

## **2016 YTD Press Coverage**

Summary By Marketing Dynamics International **7/7/16** 

## Editorial Coverage Summary - YTD 2016

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- May Rubber Recycling Front page Feature Story

## Environmental Expert - (2)

- March 4 Escrap Shredding
- March 14 G-4X Refiner mill

## *IQS Directory – June 9 – G-4X*

### **Plastics Recycling-** April – Saturn Hammermills

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- Jan 29 Hammermill for scrap metal and plastics (online and ENSL feature product announcement)
- **Feb 26** G-4X Next Gen Refiner Mill s- New customer cites savings of \$25K per month in lubricant expense

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- Feb 26 –G-4x Refiner Mill New product story (online)
- **April 5** Granutech helps form 3TEK Global and 3TEK NEXT product line
- **April** Paving the way with Quality State Rubber utilizes Granutech machinery for rubberized asphalt material
- April Equipment Report G-4X Refiner Mill

#### **Scrap Tire News** – April – G-4X next generation refiner mill (spotlight and new product story)

### **SCRAP MAGAZINE – MAY/JUNE** – G-4x Refiner Mill

- New product story

### Tyre & Rubber Recycling – (2)

- Issue 1 -Cover article –Saturn Grizzly S80 Grinder –' Maximizing Tyre recycling at 200 tonnes per day'.
- Issue 2 G-4X next generation Refiner mill

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## QS<sup>®</sup> Directory **IQS Articles and Press Releases**

### Granutech-Saturn Systems launches next-gen Refiner Mill for tyre crumb rubber

June 09, 2016 - "Press Releases"

#### Design 'delivers higher production, runs cooler and more efficiently, eliminates lubrication expenses'

Granutech-Saturn Systems, manufacturer of the Saturn brand of industrial and mobile tyre shredders, has launched a new refiner mill. The machine features sealed roller bearings for greater tolerances in processing material down to 80 mesh. The company will brin 2016 (Hall GA- Stand 114), where visitors can learn more about the new machine and the company's complete tyre re

The G4X is the next generation product to the company's existing G4 mill. It has a completely new sealed roller bearing design that, the manufacturer states, provides significant benefits over the industry's traditional bushing design mills. The design enables the G4X mill the ability to hold the rolls at much closer tolerances (up to 400 per cent closer than traditional bushing designs), which translates to finer, cleaner, more usable powder and fewer processing cycles, which in turn means higher production. With reduced roll clearances in roller bearing design there is also an increase in processing capacity, translating to a throughput of asphalt-quality crumb rubber of three tons per hour; a figure Grauntech-Saturn claims is up to 25 per cent higher than leading mills.

"In addition, reduced bearing temperature means this design runs cooler and more efficiently than traditional bushing design competitive mills, resulting in less energy used for external cooling," said Mike Hinsey, Granutech-Saturn Systems vice president, "The

"sealed" bearing design eliminates the need for continuous lubricant, resulting in significant operational & consumables savings."

One of the company's tyre recycling clients in the US, State Rubber, was a key contributor in the development of the spec for the new product "Granutech-Saturn clearly paid attention to our inputs, and created a next generation design that met all the requirements. We are thrilled with the new G4X mill,\* said Jerry Woosley, president of State Rubber. "The savings in lubricant alone, averages \$25,000 a month, and we also noticed a more consistent and cleaner output of crumb rubber granulate, due to the tighter tolerances achieved by the new rolls."

Grauntech-Saturn says the new G4X mill is ideal for the efficient production of the fine granulate powder used in applications such as rubberized asphalt and molded product or filler materials.

ng its latest machine to Reifen	Random Posts	
ecycling systems.	<ul> <li>Quality and Efficience</li> </ul>	
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- The Hoffer "ICE" Integrated LNG Cryogenic Measuring System
- Despatch Industries Announces Upgrade to Popular Line of High Performance Benchtop Ovens
- Next day valves
- New GF135 PTI Mass Flow Controller Revolutionizes Advanced Process Control for Semiconductor Manufacturers

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# **Recycling Product News**

#### TIRE & RUBBER RECYCLING | by Keith Barker

18 Recycling Product News MAY/JUNE 2016

## IS RUBBER-MODIFIED ASPHALT THE BEST OPTION FOR END-OF-LIFE TIRES?

WE HAVE THE TECHNOLOGY: LET'S PUT MORE RMA IN OUR ROADS

a recently as the 1980s, most scrap time generated in North America were land-filled, wedgeled, lemmed or filled, sweepnen, mennen left lying wherever their last "roll" trok them. Some market develop-ment and the recycling was arbitrated in the 1980s, but tire dumping was still cheap and unregulated, so tires were not widely recognized as a resource until well and the 1990s. According to a 2012 "Study of Podone on helialf of the Canada" done on helialf of the Canadan As-sociation of Tire Recircling Agencies

"If rubber-modified asphalt was used across all of the main

#### highways in North America where we use asphalt, we could resolve the scrap tire challenges we have in Canada and the U.S." ARISE HINSEY

Canada.

(CATRA), during the 1950s "In addition to basic recycling objectives, a series of major stocknile fires encouraged provinces and states to initiate scrap management programs to stop illegal dispessal and create markets

"Many fire processing methods and equipment computents were tried, with mixed results, and market development notech, a manufacturer of shredders, granulature and mills for the recycling of mil-of-life tires and robber, recent reports from the Rubber Manufacturers Association tell us efforts tested the limits of creativity and rhot in 2014 just over 200 million namels of emmily rabber credibility"." According to the study, "The bargwas utilized for RMA generated in the U.S. and Canada. "RMA, sports field and playground surfaces, monified

moducts, and the landscape industry are the four biggest end term result has been development of dimense proclasts and a first processing industry capable of making these prod-ucts. In the relatively short period of 15 markets for recycled relifier," any Hansey. "For the most part, the asphalt manufacturing automy needs a finer gram late than the crutific robler generated and produced for to 20 years, scrap tires have progressed from a disposel fiability to a valuable re-source with broad market parametrizan." Scrap tires definitely offer a range of

sports field and playground surfaces, to moulded products. The derived fiel (UDF) is also a solid waste-to-energy op-non. And then there are our roads - millions of kilometres. in North America which are nothing if not an end market with endless potential. This is where robber-modified as-pliale (RMA) comes in RMA technology was initially developed in the 1970s, has

possibilities for the manufacture of recycled products, from

been actively promoted since the 1990s, and has continued to evolve. The technology is often referred to as the "Ari-rum Process" because of its extensive use within the State of Arizona. Variations have been developed in an effort to address perceived obsacles and improve performance. In orch case, rubber is mixed with an asphalt binder, then the asphalt binder is mixed with the approprie and spread on

the roadway to from asphalt pavament. RMA is widely used in the U.S. (especially in the South) and increasingly across

