

Extraction and refining of rare earth elements.

A modular nanotechnology platform designed to recover high-value rare earths from brines, leachates and industrial process waters.

Rare earths are not rare. Separating them is.

Modular, selective, designed for reuse in a closed loop.

CONFIDENTIAL

THE CHOKEPOINT

Separation, not supply.

Refined magnet-REE output is concentrated in one country, and that concentrates risk for EVs, wind, electronics, aerospace and defence.

91%

of 2024 global refined magnet-REE output was in China

IEA, Rare Earth Elements, 2026

~\$6.28B

global rare-earth market forecast for 2030

Third-party market forecast

8.6%

forecast CAGR, 2025 – 2030

Third-party market forecast

THE PLATFORM

CAPTURE MEDIA DESIGNED FOR REUSE IN A CLOSED LOOP

Active, selective magnetic nano-robots that extract REE ions from the feed and release the captured material for concentration and refining, designed for reuse in a closed loop.

01 Capture 02 Recover 03 Release 04 Refine 05 Product

WHERE THE VALUE SITS

TARGET FEEDSTOCKS

- Ore and slurry of tailing streams
- Brines and waste streams
- Water and wastewater streams
- Recycling and secondary-resource liquors

INVESTMENT THESIS

Strategic need	Diversification of REE refining is now an industrial-security priority.
High-value bottleneck	Separation and refining capture more of the value than bulk mining alone.
Modular deployment	Potential for on-site treatment close to mines, recyclers and industrial waste streams.
Circularity upside	Designed to recover REE from waste while reusing the magnetic capture media.

THE PARTICLE, IMAGED

FROM SUSPENSION TO UNIT

WHERE THE PLATFORM SITS

POTENTIAL FOR ON-SITE TREATMENT CLOSE TO MINES, RECYCLERS AND INDUSTRIAL WASTE STREAMS THE RARE-EARTH CHAIN

Leachate or brine
MINING, RECYCLING, PROCESS WATER

Extraction
THE PLATFORM

Concentration and refining
THE PLATFORM

Separated REE products
PRODUCT

Magnets, alloys, Defense
END USE

Concentration figure: IEA, Rare Earth Elements, 2026. Market size and CAGR are third-party forecasts. Technology performance, recovery, selectivity and product-purity targets require feed-specific pilot validation; no commercial performance claim is implied.

From leachate chemistry to separated rare earths, **selective, modular, closed-loop.**

Selective magnetic nano-robots