

Tehnimarket S.r.l.

Bacau | Romania

BIOSTABILIZATION OF MSW TO COMPOST LIKE OUTPUT (CLO)



BY PROVIDING A **BIOCELLE TURTLE™** SYSTEM, ENTSORGA IS HELPING THE COMMUNITY IN THE MARAMURESH DISTRICT TO **STABILIZE THE UNDIFFERENTIATED SOLID WASTE**, REDUCE ITS VOLUME AND PRODUCE A **COMPOST LIKE OUTPUT** SUITABLE FOR A SAFER LOWER IMPACT DISPOSAL. **A HIGH ENVIRONMENTAL COMPATIBILITY SOLUTION** THAT EFFECTIVELY **REDUCES THE GREENHOUSE GAS EMISSIONS** AND THE PRODUCTION OF PERCOLATE.

PLANT DATA

Company	Tehnimarket SRL
Capacity	112,000 tpa of MSW
Treated waste	Unsorted MSW
Final Output	44,000 tpa of compost like output
Start up	Successful test run in 2017
Plant	Biostabilization with Mechanical Biological Treatment
Population	330,000
Employees	6

COMPANY

In line with the local regulation for regional development, the Maramuresh District (Romania), a public administration body in northern Romania, has started and completed the construction of **an integrated system for the treatment of undifferentiated urban solid waste**.

PROJECT

Tehnimarket SRL a Romanian company located in Bacau has developed a **biological waste treatment system** consisting of **18 Turtle Q-Ring™ biocells**, designed and supplied by Entsorga Italia.

SOLUTION

The solution proposed allows processing MSW stabilizing and sanitizing it to a Compost like output through a forced and controlled aeration using Entsorga's **Turtle Q-Ring™ technology**. The semi-permeable membrane installed as biocells cover eliminates odors without the need of any additional filtering system.

PROCESS

Unsorted MSW is stabilized in the **biocells (1)**, where feedstock undergoes an aerobic biological process for **about 15 days**, driven by a **forced aeration system (2)**. During the process the natural degradation of the organic fraction is accelerated and the material is dried, by harnessing the heat naturally produced. The whole process is automatically managed by a **control system (3)**, which monitors data continuously and optimizes the flow of air to be supplied.

(1) TURTLE Q-RING™ BIOCELLS FOR ACCELERATED WASTE MATURATION



(2) FORCED AERATION SYSTEM

(3) CONTROL SYSTEM
AUTOMATIC 24/7

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 odors, 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 odorigenic molecules generated in the treatment phase are effectively abated.
- **reduced operation and labor 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

USED TECHNOLOGIES

The plant uses the Entsorga proprietary technologies **Q-Ring™ e Turtle Q-Ring™**.