



How a Pharmaceutical Site Addressed Sludge Build-Up and Filtration Challenges



Background & Challenge

A pharmaceutical company operating an active-ingredient manufacturing facility **relied on its on-site wastewater treatment plant** to handle significant **effluent** volumes and **biosolids** production.

Stable sludge management was essential for overall operations.

Over time, rising sludge inventory and septic, filamentous sludge reduced settling performance and impacted downstream membrane filtration.

At the same time, limited liquid sludge disposal constrained extraction, creating a balance between **process stability, compliance, and costs**.

Orege's Solution & Service

Orege deployed a **mobile SLG-F thickening unit** designed to **integrate with existing site constraints** and **minimize operational disruption**.

The objective was to validate performance on real pharmaceutical sludge before any long-term implementation.

The solution aimed to **thicken biological sludge, capture TSS** in the solids phase, and return a **filtrate compatible** with the site's treatment process.

Orege also provided a **flexible service approach**, adapting the setup, integrating the unit, and assessing downstream handling options.





Results and Benefits

Orege's mobile **SLG-F solution** effectively **concentrated biological sludge** under real operating conditions.

The unit processed approximately **25 m³ per day**, producing around 11 m³ of thickened sludge and 14 m³ of clear filtrate, demonstrating efficient and **reliable liquid-solid separation**.

The system consistently delivered pumpable thickened sludge with dry solids ranging from 6.4% to 7.7%, **meeting and often exceeding the initial target**.

This level of performance supports **better sludge handling, reduced storage constraints, and improved control** of biological basin concentrations.

In addition, the solution enabled the collection of representative sludge samples for downstream validation, supporting the assessment of alternative treatment and disposal routes.

This provides a solid foundation for transitioning toward **more sustainable sludge management** strategies while reducing reliance on traditional disposal methods.

Orege stabilized sludge management and improved thickening, enabling more sustainable operations