



ESGC Summit

Bellevue, WA

8/7/2024

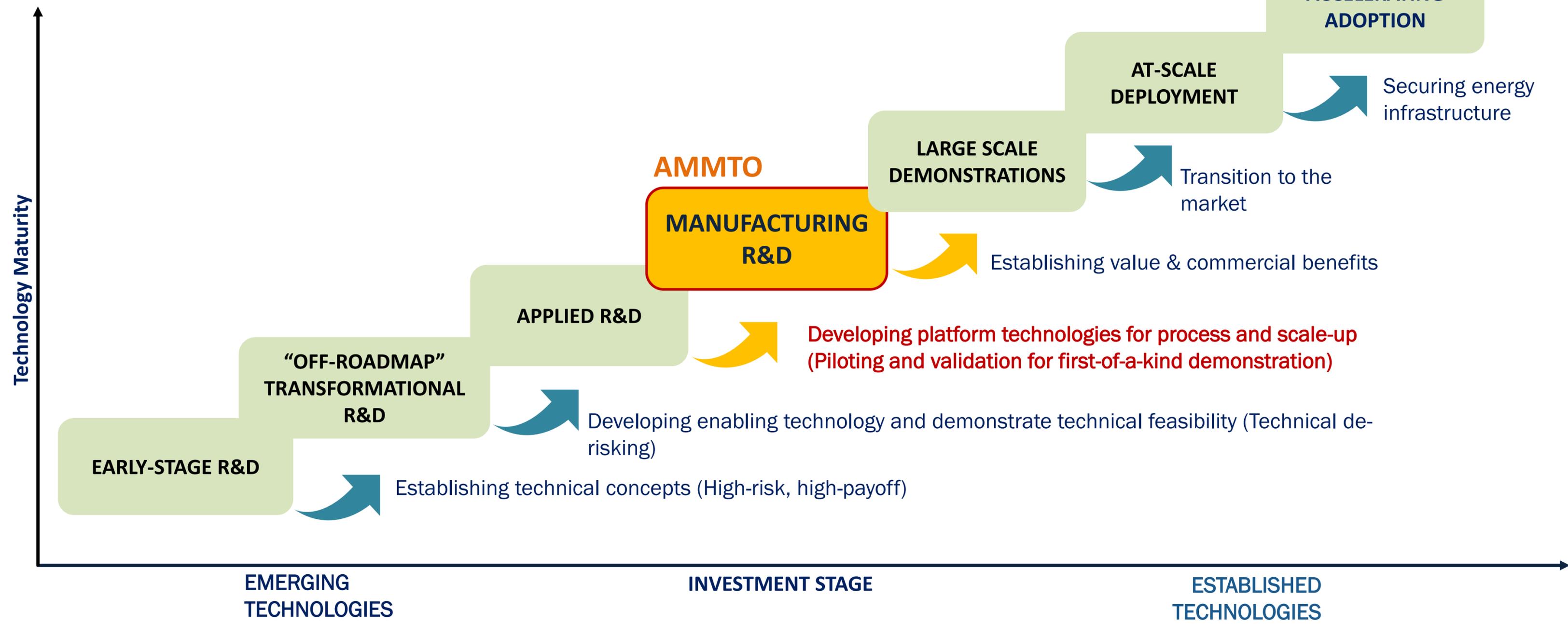
Progress and the Path Ahead: Storage Shots and Other Goals

Advanced Materials and
Manufacturing Technologies
Office (AMMTO)

Changwon Suh

AMMTO Position in DOE's Energy Storage RDD&D Landscape

AMMTO fits within DOE's RDD&D landscape.



AMMTO's Focus: Energy Storage Manufacturing

We help collaborators innovate in parallel to accelerate the development and adoption of transformative manufacturing technologies for energy storage.

We continue to identify manufacturing platform technologies,* enabling improved performance, manufacturability, and scalability of energy storage.

