



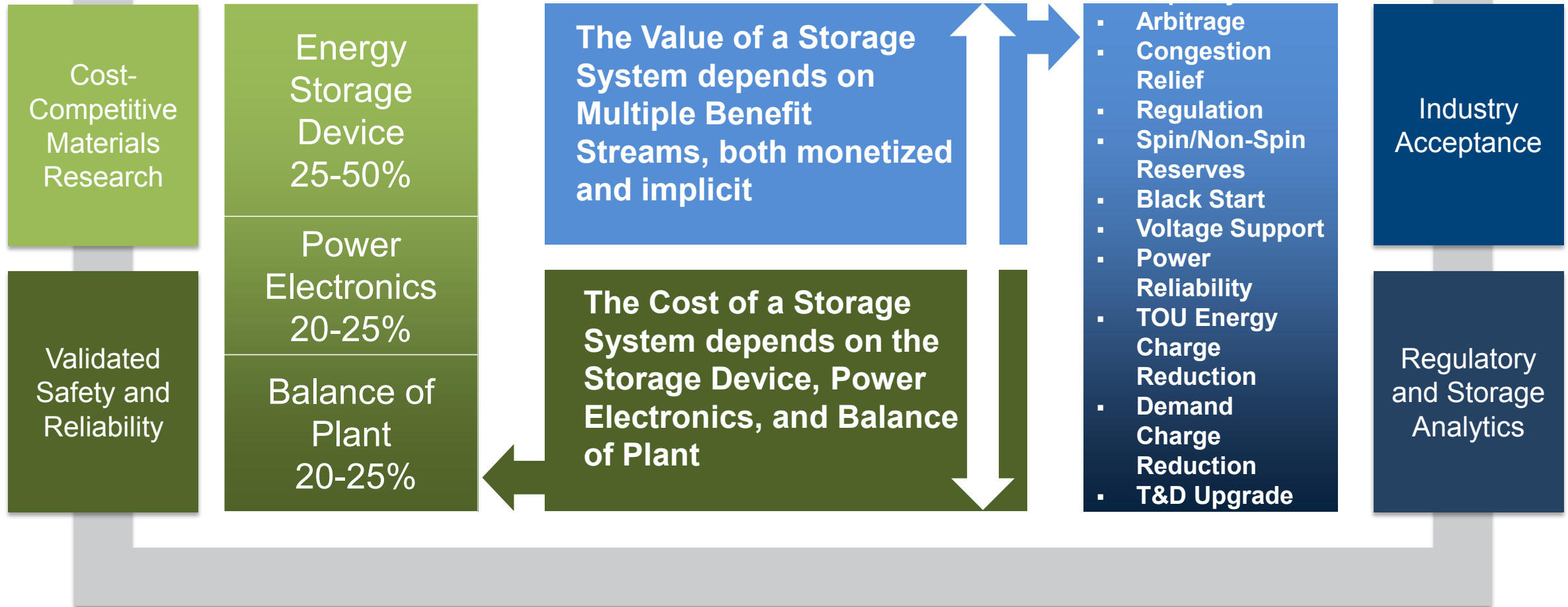
Energy Storage Grand Challenge at the Office of Electricity