RECYCLED TIRES - THE NOT-SO-LONG ROAD TO THE HIGHWAY

According to Mike Hinsey, International VP at Gra-

sports fields and other end markets. It wouldn't surprise me

if 40 to 50 percent of U.S. producers who are making granulate (or powder) from end-of-life tires supply product to the

For the stoset part, RAMA applications require 30-mesh (0.6 mm) or smaller granulate. To produce granulated resp-cled rubber outside for 30MA applications, and or-bits trans-and rubber geoduces are first streadful their part through

a grizzly grander to separate the steel, and then through a granulator to get a noir films free product. The final stage

the one that sets the crumb rubber to the size needed for RMA applications - is the mill. "We to recently introduced our updated G-4X null, with a true redier-bearing design rather than a bushing," says

Hinsey," This allows the machine to hold much tighter clearances, reduces bearing temperature, reduces grease consump-tion and increases production out of the null. So we can take the same mill, new litted with hearings instead of hushings. and increase a rubber receiver sproduction while roducing his operating costs and wear and tear on machinery. "On the production side, there are challenges with respect

to making a relatively clean material - one that closen't have

a list of contamination. At Granutsch, with the systems we supply for producing granulized rublics, including the new

G-4X Mill, we added in de-storning processes to capture

rous contaminants like brass, lead, alum

asphalt manufacturing industry in some form or fashion.

Hinsey continues, "What makes this technology unique for the asphale industry is that recyclers can now use technickery such as our GoIX mill to efficiently and consistently make the fine-grand ponder (matus 30 med) materiali, to specifications needed and at a high capacity. "Those that tend to make applult

quality material generally do so with a G-4X-style rwin drive mill. Key features of that style of machine are the ability to get a high fristion ratio and a much greater number of sus per exclutions, which is very, very impor-tant for producing asphalt robber." Honey says that if there is one drawback to the use of RMA, it is that it is generally a product that has to be put down during a warmer part of the year. Thus, northern climates are more restrictive, with respect to the "window" available for the application of RMA. In the State of California, they

recently put legislation in place man-dating the use of RMA on an incre-mentally rising scale, approaching a 50 percent requirement for RMA in state

-terms of the nercontaire of road naving projects that require robberrised asphalt," containes Hinser, "You go all across the southern U.S. at this point, from Texas to Florida - they are all using a large amount of RMA in their road building. The northern states and Canadian provinces as well, but they'relimited by a shorter season.

"If rubber-mudified asphalt was used across all of the main highways in North America where we use explain, we could resolve the scrap tire challenges we have in Canada and the U.S. There has been some progress over the first decade in using more 50MA in our roads, but there are still many who want to find mads the same way it's been done for decades, even if RMA mads have shown that it's

Hinsey, "Roduced noise is definitely a major benefit of RMA-built roads in urban areas and, more importantly, wherear RMA is being used, they're traditional apphalt.

modified asphalt performs superbly. adless of the climate," BPN

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and alass, It is an added separation bushing design mills. ins, which full-reache mill "Reduced Searing temperature me

> chips. According to State Robber president spec for the new G-IX, "Granutech-Saturn clearly paid attention to our inputs, and ensated a next generation design that meets all the requirements. The say ines in lubricant aliane, averages \$25,000 per month, and we also noticed a more consistent and cleaner output of crumb rubber gramlate, the to the fighter toleranos achieved by the new rolls."

\*Aniana probably leads the U.S. in

a better performing predict and has a lower life cycle cost. "The henefits are proven," concludes

steing a substantially longer-overall life of their asphalt parement, compared to

"When it's put down properly, at the right time of year, with the right con-ditions and right temperature, rubber

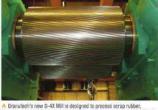
#### GRANUTECH-SATURN SYSTEMS LAUNCHES NEXT GENERATION REFINER MILL

#### FOR CRUMB RUBBER

Granotech-Satern Systems, at the start of 2016, launched what the commany calls a orvolutionary note refiner mill for scrap rubber, featuring scaled rollar hearings for greater tolerances when processing rial down as small as 80-mesh. The G-IX is the next generation mill, olonving from Grammoch's popular G-I model, and features a unique, scaled roller bearing design that provides significant benefits over the industry's traditional

the design runs cooler and more officiently than traditional looking design competitive mills, resulting in less energy used for enternal cooling," says Granutsch's Intertional VP, Mike Hansey. "In addition he 'scaled' bearing design eliminates the need for continuous lubricant, resulting in ignificant operational and consomables arings."

Jerry Wooday, one of Grantschivitin recycling equipment clients, who was a key contributor in the development of the



featuring sealed roller bearings for greater tolerances when processing to as small as 80-mesh.

Due to its new design, the G-4X mill has the ability to hold rolls at salt quality crumbrubber up to 3 sons per hour tup to 25 percent higher than leading competitive mills, according to Granutech. The new Saturn G-4X mill is ideal for efficient much closer tolerances (up to 400 prevent closer than traditional bash-ing designs), which translates to finer, cleaner usable powder, feurer processing cycles and higher production. Additionally, with reduced roll clear-ances in roller bearing design, there is an increase in processing canacity Granutech-Saturn Systems which translates to a throughput of

production of fine gramilate possiler for applications including rubber-modified asphalt as well as monided products and filler materials for the

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American cvcler

NewsVoice of Salvage, Waste and Recycling

## FOCUS: C&D

C&D recycling

## Rubber recycling: A growing industry

#### by MAURA KELLER

mkeller@americanrecycler.com

ders are being produced."

Internationally there is significant new growth in regions with little established tire recycling process capacity. These regions are seeking smaller capacity systems while still producing fine powders.

