

## **SUCCESS STORY**

CENSOR ACZ decanter  
centrifuge upgrade  
at multiple sites



**SEPARATION**

# **A STEP CHANGE FOR RECYCLING**

**INCREASED CENTRIFUGE THROUGHPUT  
IN PLASTIC RECYCLING**

**ANDRITZ**

**ENGINEERED SUCCESS**



# The challenge

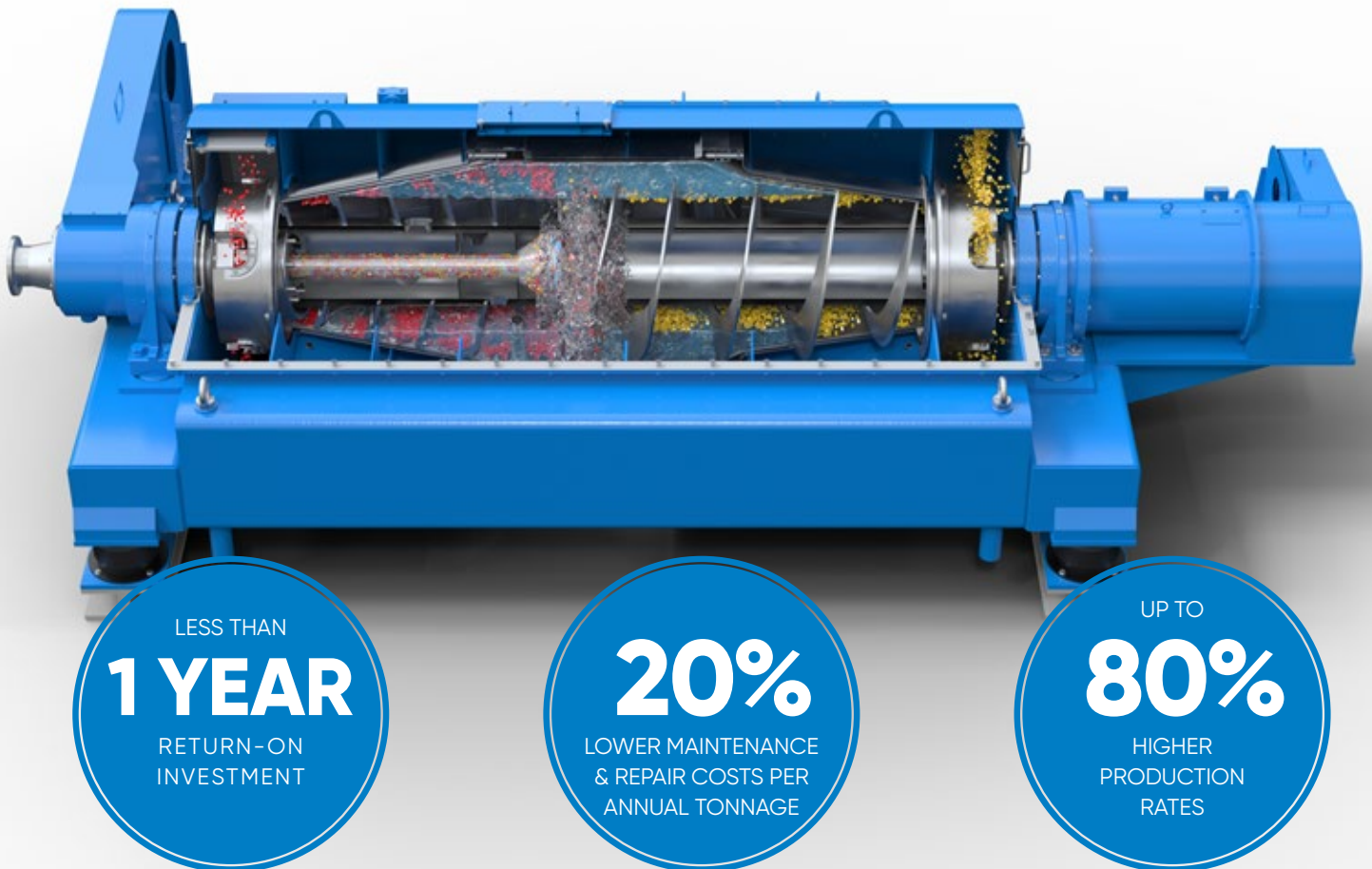
## Improve productivity and reduce downtime at recycling centrifuge

Recyclers of post-consumer and post-industrial plastic materials rely heavily on decanter centrifuges. But the processing of shredded plastics into several fractions is not always a simple task. Excessive or varying feed rates can lead to regular blockages. And a blocked feeding system must then be stopped, flushed, and cleaned. All of which leads to significant production losses and additional manpower requirements.

To resolve this, ANDRITZ Separation decided to design and manufacture a new screw conveyor for the existing ANDRITZ CENSOR ACZ decanter centrifuge that would:

- Substantially reduce downtime due to feeding system blockages
- Enable increased feed/production rates
- Reduce potential mechanical wear as a result of increased feed rates

The upgraded screw conveyor, retrofitted into current decanter centrifuges, has been undergoing trials at multiple customer locations since October 2015. Following successful on-site trials, the new screw conveyor design is intended to existing CENSOR ACZ decanter centrifuges as well as in new, integrated decanter centrifuge designs.



ANDRITZ CENSOR ACZ decanter centrifuge - working modus in open view

# Our solution

## A high-throughput, low-maintenance screw conveyor design

The upgraded decanter began initial on-site tests in the fall of 2015, and expectations were high among both plant managers and the ANDRITZ Separation specialists. The initial aim was to increase production by at least 30% while lowering maintenance and repair costs in relation to annual recycling tonnage.

It became clear during the design phase of the new screw conveyor that considerable production gains

could be achieved. This necessitated new features to reduce wear resulting from the higher feed rates. Thanks to these adjustments, the on-site trials proved that downtime and personnel hours related to clogging could be considerably reduced, and an extended lifetime – measured in annual tons – could be expected.

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## Results

### Up to 80% higher production, 20% lower maintenance costs

Depending on the combination of product features and peripheral systems on site, the multiple trials proved that the redesigned screw conveyor could help the decanter to achieve a production increase of up to 80%. Maintenance and repair costs per annual ton of recycled plastic were also reduced by approximately 20%.

The results, needless to say, greatly exceeded the customers' expectations. The first upgrade package sold in December is currently estimated to pay for itself within six to ten months, depending on actual production quantity. This is nearly equivalent to having an extra CENSOR ACZ decanter centrifuge in production, at just a fraction of the upfront investment cost.

**"The success of this redesign just goes to show that our expertise, together with knowledgeable and ambitious customers, can deliver some truly impressive productivity gains."**

#### PRODUCT MANAGEMENT

Decanter Centrifuges ANDRITZ Separation



## WHAT'S YOUR SEPARATION CHALLENGE?

ANDRITZ Separation is the world's leading separation specialist with the broadest technology portfolio and more than 2,000 specialists in 40 countries. For more than 150 years, we have been a driving force in the evolution of separation solutions and services for industries ranging from environment to food, chemicals, and mining & minerals. As the OEM for many of the world's leading brands, we have the solutions and services to transform your business to meet tomorrow's changing demands – wherever you are and whatever your separation challenge. **Ask your separation specialist!**

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