Eric Hsieh

4 February 2020

Technology, Economics, and Policy to Accelerate Storage

OE Energy Storage Program Focus Areas

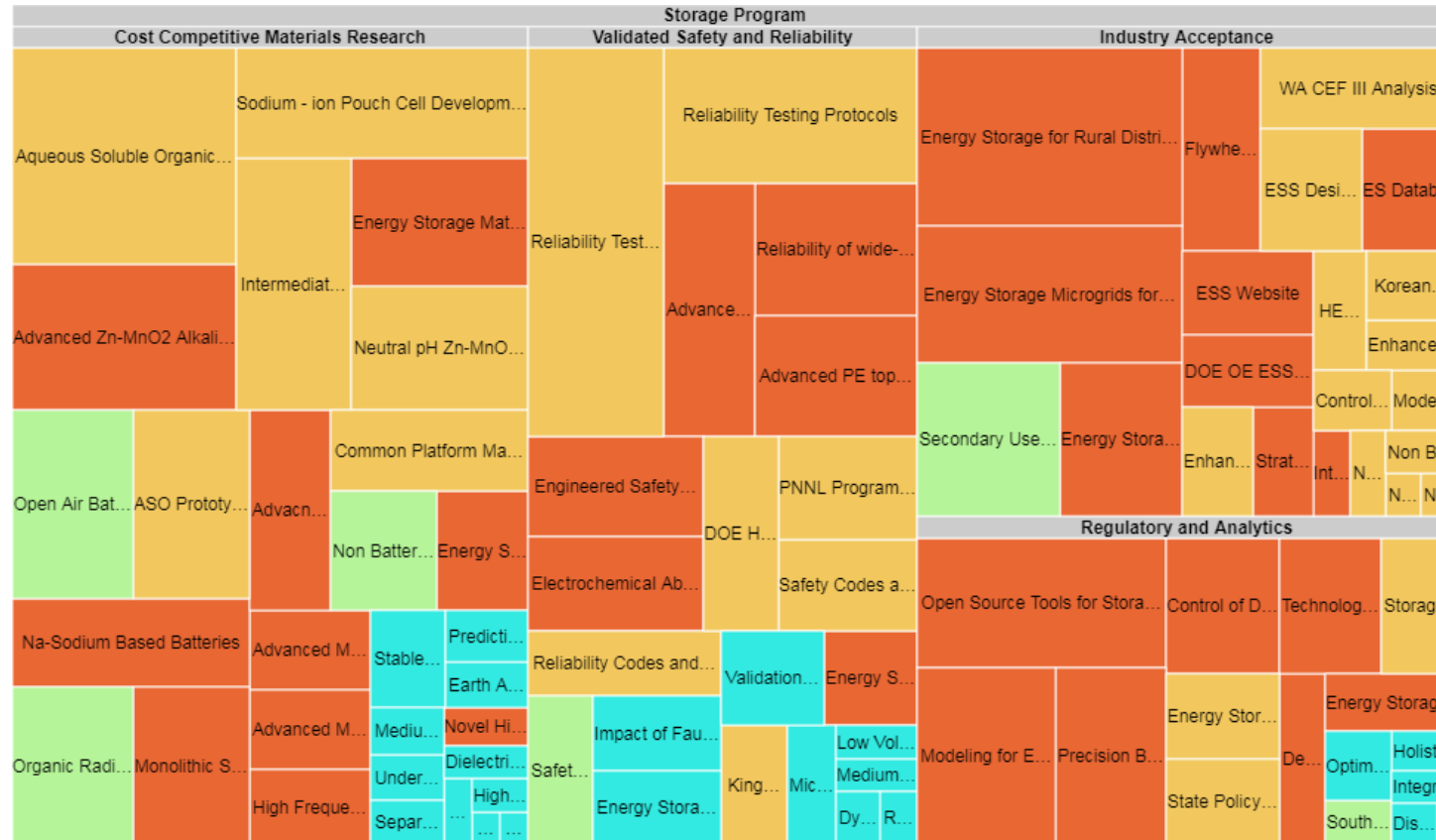


OE Storage Program Overview and Projects

OE Energy Storage Program Focus Areas

Cost-Competitive Materials Research

Validated Safety and Reliability

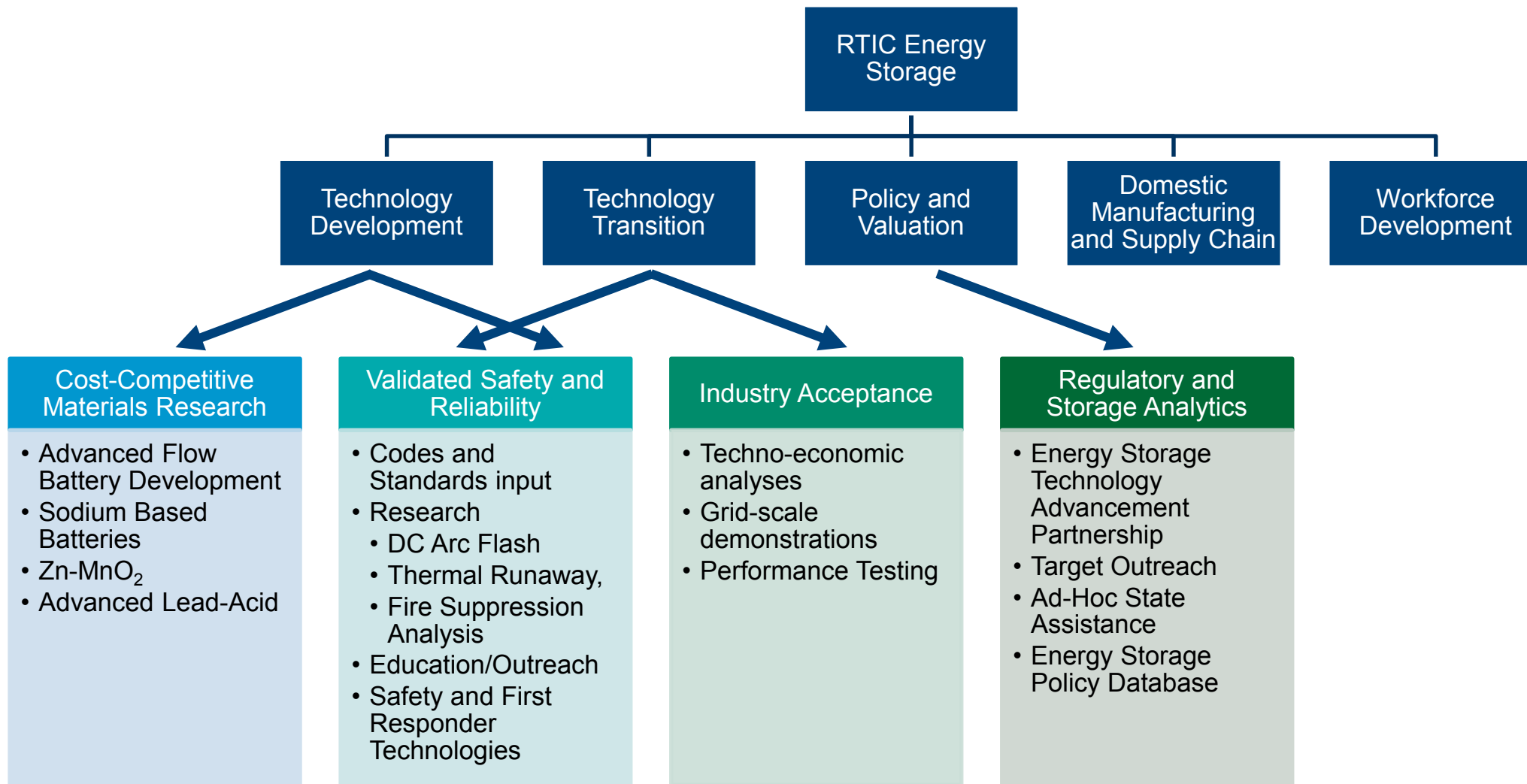


