

ATON

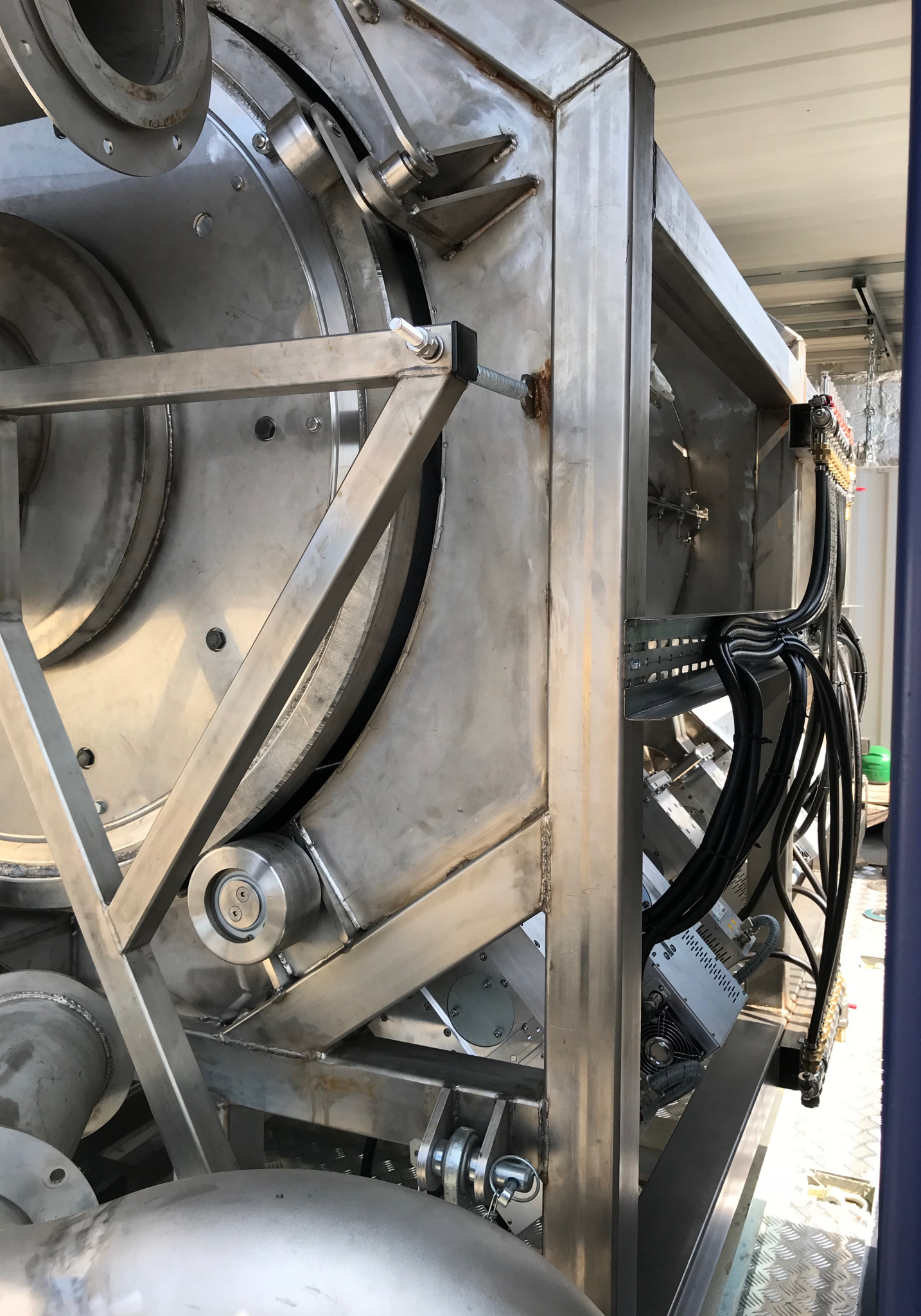


high technology



ATON-HR S.A. POLAND

**ultra modern
THERMAL
TREATMENT
of WASTE**



**THE ONLY
TECHNOLOGY ON
EARTH WHICH REALLY
NEUTRALISE WASTE!**

**WE DO NOT
TRANSFORM GARBAGE,
WE MAKE IT DISAPPEAR**

The offered system allows to solve the waste problems (municipal, industrial, agricultural, hazardous materials) and in addition generating useful heat and electrical energy.