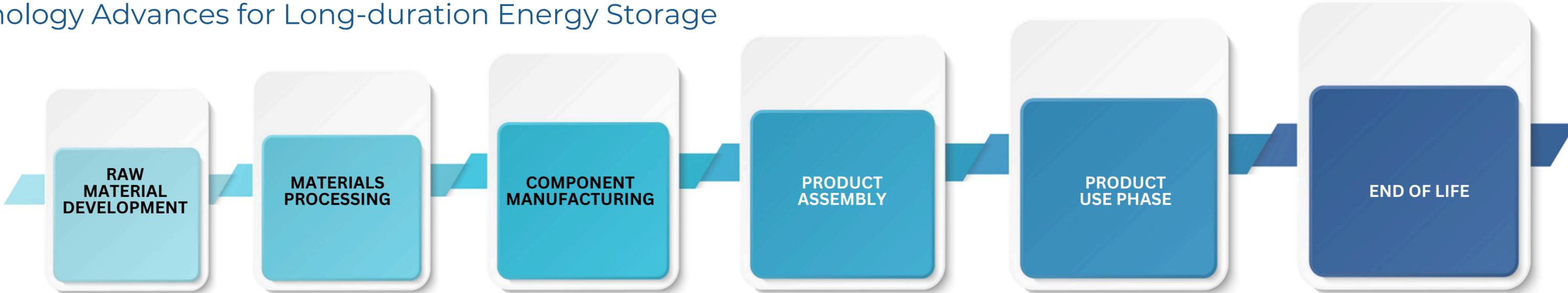
We support strengthening of the domestic manufacturing workforce to support battery manufacturing.

** Manufacturing platform technologies are techniques, tools, and equipment, that can be leveraged across a spectrum of manufacturing applications.*

Example: Collaboration for Flow Battery Technology

Key Collaborative Actions Towards Flow Battery

Technology Advances for Long-duration Energy Storage



AMMTO

Novel cell/reactor architecture & configuration for high power- and energy-dense batteries

Development and scale-up of cell and component manufacturing methods

Manufacturing quality control, automation, and technical standards

Streamlined and secure domestic supply chains

Joint

Development of revolutionary materials processing

Predictable and robust components and systems design

OE

Materials discovery
New chemistries

Grid and system integration

Grid use cases
Testing protocols
Operations
Large-scale deployment

AMMTO's Recent Announcements

Advanced Materials & Manufacturing Technologies Office

\$33 Million in Funding Available To Advance Smart Manufacturing Technologies To Help Accelerate a Clean Energy Economy

JULY 18, 2024

FY 2024 Data, Analysis, and Modeling Tools Lab Call

Advanced Materials & Manufacturing Technologies Office

DOE Announces Funding Opportunity to Advance Domestic Manufacturing of Next Generation Batteries

JANUARY 29, 2024

Advanced Materials & Manufacturing Technologies Office

DOE Announces Funding Opportunity for Critical Materials Accelerator Projects to Advance Critical Materials Supply Chains Solutions

NOVEMBER 27, 2023

Office of Energy Efficiency & Renewable Energy

DOE Launches Critical Materials Collaborative to Harness and Unify Critical Materials Research Across America's Innovation Ecosystem

Advanced Materials & Manufacturing Technologies Office

Department of Energy Announces \$2 Million to Enhance Domestic Advancements in Lithium-Ion Battery Recycling and Remanufacturing

Advanced Materials & Manufacturing Technologies Office

Department of Energy Announces \$16 Million to Boost Domestic Capabilities in Solid-State and Flow Battery Manufacturing

