

CloudGrid

Transnational Cloud for Interconnection of Demonstration Facilities for Smart Grid Lab Research & Development

“*Development and deployment of smart grid solutions is a key factor for us to meet the challenges the future power system is facing.*”

In the CloudGrid project, R&D on smart grid solutions will be focusing on three main areas:

- System stability
- Ancillary services & energy management
- Converter interoperability

The method used in the CloudGrid project to improve the research is to increase the cooperation between the partners based on an interconnection between smart grid labs. The establishment of this transnational smart grid cloud shall facilitate possibilities to validate research result in different laboratory environment, in this way the project will be able to provide solutions with a broader level of validation and suitable for a wider range of equipment.

Project Duration

01.03.2016 - 31.03.2019

Project Budget

Total Budget: € 2,300,000.-

Funding: € 1,900,000.-

Project Coordinator

STRI (Sweden)

Project Partners

- NTNU (Norway)
- Chalmers (Sweden)
- ZHAW (Switzerland)
- IPE (Latvia)

Project Website

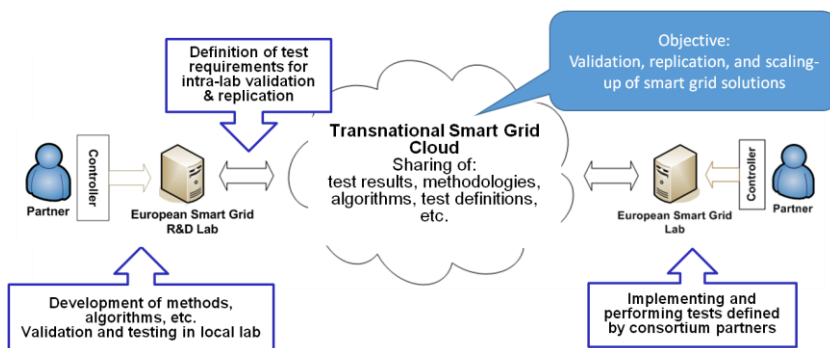
www.stri.se/cloudgrid

Contact

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Main Objectives

The goal of the CloudGrid project is to provide recommendations and strategies to meet the challenges of the future power system, to facilitate larger amount of intermittent renewable generation together with less nuclear production while providing a secure and reliable electrical power supply.

Research areas

These three research areas are highly complementary, providing the project with a holistic view of the challenges of the future grid.

System stability

Stability is a prerequisite for operating the power system, and there is a need to develop new solutions and methods in order to maintain system security in a system which is utilised in an increased and altered manner. The research will focus on:

- Identifying challenges and providing recommendations for the stability and operation of the power system with increased HVDC interconnections, increased Renewable Energy Sources, and decreased nuclear generation.

Ancillary services & energy management

With new components and systems integrated in the power system, there will be new opportunities to support the system through additional ancillary service solutions and novel strategies for energy management and market concepts. This research area will focus on:

- The value of ancillary services provided by distributed energy resources.
- Energy management optimization from a system perspective.

Converter interoperability

An increased amount of power electronics in the system is an enabler for increased flexibility. However, this implies increased requirements on compatibility and interoperability between the various converters. The research will focus on:

- Identifying critical parameters and requirements to guarantee the interoperability of converters in hybrid AC/DC grids.

From Local Trials towards a
European Knowledge Community

<http://www.eranet-smartgridsplus.eu>

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This project is part of the 1st Joint Call for transnational RDD projects of the ERA-Net Smart Grids Plus initiative. More than EUR 31 million of funding have been made available to 21 projects from 19 regions/countries.

ERA-Net
Smart Grids Plus