

## Turnkey project for an effluent treatment plant in the dairy industry in southern Germany



CUSS was nominated as a general contractor for the design and construction of an effluent treatment plant for a producer of dairy products in the south-eastern part of Germany. A main focus was on the civil works of the operational building and the required concrete process tank. The civil works was in full responsibility of CUSS next to the mechanical and electrical installation as well as the commissioning of the plant.

### NUMBERS & FACTS:

- Country: Bavaria, Germany
- Hydraulic plant capacity: 600 m<sup>3</sup>/d
- Years of construction: 2018 and 2019

### CONCEPTUAL FORMULATION:

A Bavarian manufacturer of dairy products invested in a new production facility in the south-eastern part of Germany. The produced wastewater is obliged to be fully biologically treated before discharge into the public sewer system.

CUSS was qualified to take over the project for the wastewater treatment plant as a general contractor which contained the entire civil construction planning and execution next to the process design.

In close collaboration with the client and a planning company the plant design was defined on a mechanical pre-treatment step, a continuous flow activated sludge treatment step and a final clarifier with sludge recirculation. The surplus sludge was aerobically stabilized and dewatered in a screw press.

The plant was planned modularly in several construction phases to meet future production expansions and decrease operational expenditures due to oversizing.

The client was convinced by the work of CUSS as he already ordered the next extension step.

**WASTEWATER CONSTITUENTS:**

- High organic load
- High load of suspended solids
- Elevated nitrogen and phosphorus concentrations

**PROCESS STEPS:**

- Solids removal by sieving
- Homogenisation and neutralisation
- Flotation
- Aerobic treatment
- Chemical dosing
- Photo ionisation for exhaust air treatment
- Sludge stabilization and dewatering