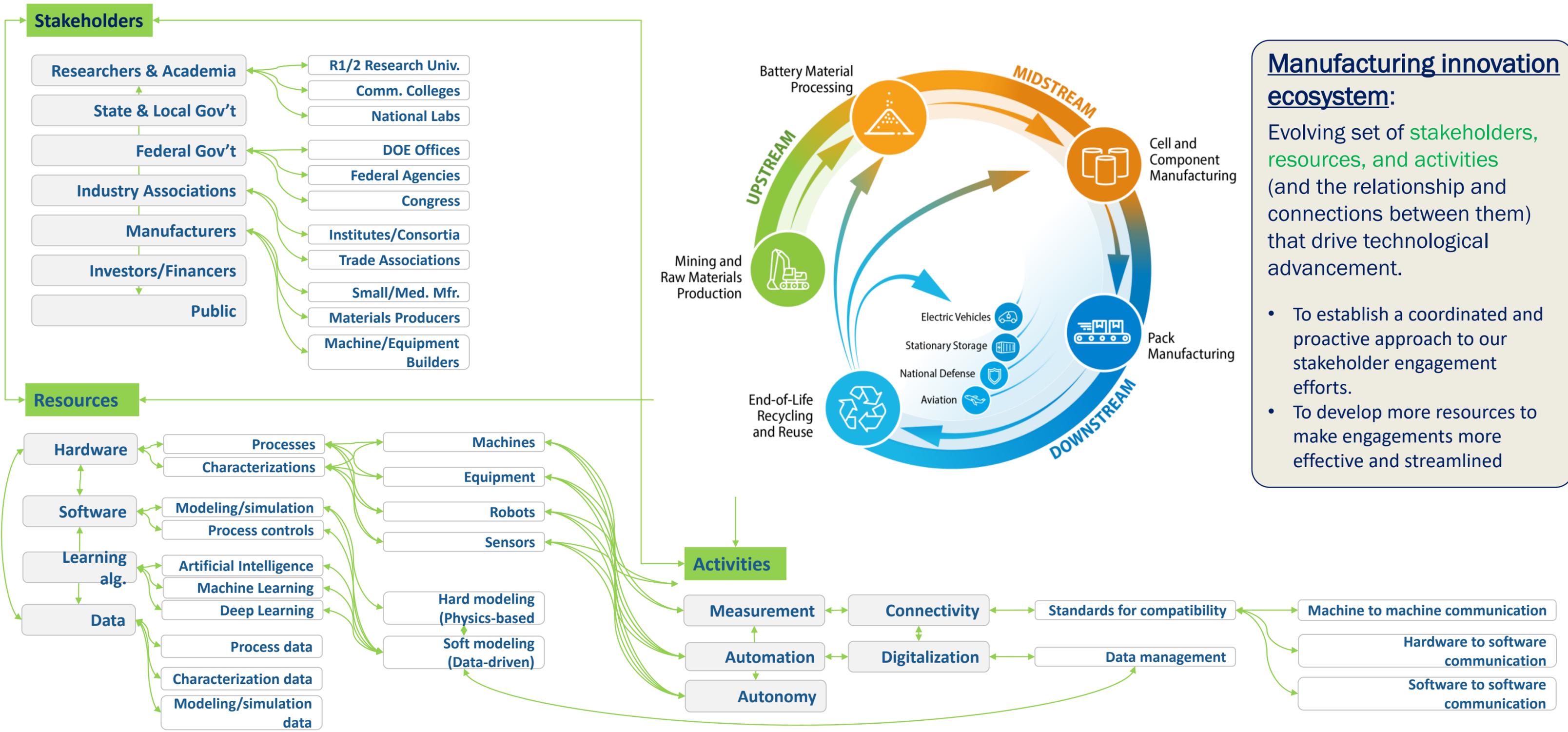
Office of Energy Efficiency & Renewable Energy

U.S. Department of Energy Invests \$61 Million to Fund 31 Applied Research, Development and Demonstration Projects to Advance Clean Manufacturing

SEPTEMBER 7, 2023

For more information, visit AMMTO website:
<https://www.energy.gov/eere/ammto/advanced-materials-manufacturing-technologies-office>

Impact of AMMTO: Building the Manufacturing Innovation Ecosystem for Energy Storage



Manufacturing innovation ecosystem:
 Evolving set of stakeholders, resources, and activities (and the relationship and connections between them) that drive technological advancement.

- To establish a coordinated and proactive approach to our stakeholder engagement efforts.
- To develop more resources to make engagements more effective and streamlined

Future State

Harnessing collaboration through manufacturing RD&D laboratories.

Accelerating scale-up of storage/conversion technologies by:

- Building confidence in the use of **manufacturing technologies**;
- Developing technical **standards** to assess the scalability and **manufacturability** of storage/conversion technologies; and
- Promoting the use of platform **manufacturing technologies** by sharing knowledge through the **innovation ecosystem**.

