



terdesol

THE ULTIMATE RECYCLING SOLUTION



T A
Č R

The TERDESOL pilot project is being co-financed with the support of the Czech State Technology Agency within the framework of the SIGMA programme.

www.tacr.cz

Research useful for society.

Our technology was developed in cooperation with:



What is Terdesol?

a revolutionary technology for the efficient treatment of all waste

- all municipal waste
- tires
- plastic
- laundry sludge
- paint sludge from car paint shops
- paper sludge
- oil sludge
- sludge from sewage treatment plants
- agricultural and garden waste
- hospital generated waste
- biomass and wood waste

VALUABLE RAW MATERIALS

What is circular economy?

- every European consumes 14 tons of raw materials per year
- every European generates 500 kg of municipal waste per year
- every year 2.5 billion tons of waste are generated in the EU

The EU Parliament wants to put an end to the linear model which has been dominant since the Industrial Revolution:

TAKE - MAKE - CONSUME - THROW AWAY

The aim is to create a new, endless recovery cycle for all raw materials, including waste:

WASTE TURNS INTO RAW MATERIAL

- extending product life cycles
- reducing greenhouse gas emissions
- creating opportunities for innovation and job growth

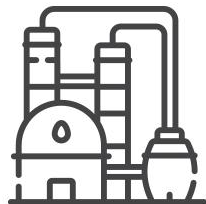




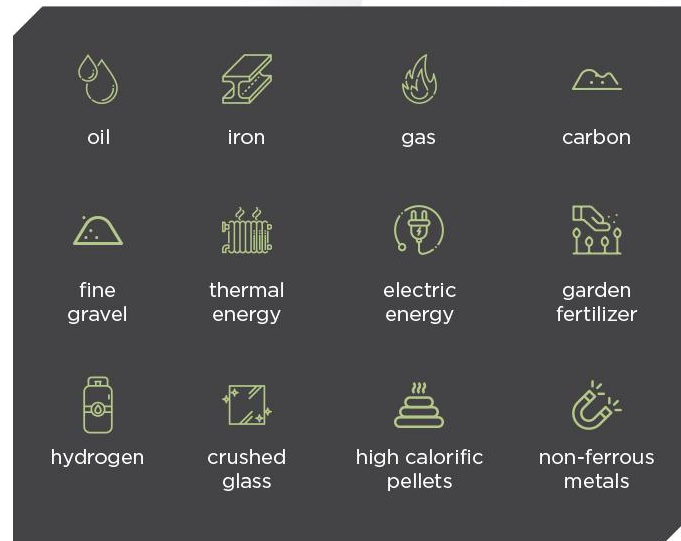
Conversion of waste into valuable raw materials and energy



Municipal
waste



terdesol



Thanks to our patented technology, 97% of all waste is recovered for reuse



terdesol

absorbs and processes all waste...

A photograph of a beach with a large pile of driftwood and debris in the foreground, under a cloudy sky. The image is overlaid with a semi-transparent green filter. The text is centered in the upper half of the image.

...making the **elimination**
of municipal landfills a **reality**



oil



iron



gas



carbon



fine
gravel



heating
energy

**Terdesol intelligently extracts all raw materials from waste,
making the system profitable without burdening municipal budgets**

A photograph of several high-voltage electrical transmission towers (pylons) stretching across a hilly landscape under a clear sky.

electric
energy

A close-up photograph of a garden fork with orange plastic tines digging into dark, rich soil.

garden
fertilizer

A close-up photograph of a dark surface covered in a dense network of fine, white, star-shaped cracks, resembling shattered glass.

crushed
glass

A photograph of a person's hand holding a large quantity of light-colored, cylindrical biomass pellets.

high
calorific
pellets

A close-up photograph of thick, coiled copper wire, showing its characteristic reddish-orange color and metallic sheen.

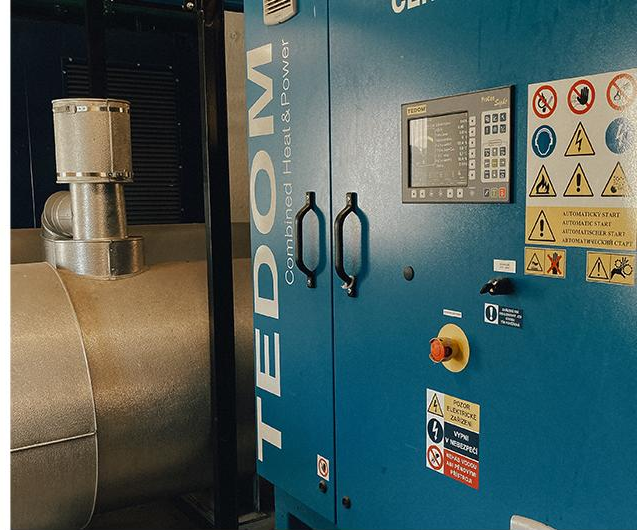
non-ferrous
metals

**With our technology, the quality of the output products
is consistent, guaranteeing their marketability**



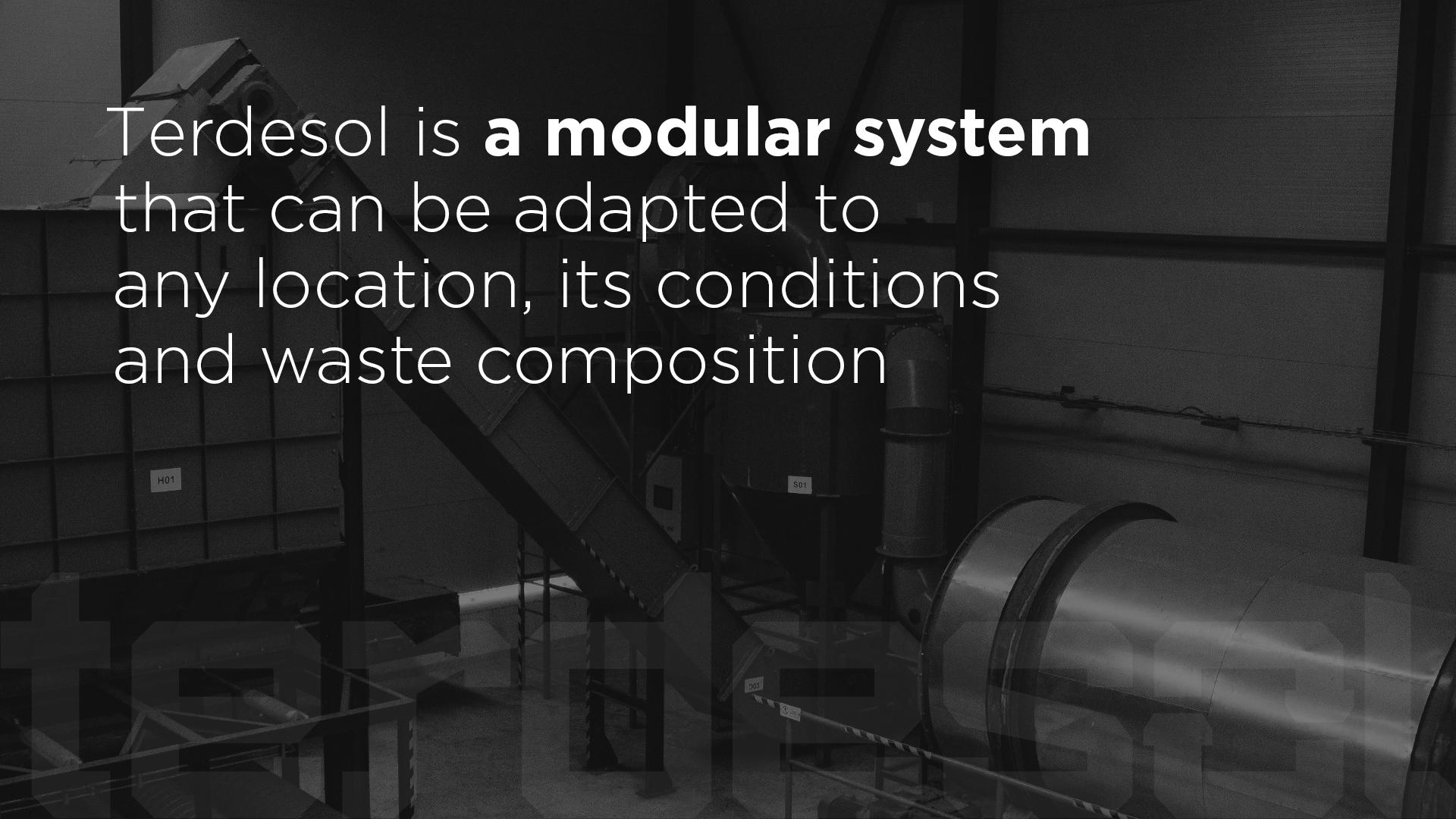
What sets us apart from the competition

- we have modified and optimized existing technologies to achieve maximum efficiency of waste processing
- our patented thermochemical process management software, **Terdesol Pro-Core V**, ensures that all systems operate flawlessly and in perfect synchronisation
- our solution is proven by the implementation and successful operation of existing projects in many countries worldwide





Terdesol is **a modular system**
that can be adapted to
any location, its conditions
and waste composition