ATON key elements

(offered products)



HR200 (neutralization of pollutants, waste disposal)



MOS (purification and oxidation gas post-processing and removing



HE-heat exchanger (saving the energy that would otherwise be



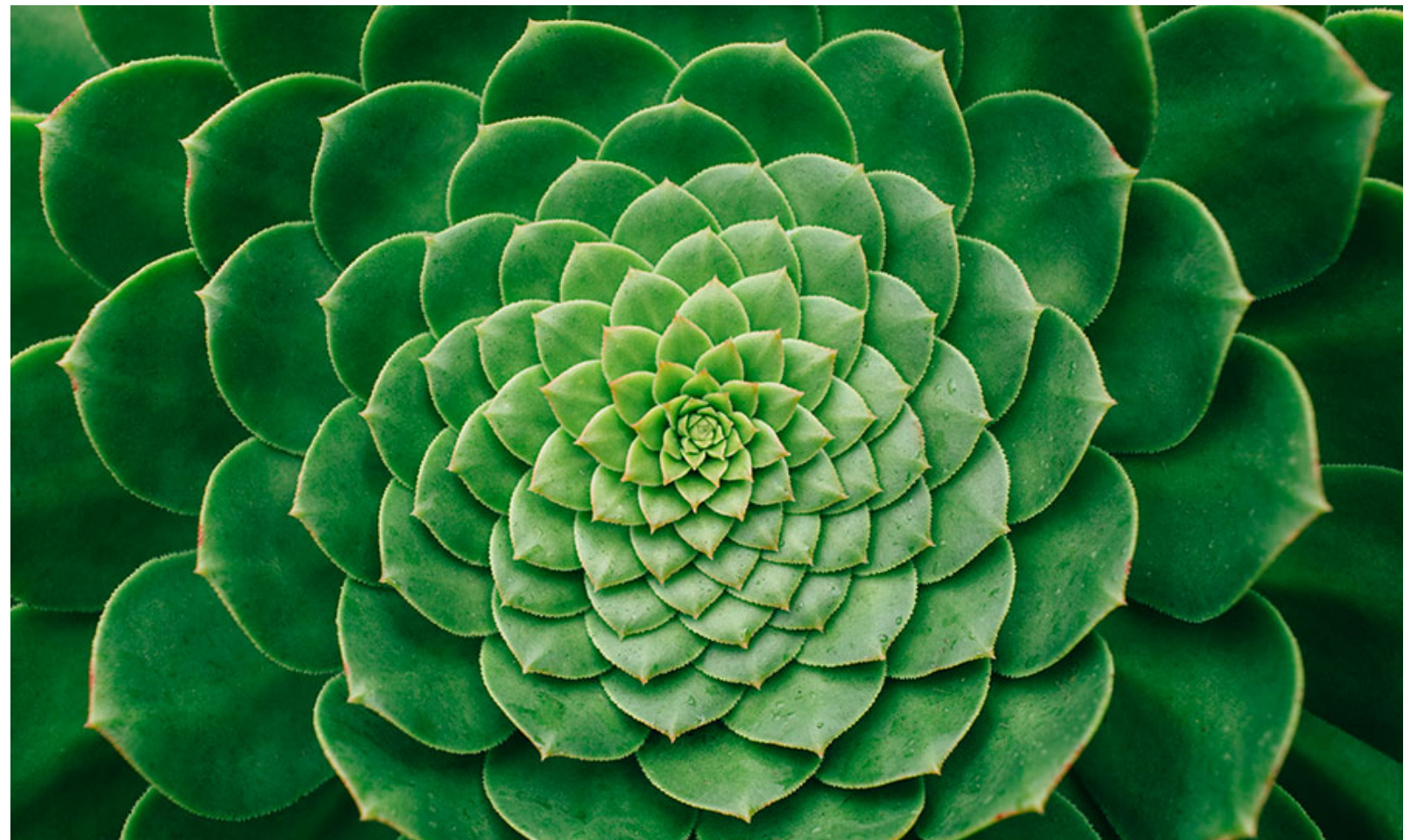
ORC turbine (solution, which transform heat into electricity and thermal power from HR and MOS



