



ANDRITZ MeWa recycling technologies
Individual designs. Optimal solutions.

The range of plants

You set us the task — we plan and construct your plant

Reliable, delivering on schedule, and with three decades' experience behind us. Our customers' satisfaction is both our duty and our incentive. Over 300 large-scale plants worldwide speak for themselves. We tailor our process solutions to the individual needs of our customers, but we also offer a range of innovative standard solutions to respond to the most urgent recycling issues. Cost-effective, efficient, reliable, and designed for continuous operation, ANDRITZ MeWa plant systems offer complete processing solutions for (almost) any situation.

CONTENTS

Plants	04
Machines	14
Service	18

Page 4



WEEE

Complete recovery of plastics and metals.

Page 4



Refrigerators

Maximum recovery of recyclable materials.

Page 5



Cables

High-quality fractions of primary raw material quality.

Page 6



RDF production

Substitute fuels with high energy content.

Page 6



Metal-cleaning

High quality due to high purities.

Page 7



Substrates for biogas production

Step on the gas with the Bio-QZ.

Page 8



Used tires

From used tires to rubber powder.

Page 10



Oil filters

From hazardous waste to valuable raw materials.

Page 11



Pulper rags

Treatment of waste from the paper industry.

Page 12



Special plants

The right solution for any task.

Electrical and electronic scrap

WEEE recycling plants

All kinds of electrical and electronic scrap – white and brown goods, computers, refrigerators, or only cables – are processed with ANDRITZ MeWa equipment, which paved the way in recycling technology in accordance with the European WEEE Directive at a very early stage. The ANDRITZ MeWa plant solutions offer impressive cost-effectiveness and the highest environmental standards.

Processing plants for electrical and electronic scrap

Old electrical appliances contain iron, aluminum, copper, gold, silver, plastics, and many other raw materials. Yet they also contain components that in turn contain harmful substances, for example batteries and capacitors. ANDRITZ MeWa has developed particularly effective and environmentally friendly technologies, which have led the way throughout Europe, for recovering the recyclable materials and separating out the hazardous substances.

A single-stage process extracts the recyclable materials from the domestic appliances, consumer electronics, and computers and sorts them by category. Parts containing harmful substances are left untouched by the process.

Output

- Exposed circuit boards
- Transformers
- Capacitors
- Aluminum
- Copper
- Iron
- Stainless steel



Processing plants for refrigerators

ANDRITZ MeWa recycling plants for cooling devices can reclaim 99.9% of environmentally harmful greenhouse gases. A particular benefit is that even modern refrigerators – in which the insulation materials have been expanded using highly-explosive pentane gas – can be processed in ANDRITZ MeWa systems at the same time as CFC appliances without a risk of fire.

The recovered individual fractions of iron, copper, aluminium, plastic and PU foam can be returned directly to the economic cycle.

Output

- Compressors
- Aluminum
- Copper
- Iron
- Polyurethane
- Plastic parts
- CFCs/Pentane



Recycling plants for cables

For many years, ANDRITZ MeWa has been supplying complete recycling lines for all kinds of scrap cable. The metals in these cables – copper, aluminum, lead, and iron – are a rich source for recycling.

Using pre-shredding, granulation and fine granulation systems as well as modules for sorting and separation of the raw materials, ANDRITZ MeWa plants reclaim the individual metals with purity levels of almost one hundred percent. Cable recycling will not only secure valuable resources, it also saves huge amounts of energy. Actually, metal recycling only uses a fraction of the energy needed for the extraction and recovery of ores.

Output

- Copper
- Aluminum
- Iron
- Lead
- Plastic parts



Household and commercial waste

Getting out what's inside

ANDRITZ MeWa had already started designing modern processing systems for domestic, commercial, and bulky waste more than 30 years ago. For several years now, ANDRITZ MeWa has also been using its technologies to process organic waste and fuel crops for fermentation in biogas plants.