As Hinsey explained, manufacturers are meeting this demand by reducing process steps, and having more manual industry continues to grow both in commercial and residential areas.

"Tire recycling technology has really made the process easy and efficient and is taking off and being used in many differPHOTO COURTESY OF ECO GREEN EQUIPMENT

rubber recyclers have to work with, which vary by state. Additional regulations come into play depending on what the recycled rubber is being used for, such as playground safety.





WHAT'S INSIDE

Companies to take part in a safety stand down effort. Page A7

- Duke Energy to use animal waste in conversion facility. Page A10
- Antidumping order hits steel imports from seven countries. Page A14
- GM recycles water bottles to make Chevy Equinox parts.

May 2016 \$7.00

AmericanRecycler.com

## **American Recycler** (June-Cont'd)

functions. The time powder can be p duced in machines such as the G-4X mill with the new roller bearing design that

### New York States States

And for the most part, the tire recycling industry is looking for increased system capacity, and making finer products, while reducing system and operating costs.

"Manufacturers are responding with more powerful shredders and grinders, such as the Super 80 Grizzly, that can process over 200 tons per day, and allow some operational steps to be eliminated so the plant cost and energy requirements are actually reduced from where we were 5 years back," Hinsey said.

#### **Historically Speaking**

According to the Rubber Manufacturers Association, in 1990, only 11 percent of tires were consumed on a per tire basis. In 2013, end use markets consumed 95.9 percent by weight of the scrap tires generated in the U.S. Since 2011 the percentage of scrap tires consumed by markets increased 12.9 percent, while the volume of tires utilized increased by about 418 thousand tons.

"In excess of 90 percent of all tires are collected in the U.S., which means the industry is strong, as tire sales have picked up due to the strengthening economy," said Charlie Astafan, general manager at CM Tire Recycling Equipment.

Keith Sacks, vice president of Rubberecycle, manufacturer of rubber mulch and residential surfacing products made from scrap tires, explains that more and more products both in and out of the maning on the

being used for playground safety, landscaping, horse tracks, obstacle courses

en as bullet traps for ballistic And many states have recently to look at recycled tires as a way to repave roads."

Tire recycling is a strong industry with incredible room for growth. As such, some processors are seeking higher capacity while reducing their operating cost per ton. While they face increased product demand there is also product price pressure.

According to Sacks, the benefits to the environment as well as the recycling industry are proving that we can be more innovative and open minded with how and what we recycle and do a better job of creating sustainable recycling. Today's tire recyclers have to focus more on educating people about rubber recycling.

"In recent years, we have faced many erroneous claims of tire rubber being harmful to users and the environment," Sacks said. "All of these claims have been consistently refuted with facts, data, and credible studies that prove rubber recycling is safe. Unfortunately, people still find it hard to trust inorganic recycled materials. Hopefully when the current government study is completed it will do a better job of convincing people that rubber recycle is not only safe for the environment and personal health, but also an important step in us learning how to recycle and create a more sustainable world."

In addition, government regulations are continuing to impact the tire recycling industry. There are various different government agencies and regulations that

should be imperative for tire recyclers.

"Markets have always been challenging for tire recycling," Astafan said. "The business tends to be geographical therefore you must balance your incoming flow of tires with the available markets that you have reasonable access to."

So what are the biggest trends facing the scrap tire industry? According to Jon Maly, sales manager at Eco Green Equipment, one of the key trends is higher quality TDF (tire derived fuel) chip production that is moving towards the wirefree market.

"This is due to the increased BTU value per ton with the steel removed from rubber," Maly said. "Also, it reduces the material handling challenges processors face with steel in the rubber. Users, such as industrial boilers, prefer wire-free TDF."

Maly added that more companies are focusing on cleaner, 30 mesh minus production for secondary uses.

#### **Technology Inroads**

Recent machinery designs have allowed processors to achieve higher capacity production than has ever been achieved in granulate production. As Hinsey explained, while there has been high shredding capacity for some time, the ability to produce a steel free product, such as a mulch material where the steel has been separated, has only come to the market in the last four to five years.

"The 10 ton per hour grinders have provided operators a way to reduce their costs and allowed them to produce a low steel fuel quality product at a profitable price point," Hinsey said. "For powder

See RUBBER RECYCLING, Page 6

# American Recycler (June-Cont'd)

## Rubber recycling

#### Continued from Page 1

production, the enhancements in mill technology are allowing processors to make smaller powder at higher production rates than had even been achievable."

Technology and equipment also have allowed the industry to improve is processes. Over the past 20 years the equipment enhancements have benefited the industry in numerous ways.

"A number of years ago processors were predominantly using equipment from the general waste and plastics industry for processing tires," Astafan said. "Today more and more equipment manufacturers are developing equipment specifically for tire reduction and separation. These machines are much heavier and can withstand the wear and tear of tires with their reinforced steel."

Rubberecycle has made many inhouse improvements to further enhance the equipment's capabilities and output that have greatly changed our production over the past 17 years," Sacks said. "Through technological advancements, we are able to remove all of the metal within the tires, as well as wash, mulch, and paint the rubber."

In addition, Astafan stressed that tire recyclers need to pay specific attention to their processing plants, including storm water nun-off and air quality. And pay spe-

regulations regarding the burning the solid waste and other solid fuels such as coal. "I also would pay close attention and

become actively involved in the issues surrounding the field turf," Astafan said. "This issue could be significant to this market as well as others, even though it is unfounded and not based on facts or science. Also any regulations regarding the sale of used tires could cause a serious impact to the industry."

**Growth Potential** 

The tire recycling is growing and looking promising. According to Maly, major markets such as wire-free mulch continue to grow year after year. Other markets for crumb rubber and smaller sizing are also growing as the demand for secondary products and uses such as plastic blends, molded products, and industrial applications continue to grow.

"Several areas for secondary markets are growing," Maly said. "Markets such as pour in place, rubber/plastic blends, rubber modified asphalt and general industrial and construction products/fills, are all on the upswing. New uses for secondary rubber uses also are being developed every month."

Of course, growth potential within the tire recycling industry is directly related to access of tires and the access to markets.

