

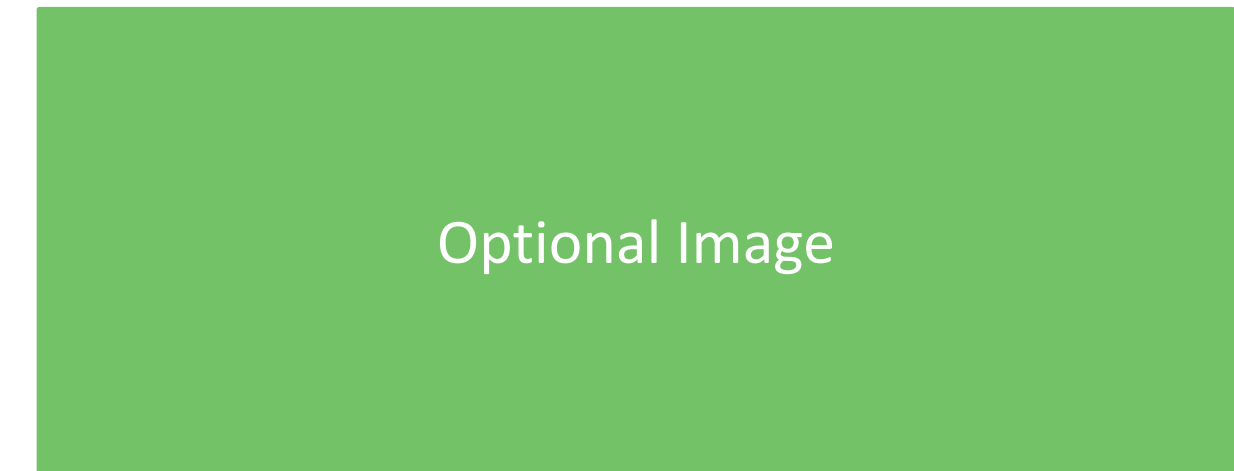
LITHIUM-ION BATTERY RECYCLING PRIZE



U.S. DEPARTMENT OF ENERGY

Team Name:	The Li-Ion Tamers
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Member Names (including partners and affiliates):	Energy Storage Response Group, Nexceris, Resource Recycling Systems, Inc., Retrieval, Wecyclebatteries.com, American Fire Technologies, and Buckeye Elm Contracting.
Submission Title:	Minimizing Fire and Risk Through Enhanced Gas Detection for Safer LiB Recovery
Submission Track:	Track 5

A Public Document



Concept

- Dozens of fires throughout the recycling chain have occurred as a result of lithium ion batteries
 - These are occurring in both battery recycling waste streams as well as common, non battery streams like paper
 - These events have created significant risks throughout the industry and driven business and insurance costs drastically higher
- Mature, proven technology developed over the last decade by Nexceris and in use in the stationary storage and maritime industries can detect these battery events before they occur, allowing personnel time to manage them before they become a threat

Approach

- Our team will perform a market analysis and industry survey, working with recycling industry team member RRS to determine the precise pain points, needs, and economic tolerance of the industry for a solution
- With partners in the fire protection, hazardous materials handling, battery recycling and general recycling arenas, the team will review this data and determine all feasible criteria with which to evaluate prototype ideas
- With comprehensive industry survey results, our team will modify and optimize the existing Nexceris Li-Ion Tamer technology to detect these events, providing critical early warning to manage these potentially devastating events

Potential Impact

- With the risk of unintended fire from lithium ion batteries drastically reduced, entities sidelined by safety concerns can enter the industry with confidence
- With the lithium ion battery fires far less likely and far more manageable, insurance losses should decrease, dropping insurance premiums, increasing competition, and reducing the cost of doing business and transporting material
- With business costs reduced, recyclers can invest more in developing their processes and increasing recycling rates