Industry Acceptance

Regulatory and Storage Analytics

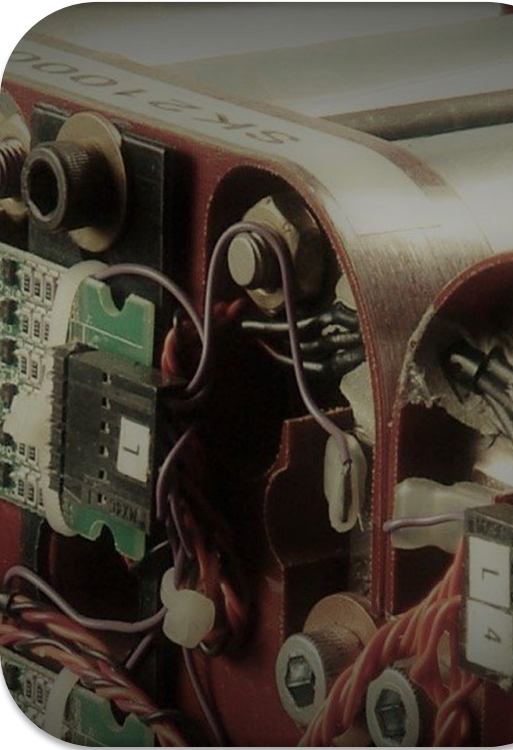
SNL PNNL ORNL University

Energy Storage Grand Challenge Focus Areas



ESGC Technology Development and OE Storage

“Guidepost” Use Cases

- 
- Disaster Resilience and Recovery
 - Dependent Network Infrastructure
 - Facilitating An Evolving Grid