"Also there has been a lot of activity in pyrolysis in the past three to four years," Astafan said. "If there are advancements in this technology this could be a disrupter to the industry." Pyrolysis is a method used

either whole or shredded – are subjected to heat in an oxygen-starved atmosphere. The result is tires that are converted to oil, gas, and carbon char to be used as fuel.

Once the government agencies finalize their report on rubber recycled material, experts expect the growth of the industry should be 10 percent plus per year. Even now there are many states and areas looking to use recycled rubber in new and innovative ways, such as rubberized asphalt.

"Once the claims of toxicity are more clearly debased, the industry will have a clear and strong path forward," Sacks said. "I also think more and more industries will find new and innovative ways to use recycled rubber. Recyclers and environmentally-friendly agencies can use the success of tire recycling to push new and innovative recycling opportunities."

"There is a tremendous amount of room for growth in tire recycling," Sacks said. "Around 300 million scrap tires are discarded yearly in the U.S. alone, which means there are many tires to go around. The only thing recyclers need to know is that tires need to be thoroughly cleaned and have all metal removed from them."

Astafan believes that unless there is a disruption to the status quo with regulations, tire design or new potential markets for the materials derived from ground tires, he expects to see slow growth throughout the industry.

"As competition continues to increase, there also will be a continued trading of market share between processome processors going out of business due to the competitive pressures," Astafan said.

While there is high demand for rubber modified asphalt regions of the U.S. and overseas, there is increasing demand for this small rubber powder and there appears to be a steady but slow growth market segment, especially in the international field.

"As for concerns, the recent health debate on sports fields using recycled rubber, which basically ignores numerous scientific studies, is causing some contraction in the industry," Hinsey said. "To address this there are additional studies being conducted and coordinated efforts are being made on behalf of the industry to make certain that factual data and not gossip is the basis for policy decisions.

## **Recycling International**: Granutech-Saturn announces 3TEK joint venture (April/May 2016)

#### t started small

short time. In Indonesia. A as washing erials from ere are an ulation of re transndbags. ucture nities,' I r's US n Adata- Pe

### Joint venture to address changing shredder needs

Ter an3TEK Global is the name given to a new company formed by US-based recycling equipment<br/>manufacturers Granutech-Saturn Systems, Pen-<br/>insula Equipment and Riverside Engineering.gs.insula Equipment and Riverside Engineering.gs.Headquartered in Texas and launched on the<br/>ISRI trade show floor, 3TEK aims to serve 'the<br/>needs of a changing scrap metal industry'.According to Bill Padula, vice president of both

Peninsula Equipment and 3TEK Global, the

- es- new company will supply the NEXT line of
- in mobile and stationary hammermill shredders
- and related downstream separation equipment to small and medium-sized yards processing less than 50 tonnes per hour. 'This helps them take control of growing their business,' Padula told Recycling International in Las Vegas.



'Our solution gives recyclers the opportunity to scrap their material on site. In other words, we take the shredder to where it is needed instead of the recycler moving the scrap to a far-away stationary shredder, saving time, energy and logistics costs.'

The 3TEK NEXT product line incorporates the hammermill and downstream separation designs of Riverside Engineering and the Caterpillar engines and product support capabilities of Peninsula Equipment, along with the 50 years of manufacturing expertise Granutech-Saturn Systems brings to the scrap industry. 'It is a powerful combination and we are proud to be a part of it,' said Matthew Morrison, president of Granutech-Saturn Systems.

3TEK's NEXT 7400 mobile shredder hammermill system has a 2100 HP mobile, diesel-power module design, with power pack options and other modular downstream equipment specifically designed to facilitate ferrous and non-ferrous scrap processing close to the source. The shredder is claimed to be 'unique' in providing a powerful hammermill design on a mobile platform. 'This brings the characteristics of much larger hammermills to a compact package that can be fully installed, functional and shredding in three days,' it is pointed out.

The NEXT 7400 will be in production in the second quarter of 2016, with follow-on releases in 2017 to include a smaller unit designated the 3TEK NEXT 6000.

3TEK aims to sell at least six units in 2017, followed by sales of another 12 units in 2018. After the launch on the North American market, 3TEK will reach out shortly to recyclers around the globe, confirmed Padula. www.3TEKglobal.com



Bill Padula (left) and Matthew Morrison.

## Tyre & Rubber Recycling Magazine -issue 2

#### NEWS Granutech-Saturn Systems Launches Next Generation Refiner Mill

Granutech-Saturn Systems has launched a revolutionary new design refiner mill for scrap nubber and tyres, featuring sealed roller bearings for greater tolerances in processing material down to 80 mesh. Users can learn more about the new machine and the company's complete tyre recycling systems, at the Reifen exhibition in Essen, Germany, Hall GA-Stand 114.

The G4X, is a next generation product to the company's popular G4 mill, but features a completely unique scaled roller bearing design, that provides significant benefits over the industry's

throughput of asphalt quality crumb rubber of 3 tons per hour (up to 25 per cent higher than other leading

"In addition, reduced bearing temperature means this design runs cooler and more efficiently than traditional bushing design competitive mills, resulting in less energy used for external cooling," said Mike Hinsey, Granutech-Saturn Systems Vice President. "In addition, the 'sealed' bearing design climinates the need for continuous lubricant, resulting in significant operational and consumables savings," he added.

In fact, one of the company's tyre recycling clients in the US, State Rubber, was a key contributor in the development of the specification for the new product. "Granutech-Saturn clearly paid attention to our inputs, and created a next generation design that met all the requirements. We are thrilled with the new G4X mill," said Jerry Woosley,

traditional bushing design mills. The to hold the rollers at much closer tolerances (up to 400 per cent closer than traditional bushing designs), which translates to finer and cleaner usable powder and fewer processing cycles, which translates to higher production. Plus, with reduced roller clearances in roller bearing design, there is an increase in processing capacity as well, translating to a

President of State Rubber. "The savings in lubricant alone, averages \$25,000 a month, and we also noticed a more consistent and cleaner output of crumb rubber granulate, due to the tighter tolerances achieved by the new rollers', he added. The Saturn G4X mill is ideal for

efficient production of fine granulate powder for applications such as rubberised asphalt and moulded product or filler materials.

