

ENVIRONMENTAL TECHNOLOGY



BENE ORAFTI - Oreye Aerobic treatment of waste water

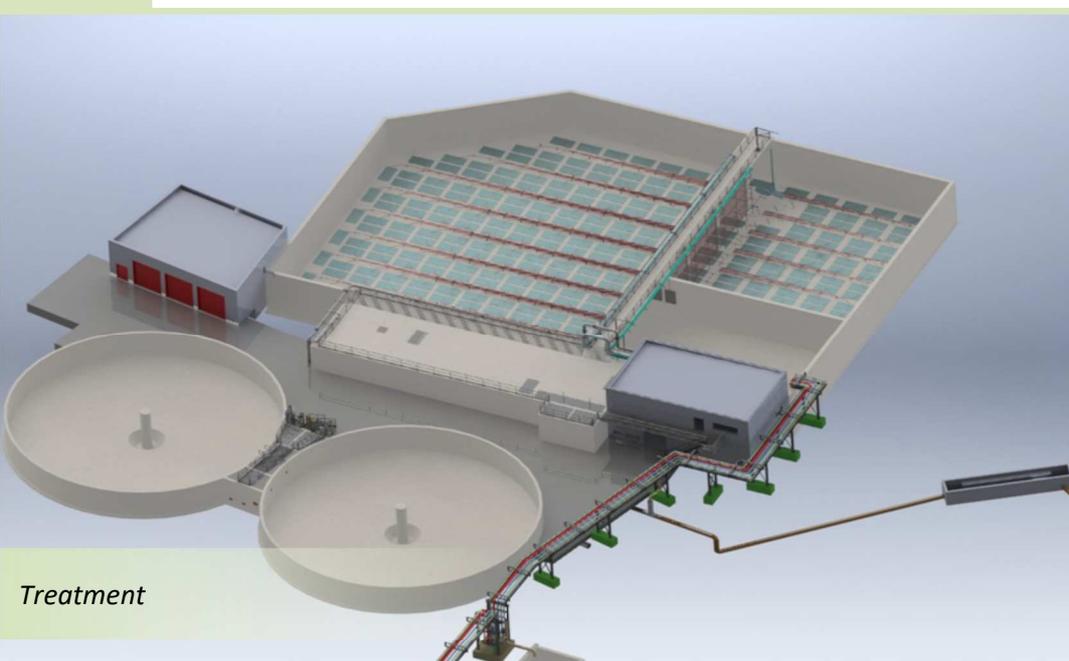
BENEO-Orafti is a business unit in the BENE group, established in Oreye, where chicory roots are processed and extracted to specific food ingredients. The BENE group makes part of the Südzucker group / Raffinerie Tirmontoise, which is the leading manufacturer of sugar in Europe.

The waste water to treat is partly coming from the inuline production, based on chicory processing and extraction. A part of this waste water is first treated in a formerly existing anaerobic treatment plant.

Besides also the polluted cooling water from the cooling towers and the rinse water from the chicory line are treated.

Trevi provided the design, the construction, the start-up and the follow-up of the aerobic biological waste water treatment plant.

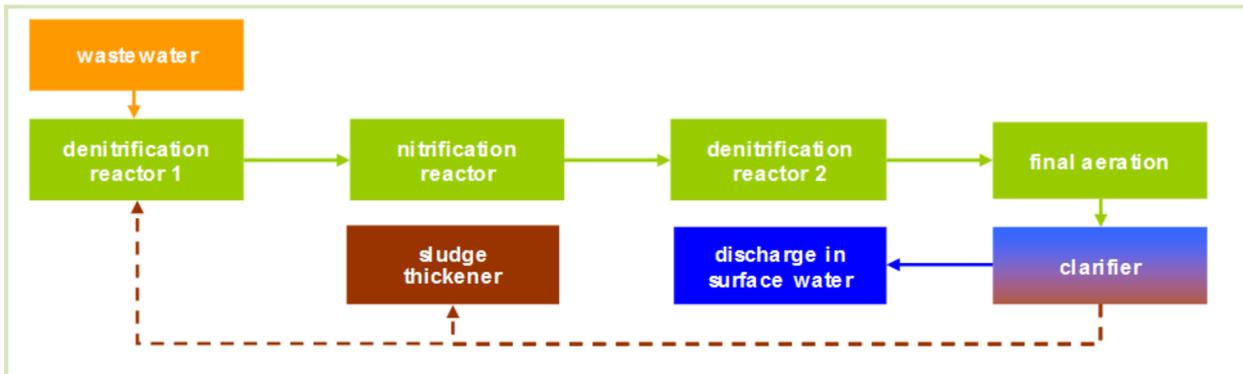
During peak season, from September till December, when the chicory roots are being harvested, a waste water flow of 5000 m³ per day is produced.



