

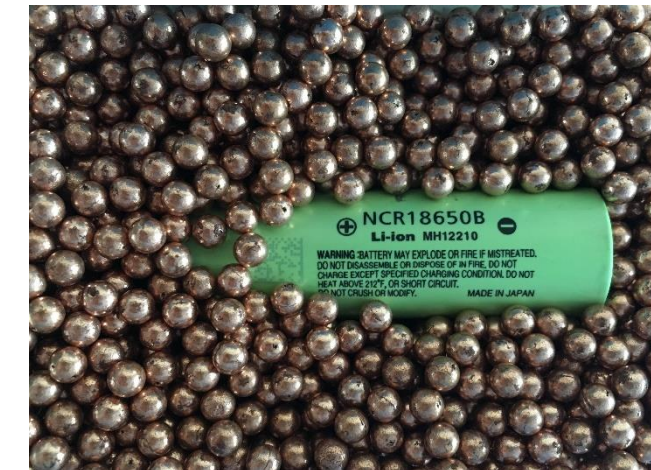
LITHIUM-ION BATTERY RECYCLING PRIZE



U.S. DEPARTMENT OF ENERGY

Team Name:	Team RRCO
Primary Submitter Name:	Roland Bruyns
City and State:	Madison, AL
Member Names (including partners and affiliates):	Kevin Heering (Advisor)
Submission Title:	Composite Discharge Media (CDM)
Submission Track:	Track 3 : Safe or Inert Storage and Transportation

A Public Document



Concept

- Patent pending electrically conductive beads provide a controlled resistance, electrical connection between the battery or cell terminals.
- The electrical properties of the beads can be tailored resulting in a controlled discharge rate of the lithium cells.
- Placing a lithium cell in a bed of the beads provides a conductive network to discharge the cells at a safe current level
- Batteries are safely discharged without generating any hazardous waste or hydrogen gas

Approach

- Technology has passed proof of concept stage. Future technical work will involve optimization of discharge media electrical properties.
- Relationships will be established with potential end users to determine customer requirements for discharging processes.
- Advisors and team members with experience in the following areas will be brought on board:
 - Local business development assistance
 - Growth of small technology startups
- The end goal is the establishment of a niche small business producing CDM or a collaborative partnership with a licensor.

Potential Impact

- The ability to safely discharge LIB's for storage or transportation will increase the safety of the entire recycling process.
- Storage and transportation of fully discharged LIB's has a much lower fire/explosion risk than batteries with a residual charge.
- Being able to immediately start discharging batteries at the point of collection will minimize hazards throughout the entire recycling chain.
- Fully discharged batteries may enable new recycling techniques or simplify existing processes.