

## Innovative Capacity Assessment and Reuse Methodology for Used Lithium-Ion Cells

This process has the potential to provide a rigorous used cell characterization and sorting protocol for determination of individual used cell feasibility in a variety of secondary applications.

**Keywords:** lithium-ion cells, reuse, process optimization, sustainability

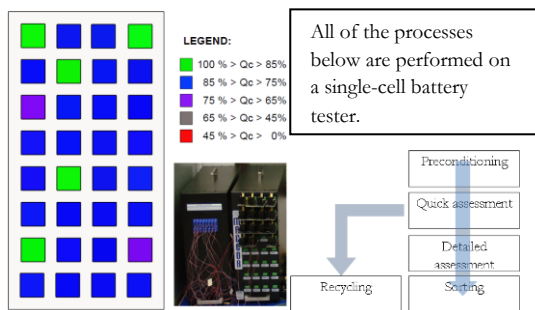
### Process Implementation Readiness



### Background and Technology Description

Lithium-ion (Li-ion) cells typically have 80% capacity left after primary application lifetime. A high potential value for their reuse therefore exists. The market for recycling is considered much less profitable, and with the growing electric vehicle, capacity solutions for extending battery use must be explored.

Work performed in the Golisano Institute for Sustainability at Rochester Institute of Technology resulted in a technical determination for accelerated assessment of used cells, and a proposed model for preparing cells for secondary applications.



### Technology Benefits and Value

- 95% accuracy battery capacity predictive ability
- 1.6 new: used performance ratio for power tool applications with no cell balancing
- Formalized profit-driven metrics-based model for reusing Li-ion cells

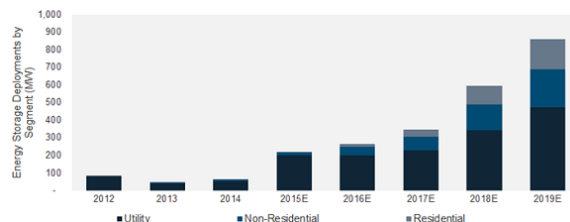
### Target Customers

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### Battery Manufacturers, Electric Vehicle Industry

Rochester, NY and NYS serve as a hub for battery testing, development, manufacture, and deployment. GTM Research predicts the deployment volume to be 0.9 GW by 2019.



- Reuse of Li-ion cells will increase the profitability of the deployment sector, and provide environmental benefit by incentivizing reuse over discarding of cells
- The global Electric Vehicle Initiative from the International Energy Agency forecasts a minimum of 20M electric cars on the road by 2020

### Intellectual Property

This process is not under any patent.

### Opportunity

NYSP2I is interested in working with qualified parties for technology and product development of this process.