REGIONE BASILICATA

The Basilicata Region smart specialization strategy in the field of space technologies for environment

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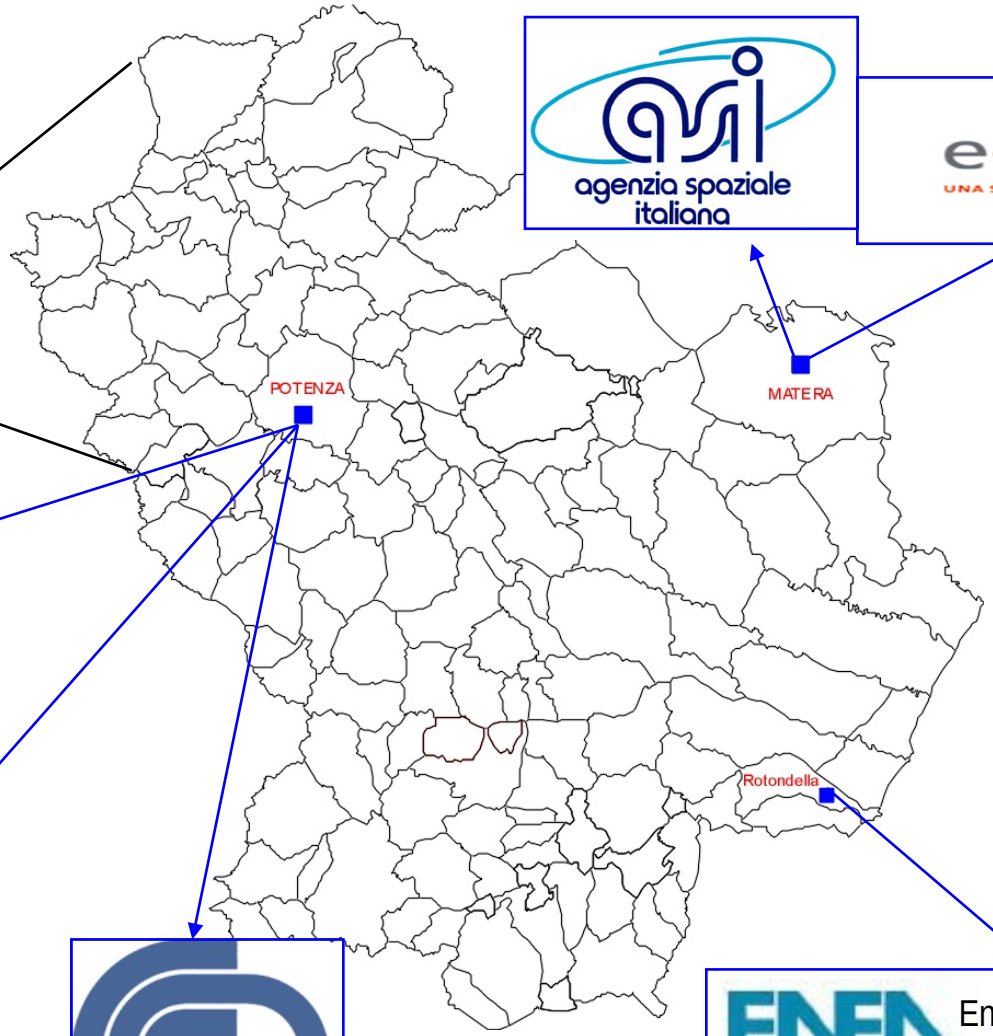
Basilicata hearth observation system



