

KOMPTECH

magazine 1/2016



KOMPTECH



THE FUTURE
SHREDDER OF THE FUTURE

INNOVATION
THE NEW MULTISTAR S3

PRACTICE
**HEIDI AND PETER MEIER
AND THE POWER OF THE SUN**



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Publisher:

Komptech GmbH, Kühau 37, 8130 Frohnleiten, Austria
T +43 3126 505 - 0, F +43 3126 505 - 505,
info@komptech.com, www.komptech.com

Editors: Andreas Kunter, Joachim Hirtenfellner

Layout & graphics: Alexandra Gaugl

Photos: Komptech GmbH

Translation: Ralph Kirschner

Heidi Meier and her strong men: Rudi, Peter and Florian Meier (left to right). Behind them, the Crambo with plug.

WITH THE POWER OF THE SUN

At a composting facility in Bavaria, a mobile Crambo runs on the electricity produced on-site by a photovoltaic system. "It's a perfect solution," says Peter Meier, who runs a small but sophisticated greenwaste composting operation with his family.

The solar array delivers 250 kW, and the Crambo and Multistar L3 run on 100 percent renewable energy.





The site in Hitzhofen composts about 60,000 cubic metres of greenwaste. "Composting was really something we got into to solve a problem," says Meier, whose nursery and landscaping operation had long been challenged by disposal of its greenwaste. "I wanted to do something about it myself instead of paying for container services to take it away. And so in 1994 we started composting."

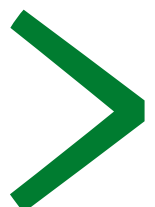
A FAMILY BUSINESS

In the beginning, Meier had everything done by outside contractors, except windrow turning which he did with a front loader. But step by step he took work processes in-house and today does the shredding, turning and screening with his own machines. "We're a typical

family operation," says Meier. With his wife Heidi and sons Florian and Rudi, he keeps the composting going while also running a successful nursery and landscaping company that provides services to municipalities. A recycling centre for the entire region has also taken up operations at the site. "The boys have been involved in the business since they were little; there was no other way to do it," says Heidi Meier. "They drove the bulldozer on holidays." She's in charge of composting, so she's also no stranger to running the machinery. It might be unusual for a man to give his wife a front loader with a special paint job as a birthday present, but that's how things are here.

SOLAR INSTEAD OF FOSSIL

When the sons decided to enter the family company after finishing their education, it was time for the next investment - new buildings and a big solar PV array on the roofs. Even before then the family had already been interested in minimizing their and the company's use of fossil fuels and saving resources. Accordingly, the house has a rainwater collection system, and they use an electric Crambo and electric Multistar L3 for composting.





Rudi Meier with the power plug for the Crambo 5000: 200 kW of current



The blue front loader belongs to the boss lady. If the others ask nicely, she might let them drive it.

A CRAMBO WITH A PLUG

From the outside, the Crambo 5000 looks like a normal trailer-mounted mobile machine. But a closer look reveals a plug on the motor cover. From it extends a 20 m power cable that disappears into the ground. "Electric drive has clear cost advantages over diesel," says Peter and adds, "especially when you make your own electricity." The PV solar array has an output of 250 kW, and has its own transformer. By making their own electricity, the Meiers also get money back from the utility company - in other words, it pays for itself. But why not a regular stationary machine? Here again, Peter Meier has his own ideas. "All shredding takes place outdoors, and not always at the same place. The wheels on the machine and the long cable let us place it right where we need it. If it's not in use, or if maintenance is necessary, I just pull it into the building." The cable and plug are dimensioned for the 200 kW electric motor. "Naturally this is not like plugging in a household power cord. But we built a device whereby we get the cable and plug up to the socket using the front loader. And of course we have two strong young men to help,"

laughs Peter. From time to time they help their mother load the shredder. They have no doubt that the Crambo is right for the job. There's nothing better. They're convinced.

COMPOST FOR ORGANIC FARMS

Heidi Meier uses a Topturn 4000 for turning the windrows. "We shred only the amount of waste we can put in windrows. It stays in a triangular windrow for two to three weeks, where we turn it every couple of days before it goes to post-rot for several months in a flat-top windrow," explains Heidi and adds that the process gives off practically no odours. Screening is done with a Multi-star L3, likewise fed by a cable, just not as thick as the one for the Crambo. The star screens does its job almost silently, and with no emissions. Currently the focus is on 25 mm grain compost. Since more and more farmers have switched to organic, there is great demand for compost. The clean medium and oversize fraction is sold as biomass fuel.

Not content with that, Peter also does his own butchering, and his home-made sausages and hams have no lack of customers. A herd of Scottish highland cattle grazes around the composting area, and offers plenty to keep the family busy between other tasks.



A PERFECT MATCH

Danish utility FFV Energi & Miljø A/S has found the perfect match. It has fallen in love with a Terminator 5000 that helps the company in recycle waste like old sofas, carpets, mattresses and Christmas trees, while saving money and creating new revenue streams.

FFV-CFO Jens Knudsen and his tough Terminator





Carpets, mattresses, sofas and similarly hard-to-shred materials are delivered to the FFV site.



Back in the spring of 2014 a big flatbed from Danish Komptech dealer Aksel Benzin A/S took exit 167 on the island of Funen in Denmark to deliver a new Komptech Terminator 5000 to FFV Energi & Miljø A/S. FFV supplies district heating, electricity, water, waste water, waste collection and recycling services. The new Terminator was set to work immediately at FFV's recycling site at the town of Ringe.

A LOT TO DO

"Since we knew we would be getting the Terminator we had let waste pile up, so it has plenty to do. Even after it has worked through the backlog there will be no lack of jobs for it, so we can utilize it 100 percent during normal shifts," explains FFV's CFO Jes Knudsen.

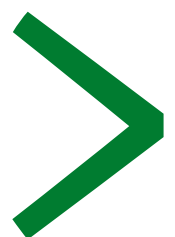
A COMMUTING TERMINATOR

FFV's Terminator gets around, commuting on a flatbed between FFV's four recycling sites spread over 637 square kilometres. The shredder is painted in FFV's fresh lime green colour, so it really brightens up the recycling centres.

"We are very satisfied with our Terminator. It has kept the promises we got from Aksel Benzin A/S," explains FFV-CEO Claus Mogensen.

WINNING THE TENDER

The Terminator 5000 is a low-speed shredder which can handle all the many types of waste FFV collects, like old sofas, carpets, mattresses, plastic products and Christmas trees, to name just a few. In fact, it was the Terminator's versatility which tipped the balance when FFV made the purchase decision in Spring 2014. As a municipal utility, FFV must make bid tenders for substantial investments. Management involves the employees in the tender process to be sure that theory, technical specifications and practical issues are in balance when a new machine takes up operations at an FFV site.