### MTB Works with Tyrec

French shredder manufacturer MTB as been working closely with Israeli ubber recycler Tyree Ltd for the past



10 years. Tyrec is the leading tyre recycling company in Israel. The company was established in 2007 following Israeli government legislation regarding tyre recycling. Tyree's product range varies from different sizes of GTR (ground tyre rubber)

Tyre & Rubbo Recycli Tyree handles the tyre end

conference will be held at the SLS Hotel & Casino in Las Vegas, Nevada on September 14 - 15, 2016. The conference Co-Director Dr. Serji Amirkhanian stated, "We are always very excited when the R2P conference time comes around. Each year we have seen the numbers of attendees grow and are consistently imm

advancing technology, is m work practices that resolve set issues facing the World. For more information and to for the conference visit:

www.RecycledRubberProcuc



design enables the G4X mill the ability

## PLASTICS MACHINERY - APRIL 2016



What's new? The series, which was introduced last year. It now is being targeted for the shredding of brittle plastics, such as ABS, and mixed-material plastics.

Benefits Versatility, compact size and toughness. Compared with traditional shredders, it has a smaller footprint and a moderate tolerance for items considered "unshreddable," such as products with embedded tramp metal. The hammermills also have several features designed to ensure product longevity. This includes replaceable wear liners.

Granutech-Saturn Systems Corp., Grand Prairie, Texas, 877-582-7800, www.granutech.com

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Granutech-Saturn Systems Corp., Grand Prairie, Toras, 977-582-7800, www.granutech.com

Soring 2016 PLASTICS RECYCLING

# Recycling Today – April

## EQUIPMENT REPORT

### American Pulverizer introduces preshredder

American Pulverizer Co., St. Louis, has introduced a dual-shaft, 400-horsepower, hydraulically powered preshredder for pulling apart bales of aluminum, plastic, cable and wire, solid waste and more.

The machine has more than 200,000



foot-pounds of torque per shaft, with variablespeed shaft options to deliver the appropriate torque requirements for bale

reduction, according to the company. The preshredder is available for testing to all qualified end users at no cost. More information is available at www. ampulverizer.com.

## Granutech offers new rubber recycling mill design

Grand Prairie, Texas-based Granutech-Saturn Systems has launched a new scrap rubber

refiner mill design, featuring sealed roller bearings for greater tolerances in processing material down to 80 mesh.

The company says its new G4X offers a "first-tomarket 'grease-free' sealed roller bearing design" that "runs cooler and more efficiently and eliminates grease pump and lubricant expenses."

The G4X is a next-generation product to Granutech's G4 mill but features "a completely

unique sealed roller bearing design that provides significant benefits over the industry's traditional bushing design mills," according to the company.

"Reduced bearing temperature means this design runs cooler and more efficient! than traditional bushing-design competitive mills, resulting in less energy used for external cooling," says Mike Hinsey, Granutech-Saturn Systems vice president.

"The 'sealed' bearing design eliminates the need for continuous lubricant, resulting in significant operational and consumables savings," he adds.

The Saturn G4X mill is ideal for production of fine granulate powder for applications such as rubberized asphalt and molded product or filler materials, Granutech says. More information is available at www.granutech.com.

## **Recycling Today**



bring mobile and stationary hammermill shredders and related downstream equipment to small- and

## American Recycler (March) Best to its

#### by MARY M. COX

Page 84, March 2016

butte of the U.S. Emitt information Agency offers plenty information about how to recycle unwanted electron-New Artic noted are some or the benefits that can result from making the effort to recycle. Recycling 1 will on electric-saves energy equivalent to the electric-ty used by more than 3.500 homes in a four, Alas, the energy million, cell.

ay used by more than 3.500 momes in a sour. Also, for every million cell phones necessical, 35,000 hs. of copper, 722 hs. of ailver, 75 hs. of copda and 33 hs. of patiadam cancer and an of Corenil, the highest solution commodel. it is: necessaril and million commodel. ties recovered are plastics and metals but the markets for both materials have been struggling. The highest value commodities found in scrap electronrous metals, although conditions have tons per hour but Granutech-Saturn been quite challenging in those offers equipment that can handle up to specific markets as well.



Granutech-Saturn Systems manu- tion and processing needs. factures many types and sizes of shredders that are well suited for e-scrap the Granutech-Saturn product line is recycling. "The most common is our Saturn® Dual-Shaft and Quad-Shaft low-speed, high-torque shredders," shredders, hamoted Greg Wright, sales manager. He mermills, crushers, Ided, "Many operations use a Saturn balers and loggers. al shaft shredder for initial shredding. The Saturn shredn use a magnet for ferrous separa- der line offers n, then use manual pickers stationed numerous sizes. t-shred to hand pick items such as types, and techuit boards, small electric motors, nologies to meet a aless steel, copper, and aluminum. It variety of applicaso important to have pickers on the tions with optional rated ferrous fraction as electric hybrid-drive, for rs and circuit boards can end up in best of both worlds errous stream. Larger processors technology. ncorporate a Saturn Quad Shaft



an eddy current separator for nonferrou separation. Others may grind material

DUIPME

smaller with our Saturn Grizzly or hammermill and utilize more sophisticated aration technologies such as an eray. Most of our customer's e-scrap recycling operations have typical processing volumes of between one to five

Wright also explained that in low commodity price markets, minimizing labor hours per ton processed is critical

organization. Recovering the plastic fraction as early in the process as possible is also desirable as buyers of this industry. material generally prefer a larger fraction for their separa-

In business since the late 1960s,

broad and deep, including grinders and

Shred Tech er as a second stage to further offers full turn-key recycling systems that use both wo shaft and four shaft stredters for the reduction of elec-We use a combination of high and low speed shredders along with separation equipment to reduce various scrap electronics to a small enough particle the that enables various materials to then be separated and recycled," Ian Richardson, sales

"Of course, with any electronic scrap recycling system, it

is ideal if there is a good supply of feed materials. This can often be achieved by partnering with customers who recycle those reclaimed materials. Because electronic scrap comes in many forms and sizes, it is important to select a primary shredder that can handle any kind of electronic scrap you throw at it. The Shred-Tech ST-400E shredder is the industry standard when it comes to reducing big bulky electronics like photocopiers and servers," Richardson stated.

