

Quasi-Solid State Electrolyte-Based Lithium Sulfur Batteries

Nanotek Instruments, Inc., established in 1997, specializes in using cutting edge nanotechnology for consumer applications.

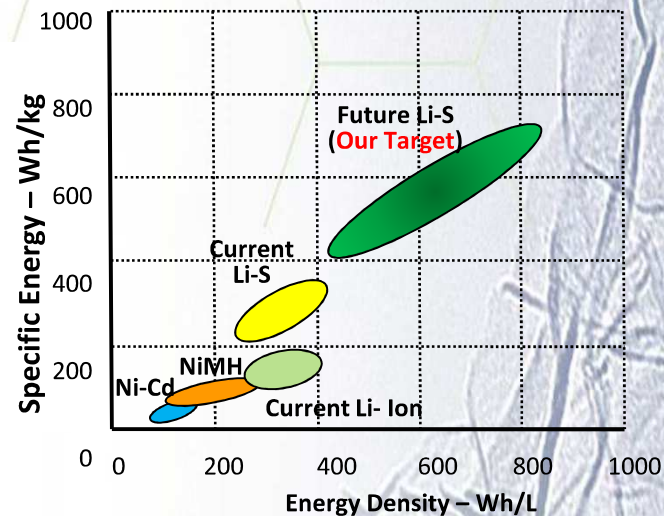
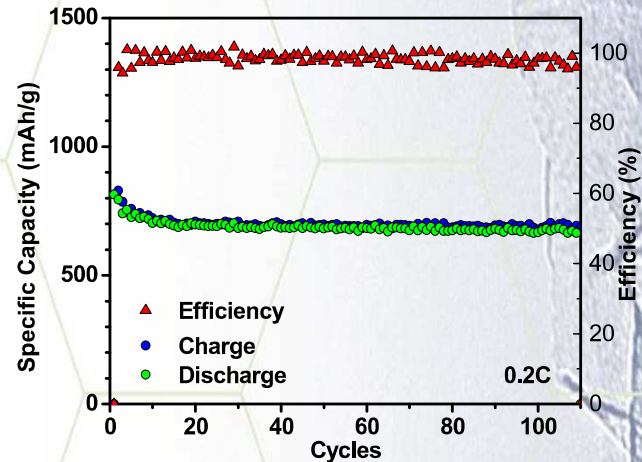
The core business revolves around energy storage devices such as supercapacitors, fuel cells, and next generation batteries.

Nanotek Instruments holds the very first patent on the production of the “wonder material” graphene. Together with our subsidiary, Angstrom Materials, we use this expertise to incorporate graphene into energy applications where we can fully utilize its amazing properties.

By utilizing our unique and cutting-edge fabrication technology, sulfur can be coated in a three-dimensional manner on graphene sheets. When used in Li-sulfur batteries, this cathode yields a **stable, safe, high capacity** cell ideal for electric vehicle applications.

- High SSA graphene enables high loading of sulfur
- Sufficient inter-layer space to accommodate sulfur volumetric expansion
- Fast Li-ion and electron transport
- Non-flammable quasi-solid electrolyte capable of **enhancing safety, robustness, and cycle life.**

Cycle Performance



Proposed EV Battery Targets:

Metric	State of the Art	Nanotek's Technology
OEM Cost to Manufacture	\$400-\$800/kWh	< \$100/kWh
Effective Specific Energy at C/3 Rate	100-150 Wh/kg	> 400 Wh/kg; > 500 Wh/kg (2017)
Effective Specific Energy at C/3 Rate	200-300 Wh/L	> 750 Wh/L (2017)
Safety Concerns	Flammable	Non-Flammable

