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brantner
green solutions

BRANTNER
green solutions

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Dr. Andrea Iro

Managing Director International @ Brantner green solutions

responsible for

Slovakia, Czech Republic, Romania, Serbia

“Leading global strategy and business growth in waste management, driving innovation and sustainability while ensuring operational excellence across international markets.”

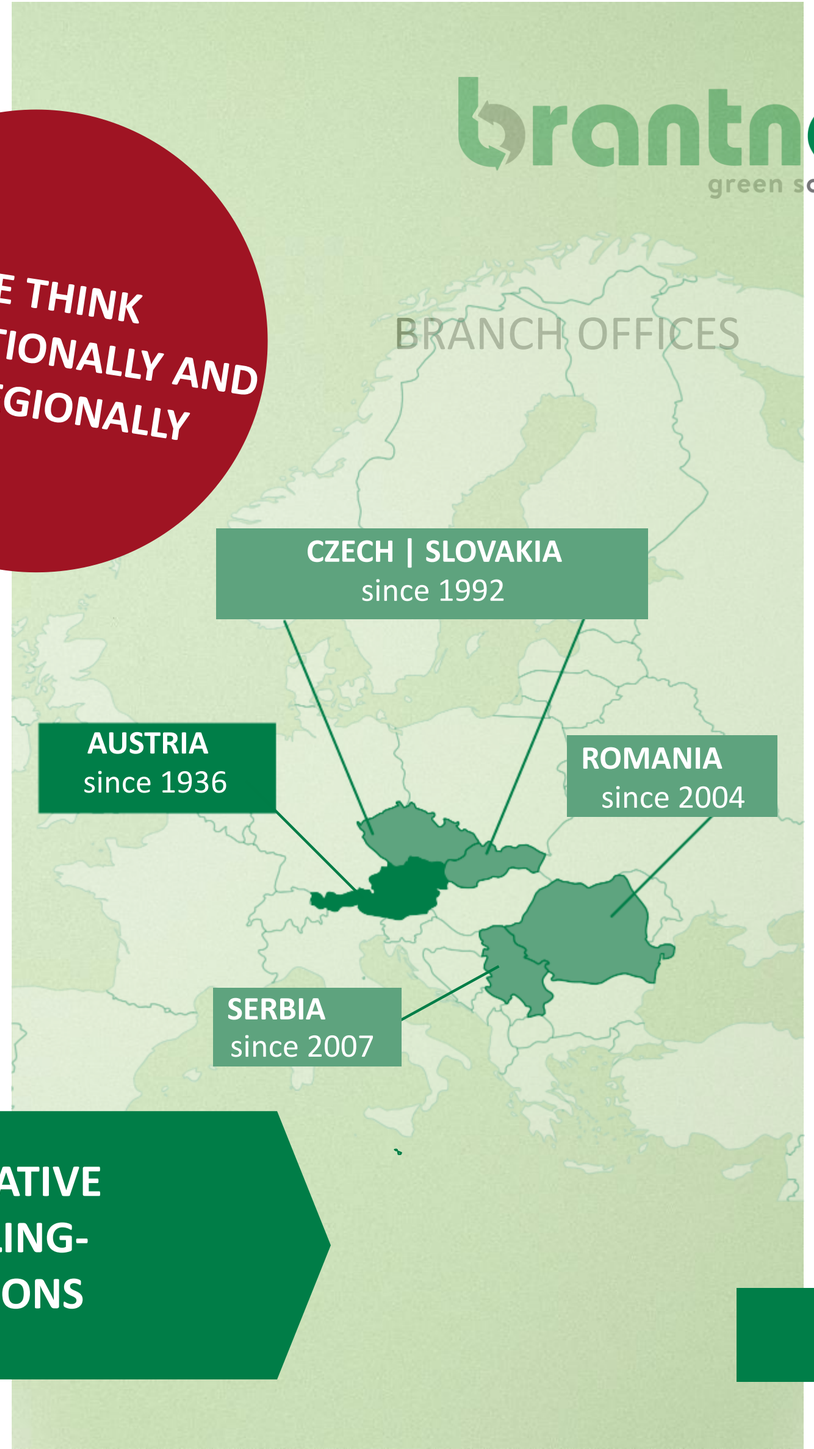
Different managerial positions in an international Oil & Gas company

