Komptech offers the Maxx 518 in a special edition designed specifically to take SM 518 screen drums. This gives a tough, powerful machine with practical features that can handle almost any screening job.

For more information see www.komptech.com
Or send a non-binding inquiry to info@komptech.com
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A GREAT START

New-generation Axtor 4510 and 6210 machines have been going out to customers since the autumn of last year. Compact and versatile – those were the development targets. The great demand in Europe and internationally confirms that this new design hits the mark. >>
The Axtor is a high-speed wood shredder / chipper whose first generation was already very well received by customers thanks to its high versatility. The new generation has been available since the end of last year, and combines many proven features with new ones. One important change is the compact design, which is noticeably different from the predecessor model, along with the attractive value for money. Almost every week Axtors leave our plant to go to new owners, not just in our home markets, but to our great satisfaction also in new markets.

AN ATTRACTIVE PACKAGE
Whether composter, biomass or waste wood processor, specialist or generalist service provider, every user can benefit from the advantages of the new Axtor. One welcome improvement is the new lower loading edge, which makes loading easy and improves visibility. The aggressive intake gives good material feed to the heart of the machine, the shredding or chipping drum. This drum is the basis for the versatility of the Axtor. Its fast blade change lets users configure it for the intended use, to get high throughput and optimum output quality in all applications. The one-piece adjustable speed conveyor can go up to a discharge height of 4.5 m, for simple and direct loading onto trucks.

POWER AS NEEDED
The Axtor is offered in two power levels, both of which use CAT diesel engines. Naturally both engines meet Stage V emissions requirements. The Axtor 4510 entry model has 456 hp and is configured fully equipped as a two-axle trailer. The optional tracked chassis gives it great on-site manoeuvrability. Although it has the same basic design and dimensions, the Axtor 6210 is a step up in power. With 585 hp engine power, throughput of 300 cubic metres and more is not uncommon. The additional performance brings with it higher overall weight, so the 6210 comes on a three-axle trailer.
CHIPPING AND SHREDDING – FLEXIBLE AND FAST CONVERSION
Conversion from shredder to chipper is fast and simple. In about half a day, the free-swinging blades can be replaced with fixed mountings and precision chipping blades or tough shredder blades. Conversion with fixed teeth is even faster – it takes just three hours or less to switch from shredder to chipper blades. If two people do the work, it naturally goes twice as fast.

WELL THOUGHT OUT, WELL EXECUTED
Komptech put customer needs first in upgrading the Axtor series. For example, outstanding maintenance access is provided by the hydraulically raised engine cover and the roomy service platform with integrated folded ladder. Other highly practical features are the massive sectional steel belt intake system, the continuous discharge conveyor and the hydraulic tilt hopper. Avoidance of leakage during material transport, tough components and clever details that make work go smoothly on-site – it all adds up to more productivity.

NEW CHIPPING DRUM OPTION
A special chipping drum makes the Axtor a full-blooded chipper. Massive chipping blades, wide adjustment range of the advance, and a full selection of screen baskets leave nothing to be desired in terms of the grain and quality of the chips.
PRACTICE

A TURNAROUND WITH A TERMINATOR
For the CEO of a waste disposal company, Billeye Rabbe has a slightly unusual resume. She started her professional career as a Home Economics teacher. Yes, that’s right, she taught students to cook and sew. In 1990, while working for the University of Minnesota, she came into contact with Prairieland Solid Waste Management. Her specialization with the University was Environment and Natural Resources, and she became aware that there was no one offering education on the solid waste treatment done by the Prairieland facility. Through her job with the University, she was able to provide that component for the counties served by Prairieland. It was this connection and the resulting trust that led to her being hired in 2013 to solve the company’s business problems and get it back on a sound footing. Billeye has no problems as a woman in this male-dominated field. “I come from a farming background and can keep up. I’ve had all the training needed to use all of our equipment, and I have no problem getting my hands dirty,” she says with a grin.
A TURNAROUND IN MANY AREAS
When Billeye took on management of the Prairieland Solid Waste Facility, the company was deep in the red, and getting deeper every month. A precise cost analysis showed where the losses came from. The energy costs were way too high, so the lighting and ventilation in all areas were upgraded, and with other changes the annual electricity bill went from $165,000 in 2013 to $30,000 in 2019. Furthermore, frequent breakdowns of the company’s machine park occasioned maintenance and repair costs of several thousand dollars monthly. This was a problem that could only be solved by an investment in a new shredder.

MASSIVE COST SAVINGS WITH THE TERMINATOR
The choice went to a machine from Komptech – the Terminator 6000 SD with XXF shredding unit. It’s designed to turn out a very high quality of material. “That makes all the difference in our business,” explains Billeye Rabbe. “Now we can make market-ready RDF in just a single step.” This refuse derived fuel is a mixture of shredded waste of various fractions with high caloric value. “Thanks to the Terminator we don’t need to do a second shredding run, which saves us a tremendous amount from the reduced energy and maintenance costs alone,” says Billeye, adding, “Getting a new shredder was the single step that gave us the greatest cost savings in our entire upgrading process.”

OVER 90% MAXIMUM RECLAMATION QUOTA
With the help of the Terminator, Prairieland Solid Waste Facility turns 90+ percent of the material it gets –
household, bulky and commercial waste – into RDF that is used to generate energy in a nearby power plant. The remaining 10 percent consists of contrary-heavy material that cannot be reclaimed, and so is landfilled.

