

GMLC Testing Network

CHALLENGE

Vast testing capabilities, models, and related resources for emerging grid technologies exist across DOE National Labs and beyond. However, information on and access to these resources is not readily available to industry or even other National Labs. To accelerate grid modernization, particularly as grid complexity and interdependency increases requiring integrated testing and modeling, more effective utilization of these National Lab resources is vital.

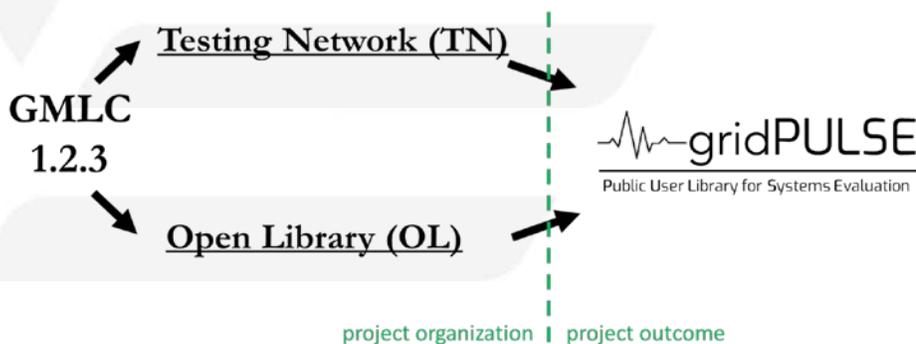


The GMLC Testing Network and Open Library project brought together information on testing facilities (several pictured) across the many DOE National Labs..

APPROACH

This project improved coordination and cooperation among institutions working on grid testing and modeling to maximize value and inform strategic investments. Key thrusts were:

- **Testing Network (TN)** as a comprehensive catalog of grid-related testing capabilities available at the national labs.
- **Open Library (OL)** as a public repository for component and system models, data sets, and testing procedures.
- **gridPULSE** – Public User Library for Systems Evaluation of grid-related devices – as a web-based tool for understanding grid-related testing and modeling capabilities. gridPULSE brings together the testing network and Open Library into one resource.



At-A-Glance

PROJECT LEADS

- **Matthew Lave**
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PARTNERS

- Electric utility sector
- Universities and research institutes
- Independent testing laboratories
- Equipment manufacturers
- Software developers

BUDGET

\$2.6 million

DURATION

April 2016 – December 2019

TECHNICAL AREA

Devices and Testing

Lead: Ben Kroposki

National Renewable Energy
Laboratory

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OUTCOMES

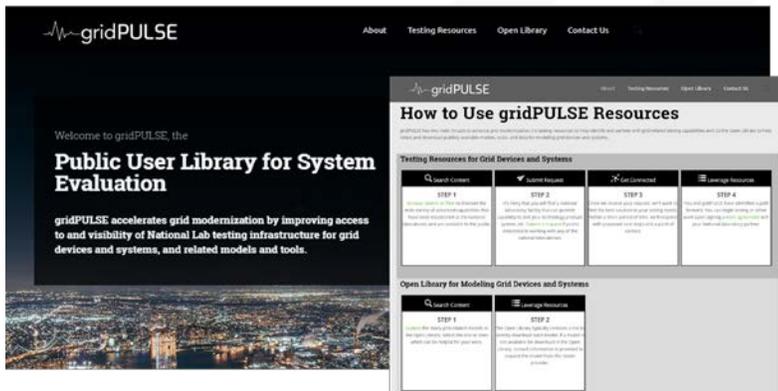
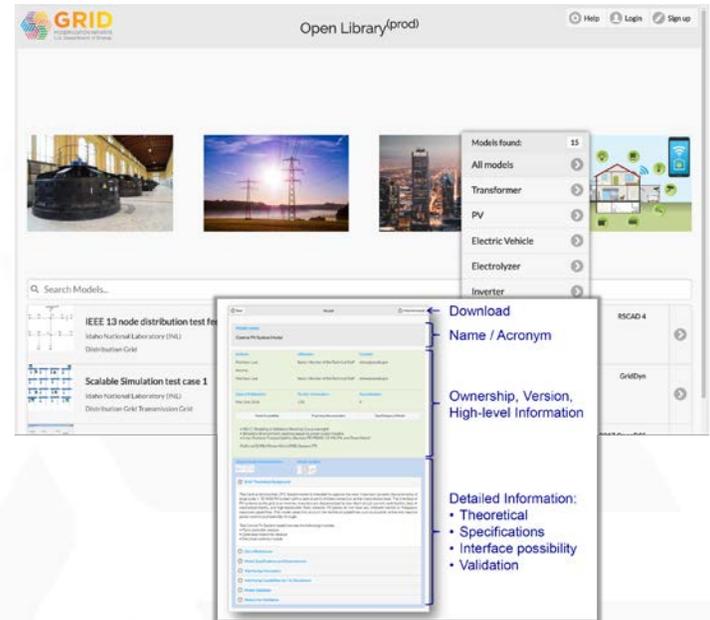
Testing Resources Catalog

- <https://doi.org/10.2172/1528814>
- 12 National Labs / 49 facilities



Open Library

- <http://openlibrary.inl.gov>
- 125 models and counting...



gridPULSE website

- <http://gridmodtools.org>, migrating to <http://openlibrary.inl.gov>
- Users can browse Testing Network and Open Library content
- Information and links to facilitate partnering with National Labs

LAB TEAM



Project lead,
Lead for TN task



Co-PI,
Lead for OL task



Support TN and OL: outreach; sustainability;
collect models, tools, and testing resources

Launched in November 2014 under the U.S. Department of Energy's Grid Modernization Initiative, the GMLC is a strategic partnership between DOE Headquarters and the national laboratories, bringing together leading experts and resources to collaborate on national grid modernization goals. The GMLC's work is focused in **six technical areas** viewed as essential to modernization efforts:

Devices and Testing | Sensing and Measurements | Systems Operations and Control
Design and Planning | Security and Resilience | Institutional Support