



micro grid testing laboratory of TECNALIA

CONTACT

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Services: Testing and Training

Testing services

DERlab offers testing, validation and certification services on **Distributed Energy Resources** (e. g. PV, Wind or Storage). Individual components, such as **DER converters**, as well as **complete systems** can be tested according to international and national standards or certification procedures. Furthermore, their **compliance with the interconnection requirements** can be tested using the most suitable testing facilities. Performance tests on **PV modules and systems** can be carried out under different climatic conditions world-wide. Additionally, DERlab laboratories offer test facilities for the full range of tests for **electrical protection devices**.

Training courses: "DER in contemporary and future world"

DERlab courses are designed for technical and research staff, both from industry and academic institutions, willing to improve their knowledge of Distributed Generation.

Consulting services

With its wide range of international members DERlab has a broadly based technology portfolio and knowledge of local and global regulations.

Database of DER Interconnection Specifications

National and international grid codes and interconnection specifications can be searched by country, energy source, segment and technical keywords.

Active in Pre-Standardisation

DERlab and its members support the work of several standardisation committees at national level and international level

- IEC-TC 8 / CENELEC-TC 8X
"System aspects of electrical energy supply"
- IEC-TC 82 / CENELEC-TC 82
"Solar photovoltaic energy systems"
- IEC-TC 57
"Power systems management and associated information exchange"
- CENELEC-TC 210
"Electromagnetic Compatibility (EMC)"
- IEC-SC 77A
"Electromagnetic Compatibility: Low frequency Phenomena"



European Association of Independent Laboratories working on the Integration of Distributed Energy Resources

Our Vision:

To be the reference-lab in Europe for sustainable integration of distributed energy resources into power systems.

Our Mission:

Perform tests, pre-competitive and pre-normative research, as well as training activities, supporting the transition towards more decentralised power generation.



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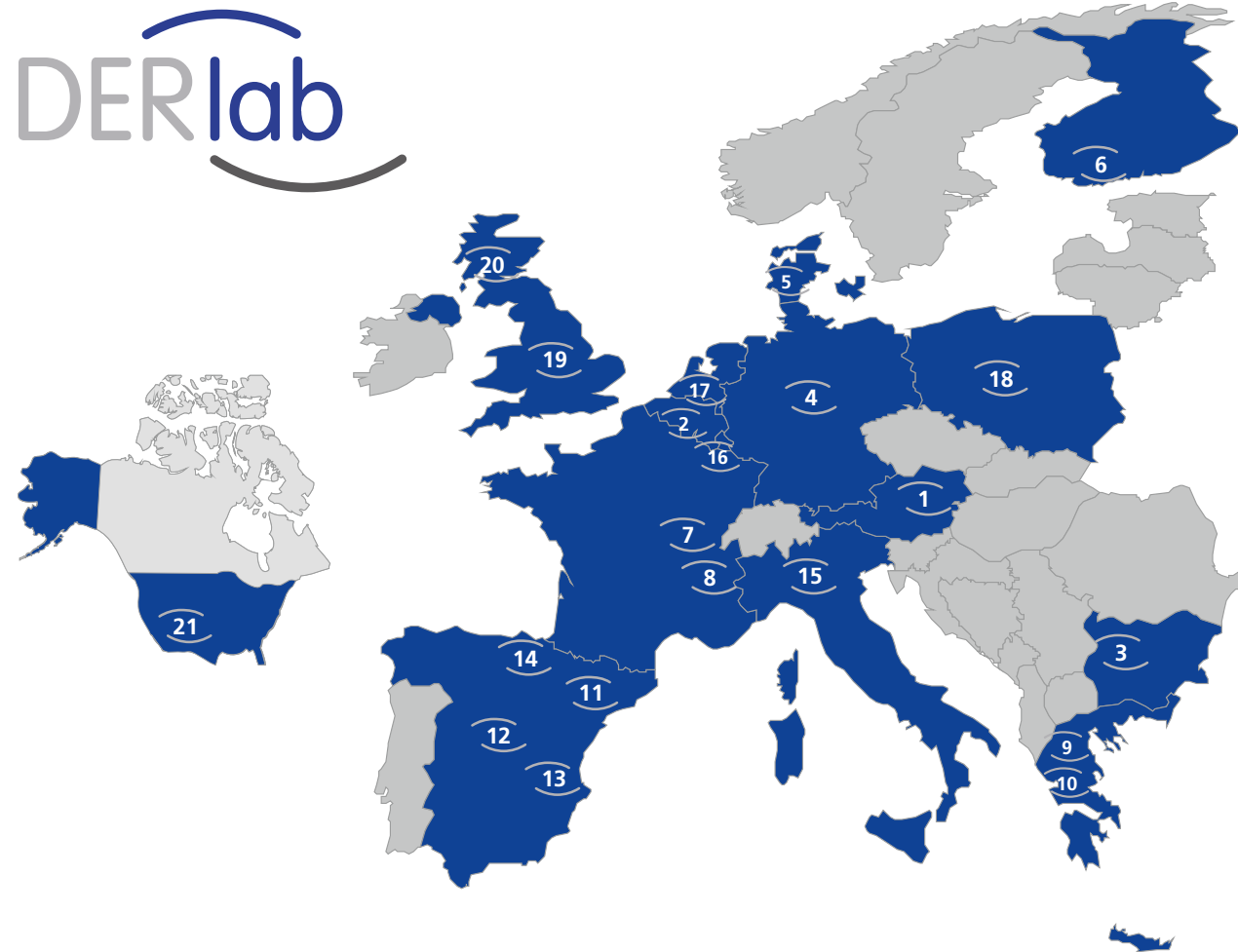
DER Research Laboratories