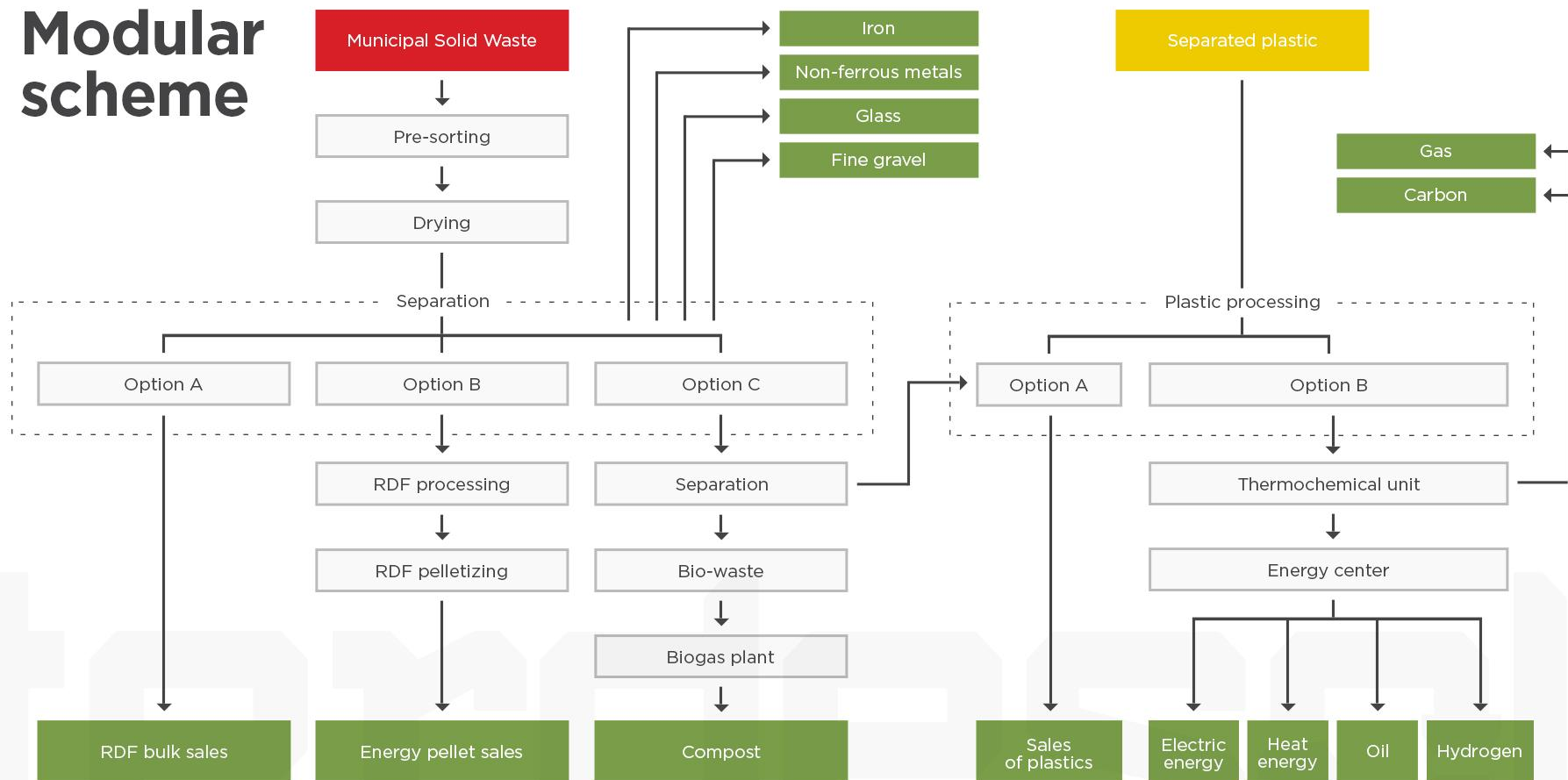


Terdesol contains the following principal modules:

- Unit for sorting and separation utilizing special technological-optical sensors
- Material pre-treatment technology including in-house developed shredder
- Waste treatment plant for cleaning, drying, separation and agglomeration, and the subsequent preparation for further processing or sales (e.g. PET granulate)
- Pelletizing line for further treatment of shredded combustibles gained from municipal solid waste (MSW)
- Biogas plant for efficient processing and treatment of organic materials for energy use
- Thermochemical unit for processing of sorted plastics from MSW, PET and granulate tires (output is energy fuel)
- Gas processing equipment used for electricity generation (gas results from composting and thermochemical waste treatment)



Modular scheme

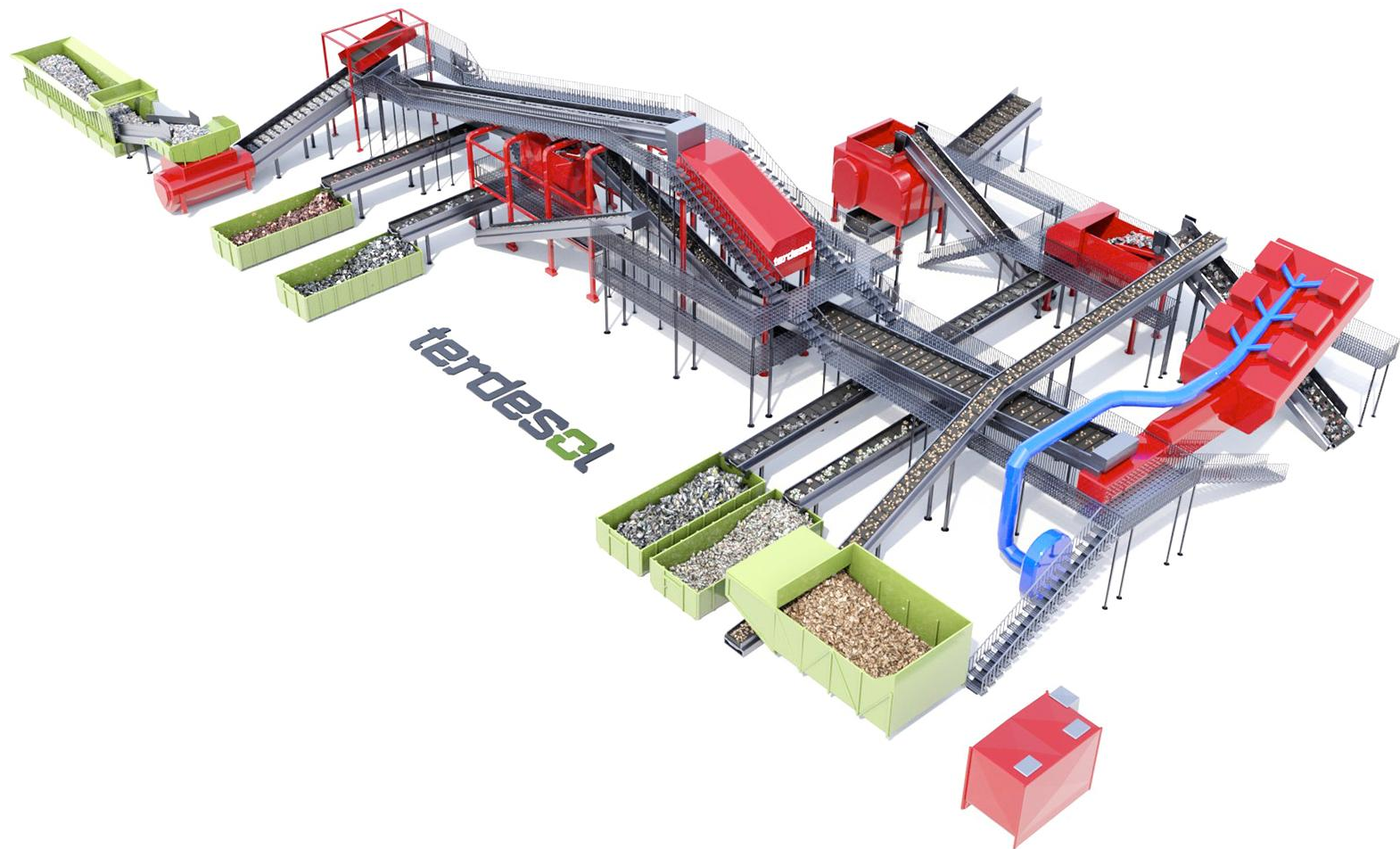


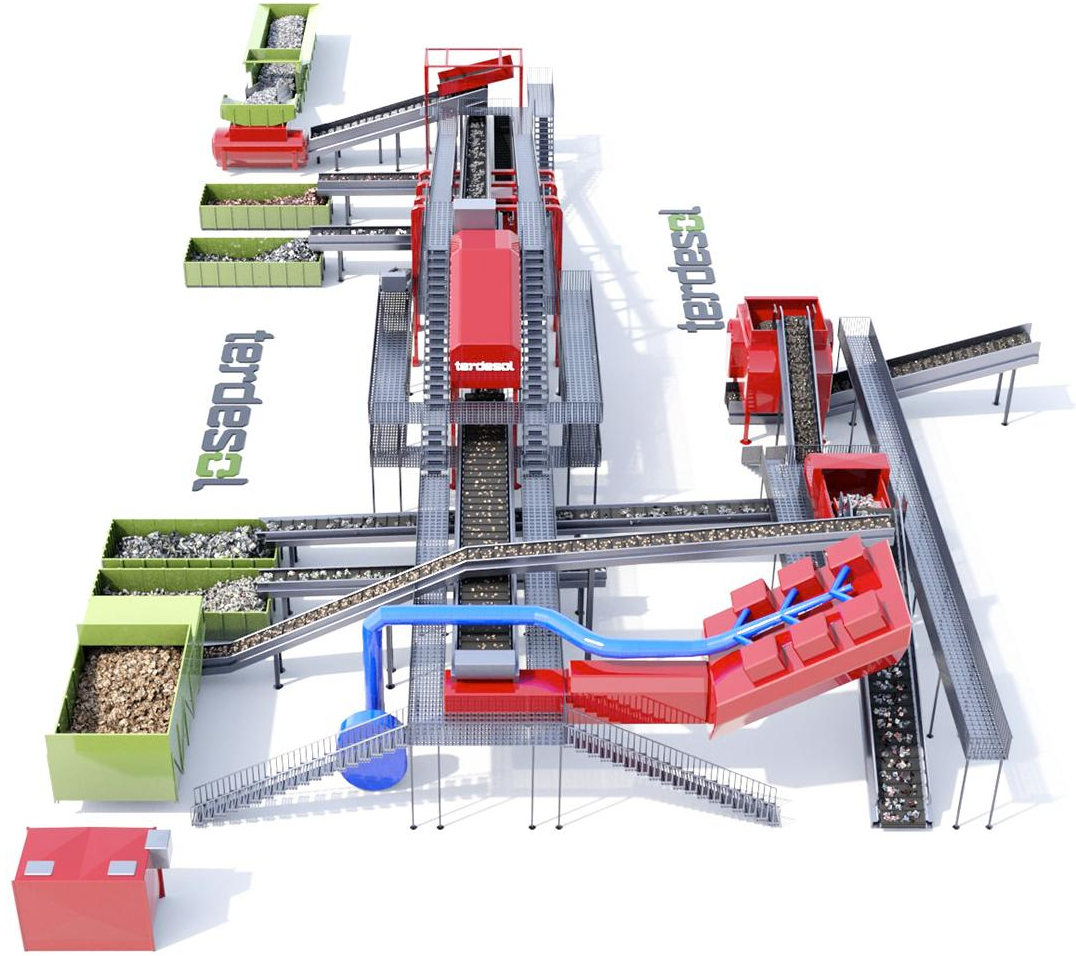
A detailed 3D architectural rendering of a sorting hall, showing a complex network of conveyor belts, chutes, and storage bins. The structure is multi-level and supported by numerous vertical pillars. The rendering is in a dark, monochromatic style with some highlights. The text "Sorting hall" is overlaid in the center in a white, sans-serif font. The "terdesol" logo is visible in the bottom center and on the right side of the image.