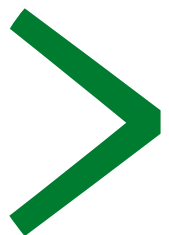
The shredded waste wood goes to particle board factories or is sold as fuel.

THE PERFECT MATCH

FFV and the Komptech Terminator are a perfect match. Claus Mogensen explains: "We collect 10,000 tonnes of garden waste annually, and in addition we have high volumes of combustible waste and demolition wood.

By shredding the waste we can save a lot on haulage since small fractions take less space on trucks than large pieces. We can also sell the garden waste and demolition wood instead of paying to get rid of it. We sell the shredded demolition wood to a chipboard factory, and the larger fraction of the garden waste goes to RDF.

The iron we separate out goes to metal recycling companies. In addition, we produce a lot of compost which people can collect free of charge at our recycling sites." Shredding multiple kinds of waste saves FFV money and brings new revenue streams.



The Terminator stays busy.



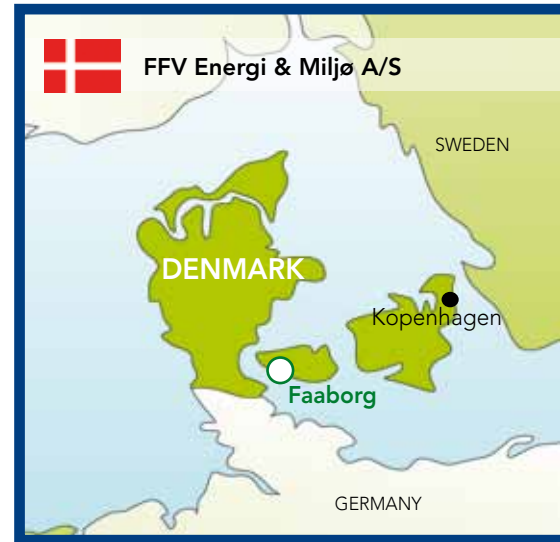
Jerry Ditlevsen does maintenance on the Terminator.

EASY TO MAINTAIN

An important criterion in the bid tender was that the new shredder be easy to maintain and that FFV's own employees be able to do most of the work. The Terminator is designed with a focus on easy access to the engine and the hydraulic system. You don't have to crawl under the machine to get access to main components, but can stand upright and work in a safe and comfortable manner. The same goes for the drum, with easy access for replacing wear parts.

CSR CREATES SAVINGS

FFV has a defined CSR policy. The goal is to reduce resource consumption by 10 percent by 2018 over 2013. FFV's fleet of vehicles is substantial and consumes approximately 300,000 litres of diesel annually. "Diesel consumption is a big issue for us and will get even bigger in the future as we purchase new machines," says Claus Mogensen. FFV's Terminator 5000 gets its 446 horsepower from a CAT C13 engine with the latest technology, making it extremely efficient.



FFV uses the new Nemus 2700 to clean up the biomass fraction.



ANOTHER PERFECT MATCH

Shredded biomass requires good screening to turn it into high quality biofuel. In early 2015 FFV bought a new Nemus 2700 drum screen from Danish Komptech dealer Aksel Benzin. It was of great importance that the new screen be able to cope with the capacity of the Terminator, while turning out a clean biomass product. Its screening area of 30 square metres separates out the large biomass fraction for biofuel of a very high quality.

All the soil and small stones under 20 mm in the shredded feedstock are screened out during the tumbling action. The cone height of 3.2 meters under the conveyors helps with site logistics, since the front loader can load both the Nemus 2700 and trucks before it has to remove material from under the belts.



www.ffv.dk



A MODEL CITY IN BAVARIA

 **ENERGY**
SOLUTIONS

Relative to its population of about 10,000 people, Reha in bucolic Upper Franconia is one of the most industrialized cities in Bavaria. But that's not all. It's also a "model city" that has set an example. Its new WastERGY® organic waste anaerobic digestion plant covers almost 40 percent of the city's energy needs from renewable sources. It doing so, it has met the German goal of 35 percent renewable energy by 2020 five years ahead of schedule.

In late 2014 a new anaerobic digestion plant went into operation with a capacity of up to 30,000 tonnes of organic waste, so now waste going into the organics bins in and around the city is transformed directly into energy. Together with the bio-energy and biogas systems already in place, the resulting "Upper Franconia Bio-Energy Centre" generates about 76,000 megawatt-hours of electricity and heat each year.

40 PERCENT RENEWABLE

All told, 40 percent of the local residential and industrial electricity consumption is covered by the Bio-Energy Centre. 90 percent of what it makes goes directly into the local grid,

meaning that upstream grid capacity is not burdened – "smart grid" is what you call that. In addition, the existing micro gas network will be used as a local heating network for schools and swimming pools. This naturally benefits area residents through lasting price stability and low organic waste disposal costs.

WASTERGY® WITH KOMPTECH

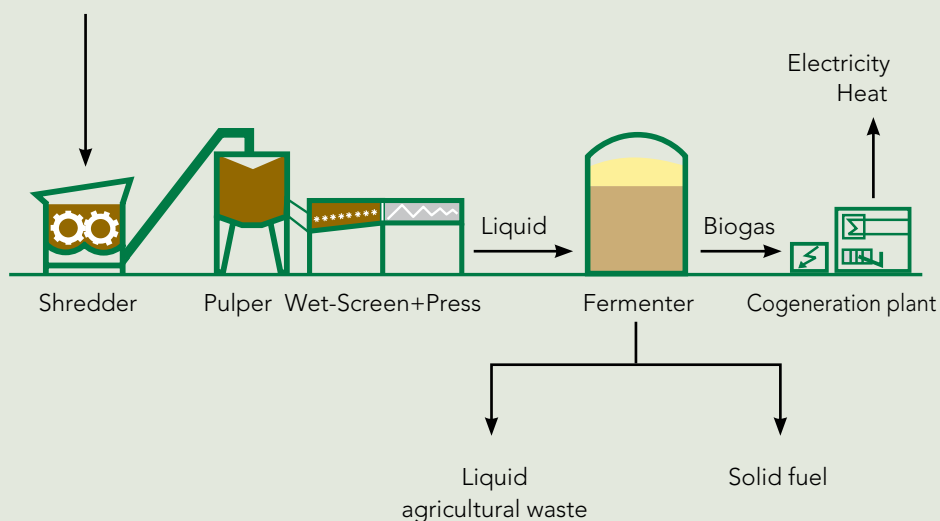
Reha Energy Solutions, developer of the highly efficient WastERGY® process, uses Komptech system components to process organic and food waste (packaged and unpackaged), centred on a Crambo shredder to open up the waste and a wet star screen for separation.