agenzia spaziale italiana

e-geos
UNA SOCIETÀ ASI/TELESPAZIO

UNIVERSITÀ DEGLI STUDI DELLA BASILICATA
1982

CONSORZIO PER L'AMBIENTE E L'INNOVAZIONE TECNOLOGICA
CREATEC

imaa
Istituto di metodologie per l'analisi ambientale

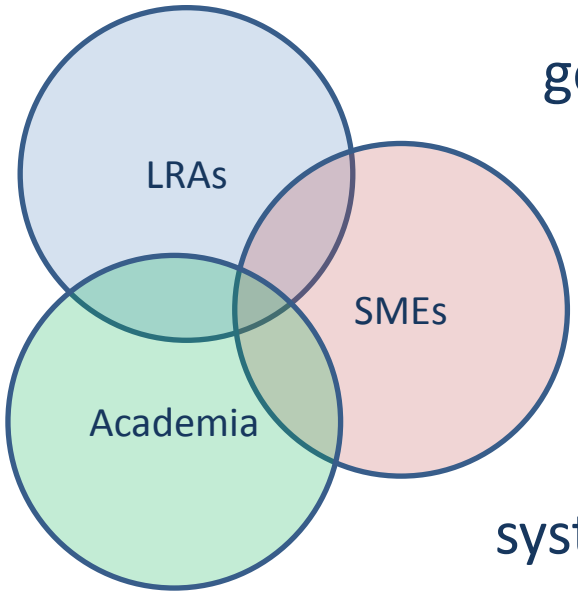
ENEA
Ente per le Nuove tecnologie, l'Energia e l'Ambiente

Basilicata Hearth observation cluster

TeRN = Technologies for Earth and Natural Risks Observations

Triple helix model

The triple-helix organization (research- local authorities- enterprises) of the Consortium is in agreement with the European policies which concern technological clusters.



The purpose of such a model is the generation of local and international high-level knowledge infrastructure through the systematic exchange of information.

Basilicata Hearth Observation Cluster

TeRN = Technologies for Earth and Natural Risks Observations

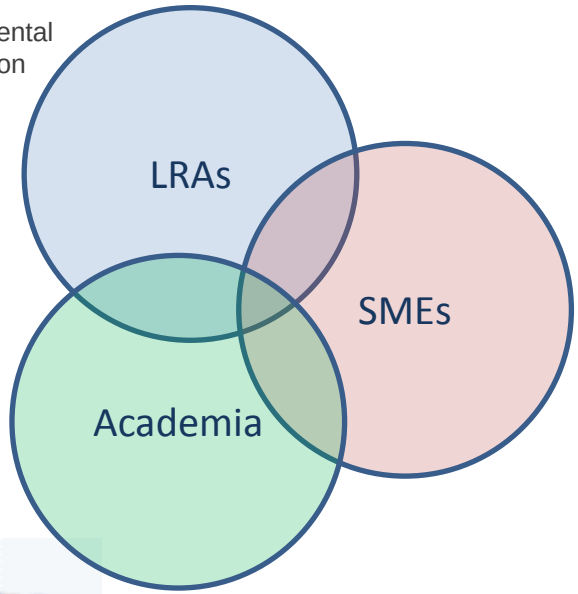
Triple helix model

ARPAB
Agenzia Regionale per la Protezione dell'Ambiente di Basilicata

Regional Agency for Environmental Protection of Basilicata Region (ARPAB)

ENEA

National Agency for New Technologies, Energy and the Environment



CONSORZIO PER L'AMBIENTE E L'INNOVAZIONE TECNOLOGICA
CREATEC

Consortium for Environment and Technological Innovation

imaa

National Research Council (CNR)

e-geos
UNA SOCIETÀ ASI/TELESPAZIO

Company formed by ASI and Telespazio

UNIVERSITÀ DEGLI STUDI DELLA BASILICATA 1982

University of Basilicata

reluis

Network of University Laboratories for Earthquake Engineering

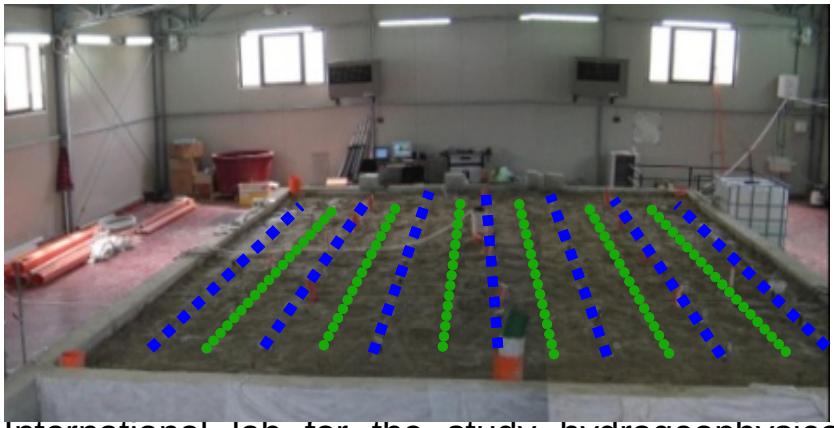
RELUIS

Basilicata European level Research Infrastructure

Atmospheric Observatory – CNR-IMAA

Basilicata space actors capabilities

Marsico Nuovo CNR: HYDROGEOSITE



International lab for the study hydrogeophysical processes

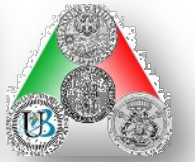
Satellite receiving and processing facilities