>>> 

The greatest cost savings came with the Terminator.
Billeye Rabbe

Previously household waste was composted, but now it is used to make a high-caloric fuel.

All the important functions of the Terminator can be accessed immediately by remote control.

With the caterpillar track chassis the Terminator can always be right where it’s needed.
GOOD NUMBERS AND A GOOD FEELING

“For a successful company in our industry, it’s very important to have a high-performance machine park with a supplier you can depend on,” says Billeye confidently. Hennen Equipment, Komptech’s sales and service partner for Minnesota, made a good impression. “We had terrible problems with our old shredding machine, so we went looking for alternatives. After brief research we found Hennen Equipment. When we contacted them Brad Kiecker, the responsible sales rep, called us back the same day to set up a meeting. Within a week he set up a machine demo at our site, and made a proposal for a Terminator 6000 SD plus taking back our old machine,” says Billeye. She praises the customer focus and commitment of owner
Keith Hennen. Billeye also has good things to say about her team at the Prairieland Solid Waste Facility. “This turnaround isn’t all about me. Our Plant Supervisor Nick, Fritz has made a tremendous difference here. The whole team is very important. You have to have the right people and the support of the Board of Directors.” She’ll continue to count on them for the next year or two until she enters her well-deserved retirement, after handing over the company with good numbers and a good feeling.
Komptech is a leader in diesel-electric mobile machines. For years many of its star and drum screens have used hybrid power, with the current for the motors coming either from the electric grid or an onboard diesel generator. With a new power design for the Terminator and Crambo, we are now bringing the benefits of hybrid power to mobile shredders as well.

**TERMINATOR & CRAMBO E-MOBILE**

“e-mobile” stands for the semi-mobile electric versions of the familiar low-speed shredders from Komptech. In them the hydraulic system is powered by an electric motor instead of a diesel engine. For the motors we used the same power classes as in the stationary machines. 160 kW are available on the 3400, and 200 kW for the 5000 version. The panels and access to the motor compartment are almost identical to the diesel versions. However, the interior components are quite different – an electric motor and an encapsulated circuit.
cabinet to protection class IP54, that can easily resist any amount of dust as well as high outside temperatures. Energy is supplied by the local grid. Plugging and unplugging are done with a clever system that separates the power cable into separate phase cables. The machines come with an electronic main switch as standard.

THE ADVANTAGES IN BRIEF

The benefits of e-mobile design are obvious – users get high-efficiency machines that produce no exhaust, are much quieter and have much lower energy and maintenance costs than their diesel-powered relatives. The road-mobile hook-lift or 3-axle trailer versions also allow simple transportation for use at different locations. Thus, the e-mobile shredders combine the benefits of electric power, formerly available only on stationary machines, with the flexibility of mobile machines.
Tohsen Co., Ltd., a leading Japanese sawmill company, works to make the fullest possible use of wood as a resource. It’s good for business, good for the environment, and good for the local economy.

Tochigi Prefecture on Honshu is famous for the world-famous Nikko Toshogu Shinto shrine, delicious strawberries, hot springs and high-quality domestic lumber. Tochigi has 350,000 hectares of forest, covering 54% of the prefecture’s area, of which 120,000 hectares consist of coniferous plantations. Timber production is an important industry in the prefecture, totalling around 490,000 m³ annually, of which 90% is processed into board and beam lumber in sawmills.

Tohsen Co., Ltd. and its enterprise group operate almost 30 sawmills in eastern Japan and has 340 employees. It processes over 330,000 m³ of timber a year, the third largest amount of any company in Japan and the largest in terms of domestic timber. The management at Tohsen is committed to making the fullest possible use of wood resources, and recognized the synergies between forestry and energy generation before any other company in the region.

SUCCESS THROUGH A UNIQUE STRATEGY

In 1964, Mr. Seigo Tohsen established Tohsen Sawmill Company Limited with just one sawmill. His son Seiju Tohsen is the current Managing Director of Tohsen Co., Ltd., and even as a high-schooler assisted his father in managing the young company. The Tohsen Sawmill was a late arrival in an era when the sawmill business in Japan was flourishing, so creativity and effort were needed in order to source enough timber stock. Mr. Tohsen skilfully processed small-diameter and

Axto 6010 creates fuel for electricity and heat generation from wood that doesn’t come up to board quality.
low-quality trees, and made his business profitable from the resulting wood chips and sawdust by-products. This strategy hasn’t changed to this day. In the 1970s, when price-competitive lumber from abroad started to arrive in Japan and put many domestic Japanese producers out of business, the strategy enabled Tohsen to survive and grow. Through mergers and alliances with struggling sawmills and other firms in the region, Tohsen developed its own business model. Smaller local factories do the parts of lumber production where they have special capabilities, and supply their semi-finished products to Tohsen for further processing. This minimizes logistics costs, while securing a stable supply of timber. Tohsen also invested in kiln drying facilities in order to compete against foreign lumber.

