



Accelerating Industrial Technology Scale-up

IPER Workshop

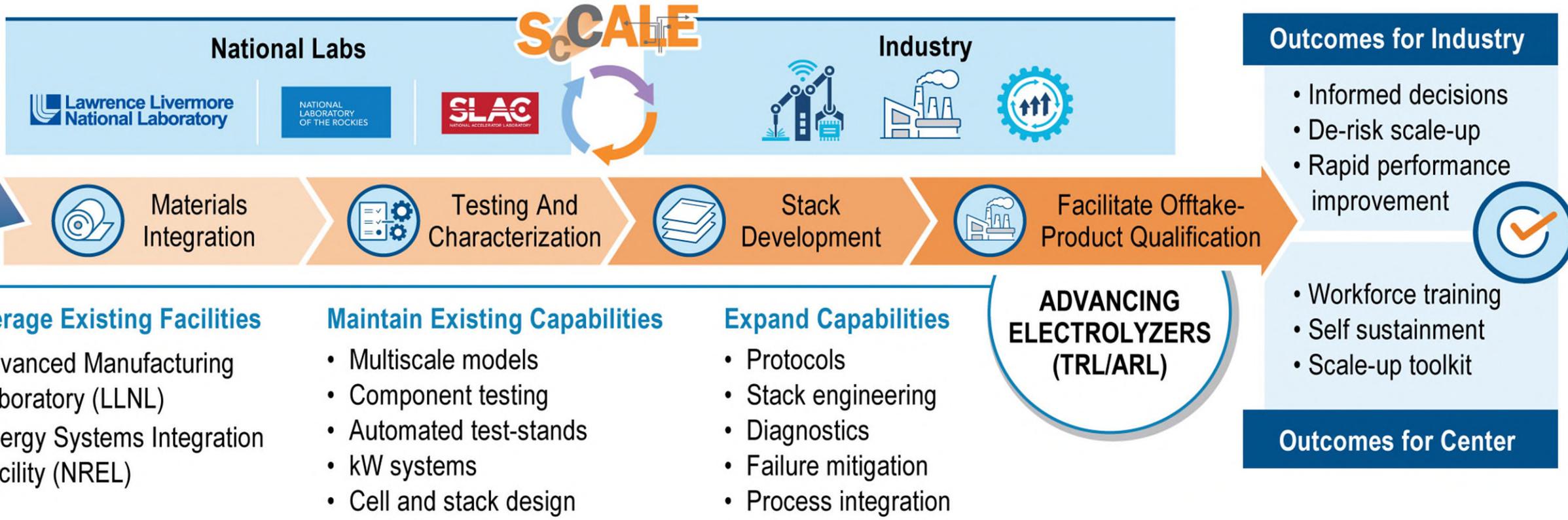
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Solutions Center for Commercial Application of Large-scale Electrochemistry (SCCALE): A DOE ITO Center of Innovation



SCCALE will provide cross-cutting scale-up capabilities and cross-sector connections to accelerate commercial deployment across the electrochemical manufacturing industry.