FACTS AND FIGURES

WE THINK INTERNATIONALLY AND ACT REGIONALLY

INTERNATIONALLY SUCCESSFUL FAMILY BUSINESS

- Leading waste management company in Europe
- 100% Family Business since 1936 in third generation
- 65 branch offices und Joint Ventures
- More than 2,745 employees
- More than 1.000 vehicles and work machines
- 13 Landfills, 13 sorting facilities, 11 composting plants, 1 biogas plant



INPUT PER ANNUM: appr. 2 MIO TONNES WASTE (INTERNATIONAL)

Organic waste, MVA-slags, plastic materials, metals, waste paper & cardboard boxes, glass, Recycled material for construction industry, waste wood, bulky waste, old electric equipment, hazardous waste/ problem substances, medical waste, Residual waste a.m.m.

INNOVATIVE RECYCLING-SOLUTIONS

CIRCULAR ECOMOMY

WE CLOSE CYCLES TO CONSERVE RESOURCES.

Green Solutions means thinking further ahead than others, seeking new solutions where others are discouraged or look away, and always asking ourselves: “What else can we do?”

WE DEVELOP TOMORROW'S SOLUTIONS TODAY.

- Collecting municipal, commercial and industrial waste and feeding it to sensible recycling (organic waste, plastics, metals, paper, glass and much more)
- Intelligent waste garbage cans
- Sensor-supported processes: Scanners for recyclables and contaminants Waste concepts
- Automation, robotics & artificial intelligence / smart city implementations

Our goal: the preservation and reuse of valuable raw materials!

everything from a single source: disposal, processing & production!

OUR MISSION

Brantner is shaping the future of the circular economy!

We live sustainability for people & the environment.

Because today's waste is tomorrow's resources.

Sustainability is our drive!

INNOVATION BASED ON TRADITION

CIRCULAR ECONOMY: We develop innovative solutions.

VIDEO: youtu.be/NGXv94gp3tc

Brantner green solutions is closing loops with innovative solutions using the latest technologies and with a focus on regionality and resource conservation

OUR LIGHTHOUSE PROJECTS INCL. FOCUS on CO_2 REDUCTION

A **SOIL & COMPOST PRODUCTION**
We use state-of-the-art composting technology to produce new premium soil from organic waste.

B **SLAG RECYCLING**
We use a patented, high-tech process to clean slag (final material after waste incineration) and prepare it for reuse.

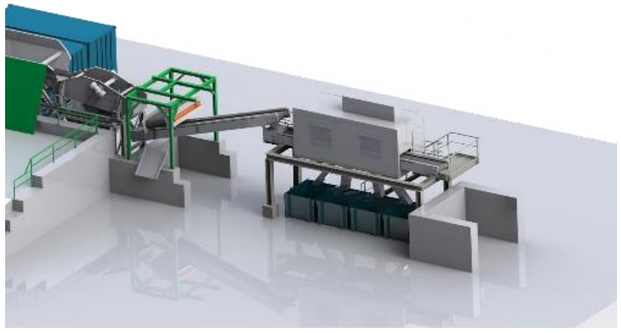
C **DIGITALIZATION**
BRANTNER is a leader in digitalization for waste management and develops individual solutions with the latest technologies.

SLAG RECYCLING

EVEN THE END PRODUCT OF WASTE INCINERATION CONTAINS VALUABLE RAW MATERIALS

In Hohenruppersdorf, with an international patent, metal and glass are removed from waste incineration slag in a particularly clean and efficient manner.
(up to 80,000 tons per year)

- Up to 80% of the slags reusable
- Combined wet and dry process for maximum efficiency
- Extraction of up to 30% more metals
- 30.000t CO_2-Savings per year



SLAG RECYCLING

Development of state-of-the-art recycling products

AGGREGATES FROM MUNICIPAL WASTE INCINERATION CONTAIN VALUABLE RESOURCES

We are investing heavily in research to find new future applications for processed bottom ash from waste incineration plants.