The system is fed by a fully automatic crane, and separates the input material into a "soup" for wet fermentation and contraries like sand, stones, glass, plastic etc. Personnel need enter the waste intake hall only to switch containers or clear blockages.



Input materials:

- Organic waste from households, supermarkets, restaurants, food industry (including packaging)
- Liquid food industry waste, fat and oil



 **Bioenergiezentrum Hochfranken**



Operator: RSB Bioverwertung Hochfranken GmbH
 Input material: organic waste
 Throughput: 30,000 tonnes/year
 Commissioning of complete plant: December 2014
 Plant built by: Rehau Energy Solutions GmbH
www.rehau-energy-solutions.com

RESOURCE EFFICIENCY: A CHALLENGE AND AN OPPORTUNITY



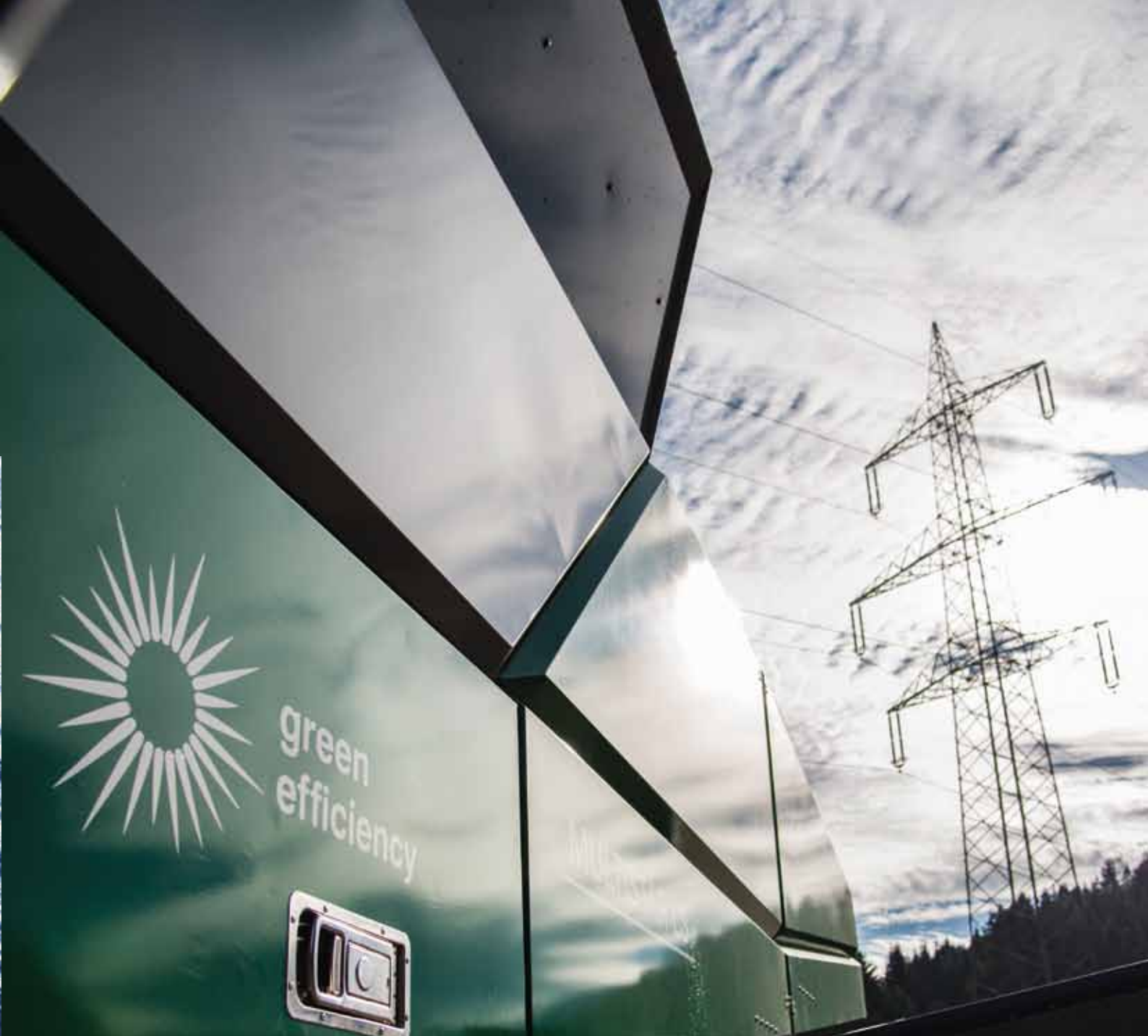
If you ask customers from the closely related construction machine industry, they'll say the same thing. "Not much has happened. Consumption is still high, although manufacturers naturally see it differently, and performance still isn't where it needs to be, and all the electronics haven't made much of a difference." That gives pause for reflection, concerning both the superficial opinion and general attitudes toward the subject of resource efficiency.

Resource efficiency is an issue whose importance we are all aware of. A host of publications and studies by well-known institutions, the dedicated Resource Efficiency award in the 2015 German Sustainability Awards – all this and more shows that this is an issue that has reached the public eye. And then there was the opening event on resource efficiency at the G7 summit chaired by Germany, which likewise revolved around the efficient and sparing use of natural resources.

The core message can be phrased as the sustainable use of natural resources while minimizing harmful effects on the environment and climate. This message has reached the German and

European policymakers, as shown by the Sustainability Strategy formulated by the German government in 2002. Its stated goal is to double energy and raw materials productivity by 2020 from the 1994 base level. In January 2011 the European Commission laid out its "Resource-Efficient Europe" lead initiative within the Europe 2020 Strategy, and in September 2011 published its roadmap for reaching its goals. The Resource-Efficient Europe initiative addresses energy, soil, water and air.

The facts speak for themselves. About 50 percent of industrial CO₂ emissions are caused by the production and processing of just five basic materials -



steel, cement, paper, plastic and aluminium. Worldwide consumption of raw materials was over 68 billion tonnes in 2009, more than double that of 1970 and a third more than in 2000.

The world's population is projected to grow to over 9 billion people by 2050, and many developing countries are showing rapid economic growth and burgeoning prosperity. All this is driving increased demand for raw materials, as well as increased environmental stress.

