



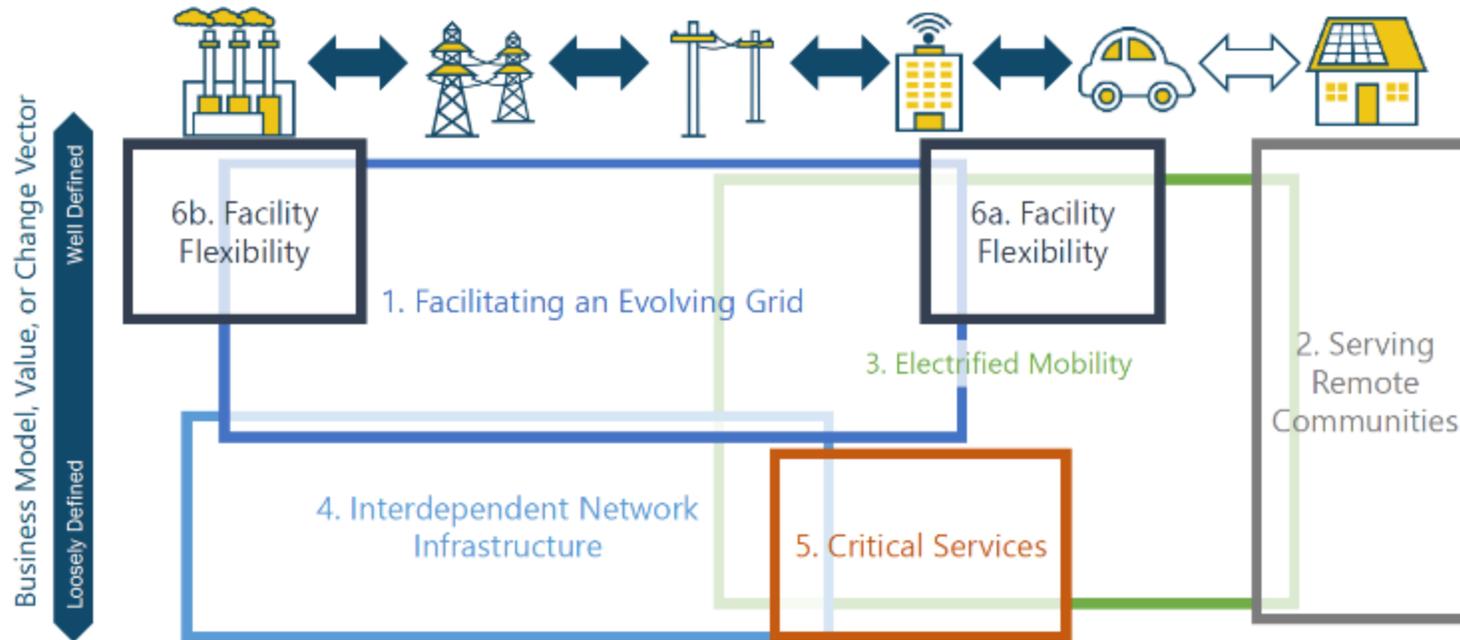
4TH ANNUAL
ENERGY STORAGE GRAND CHALLENGE
SUMMIT

**Technology
Development
Track**

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- **TRACK FOCUS/OBJECTIVES** — develops strategies for DOE’s ongoing and future energy storage R&D around user-centric goals and long-term leadership. It also coordinates execution of storage R&D activities and outreach to the innovation community.



Technology development is driven by use cases

Technologies should be tested for the relevant use cases as early as possible to ensure no surprises in the field