THE JAPANESE BIOMASS PIONEER
As a careful observer of the biomass upswing in Austria and Germany, Seiju Tohsen anticipated and strategized for the forthcoming biomass era in Japan earlier than his competitors. The “Enerfore 50” concept, involving sawmill and cogeneration power plant not more than 50 kilometres apart, aims to achieve the fullest possible use of local forest resources for lumber production, electricity and heat generation. The highest quality trees are used for solid sawn lumber, the second quality ones are used for laminated wood, and the residue and bark are chipped for use as biomass fuel while the excess heat goes to greenhouses. In this way, each forest resource can be used with maximum efficiency. Tohsen takes in wood of any quality and utilizes it to the fullest benefit. The concept has been successful and business is growing. “But that is no reason to sit back and relax,” says Seiju Tohsen. “My work is interesting, and I love challenges. My goal is to increase the ratio of domestic over foreign timber, and to expand the philosophy of Enerfore.”

INVESTMENT IN A SUSTAINABLE WOOD ECONOMY
Currently the company has five machines, which it sourced from Ryuokusan, the Japanese Komptech partner, including an Axtor 6010 and a Multistar S3. The chipper makes quality chips, while the star screen processes the bark. It removes contamination by bouncing the material along its screen deck, so the bark can be used as fuel.

In addition to modern machinery, Tohsen is investing in the sustainable use of forestry resources. It purchases and manages mountain woodland to secure it for future use. To impart the necessary knowledge, the company founded the Forest Business College to provide training and support for forestry workers. “We want to re-energize the local forestry industry and create new jobs,” explains Seiju Tohsen. “This can revitalize the entire region, and to accomplish that I am happy to devote not just my working hours, but also my personal time.”

INVESTMENT IN A SUSTAINABLE WOOD ECONOMY
Øvre Romerike Avfallsselskap IKS and Agder Renovasjon IKS are just two of many municipal companies in Norway that have used Komptech machines in waste treatment for over ten years. Komptech Area Sales Manager Christian Kulmer visited them to find out why Komptech machines and technologies are so popular with municipal operators here. At 385,000 km² Norway is slightly larger than Germany in area, while population density is a low 17 people per km². But in waste treatment, especially recycling, Norway is right up there with the leaders. It recycles the maximum amount of valuable raw materials, and most of what remains is used for heat and electricity generation. Norway has 356 municipalities. Due to the low population density, it is common for several of these to join up to form an “interkommunalt selskap”, or IKS, that handles waste disposal jointly. Øvre Romerike Avfallsselskap IKS (ØRAS) and Agder Renovasjon IKS, which Christian Kulmer visited, are classic examples of this. The tour started in Mogreina near Oslo, home of the ØRAS waste treatment centre. The plant is owned by the municipalities Ullensaker, Hurdal, Nannestad and Eidsvoll, and handles the waste of around 82,000 residents. Founded in 1980, at first it simply landfilled residential and commercial waste, as was common at the time. “In the 80s we landfilled about 98 percent of the waste that came in. Today that has reversed, and we landfill only 2.5 percent. The other 97.5 percent are recycled or used for heating,” explains Director Trym Denvik proudly. With his 40 or so employees he provides comprehensive services for the local population, ranging from waste collection, reloading, sorting, and waste wood processing to high-quality compost production. “Demand for our compost is very high. Part of the reason is that it is very CO₂-friendly, unlike peat extraction, which releases large amounts of CO₂,” explains Denvik, adding, “We’ve never sold as much compost as we did this past February – perhaps because of climate change.” As a passionate Nordic skier he is personally unhappy about the snow-poor winter and unusually high temperatures for Norway.
MULTISTAR L3: VERSATILITY AND ENERGY EFFICIENCY

To make the compost, green cuttings, horse manure and fermentation residue from the nearby anaerobic digestion plant in Oslo are mixed together. After the end of the rotting period the compost is screened with a Komptech Multistar L3. It’s the second machine in the series that Øvre has used. Since 2009 the plant has placed its trust in Komptech screening technology. What they like most about the Multistar L3 is the universal utility of this 3-fraction star screener.

Operations Manager Arild Snekkerhaugen is very happy with the L3. “As a municipal waste company we have a special responsibility to the environment. So we really appreciate the energy efficiency of the L3, which we run on biodiesel, like all our other machines. We use the L3 for compost as well as to screen waste wood. It’s important for us that with just one machine we can get the desired grain size in both applications.”

Denvik and Snekkerhaugen have nothing but praise for local Komptech sales partner Magne Gitmark. “Through the years Gitmark has always given us great service and never let us down,” says Snekkerhaugen. He remembers an episode from ten years ago. “We had a defect on our first L3, but needed to finish the job quickly. Gitmark got us the replacement part we needed right away, so that we could take the machine back into operation in less than 24 hours. That was impressive, and it’s not something you quickly forget as a customer.”

>>

Demand for our compost is very high.
Trym Denvik

Happy with the Komptech Multistar L3 – Arild Snekkerhaugen and Trym Denvik

“How do I get the best out of the machine?” Plant Manager Snekkerhaugen and Thomas Helle (Gitmark) talk shop.

“How using compost saves CO₂.” Arild Snekkerhaugen with the desired product.
IN SPORTING HANDS: AGDER RENOVAJSJON IKS

The second visit was to the Agder Renovasjon IKS waste treatment centre in Arendal. Founded in 1985 by the three municipalities Arendal, Froland and Grimstad, this public company handles the waste of around 24,000 households. Director Kjetil Øygarden, a former professional handball player, is trainer for first-league club ØIF Arendal in his spare time. At the company, he leads a team of around 32 employees.

