

naion.tech

Critical raw material recovery with
tailor-made nanofiltration membranes



Every process water is unique. Standard separation technologies are complex to adapt.



High-tech requires **Critical Raw Materials** (CRMs) like Lithium, Cobalt and Nickel.

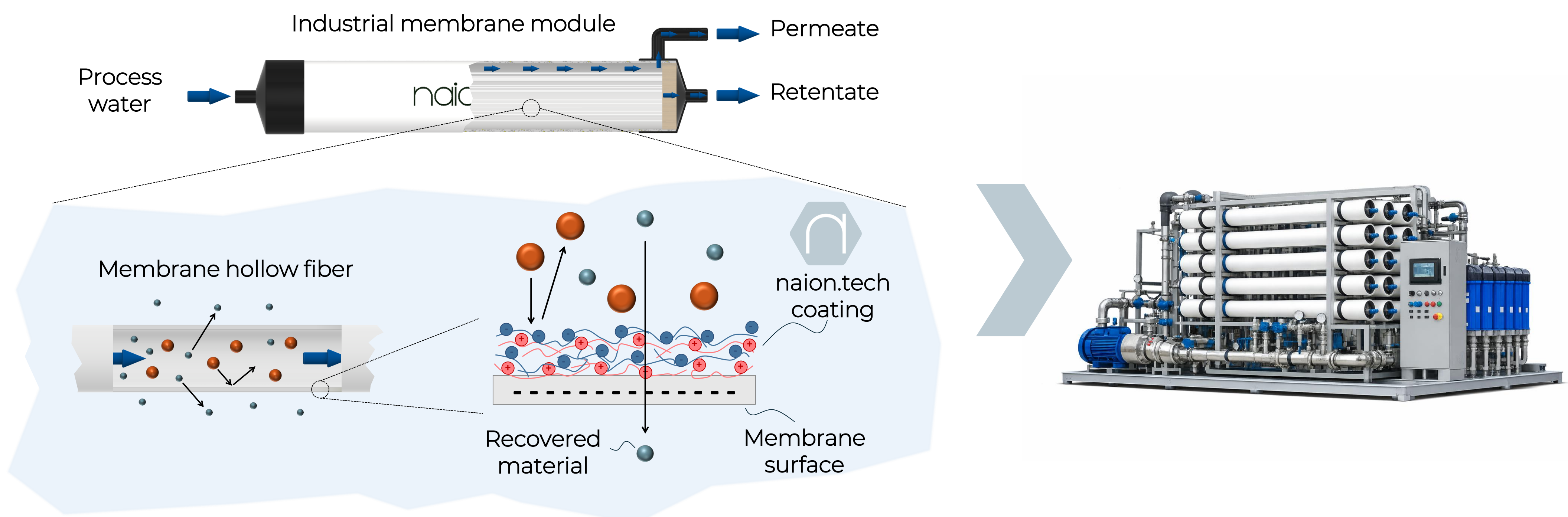


92% of CRMs are lost – often in process water – leading to high disposal cost.



Valuable materials and impurities are very similar. **Selective separation requires customized solutions.**

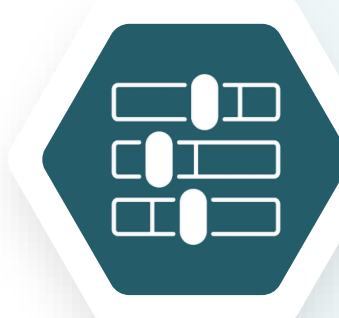
We offer tailor-made membranes that selectively filter out valuable materials.



We coat **industry-proven and eco-efficient membranes** resulting in up to 3.7x higher selectivity than commercial membranes.



We **precisely tune the membrane's pore size and charge** adapting it specifically to your separation needs.



Simple and modular filtration plants allow adaptation as performance, capacity, or regulatory requirements change.

Your benefit: Minimized losses of valuable materials and disposal costs.



naion.tech's sweet-spot

- Unique water compositions
- Dissolved CRMs
- Material value > 5 €/ m³
- Nanofiltration relevance:
 - Cut-off 100-2000 g/mol
 - Separation of ions



Relevant use cases

- Direct Lithium extraction
- Li-ion battery recycling
- Acid purification
- PFAS removal
- Mining tailings
- ...

Our cooperation

Feasibility

With only a **5-liter sample**, we demonstrate

- the **maximum potential** of nanofiltration,
- a **business case** for your application.

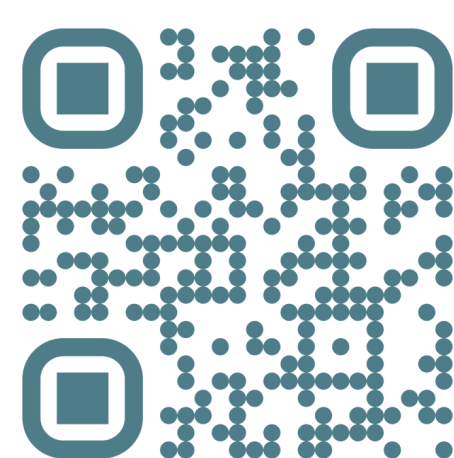
Pilot

With our **mobile pilot plant**, we confirm the laboratory results in on-site process operation.

Full-scale

In partnership with established engineering partners, we implement the **full solution**.

Connect with us!
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