 - Remote Communities
 - Electrified Transportation
 - Facility Flexibility, Efficiency and Value Enhancement

Tech Neutral Requirements

Performance

- Duration
- Cycles per Year
- Ramp Rate
- Response Time
- Lifetime

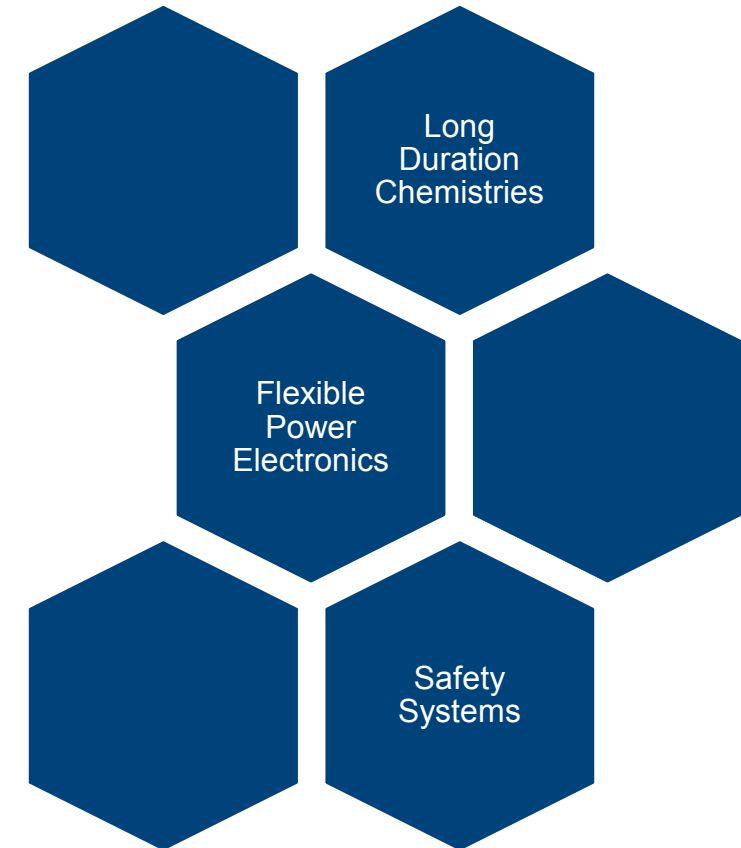
Operations

- Temperature
- Moisture
- Saline
- Emissions Runtime
- Noise Limits
- Flammability Risk