The work has many facets to it. It ranges from waste collection, reloading, sorting and disposal to waste wood processing and composting of green cuttings and household organics. “The quality of the products we make – especially the compost, but also the waste wood – has to constantly improve. Otherwise you end up sitting on the products,” says Øygarden of the challenges he faces.

A Komptech Multistar L3 plays a central role. Delivered in 2019, this star screen wins points for versatility. For example, Øygarden reports that they were able to fit it out with additional wind sifters in a very short time.

KOMPTECH – FROM LONG CONVINCION

Foreman Jørgen Hurvedal first worked with a Komptech machine over 15 years ago. He recalls, “we used to have a Mustang drum screener. Then we got a Multistar L2, and since last year we’ve had the new Multistar L3. There’s also a Crambo 5200 that we use to shred green cuttings for compost as well as for waste wood.”

Asked about what they especially like about the L3, the people in charge at Agder Renovasjon IKS give answers similar to those at ØRAS. The screener is quiet, efficient, flexible, versatile and maintenance-friendly. The high throughput and low energy consumption are also key factors. These attributes, which are especially important for municipal operations, make the Multistar L3 almost unique on the market.

“The quality of the products has to constantly improve.”

Kjetil Øygarden

“Whether snow, rain, or shine, with our Multistar L3 we’re always up and running,” says Jørgen Hurvedal.
Foreman Hurvedal adds an advantage that is very important in operations at Agder Renovasjon IKS: “We process and store our compost outdoors. That means it can get very wet. Thanks to Komptech’s patented CleanStar cleaning system, the L3 retains outstanding separation precision even with wet material.”

At the end of the visit Christian Kulmer looked in at the “Gjenbruksbutikk”, the company’s own second-hand shop, which Øygarden is especially proud of. Here, discarded but still functional everyday items are offered at modest prices. That keeps them out of final disposal, and brings satisfaction to their new owners. Another exemplary form of recycling!

Many successful years together – Jørgen Hurvedal and Thomas Helle of Gitmark

Waste wood and green cuttings are shredded with a Crambo S200.

Exemplary recycling – the “Gjenbruksbutikk” second-hand shop
FUTURE

THE STARS ARE IN ALIGNMENT
The exclusive partnership of Anlagenbau Günther and Komptech for star screens is a real success story that has been going on for almost 20 years. This collaboration has given rise to many innovative product developments sold worldwide under the name Multistar. Today, Multistar star screens are an international technology benchmark and integral to the processing of compost, waste wood and biomass.

Anlagenbau Günther GmbH in Wartenberg, Germany has long been known as a provider of high-end recycling machinery. Here some 130 employees work on the design, manufacture and sale of mobile and stationary separating machines and their associated systems. Since 2003 the company has developed and marketed all of its star screen products in close collaboration with Komptech. “We always look ahead, and make preparations in good time so that we are ready for the future,” states CEO Bernhard Günther. “We regularly review and examine all internal processes, and when necessary adapt our strategy to new circumstances.” Customer benefit is of central importance to him. “All of our star screen developments have the goal of offering customers clear technical and business advantages. This includes not just our innovative new solutions but also the high quality standards of our products, as well as professional personal assistance throughout the entire business relationship.”

**IMPROVEMENTS IN MANY AREAS**

With the positive developments of recent years has also come potential for improvement in process handling and infrastructure. Inventory management had become a particular issue, as had production and storage space. For this reason, in 2019 a new inventory management system was implemented, which now provides support for order processing in all departments, and is an important step towards Industry 4.0. In August 2019 the ground was broken for a major expansion of the hall space. The existing hall was lengthened to 100 m, giving an additional 1100 square metres for final assembly and almost 400 square metres for stocking.

With the completion of construction work in early 2020, internal logistics, stocking and production processes were restructured. “Faster and more efficient” was the motto. Additional synergies in material logistics and final assembly will result from expanded assembly areas, new shelving systems, and parking and charging zones for the electric forklifts. It’s also a boon for knowledge transfer, as additional meeting rooms give the ideal infrastructure where teams can meet and trainees can gain a deeper understanding of star screening technology.

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The graphic clearly shows the new construction (in red), which adds 1500 square metres.
The Axtor is one of the most versatile machines anywhere for processing wood and green cuttings. In addition to the Axtor 4510, there is now the powerful Axtor 6210 with 585 HP. With it, throughput of 300 cubic metres per hour and more is possible. Whether green cuttings, waste wood or trunks, through its ability to work in shredder or chipper mode the Axtor always delivers the desired product. Other features of the Axtor series are a wide feed area with tilt hopper, tough and aggressive intake system, and roomy service platform with excellent access to engine and drum for maintenance.

**INNOVATION**

**AXTOR 6210**

Six reasons you’ll love the new Axtor.

**PLENTY OF ROOM**
Large 4.15 m long x 1.43 m wide feed area with tough sectional steel conveyor and tilt hopper

**READY FOR BIG THINGS**
Big feeder opening with 0.85 m feed height and 1.1 m drum diameter

**FOR DIFFICULT TERRAIN**
Track version with self-propelled tracked chassis
SHREDDING OR CHIPPING
In shredder mode, there is a free-swinging tool in each tool mount, optionally with disposable blades (right in the pic). In chipper mode, there is a fixed tool holder in each position that can take chipper or shredder blades (left).