Sorting hall

terdesol









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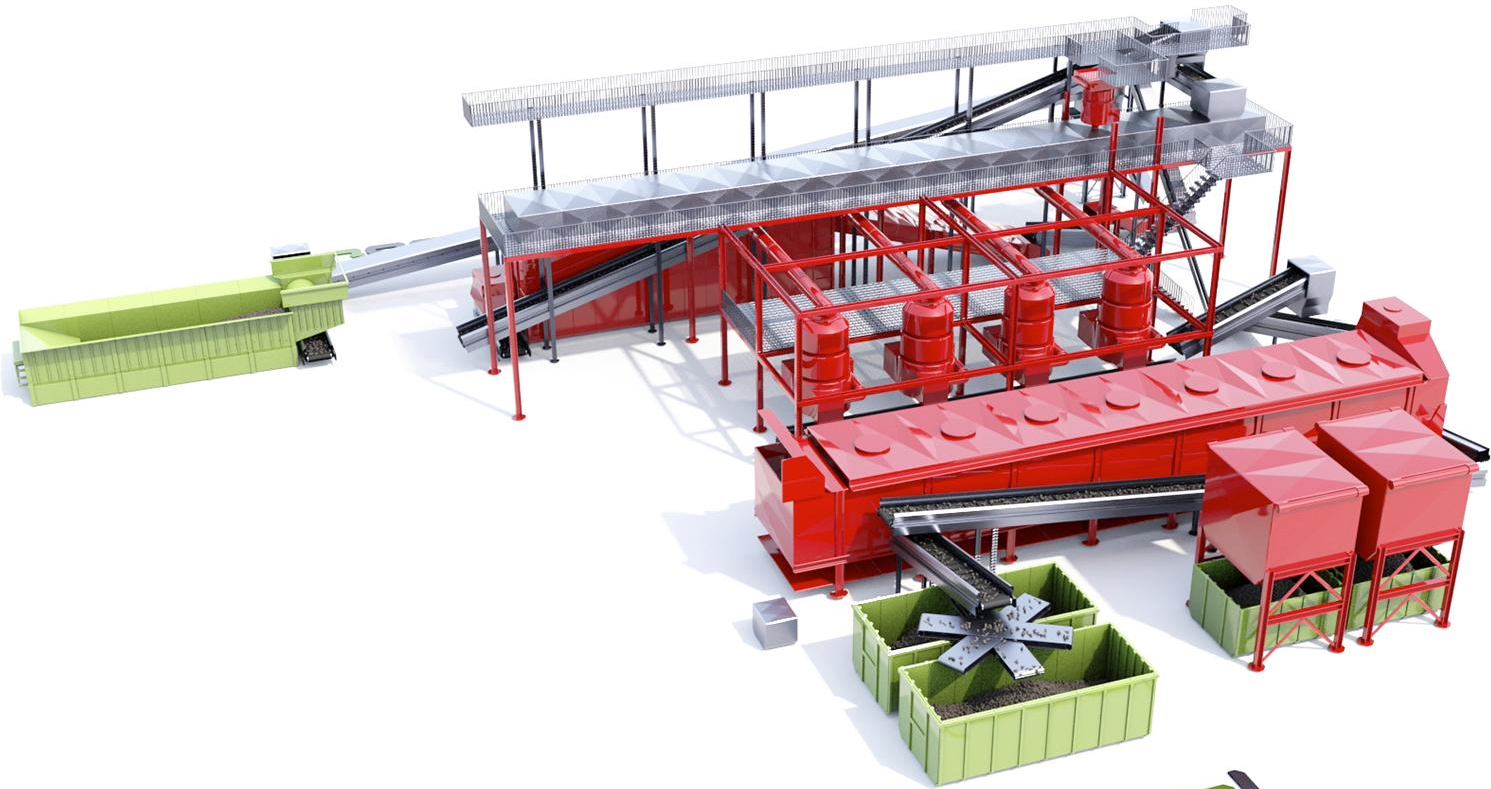
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A detailed 3D architectural rendering of a granulation hall, showing a complex system of conveyor belts, storage bins, and structural steel frameworks. The scene is dimly lit, with the primary light source being the text overlay. The rendering provides a perspective view of the industrial facility, highlighting the scale and complexity of the equipment.

