

Silex World Introduces Integrated Critical Materials Infrastructure Platform for Allied Manufacturing Supply Chains

Integrated platform combines refining, traceability and modular processing to support resilient allied critical materials supply chains.

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/EINPresswire.com/ -- [Silex](#) World Ltd, a University of Leeds spinout focused on critical materials processing, today announced the expansion of its technology platform into an integrated infrastructure model designed to support allied manufacturing supply chains through distributed refining, traceable processing, and regional materials recovery systems.



The platform combines Silex World's alkali-based recovery process, continuous low-energy conversion technology, modular micro-refinery architecture, and digital traceability systems into a deployable infrastructure framework intended to support regionalised production of rare earth elements and strategic metals.

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Michael Hodges

The company is currently progressing industrial rollout activities in India through local production partnerships, feedstock integration discussions, and deployment planning for modular processing systems designed to validate continuous operation under real-world industrial

conditions.

Silex World believes the strategic bottleneck in critical materials increasingly lies not simply in mining capacity, but in the lack of integrated refining and processing infrastructure capable of operating within allied economies. Existing supply chains remain heavily dependent on

geographically concentrated refining systems, fragmented industrial pathways, and long international logistics chains.

Governments across the United States, Europe, and allied markets are now accelerating efforts to establish domestic and regional capability for the processing of rare earth elements and strategic metals used in defence, electrification, semiconductors, renewable energy systems, robotics, and advanced manufacturing.

Silex World's infrastructure platform is designed to support:

- Distributed refining of rare earth-bearing waste and industrial residues
- Regional processing capability closer to manufacturing demand and feedstock source
- Continuous low-energy conversion of recovered materials into usable industrial forms
- Digital traceability and chain-of-custody verification across supply pathways
- Integration of recycled and secondary materials into allied manufacturing ecosystems
- Modular deployment of processing infrastructure without dependence on large centralised refinery models

The company believes the approach represents a shift away from traditional refining structures toward distributed industrial infrastructure capable of supporting resilient supply chains and regional manufacturing ecosystems.

Michael Hodges, Founder of Silex World Ltd, said:

"The challenge is no longer simply sourcing critical materials. It is building the industrial infrastructure capable of processing, verifying, and reintegrating those materials into allied manufacturing supply chains."

He added:

"What is emerging is not just a recycling market, but an entirely new layer of distributed industrial infrastructure for strategic materials."

The platform has been developed with compatibility across multiple rare earth-containing feedstocks, industrial residues, manufacturing scrap, and end-of-life magnetic materials. Silex World is currently engaging with industrial groups, government agencies, strategic investors, and regional stakeholders to explore deployment opportunities across allied markets.

The company believes the technology aligns closely with emerging industrial policy initiatives focused on domestic refining capability, strategic supply chain resilience, circular materials recovery, energy-efficient processing, and allied manufacturing security across the United States, Europe, India, and partner economies.

About Silex World Ltd

Silex World Ltd is a technology company focused on the recovery and processing of critical materials, including rare earth elements, using scalable low-energy methods. A spinout from the University of Leeds, the company is developing processing systems designed to support resilient supply chains and reduce dependence on imported refining capacity.

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