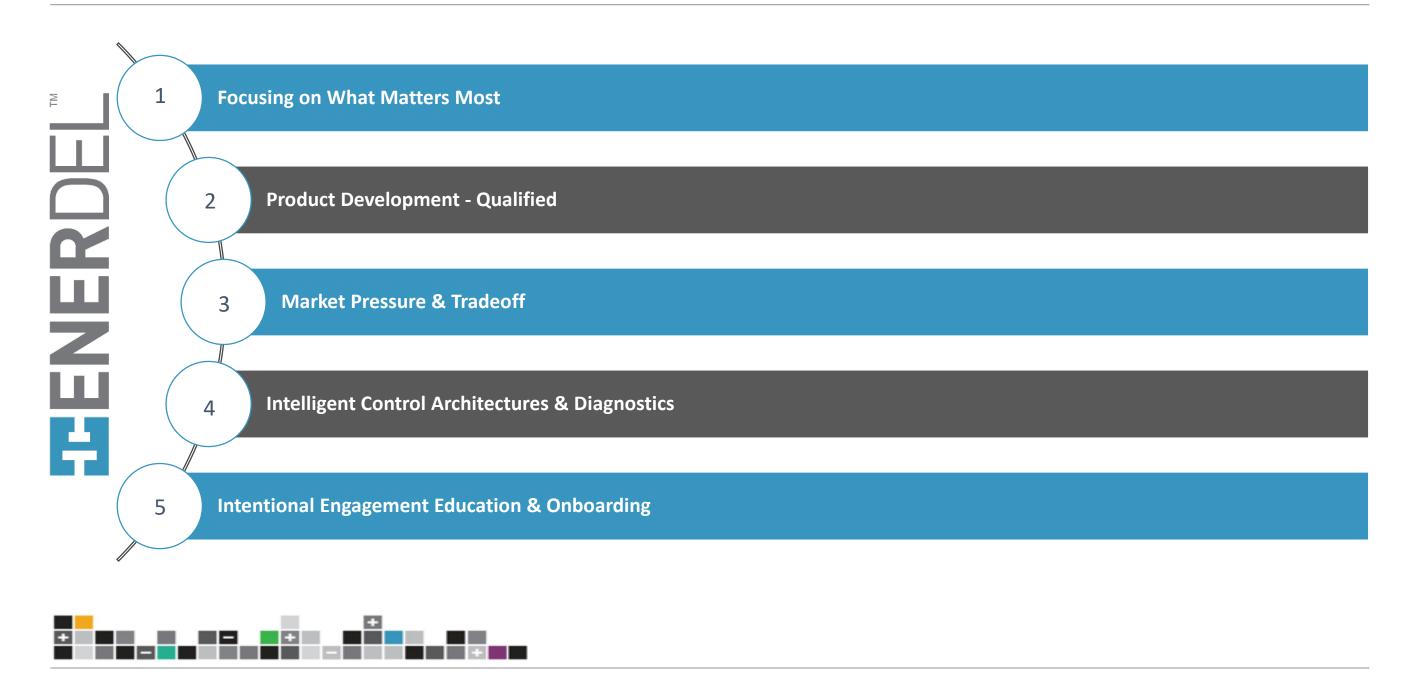


IERIERDEL

Improving the Safety of Lithium-Ion Battery Systems

February 2020 - NAATBatt Annual Conference

Safety – Commitment - Investment - Time



Commitment to Safety – Focused on What Matters Most







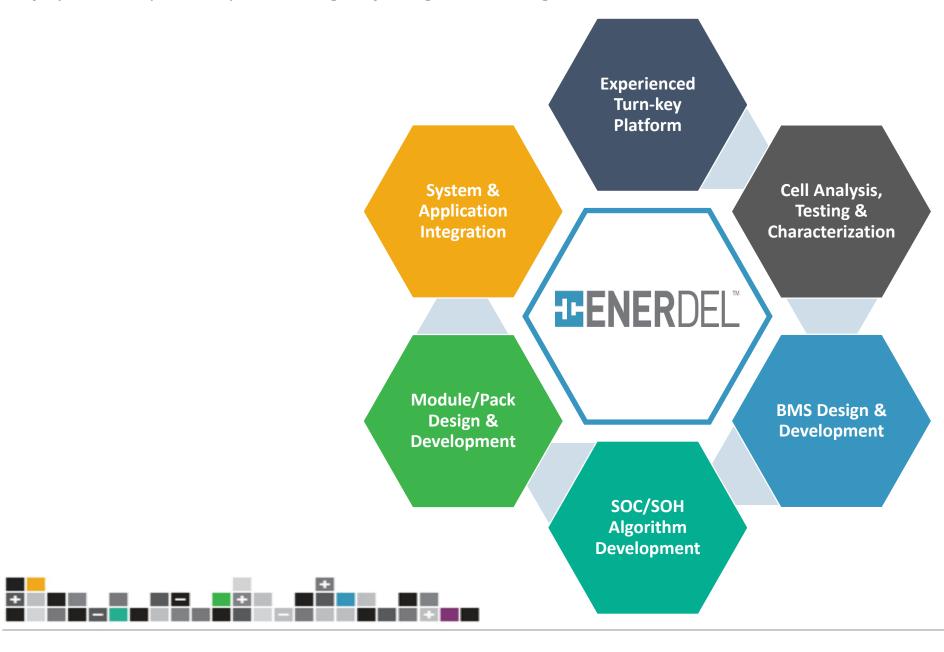
- Qualified Sources
- •Relevant Experience
- Demonstrated Capability
- •Know Your Customer and Commit to Educating/Training