Offering technologies applications:

An important advantage of the Company's technology is the ability to waste disposal at the place of occurrence and contaminated by toxic substances (used transformer oils containing PCBs, paints, varnishes, some sealing materials, etc.), whose storage is not allowed. MTT Technology with hazardous waste, e.g. contaminated hospital waste. We offer the only known safe way to legally treat hazardous compounds.

By using the Company technology during the process there is possibility of recovery of energy (heat and electricity) formed at the disposal or processing of waste with a high calorific value as such: Automobile waste (ASR) or used tires and plastic waste.



In the HR reactor the dried sludge or municipal waste is subjected to complete oxidation. Gases, which are emitted here are directed into the MOS reactor, where they are properly afterburned. The stream of hot gases from the MOS reactor is then used as an energy source in the dryer. The final product of the process is coal and minerals.

The composition depending on the initial composition of the input material. In case of decommissioning computers and electronics, we can easily recover valuable elements, like e.g. gold.

ATON = The efficiency of energy transfer



The main advantages of MTT and MOS technologies are:

obtaining optimal process conditions regardless of the composition of the waste,

positive energy balance (energy recovery)

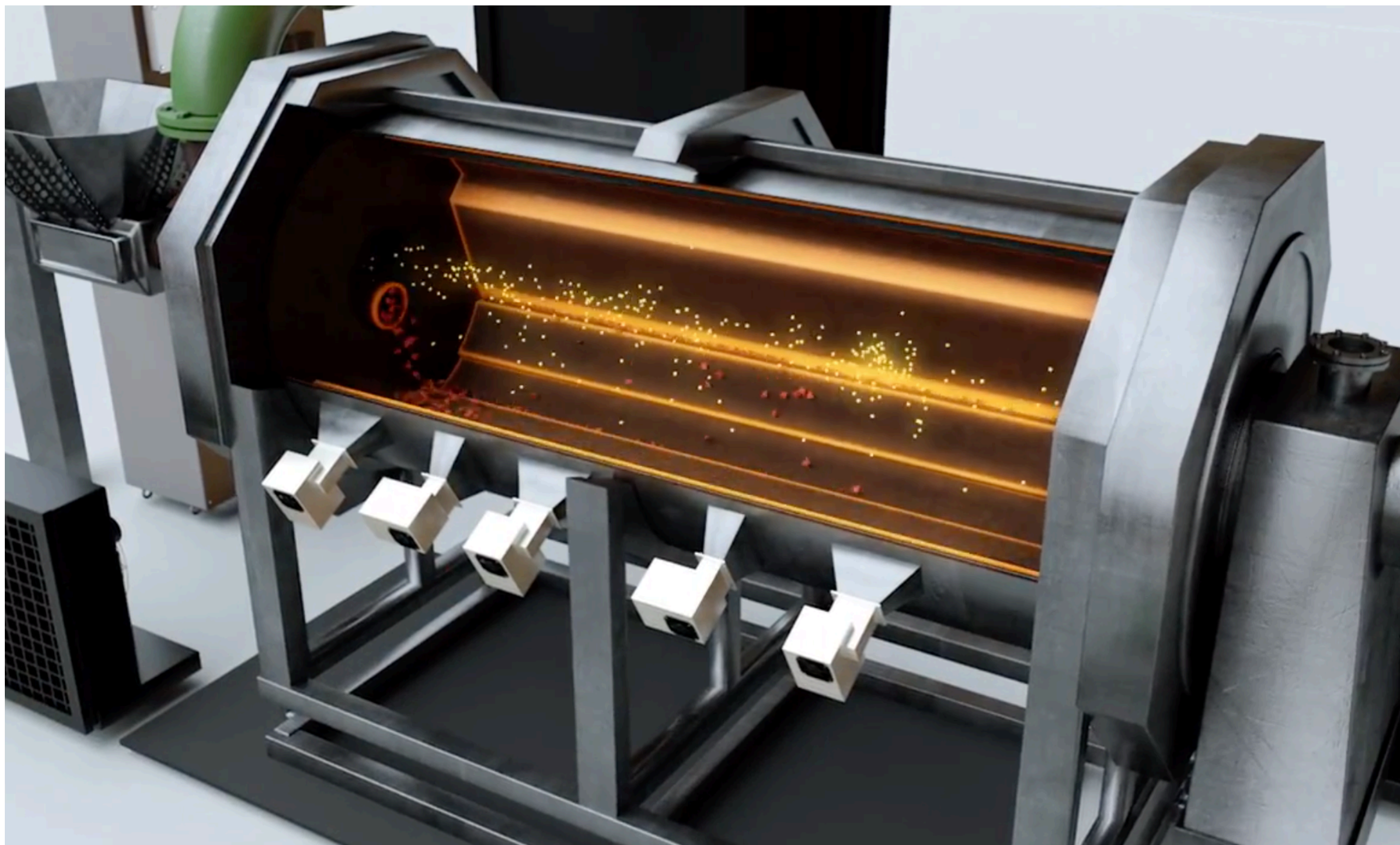
short time of starting the reactor,

no emission of harmful volatile substances into the atmosphere,

stoichiometric CO₂ emissions,

zero emission & non-waste.

All units are integrated in ATON MODULAR CONCEPT „AMC“, simple to transport and to install.



HR200/HR5000 REACTORS.
The proposed technical solution, based on the implemented MTT technology allows constructing energetically efficient reactors in

which various hazardous wastes can be neutralised and utilised at high temperatures. The work of these devices is not hazardous for the natural environment and

the operating cost is smaller than the operating costs of known conventional devices and installations.

The range of applications of the technology can be divided into the following groups:

Disposal:

wastes containing asbestos fibers;

hazardous medical waste (atonization);

laboratory waste (blood samples, waste from dental surgeries, etc.);

biological waste (atonization);

municipal waste

sewage sludge, etc..

Purifying:

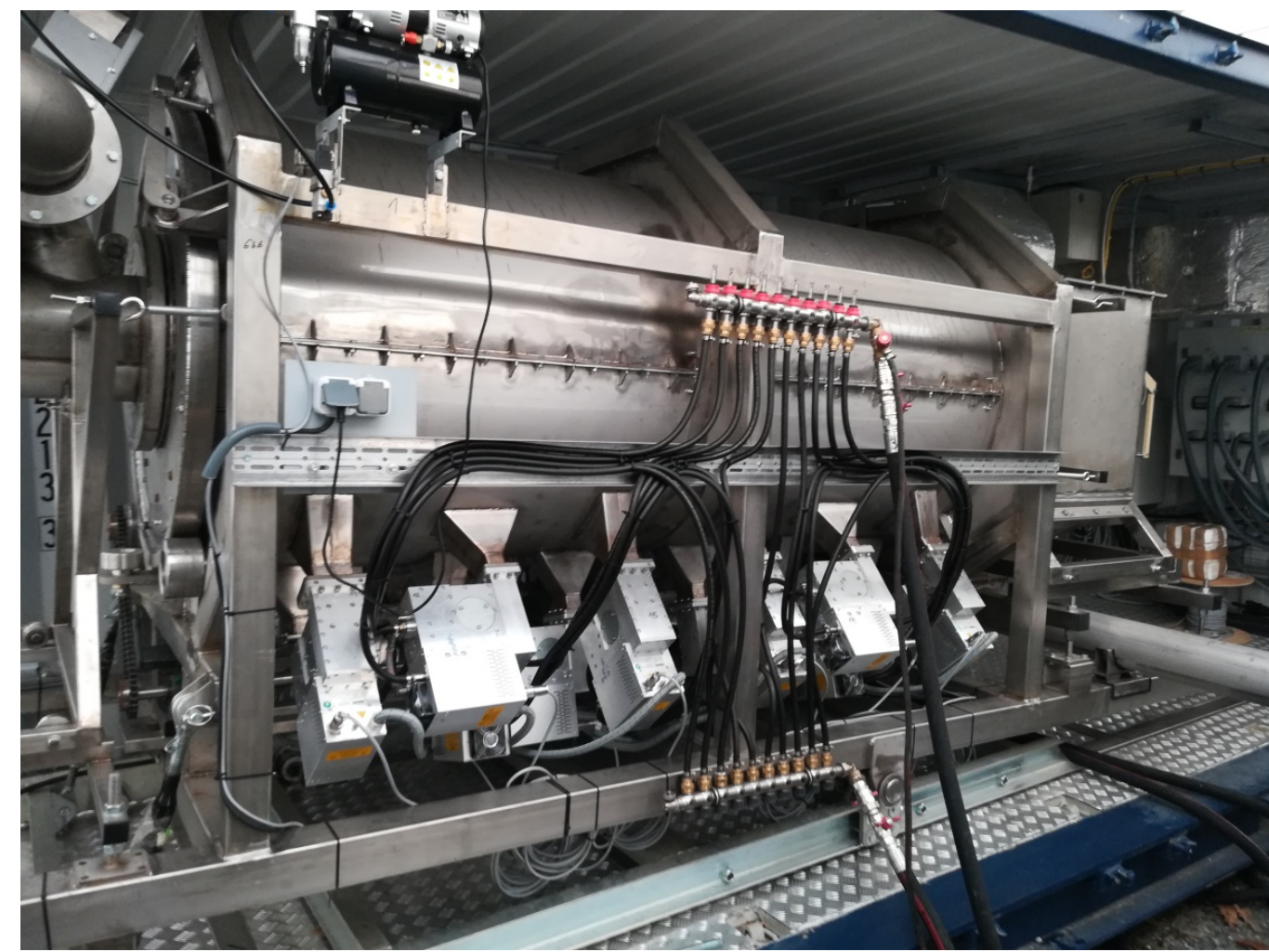
soil and sand of organic pollutants;