Credit: Iron Man, Marvel Studios

Opportunities to Target Methods Bridge Valleys of Death

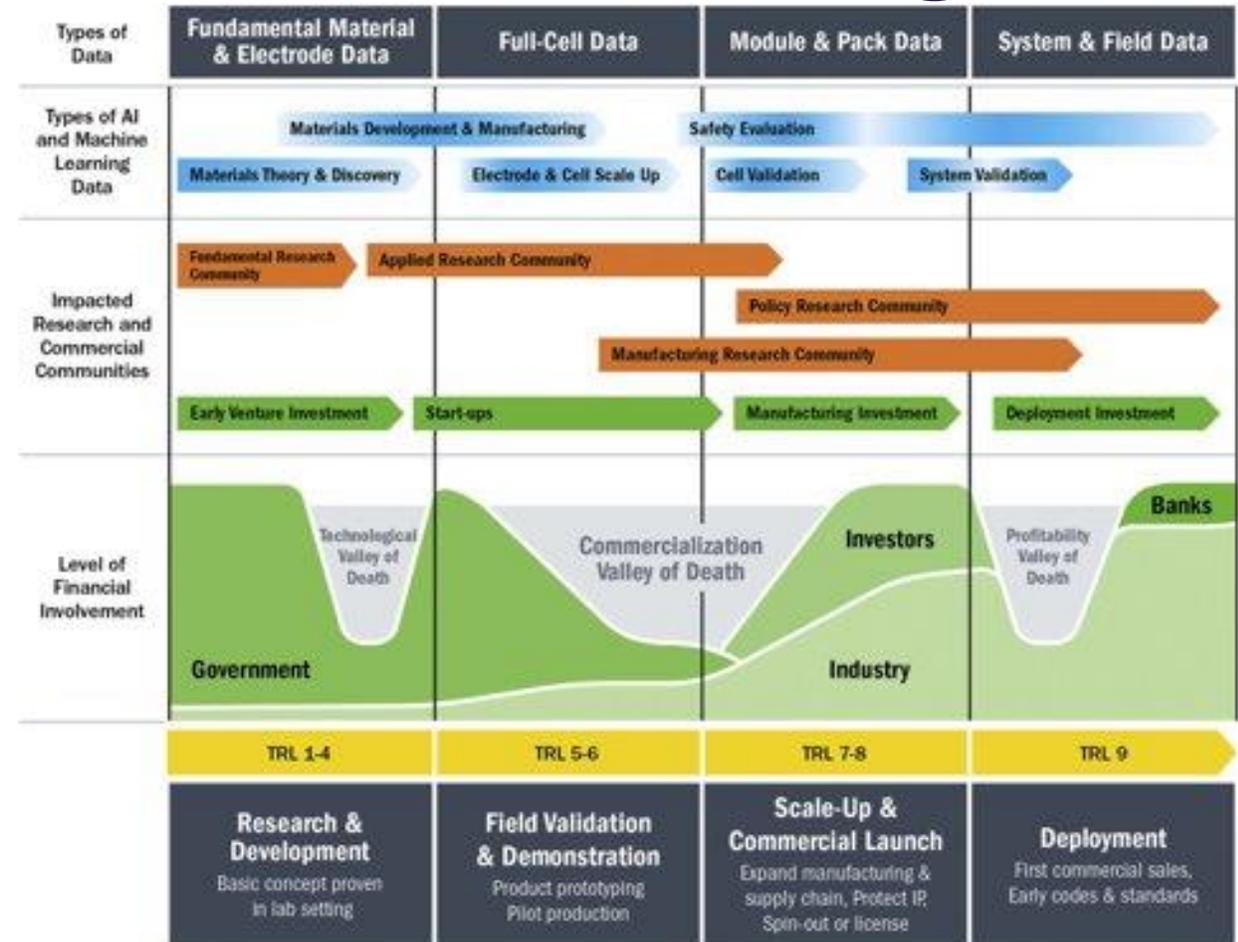
Current manuals don't always cross TRL levels

- Miss opportunities for early evaluation and targeting of new developments
- Make cross technology comparison difficult
- Are battery centric

Proposed Path

Develop sets of test, evaluation and analyses recommendations across:

- TRLs
- Identify what is important
- When (TRL) it is important
- Provide test and evaluation procedures
- Methodologies and reporting
- Frameworks for more difficult to perform tests



Concerted Effort to Define Common Metrics

- Need for common key performance, cost & safety metrics
- Stakeholder benefits
 - Researchers – common methods and available test protocols/data acquisition methods, ability to pivot based on system kinetic and thermodynamic attributes
 - Development companies – quick comparison of advances, verified methods, ability to target most impactful advances
 - Investment – ability to rapidly compare investments
 - Utilities and Deployment – Information on performance, system balance and overall costs, obtain data that aligns with their needs
- Need engagement across the community
 - Low TRL to deployment
 - Academia – National Laboratories – Industry – Other Stakeholders
- Available to receive input after the session

THANK YOU