

# LITHIUM-ION BATTERY RECYCLING PRIZE



U.S. DEPARTMENT OF ENERGY

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<b>Submission Title:</b>	A.L.F.R.E.D. – Solving the Dilemma of Unlabeled Lithium Ion Batteries
<b>Submission Track:</b>	Track 2: Separation and Sorting

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**SPIERS  
NEW  
TECHNOLOGIES**



**BATTERY RESOURCERS**

## Concept

- Spiers New Technologies (SNT), as the current market leader in 4R services – repair, refurbishment, reman, and repurposing – of automotive lithium ion battery packs holds the knowledge and expertise on data points associated with specific battery pack composition.
- SNT will apply their knowledge and expertise of automotive battery chemistry compositions to determine algorithms to source known input LiB to unknown LiB from consumer electronics to create and output of known and desired cathode composition.
- Battery Resourcers (BR) will partner with SNT to develop the ideal process flow for this recycling process.

## Approach

- Spiers New Technologies (SNT) will design and develop an expansion to their existing A.L.F.R.E.D. Battery Management Database system to incorporate information on recycling process flow.
- SNT will develop a supermarket design of known LiB chemistries from sourced automotive LiB.
- SNT will work with Battery Resourcers (BR) to develop a process flow approach to incorporate a mixture of known and unknown input materials to the battery recycling process.

## Potential Impact

- Specific labeling of consumer electronic LiB will continue to be a challenge, one which can be mitigated. SNT and BR see the solution to manage the recycling stream inputs by applying a known process for