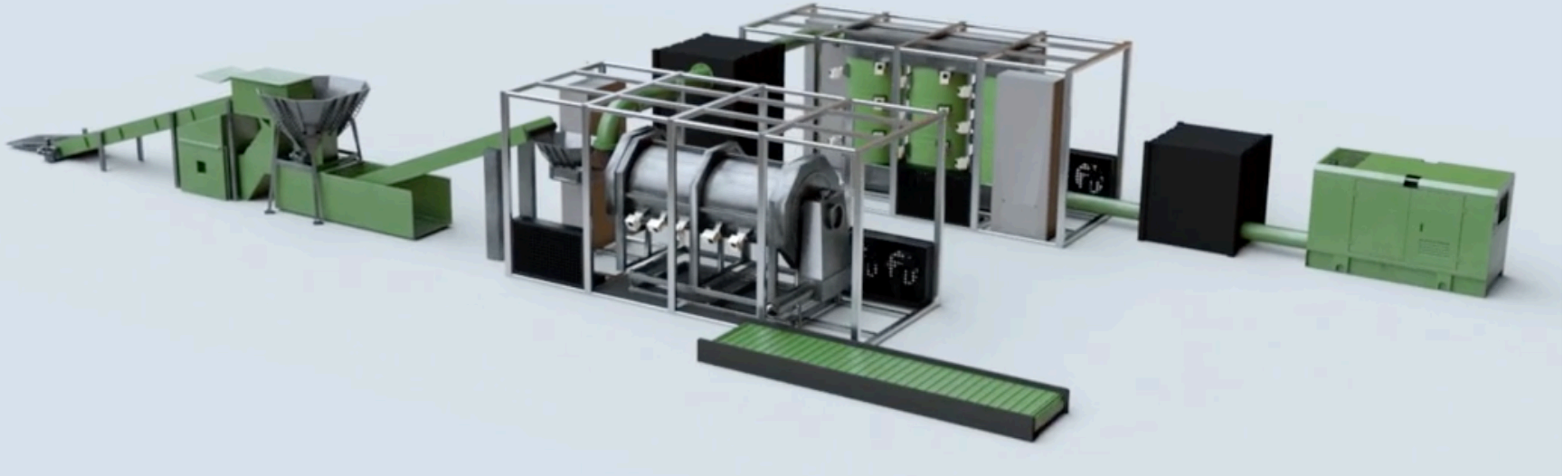
gases and odors by their burning (oxidation).