At Komptech we have responded with green efficiency, an innovation programme that gives our machines higher performance and lower consumption, and uses the latest exhaust scrubbing technologies.

The reward is twofold. Our customers save on operating costs, and the environment - and with it all of us - benefits from reduced CO₂ emissions and resource use. The most important feature of this programme is higher efficiency in drive, shredding and material discharge, giving higher output per unit energy and thereby reducing specific energy consumption.

Behind it are solutions like the new direct mechanical drive on the Crambo all-purpose wood chipper, and ideas that build on and improve existing technologies such as the efficient friction-wheel drum drive on the Cribus drum screen.

The green efficiency concept also incorporates the latest exhaust-scrubbing technology, reduced noise emissions and measures that generally make the machines more efficient in use, like faster maintenance, longer-lasting wear parts and much more.

And we don't stop there. If a machine is able to do the jobs of two or more other machines, that's also green efficiency, because it saves all of the resources, energy and work that would have gone into the production and operation of the other machine or machines.

Komptech is very much aware of its responsibility in this area. Resource efficiency affects all of us, and the sooner we embrace it, the better!

The Axtor chips trunks for use as biomass fuel.



AHEAD OF THEIR TIME

30 years ago four young engineers decided to protect the environment. To do so, they founded the Loreki company in Itxassou in the Basque region of France.

Artzai Mandiboure left and Fernand Perret



They started out shredding and composting forestry waste to make substrate, bark and organic soil improvers for the local market. That was a very new line of business in 1985. Although technically speaking the process worked well, it wasn't economically viable - they were simply too far ahead of their time.

A NEW ATTEMPT

Necessity is the mother of invention, so they switched to making products for gardening and landscaping - bark, turf, soil, fertilizer etc. In 1993, they tried again. Separate collection of green cuttings had been introduced in their area, and landfilling of organics had been prohibited, creating the perfect



conditions for their core business. In 1995 Loreki started providing shredding and screening services. This expansion in the company's business activities led to the opening of a second facility for green waste composting and biomass processing in Lescar, near the city of Pau. The third site came online in 2015 in Hastingués on the Bayonne-Pau motorway, and creates and stores biomass.

BIG INVESTMENTS

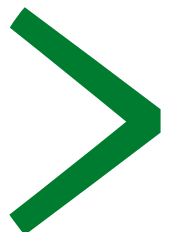
Loreki has accumulated a fleet of mobile machines to serve the growing number of industrial and municipal cogeneration plants. The company delivers energy in different forms - as chips, shredded rootstocks, and biomass from green

cuttings. With the completion of the Hastingués plant, including a 2500 square meter hall and grounds ten times as large as that, and with the purchase of new machines, Loreki spent 3.2 million euros in 2015. The company's activities around woody biomass are a perfect fit with its philosophy - it has 200 square meters of PV solar panels in Itxassou and 1800 square meters in Hastingués, which deliver a peak output of 280 KWp all told. Loreki is also planning an anaerobic digestion system in cooperation with another local firm.

AN EXTENSIVE MACHINE PARK

Currently Loreki has ten mobile high-performance machines, which process about 200,000 tonnes of material a

year. One of them is a Crambo 5000 on tracks, used for shredding rootstocks and green cuttings. "The Crambo has low wear and consumption. It can chew up practically anything, it's not sensitive to contraries, it's quiet and it produces a small amount of fines.



That makes it very useful in preparing material for industrial heating and power plants," says Fernand Perret. "85 tonnes an hour is entirely normal for it," he adds. An Axtor 6010, also on tracks, chips trunks, clean rootstocks and green cuttings. "With 600 hp and the tracked chassis we can also use it off-road," explains Perret, noting, "we use it to make fuel for smaller power plants, where the grain is important. Thanks to the three different screen baskets we can do pretty much anything."

THE MULTITALENTED MULTISTAR

Two Multistar L3 star screens with integrated wind sifting turn out clean biofuel at high rates, cleaning it of overs, unders and contraries. They also prep structure material for co-composting sewage sludge, organic waste and anaerobic digestion residues.

"The two L3s are also very important for a new application, screening mulch from fresh green cuttings. It is in high demand as a ground cover instead of straw," says Perret. Once again Loreki is ahead of its time - but this time with success.

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D. HANTSCH SAS
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 [e] info@hantsch.fr

The Crambo is used to shred mostly rootstocks and green cuttings.



Chips are stored in a large hall.





Two Multistar L3 star screens clean up the fuel.



Clean rootstocks are ready for chipping with the Axtor.



AN INNOVATIVE SHAREHOLDER MODEL

Today Loreki is a healthy company with steady growth - 26 percent in the last three years. Its solid financial structure allows it to invest regularly and hire new people, who then become shareholders in the company. Fernand Perret, who has run Loreki since 1985, currently has 24 employees whose votes he must secure every four years. New hires become eligible to be shareholders after a six month probationary period. If all the other shareholders approve, he or she receives a share and a voice in voting. The shares must not be paid for immediately; instead, five percent of the employee's salary is deducted every month for six months to provide the purchase capital. Profits are distributed to the shareholders. Ten percent is paid as dividends, 45 percent stays in the company for five years, and the remaining 45 percent is used to cover the company's need for capital for investments. The model has proven effective, and every Friday evening the owners meet and discuss business matters.

LOREKI

www.loreki.fr

MULTISTAR S3

Mobile star screen

Six reasons you'll love the new Multistar S3.

The new Multistar S3 is the entry-level member of Komptech's professional star screen line. Designed expressly for the needs of lower to moderate volume users, the S3 combines low cost with a level of performance previously only available in the high-capacity L and XL class.



01 Proven design

The S3 uses the proven design and quality components of the Multistar series: Coarse then fine screening, Cleanstar cleaning system, screen deck drive by electric motors, frequency converter control etc.



02 Mobile by hooklift module

Built on a hooklift module, it has small dimensions while still offering the requisite mobility for service providers or multi-site use.



03 Saving with hybrid technology

The power for the drives can come either from grid electric power or the optional built-in diesel generator. The use of grid power reduces energy consumption by up to 75 percent compared with diesel-hydraulic power.





06 Efficient work

A large hopper with up to 3.5 m³ volume permits continuous loading. The discharge conveyor height provides enough buffer capacity for smooth front loader use.



04 High screening power

A coarse screen with 2.1 m² and a fine screen with 3.9 m² screening area offer efficient separation. Depending on the application and a throughput of up to 100 cubic meters per hour is possible.



05 New cladding

Sheet metal panels protect the drive components. Elsewhere, tough truck-grade tarp material protects components from dirt while saving weight. Rolling up the tarp sidewalls affords free access to all other components.

