



A wastewater plant's creative upgrade

For more than 20 years, the Gwinnett County F. Wayne Hill Water Resources Center processed and dewatered their wastewater biosolids with six Alfa Laval Sharples DS-706 decanter centrifuges. These machines delivered excellent results and were very reliable, but technology had advanced and the team wanted to explore sustainable solutions.

The challenge

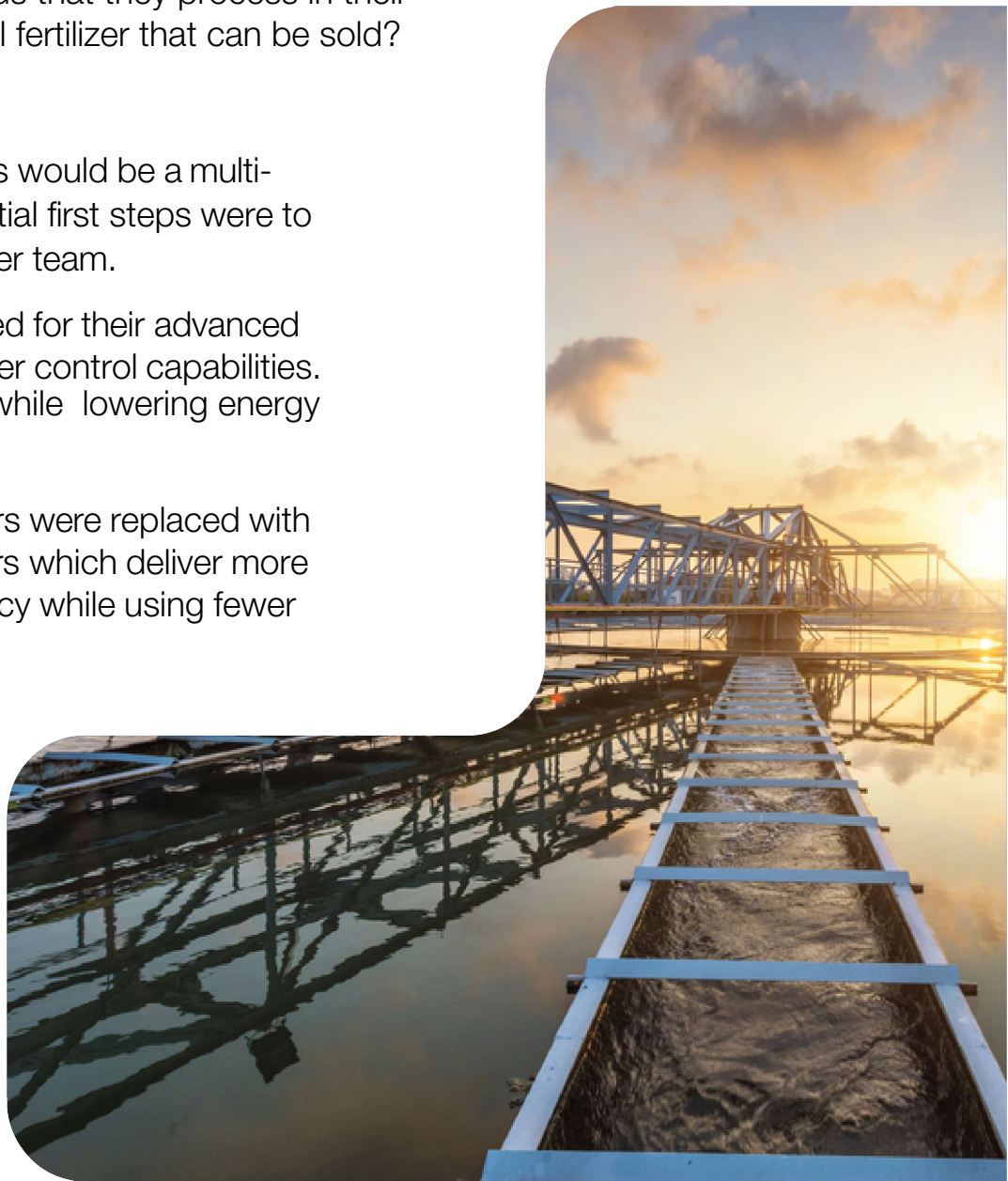
The team wanted to reduce their environmental impact by eliminating the need to send tons and tons of dewatered biosolids to a landfill each year at the cost of over \$6 million. How could they turn the solids that they process in their wastewater facility into useful fertilizer that can be sold?

The solution

The Gwinnett team knew this would be a multi-year, phased project. The initial first steps were to consult with Alfa Laval's water team.

Control panels were upgraded for their advanced logic, monitoring and decanter control capabilities. They also increase dryness while lowering energy and polymer usage.

- The 20-year old decanters were replaced with ALDEC G3-125 decanters which deliver more performance and efficiency while using fewer resources.



Results

Aspect improved	Before (DS-706)	After (G3-125)	Impact
“Cake” dryness	21%	23%	Close to 6000 tons less to truck to landfill - saving hundreds of thousands of dollars a year
Solids recovery	~96%	~99%	Greatly reducing the need to reprocess large amounts of solids through the system
Polymer usage		15-17% less	~\$300,000 less in annual polymer costs
Energy usage		~45 to 50% reduction	Varies with energy cost and loading but for 6 large machines the difference can be hundreds of thousands of dollars a year

Next steps

In the next phase, they will add dryers to remove 90% of the water from their biosolids and the product can then be sold as fertilizer, generating a profit and eliminating hauling costs. The ALDEC G3 decanters further contribute to the project's economic impact since they remove more water than the older machines, requiring the dryers to work less.

Gwinnett County is on an exciting journey where they will be improving the sustainability of their facility, reducing costs to their taxpayers, and creating a usable product for the world. Their forward thinking and willingness to invest is an example of how wastewater treatment plants can implement contemporary strategies that deliver both efficiency and sustainability without compromise. The team at Alfa Laval is proud to partner with Gwinnett County on this journey and take part in helping deliver a more sustainable future for their community.

Decanter centrifuges use high speed and “G-forces” to separate solids from liquids in thick or abrasive slurries. They have been used in wastewater for decades and are a compact workhorse of biosolids dewatering and thickening.



To learn more about how Alfa Laval helps wastewater facilities with their goals or learn more about the ALDEC G3 Decanter visit alfalaval.us/wastewater.

How to contact Alfa Laval

Up-to-date Alfa Laval contact details for all countries are always available on our website at www.alfalaval.us

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