



RESOURCE OPTIMIZED SLUDGE TREATMENT

SUCCESS STORY

Optimized sludge dewatering
with an ANDRITZ dewatering
solution at La Régie de L'Eau
Bordeaux Métropole, Blanquefort
wastewater treatment plant, France

An aerial photograph of a wastewater treatment plant. The image shows several large circular tanks, some with blue roofs, and several industrial buildings with flat roofs. A road and parking lot are visible in the foreground. The image is overlaid with a blue triangular graphic on the left and a blue circular graphic on the right.

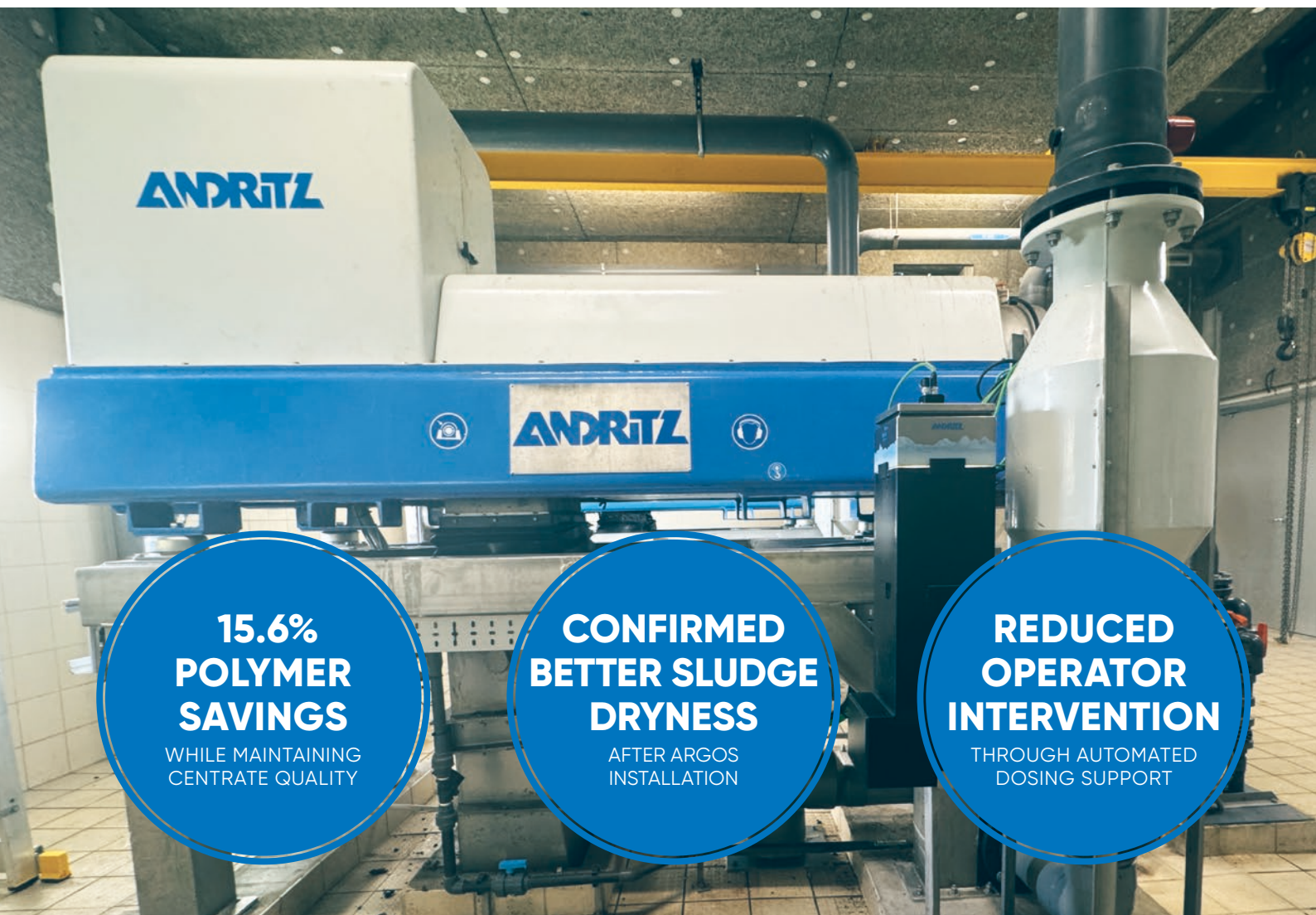
ANDRITZ

The challenge

Reducing polymer consumption while maintaining reliable centrate quality

La Régie de L'Eau Bordeaux Métropole is the public water operator for the Bordeaux metropolitan area in France, managing essential water services including drinking water and sanitation-related services. At its Blanquefort wastewater treatment plant, the operator has been working with ANDRITZ since 2021, when they chose an ANDRITZ decanter centrifuge to improve the dewatering of activated sludge. The decision in favor of the ANDRITZ decanter centrifuge was driven, among other factors, by the potential to reduce power consumption. Because of their strong focus on sustainable and efficient water management, la Régie de L'Eau Bordeaux Métropole continuously

seeks to optimize its processes and reduce resource consumption. While the existing system adjusts polymer dosage based on sludge concentration, optimizing the polymer treatment ratio still required regular manual adjustments by the operator, primarily based on the quality of the centrate. These findings therefore held the promise of substantial savings in "operator time" in addition to a reduction in reagent consumption. Driven by their goal to further optimize polymer injection, reduce chemical consumption without compromising centrate quality, and support their operators in their daily process adjustments, la Régie de L'Eau Bordeaux Métropole turned to their partner ANDRITZ.



ANDRITZ decanter centrifuge upgraded with ANDRITZ ARGOS

Our solution

Smart dosing support for changing sludge conditions with ANDRITZ ARGOS

To support la Régie de L'Eau Bordeaux Métropole's operational goals, ANDRITZ implemented their AI-based optical measurement system ARGOS on the already operating ANDRITZ decanter centrifuge. The installation was therefore not only focused on polymer optimization but built on an already energy-efficient dewatering setup designed to reduce operating costs. The ANDRITZ decanter centrifuge was already equipped with TurboJet™ weir plates, a power recovery system that uses the kinetic energy of the discharged liquid to support bowl rotation and reduce the required main drive power. Now, ARGOS adds another layer of process optimization: The intelligent system adapts polymer injection