Recycling:

valuable components of industrial waste (Zn, Al_2O_3 , Au);

waste telecommunication (power cables).





Example of line of treatment

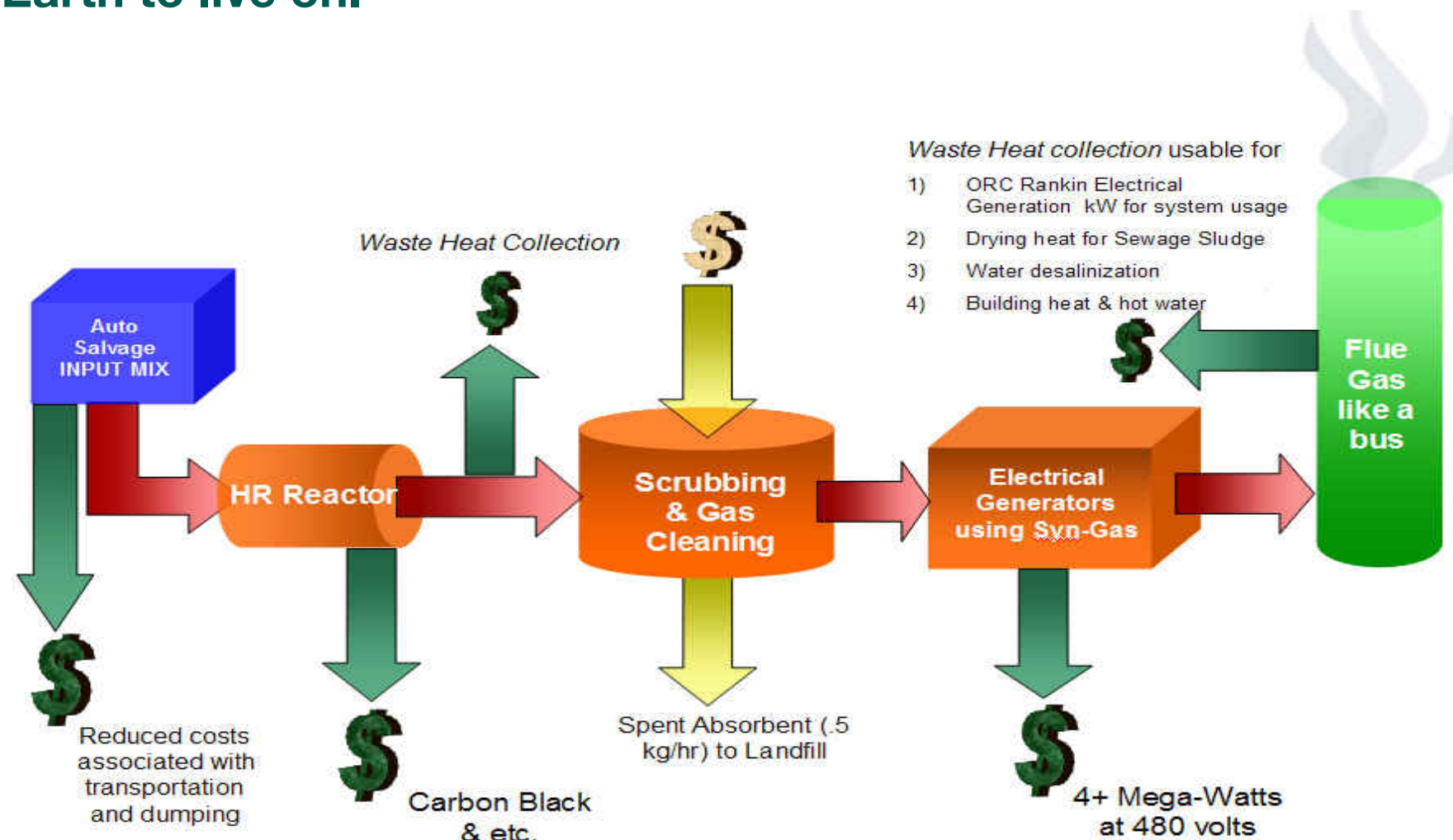
A comprehensive approach will include: recycling of a ratio of both materials through size reduction and sorting (customer supplied) treatment, then using an **ATON HR**-type rotary high efficiency thermal reactor for reducing the majority of these materials back to their base, mostly gases and some solids (carbon/metals)