He cited an increasingly common trend: "New electronics are introduced to the marketplace every year and the life cycle of those electronics become shorter and shorter, so the business climate for electronic scrap recycling is poised for growth. Richardson said that Shred-Tech is ready to take on that growth as one of the leading manufacturers in the

SSI Shredding Systems engineers and manufactures industrial shredders and automated systems to process all varieties of electronic scrap - from consumer to commercial grade - for recycling, reclamation and recovery, worldwide. The company has a wide granulators, single, dual and quad shaft variety of primary and secondary



Size Reduction shredding machines with capacities from 2 to 15 tons per hour as well as from 2 to 15 tone per receiver as well as fully integrated material recovery sys-tems. "SSI shredders and automated tems. "SSI streaters and automated material recovery systems are employed in many of the largest eemployed in many or the targest e-scrap processing facilities around the world," commented Dave Fleming, world." commenced lists freming, sales and marketing director. See SIZE REDUCTION, Page 85

### Manufacturer List

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Andela Products Cynthia Andela 315-858-0055 www.andelaproducts.com

BMH Technology Thomas Karlsson 46 10 499 2700 www.bmh.fi

**Cumberland Engineering** John Farney 608-347-6087 www.cumberland-plastics.com

Glass Aggregate Systems Lois Kubes 607-334-6437 www.glassagg.com

Granutech-Saturn Systems **Greg Wright** 888-900-4308 www.granutech.com

Jordan Reduction Systems **Richard Pyle** 888-733-8248 www.jordanreductionsolutions.com

Komar Industries Mark Koenig 614-836-2366 www.komarindustries.com

Shred-Tech Joe Roberto 800-465-3214 www.shred-tech.com

SSI Shredding Systems, Inc. **Dave Fleming** 503-682-3633 www.ssiworld.com

**UNTHA Shredding Technology America Bernhard Martinz** 603-601-2304

# Tyre & Rubber Recycling

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Issue No. 28 2016/1 www.tyreandrubberrecycling.com THE SPECIALIST MAGAZINE FOR THE TYRE RECYCLING INDUSTRY

### GRIZZLY SUPER BO Contraction Contraction Contraction



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## COMPANY NEWS

#### Tyre Recycling Maximised at 200 Tonnes Daily



Granutech -- Saturn Systems is a world leading turnkey developer and manufacturer of tyre and industrial recycling systems, from 2-stage to 3-stage and 4-stage, comprising the full offering of recycling machines including shredders and grinders, granulators, powderisers and refiner mills. With nearly 30 years proven experience and customer satisfaction in systems design, development and supply, Granutech-Saturn Systems brings its global customers leading edge solutions as a complete system provider. The company's multistage Tyre Recycling/Crumb Rubber systems are claimed to deliver unmatched results in tyre processing, and feature high duty cycle, high capacity and throughput equipment for every stage of processing, to produce exceptionally clean crumb rubber, down to smallest granulate and powder, and offering tight crumb rubber blend technology to meet stringent client requirements. The company's Saturn Shredder line, features models configured in dual and quad rotor designs for tyre processing, and features the company's exclusive "best of both worlds" hybrid-drive, as well as hammermills, since the company acquired Magnatech last year. This is coupled with the Saturn Grizzly Super 80 "beast" of a grinder, which can process more than 10 tonnes per hour at nearly continuous duty cycles, making it the highest throughput grinder on the market. It has already been installed in tyre recycling

operations in Europe.

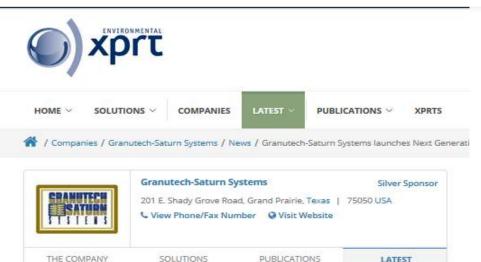
The 2-stage to four stage tyre recycling process is supported by Granutech's line, and models can be integrated into pre-existing multi-stage systems for a plug and play system with the client's legacy products:

• 2-stage system --which reduces whole tyres to steel free mulch material or a low steel fuel quality material. This level system solution would typically be comprised of the company's Saturn Shredder series (dual or quad shaft) plus its 10-tonnes-per hour grinder (Saturn Grizzly Series Super 80)

 3-stage system – 2-stage system plus a granulator or a refiner mill. If you wish to produce large granulate, and then reduce to a 1-6 mm material output, you would add the Saturn G-3 Granulator: for .5- 3mm material output, and then add the company's next generation, sealed roller bearing G-4X Refiner Mill - whose unique design eliminates the need for continuous lubrication, provides 25% greater throughput, and runs cooler and more efficiently than traditional bushing design mills. · 4-stage system - Building on the

3-stage system, this final stage would reduce all material to 1-3mm with the addition of a Saturn Powderiser. Reduction of all material to under 1mm may be achieved, if a G-4X refiner mill is used in the 3rd stage (see above). Granutech Saturn Systems markets and supports its products in Europe through a network of established and trained distributors and service centres.

# **Environmental Expert (March)**



NEWS

### Granutech-Saturn Systems launches Next Generation Refiner Mill for crumb rubber



#### Revolutionary Design runs cooler and more efficiently, and eliminates grease pump and lubricant expense

Granutech-Saturn Systems launches Next Generation Refiner Mill for crumb rubber delivering increased production, finer powder and firstto-market 'grease-free' sealed roller bearing design.

Granutech-Saturn Systems, a world-leading manufacturer of the Saturn brand of industrial and mobile shredders, launched a revolutionary new design refiner mill for scrap rubber, featuring sealed roller bearings for greater tolerancer in processing material down to 80 mech.



The G4X, is a next generation product to the company's popular G4 mill, but features a completely unique sealed roller bearing design, that provides significant benefits over the industry's traditional bushing design mills. "Reduced bearing temperature means this design runs cooler and more efficiently than traditional bushing design competitive mills, resulting in less energy used for external cooling," said Mike Hinsey, Granutech-Saturn Systems Vice President. "In addition, the 'sealed' bearing design eliminates the need for continuous lubricant, resulting in significant operational & consumables savings," he added.