Plants for the production of **substitute fuels**

The aim of ANDRITZ MeWa recycling plants is to separate the organic from the non-organic components of waste. Organic materials are processed to make high-grade humus. The residues are separated out into re-usable fractions such as metals, glass, paper, plastics, minerals, and textiles.

Non re-usable materials that nevertheless have high calorific values are processed by the ANDRITZ MeWa systems to make substitute fuels. These are transformed into usable energy in large-scale power plants or in the cement industry.

Output

- Glass
- Paper
- Plastics
- Minerals
- Textiles
- PVC
- Wood



Metal-cleaning plants

In recycling plants for substitute fuels or in sorting plants, metals are removed from the process at a very early stage by magnetic separators. However, very lightweight plastics and textiles remain attached to wires and sharp-edged metals.

These compounds are successfully dismantled by the ANDRITZ MeWa QZ. Even large solid items such as steel beams or guide rollers are no problem. The low wear rate, ease of maintenance, and the high quality of the output materials make these plants extremely cost-effective. The end results are steel scrap and non-ferrous metals of 98% purity, perfectly prepared for the steel industry.

Output

- Iron
- Non-ferrous metals
- Plastics
- Textiles



Processing of substrates for **biogas plants**

ANDRITZ MeWa has developed its own technology to process packaged food, organic waste, or fuel crops in the best way possible for the fermentation process in biogas plants. The patented Bio-QZ removes packaging material and breaks down the cell structure of the substrates, thereby providing the bacterial strains with a substantially larger contact surface. This accelerates and intensifies gas formation measurably.

Thus, the duration of the overall process is reduced greatly, while the efficiency of the biogas plant can be increased by more than 30%.

Input

- Maize and whole-crop silage
- Cattle, horse, and chicken manure
- Sugar beet
- Grass clippings
- Leftover food
- Organic waste
- Packaged food



Tires

Recycling instead of incineration

ANDRITZ MeWa has also shown a pioneering spirit in the processing of scrap tires. The guiding principle for worn, used tires and the waste from manufacturers' production processes is the same – recycling instead of incineration. The secondary raw materials obtained go back directly into new tires or other products.

Processing plants for **used tires**

The objective of tire recycling is to break down the used tires into their individual components – rubber, steel wire, and textiles. ANDRITZ MeWa plants recover the raw materials in a three-stage recycling process that achieves highest levels of purity.

First of all, rotary shears break down the tires into large, hand-sized shreds. A granulation line breaks these down in stages to produce

rubber granulates of less than 4 mm grain size. The final stage is a thorough separation and cleaning process, which ensures the optimum quality standards of the end product.

A particular innovation by ANDRITZ MeWa is subsequent processing of the cleaned, granulated rubber to turn it into rubber powder. It can be processed directly into moulded pieces without the addition of adhesives, or pressed into shapes. As

a genuine secondary raw material, it is reused in the manufacture of technical rubber products. Depending on the type of product, up to 60% of the raw rubber can be saved.

Output

- Tire shreds
- Rubber granulate
- Rubber powder
- Steel wire
- Textile fluff



Car parts

Solutions for metal compounds

Whenever metal is involved, the ANDRITZ MeWa technology can prove its strengths. Especially components from end-of-life cars contain a variety of valuable raw materials for which ANDRITZ MeWa has developed pioneering solutions.

Recycling plants for **oil filters, shredder light fraction, catalytic converters, engine blocks, aluminum rims, etc.**



Replaced oil filters from cars and trucks are classified as special waste worldwide. However, they consist of some 60% metals (mainly iron). The oil makes up around 20% of the material mixture. The actual paper filter, rubber sleeves, and other plastic parts make up the remainder.

ANDRITZ MeWa implemented the first oil filter recycling plant in Europe back in 1995. This cutting-edge technology is now found worldwide.

A wide range of valuable raw materials can be found in the components of scrap cars. Obtaining the precious metals from catalytic converters, the aluminum from wheel rims and engines, or the steel springs from seats – ANDRITZ MeWa recycling technology offers the right solution for any situation.