PLENTY OF POWER
CAT® C13B engine with 585 HP and the latest emission control (Stage V)

MAINTENANCE MADE EASY
Roomy service platform with excellent access to engine and drum
SYSTEM ENGINEERING

INNOVATION BY TRADITION
Modern vehicles collect organic and food waste. The fermenters turn this into biogas, which is then used by gas motors to generate electricity and heat.

Tradition and innovation are two concepts that have very high priority at the family-owned Zellinger company. One might think they are mutually exclusive, but here they definitely go together. Like so many SMEs, Zellinger got into waste disposal via haulage services. At the time, as was standard in the waste industry, disposal meant operating a landfill, and reclaiming gas and using it to generate electricity. “Even back then, my stepfather saw himself as a plant operator,” recalls Jürgen Humber, who today runs the company together with his wife and sister-in-law as the fourth generation. “In 2004 many landfills were shut down in our part of Austria, but he knew he wanted to build a new plant. Something new, innovative, and sustainable. Pretty soon it was clear what that meant - we needed to build a biogas plant!”

**FIRST STEPS TOWARDS BIOGAS**

Plans were made, approvals gained and negotiations concluded with vendors. “And then I got involved,” says Jürgen Humer. He was tasked with the construction and commissioning of the plant. “Here you go, make it happen, that was the attitude. I was given a lot of responsibility but also received a lot of trust.”

It was the start of a challenging time. Agricultural biogas technology is designed around liquid waste. If solid organic waste enters the picture, many of the components work poorly or not at all. Jürgen Humer looks back on the initial phase. “I was out there at the plant day and night, together with our long-time employee Johannes Hofer. When time allowed I tried to find out everything I could about anaerobic digestion, through courses and information. But it was still mostly a ‘learning by doing’ experience.”

**THE PACKAGING PROBLEM**

Through waste collection and a good network in the disposal business, the company soon found itself dealing with expired food and production waste. “A challenging market,” says Humer. “We thought about partial mechanical unpacking, but with all the different kinds of packaging it was often impossible to make cost projections for unpacking.” They looked around to see how others did it, soon finding out about Marchfelder Bioenergie GmbH, which processed organic and biogenic waste in all sorts of packaging states. He recalls, “the Komptech machinery they had there did just what we needed done. At the time I had no idea that Komptech was also involved in this area, although we already had a Terminator in use at the company.”

**At the time I had no idea that Komptech was also involved in this area.**

Jürgen Humer
ORDERING FROM KOMPTECH

The company grew, and with the operation of a stationary waste wood processing line with Crambo and star screen also came a closer relationship with Komptech – perhaps one of the reasons that led to an order being placed with Komptech in 2018. “It was clear that if we wanted to expand in this area, we would need to take our preparation capabilities to a more professional level. So together with specialists from Komptech Systems Technology, we worked out how a new prepping line could fit in with our existing biogas plant.”

NEW MACHINES, NEW POSSIBILITIES

The new processing technology has been in use since the middle of 2019, in the care of a multi-person team. As CEO Jürgen Humer has many things on his plate, but when time allows he stops by the plant to see how things are going. “With the new machinery we can now work with different waste streams, and we need to gain experience with them. It’s like cooking – every ingredient you add has an effect.” One thing that no longer has an effect is the packaging. Whether Tetrapack, glass, aluminium cans or plastic, the new prepping line opens all kinds of packaging entirely mechanically. Humer is convinced that for some types of biogenic waste, fermentation is the most suitable treatment method from an economical and ecological standpoint. The organics break down to give sustainable energy sources, while the fermentation sludge is useful as liquid fertilizer.
INNOVATION IN THE ECO-PARK

The biogas plant has long been the heart of the Eco-Park at the Herzogsdorf/Feldkirchen site. The building complex for processing organic waste and special batches is a new addition. When the roller doors are shut there is nothing on the outside to indicate how modern the machinery inside really is. But when a garbage truck arrives, the clever layout becomes evident. If it’s organic waste, door No. 1 opens and the truck can unload right into the low-level hopper behind the door. When the truck leaves, the door shuts again and an automatic loading crane takes over. The freshly delivered material is either spread out to an even height in the hopper, or loaded into the shredder. If the truck is carrying packaged waste, door No. 2 opens and a wheel loader transfers the waste directly into the shredder. As a result, no nasty odours are released to the outside.

> It’s like cooking – every ingredient you add has an effect.

Jürgen Humer
SHRED, PULP, SEPARATE
Shredding with the Crambo dual-shaft shredder homogenizes the material and makes sure that packages are opened up. A covered worm gear takes the material to the key process of pulping. The pulper performs several functions. Organics are further reduced and homogenized with process water, while the high speed of flow in the pulper empties and cleans out packages. At the same time, heavy matter is separated out through a sluice. The raw substrate from the pulper goes to a downstream Multistar star screen. The liquid with suspended organics goes through the screen into a tub, and then passes through a sand separator to a storage tank. The relatively low amount of screen overflow, which includes all contraries and impurities, is moved along by the screen stars to a press where it is dewatered, and the materials that cannot be reclaimed are incinerated.