The process produces a high-energy gas stream, which after drying and scrubbing can be used in internal combustion engines with electrical generator sets producing mega-watts of electrical energy.

COMPETITIVE RETURN OF INVESTMENT

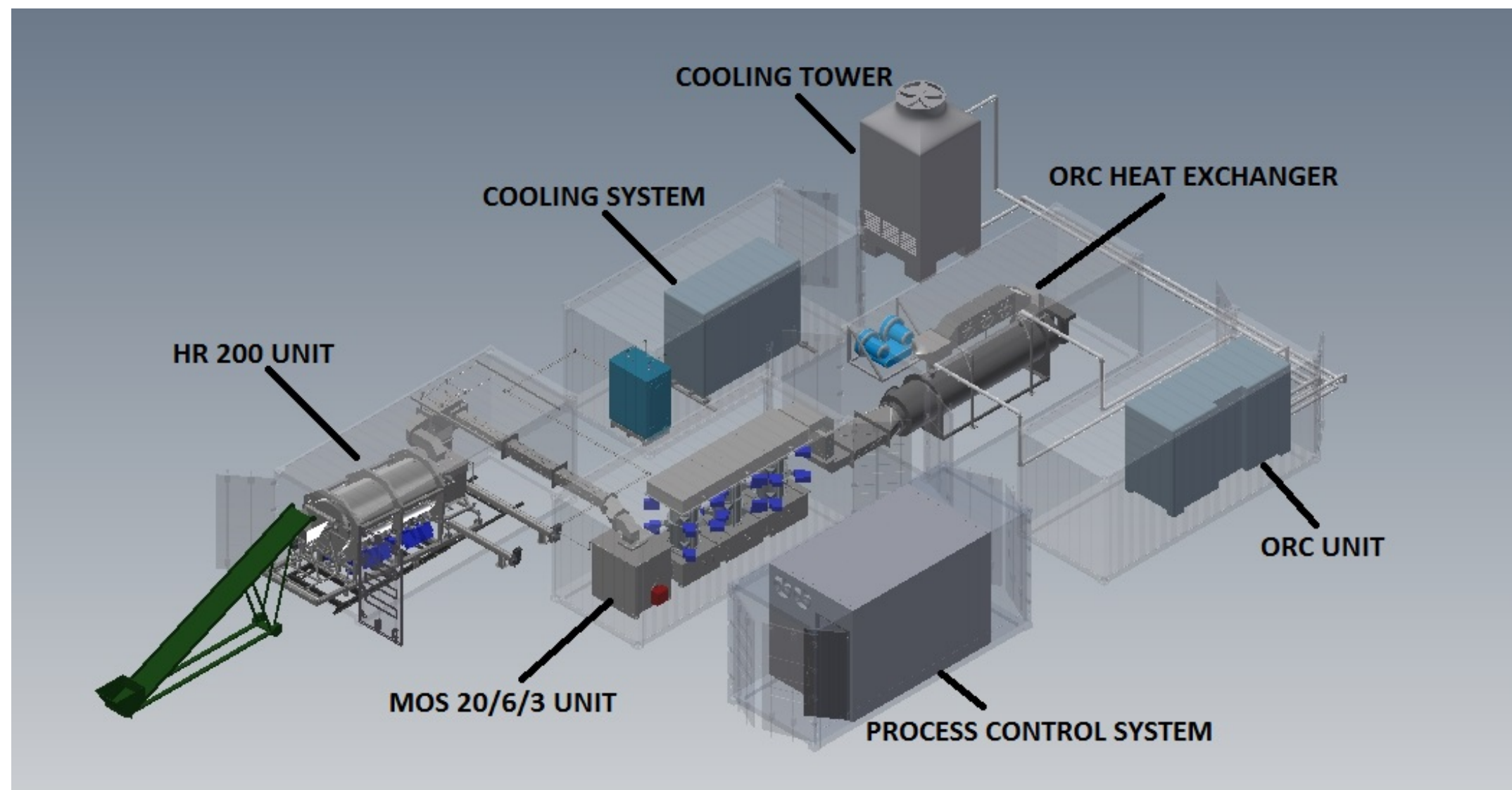
The AMC machinery has a short construction and implementation cycle which translates into a limited period of cost without benefit. Full cost of 2 milion EURO will return in 18-36 months (depending of waste feed).