CHIP IT UP - SHRED IT DOWN

Waste wood material reclamation is becoming more and more important. The process almost always starts with shredding. But which machine does it most efficiently? To find out, we held an in-house competition between the Axtor, Terminator and Crambo.



Hard at work: Crambo 6200 direct and Multistar L3

July 2015 at the Rieger company waste wood processing plant in Austria: A Crambo 6200 is running at full speed, fed by an orange-peel grab. The shredder drums chew their way through the material coming in, while a never-ending stream of shredded wood goes out to a Multistar L3. Under each star screen discharge conveyor is a container which is carefully weighed after each test run. Engine data and screening analyses of the material streams complete the benchmark test of a fast chipper and two low-speed shredders.

RECYCLED WOOD AS A VALUABLE MATERIAL

The three machines went through a scenario that is a daily routine at the site. Waste wood arriving at the site was separated into different categories,

shredded, and cleared of magnetic contraries as far as possible. The resulting shred is a useful raw material, for example for making particle board. More and more, recycled wood is taking the place of logged wood in this application. In this test, the ability of the machines to deliver a homogeneous grain from 20 to 130 mm was compared. A Multistar L3 was set up to separate this fraction out as the medium fraction.

FIRST SHRED, THEN SCREEN

Preliminary testing showed that two-stage processing has advantages when shredding large quantities over long periods. It's better to shred a little coarser, screen out the overs and run them back through the shredder, than to restrict the machine's throughput with a very fine screen basket. But which technology, which screen baskets and

which teeth are the most efficient? At the end of the day, what counts is the overall balance of useful fraction versus energy used. And - is the process practical in extended use?

FAST CHIPPER: YES, BUT...

Shredding waste wood that has not been pre-broken up is a challenge for any fast chipper. The less pre-sorted it is, the higher the danger of massive metal contraries. The magnetic junk pulled out by the overbelt magnet included nails, bolts and a car wheel. The Axtor features newly developed free-swinging teeth, and stands up relatively well to these contraries. But long-term, these items are going to mean more wear and higher risk of damage from a large contrary. So in continued operation a procedure needs to be in place that makes sure the input material contains

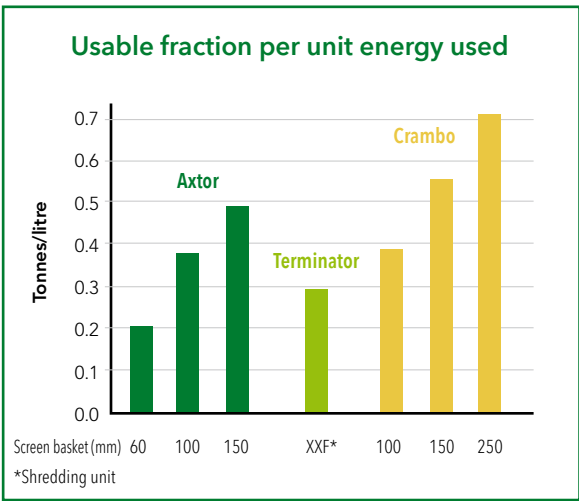


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www.rieger-entsorgung.at

no large ferrous items. On the positive side, the Axtor delivers high throughput with large screen baskets, and a low percentage of overs. With the 150 mm screen basket it made over 30 tonnes, of which over 70 percent was usable fraction and only 1-2 percent was overs. Energy efficiency was also good, with almost half a tonne of useful fraction per litre diesel fuel used - in terms of volume, that's about two and a half cubic metres.

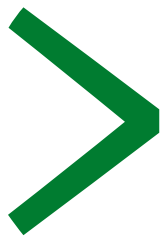
**TERMINATOR:
 A TOUGH DO-IT-ALL MACHINE**

The Terminator was set up for the test with the XXF shredding unit. XXF stands for "extra extra fine," and sure enough, it didn't turn out much in the way of overs. The Terminator also created less dust than the fast chipper, and less fines.



How much usable fraction can a machine shred on a litre of diesel fuel? The Crambo with 250 mm screen basket was the most efficient machine in the test.

The L3 separates the shredded waste wood into three fractions - overs (lower right), fines (left) and medium or usable fraction (middle)



Another advantage is its insensitivity to metal contraries, so it can shred very contaminated input. But in terms of specific fuel consumption the Terminator couldn't quite keep up - fast chippers like the Axtor, and the low-speed Crambo dual-shaft shredder, do better in this area. That's really no surprise, since the Terminator was designed as an all-purpose shredder. It can do waste wood, but its real strength is in mixed use.

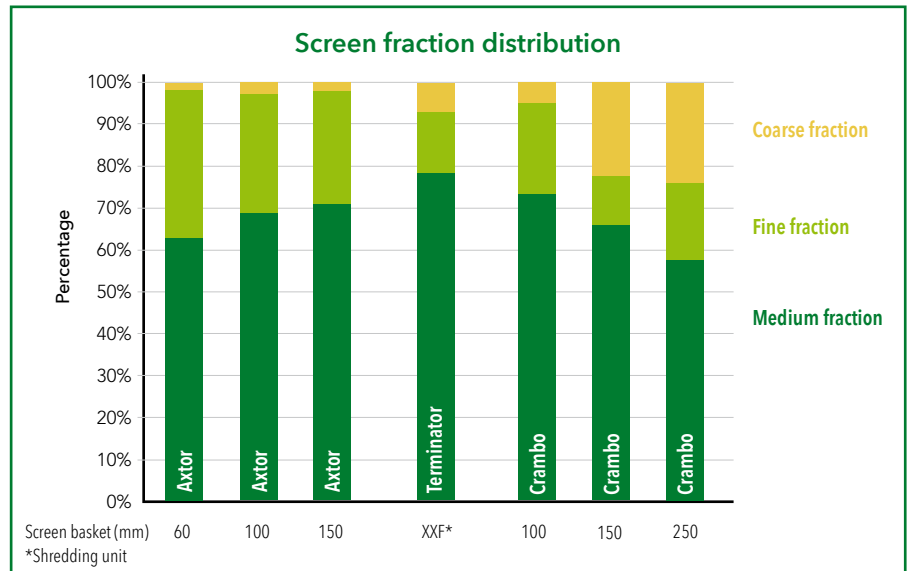
HEAVY DUTY OUTFIT

Even with high amounts of ferrous metal, up to 2.5 percent by weight in the processed material, the Crambo can still stand up to extended usage. The Heavy Duty version has armoured tooth mountings, wear plates on the drum, and screen baskets that are twice as strong. Another option is a special tooth design for waste wood that gives up to 1000 operating hours.