ECO-CURRENT AND LIQUID FERTILIZER
“An anaerobic digestion plant is like a living being. You’re always learning something new.” Jürgen Humer and team, who runs the plant along with his colleagues: The fermentation residue is valuable as liquid fertilizer for agricultural.

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The fermentation residue is valuable as liquid fertilizer for agricultural.
THE EU CIRCULAR ECONOMY PACKAGE - AMBITIOUS GOALS

With the Circular Economy Package the European Commission launched major changes in environmental and economic policy. The goal is to implement a recycling-oriented economy, in which the value of products, materials and resources is kept within the economy as long as possible, generating the lowest possible waste. [1]

For this to work will take intelligent product design, more recycling and more reuse, to close the “circle” and use all raw materials, products and waste more sustainably. In July 2018 the necessary legal foundation was laid for the way waste is handled going forward. [1]

CHANGES IN LEGISLATION AROUND WASTE

Changed waste laws now mandate specific medium- and long-term targets with the goal of achieving higher rates of recycling. Conversely, landfilling must be greatly reduced, and landfilling of separately collected waste must be eliminated entirely. For household waste, the target for 2020 is at least 55% recycled or processed for re-use, 60% by 2030 and 65% by 2035. By 2035 only 10% of household waste may be landfilled. [2]

The following directives are affected by the changes [3]:
- EU Directive 2018/851 on waste
- EU Directive 2018/850 on landfilling waste
- EU Directive 2018/852 on packaging and packaging waste
DEGREE OF IMPLEMENTATION, EU 28

The degree of implementation of the changes in waste legislation for the circular economy varies widely among the EU member states. In 2016, in the EU 28 on average about 45% of household waste was recycled, 30% incinerated and 25% still landfilled. [2]

A closer look reveals that countries like Germany, Austria, Belgium, Denmark, the Netherlands and Sweden practically ceased landfilling by 2014, while Cyprus, Croatia, Greece, Latvia and Malta still landfilled 75% of household waste. [4] The last-named countries have much to do before they can meet legal requirements.

Separate collection of organic waste mandated from 2024 [4]

Requirements for separate collection are being tightened. Per Article 22, separate collection of biodegradable waste is mandatory starting in 2024, as this is necessary for proper reclamation and reuse. Such waste must either be collected separately or composted at home. In Germany separate collection has already been required since 2015 for disposal-mandated organic waste.

Sources:
[1] https://www.circularfutures.at/themen/kreislaufwirtschaft/eu-kreislaufwirtschaftspaket/
There is probably scarcely a company in all of Australia that knows more about composting than Corkhill Bros. After all, they’ve been processing green waste in the capital city of Canberra for over 35 years.
Corkhill Bros looks back on a long history. Founded in 1954, the company was recently officially confirmed as one of the Australian Capital Territory’s oldest surviving business. It also has a long tradition in processing green waste. Since 1984 Corkhill Bros has been running a public green organic drop off facility, which enjoyed steadily growing popularity before its intake jumped in April 2017. The surge in material was due to the introduction of separate green organics kerbside collection in the ACT. The ACT Government contracted with Corkhill Bros for collection and processing. 

TAKING RECYCLING SERIOUSLY

After a three-year rollout period, today every household has separate waste collection. As a result, Phil Corkhill says the family-run business now deals with an average 350,000 tonnes of green waste per annum. Corkhill Bros is committed to a circular economy waste management and resource recovery approach – all organic waste processed at the facility is turned into high quality compost.

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When dealing with the amount of material we get you can’t afford equipment breakdowns.

Phil Corkhill

DEPENDABLE ASSISTANCE
To manage the volume and meet the company’s own quality standards, Corkhill Bros depends on high-end machinery from Komptech and on the great service from Australian distributor ELB Equipment. “When dealing with the amount of material we get you can’t afford equipment breakdowns,” Phil says. “We manage and process all of Canberra’s green waste, so everything has to be efficient and downtime needs to be minimal. ELB calls us at least once a month to check in on the machines and their maintenance needs, and to inquire about my plans so they find the best time to do maintenance,” he says. “I consider them more of a partner than a supplier.”

EFFICIENCY ABOVE ALL
At the Mugga Lane Resource Management Centre near Canberra, Corkhill Bros currently operates a Topturn X55 compost turner, a Multistar L3 star screen and four Nemus 2700 drum screens.

The compost turner is a big help. Since purchasing the Topturn in 2017, Phil says he has noticed a rise in material quality. “The big drum gives thorough mixing during the rotting process. The compost is cured better and the entire workflow is more efficient.”

The Multistar L3 and Nemus machines are used for daily screening and mixing. Phil says both screens give consistent, stoppage-free operation.
Three generations at work – Brian Corkhill, co-founder of Corkhill Bros, with son Phil (2nd from the right) and grandchildren Jacob, Harry and Clare.

Whether the material is dry or wet, the Multistar always delivers the accustomed performance.

The compost is cured better since using the Topturn.

Phil Corkhill

“Other drum and flatbed screens often suffered significant blockages, cleaning was a big effort, and the whole process was inefficient,” he says. “The star screen is in a different class – its reliable cleaning system means I can run even damp organics in all weather conditions.”

Phil sees the strengths of the Nemus drum screens in its precision final screening and good mixing function for making compost-based substrates. “Throughput is very high, and many details are much improved over the predecessor model.”

