



Dutch municipal WWTP achieves 25% dry solids reduction with Drylet's Aqua Assist, research study shows

Annual savings on sludge handling costs were confirmed in a six-month full-scale trial

AMSTERDAM, the NETHERLANDS (September 22, 2020) – A 25% reduction in WAS (Waste Activated Sludge) production year-over-year, from 200 tons to 155 tons of dry solids, was achieved using Drylet's Aqua Assist at WwTW Halsteren, a low-load biological treatment plant in the Netherlands. MLSS could be increased from 2.7 g/l up to 3.7 g/l without any process consequences. The effluent quality remained good and stable throughout the six-month pilot period. Ultimately, the cost of using Aqua Assist ended up being significantly lower than the annual savings on sludge handling costs.

“By reducing the WAS production, the water authority is executing on its goal to reduce waste production while achieving economic gains in operating costs,” said Hans Mollen, senior process technologist at Waterschap Brabantse Delta. “Our collaboration with Brightwork, together with Drylet's technology and expertise, gave us the results we wanted to see,” he added.

Drylet's Aqua Assist solution consists in the regular dosing of engineered, microporous, and dry-to-the-touch biocatalysts, ranging 200 to 600 microns in size and inoculated with a specific proprietary microbial consortium, directly into the activated sludge reactor. The biocatalysts' retention time in the reactor is equal to the sludge retention time. The particles protect the microbes from predators, bacteriophages and/or toxins, and act as nurseries for the biomass to double every 2 – 3 hours, once the material is dosed into the activated sludge basin. Studies have revealed that dosing Aqua Assist initiates a shift in bacteria species which favour the process conditions for wastewater treatment.

WwTW Halsteren has a capacity of 12 700 population equivalent (0.7 MGD) and a maximum hydraulic capacity of 525 m³/h. WAS is thickened and stored prior to transport to a central sludge digesting facility. To analyze the effectiveness of Aqua Assist, data was collected throughout the trial and compared with the process data from 2017, a year with similar process operations.

The dosing started early June 2019 and occurred continuously until the end of November 2019. Twice a week, a fixed amount of 2.1 kg (4.6 lb) or the equivalent of a 600-g (1.3-lb) daily dose of Aqua Assist was manually added in the return sludge flow mixing with the feed water -- this caused an ideal mixing of the material. The trial demonstrated that the MLSS concentration could be increased from 2.7 g/l up to 3.7 g/l without any impact on SVI, effluent quality and plant operation stability. The objective to reduce WAS production was achieved with a dry solids reduction of around 25%. As a result, a positive business case was demonstrated, and a follow-up of the project was initiated.

The full case study is [available here](#).

About Aqua Assist

Drylet's wastewater solution for sludge reduction has been used at more than 60 facilities in the United States and in Europe. It has received multiple awards on multiple continents, including the prestigious [WEF Innovative Technology Award in 2017](#) and the [Solar Impulse Efficient Solution Label](#) in 2019.

About Drylet

Drylet is an award-winning bioremediation technology company whose proprietary biocatalysts optimize biosolids reduction and biogas generation in wastewater treatment facilities, industrial wastewater lagoons, concentrated animal operations, and waste-to-energy installations. Drylet offers a cost-effective and zero-CAPEX, zero-footprint solution to biosolids accumulation, boosting mass-to-gas conversion and energy revenue, while reducing environmental impacts and streamlining regulatory compliance. The company is headquartered in Houston, Texas, with offices in California and in Europe. For more information, visit www.drylet.com.

About Brightwork

Brightwork is a reliable service partner in water and wastewater treatment. Brightwork's core driver is making our clients' processes perform better. A team of dedicated experts is focusing on water and wastewater treatment, water reuse, sludge and energy management for both municipal and industrial parties. Based in the Netherlands, Brightwork offers a range of water treatment products, services and monitoring tools. All these products are carefully tested and successfully implemented for various applications. For more information, visit www.brightwork.nl.

Media contacts

Drylet – media@drylet.com

Brightwork – info@brightwork.nl