

WASTE INTEGRATED MANAGEMENT CENTER

Galda de Jos | Romania

MBT BIOSTABILIZATION PLANT



WITH THE **TURTLE™ BIOCELLS SYSTEM**, ENTSORGA ENABLED THE COMMUNITY OF GALDA DE JOS AND THE PROVINCE OF ALBA JULIA TO MANAGE MORE EFFICIENTLY **MUNICIPAL SOLID WASTE** BY PREPROCESSING MSW PRIOR TO LANDFILLING. THIS SUBSTANTIALLY **IMPROVED THE ENVIRONMENTAL IMPACT** OF THE DISPOSAL SYSTEM BY REDUCING VOLUMES LANDFILLED, LEACHATE PRODUCED AND RELEVANT GREENHOUSE GASES EMISSIONS.

PLANT DATA

Company	Porr Construct S.r.l.
Capacity	85.000 tpa of Unsorted Municipal Solid Waste
Treated waste	Unsorted Municipal Solid Waste
Final Output	35.000 tpa of Compost Like Output (CLO) sent to landfill
Start up	2018
Plant	Biostabilization with Mechanical Biological Treatment
Population	200.000
Employees	6

ENTSORGA
GREEN TECHNOLOGY REVOLUTION

COMPANY

The Alba Julia District (Romania), a public body administrating the province of Alba Julia, has completed the construction of an integrated system for the **Municipal Solid Waste** treatment based on regional government ordinances.

PROJECT

PORR Construct SRL (part of the PORR Group with Headquarter in Vienna), in joint venture with Entsorga Italia SpA, has developed the project for the “**Construction of a waste management integrated center**” of Galda de Jos, which includes a landfill, a sorting plant and a biological mechanical treatment plant. Specifically Entsorga Italia has designed and supplied a **biological organic treatment system, consisting of 18 Turtle Q-Ring™ biocells**, that allow stabilizing waste and produce CLO (Compost Like Output), a stable material suitable to be used as a daily landfill cover. The system is supported by an **Entsorga aspiration system** (air flow rate 30.000 m³/h) serving the mechanical pre-treatment section, and from an Entsorga proprietary biofilter odour abatement.

SOLUTION

The solution proposed allows stabilizing and sanitizing organic waste through an aerobic digestion process using the **Turtle Q-Ring™ technology**. The semi-permeable membrane installed as biocells cover eliminates odours without the need of any additional filtering system.

PROCESS

The input **Municipal Solid Waste (MSW)** undergo a **biostabilization treatment process** for about 21 days in which, **forced aeration**, accelerates the natural degradation of the organic fraction resulting in heat produced and mass loss by evaporation of the intrinsic moisture content. The process is automatically managed by an automated **control system (1)**, which processes the data and optimizes the air flow sent to the biomass being treated. The process air of the pre treatment area is conveyed to the **biofilter (2)**, to purify it from unpleasant odours.

(1) **VENTILATION SYSTEM**
AUTOMATICALLY CONTROLLED 24/7



(2) **BIOFILTER: PRE-TREATMENT AREA**
ODOUR TREATMENT



USED TECHNOLOGIES

The plant employs the following Entsorga proprietary technologies: **Turtle Q-Ring™ biocells and the Biofilter.**

FINAL PRODUCT

The output is a biogenically **stable substrate**, the CLO (Compost Like Output), suitable for landfill coverage, compliant with the most recent European standards. The biostabilization process, "sanitizing" and stabilizing the putrescible part of the unsorted waste, allows to **reduce biogas and leachate emissions**, for a substantial environmental benefit.

STRENGTH

- **Low environmental impact: no odours, dust, or leachate** are released in the surroundings. The biological treatment phase takes place in an enclosed area and thanks to **the semi-permeable membrane**, the smelly molecules generated in the treatment phase are effectively abated.
- **reduced operation and labour costs**, thanks to the **high plant automation**
- **maximum safety and minimum health impact for operators**, which are not exposed to the foul air, dust and potential pollutants
- **low energy consumption** thanks to the control system which optimizes air flow rates within the process