Naturally this comparison test cannot answer every question. The material requirements, available space and logistic situation differ from user to user, and other processes often have their place. But we consider the fact that many customers have set up similar processes at their sites to be a confirmation that our results are sound.

WASTE WOOD - WHERE THE CRAMBO SHINES

The Crambo direct was the last machine tested. It's no secret that it is suitable for shredding all kinds of waste wood. And the mechanical direct drive is known to save fuel. But what screen basket gives the highest efficiency? The low-speed Crambo will always tend to produce less fines than the Axtor. But the screen basket used makes a big difference - smaller screen baskets mean less overs and more fines, and vice-versa for large baskets. Throughput is much higher with large screen baskets, and the largest size tested turned out to be the most efficient, as compared with the other screen baskets and also the other machines. Result: over 700 kg usable fraction with a litre of diesel fuel. Even if you count the effort to re-shred the overs that go back into the input, the Crambo with 250 screen basket still comes out ahead.



The influence of the screen basket and shredding method - fast or low-speed - on the fraction distribution is clearly evident.

Just another day at Rieger: two Crambos feed a Multistar L3. The overs go right back to the shredders.





Used machines get a new lease on life.



Before the general overhaul, the machines are often in very poor condition.



This machine is getting a new coat of paint.

CERTIFIED USED BY KOMPTECH

Due to the high quality and value retention of Komptech machines, we can provide refurbished machines to defined standards, complete with manufacturer warranty. Our Certified Used machines make no compromises in quality or reliability.

Customer demand for used machines is growing steadily. Whether this is due to market uncertainty, or uncertainty about new business areas, buyers still want quality and reliability from used machines no less than new ones. Concerns about "not getting enough for your money" can very quickly outweigh any advantage offered by a lower purchase price.

Therefore, Komptech is setting new standards for used machines with the "Certified Used" programme. Certified Used machines undergo a standardized process of inspection, refurbishment and approval to the original manufacturer standards and quality criteria.

For refurbishment we use only original replacement and wear parts. Any updates relating to functioning are made at this time as well. Naturally, customer-specific modifications are always an option. Following a final inspection to the same quality standards as a new machine, the used machine is ready for the customer.

Certified Used is a quality promise that we underline with a manufacturer's warranty for six months or 500 operating hours.



www.komptechused.com



FROM CATTLE AND COMPOST

Silver Springs Organics started out in 2007 when Greg Schoenbachler transformed his family cattle company into a composting business, motivated by a passion for organics coupled with a desire to have a positive impact on the environment by diverting organic wastes from landfills and transforming them into a renewable, high-grade compost product.

Five years later Greg sold his business, which continues his mission to improve the environment. One of the first employees, Samantha Fleischner, is now Site Manager and oversees an operation that is permitted for 120,000 tons of curbside green waste. Samantha has proven herself over the years in an industry run predominantly by men.

Her broad knowledge of natural resource management, industry experience and hard work have helped Silver Springs Organics to become a beacon of quality in the processing of organic waste. She was also recently elected to the local Conservation District Board of Supervisors.

THE MOST EFFICIENT TECHNOLOGY

From the beginning, Silver Springs Organics has turned to Komptech to benefit from the latest technology and efficiency. Due to permit requirements and the large amount of rainfall in Washington, a two-stage ASP (aerated static pile) system is used.



Samantha Fleischer is proud of the high-quality compost Silver Springs Organics produces.

The company's first shredder was a Komptech Crambo 5000 electric, chosen for its low power consumption and output of a shredded product that gives good aeration in the ASP process. That first Crambo 5000 is still in use today after eight years of operation.

WET WEATHER, WET INPUT

A few years later, throughput became an issue. The deck screen the company was using was constantly clogging due to wet input, resulting in a mountain of material waiting to be screened. Silver Springs couldn't run product fast enough to satisfy the demand. Another concern was plastic removal - as business grew the waste stream diversified, and was sometimes contaminated. After careful consideration, Silver Springs decided to purchase a Komptech Multistar L3.

The new screen quickly took care of the backlog of material, and the ease of adjustability of the star deck also provided the flexibility to run a large range of products.

LOWER OPERATING COSTS

When asked why she chooses Komptech, Samantha's response says it all – "You get what you pay for. Better technology gives you more control. There might be a higher capital cost, but with better technology you run through less consumables." Silver Springs has minimal downtime with its Komptech machines and so can process material at a lower cost, an important consideration for a company that produces an average of 80,000 tons per year.

As material streams have continued to expand, so has the need for contamination removal. In 2014 Samantha purchased a Hurrikan wind sifter.

This unit runs in tandem with the Multistar L3 star screen to remove more of the plastic as well as rock and metal from the overs. These overs can now be used as a product or put back into the system. From cattle to compost – as Silver Springs Organics has grown, the relationship with Komptech has proven to be successful time and again. What's next?

VOCATION AND AVOCATION

Hubert Seiringer first heard about compost when he was 15 years old. When he was 20 he founded his own company. And today, 30 years later, composting is still his passion.



Hubert Seiringer explains to Andreas Kunter of Komptech how his recycling setup works. Cleaning the screen overflow (in the right of the photo) is an indispensable part of it.



Hubert Seiringer with his latest acquisition, a Hurrifex stone and light material separator. His dog Horst approves.



At the edge of Wieselburg in Austria, a mighty square farm stands on a hill. A closer look reveals that there is a composting plant in addition to farm buildings.

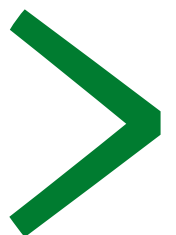
But you wouldn't know it from the smell, or lack thereof. "Every year we turn about 20,000 tonnes of green cuttings and organics into high-quality compost," says Seiringer, and right away you can tell that the term 'high quality' isn't just something he throws out there. "Compost is about quality. If the quality's good, sales will not be a problem." He's sure of it. "A change in attitude is taking place in agriculture, and with more and more organic farming, compost is seeing a revival. Here in the east of Austria there is huge demand, more than we can meet."

WITH IT FROM THE BEGINNING

It was organic farming that got Seiringer interested in composting as well. After completing his agricultural training, he made his first attempts at composting on the family farm, using stall manure. He followed that with green waste, and starting in the early nineties he started composting organic waste. "With the first organic bin I took in, I had the feeling that I had a responsibility to make something good come of it," recalls Seiringer of those first collection runs with his own car to gather material for testing. In the years that followed he worked on refining the process as well as on improving the machinery, which was still very much in its early stages. If he couldn't find what he needed he built it himself, like his Tracturn compost turner.