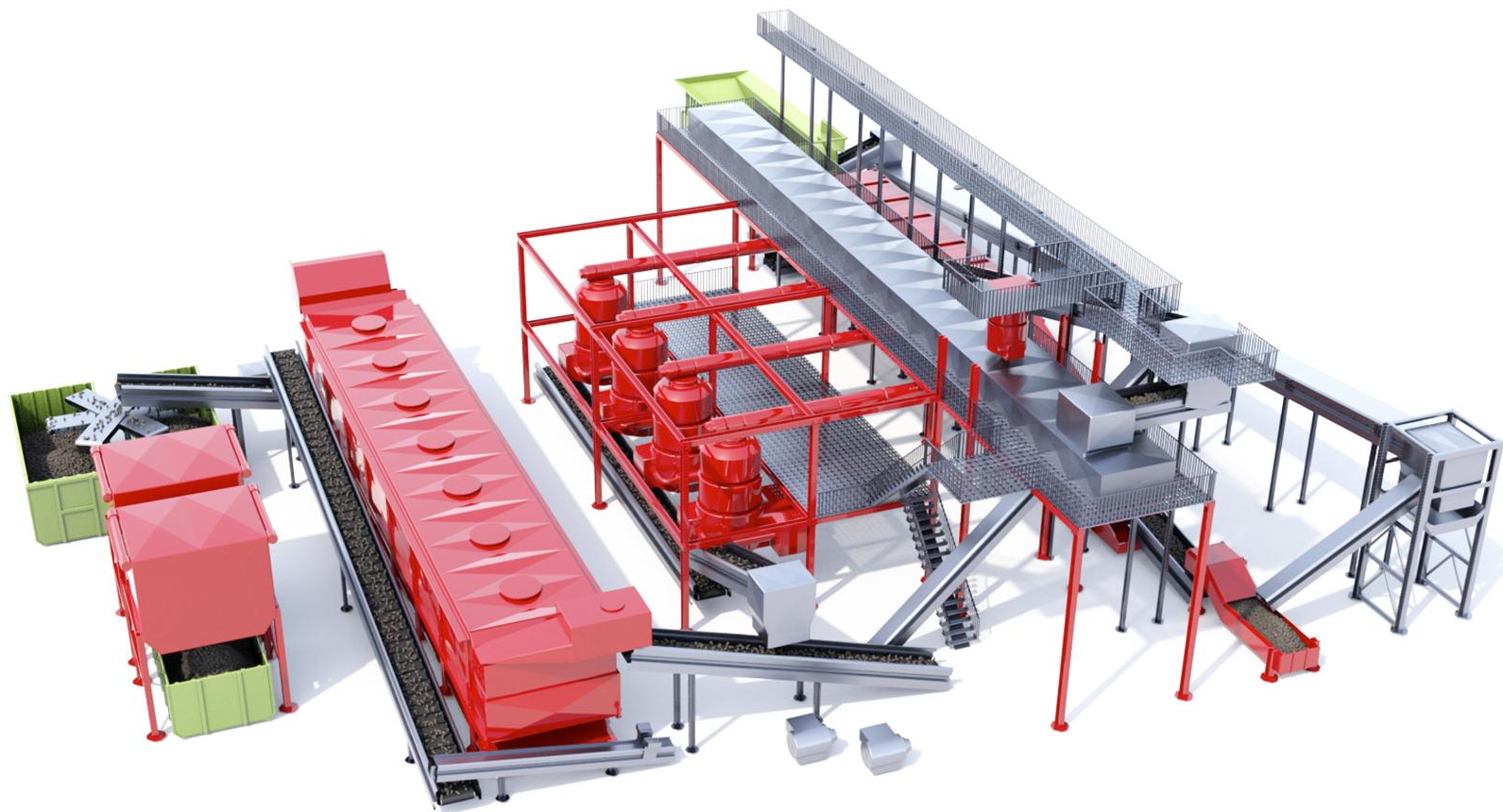
Granulation hall

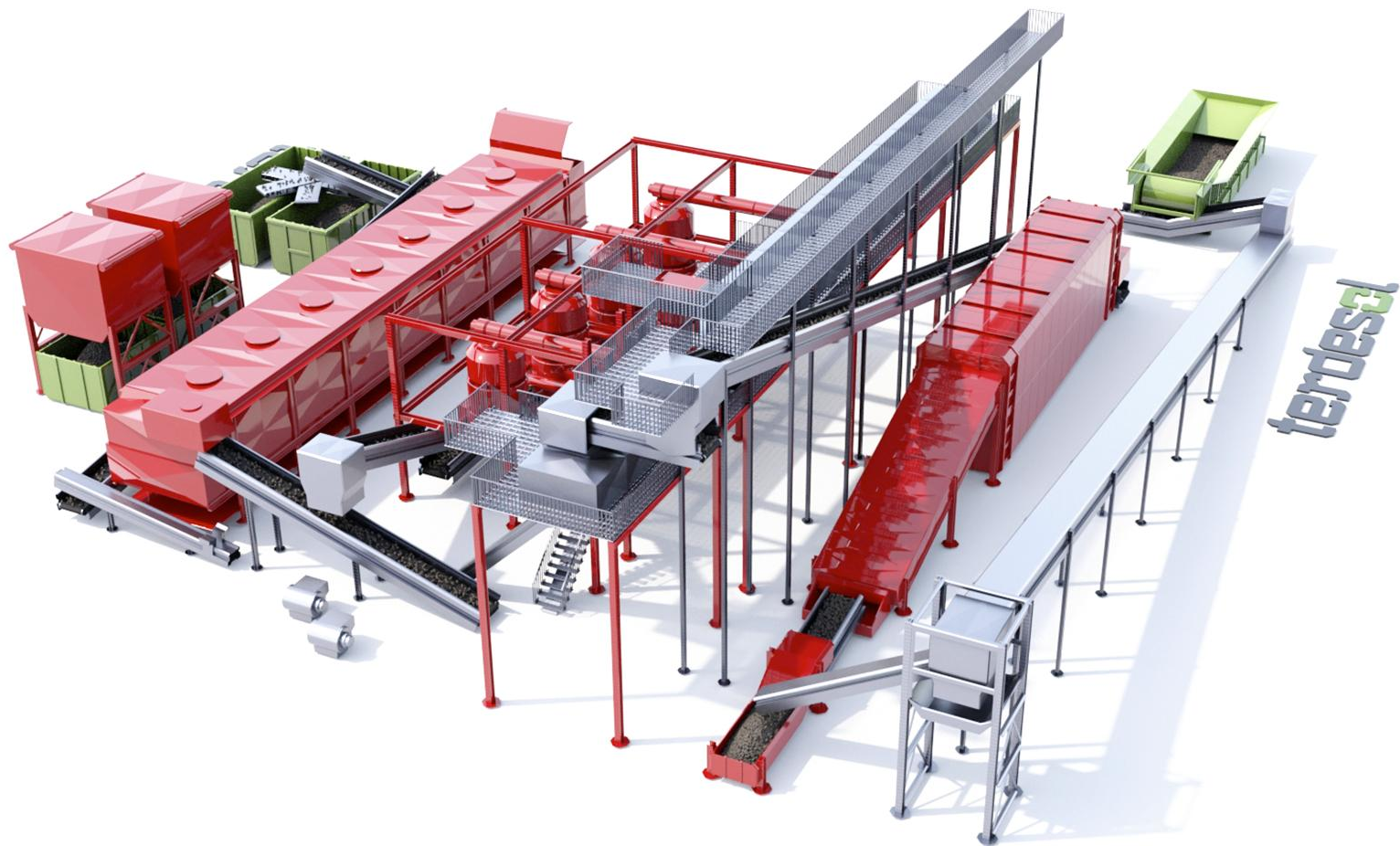
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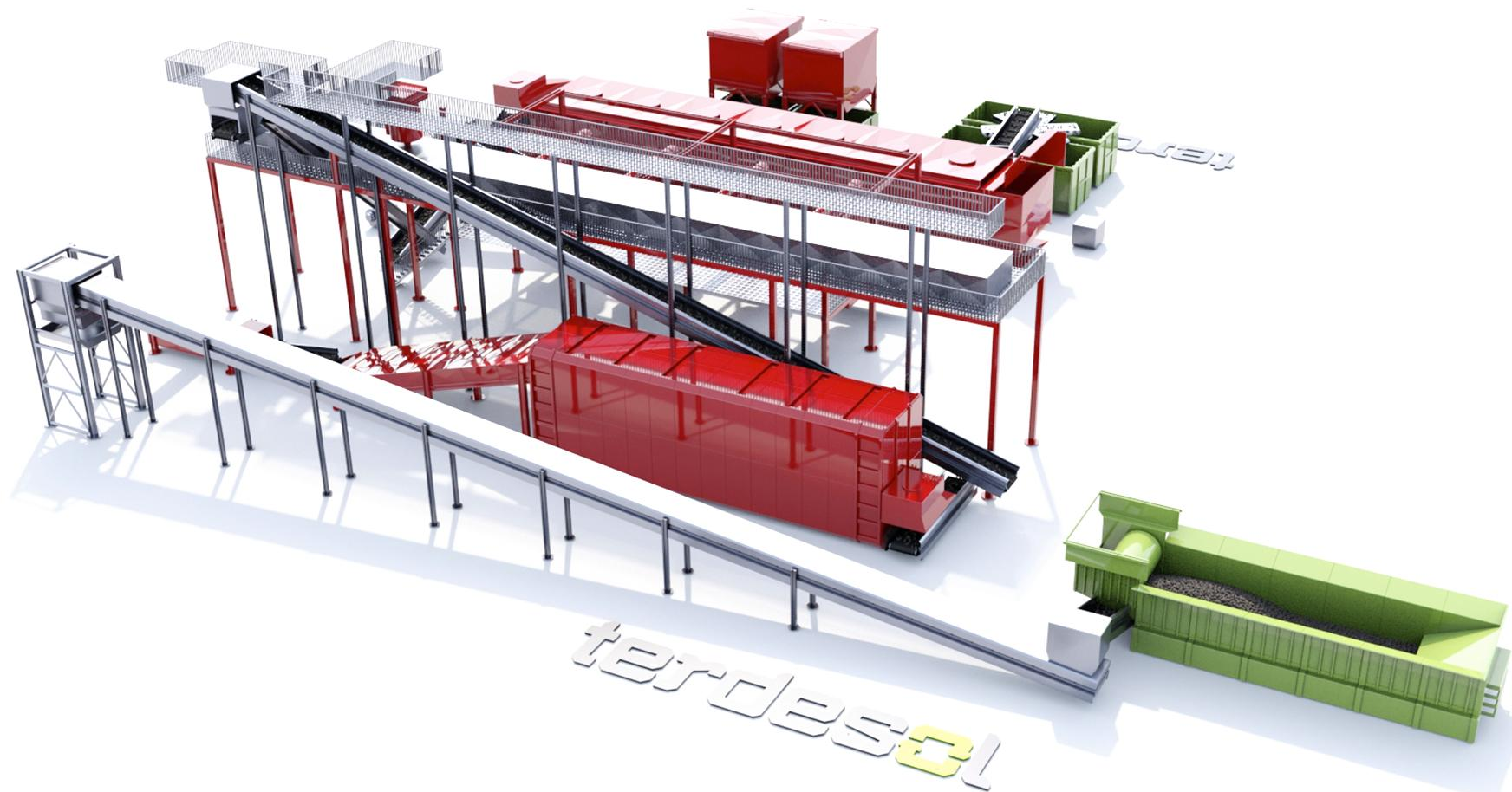
terdesa

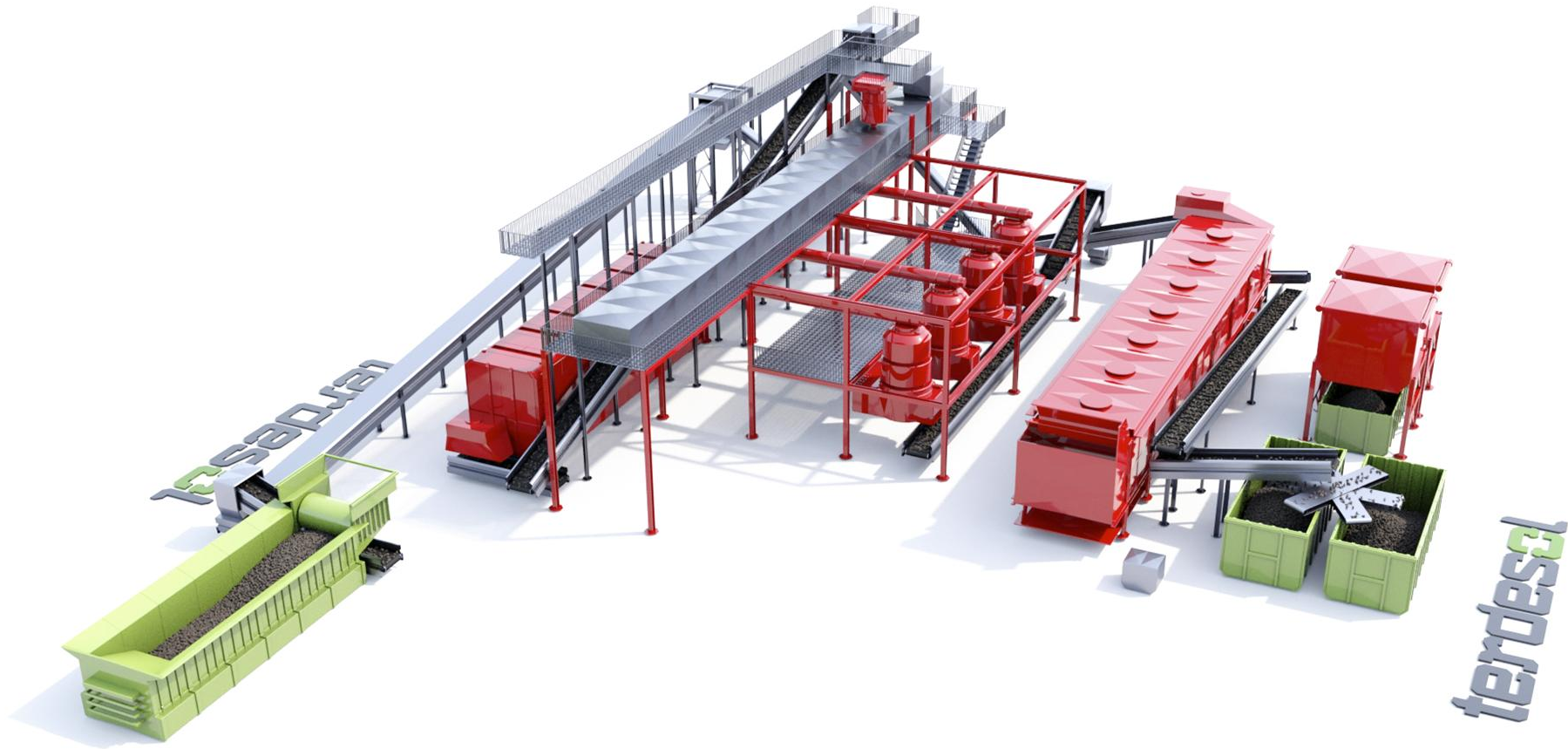






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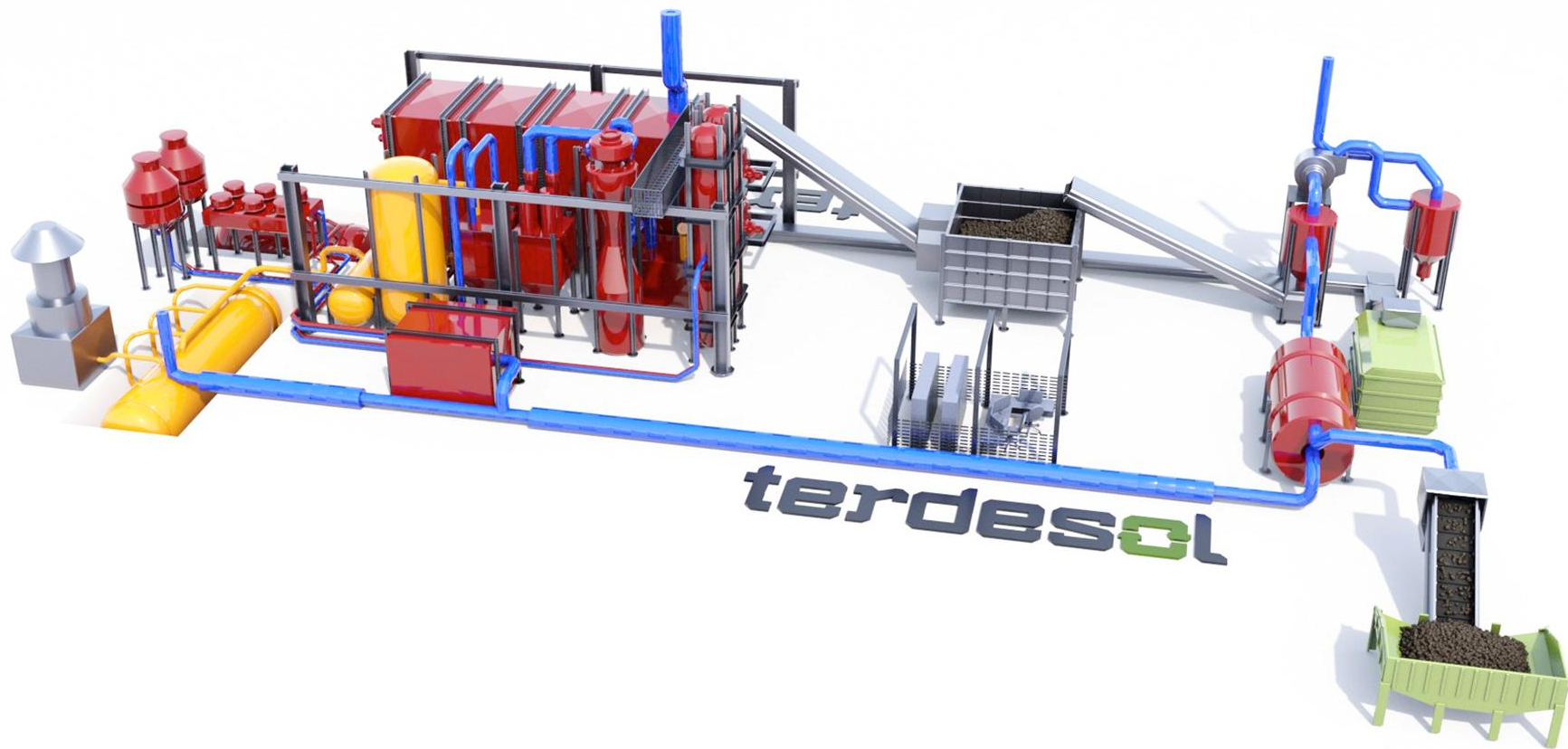


