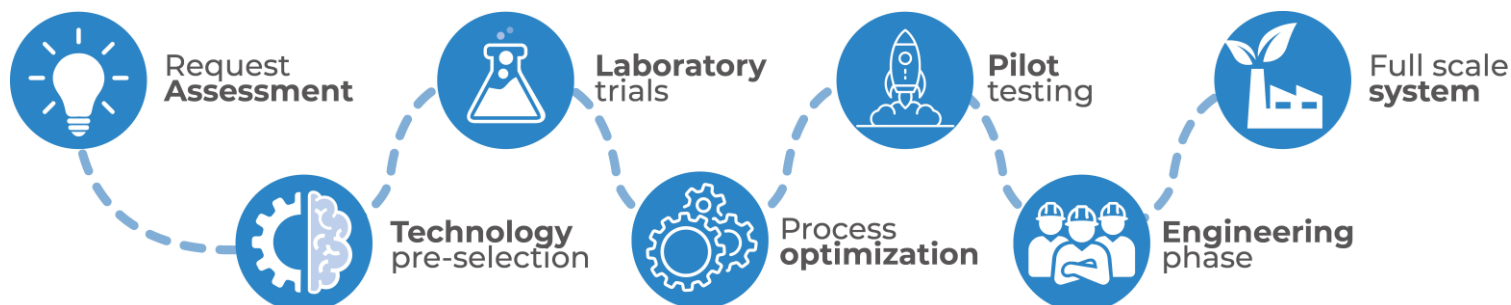


# Introducing Lenntech's pilot fleet

*Lenntech R&D – where research meets industry*



## Technologies

As a logical step before designing a reliable full-scale system, Lenntech can deliver a large range of (combined) **pilot technologies** for **long-term testing (1 - 6 m<sup>3</sup>/h)**.

- ▶ Multi-media filtration
- ▶ Ultrafiltration
- ▶ (Ultra High Pressure) nanofiltration/reverse osmosis
- ▶ Closed-circuit reverse osmosis
- ▶ (Bipolar membrane) electrodialysis
- ▶ Electrocoagulation
- ▶ Ion Exchange

## Applications

- ▶ Recovery of organics, minerals and metals
- ▶ Water recovery or water reuse
- ▶ Residual stream volume minimization
- ▶ Concentrating or separating solutes
- ▶ Production of chemicals

If you wish to **treat** or **valorize** an **industrial stream** with challenging targets, we can guide you through our options. We use the results to provide you with a **reliable** and **tailor-made full-scale design**.





# WATER RECOVERY OR WATER DISCHARGE

*Lenntech R&D – where research meets industry*

## INNOVATIVE

**Thinking outside the box** and combining conventional technology with unconventional ideas.

## APPLIED

Adapting practical approach to target-oriented research to identify and **fill relevant gaps in industry.**

## TAILOR MADE

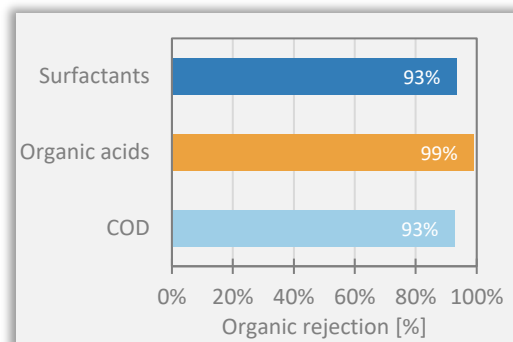
Creating solutions for existing processes and **supporting process development.**

Many industries consume clean water while producing wastewater. We find solutions to reuse the water internally or meet quality standards for discharge into the environment. In our solutions, we aim for low energy usage and minimal chemical usage.

## Water recovery

### ▶ Recycling of hygiene greywater for MISSIONS IN SPACE.

- ▶ Extensive technology comparison.
- ▶ Removal of different organic species **up to 99%.**
- ▶ Water quality output according to reuse standard.
- ▶ Energy efficient solutions for space missions.



From  
1600  
 $\mu\text{S}/\text{cm}$

To  
8  $\mu\text{S}/\text{cm}$

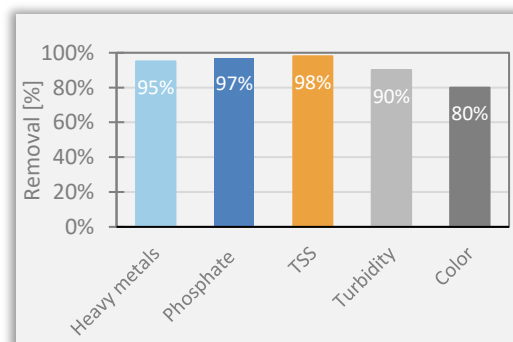
### ▶ Water recovery from chemical industry by REVERSE OSMOSIS.

- ▶ Treatment chain to recover water from a chemical wastewater stream.
- ▶ Lowering of electrical conductivity **by 99.5%.**
- ▶ Mitigation of fouling by removal of particles and color bodies with adsorption technology.

## Water discharge

### ▶ Pollutant removal from WWTP effluent by ELECTROCOAGULATION.

- ▶ No chemical usage, therefore mitigation of residual chlorine and GHG emissions if compared to conventional chemical coagulation.
- ▶ Removal of (heavy) metals, phosphate, TSS, turbidity, FOG, colloids, surfactants and color to allow direct wastewater discharge.
- ▶ Viable solution to meet stringent environmental discharge guidelines and chemical usage legislations.



**LENNTECH**  
WATER TREATMENT SOLUTIONS