Applying a Holistic Approach to Safety

Safety is our responsibility – advantages of being vertical integrated

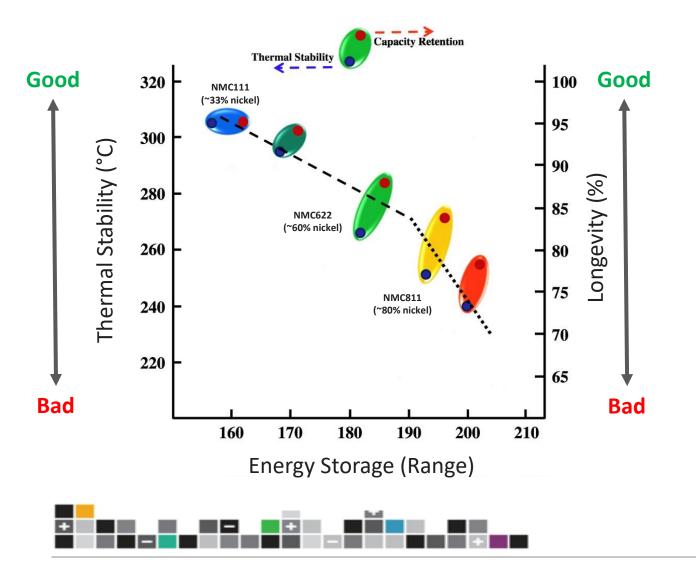


Significant growth of the U.S. Energy Storage Market

Market Demand Increasing and Driving technological Advancement

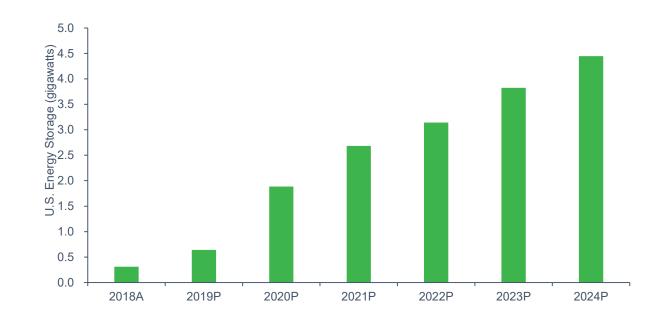
li-ion Technology Advancement Tradeoffs⁽¹⁾