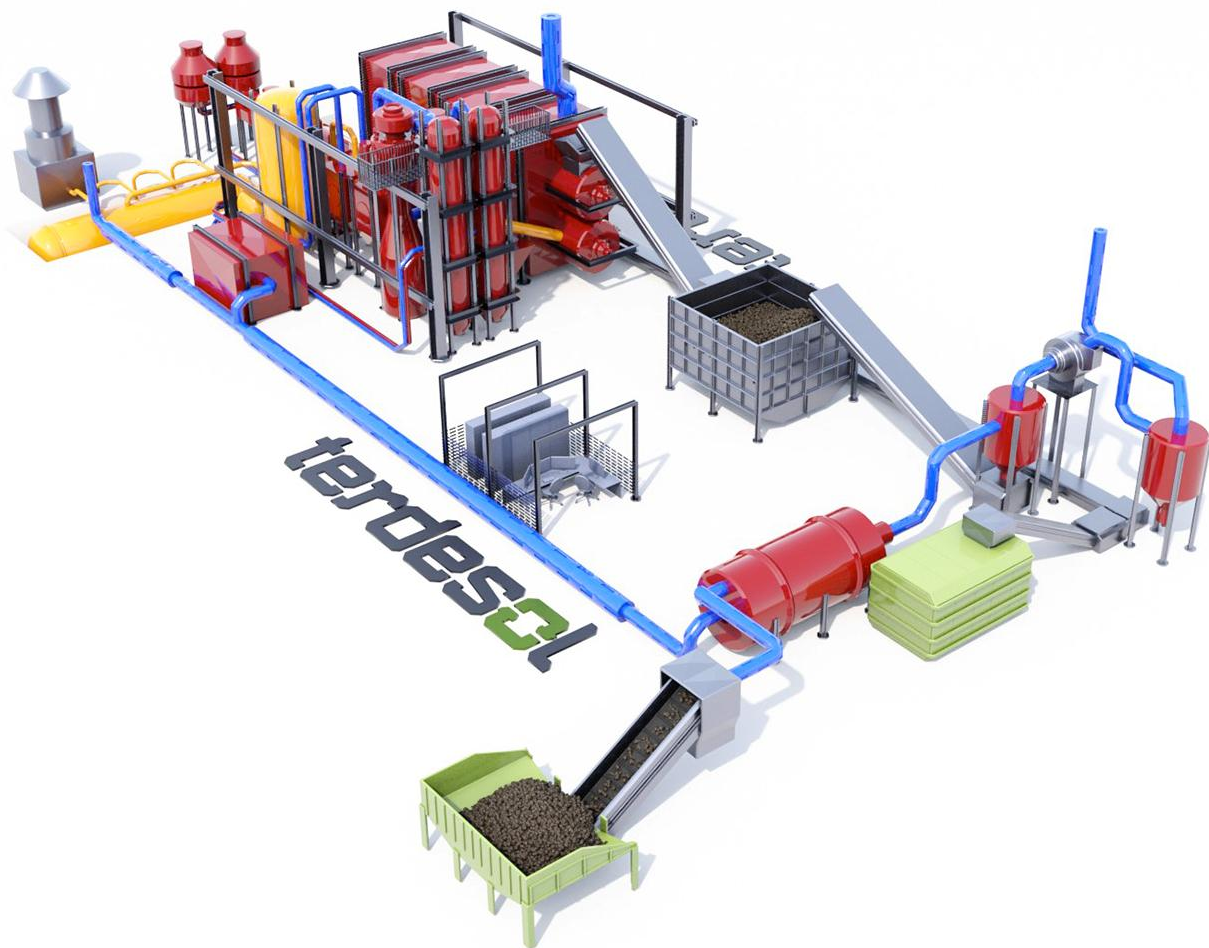
A detailed 3D CAD rendering of a thermochemical processing unit. The system includes a large horizontal cylindrical reactor, a tall vertical distillation column, and various piping, valves, and storage tanks. The entire unit is mounted on a steel frame. The background is a dark, reflective surface.

