




ACT-ion

ACT-ion (Advanced Cathode Technology for Li-ion) develops affordable, fast-charging, and prolonged cycle-life cathode active materials for Lithium batteries.

The LIB market is experiencing significant growth year on year, and this growth is predicted to continue.

The cathode material is the highest-cost component of a battery, currently estimated at ~50% of the cost of battery fabrication. The research being undertaken is looking at synergizing single crystalline particles and protective/conductive coatings. Coated single crystalline cathode particle has proven to be more resistant to degradation, oxidization, and fractures making it more durable as well as more conductive.

ACT-ion's continuous single crystalline cathode material manufacturing technology is chemistry-agnostic and can be produced within a continuous process at 10 times higher production rates with lower costs and lower emissions. In addition, the process can drop into existing battery cell production lines.

Advantages of ACTion	What does that mean?	ACTion's Technology
 High cycle life	Longer battery life	Advanced coating solutions (<i>Exhibit A</i>)
 High-rate capability	Faster charging (<12 minutes)	Single-crystalline particle synthesis (<i>Exhibit B</i>)
 Efficient manufacturing	Cheaper battery	One-step continuous synthesis and economic coating

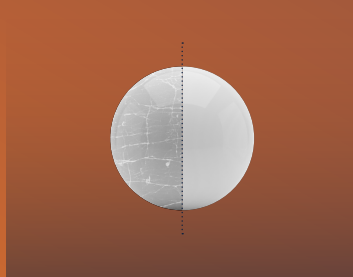


Exhibit A Conventional cathode particle (left) and coated cathode particle (right)



Exhibit B Commercialized polycrystalline cathode particle (top) and single crystalline cathode particle (bottom)

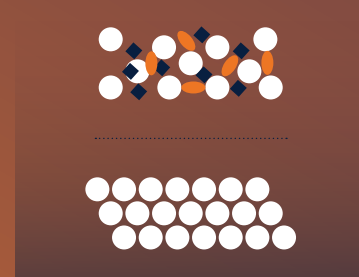


Exhibit C Conventional cathode electrode (top) and high loading conductive electrode (bottom)