

TWT EXPERIENCE

Cliente	PROGEVA • Laterza (TARANTO • ITALY)
Settore	COMPOSTING AND ANAEROBIC DIGESTION PLANT
Impianto	MULTISTAGE WET TREATMENT

BACKGROUND

Progeva's corporate mission is to reintegrate renewable organic matter of plant and animal origin into nature's life cycle, whilst fully respecting the environment and the regulations governing its management.

Progeva is now also a biorefinery, and contributes to the country's ecological transition and sustainable development by operating in line with national and European objectives on climate neutrality, decarbonisation, energy transition and energy independence.

The company was founded twenty years ago as a composting plant dedicated to the recovery and valorisation of organic waste by transforming it into a natural fertiliser known as compost.

The plant located in Laterza (TA) is authorised to **process organic waste fractions for the production of mixed composted soil improver.**

PROBLEM STATEMENT

The air drawn in and sent to the biofilters – which was processed during the initial phase of operation – passed through four single-stage vertical wet towers to be humidified.

As part of a project to expand the plant's capacity, the prospect of potentially introducing anaerobic digestion – which would result in an increase in the amount of ammonia in the air to be treated – made it necessary to modify the scrubbers to allow for the dosing of an acid reagent.

The aim of the project was not to replace the four wet towers, but rather **to incorporate a second treatment stage into the existing towers.**

APPROACH

Whilst recognising the need to comply with emission limits, in consultation with the Company's technical department, work proceeded on **developing a technical solution that would ensure continued compliance with emission limits without compromising the stability of the stacks, whilst maintaining the correct fluid dynamics of the air flow.**

Naturally, as the plant had to continue operating, great care was taken during the transition phase.

Furthermore, the pressure drops across the new stages were carefully assessed to avoid any undesirable reductions in suction flow rates.



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PLANT

Elevation of an acid stage in a wet tower with separated fluids.

TECHNOLOGY

The towers were cut and flanged.

The new sleeves were then fitted, complete with an internal separation cone; a washing system comprising ramps and nozzles was installed; the demister, with an extraction window, was fitted; and an external sump was constructed to accommodate the pump unit and associated accessories.

The whole system is equipped with control instrumentation.

INSTALLATION

The construction phase was by no means straightforward, as it was necessary to erect special scaffolding due to the confined spaces, whilst, of course, complying with safety regulations.

Great care was taken to ensure that production could continue, with minimal plant downtime, thanks to the seamless coordination of the work agreed with the client.

MONITORING

Following installation, the client carried out the necessary tests, which confirmed compliance with emission limits.

RESULT • YIELD

The client carries out maintenance work on a regular basis, which remains a key factor in maintaining the performance of the facilities.