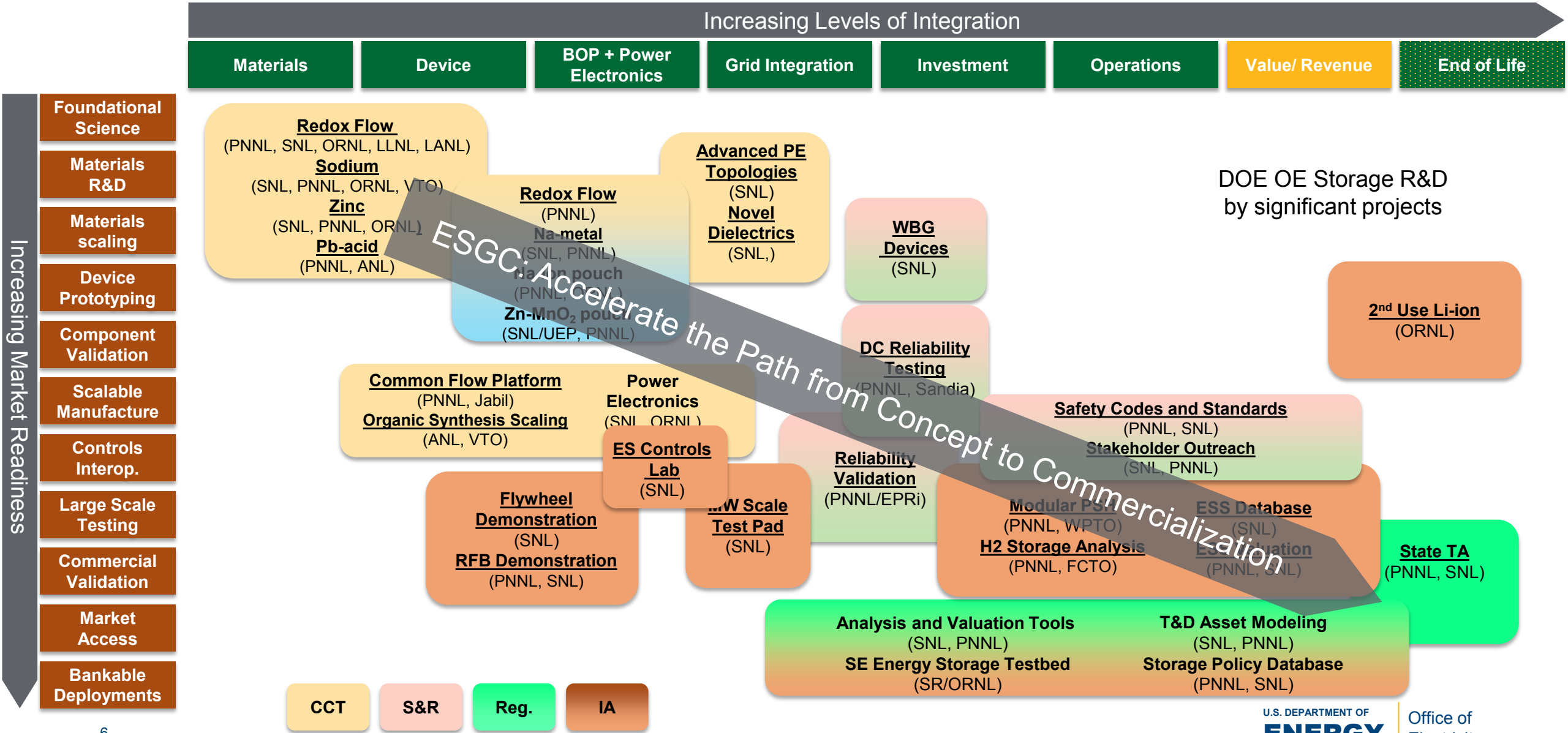
Delivery, Installation, Connection

- Shipping weight limits
- Construction season
- Interconnection voltage

OE Technology Pathways



OE Storage Ecosystem



Participate!

ESGC Workshops

- March 2020
- <https://www.energy.gov/energy-storage-grand-challenge/energy-storage-grand-challenge>

OE Events

- March 4-5, 2020 Safety and Reliability Forum
- September - Annual Peer Review
- https://www.sandia.gov/ess-ssl/eventsnews/events_calendar/

Workshops and Webinars

- <https://www.sandia.gov/ess-ssl/webinars/>

Open Solicitations

- FY2020 SBIR: Safety Technologies for Grid Scale Battery Energy Storage Systems