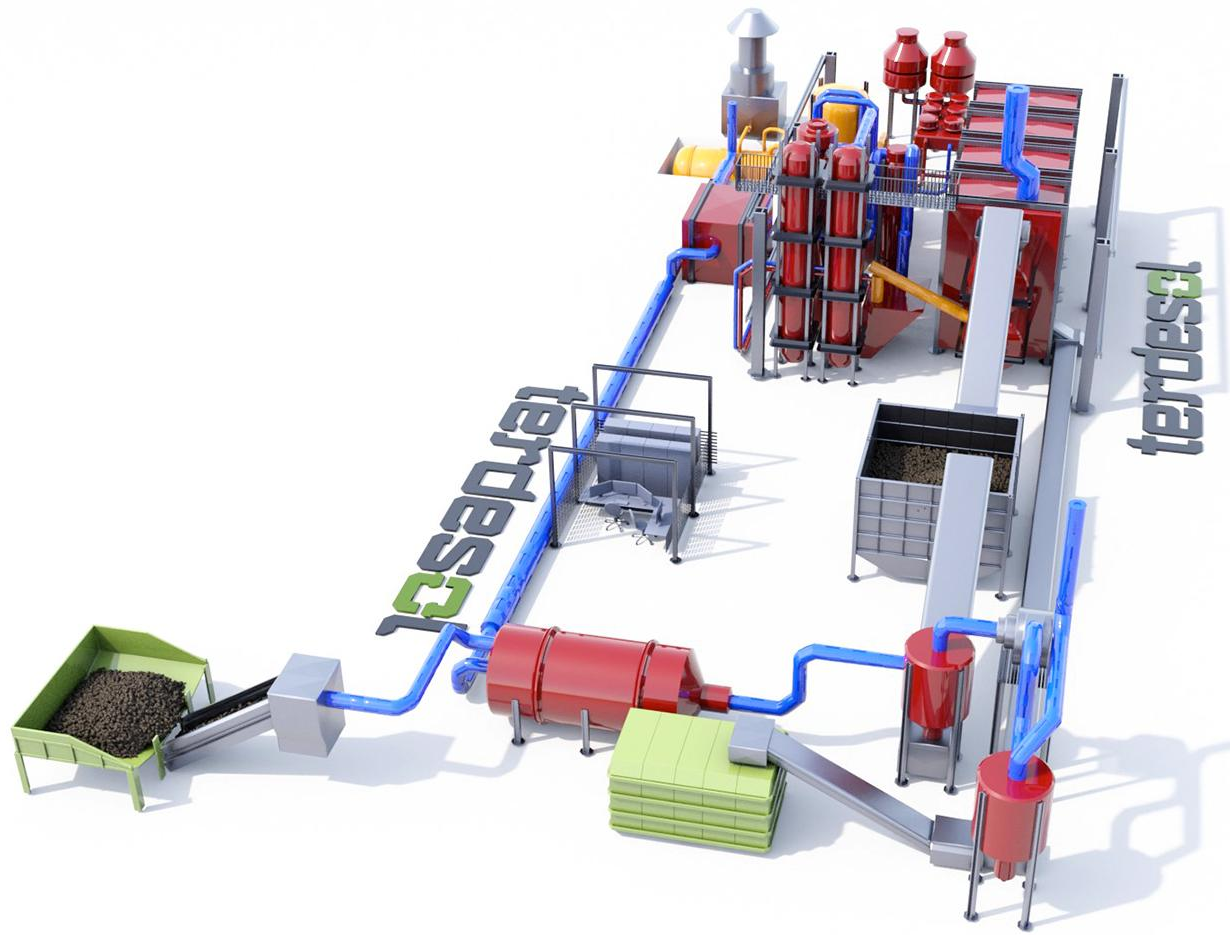
Thermochemical unit

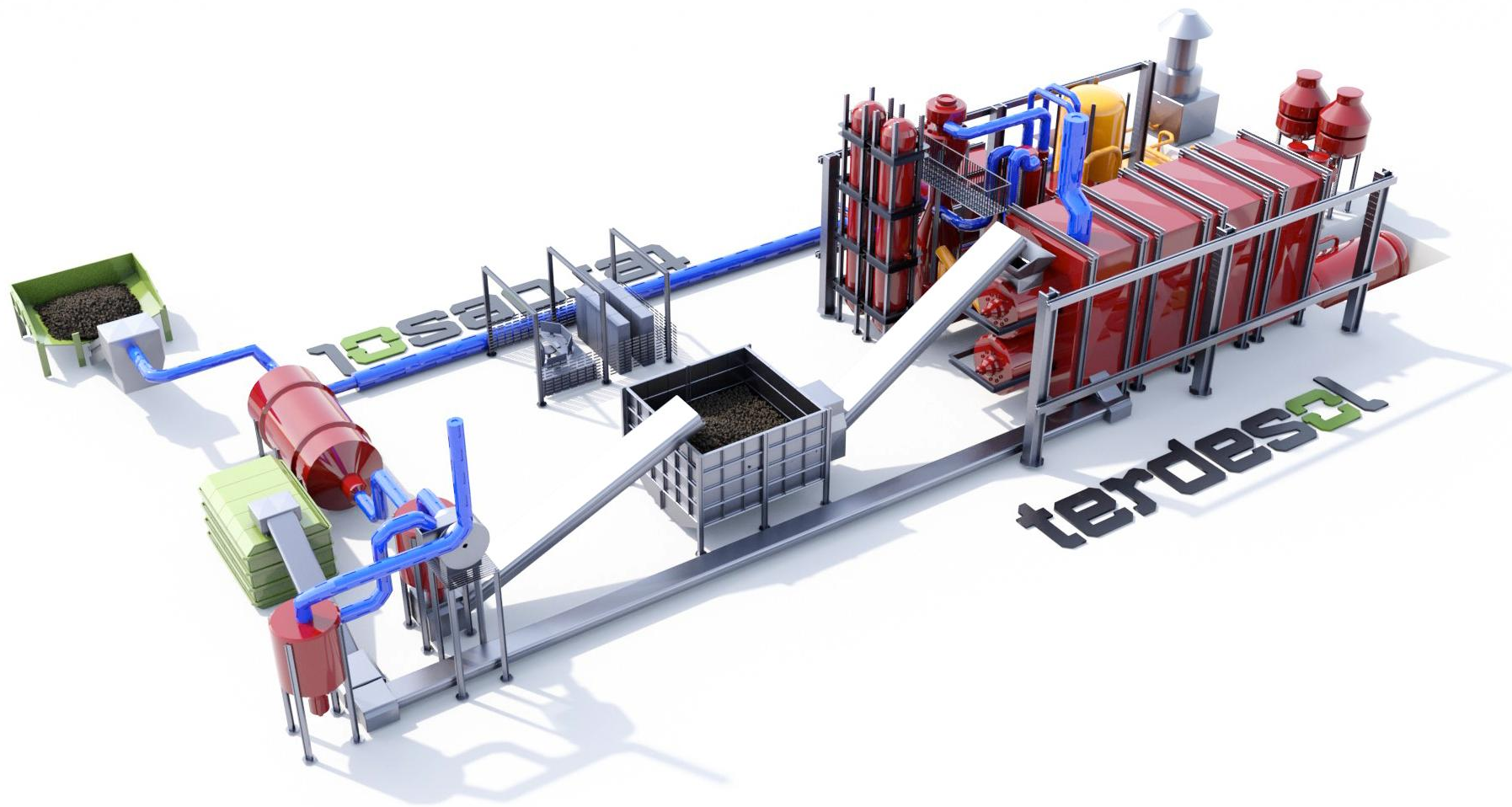
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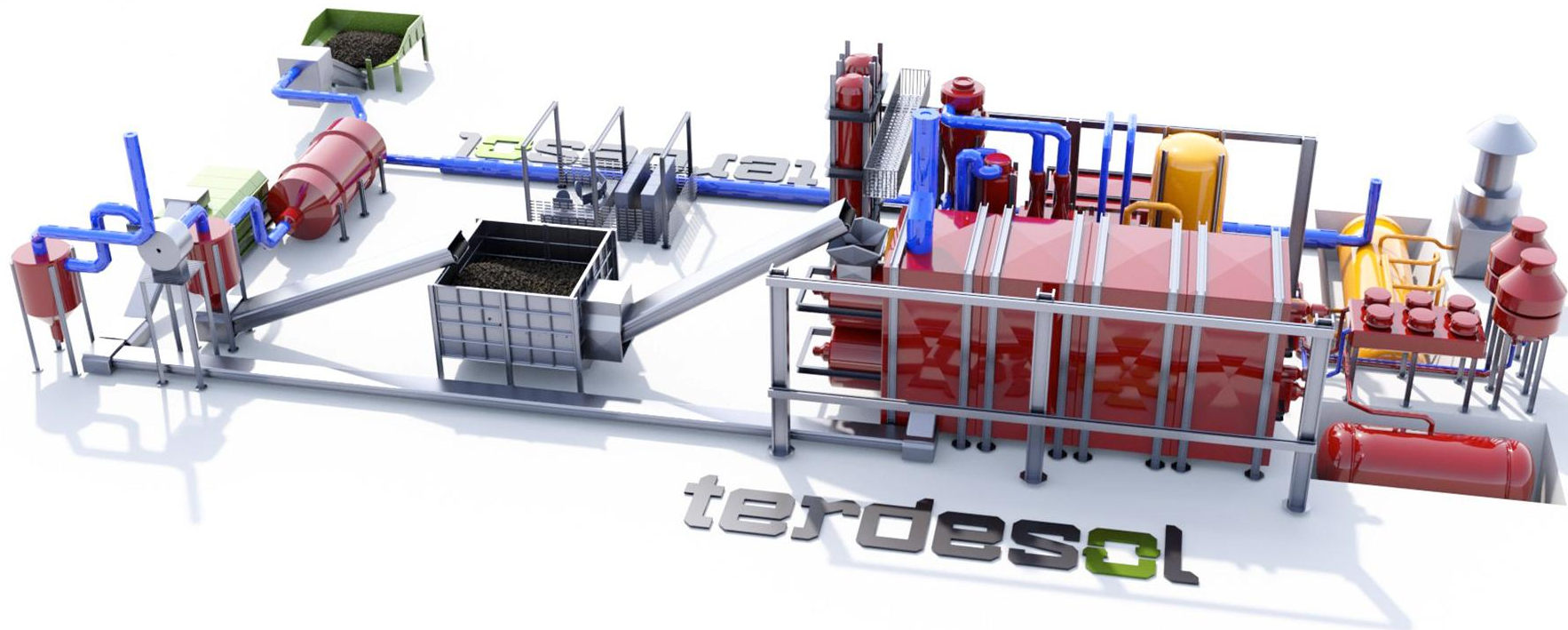
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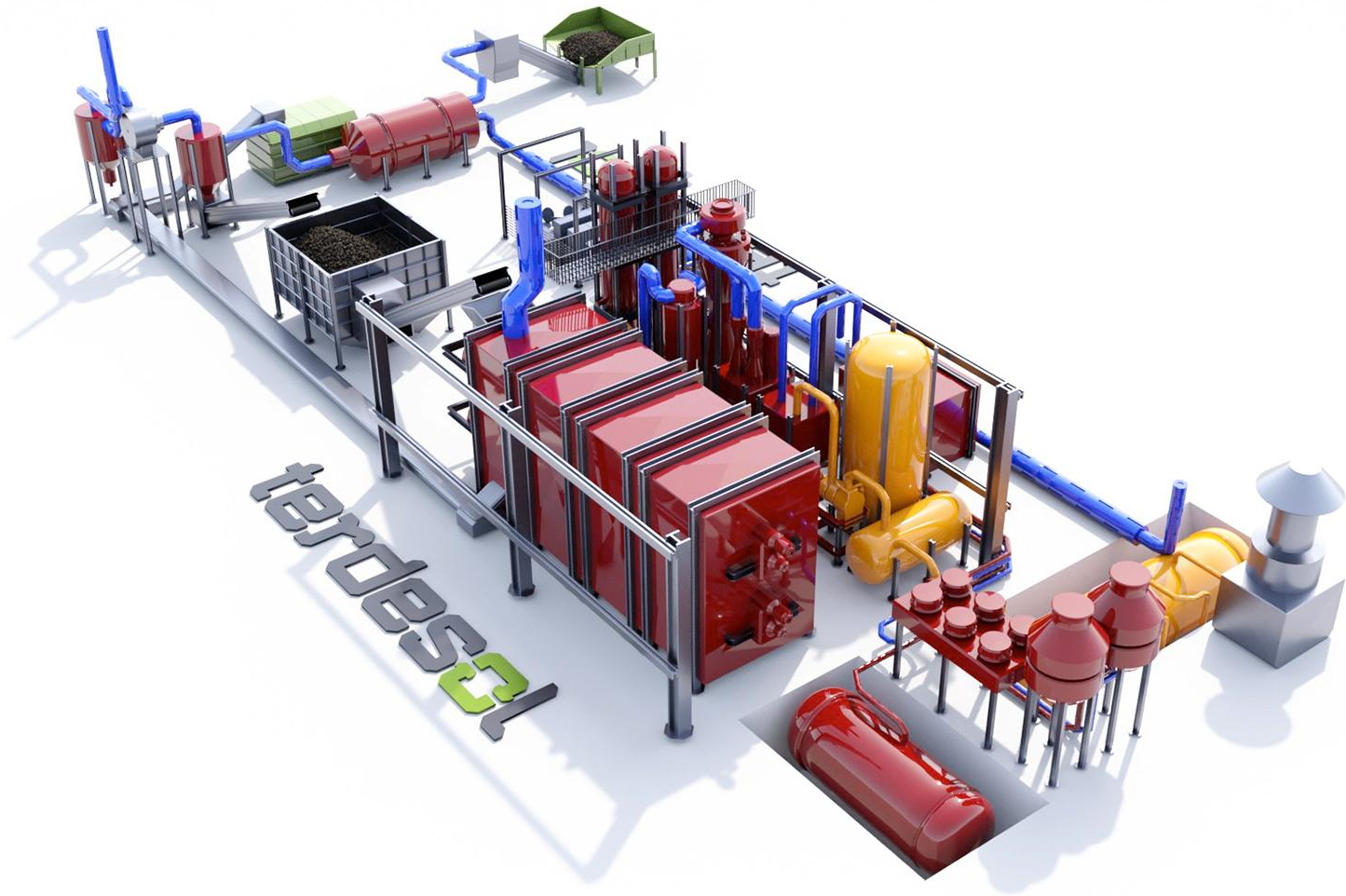














terdesol



is a sustainable non-intrusive solution
**which helps to maintain
a clean, safe and healthy
environment**



**Carbon
neutrality**

With Terdesol,
we can achieve
zero carbon dioxide emissions

Unlike incinerators:



high construction costs



low energy efficiency

only 30-35% of the burned waste is converted to electricity

- formation of toxic ash, classified as hazardous waste (has to be disposed of separately)
- emission of gaseous and particulate pollutants
- at a temperature of 1200 °C, waste melts and its usability for the recovery of valuable raw materials is lost

