VEOLIA

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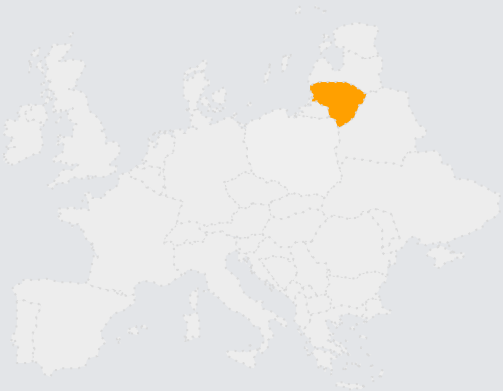
Hubgrade

PERFORMANCE

CASE STUDY I Klaipėda



Klaipėda WWTP, Lithuania

- **Capacity: 300,000 PE**
- **In operation since 1998**

Located on the Baltic Sea and next to the UNESCO World Heritage Site at the Curonian Spit, Klaipeda is the main Lithuanian seaport and the country's third largest city.

Tighter regulations meant that the wastewater treatment plant was nearing its maximum design capacity.

Local utility Klaipėdos vanduo looked for a smart, cost-efficient solution to reduce total nitrogen in the effluent, optimize energy and chemical consumption, and increase the hydraulic capacity of the plant to handle higher flows during wet weather events.

THE PROJECT SCOPE

Since 1998, the Klaipėda treatment plant has ensured good bathing water quality along the shores of the Baltic Sea. With ever-increasing treatment requirements, the plant was nearing its maximum capacity, and over the past two years the effluent quality was extremely close to the permit of 10 mg/l tot-N.

THE ACTION

In 2019, a contract for real-time optimization of process performance at the wastewater treatment plant in Klaipėda city was awarded by Klaipėdos vanduo" to Krüger A/S. Krüger is owned by Veolia, the world's largest environmental group.

Krüger is specialised within the fields of drinking water, process water, municipal and industrial wastewater, sludge, sewer systems, soil and groundwater remediation as well as advanced real-time optimization of wastewater treatment plants and sewer networks.

According to Kristina Bereišienė, Head of Wastewater Treatment Service:

"*Innovative digital solutions like Hubgrade Performance, are a sustainable, cost effective way for us to continuously improve our WWTP operational processes. An intelligent use of real-time data from our entire system reduced our operational expenses and effluent concentrations.*"

Hubgrade
Powered by VEOLIA

KEY FEATURES

- 28% increase of BOD/TN load to WWTP
- 14% reduction of tot-N in effluent - from 9.9mg/l to 8.5mg/l tot-N
- 8% increase of aeration energy
- 41% reduction of mixing energy
- 34% reduction of energy for NO_3-recirculation
- 85% reduction of external carbon

Hubgrade Performance with 9 optimization features:

- DO & Nitrogen Removal
- NO_3-recirculation
- Carbon Management
- Mixer
- Air Supply
- Solids Retention Time
- Grit Chamber Aeration
- Return Activated Sludge
- Stormwater Mode

Additional instrumentation

CEO - Benitas Jonikas,
Head of wastewater treatment service - Kristina Bereišienė,
Director of production - Algirdas Špučys

THE BENEFITS

The Plant module of Hubgrade Performance was commissioned in March 2020 and from the 1st of April it started optimizing the WWTP operation.

Except for additional sensors, the 24/7 automated optimization by Hubgrade Performance has provided the following benefits to Klaipėdos vanduo during the first 12 months of operation:

- Ensured compliant effluent despite an increase of the BOD/TN loading of 28% above design capacity
- Reduced the environmental impact by reducing tot-N in the effluent from 9.9 mg/l to 8.5 mg/l
- Significantly reduced operational expenses for energy and chemical consumption
- Better insights and peace of mind for the operators

Hubgrade Performance ensures a stable and automated WWTP operation with adaptability to load variations, effluent parameters compliant with EU requirements, and substantial operational expenditure savings.

Water sector digitalisation

More and more companies in the water sector are improving the efficiency, profitability and resilience of their plants thanks to integrated solutions that provide them with real-time optimization.
While the digital transformation is not always easy, with aging infrastructure, inadequate investment, changing climate and demographics, digital water is now seen not as an ‘option’ but as an ‘imperative.’

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