

INDUSTRY: WATER | CUSTOMER: SEWAGE TREATMENT COMPANY | LOCATION: FINLAND

OBJECTIVE

The objective was to modify fatty food industry sludge with ultrasonic treatment to make the sludge easier to run through the dryer, increase the amount of dry matter in the sludge and to make the reject water from the dryer easier to process.

SOLUTION

This facility employs a belt filter press in its dewatering process. Altum's multichannel solution was installed on a pipeline before the press to affect the sludge and thus enhance the effect of the belt filter press dewatering. Ultrasound disrupts the extracellular polymeric substances (EPS) that bind water to sediment, thus helping in releasing the water bound into it.

RESULTS

The dry material content was increased by up to 5%: this reduces costs for subsequent processing, as drier materials occupy less space during storage and transfer. Overall, the sludge became easier to run: one clear example of this was how the sludge on the dryer belt was significantly less spread out with ultrasonic treatment. Reject water samples were clearer, containing fewer solid particles.



As pictured, drier material achieved with sonication concentrates on the middle of the belt. Before, the sludge was spread out all the way to the edges.



**UP TO 5% INCREASE
IN DRY MATERIAL
CONTENT**



**REDUCED
PROCESS &
TRANSFER COSTS**



**LESS EQUIPMENT
WEAR**



**LOWER CO2
EMISSIONS**