Output

- Oil
- Iron
- Non-ferrous metals
- Paper
- Rubber
- Plastics



Paper industry

Treatment of pulper rags

Metals can also be found in industries, in which they would not necessarily be expected, as for example in the form of rags in the paper industry. Here, recycling plants from ANDRITZ MeWa show their specific capabilities and separate the bulky rags into valuable fractions.

Recycling plants for **rejects and rags from the paper industry**



Waste paper is usually delivered to paper mills in pressed bales held in shape by wires. The stock preparation process generates rags that comprise wires and other rejects. Rejects are all those materials that are not paper, such as plastics, textiles, and metals.

Depending on the requirements, ANDRITZ MeWa plants include several shredding stages in order to break down the stubborn rags properly. The robust machine technology with its very hard wearing cutting gear releases the metals (accounting for up to 40% of the content) completely. Impurities are separated into different fractions by subsequent separation processes. The calorific materials are further processed to provide substitute fuels.

Output

- Substitute fuels
- PVC
- Steel
- Other metals



Special plants

Complete process solutions

Consumer goods at the end of their useful life or waste flows from industry often contain materials such as iron, aluminum, copper, brass, bronze, and many more. When a product comes to the end of its useful life, these materials retain their high value as they can be reused indefinitely without loss of quality.

ANDRITZ MeWa technologies incorporate heavy, solid mechanical engineering that is suitable for almost all applications, in particular the demanding process of metal recycling. Innovative, forward-looking thinking has enabled ANDRITZ MeWa to achieve optimum solutions, from simple shredding to complex process solutions for a wide variety of challenges.



Solar panels
 Fiberglass
 PVC waste
 Circuit boards
Mattresses
 Spray cans
Metal turnings
 Metal slag
Scrap from cans
 Deoxidation aluminium
Batteries Medical waste

Computer circuit boards, solar panels, batteries, glass-fiber reinforced plastics (GRP), spray cans, mattresses, metal turnings, LCD monitors, metal waste, shredder light fraction, weapons, toner cartridges, cast aluminum parts, blood sugar meters, waste cans – ANDRITZ MeWa offers the right recycling technology.



The range of machines

The pre-shredders

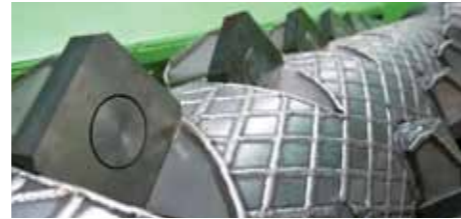
For such tasks as reducing volumes, preparing waste for incineration, or disintegrating materials for subsequent separation and sorting, ANDRITZ MeWa machines provide the basis for a successful recycling process.

UNI-CUT® AC AlphaCutter



Areas of application

- Pressed bales
- Plastic, textile, and paper rolls
- Truck tarpaulins
- Rejects from the paper industry
- Solidified material from spraying
- Bulky waste



UNI-CUT® UC Rotary Shear



Areas of application

- Tires
- Mattresses
- Commercial waste
- Sheet metals
- Oil filters
- Ground cables
- Aluminum profiles
- PVC waste



UNI-CUT® CC CableCutter



Areas of application

- Ground cables
- Telecommunication cables
- String wires



The granulation line

For the granulation of used tires, the recovery of pure copper or the production of substitute fuels – wherever defined grain sizes of between 4 and 100 millimeters are required, the dynamic ANDRITZ MeWa systems produce the desired results, at excellent performance and high flexibility.

UNI-CUT® UG Granulator



Areas of application

- Tires
- Electronic scrap
- Metal profiles
- Scrap cables
- Oil filters
- Mixed plastics



UNI-CUT® USM Cutting Mill



Areas of application

- Aluminum cables
- Copper cables
- Tire rubber
- PVC waste



The range of machines

Decomposing materials

ANDRITZ MeWa has thoroughly revolutionized traditional shredding technology with its own patented system, at a level of success that literally makes a bang. The principle completely does away with knives, and achieves especially good results in comparison with standard systems. Wherever compounds need to be broken down, the ANDRITZ MeWa QZ cross-flow shredder comes into its own.