IDEA SOURCE FOR HURRIKAN & CO.

Plastic contamination was a problem then just as it is today, and Seiringer searched for a solution. He had an idea, but he needed somebody to help him build it. Komptech - at the time still called Komptech-Farwick - was interested, so together they started working on a prototype. The machine that resulted laid the foundation for the Hurrikan wind sifter, which is sold worldwide and whose performance remains unequalled. The relationship with Komptech continues to this day, with Seiringer contributing process knowledge and practical experience to the designs and calculations of the development engineers.



THE PLASTIC HAS TO GO!

It is Seiringer's conviction that the right processing and machinery are critical to getting clean compost. "We leave the material in the rotting area for eight to twelve weeks, turning it once or twice a week. Then we drum screen it to under 12 millimetres and do a ferrous separation. Almost all the plastic ends up in the screen overflow. That's where the Hurrikan wind sifter comes in. Since we run all of the screen overflow back through the process, cleaning is an absolute necessity. If we didn't, contaminants would build up in the screen overflow." If plastic stays in the composting process for a long time, it starts to age, get brittle, and break down into smaller and smaller pieces under mechanical stress like turning. Then not even fine-grain screening will get the pieces out. Seiringer solves the problem with a stationary drum screen and downstream Hurrikan, which he converted from mobile to stationary, and which will soon complete its 15,000 th operating hour. For mobile support there is a Maxx drum screen and another Hurrikan for contract jobs.

A "HARD" PROBLEM

Another contaminant also used to make screen overflow recycling harder - stones! Plastic's colour and flatness make it stand out, but stones look much more like the material they come with. Seiringer estimates that his screen overflow is about 10 percent stones by weight. This doesn't affect the biological composting process, but definitely impacts his machine park. Since he shreds the screen overflow before running it back through as structure material, a lot of stones mean a lot of shredder wear. "Low speed shredders are fairly tough in this respect, but the teeth definitely stay sharp longer without the stones, and shredding is more efficient," says Seiringer. He doesn't even want to think about what some of the larger rocks might do to a high-speed shredder.

BRING ON THE HURRIFEX

The solution was a new Hurrifex separator that can get rid of stones as well as light materials like plastic film. The screen overflow goes through the Maxx to separate out the fines again, and then to the Hurrifex. Seiringer sets it so that it gets out almost all the stones. It also takes care of any plastic film the



Hurrikan missed. Naturally Seiringer was involved in the design of the Hurrifex, helping Komptech's developers with the final details. The output is an absolutely clean screen overflow that shreds problem-free for a new composting run-through. "With just my material volume I couldn't have made good use of the Hurrifex' capacity," admits Seiringer, "but the interest shown by other composters told me that the machine would pay for itself through rentals. Especially since pretty much all the composters around here have similar problems."

STAYING BUSY

"We're almost always sold out" - Seiringer's products are popular and demand is healthy. Some of this has to do with canny positioning for different customers and needs. A third of his compost goes to agriculture, a third is refined into lawn and organic soil, and the rest goes to a large earthworks company. But Seiringer stays busy

with more than just running his composting operation. He developed an innovative ventilation system to make decomposition go better, and 80 of the systems are in use around the world. Organic farming and forestry are his personal passion, and as chairman of ARGE Kompost & Biogas he represents 2/3 of Austrian plant operators. The organization transfers knowledge and looks out for plant operators' interests, and requires annual Arge quality control certification for all of its members. According to Seiringer, Austria is on the right track when it comes to handling organic waste. "Austria is the world leader in compost, although there are things we need to improve. Globally, there is a huge amount that remains to be done. Ultimately we all live from the soil, and it desperately needs more good compost."



Seiringer Umweltservice GmbH



Since the company was founded 25 years ago, a 15 year old's idea has become an innovative company that helps protect the environment every day, while creating jobs in the region.



Formerly mobile, now stationary. The Hurrikan wind sifter in the centre of the photo is coming up on 15,000 operating hours.



Hubert Seiringer shows Komptech's Andreas Kunter what the problem looks like close up.



EcoBois CEO Stefan Studer (left) and son Eric, who looks after the machines.

SWISS PRECISION

The EcoBois Recyclage SA company run by Stefan Studer and Partners is picturesquely situated in Vétroz near Sion in the Swiss canton of Wallis, where environmental protection is a major priority.

Studer has been in business for over 30 years. In addition to his recycling company, he also runs two sizeable farms with over 50 horses and other livestock. The environment was always important to him, so it was natural to get into municipal environmental protection. He started out with a single machine, offering services to townships and undertaking his first attempts at composting. He turned out to be good at it, and business grew apace.

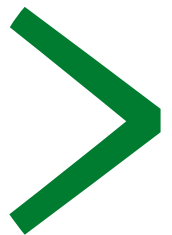
In 2004 he and some partners started EcoBois Recyclage SA in Vétroz. The company site has since expanded to cover 20,000 square meters.

NEW EQUIPMENT

For years, Stefan Studer worked with high-speed shredders and competitor screeners. "It worked OK for composting, but not for waste wood," he recalls.

Studer switched to low-speed shredders for that, and has two of them in his machine park, having recently added a direct-drive Crambo 5200.

"Good machines make good compost, plus, big machines are a lot cheaper to run," is his philosophy. "What's more, only the Crambo gives satisfactory results with waste wood."



The Crambo 5200 direct is at the heart of EcoBois operations.



A BROAD PERSPECTIVE

These days Studer and Partners work 25,000 tonnes of green waste and 10,000 tonnes of waste wood each year, serving 70 townships. Each year the site also gets around 75,000 on-site customers. "Some of the compost goes to organic farming and to vineyards," says Studer. He thinks ecologically, which is only natural since he's a member of the Wallis Cantonal Environmental Commission,

and a member of the board of Biomasse Suisse where he is the speaker for the Romandie region.

NEW IDEAS

Studer got the idea for a biogas plant and biomass co-generation plant in 2006, and started making biogas in 2014. "Our experience has been that pretreatment for anaerobic digestion

only works well with the low-speed shredder," he says. The piles of waste wood he gets cry out for a biomass power plant, and one is already in planning. Studer explains, "we're looking at a two-stage shred, with preshredding by a low-speed machine and postshredding with a high-speed machine." He also has big plans for his composting operation. "Ecobois has purchased 75,000 square meters for expansion stages," he says with pride.

EcoBois is located in Vétroz, in the picturesque Swiss canton of Wallis.