Our Goals:

- Landfill reduction
- Environmental protection through reuse in the construction industry (closing cycles)
  - Aggregates
  - Binder
  - Metals
  - Glas
- Establishment of standards and licensing systems (European patents)

SLAG RECYCLING

EXAMPLES FOR MATERIALS THAT ARE HARD TO HANDLE

SLAG RECYCLING: Incinerator bottom (IBA) & fluidized bed ashes

20-30% ashes from waste

Wet/dry deasher

Size: 0 – x mm

non-homogeneous components

- Ash
- Slag
- Glass, Ceramic, Stone, Concrete
- Metals
- Salt
- Unburnt materials

DIGITALISATION

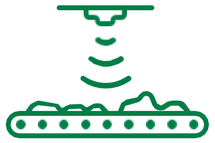
TECHNOLOGY MEETS CIRCULAR ECONOMY

We have set ourselves the goal of covering today's logistics requirements and the needs of our customers with the latest technologies.

A dedicated team for the digitization of waste management is constantly developing the following core topics:

OUR HAWKEYE

ARTIFICIAL INTELLIGENCE



SENSORS

ARTIFICIAL INTELLIGENCE

The foundation of our solution is an AI-powered object recognition intelligence specialized in waste materials.

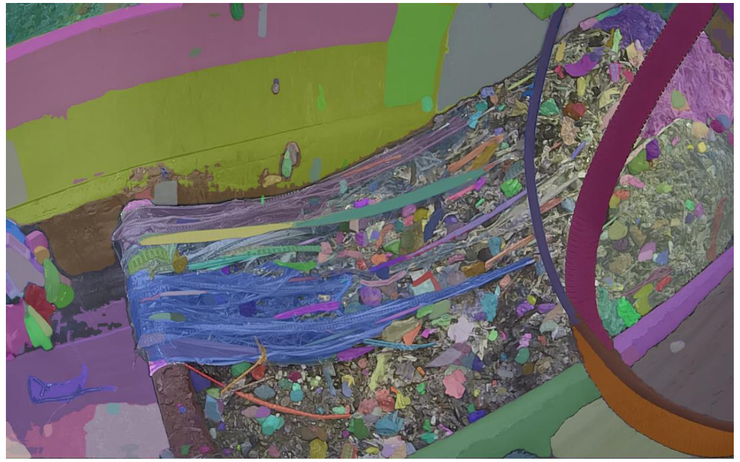
Hawkeye is a camera-based autonomous AI system that analyzes contaminants in organic waste on collection vehicles in real time.

PoC bulky material detection

Every year, waste incineration plants experience unplanned shutdowns due to bulky materials blocking the conveyor system.

AI application: Detection of potential disruptive materials & warning to crane operators.