UNI-CUT® QZ Cross-flow shredder



Areas of application

- Electrical and electronic scrap
- Refrigerators
- Waste from tin and aluminum cans
- Car parts (instruments, engine blocks, catalytic converters)
- Contaminated metal separation fractions
- Spray cans
- Metal turnings
- Packaged food
- Organic waste

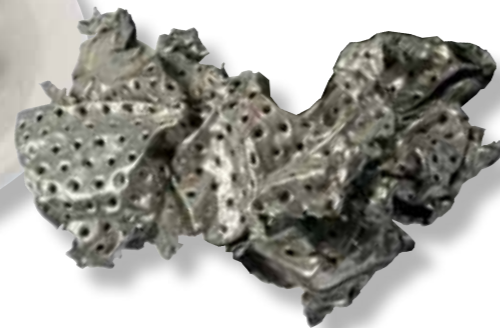


Originally designed for the recycling of refrigerators and electronic scrap, the patented QZ cross-flow shredder has developed from an innovation to an excellent all-rounder. In the majority of applications, the machine breaks down metal and

plastic compounds, shreds glass-fiber reinforced plastics (GRP) and prepares organic waste and fuel crops for fermentation in biogas plants. It is hardly possible to imagine a more versatile shredder. The QZ exploits the physical forces of the

impact energy, thus guaranteeing particularly fast and efficient material separation at lowest wear. Floor-mounted acceleration tools create a hurricane inside the machine, and material compounds are more or less broken down by themselves through

repeated collisions. The dismantled component parts or shredded fermentation substrates leave the QZ after just a few seconds.



We offer full service

All from one source

ANDRITZ MeWa offers a wide range of solutions with cutting-edge technology and a high-quality service from a single source.



ANDRITZ MeWa can benefit from the global network of manufacturing and service locations of the ANDRITZ Group. Our engineers design the machines and parts themselves and, when planning a plant, can refer back to previously manufactured components which have proven their worth in numerous applications and whose performance features are well known from a wide range of operations.

From manufacturing the machines to planning the plant through to assembly and service, we offer our customers a complete range of solutions from a single source.

This level of service guarantees high standards of performance and quality, and ensures reliable, enduring, and cost-effective operation of the plant.

Cutting-edge technology and high-quality service

In control engineering, ANDRITZ MeWa only uses parts from internationally acclaimed manufacturers. Using both the telephone and the internet,



we can control and monitor any plant around the world from our company location in Gechingen, Germany. In this way, our engineers can observe, make modifications, and, if necessary, correct malfunctions, even over distances of several thousand kilometers.

Our thirty years of experience in implementing recycling processes also means low transport costs and short assembly

and installation times for our customers. Of course, all our machine solutions are also available as individual units.

And what we promise for the plant solutions we also ensure for our mechanical engineering: Our after-sales service supports you throughout the entire useful life of a plant, offers training courses, provides expertise, and comes to your aid with effective assistance.



Active worldwide

Catalytic converters in North America, steel turnings in Russia, used tires in Kazakhstan, solar panels in Malaysia, refrigerators in Greece – all the plants and process solutions from ANDRITZ MeWa are subjected to the same quality criteria that we apply in our own works in Germany.

With a strong team of sales partners and reliable service departments in all the regions of the world, we help our customers benefit from individual solutions tailored to their needs.

This experience, gained internationally, is always incorporated into our new innovations. Working together with external laboratories and independent experts, ANDRITZ MeWa constantly subjects its products to testing, thereby obtaining objective confirmation for its pioneering projects. With satisfied customers in over 40 countries.

Benefits

- Innovative solutions
- Large spare parts store
- Turnkey plants
- Low levels of wear
- High-quality service
- Over 30 years experience
- Cutting-edge technology
- Reduced operating costs
- Process expertise



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