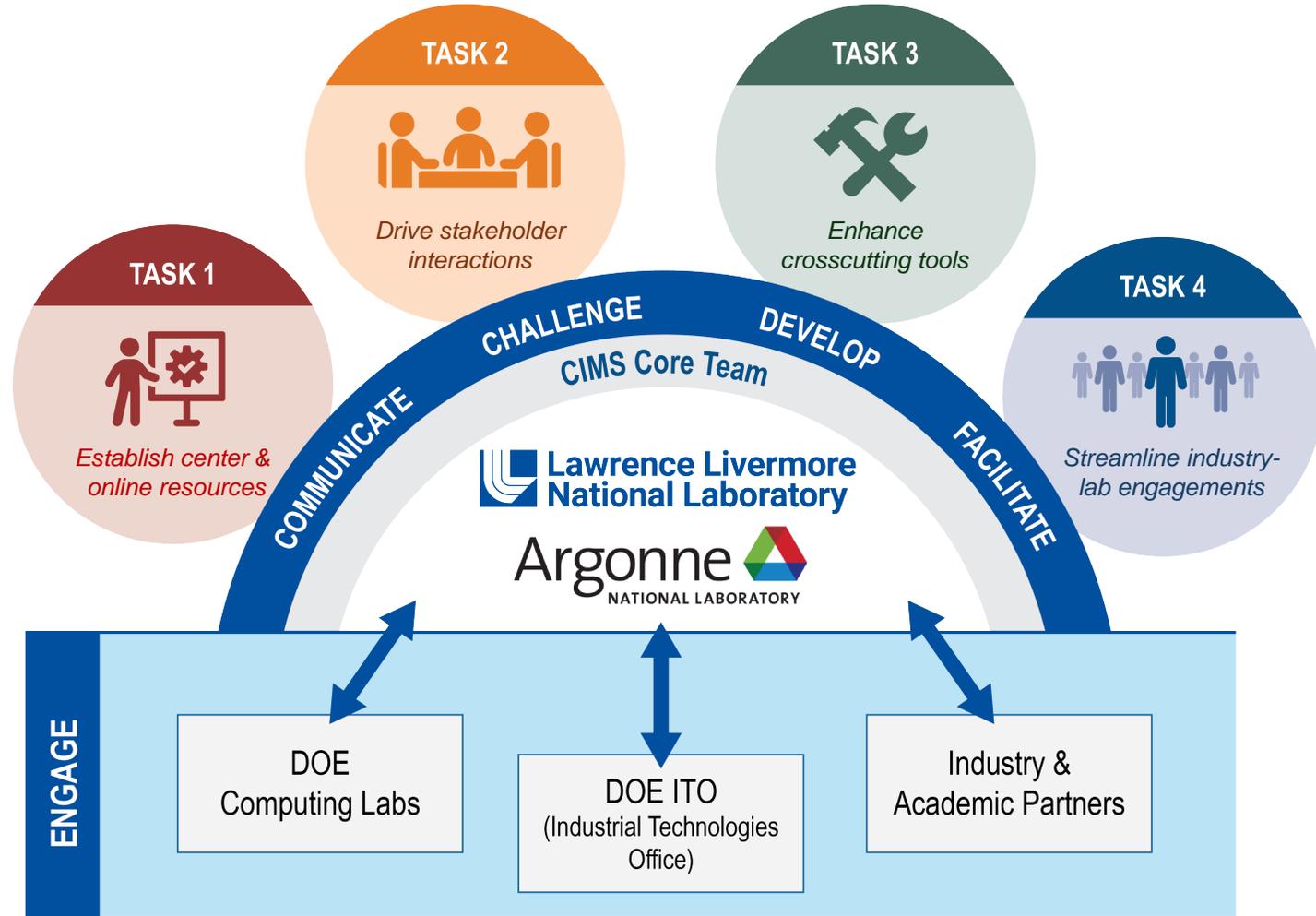


Center for Industrial Modeling and Simulation (CIMS)

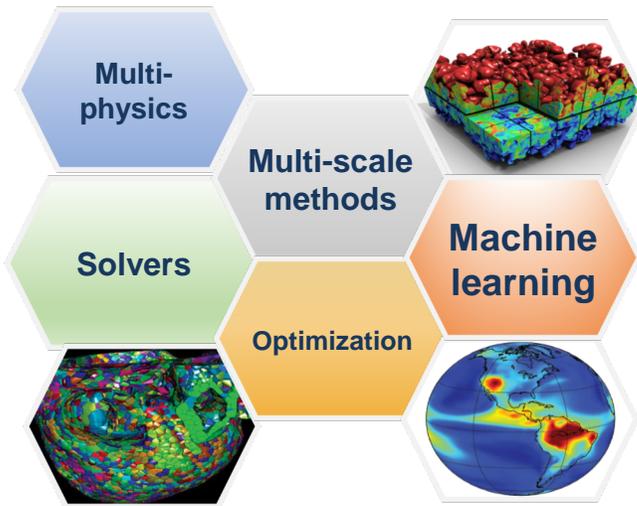
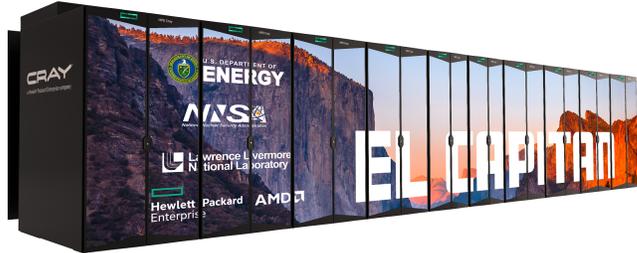
CIMS aims to **accelerate adoption** of computing tools and resources to improve industrial efficiency and competitiveness.