While Corkhill Bros deals with multiple manufactures and suppliers, Phil says “ELB’s commitment to service, including high spare parts availability and proactive maintenance, is a standout in the industry. I always have the feeling that as a customer, I’m really at the centre of their focus. We deal with multiple manufacturers and suppliers, and I’d like to think some of them could aspire to the ELB model.”
Sometimes it’s little coincidences that lead to big developments, in business just as in every other area. Christian Büttner tells the story: “About two years ago Mr. Opitz of the container service company of the same name asked me if I could see myself taking over his company when he retired. After that everything happened quickly, and as of 1 January 2019 I found myself the new owner and CEO of Opitz GmbH!”

About three years ago Komptech launch Komptech Rental, and it has been a success all round. One example of this is the experience of Berlin entrepreneur Christian Büttner, who was able to get into a new line of business thanks to the programme.

The Crambo 5000 trailer version is very versatile.
The container service was a very good fit with his father’s company Kurz & Co. KG, which does canal and pipe cleaning in Berlin and Brandenburg, and also has a solid footing in the demolition business. “Flexibility is the most important thing for us, and whatever I can do myself, I do” says Christian Büttner of his philosophy, to which Günter Bäcker adds, “we might be just a small family-owned company, but we have strong personal roots in the region and are well-known. And that’s why we demand so much of ourselves.”

A NEW COMPANY, A NEW CHALLENGE

The acquisition of Opitz GmbH brought Christian Büttner not just the container services, but also another much bigger challenge. “Opitz operated a green cuttings composting site. That was completely new, but also a very good fit for us. Finally we had our own facility where we could process green cuttings from our construction sites and container transports – but we didn’t have the right equipment for it.”

A COINCIDENCE THAT OPENED A DOOR

Büttner heard about Komptech from a colleague who had just started to use a rented Crambo and was very happy with it. It was one of those perfectly timed coincidences. Büttner quickly got in touch with Komptech, whose sales rep Karsten Runge suggested renting as a way to “get some experience and see how it works.” Büttner rented a Crambo 5200 in late 2018. The planned two-week term turned into eight weeks, before the shredder went back to Komptech at the turn of the year. Büttner rented another Crambo immediately, to “get the Eggersdorf site cleaned up” as he put it. Pretty soon he was looking at renting an Axtor as well. “It’s not really normally a rental machine,” says Karsten Runge, “but we were able supply one from our rental park that only had 50 hours on it. The important thing for us was that we could help the customer right away.”
RENT, THEN BUY

Things happened quickly after that. In mid-March 2019, Büttner decided to get a new Crambo 5000 in the trailer version, “because the rented Crambo had worked out so well, and through contract services we were getting lots of green cuttings and wood processing business.” The decision to also buy an Axtor at this time might seem surprising, but absolutely makes sense. “After we got an order for 7000 loose cubic meters of chips, it was obvious that we would need something like the Axtor so that we could chip and shred with just one machine. It’s as flexible as you can get.” The rented Axtor had done 200 hours without problems, but had to be briefly sent out to fill a different customer order.
It was back in less than three months, and Büttner purchased it on the spot. “At the moment we’re using the Axtor 6010 only for chipping, but we know that it can be converted quickly. Together with the Crambo it makes a great team, not just at our site but also on other jobs.”

**Renting was absolutely uncomplicated.**
Christian Büttner

**PRACTICAL AND THOUGHTFUL DESIGNY**
You can tell that Christian Büttner is completely satisfied with Komptech’s advice, the rental process and the service that stands behind everything. He also likes the solid build quality of the machines and their thoughtful, practical design, not to mention the low fuel consumption. “Renting was absolutely uncomplicated, and it really helped for us to be able to test something new and confirm that it was a fit for us. The whole process was pretty much ideal!”

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Kurz & Co. KG und Opitz Gmbh Containerdienst
www.kurzundco.de  
www.container-opitz.de

Kurz & Co. was founded in 1991 in Berlin / Köpenick as Bäcker Sewage Disposal by Günter Bäcker, with a team of five employees. Kurz & Co. got its current name in 1999 with the acquisition of a company specializing in canal and pipe cleaning. Christian Büttner, youngest son of Günter Bäcker, joined in 2011 as a new shareholder and expanded the company’s business to include waste disposal and container services. Since 2012 Kurz & Co. has also offered demolition and earthmoving, and since 2014 hazmat cleanup. Opitz GmbH Container Service in Rehfelde, Germany was founded in 1990, and works primarily in waste disposal. The company serves Berlin and surrounding areas. Since 1 Jan. 2019 Christian Büttner has been owner and CEO. Currently the two companies have around 55 employees.
As detail planning for waste treatment facilities in Ghana got underway in 2018, for Komptech as manufacturer and for the Jospong Group as customer it was clear that a combination of mobile and semi-mobile machines would be the best solution. One reason was the available infrastructure, which was still incomplete, especially in terms of electrical supply stability. This made autonomous operation with diesel-powered generators a plus point. Another reason was flexibility. Despite numerous waste analyses and preliminary planning, the composition and volumes of waste streams differed greatly from initial assumptions. Where the organized collection and reclamation of recycled material is just getting underway, mobile and semi-mobile machinery can be flexibly adapted to changing conditions.