A Terdesol plant is fully automatic and 100% energy self-sufficient



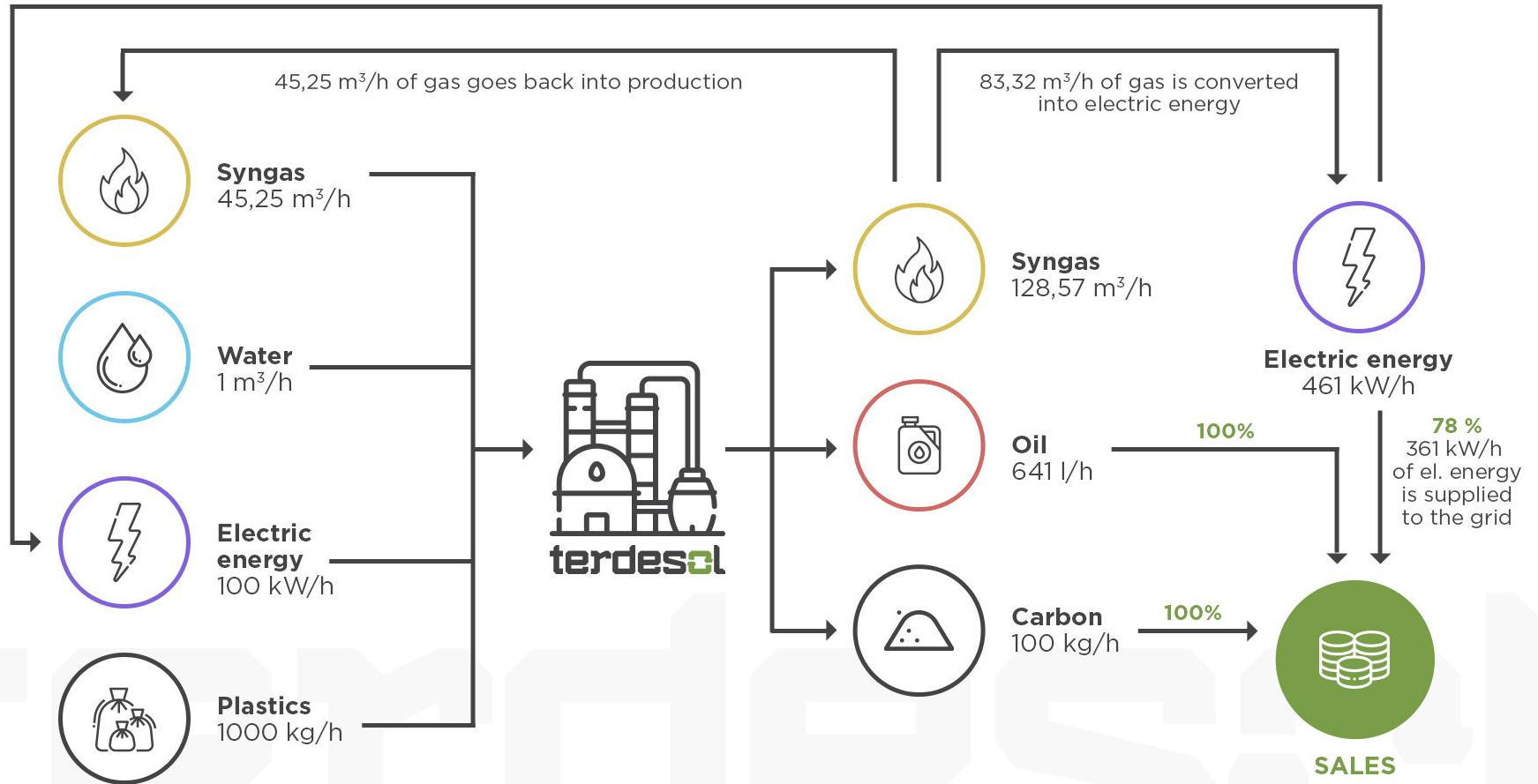
Terdesol runs in island mode.
It produces enough electricity
to sustain itself.

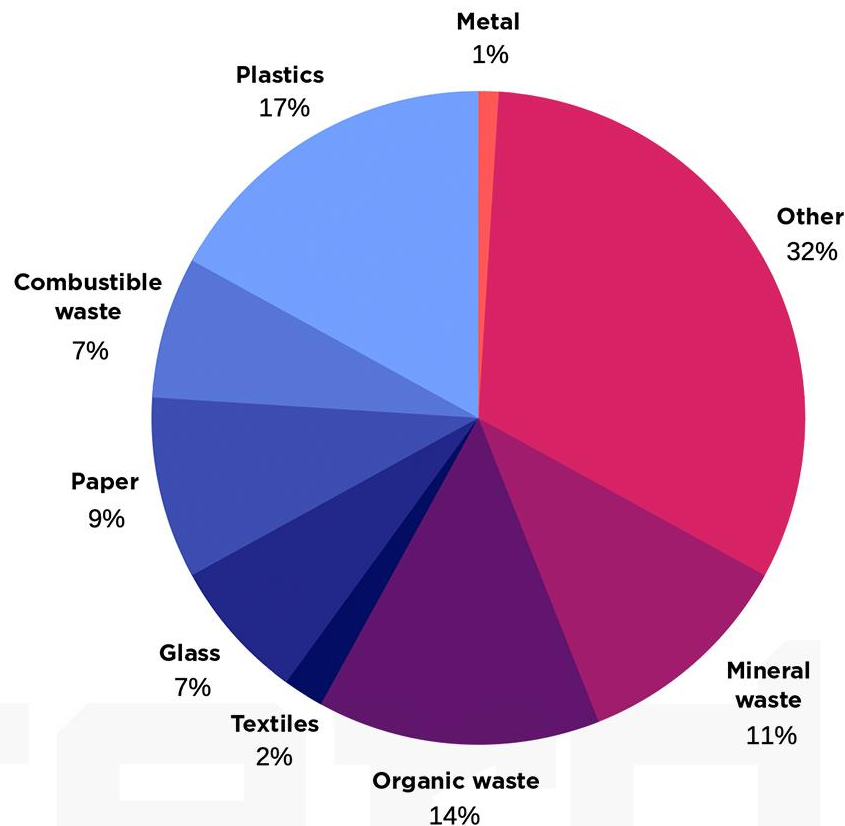
It supplies the remaining
electricity back to the grid.
It's green energy.

How does it all work in practice?

For example,
with 1000 kg plastic per hour...

100 kW/h of electric energy goes back into production

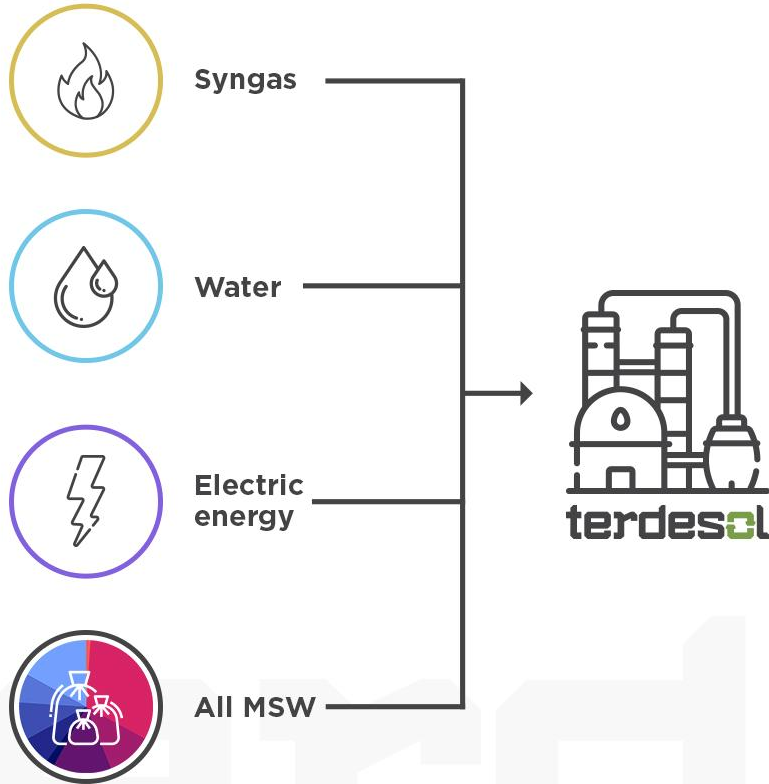




The composition of municipal solid waste (MSW)* in the Czech Republic (EU member state)

* indicative average content

How does Terdesol handle all of this communal waste? →

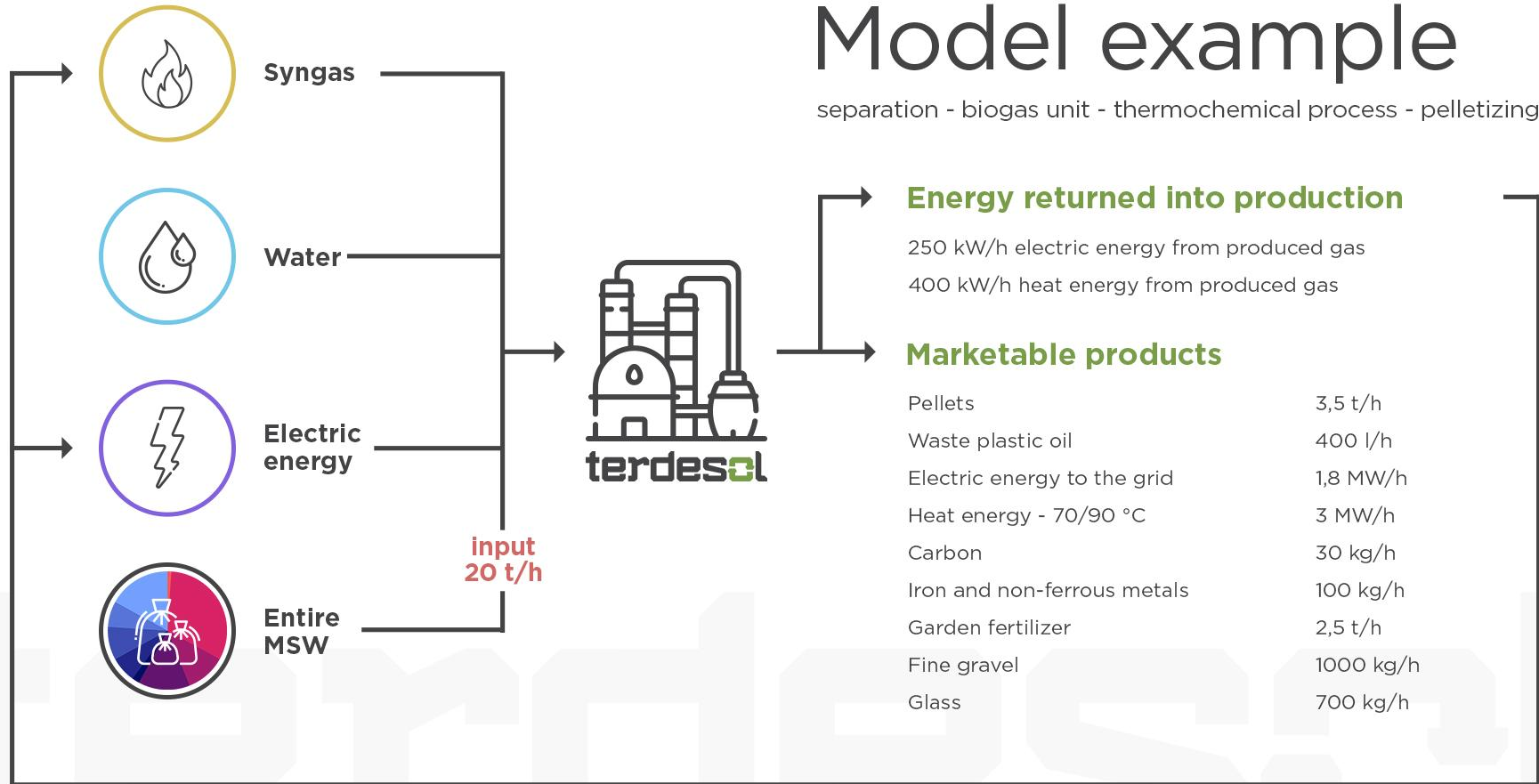


Terdesol can be **flexibly adjusted** to both the economic and energy needs of the municipality

