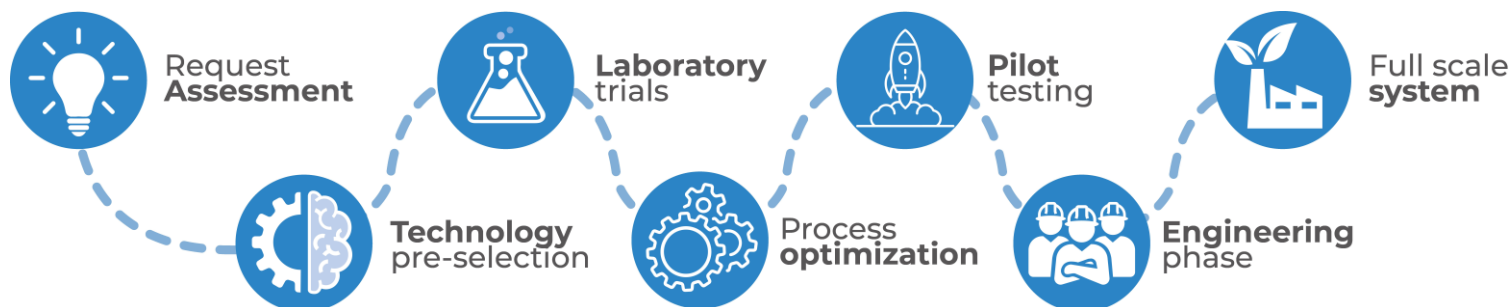


Introducing Lenntech's pilot fleet

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 m³/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**.





ORGANIC, NUTRIENT OR METAL RECOVERY

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

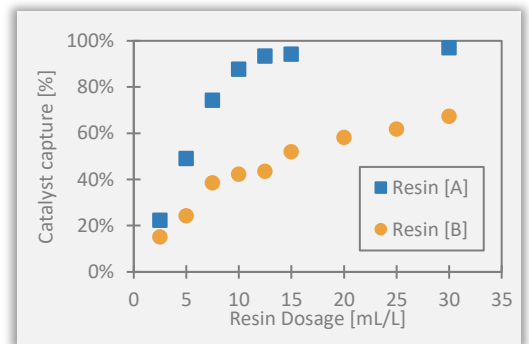
Creating solutions for existing processes and **supporting process development.**

In many industries, precious metals and organic molecules are found in liquid waste streams. We find solutions to reduce environmental impact, secure resource supply and improve circularity by removing and recovering these valuables.

Metal recovery

► Catalyst recovery from industrial process stream by ION EXCHANGE.

- Reducing loss of resources from liquid waste by recovering the catalyst for reuse.
- Catalyst recovery **up to 95%.**
- Comparing and selecting most efficient resin and optimizing system design.



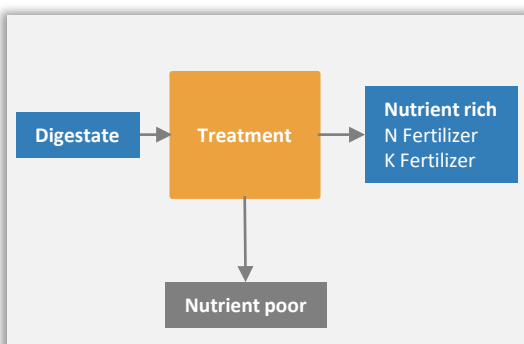
**97%
Silver
recovery**

Effluent
**< 0.1
mg/L
silver**

► Silver recovery from photographic wash water by ION EXCHANGE.

- Meeting environmental policies while recovering silver **by 97%** and enabling direct discharge of wastewater.
- Tackling resin fouling by optimizing pre-treatment and operation.
- No waste produced: chemicals are reused upstream.

Nutrient recovery



► Recovery of nutrients from digestates by ELECTRODIALYSIS and MEMBRANE DISTILLATION.

- Recover nitrogen to accelerate transition towards sustainability and circularity in industries.
- Recovery **up to 89%** of Total Ammoniacal Nitrogen (TAN).
- Performance comparison from different sources of liquid digestate.

LENNTECH
WATER TREATMENT Solutions