

## SUCCESS STORY

Process optimization at the municipal  
waste water treatment plant in  
Georgsmarienhütte, Germany



SEPARATION

# AUTONOMOUS OPERATION, STABLE CENTRATE QUALITY AND LOWER POLYMER CONSUMPTION

SAVING RESOURCES WITH  
METRIS addIQ ARGOS

**ANDRITZ**



# The challenge

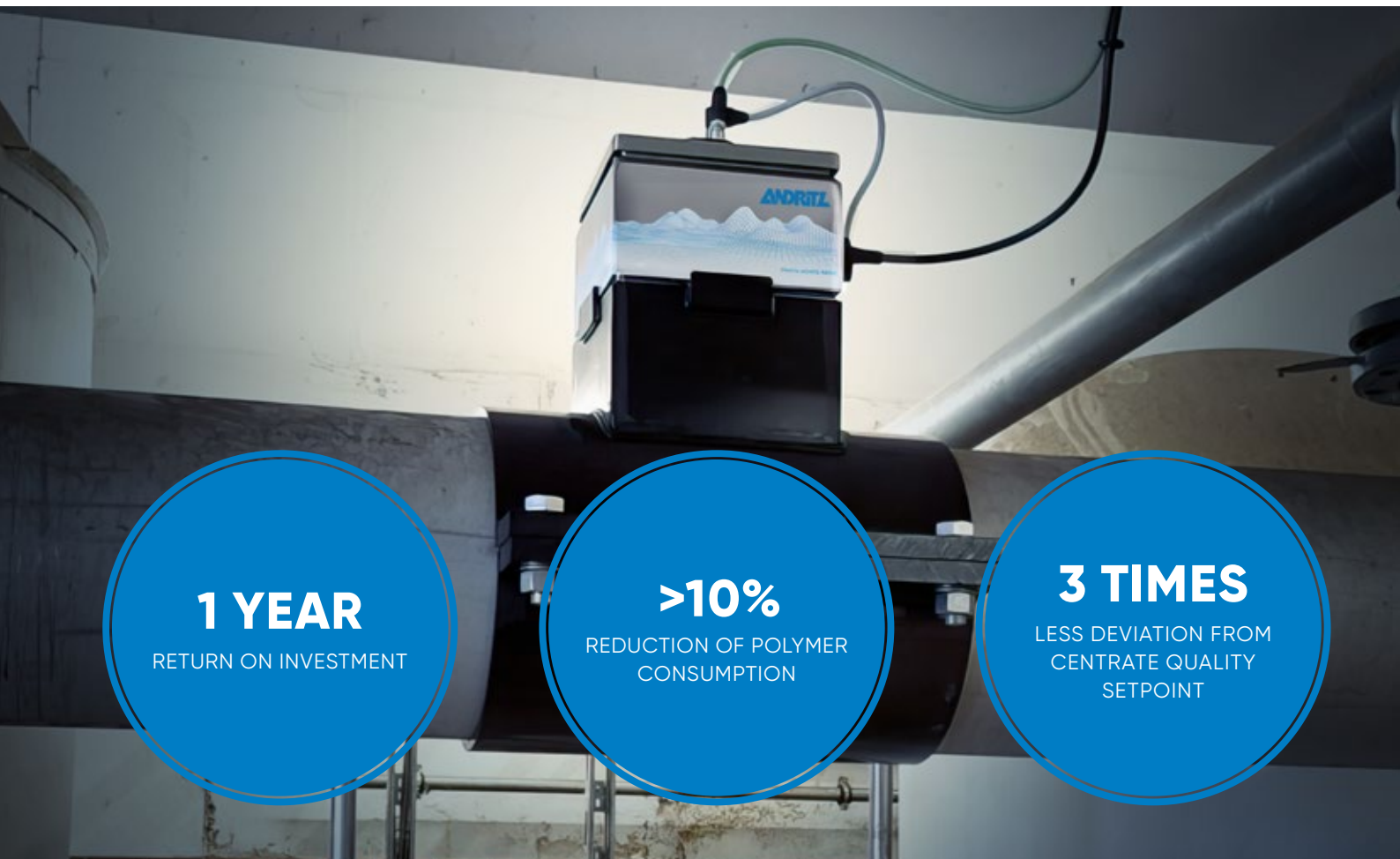
## Addressing variable centrate quality

Located in the Teutoburg Forest in northwestern Germany, the town of Georgsmarienhütte is best known for its industrial history – it was founded for iron and steel production and named after King George V of Hanover and his wife Marie. The steelworks has come a long way since 1856 and it is no surprise that the municipality itself would be just as open as the steelworks to adopting new technology to drive efficiency at its wastewater treatment plant.

The challenge lay in finding the right new technology. The operators of Georgsmarienhütte's wastewater treatment plant were happy with their decanter centrifuge and had already dabbled in AI to optimize its performance, but without any positive results.

They were certain that the centrate quality was a solvable problem – and well aware that correct polymer dosing would lead to significant savings in both operating costs and environmental impact.

The wastewater treatment plant processes one third each of municipal wastewater, wastewater from industrial operations, and wastewater from the biogas plant. Therefore, the centrate also contained foam, which can cause problems for traditional measuring methods. So, the remit was to find a solution that could automate the monitoring of centrate, even with variable quality and appearance, and then use that information to get the treatment parameters right all the time.



Metris addIQ ARGOS centrate box installation at the outlet pipe

# Our solution

## AI-based, optical measurement system

Metris addIQ ARGOS was the obvious solution – an optical measurement system that detects the actual centrate condition throughout the dewatering process. ARGOS adjusts the optimum polymer dose and/or machine setpoint to match changing conditions in the process, even with a foam layer on the centrate.

This means autonomous production, which saves time and relieves operators for other important duties, while simultaneously improving performance and delivering process stability and reliability.

The installation was straightforward and involved a centrate box at the outlet piping and a control panel

