## **CESI**: applied research for the electrical sector

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#### The mission of CESI

To provide the stakeholders of the electrical sector in Italy and world-wide with:

- Research
- Consulting engineering
- Testing and certification
- Technical information and training
- Laboratory facilities

## **CESI (Centro Elettrotecnico Sperimentale Italiano)**



CESI has been operating for 50 years in 35 countries.

It is market leader in testing of electromechanical apparatus and in electrical grid consulting, and features a complete offer in the electrical sector, including the environment and RES.

## **CESI SpA**

Following the liberalisation of the electrical system in Italy in 2000, CESI has assured the support to the Italian electrical sector, incorporating ENEL's Research Division and dedicated companies.

It has now 1,000 employees at the sites of Milan, Piacenza and Seriate.

The main shareholders of CESI are ENEL, Terna, other utilities and manufacturers.

**CESI** 

#### Main research fields

- Evolution of the electrical system (the market liberalisation, in the context of the European system, implies a rapid change in the structure and functioning of the system)
- Environmental issues (the interaction of the electrical system with the environment is especially important in Italy, due to its complex orography and high population density)
- Energy use (Italy imports a large share of its primary energy, with consequences on costs and security of supply)

#### Main research projects

# Sustain themarket liberalization

- Improvesecurity and quality
- Improve the interaction with the environment
- Achievearational useofresources

- Transitiontowardaliberalisedmarket
- Newplanning strategies (distributed generation, congestions, network transmission capacity)
- Security and safety of plants ofpower electric systems
- Vulnerabilitytonaturaldisasters andman attacks
- Improvement of the quality
- Environmental compatibility
- Technologies and processestoimprove the compatibility
- Innovative generating system
- Renewableenergysources
- Rationaluse of energy

#### **European research**

CESI has been involved in several European projects on renewable energy sources, such as:

**CDMED**: Scenarios and Strategies for the Implementation of the Clean Development Mechanism of the Kyoto Protocol in the Mediterranean Region

**HYBRIX**: Plug and Play Technologies for Hybrid Power Supplies

THESEUS: 50 MWe Thermal Solar European Power Station Frangokastello, Crete

**MED 2010 :** Large Scale Integration of Solar and Wind Power in Mediterranean Countries

**REMAC 2000 :** Renewable Energy Market Accelerator 2000

**ENIRDGnet:** European Network for Integration of Renewables and Distributed Generation

**DISPOWER**: Distributed Generation with High Penetration of Renewable Energy Sources

**PHOTEX:** Experience Curve Analysis for PV Energy Systems and Components

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#### **Dissemination**

CESI is committed to disseminate the knowledge of its research activities to the benefit of the operators, regulators and users of the electrical system.

The dissemination of the results has been assured through publications, research reports, workshops and courses.

The participation in the Realise-Forum Project is part of CESI commitment towards the application of research in the field of RES and support policies.

#### The workshop

CESI is the Italian partner of the REALISE-Forum project and has been running the Italian Desk for consultations with the Italian people involved in the sector of renewable energy.

We have been pleased to organise this first workshop in Italy as one of the major events of the overall Project program, coming at the end of the first year of work.

Claudio Casale, CESI representative in the Project, and I will be happy to help you throughout your stay at CESI

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