Live image



AI object detection & warning

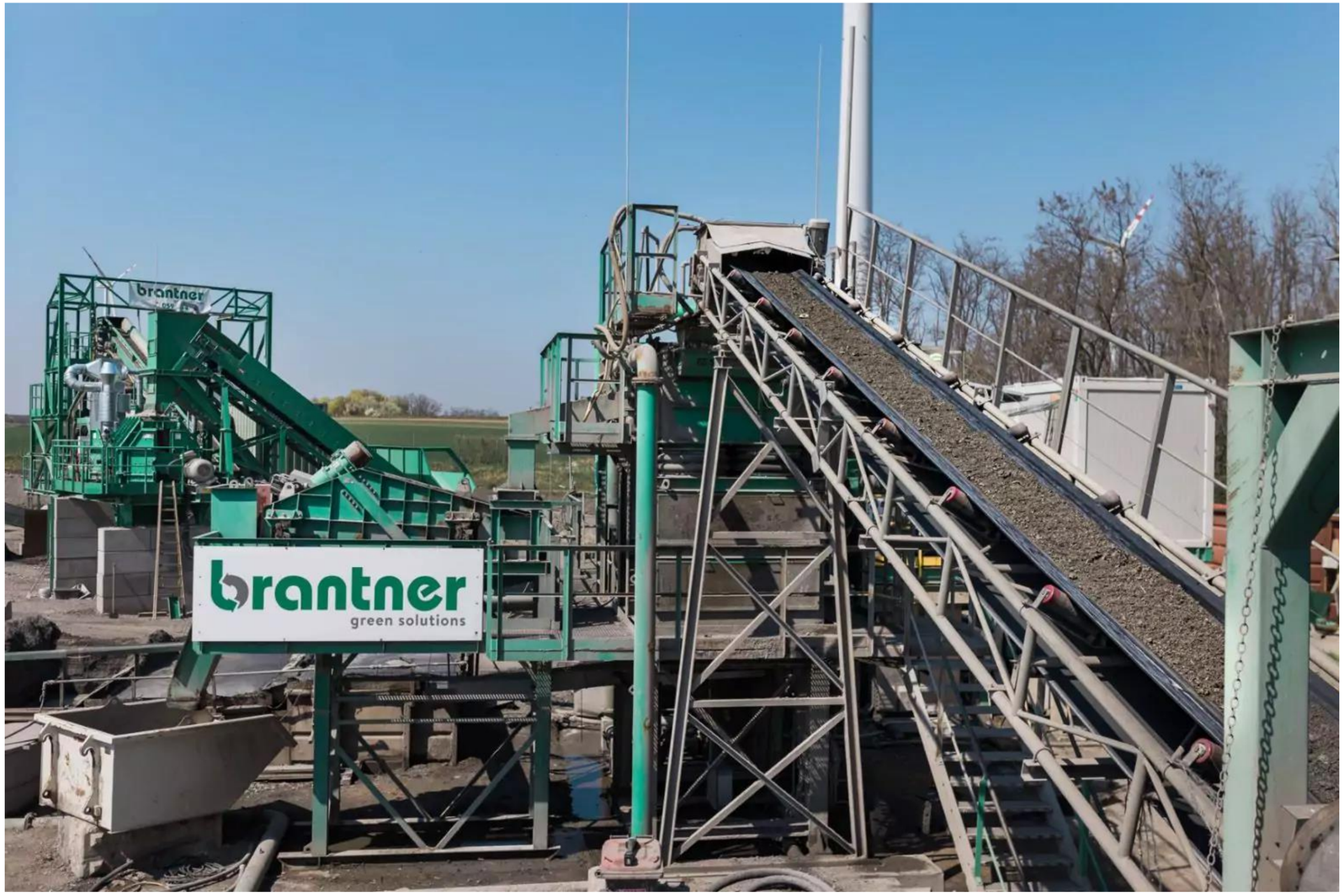
Removal of the object

SLAG RECYCLING:
Conventional dry MWIA treatment

- **Process**
  - Store for some weeks or months
  - Crusher
  - Screens
  - magnetic- and eddy current separators
  - lots of conveyor belts

- **Issues**
  - Dust in process
  - Metal residue in the treated IBA (<4 mm)
  - Full salt content
  - Mixed, dirty metals

SLAG RECYCLING of Brantner as solution



- Screen
- Crusher
- Overbelt magnetic separators
- Jigger
- Eddy current separator
- Fine slag treatment plant
- Glass separation
- Concrete aggregate production