according to the color of the centrate, dosing only the amount of polymer actually required for stable operation. For this project, ARGOS was applied to polymer injection in relation to sludge volume and coupled with the existing mass load control system. Together, TurboJet™ and ARGOS provide a comprehensive OPEX-saving approach: reducing energy demand, optimizing polymer consumption, and supporting the plants operators in day-to-day dewatering optimization. Retrofitting the existing decanter centrifuge with ARGOS was straightforward for ANDRITZ and allowed to further enhance the performance of an already efficient installation at Blanquefort.

Results

Less polymer, better process support, and measurable operational benefits

To achieve reliable results under real operating conditions, ARGOS was first trained with the sludge on site and fine-tuned jointly by ANDRITZ and the Blanquefort team. This ensured that the system was adapted to the specific process conditions on site before delivering measurable improvements within the first weeks of operation. By the end of the trial period, it was decided to keep the installation, confirming the value of the solution in daily operation. With ARGOS, la Régie de L'Eau Bordeaux Métropole achieved 15.6%

polymer savings, while also improving centrate quality and supporting better sludge dryness. In addition, the system reduced the time operators needed to spend on manual interventions and provided valuable operational support for handling changes in sludge conditions. Beyond direct operating benefits, the project also contributes to a reduced environmental footprint: lower reagent consumption means fewer chemical deliveries, reduced drinking water consumption, and fewer sludge removals.

“ANDRITZ has been a reliable partner throughout our journey – from the machine installation and local service support to the optimization of polymer dosing with ARGOS. Their teams have been there all the way, helping us keep operations running smoothly while continuously improving our sludge dewatering process.”

EMMANUELLE AMPOULANGE

Project Manager, Research, Innovation & Ecological Transition Department
La Régie de L'Eau Bordeaux Métropole



A WORLD OF SEPARATION SOLUTIONS

ANDRITZ provides mechanical and thermal solid/liquid separation technologies, complemented by comprehensive services, automation, and digitalization solutions for the chemicals, environment, food and beverage, as well as mining and minerals industries. Our customized, innovative solutions focus on minimizing resource consumption and maximizing process efficiency, thus making a substantial contribution towards sustainable environmental protection. With over 150 years of experience and more than 2,700 separation specialists around the globe, we are a driving force in the evolution of separation solutions – enabling industries to meet tomorrow's demands responsibly. **ANDRITZ. FOR GROWTH THAT MATTERS.**

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