

Acronym: 3DMicroGrid | PI: ERANETMED _ ENERG – 11 – 286

Topic: ERANETMED Renewable Energies

Start and End of the Project:

01/09/2016 – 31/08/2019

Participants



جامعة الأردنية الأردنية
German Jordanian University



Malta College of Arts, Science & Technology



solutions for sustainable development



Information
Technologies
Institute



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Y DEPORTE



3DMicroGrid

DESIGN, DEVELOPMENT AND DEMONSTRATION
OF A SMART MICRO GRID

ERANETMED



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7th Framework Programme

www.3DMicroGrid.com

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- German Jordanian University (GJU) [JORDAN]
- Malta College of Arts, Science and Technology (MCAST) [MALTA]
- University of Seville, Power Engineering Group (UoS) [SPAIN]
- SCAMRE LABORATORY / ENPOran [ALGERIA]
- Power System Group, Abdullah Gul University (AGU) [TURKEY]
- Energynautics (EN) [GERMANY]
- Centre for Research and Technology Hellas
- InformationTechnologies Institute (CERTH/ITI) [GREECE]
- KIOS Research Center for Intelligent Systems and Networks,
University of Cyprus (UCY) [CYPRUS]
- Electronic Systems Design Ltd (ESDL) [MALTA]
- GEOSYS [MALTA]



Why?

3DMicroGrid project will create a new, all inclusive, grid interactive Smart Micro-grid demonstration site for various types of distributed resources and their control strategies, replaceable at other similar set-ups

The 3DMicroGrid project is focused on a conceptual agent design for smart micro-grid operation, in the context of a multi stakeholder collaborative project funded by ERANETMED partners in Jordan, Malta, Germany, Turkey, Spain, Greece, Cyprus, and Algeria. It is intended to setup a novel architecture for the operation and control of a smart micro-grid to shape ubiquitous instruments in the electricity industry.

Agents will act as smart self-organizing hardware/software systems, which are inherent in a distributed system of interacting complex adaptive agents.

The design process will be largely based on incremental and dynamic design procedures to facilitate modularity and reusability of software components and ease of upgrade and integration. Seamless and adaptive structure that conforms to the general agent characteristics and standards will be introduced.

What?

Scientific and technical objectives:

- to establish decentralised control paradigms and demand response based on available power sources and loads,
- to develop an open-source Smart Micro-Grid framework,
- to design for scalability of Smart Micro-Grid functions, and
- to develop robust autonomous agents for the Smart-Grid paradigm

What for in the innovation domain?

- State-of-the-art and Novel Architecture
- Interdisciplinarity
- European-Mediterranean Cooperation
- Capacity Building and Mobility within the project partners
- Project in the Wide International Context

Expected outcomes:

- Reduction of energy lost in distribution
- Reduction of the gap between energy produced and consumed
- Increase of renewable energy sources