A supply of **20 tons MSW per hour** can be processed according to the following model →

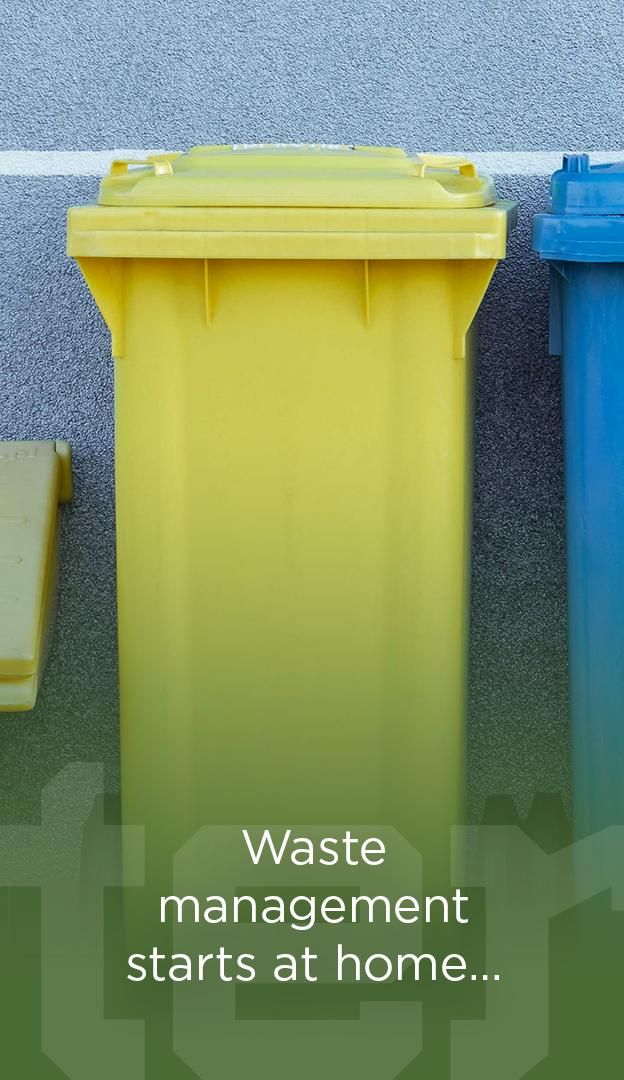
Model example

separation - biogas unit - thermochemical process - pelletizing

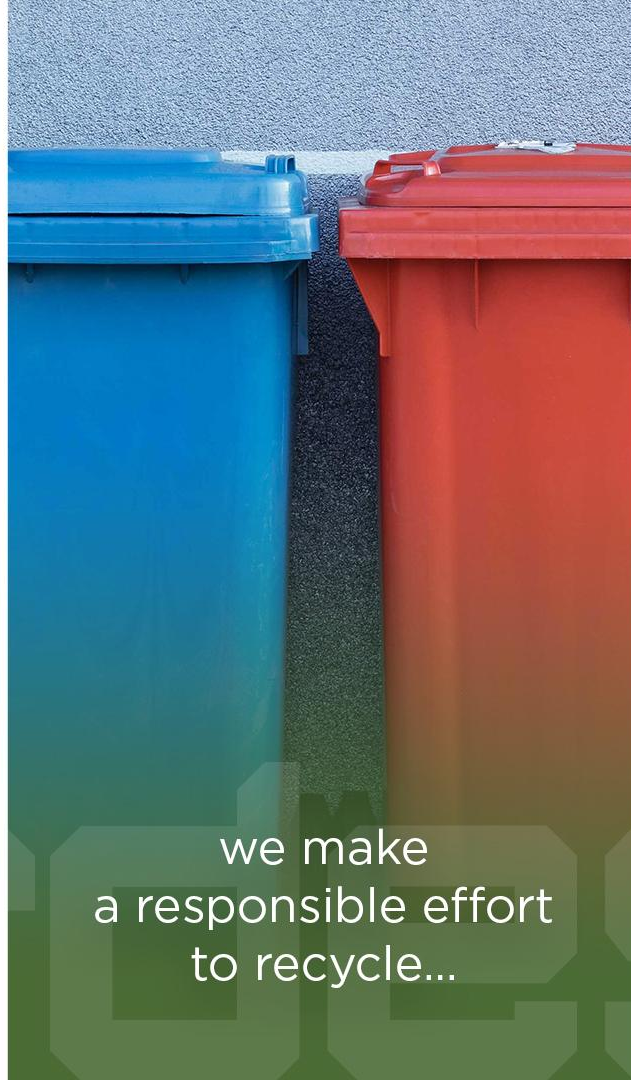


The background features several overlapping, semi-transparent geometric shapes in various shades of gray. These shapes include triangles, polygons, and a large, complex polygon on the left side that resembles a stylized letter 'E' or a series of nested shapes. The overall effect is a modern, minimalist design.

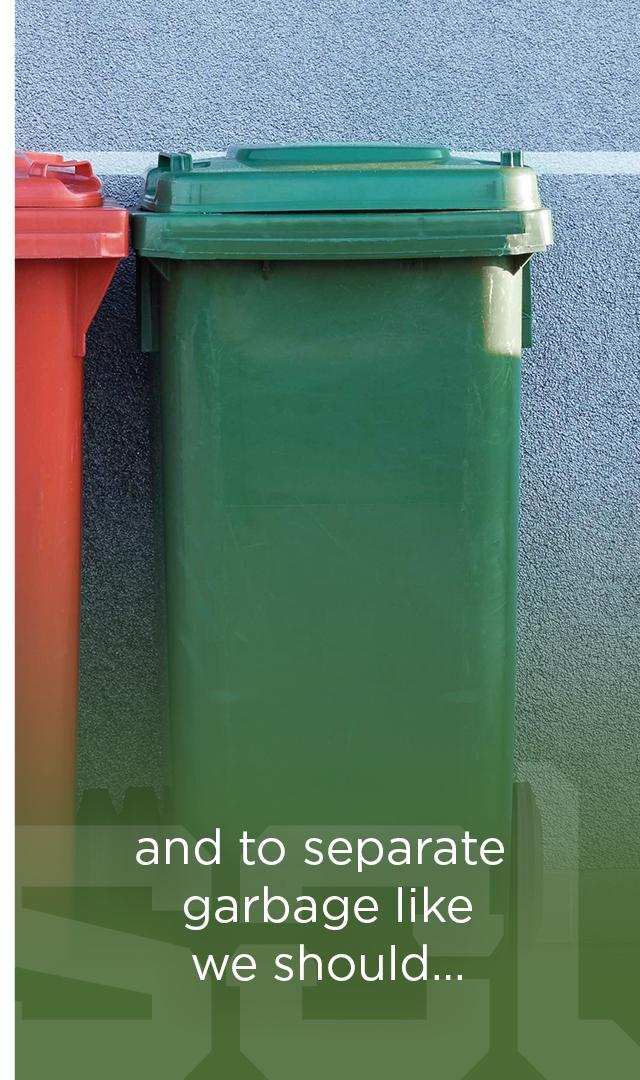
Something to think about...



Waste
management
starts at home...



we make
a responsible effort
to recycle...



and to separate
garbage like
we should...

But in reality,
there's just no guarantee
that it won't end up...

A black and white photograph showing a massive, towering pile of discarded plastic waste, likely a landfill. The waste consists of numerous crumpled plastic bags and other debris, creating a textured, chaotic surface. A person in a light-colored protective suit and mask stands on a path to the right, providing a sense of scale to the enormous pile of trash. The sky is visible in the background, and the overall scene conveys a message about environmental pollution and waste management.

...all in one place!

Terdesol handles
all waste efficiently
to create a cleaner tomorrow...

With our patented technology,
waste is automatically sorted
and processed



Terdesol complements every existing waste management system

- it sorts and processes insufficiently separated waste
- it processes municipal waste in any condition, shape or form



Did you know that
only 30% of yellow container
content is actually recycled?

Most collected plastic waste is non-recyclable and is disposed in a way that's harmful to the environment. This places an additional burden on our planet, and is a loss of valuable raw materials.

Terdesol does it differently.

We take on any kind of waste
and leave nothing behind.



A red-tinted photograph of a construction site. In the center-right, an excavator is visible, its arm raised. The ground is uneven and appears to be dirt or gravel. In the far background, a tall, thin structure, possibly a water tower, stands against a cloudy sky. The overall scene is desaturated due to the red tint.

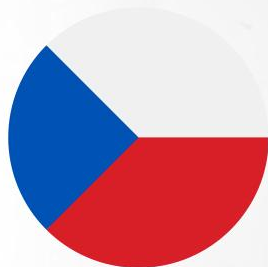
How about existing landfills?

Terdesol can also help eliminate landfills

By mixing waste from any open landfill with fresh waste (optimizing its energy value), the landfill can be gradually eliminated



100% CZECH KNOW-HOW & EUROPEAN TECHNOLOGY



Our technology was developed in cooperation with the Academy of Sciences in the Czech Republic and the University of Pardubice

We have been involved in solving waste management problems in many countries around the world

Leading members of our team are official advisors to the Czech National Interparliamentary Group for Ecological Waste Management

Part of the initial cost

for the purchase of Terdesol
technology is provided
by European Structural
and Investment Funds
(ESIF)



EU objective:
eliminate landfills by 2030



The background of the slide is a photograph of a rural landscape, tinted with a dark green color. It features a dirt road that curves from the bottom left towards the center, bordered by a line of evergreen trees on the left and a grassy field on the right. The sky is filled with large, dramatic clouds.

terdesol

**AN UNEQUALLED
WASTE DISPOSAL SOLUTION**

Participate fully and profitably
in the circular economy



THE ULTIMATE RECYCLING SOLUTION

terdesol