Mobile Labs

Basilicata space actors capabilities

Network of University Laboratories for Earthquake Engineering

reluis



JetPacs Units

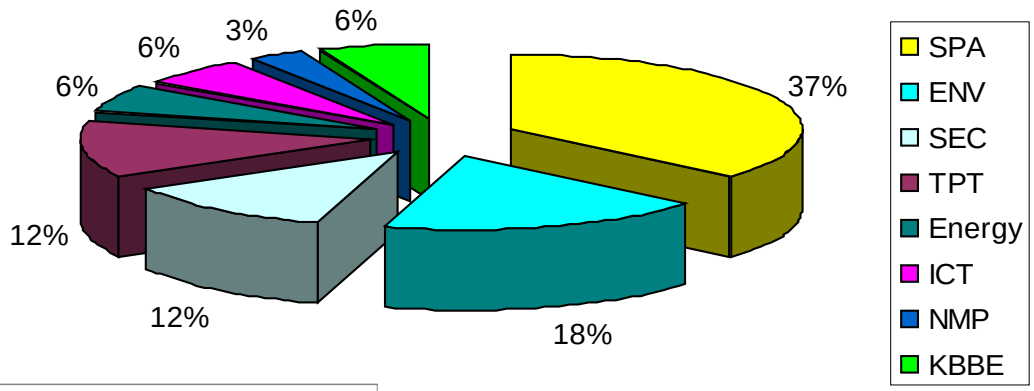
Basilicata space actors capabilities

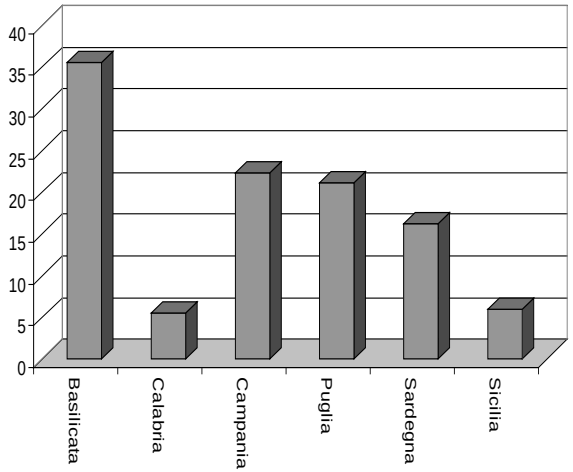
Matera SPACE CENTER (ASI, TELESPAZIO, EGEOS)

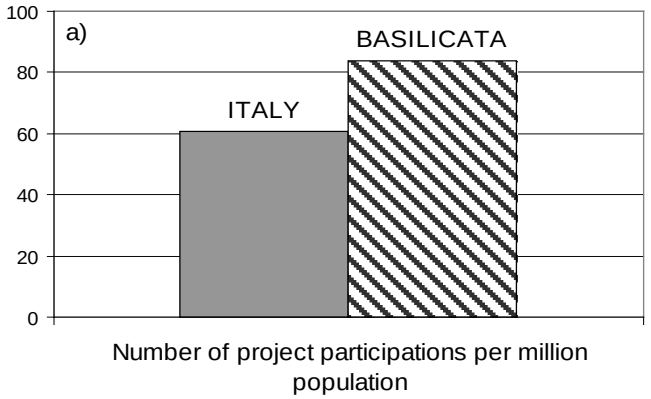
Activities:
- Remote Sensing
- Geodesy
- Cosmo-SkyMed User Ground Segment

Basilicata space actors results in FP7

SPACE (37%)+ENVIRONMENT (18%)+SECURITY = 67%





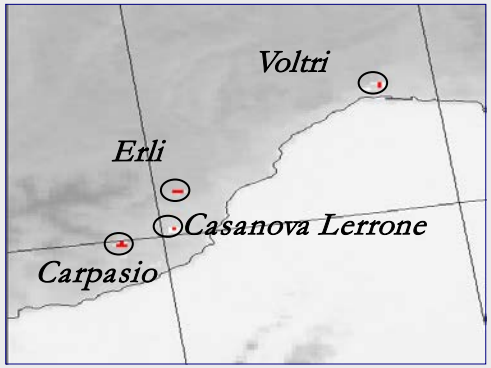


Basilicata space actors capabilities

Development of advanced satellite techniques and services for:

Forest fires

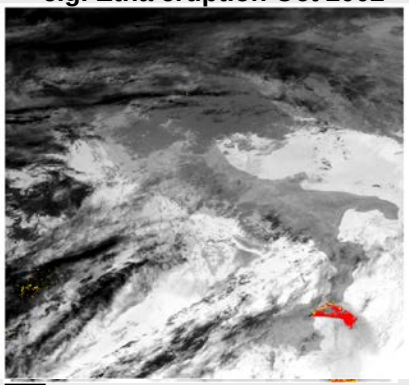
e.g. Fires in Italy, February 2005



fires

Volcanic Eruptions

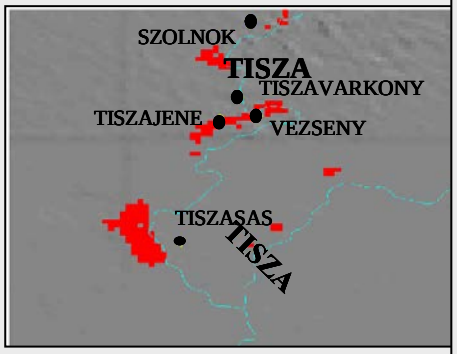
e.g. Etna eruption Oct 2002



Ash Clouds

Floods

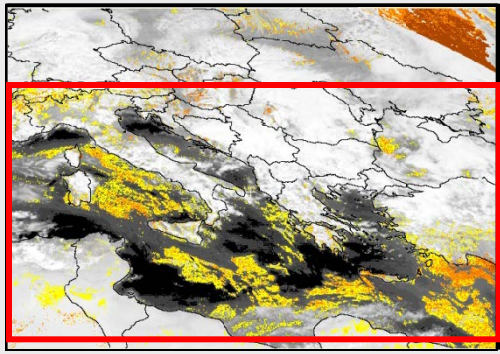
e.g. Ungary flood, April 2002



Flooded areas

Dust storms

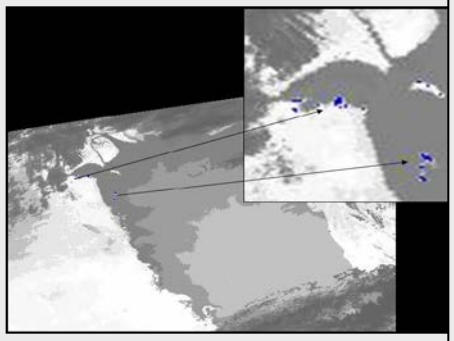
e.g.Libia 13 May 2004



Dust clouds

Oil spills

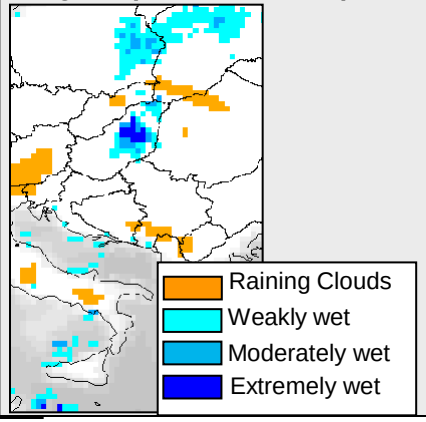
e.g. Oil spill in the Persic Gulf, January 1991



Oil spill

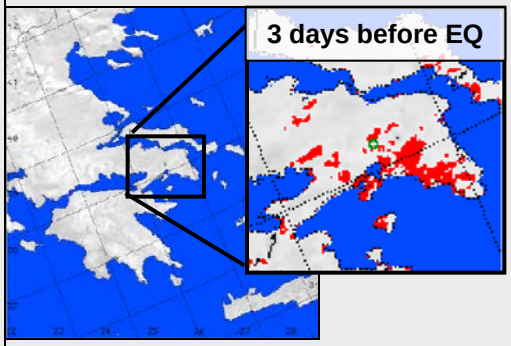
Soil wetness

e.g. Carpathian Basin, April 2000



Earthquakes

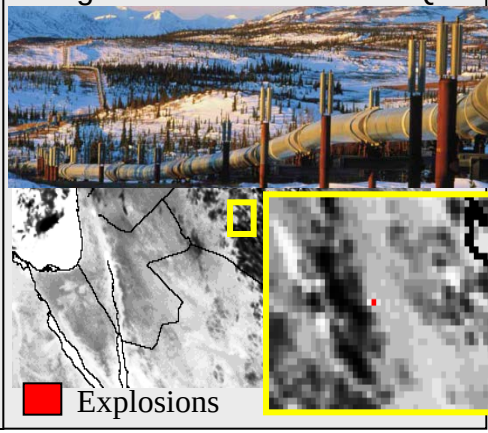
e.g. 7 September 1999 Athens Earthquake



Thermal anomalies

Security (pipelines))