We will assemble consulting experts in **physics-based modeling, AI/ML, & process modeling** across each ITO technology domain to:

- Perform outreach and education
- Identify emerging challenges and solutions
- Develop adaptive computational & AI/ML capabilities
- Serve as a resource to match labs and industry



HPC4EI connects the DOE HPC ecosystem to US industry



World-class supercomputers

Unique software

Computation and AI Experts



 **NOTICE OF INTENT**
ANNOUNCEMENT DATE: October 23, 2025

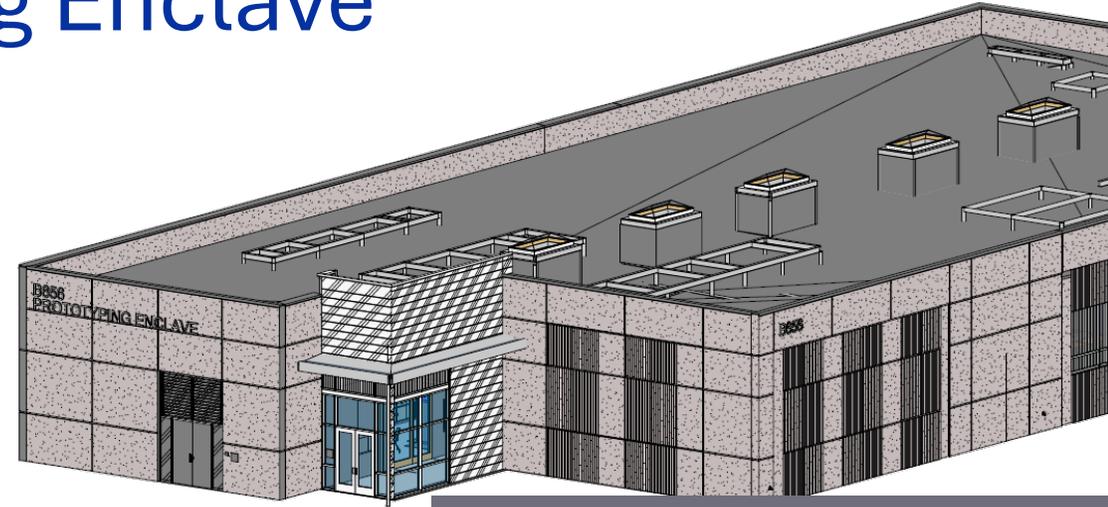
- Computational engineering and physics
- Over 200 projects funded with 100+ companies
- Projects utilize:
 - CFD
 - Materials Modeling
 - Multiscale Modeling
 - Large Scale Machine Learning
 - Parametric, Shape, and Topology Optimization
- DOE Office Support: CMEI (ITO, AMMTO), HGEO



LLNL Scale-Up and Prototyping Enclave

A new facility in the Livermore Valley Open Campus (LVOC) dedicated to industry partnership for technology scale-up

- **Innovation:** Faster deployment of strategic technology (e.g., chemical production, energy storage, active materials).
- **Partnership:** LLNL staff work side-by-side with industry staff to scale technologies.
- **Capabilities:** Ready access to design, build, test, analysis and optimization capabilities
 - **Process Engineering and Scale-Up**
 - Risk Management, Modeling/TEA, Pilots
 - **Advanced Manufacturing**
 - Automation, Ai interfacing, 3D printing/rapid prototyping
 - **Materials Formulations and Evaluation**
 - Synthesis and characterization



Scale-Up and Prototyping Enclave Facility scheduled to break ground at LLNL in 2026.

