

Direct Recycling of Lithium-ion

Results Highlight

Summary Points:

- Project developed cathode-to-cathode, direct recycling of NMC nickel rich material: Chemistry relevant to the EV industry.
- Improved process time 10x.
- Commercial model shows cathode production \ll \$10/kg, ton/day.
- Applicable to most lithium-ion chemistries: LCO, NMC111,523,622, LMO Spinel.

Results Highlight Notes:

- Harvested from 2Ah cells with 80% of original capacity.
- Untreated, harvested material has low capacity: i.e. 60mAh/g
- Processed using scalable methods developed in Phase 1.
- Recycled Capacity and Rate is greater than or equal to standard 622.
- Half-cell retains capacity at C/2 testing.
- NMC//Li, button cell, 15mg pellet, 30°C

OnTo Technology LLC

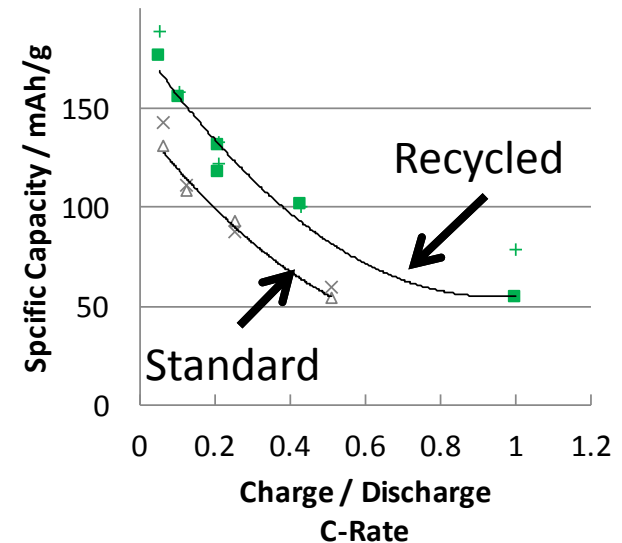
Defense Logistics Agency SBIR P1 & Option

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R-622 & Standard: Rate Comparison



R 622 : Capacity vs. Cycle number

