

SUCCESS STORY

Process optimization at
LEIPA Paper Mill in Schwedt,
Germany reduces flocculant
consumption



PULP & PAPER / SEPARATION

SLUDGE DEWATERING AT THE HIGHEST LEVEL

INCREASED AUTOMATION AND IMPROVED RELIABILITY
THANKS TO METRIS addIQ RheoScan



ANDRITZ

ENGINEERED SUCCESS

The challenge

Saving flocculent in spite of difficult sludge conditions

Treating waste paper to produce graphic recycling grades is a complex matter. In the so-called deinking process, for example, printing ink is removed from old newspapers with the aid of chemicals and then discarded, creating sludges containing printing ink, filler particles and other contaminants as a residual product that is difficult to dewater. These sludges cannot be dewatered successfully by mechanical means without adding flocculents. Due to the varying sludge quality and volumes, the flocculent dosage has to be adjusted frequently. If this is not done efficiently, flocculent is wasted. The LEIPA Group is a family business with over

170 years of passion invested in environmentally-friendly processes and technologies and operates numerous dewatering machines – primarily gravity tables, disc filters and screw presses – manufactured by ANDRITZ. In 2016, LEIPA decided to tackle the issue of flocculent dosage. In addition to optimizing flocculent dosage, LEIPA set itself the target of increasing the degree of equipment automation at their facility in Schwedt. In search of an innovative solution that achieves both goals, they discussed the matter with longtime partner ANDRITZ and discovered the newly developed and ideal system for this purpose: Metris addIQ RheoScan.



Metris addIQ RheoScan for automatic polymer dosage in real time optimized according to the specific requirements

Our solution

Smart and automatic flocculent dosage with Metris addIQ RheoScan

Following initial discussions, a try-and-buy process was agreed at the end of 2018 to upgrade an existing ANDRITZ pre-gravity table with the Metris addIQ RheoScan, which was brand-new at the time. RheoScan is an optical measuring system that detects the current sludge viscosity during the thickening and dewatering process and controls flocculent dosage automatically according to the specific requirements. The product was originally

developed for sewage sludges, however ANDRITZ was happy to optimize it for the paper sludges that its longtime partner LEIPA processes. In order to simplify future upgrades of other machines, LEIPA decided to use their most complicated application for the test installation. The gravity table selected treats sludge that vary widely in their composition, consistency and feed flow before they are fed to the screw press.

Results

Increased automation and operating reliability

Due to the pioneering nature of the project and the complexity of the sludge conditions on the gravity table, the settings had to be adjusted constantly in order to provide ideal results. After a few visits to the customer's facility and the precisions adjustments made remotely due to the Covid-19 pandemic, it was clear in 2020 that the effort had been worthwhile. Not only is the sludge consistency constant before

feeding to the screw press, the goal of 10% flocculent savings was met and even surpassed. As a result, the expected payback time was reduced to less than two years. Now that the most complicated application in the entire plant has consistently provided good results, there is no longer any reason not to upgrade more machines.

"As one of the first customers for a product innovation, we were well aware that the test installation would be a complex matter. Thanks to the excellent cooperation, we were able to optimize Metris addIQ RheoScan for our purposes and increase the operating reliability and degree of plant automation at the same time."

ADRIAN LOMPE

Manager Water Treatment, LEIPA Georg Leinfelder GmbH



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