EFACEC ENGENHARIA E SISTEMA S.A.

Ghizela | Romania

COMPOSTING AND MBT BIOSTABILIZATION

TO ENHANCE THE VALUE OF SEPARATED COLLECTION FOR THE AREA, AND **TO MAXIMIZE RECYCLING AND RECOVERY OF URBAN WASTE**, TIMIŞ COUNTY HAS CREATED A COMPLETE MANAGEMENT SYSTEM **THAT INTEGRATES LANDFILL** WITH **TREATMENT PLANTS**. AN IMPORTANT ASSET, FOR THE 700,000 RESIDENTS, WHO ALSO ALLOWED CITIZENS TO REDUCE COSTS.
ENTSORGA PROVIDED BIOCONTAINERS TO OBTAIN A **HIGH QUALITY COMPOST** AND THE SYSTEM FOR **BIOSTABILIZING** AND SANITIZING THE ORGANIC FRACTION BEFORE LANDFILL DISPOSAL.

PLANTS DATA	
Company	Efacec Engenharia e Sistema S.A.
Yearly throughput	38.000 t/a
Waste Processed	Unsorted Municipal Solid Waste and Organic Waste
Final Product	Compost and CLO (Compost like Output)
Start up	October 2011
Plant	Composting and MBT Biostabilization
Population Served	700,000

ENTSORGA
GREEN TECHNOLOGY REVOLUTION

COMPANY

Efacec Engenharia & Sistema S.A is a division of the historic Portuguese brand Efacec, operation for over 70 years. Started as a company specializing in the production of electrical components (motors, generators, transformers and accessories), over time the company has progressively expanded its business to sectors such as **energy, environmental and mobility solutions**. Today the company develops products and systems with high technological added value, in 65 countries around the world**.**

PROJECT

Almost all the waste from the separated collection from the county of **Timisoara (700,000 residents)** is processed in the municipality of Ghizela. The County Council has implemented a project, **co-financed with European funds**, to build an ecological landfill completed by a waste processing facility; the objective of the integrated system was to adequately process the differentiated waste fractions, to maximize recycling and recovery, minimizing landfill storage, in accordance with Romania's environmental commitments.

ENTSORGA'S SOLUTION

Efacec Engenharia & Sistema S.A awarded Entsorga with the design of the entire biocontainer system dedicated to process MSW and organic waste. The solution identified consists of 12 modules of **12 Coccinelle™ biocontainers**, to biostabilize the waste to be sent to landfill, and **6 modules of 6 Coccinelle™** for composting. Entsorga has also supplied the **biofilter**, essential for treating the process air and avoiding the release of unpleasant odors in the environment, particularly important because the closest residential community is only 1.5 km from the landfill.

PROCESSES

Compost production starts by processing green waste through a biological aerobic digestion treatment. The process takes place in closed **Coccinelle™ biocontainers** (1), where the reaction is accelerated through a **forced aeration system** (2), monitoring air, temperature and humidity with **an advanced automation system (3).** This confinement also allows a highly effective control of odors, thanks to the use of biofilters. After the phases of final maturation and storage, the compost is ready.

The waste fraction not suitable for composting, which commercial and industrial waste, is instead sent to the **biostabilization process**. First mechanically shredded, it is then treated in the **12 modules of 12 Coccinelle™ biocontainers (4)**, also equipped with a forced ventilation system regulated by a control system. After stabilization and a slower maturation phase, the waste can be sent to landfill.

COMPOST

The quality compost produced is a **biologically stable material**, entirely used by the agricultural community in the surrounding area. The use of compost in agriculture is considered in itself a practice of **high ecological value**, encouraged because it enriches the soil with organic matter and helps the progressive accumulation of carbon in the soil (carbon sink), **fighting desertification of soils**.

It also contributes to progressively reducing the use of landfills, in line with the latest EU regulations, and avoids the emission of methane into the atmosphere, reducing the greenhouse effect.

BIOSTABILIZATION OUTPUT

Before being landfilled, the waste fraction that cannot be turned into compost needs be biostabilized. The process, "sanitizing" and stabilizing the putrescible part of the waste, allows **reducing biogas and leachate emissions,** benefiting the environment.

The final result is a waste with a **very low moisture content**, the CLO (Compost Like Output), suitable for landfill daily coverage and in compliance with the most recent European standards.

STRENGHTS

- **reduction of the environmental impact of landfills,** guaranteeing substantial savings in terms of CO2eq emissions and leachate
- **maximum recovery of the recyclable organic fractions**
- **high health and safety standards:** no odors or dust are released in the external environment. All operations take place indoor and are kept in a slightly depressurized environment.
- **reduced operations and labor costs:** the complete automation of the plant reduces the need for access to waste processing areas, protecting health and guaranteeing the safety of the operators.

(1) COCCINELLE™ BIOCONTAINERS FOR COMPOSTING

(2) FORCED AERATION SYSTEM TO ACCELERATE PROCESS SPEED

(3) H24/7 **CONTROL SYSTEM**

(4) COCCINELLE ™ FOR AEROBIC BIOSTABILIZATION

TECHNOLOGIES USED

The plant is equipped with Entsorga's proprietary: **Cocinelle™, aeration and control system**

ENTSORGAFIN S.P.A I ENTSORGA ITALIA S.P.A.
Strada Provinciale per Castelnuovo Scrivia, 7/9 I 15057 Tortona (AL) I Italy I T. +39 0131 811383 I E-mail: info@entsorga.it