**THE KOMPTECH PLUS**

Like anywhere else, in developing countries waste processing machines and systems need to be properly operated and maintained in order to continue functioning properly. For this purpose it is necessary to make due allowances for the knowledge level of the personnel. Komptech machines are noted for their...
simple operation. Users can quickly learn their way around the machines, whose tough construction makes them forgiving of beginner errors.

Service is also an important issue. Where a large number of machines are installed, the establishment of a competent local service structure is indispensable, but in practice not something that can be accomplished overnight. Komptech offers a big plus here – during the initial phase it provides regular service as the manufacturer, to defined maintenance contracts. Simultaneously local personnel are trained to do all the work themselves in the medium term. The Connect! Condition Monitoring System that is available as standard in Komptech machines is an important instrument in this process, as it makes the machine condition visible to the operator as well as the manufacturer in real time. This proactive monitoring by the manufacturer can help solve problems quickly, or even prevent them from arising in the first place.

**GHANA AS A SUCCESS MODEL**

Since the start of the cooperation Komptech has sold several processing lines to the Jospong group. Three lines are already in operation, two more are in the final stages of completion, and the others are under construction. The specially developed Komptech systems select the biogenic component out of the waste and compost it, and thus prevent the formation of climate-damaging methane. The Jospong Group sells the resulting compost to the Ghanaian government, which uses it as fertilizer for parks and roadsides. The rest of the waste also goes through Komptech machines, which sort out the valuable materials so that only a small remainder ends up being landfilled.

In the long term, Ghana wants to have a full-coverage network of waste treatment facilities. In addition to improving environmental conditions and preventing CO₂ and methane emissions, the country has other ambitious goals. It wants to achieve a recycling rate of over 60 percent, and create 200 clean and safe workplaces at each additional facility.

Komptech is convinced that this success story can be repeated in other countries. With a Key Account department set up specifically for the purpose, we hope to drive waste treatment progress worldwide. >>
Household waste goes into a feed hopper and then to initial manual sorting, followed by gentle shredding, sack opening and homogenization by low-speed shredder.

[3] Composting

The organic fraction is windrow-composted. Regular turning keeps the rotting process even and gives the desired compost quality.
Contraries are unavoidable in household waste compost. Here they are removed by a 2-stage drum screening process. After a quality check the compost is released for use.

[2] Separation
The organic fraction is separated out by screening. The remaining fraction is wind-sifted to extract the high-caloric light plastics and manually sorted to reclaim the recyclable materials.

[4] Post-processing
Contraries are unavoidable in household waste compost. Here they are removed by a 2-stage drum screening process. After a quality check the compost is released for use.
LACERO 8010:
KOMPTECH’S STRONGEST MACHINE IS COMING
High throughput and tough construction are the primary characteristics of Komptech’s new Lacero high-speed shredder. At the heart of the machine is a massive super-hi-inertia shredder rotor, that can shred almost any kind of green cuttings and wood with high efficiency. It’s powered by an 800 hp diesel engine, naturally with the latest exhaust scrubbing technology, and it will be available starting in 2021.

INNOVATION IN MOBILE MACHINES

THE FUTURE

TERMINATOR DIRECT:
EVEN BETTER DRIVE, EVEN BETTER MACHINE
The new electric power design of the mobile Terminator direct offers “the best of both worlds”. It’s as flexible as a hydraulic machine, since the integrated frequency converter lets the user adjust the drum speed steplessly. And naturally, it retains the high efficiency of mechanical systems. Interested? The Terminator direct will be available starting at the end of this year.

MAKERTHON:
FOR THE PRODUCTS OF TOMORROW
Makers and marathon add up to a Makerthon – 30 students from a variety of technical fields met up for a weekend in an all-purpose lab at Graz Technical University to work on a solution. The question posed to them was “How do you get plastic out of organic waste and compost?” The answers were functional models using entirely new approaches. Customers can look forward to the results!
DIGITALIZATION

KOMPTECH GO!
A DIGITAL ADVANTAGE TO PUT YOU IN THE LEAD

Digitalization has a high priority in our strategy for the future. With the technical possibilities it brings, we plan to take our entire performance chain to the next level. Komptech GO! offers customers, sales partners and employees a (growing!) number of apps, that all serve to make the workday better organized, more productive, and just plain easier.

OPERATIONS

INVESTMENT IN HIGH-END PRODUCTION

Our motto “Innovative solutions for higher customer benefit” demands that we also use innovative technologies in production. The latest acquisition is robots that perform tasks like highly precise welding of the tooth mountings on the Terminator drum, error-free, and 24 hours a day if need be. This lets us guarantee on-time manufacture to the highest quality standards.

COMMUNICATION

OPERATORS MEET MANUFACTURERS:
VHE AT KOMPTECH

See how the frame of a drum screen is built, and learn why the switch would be better placed over there - just two examples of what happens when the staff and managers of German composting and anaerobic digestion plants get together with Komptech. As part of the VHE CompostTour, members of the Humus and Earth Business Association came to visit our plant in Oelde.
PERFECT DESIGN: TOPTURN X5000

COMPOST TURNER

Modern CAT® diesel engine with 250 kW

Spacious, comfortable cabin with lift function

Service steps and platform simplify maintenance

Massive plough blades for reliable track cleaning

Large-scale drum with double-use blades