

## CASE STUDY

# Sulzer submersible aerator mixer improves wastewater treatment in a cardboard mill

Europac is a paper, cardboard, and packaging company with mills in Spain, France, and Portugal. The French site near Rouen specializes in corrugated cardboard and has a production of more than 300'000 tons per year. In the cardboard production process, Sulzer pumps and agitators are widely used.

The mill has its own biological wastewater treatment plant with a total capacity of 350'000 population equivalent. Once treated, the water is recycled in the mill or restored to the natural environment. The WWTP has been modernized regularly during the past years.



The Europac cardboard mill near Rouen in France.

### The Sulzer difference

- In partnership with end users and contractors, Sulzer provides customized solutions and strong service.
- The OKI submersible aerator mixers are quick and easy to install. This makes them ideal for upgrading industrial wastewater treatment plants.
- Hundreds of OKIs are used in the WWTPs of pulp and paper mills. They are appreciated for their robustness, constant performance, and ease of maintenance.

“ *The OKI aerator mixer is a problem solver and it has helped us improve the overall efficiency of the wastewater treatment plant.* ”

Joël Bruwaert, Technical and Projects Director Europac

### The challenge

The effluents from the paper mill contain a high amount of organic matter. In the wastewater treatment plant, the effluents go through an anaerobic tower reactor prior to being aerobically treated in an activated sludge process. The aeration of the wastewater is done in successive basins — first in a circular tank with external bottom jet aerators and then in a rectangular lagoon with surface aerators. With the increase of the WWTP capacity, the oxygenation of both basins, especially the first one, had become insufficient. Therefore, Europac decided to upgrade the aeration performance of the existing installation with minimum capital expenditure in 2014.

### The solution

Sulzer, together with the local contractor Eco-Tech, came up with the solution to add an aerator mixer OKI 2000 in the middle of the circular tank. The OKI is fed by compressed air distributed through a flexible hose. Despite the high tank depth, no air cooling is needed. The OKI runs in parallel with the five bottom jet aerators, and the total oxygen transfer rate is now more than tripled. Thanks to its efficient mixing capacity, the OKI eliminates all types of sedimentation that used to occur in the middle of the tank earlier.



The OKI 2000 submersible aerator mixer is ideal for demanding industrial wastewater applications.

## Customer benefit

For the aeration and mixing of harsh industrial wastewaters, the OKIs have a justified reputation of steady performance, robustness, and reliability. These features have been confirmed at the Europac WWTP. After an easy installation, the OKI 2000 E-37AM has been running smoothly with no degradation of the aeration efficiency with time. In addition, the machine is liftable for quick and practical maintenance without emptying the tank.

## Product data

- One OKI 2000 E-37 AM with air hose, lifting cable, and electrical cables
- The OKI is installed at the bottom and in the middle of a circular tank (diameter 19 meters, depth 9 meters).

### 1 OKI 2000 E-37AM

Power	37 kW
Protection type	IP68
Voltage	500 V / 50 Hz
Temperature control	Thermal switch 130°C
OKI dimensions (diameter x height)	2'252 mm x 2'195 mm
Unit weight	2'070 kg
SOTR	276 kg O <sub>2</sub> /h
Air flowrate	3'005 Nm <sup>3</sup> /h



The OKI 2000 E-37AM with air hose at the bottom of a circular aeration tank.

## Contact

adlan.kara-mostefa@sulzer.com

## Applicable markets

Industrial and municipal wastewater treatment

## Applicable products

Submersible aerators mixers type OKI