner)





Country: Italy  
Input-Material: Pre-shredded, screened, FE-separated and air-separated MSW  
Throughput: 25 t/h < 100 mm  
Scope of delivery: XR3000C with frequency inverter

„We have opted for the UNTHA XR3000C because we received very positive feedback from other plants. The considerable savings in energy costs and low wear costs were decisive for our investment.

Furthermore, this innovative slow-running shredder offers the possibility of flexibly and precisely producing smaller output sizes in future. We were very happy with the excellent counselling, planning and installation by the Italian sales partner Ecotec Solution.“

Pierpaolo Lombardi (General manager)





Otto - Rüdiger Schulze  
Holz- und Baustoffrecycling GmbH & Co. KG  
Entsorgungsfachbetrieb

Country:	Germany
Input-Material:	C&I waste
Throughput:	25 t/h < 120 mm (screen bar)
Scope of delivery:	XR3000C with frequency inverter, control cabinet room

"We put the XR3000C to comprehensive tests for a certain period of time before purchasing it and were impressed with the shredding machine's performance.

Compared to our previous machine, this investment in an XR3000C lead to a considerable improvement in the separation of materials, which has a positive effect on our downstream plant equipment. On top of that, we could achieve enormous savings in the consumption of energy without the slightest reduction in throughput."

*André Rabeus (Plant manager ORS)*



Country: Spain  
Input-Material: C&I waste  
Throughput: 12 t/h < 50 mm  
Scope of delivery: XR3000C mobil-e



„Madegan, S.A. made the decision of purchasing an UNTHA XR3000C mobil-e shredder after several years of evaluation of the international market of waste shredding machinery. During those years of evaluation MADEGAN visited more than a dozen waste management facilities where most of the machine brands and models available in the market were checked. UNTHA was one of the last brands to be evaluated and we were surprised to discover an efficient, robust and mobile shredding machine capable of achieving 30 mm particle size in a single step shredding process whilst the rest of the brands needed two machines for the same process.“

*Alberto Magan Cabañes (Managing Director)*



Country:	Finland
Inputmaterial pre-shredders:	MSW
Inputmaterial post-shredders:	Pre-shredded and screened MSW
Throughput pre-shredders:	2 x 41 t/h < 110 mm
Throughput post-shredders:	2 x 16,5 t/h < 80 mm
Scope of delivery:	2 x XR3000R with frequency inverter 2 x XR3000C with frequency inverter



“Based on evaluation of many different parameters like energy consumption, shredding capacity, power connection and maintainability UNTHA’s technology was best scored and chosen for this plant application. Also feedback and experience from our previous project from UNTHA’s machines has been excellent in operation and project execution point of view. Therefore it was quite easy to make decision and choose UNTHA.”  
Olli Ryymin (Project Manager)



Country:	UK
Input-Material pre-shredder:	MSW
Input-Material post-shredder:	Light fraction out of MSW
Throughput pre-shredder:	30 t/h < 250 mm
Throughput post-shredders:	2 x 12 t/h < 30 mm
Scope of delivery:	XR2000S with frequency inverter 2 x TR3200 with frequency inverter



“When searching for shredding technology to process MSW residue, we had two manufacturers to consider, both claiming to have the most innovative machinery in the marketplace.

We chose two UNTHA TR shredders because they are packed full of functionality, yet they’re so easy to operate. We’ve not been disappointed. In addition to operational simplicity we have an abundance of data at our fingertips, meaning we can optimise our plant and if anything needs to be tweaked or fixed, we know where to focus our attention. Even though the quality of our input material has changed, our throughput has not been adversely affected. We’re still processing 12 tonnes per hour, per shredder, 10 hours a day, so in this respect the TRs are actually exceeding our performance expectations! UNTHA UK’s promises have been fulfilled – with a maintenance programme in place the machines are performing how we were told they would and they are now well-placed to play a crucial role in our continued SRF production for the cement industry.

The knowledge, experience and helpfulness of UNTHA UK really added value to our project. The team will surely prove an important asset for other companies looking to invest in shredding technology.”

*Jim Entwisle (Director, Lancashire Waste)*



Country: UK  
 Input-Material: MSW, C&I and bulky waste  
 Throughput: The XR3000C was installed to size reduce to < 300 mm to ensure maximum recovery of high value plastics and fibre using Tomra NIR's. Recovery rates are as high as 98 % purity with fines from the shredder < 5 % with a throughput matched to the plant of 10 TPH although the shredder can produce 20 to 25 TPH of low density DMR (Dry Mixed Recyclables) to a bunker feed system to dose at a fixed rate into the plant .  
 Scope of delivery: XR3000C with frequency inverter

"Most modern business investments are made with at least one eye on 'what's next'. So, the knowledge that we are future proofed with this shredder – thanks to its ability to produce a refined RDF or even high quality SRF should we want to – offers important peace of mind at this crucial expansion point for our firm."  
 David Pass (Managing Director)



**UNTHA**

shredding technology

The reliable brand!



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