In fact, one of the company's tire recycling clients, State Rubber, was a key contributor in the development of the spec for the new product. "Granutech-Saturn clearly paid attention to our inputs, and created a next generation design that met all the requirements. We are thrilled with the new G4X mill," said Jerry Woosley, President of State Rubber. "The savings in lubricant alone, averages \$25,000 a month, and we also noticed a more consistent and cleaner output of crumb rubber granulate, due to the tighter tolerances achieved by the new rolls', he added.

The design enables the G4X mill the ability to hold the rolls at much closer tolerances (up to 400% closer than traditional bushing designs), which translates to finer cleaner usable powder and fewer processing cycles, which translates to higher production. And with reduced roll clearances in roller bearing design, there is an increase in processing capacity as well, translating to a throughput of asphalt quality crumb rubber of 3 tons per hour (up to 25% higher than leading mills).

The Saturn G4X mill is ideal for efficient production of fine granulate powder for applications such as rubberized asphalt and molded product or filler materials.

For more information on the new Saturn G4X refiner mill, please contact us.

### RELATED PRODUCT



#### Saturn - Model G-4X - Industrial Refiner Mills Read more

Granutech Saturn Systems designs and manufactures the most technologically advanced industrial refiner mills in the industry, achieving capacities up to 50% greater than traditional mills.

# **Environmental Expert**



# Recycling Today — 2/18/16 G-4X online coverage

## **CLICK here for online story**



### Granutech offers new rubber recycling mill design

New tire mill designed to produce finer powder and increased production.

February 23, 2016 Recycling Today Staff Equipment & Products Tires



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		rubber, featuring seale			and the second second	

processing material down to 80 mesh.

The company says its new G4X offers a "first-to-market 'grease-free' sealed roller bearing design" that contains a "revolutionary design that runs cooler and more efficiently and eliminates grease pump and lubricant expenses."

The G4X is a next-generation product to Granutech's G4 mill but features "a completely unique sealed roller bearing design that provides significant benefits over the industry's traditional bushing design mills," according to the company.

"Reduced bearing temperature means this design runs cooler and more efficiently than traditional bushing design competitive mills, resulting in less energy used for external cooling," says Mike Hinsey, Granutech-Saturn Systems vice president.

"The 'sealed' bearing design eliminates the need for continuous lubricant, resulting in significant operational and consumables savings," he adds.

Hinsey also says one of Granutech's tire recycling clients, State Rubber & Environmental Solutions of Denver City, Texas, was a key contributor in the development of the specs for the new product.

"Granutech-Saturn clearly paid attention to our inputs and created a next-generation design that met all the requirements," says Jerry Woosley, president of State Rubber. "We are thrilled with the new G4X mill. The savings in lubricant alone averages \$25,000 a month, and we also noticed a more consistent and cleaner output of crumb rubber granulate, due to the tighter tolerances achieved by the new rolls."

According to Granutech, the new design enables the G4X mill to hold the rolls at much closer tolerances (up to 400 percent closer than traditional bushing designs), which translates to finer cleaner usable powder and fewer processing cycles. That in turn translates to higher production. Reduced roll clearances in the roller bearing design can provide an increase in processing capacity as well, translating to a throughput of asphalt-quality crumb rubber of three tons per hour-up to 25 percent higher than many other mills on the market, says Granutech.

The Saturn G4X mill is ideal for efficient production of fine granulate powder for applications such as rubberized asphalt and molded product or filler materials, according to Granutech.

Granutech-Saturn Systems offers a line of equipment products that includes Saturn shredders and hammermills, Saturn grinders and granulators, Saturn refiner mills and powderizers and MAC flat-lid auto crushers, high-density balers and loggers.

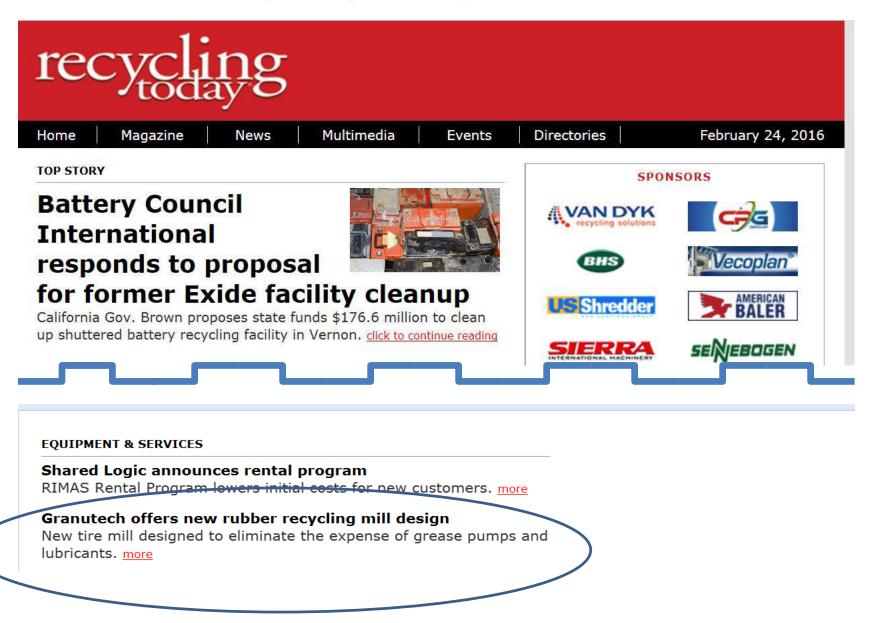


#### Circular Economy Perspectives Podcast: Eunice Heath

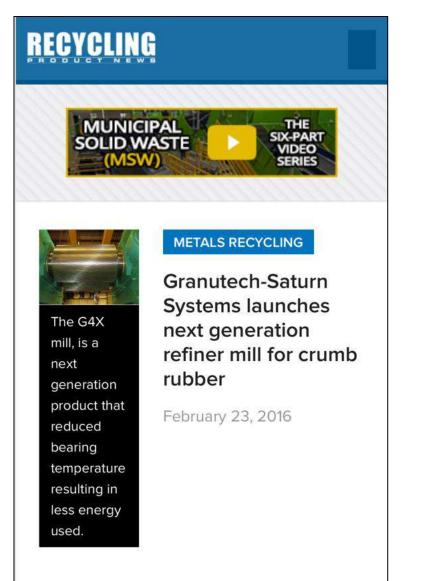




## Recycling Today ENSL 2/2416



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Granutech-Saturn Systems launches next generation refiner mill for crumb rubber "Grease-free" sealed roller bearing design runs cooler and more efficiently, and eliminates grease pump and lubricant expense Polaury 22.005