The AMC will quickly transform waste, removing the unsightly and often noxious smelling bi-product of manufacturing or other industries, into clean energy and improved process that meet the demands of CSR and can make are contribution to a better Earth to live on.



MAIN ELEMENTS OF FULL ATON LINE

The AMC (ATON MODULAR CONCEPT) has low pre installation requirements. Standard layout requires around 600m² of flat land, electric power and water. All arrive ready to use in 6 (six) convenient twenty feet containers. We provide installation and basic Service (please note: machinery can work 24/7 with rare maintenance - once or twice a year.



SECURITY FEATURES of ATON LINE

The processes of thermal treatment of waste in offered devices are carried out in a fully safe and controlled manner. Reactors and devices have control and measurement systems consisting of temperature and pressure measurement systems. As a result, the technological line automatically maintains the process parameters set by the operator for the selected type of waste.

HR device protection:

electrical protection and control - the device has an additional safety controller connected to an independent power supply

drive protection - the device is equipped with additional cooling systems for drive motors

thermal protection of the process - the device is equipped with an automatic temperature control system

pressure protections of the process - the device is equipped with an automatic pressure control system

emergency protection - the device has emergency protection devices, which automatically react in case of: no vacuum, complete loss of power supply, sudden pressure increase and continuously monitors the oxygen level.

Protection of the MOS device

- electrical and control protection
- thermal protection of the process
- pressure protections of the process
- emergency protection



SECURITY FEATURES of ATON LINE

ORC system protection

thermal protection of the process - the device is equipped with an automatic temperature control system for water parameters - the water circuit control system is equipped with temperature, pressure and flow sensors - it also has all kinds of hydraulic protections such as: safety valves, solenoid valves, diaphragm vessels, etc.

The device has an emergency bypass - in case of changing the parameters of hot water entering the ORC system, the device automatically switches to stand-by, directing water in the hot circuit to the emergency bypass

Security for the entire installation:

- a) electrical protection and control - in case of loss of main power supply - the device has an additional safety controller connected to an independent power supply;
- b) the installation has 12 emergency switches;
- c) the installation is equipped with sound and light alarms informing about the correctness of the process and about any possible failure;
- (d) the installation has an audible signal to indicate the start-up of each component;
- c) designated danger zones marked with appropriate pictograms, including zones marked with a non-admission sign;
- d) the installation is equipped with health and safety equipment such as: fire extinguishers, fire-fighting instructions, safety instructions, first aid kit.



WASTE TRANSFORMATION AND CLEAN ENERGY CREATION

ATON deals with the complexity of technology.

**ATON deals with the implementation of the AMC on-site and will
use local labour where ever possible.**

ATON is committed to a cleaner world.

**Invest in our ultra-modern, clean technology and take full
advantage of ATON efficiency.**

**Be simple, be efficient, be ecological!
Be... ATON!**



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