Utilisation of different distributed power generators is crucial in reaching energy targets set all around the world. Integrating these units to the main electricity grid in a sustainable way is a challenge that requires in-depth research and international cooperation.

DERlab is the network of leading research institutes working together for the grid-integration of distributed power generation. DERlab develops joint requirements and quality criteria for distributed energy resources (DER) and their integration to the main grid.



Fraunhofer IWES PV testlab



Member Institutes of DERlab

1.	Austrian Institute of Technology (AIT)	AT
2.	K. U. Leuven for EnergyVille	BE
3.	Technical University of Sofia Research and Development sector (TUS R&DS)	BG
4.	Fraunhofer Institute for Wind Energy and Energy System Technology (Fraunhofer IWES)	DE
5.	Technical University of Denmark Risø National laboratory for Sustainable Energy	DK
6.	VTT Technical Research Centre of Finland	FI
7.	Commissariat à l'énergie atomique et aux énergies alternatives CEA The French National Institute for Solar Energy (INES)	FR
8.	The Grenoble Electrical Engineering Laboratory (G2Elab)	
9.	Centre for Renewable Energy Sources and Saving (CRESES)	EL
10.	National Technical University of Athens (NTUA) Institute of Communication and Computer Systems	
11.	Catalonia Institute for Energy Research (IREC)	
12.	Centre for Energy, Environment and Technology Research (CIEMAT)	ES
13.	The Energy Technological Institute (Instituto Tecnológico de la Energía, ITE)	
14.	TECNALIA Research & Innovation	
15.	Ricerca sul Sistema Energetico – RSE	IT
16.	The University of Luxembourg Interdisciplinary Centre for Reliability, Security and Trust (SnT)	LU
17.	KEMA Nederland BV	NL
18.	Technical University of Lodz	PL
19.	The University of Manchester	UK
20.	University of Strathclyde	
21.	Sandia National Laboratories, New Mexico Distributed Energy Technologies Laboratory	US

Technical Expertise

DERlab network conducts research on a wide range of issues concerning grid integration.

- Interconnection requirements of DER
- Grid-connected storage
- Electromagnetic compatibility requirements for DER
- Static converters in grids
- DER testing procedures
- Ancillary services
- Communication
- Photovoltaic modules
- Power hardware-in-the-loop
- Network protection

DERlab participates in several international research projects and publishes guides and technical White Books on its main research areas.