Understanding the tradeoffs



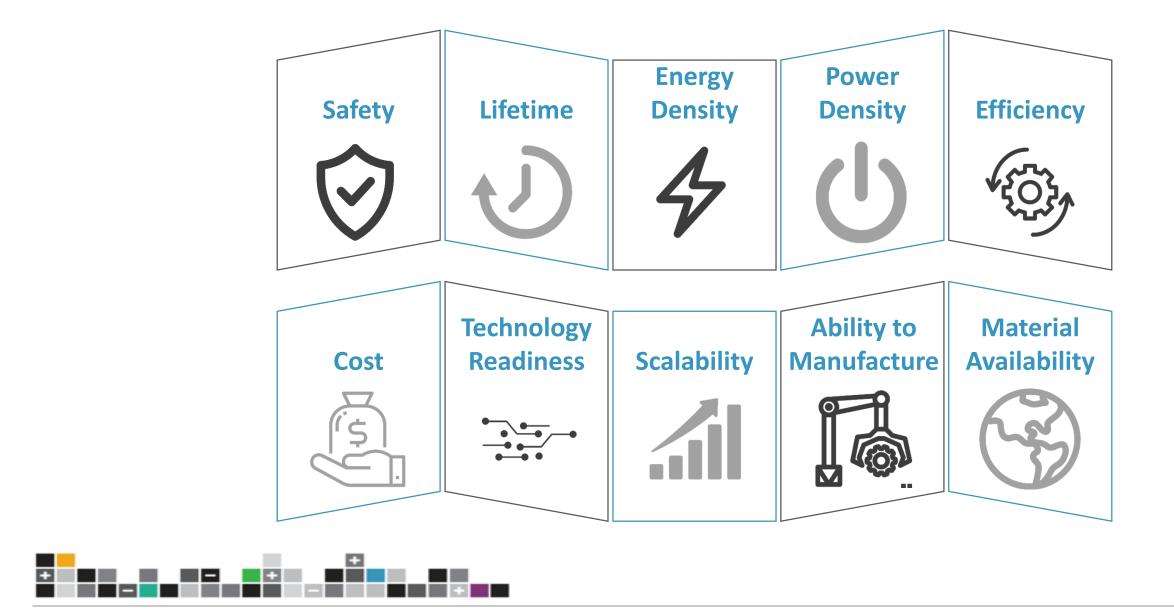
U.S. Energy Storage Market Demand⁽²⁾

Manage Market Growth with Technology Readiness



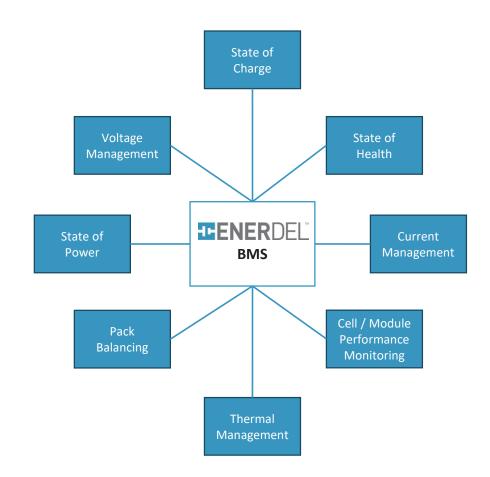


^{(1) 1} Reprinted (adapted) from Journal of Power Sources, 233, Noh H., Youn, S., Yoon C. and Sun, Y. Comparison of the structural and electrochemical properties of layered Li[NixCoyMnz]O2 (x=1/3,0.5,0.6,0.7,0.8 and 0.85) cathode material for lithium-ion batteries. p.121-130, 2013, with permission from Elsevier.



EnerDel BMS

- Customizable
- > Configurable
- Chemistry agnostic
- Manages system
- ➤ Monitors pack performance
- Communicates with fleet management
- > Data and performance calculators
- > System optimization
- > Safety and protection protocols
- > Redundant fail safes



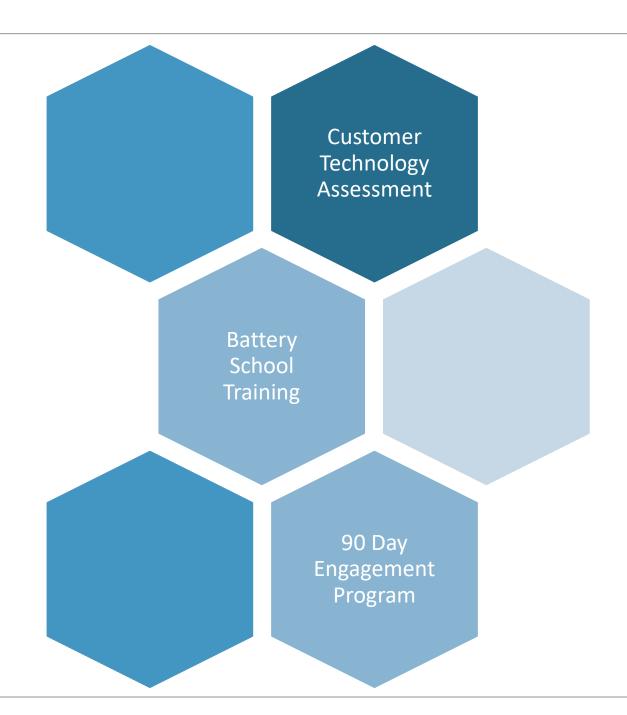
EnerDel's BMS ensures safe, reliable performance for any ESS regardless of cell chemistry



Customer Engagement & Onboarding

Customer Sustainability Model

- Requires Commitment
- Requires Investment
- Requires Time





www.EnerDel.com

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