



PHASE III

PILOT VALIDATION

The Lithium-Ion Battery Recycling Prize is a \$5.5-million phase prize competition focused on identifying innovative solutions for collecting, sorting, storing, and transporting spent and discarded lithium-ion batteries (LIBs) — from electric vehicles, consumer electronics, industrial, and stationary applications — for eventual recycling and materials recovery. The Prize is designed to incentivize American entrepreneurs to develop and demonstrate processes that, when scaled, have the potential to profitably capture 90% of all discarded or spent lithium-based batteries in the United States for eventual recovery of key materials for re-introduction into the U.S. supply chain.

PILOT VALIDATION

In Phase III, the seven teams will demonstrate their ability to recover LIBs and verify the feasibility of achieving the end-to-end solution's projected impact when fully scaled. In this final phase, teams will need to continue developing partnerships with industry experts to implement a comprehensive pilot demonstration and plan for deploying their fully-scaled solution into the marketplace.

GET INVOLVED

PHASE I (\$1M)

Concept Development and Incubation

COMPLETE

\$1,000,000 distributed equally among the 15 winners of Phase I as a \$67,000 cash prize per winner

PHASE II (\$2.5M)

Prototype and Partnering

- Simulate, verify, and validate concept and processes
- Partner with stakeholders
- Up to 10 winners

\$2,500,000 distributed equally among the 7 winners of Phase II as a \$357,000 cash prize per winner in addition to non-cash prizes of up to \$100,000 in vouchers per team.

PHASE III (\$2M)

Pilot Validation

- Build your battery recycling business model and demonstrate process
- Visit by DOE, industry, and stakeholder before the end of phase III
- Up to 4 winners

Up to \$2,000,000 distributed equally among the winners in cash prizes (minimum of \$500,000; maximum of \$1,000,000 per winner)

PHASE III PARTICIPANTS

Li Industries: Smart Battery Sorting System

david.young@li-ind.com

Li Industries is developing a machine learning-based, automated Smart Battery Sorting System that is capable of accurately and efficiently sorting and separating batteries by a number of characteristics, including chemical composition, size, weight, and/or packaging type. End-of-life LIBs sorted this way can be fed into direct recycling processes that produce rejuvenated battery materials more cheaply and efficiently.

OnTo Technology: Li-Ion Identification

lcandon@onto-technology.com

OnTo's deactivate, identify, sort, and cut (DISC) solution provides safe and efficient end-of-life processing of waste batteries by sorting LIBs by cathode chemistry. The DISC locations will be implemented across the country to minimize hazardous shipping.

Powering the Future: Banking Today's Materials to Power Tomorrow

Clarios is leveraging the existing network of collection for lead-acid batteries to collect end of life LIBs. This concept will apply innovative technologies to handle mixed end-of-life batteries to identify, separate LIBs from lead-acid, and ultimately optimize the network's value.

Renewance: Reverse Logistics Marketplace

jamal.burki@renewance.net

The Renewance Connect digital platform tracks and manages LIBs throughout their full life cycle. This asset tracking and marketplace concept optimizes reverse logistics and recycling activities by improving access to and utilizing existing infrastructure for decommissioning, collection, warehousing, sorting, transportation, and recycling services.

Smartville: Distributed Battery Conditioning HUB

mdferry@ucsd.edu

Smartville is deploying distributed heterogeneous unifying battery (HUB) facilities to reduce costs and create value in the reverse logistics supply chain. LIBs will be fully balanced, conditioned, and certified within the Smartville HUB facility before being repurposed for secondary use or shipped to recyclers.

Team Portables: Reward to Recycle – Closing the Loop on Portables

matthew@everledger.io

Reward to Recycle is a consumer engagement smartphone app where consumers learn how to earn a reward for recycling their battery. This app uses a digital identity to track portable LIBs and support final recycling.

Titan Advanced Energy Solutions: Battago

sean@titanaes.com

Battago is Titan's Battery Market Intelligence platform built to generate, aggregate, and connect battery data to create a transparent marketplace and bridge the gap between battery owners, integrators, and end of life recyclers. This platform combines hardware and software capabilities to deliver battery identification through visual recognition, diagnostics, and rapid ultrasonic testing.

SUPPORT THE BATTERY PRIZE

Follow along on HeroX as the Phase III participants finalize their end-to-end solutions. There will be opportunities to attend presentations from teams to learn more about their concept solutions and plans to implement the solutions at full scale. <https://www.herox.com/BatteryRecyclingPrize>.

OTHER WAYS TO GET INVOLVED

Learn more about upcoming American-Made Challenges (AMC) by joining the AMC Network as an official voucher service provider. Select challenges like the Lithium-Ion Battery Recycling Prize utilize this Network – which consists of the national labs, industry experts, and fabrication and manufacturing facilities that are willing to help teams turn ideas into real-world products. [Find out more at americanmadechallenges.org/connect](http://americanmadechallenges.org/connect).