



STRIDE Ventures Selects Eight Teams to Transform Domestic Precious Metal Recovery

NEW YORK, NY, Tuesday, March 24, 2026

STRIDE Ventures, operated by Start2 Group, today announced the selection of eight teams to advance to Stage 1 of the Tech Metal Transformation Challenge, a program supported by the U.S. National Science Foundation Directorate for Technology, Innovation and Partnerships (NSF TIP).

The challenge seeks innovative approaches to transform materials from complex waste streams into usable critical and strategic metals. These materials are essential to technologies ranging from clean energy and advanced manufacturing to defense systems and digital infrastructure.

"The Tech Metal Transformation Challenge is an exciting program that addresses a national security imperative to secure a domestic supply chain for critical minerals through research and innovation," said Erwin Gianchandani, assistant director for NSF TIP. "The winners of this Challenge demonstrated their capability to create solutions that tackle the hardest technical gaps in critical materials recovery, gaps that directly impact U.S. manufacturing competitiveness and national security. Their work will strengthen domestic supply chains, reduce reliance on foreign sources and enable on-shoring of advanced manufacturing capabilities across electronics, defense and semiconductor sectors."

The Tech Metal Transformation Challenge is a multi-stage competition supporting teams in developing end-to-end systems capable of converting complex domestic metal-containing waste streams into materials suitable to meet market demand. Through non-dilutive funding, technical support, and expert guidance, teams will work to demonstrate technical feasibility and prototype solutions that could ultimately scale to industrial deployment.

"Critical minerals and strategic metals are foundational to the technologies shaping our future economy," said Annika Pierson, CEO, Americas at Start2 Group. "Through the Tech Metal Transformation Challenge, we're supporting startups and innovators developing breakthrough approaches to recover rare earth elements and precious metals and transform these materials into usable products."

The selected teams represent a range of breakthrough approaches to tech metal recovery, including novel extraction technologies and advanced processing methods. The following teams have been selected to participate in Stage 1 of the Challenge:



- **Alkali Labs** – Engineered biosorbents recover lithium, cobalt, and rare earths from industrial byproducts, producing concentrated, manufacturing-ready inputs. Their goal is to create low-cost, deployable systems that strengthen domestic battery and magnet supply chains.
- **ChemFinity Technologies** – Next-generation tunable polymer sorbents capture more than 25 critical and precious metals at room temperature, generating refinery-grade fractions for U.S. manufacturers. Their goal is to replace energy-intensive recovery with a modular, low-impact system that supports circular, domestic supply chains.
- **Critical Materials Recycling, Inc.** – AcidFree Dissolution Recycling converts shredded electronics into high-purity copper, rare earths, and other metals through an ambient condition, closed-loop system. Their goal is to build a scalable circular platform that enhances U.S. access to critical materials while reducing waste and processing costs.
- **EDAC Labs** – Integrated catalytic, hydrometallurgical, and electrochemical processing converts complex e-waste into manufacturing-ready metals and chemical feedstocks with fully regenerative reagent cycles. Their goal is to create a low-waste, high-value domestic refinery model that reliably supplies U.S. manufacturers with critical minerals from e-waste.
- **Infinite Elements** – A bio-enabled system recovers metallic copper, gallium, indium oxides, and rare earth oxides from mixed e-waste in forms optimized for industrial use. Their goal is to establish a distributed, low-energy waste-to-manufacturing pipeline that reduces dependence on primary mining.
- **Intel-E-Waste (Penn State University College of Earth and Mineral Sciences)** – A feed-agnostic, modular platform tailors disassembly and processing to each waste stream, producing clean, manufacturing-grade fractions of metals and silicon. Their goal is to enable a distributed domestic recycling infrastructure that minimizes contamination and directly supports U.S. industrial workflows.
- **University of Wisconsin-Madison** – Electrochemical ion storage electrodes selectively capture and release critical metals while generating acids and bases in situ to lower chemical inputs. Their goal is to build a customizable extraction platform that supplies high-purity materials to U.S. manufacturers with lower energy and environmental costs.
- **Valor Metals** – An electrochemical liquid-liquid extraction system produces direct-to-component outputs such as copper foil, rare-earth oxides, battery-grade lithium, and semiconductor-grade gallium oxide. Their goal is to streamline domestic refining so manufacturers can source critical metals directly from recycled and unconventional feedstocks.



During Stage 1, teams will focus on advancing early prototypes and demonstrating key technical milestones. Successful teams may advance to later stages of the challenge, where they will further develop and validate integrated systems capable of operating in real-world conditions.

The Tech Metal Transformation Challenge was co-designed alongside Germany's Federal Agency for Breakthrough Innovation (SPRIND), reflecting a transatlantic collaboration to accelerate breakthrough technologies in critical materials and advanced manufacturing.

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About STRIDE Ventures

STRIDE Ventures, operated by Start2 Group, is an initiative of the U.S. National Science Foundation Directorate for Technology, Innovation and Partnerships (NSF TIP). The program supports milestone-driven programs that accelerate the translation of emerging technologies into real-world solutions.

About NSF TIP

The NSF Directorate for Technology, Innovation and Partnerships (NSF TIP) seeks to engage all Americans in accelerating critical and emerging technologies to advance U.S. competitiveness. The directorate partners across sectors to advance three strategies: accelerating critical and emerging technology, expanding the geography of American innovation, and building a competition-ready workforce. For more information about NSF TIP, visit [nsf.gov/tip/latest](https://www.nsf.gov/tip/latest).

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