CUSTOMER SERVICE MAKES THE DIFFERENCE

The availability of his machine park is a major factor for Studer. "It's not just about the price for a machine. It's more about good service if something does go wrong," he notes. "And that's where Komptech's Swiss distributor GETAG comes in. They're really the best partner you could ask for," he says in praise of the relationship.

So the future outlook is good.

EcoBois RECYCLAGE SA

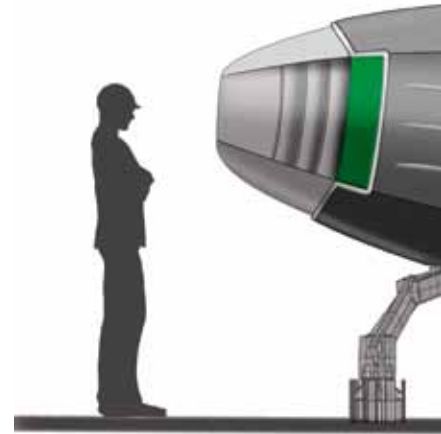
www.ecobois-recyclage.ch



Each year, EcoBois handles 25,000 tonnes of green waste.



(Left to right) Stefan Windisch (Komptech Area Sales Manager), Stefan Studer (EcoBois CEO), Eric Studer (in charge of the machines), Yvan Grepper (CEO GETAG Entsorgungs-Technik).

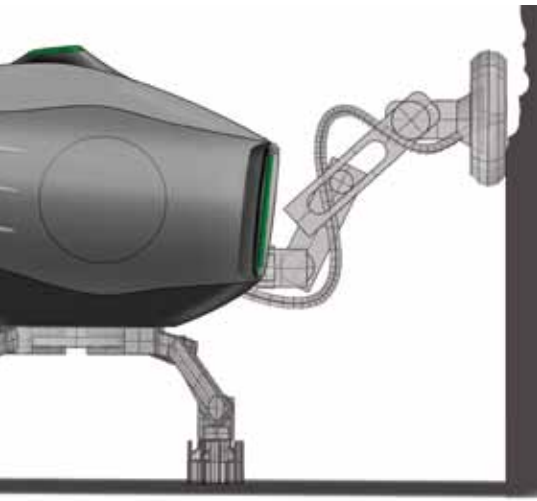


THE SHREDDER OF THE FUTURE

In 2015 Komptech did a big project with the Industrial Design department of the Joanneum University in Graz, Austria. The project was entitled "The Shredder of The Future." Here is a collage of the concepts that arose in the course of the project. Further results will be presented at IFAT 2016 in Munich.

To be continued...





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*Ray Silene and the new Topturn X63
make a magically good team.*





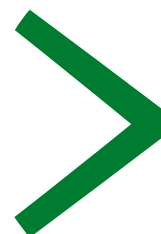
BETTER TURNERS, BETTER BUSINESS

Idaho composter grows from local nursery supplier to four-state sustainability engine – with a little help from Komptech’s Topturns.

When Ray Silene started as production supervisor with Magic Valley Compost in 2006, the company had nine employees and two worn-out turners. The general manager at the time was focused on bagged products and nursery sales, and the company struggled to produce 40,000 tons per year. Ray came from an equipment and farming background, and so focused more on machinery and production. He soon increased the output and quality of product. As the company began to streamline, it started expanding its sales area.

SOLVING A PROBLEM

Magic Valley Compost, like any businesses, creates value by providing a solution to a problem. The problem in the Southern Idaho region was all the manure from the many dairy and feed lots in the area. Magic Valley knew that it could be part of the solution by composting the manure and selling it back to local farmers. The idea was to windrow-compost the manure on a small portion of land at each site, then transport the high quality composted manure to local farms and spread it. This required turners that were easily transportable, low-maintenance and fuel-efficient.





His three Topturns turn 74 compost sites.

Ray and his partner Luis Bettencourt purchased a number of different turners over the years, gradually moving to bigger, more specialized machines and eventually the Komptech X60 Topturn. This turner had less downtime and lower fuel and wear than its predecessors. The X60 also decreased the composting time by creating a higher windrow with a lot of porosity. This meant the product could get out to market sooner and create revenue. On top of that, the Komptech turner worked much faster, so the company could turn more sites in a day. As a consequence Magic Valley expanded its customer base.

Magic Valley Compost currently has three Komptech turners and manages 74 compost sites, and has the capacity to produce, screen, haul and spread over 600,000 tons of product per year that was once viewed as waste. The company ships compost as far as 250 miles away and provides custom services in Idaho, Oregon, Nevada and Utah.

CLOSING THE LOOP

The concept of a sustainable closed loop system is often preached but rarely practiced. Magic Valley takes the manure from cows, composts it and sells it back to the farmers who grow the hay

that goes back to feed the same cows that produce the manure. Magic Valley thus closes the organic loop in the truest sense of the word. The company has also expanded into providing nutrients for a variety of conventional and organic crops, along with soil reclamation.

In 2015 Magic Valley took delivery of their latest turner, the all-new Topturn X63. This replaced the X60 model and incorporated many ideas that Ray and his team had brought to Komptech. A big improvement was the power plant. The new X63 uses a 450 hp CAT C13 engine instead of the 340 hp CAT C9



Ray Silene is happy with the compost quality.

used in the older machines. “The new X63 goes through the windrow twice as fast as the older models” says Ray. “This reduces costs dramatically since time is money.” Magic Valley Compost is constantly looking for new ways to use processes and equipment to leave a smaller impact on our environment.

STAYING THE COURSE

Don't think Komptech or Magic Valley is done yet. Ray Silene recently visited Komptech at the annual sales training meeting in Blackhawk (Colorado) to share his experience with the engineers from the factory.

Together, they are working on new ideas to incorporate in his next machine - just as Komptech has worked in partnership with customers from the beginning to grow their businesses. In this way the machines get better, and the customers' bottom line grows.

THE WORLD IS GETTING GREENER.

With stationary technology from Komptech.



green efficiency



Less fuel, more power:
the Crambo direct
Dual-shaft shredder



The end of the stone age:
the Stonefex
Stone separator



Round up:
the Flowerdisc
Disc screen



green efficiency



Incredibly tough:
the Terminator direct
Single-shaft shredder



green efficiency



Two in one: the Hurrifex
Stone and light material separator



Drum-roll:
the stationary drum screens



Provides for fresh wind:
the Hurrikan
Windsifter



Shaken, not stirred:
the Ballistor
Ballistic separator



green efficiency



Screening with a star:
the Multistar
Star screens

Of course we're not the only people helping to make the world a greener place. But we're still very proud of our solutions for handling waste and biomass!



KOMPTECH
TECHNOLOGY FOR A BETTER ENVIRONMENT