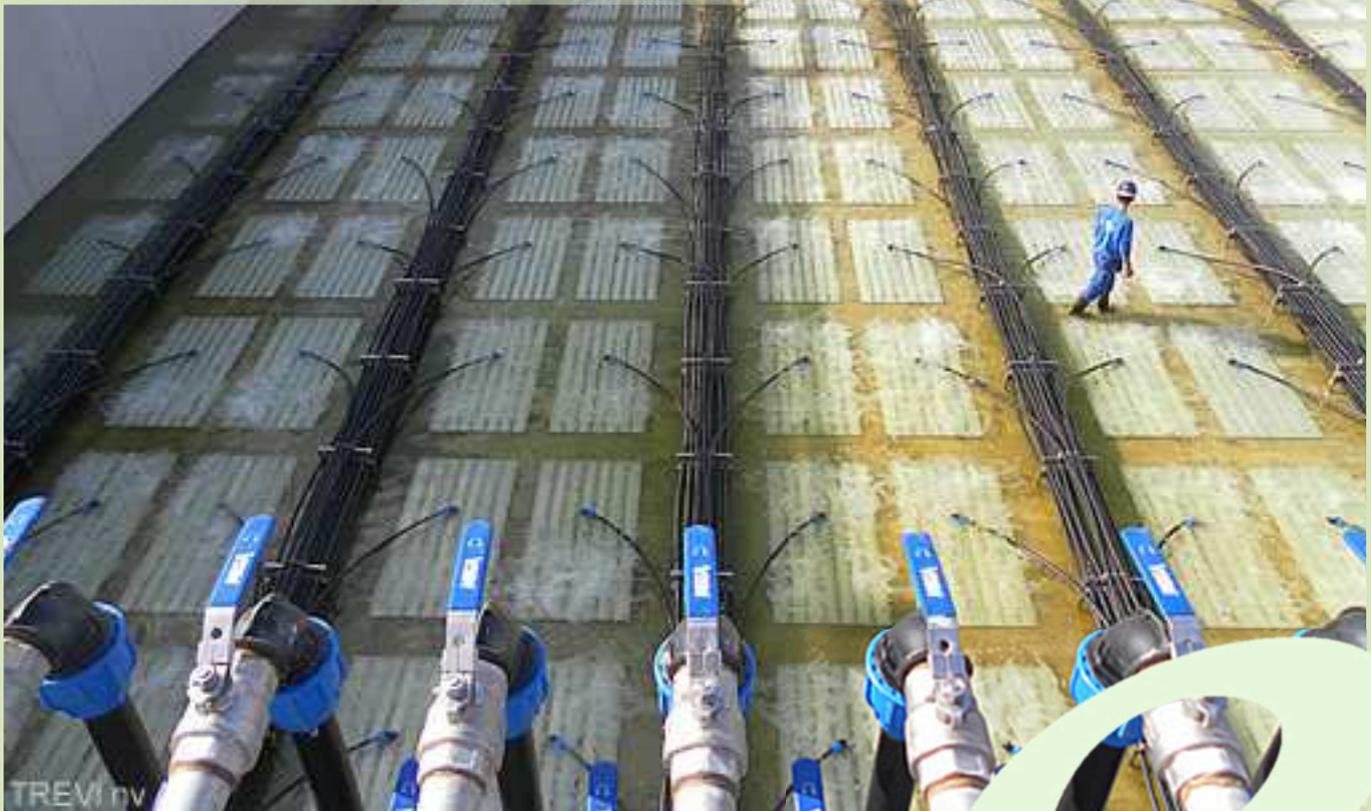
The plant is designed to handle a COD-load of 10 ton per day and a nitrogen load up to 500 kg per day.

The biological treatment encloses an activated sludge system with the following reactors : a first denitrification step, a nitrification step, a second denitrification step and a final aeration. The biological purified waste water is subsequently separated from the activated sludge in a clarifier and discharged into the surface water via a Venturi channel.

The total volume of the waste water treatment plant is approximately 12 000 m³. To have a reliable and flexible system, the aeration basins are separated in several compartments, which can be set in as an additional denitrification basin depending the waste water composition. Also the clarifier is constructed in two separate tanks, allowing to take one tank out of operation during low season.



Test Aeration elements



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