SLAG RECYCLING: The Output

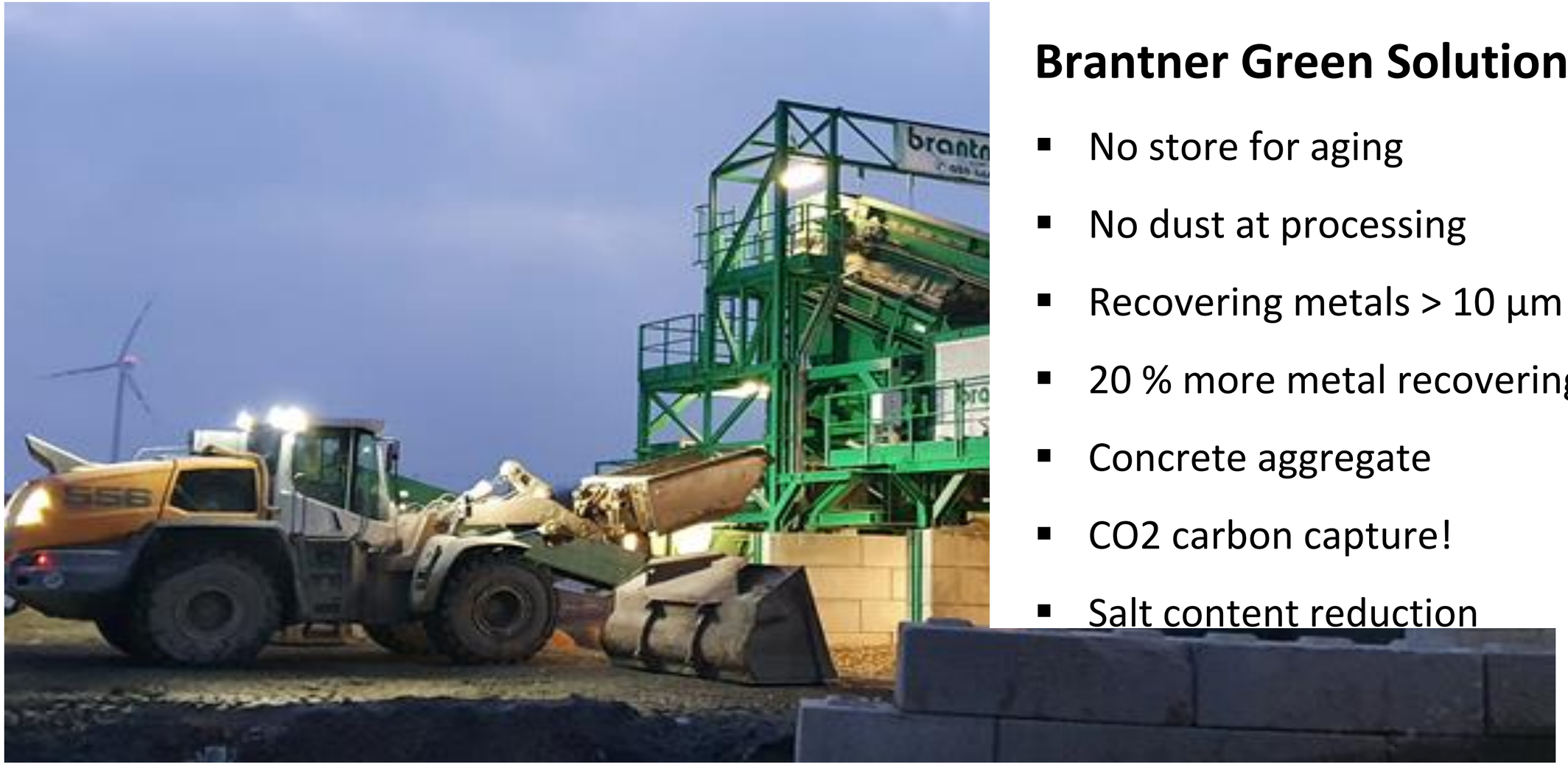
SLAG RECYCLING: Major CO2 Savings

Heavy metals (copper, lead, brass, stainless steel): -90% CO2 during smelting
Iron: -90% CO2 during melting down
Aluminum: -95% CO2 during smelting
Residual sludge in landfill: absorbs CO2

Without our processing, the raw materials would be permanently lost.

Plastic recycling: every kilogram of recycled plastic saves 2.8 kg of CO2 compared to incineration.
Compost: 50% of the carbon is stored as permanent humus. Methane is avoided through process control in composting.

SLAG RECYCLING:
The Way to Creating Clean Cycles



Brantner Green Solutions achieves

- No store for aging
- No dust at processing
- Recovering metals > 10 µm
- 20 % more metal recovering
- Concrete aggregate
- CO2 carbon capture!
- Salt content reduction

Brantner Green Solutions being the best partner for slag treatment

Providing **long-time experience** and **know-how** in **slag-treatment**

Knowing how to **save CO2** and thus preventing the nature

Proving daily to be a **reliable partner**

Linking **sustainability** and **digitalization**

Finding **solutions** for **all waste challenges** you have

Being **active inter-nationally** and finding the best solutions

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so that things run smoothly in the future

Brantner is shaping the future of the circular economy and creating clean cycles!