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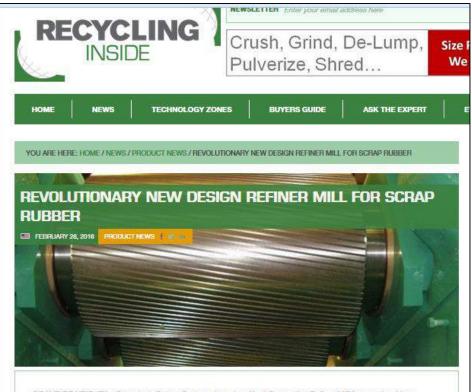
"Beduced bearing temperature means this design runs cooler and more afficiently then traditional bunking design competitive mills, resulting in toos energy used for vectorial cooling" start Mice Hinaxy, foranticeh-Satur Systems Vice President, "In addition, the tesaked band of design elimitations the need for continuous lutaricant, resulting in significant operational & consumables savings," he added.

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# **Recycling Inside** Mag – Feb 26

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GRAND PRAIRIE, TX – Granutech-Saturn Systems launches Next Generation Refiner Mill for crumb rubber delivering increased production, finer powder and first-to-market 'grease-free' sealed roller bearing design.

Granutech-Saturn Systems, a world-leading manufacturer of the Saturn brand of industrial and mobile shredders, launched a revolutionary new design refiner mill for scrap rubber, featuring sealed roller bearings for greater tolerances in processing material down to 80 mesh. The G4X, is a next generation product to the company's popular G4 mill, but features a completely unique sealed roller bearing design, that provides significant benefits over the industry's traditional bushing design mills. "Reduced bearing temperature means this design runs cooler and more efficiently than traditional bushing design competitive mills, resulting in less energy used for external cooling," said Mike Hinsey, Granutech-Saturn Systems Vice President. "In addition, the 'sealed' bearing design eliminates the need for continuous lubricant, resulting in significant operational & consumables savings," he added.



Unique sealed roller bearing design

In fact, one of the company's tire recycling clients, State Rubber, was a key contributor in the development of the spec for the new product. "Granutech-Saturn clearly paid attention to our inputs, and created a next generation design

that met all the requirements. We are thrilled with the new G4X mill," said Jerry Woosley, President of State Rubber. "The savings in lubricant alone, averages \$25,000 a month, and we also noticed a more consistent and cleaner output of crumb rubber granulate, due to the tighter tolerances achieved by the new rolls', he added.

The design enables the G4X mill the ability to hold the rolls at much closer tolerances (up to 400% closer than traditional bushing designs), which translates to finer cleaner usable powder and fewer processing cycles, which translates to higher production. And with reduced roll clearances in roller bearing design, there is an increase in processing capacity as well, translating to a throughput of asphalt quality crumb rubber of 3 tons per hour (up to 25% higher than leading mills).

The Saturn G4X mill is ideal for efficient production of fine granulate powder for applications such as rubberized asphalt and molded product or filler materials.

For more information on the new Saturn G4X refiner mill, please visit: http://www.granutech.com /saturn-g4-industrial-refiner-mill.html

For related articles and news on Size Reduction Systems, visit our Size Reduction Technology Technology Zone

Search for Mill manufacturers in our Buyers Guide



This article is published by Granutech-Saturn Systems

Founded in 1971, the global company that is today Granutech-Saturn systems, is a leader in recycling equipment design, quality and innovation, and based in Dallas, Texas. Its world class product offering includes Saturn® shredders, hammermills, grinders & granulators,

# Recycling Inside \_\_Feb 29



GRAND PRAIRIE, TX – Granutech-Saturn Systems, a world-leading manufacturer of the Saturn brand of industrial and mobile shredders, launched a versatile line of hammermills last year at ISRI, including models that are ideal and now being targeted for friable plastic shredding as well as scrap metal applications.

The Saturn hammermill series is ideal in a variety of applications which include brittle plastics recycling, such as ABS – with raw materials that would need to be taken to a small size for product destruction purposes, like a military, information security or product destruction company, or medical device manufacturer as the end user. The versatility of the line also allows them to be ideal for both ferrous and non-ferrous scrap metal recycling, as well as waste-to-energy, medical waste, and bulky waste recycling applications. Hammermills offer many benefits over traditional shredding technology, such as efficient sizing of friable plastic materials and machines that offer smaller footprints. A hammermill is able to produce a very small output product depending on screen size installed and type of material being fed. In addition, a hammermill is tolerant of moderately sized "unshreddable" items that can damage a traditional single shaft shredder when running mixed materials, like product destruction for military and medical devices with tramp ferrous objects embedded.

#### **Product Features/Benefits**

The Saturn hammermill series features heavy-duty plate steel construction, is available in 36 inch, 48 inch and 60 inch diameters, in a total of five different size configurations, featuring speeds of 900-1200 RPM. The Saturn hammermills have several features designed to ensure product longevity, including replaceable wear liners throughout shredding chamber, spider rotors for maximum grate coverage grate coverage, long-life alloy or manganese hammers and grate materials with optional hard-facing to increase cutting effectiveness, durability and life.

For added configurability, the units feature optional direct-drive or belt-drive motors from 150HP to 1250 HP. Available as stand-alone or as a fully integrated system, the Saturn hammermills can also be configured as ringmills, with configurable hammers, and are easy to install and integrate with other equipment. Auxiliary equipment includes conveyors, screeners, dust collection, magnets, and other material handling components. Further downstream processing can be achieved by integrating additional equipment such as Saturn grinders, granulators, powderizers, and refining mills.

#### For more information on the new Seturn Hemmermill, please visit: http://www.grenutech.com /seturn-hemmermill.html

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Founded in 1971, the global company that is today Granutech-Saturn systems, is a leader in recycling equipment design, quality and innovation, and based in Dallas, Texas. Its world class product offering includes Saturn® shredders, hammermills, grinders & granulators, powderizers and refiner mills, and MAC® (Mobile Auto Crushers) auto flattening ...