linked to the plant control system. Furthermore, Metris addIQ Connect ensured a safe connection to the ANDRITZ environment and enables remote support for fast interaction between the operator and the ANDRITZ specialists. Over a three-day installation and start-up period, training pictures were generated to train the AI.

The first 100 days also served as a trial period, with the option to return if the system failed to deliver. But after the results were in, it was clear that ARGOS would remain, along with close collaboration with ANDRITZ experts, who provide continuous support through the service level agreement.

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## Results

### Significant cost reduction and lower environmental impact

With Metris addIQ ARGOS, an easy-to-adopt technology that can be applied in just a few days, the results are immediate and measurable. The reduction in polymer consumption at Georgsmarienhütte exceeds 10% and translates into an amortization period of just one year. And having a more stable centrate quality not only means a more stable dewatering process, but also better machine performance.

Autonomous polymer control allows operators to focus on other tasks, thus driving up performance.

These impressive savings from correct polymer dosing also reduce the environmental footprint and counteract the waste of resources. The willingness of the wastewater treatment plant to try out a new technology has resulted in benefits as clear as their centrate.

**“ARGOS is genuinely an extra set of eyes – expert eyes! By examining the actual centrate in real time, we now have better and more stable centrate as well as significant polymer savings. And that’s a win for our budget and for the planet.”**

**FELIX LEIMKÜHLER**

Water Management, Georgsmarienhütte



## WHAT'S YOUR SEPARATION CHALLENGE?

ANDRITZ Separation provides mechanical and thermal solid/liquid separation technologies, complemented by comprehensive services and automation and digitalization solutions for the chemicals, environment, food and beverage, as well as mining and minerals industries. The customized, innovative solutions focus on minimizing the use of resources and achieving highest process efficiency, thus making a substantial contribution towards sustainable environmental protection. With over 150 years of experience and more than 2,400 specialists around the globe, ANDRITZ Separation is a driving force in the evolution of separation solutions to meet tomorrow's changing demands. Wherever you are and whatever your separation challenge – **Ask your separation specialist!**

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