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# Workshop 4 “Generation and Storage”

Seminar Topic 3

## **Evaluation Projects**

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# Scope of Topic 3

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**This topic addresses** the part of the Platform's Flexible Framework concerning Integrated Research and Demonstration Actions **IRDA on real networks.**

The Vision document has identified that **this is the critical path to commercialisation and widespread adoption.**



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# Characteristics of a successful project

- Allow demonstration and research
- All system aspects should be included:  
(technology, market, end user)
- Designed to survive after project funding
- Support widespread adoption of results
- Serve as reference case
- Help to assess CO<sub>2</sub> reduction potential and  
show improvement of security of supply



# Collaborative partners

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- Local DSOs and/or TSOs
- Manufacturers of power systems equipment
- Providers of grid control technology
- Suppliers of distributed generators/ storage units / DSM equipment
- Universities / research institutions



# Topics for IRDA

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- RE/Distributed generation and storage
- Holistic approach for energy management of generation, demand side and storage
- Grid control, quality and safety issues
- Regulatory aspects
- Involvement/Interface with the customers
- Emergency power supply for grid parts



# IRDAs proposed by WG 4

- a) Control and operational development of integrated generation and storage for future active networks
- b) Developing the Smart Grid Reference Case on Islands
- c) Using advanced generation and storage techniques to deliver active network management



# IRDAs proposed by WG 4

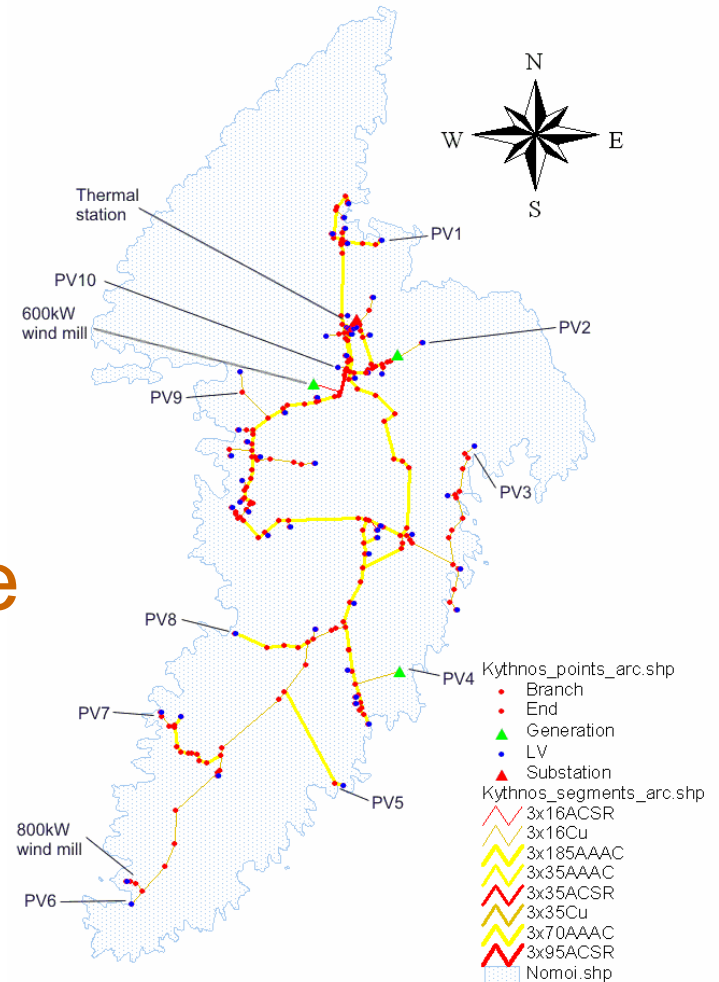
- a) Control and operational development of integrated generation and storage for future active networks
- b) **Developing the Smart Grid Reference Case on Islands**
- c) Using advanced generation and storage techniques to deliver active network management



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# Experience with IRDAs on Islands

- ❑ Wind Park Kythnos
- ❑ Microgrids Kythnos
- ❑ Wind integration and SCADA systems Crete



Source: [www.DISPOWER.org](http://www.DISPOWER.org)  
Highlight 27, CRES, Athens



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# Why IRDA on Islands?

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- ❑ Excellent RE resources
- ❑ RE already competitive because of high costs for electricity/lack of fuel
- ❑ Example with extreme conditions concerning
  - grid reliability,
  - grid quality,
  - peak/base-load ratio



# Islands are the Perfect Models

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- ❑ Today islands have the challenges that we will face in our interconnected grid tomorrow
- ❑ High impact on power system with low investments
- ❑ Results are applicable for the interconnected grid



# Questions

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- What are the characteristics of a successful validation project?*
- How might it best be structured as regards
  - Collaborative partners?
  - Funding?
  - Location?*
- What kind of results do we expect from good IRDAs?*
- How do we achieve cost effective IRDAs?*