e.g. 18 October 2005 IRAQ



Explosions

Current R & I situation

- The Basilicata Regional Research and Innovation system is based on public demand (public research centers);
- The dimension of local enterprises is too small and it is concentrated in traditional sectors with a negative impact on innovation (weak innovation demand);
- The level of our research is good (especially in the space sector) but it should be more focused on market demand and companies innovation needs;
- The sector of hearth observation and the EO research driven cluster is really an excellence for our region and it is a positive example for the other sectors.

Objectives of Basilicata Region Research and innovation strategy

- to improve the relations between research centers and local companies;
- to push and assist the local enterprises to take the opportunities offered by the innovation market (new services, products and processes);
- to stimulate the creation of R & I public private partnerships (like the EO triple helix cluster);
- to ameliorate the attractiveness of Basilicata University that should focus its research on local economic sectors and market opportunities;
- to further develop research infrastructures and to federate in networks the small RI;

Objectives of Basilicata Region Research and innovation strategy

- to increase number/training of researchers and mobility academia/industry;
- to stimulate the creation of SMEs networks;
- to promote SMEs internationalisation;

- to use the public demand as leverage to stimulate processes of social and technological innovation:

(eg. sustainable building, smart technologies for the control and management of large civil infrastructure, smart technologies for monitoring and mitigation of environmental risks, smart technologies and web-based applications for rural areas: telemedicine, etc.).

Basilicata Region Smart Specialisation areas

The region should support the creation of start up, clusters, enterprises networks and technological platforms in the more competitive sectors of our territory:

- Automotive;
- Development of Sensors for environmental monitoring using hearth observation technologies;
- Environment;
- Green Chemistry (bio based industries);
- Agrifood;
- Energy ;
- Cultural heritage’s economy (tourism, cultural and creative industries)

Objectives in the field of environmental monitoring using Earth Observation technologies

- To enhance the production stage and the industrialization of applied research and technological innovation in the field of sensors for environmental monitoring (either by sky or by earth or space);
- provision of broadband connection by satellite, and ICT applications needed for the development of location based services, such as the monitoring and protection of cultural heritage and monuments, the monitoring and management of water resources, agriculture, forestry.

Objectives in the field of environmental monitoring using Earth Observation technologies

- To further develop the pole CNR-IMAA, ASI, Telespazio, ENEA, RELUISS, Createc based on the observation and monitoring of environmental risks, with the support of INRIM (National Institute of Metrological Research), which will open a "section" of certified environmental metrology in Basilicata.
- This will be the occasion for the region to have a "metrological site" (certified by INRIM) with important consequences in terms of environmental European projects. The section INRIM in Basilicata will also include research activities on sensors and control flows of hydrocarbons, with relevant system implications in collaboration with ENI.

Basilicata Territorial Cooperation in the field of technological innovation

- The Basilicata Region want to develop Territorial Cooperation actions with other European regions especially in the field of technological innovation in accordance with art. 96.3 of EU Regulation 1303/2013
- In the new OP there is the possibility to set up project partnerships with at least one region of another MS , with the objective to exchange good practices, to set up European network for actions in the field of research, for the development of project proposals for Horizon 2020, for the development of methodologies and technological innovations with territories sharing similar problems and challenges
- The actions in line with the areas of Basilicata smart specialization strategy are a priority.

Conclusions

Space technologies will be one of the priorities of Basilicata smart specialisation strategy with the objective to provide better solutions for citizens and territories needs.

Space solutions will contribute to economic development, employment, environmental monitoring and knowledge society

Space solutions should be more perceived from citizens as real solutions for their daily problems.

The role of regions and of NEREUS network, who gives "voice to regions" and "voice to citizens", is important in order to contribute to the **design of a space policy** more focused on citizens and territories' needs and **to facilitate the international cooperation of regional space platforms/clusters** (universities, research centers, enterprises and regional authorities) to better compete in the market of space applications.