



REGIONE BASILICATA

**Overview of the involvement of local Research
Organisations, Enterprises, Universities in
national and international projects on Earth
Observation applications and services.**

(Earth Observation, Satellite Navigation and Telecommunication)

ENEA

**Italian National Agency for New Technologies
Energy and Sustainable Economic Development**

ORGANISATION PROFILE AND EXPERIENCE

Section 1 - Contact details

Organisation Name (full name)	Italian National Agency for New Technologies, Energy and Sustainable Economic Development
Organisation acronym (Abbreviation)	ENEA
Address	Lungotevere Thaon di Revel, 76
Postal code	00196
City	Rome
Region	Lazio
Country	Italy
www address	www.enea.it

<u>Contact person:</u>	
Title	Head of the “Sustainable Development and Innovation of the Agro-Industrial System” Unit-UTAGRI
First Name	Massimo
Family Name	Iannetta
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Fax	
Skype	
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Section 2 – Type of organisation

If you are an Enterprise

Enterprise type	<input type="checkbox"/> Private <input type="checkbox"/> Non profit	Is your Company a Small-Medium sized Enterprise (SME)?	<input type="checkbox"/> YES <input type="checkbox"/> NO
	<input type="checkbox"/> Public <input type="checkbox"/> Other		if YES, Number of Employees
			<input type="checkbox"/> < 10 <input type="checkbox"/> > 10 and < 50 <input type="checkbox"/> < 250
<p>According to Article 2 of the annex of Commission Recommendation 2003/361/EC of 6 May 2003, which applies from 01 January 2005, an SME (Micro, Small or Medium-sized Enterprise) is an enterprise which: has fewer than 250 employees, has an annual turnover not exceeding 50 million euro, and/or an annual balance-sheet total not exceeding 43 million euro.</p>			
Owned by a non SME:		<input type="checkbox"/> YES <input type="checkbox"/> NO	
Description of the organisation (max 1.000 characters):			

If you are a Research Organisation

Research Organisation type	Research Organisation (<input type="checkbox"/> Private <input checked="" type="checkbox"/> Public) High Education School / University / Institute (<input type="checkbox"/> Private <input type="checkbox"/> Public) <input type="checkbox"/> Other, please specify:
<p>Description of the organisation (max 1.000 characters):</p> <p>ENEA's activities are targeted to research, innovation technology and advanced services in the fields of sustainable economic development, energy and nuclear energy. The Agency's main research issues are: ENERGY(Nuclear Fusion, Nuclear Fission, Renewable Energy Sources, Energy Efficiency, Advanced Technologies for Energy and Industry); SUSTAINABLE ECONOMIC DEVELOPMENT (Environmental Characterization, Prevention and Recovery, Environmental Technologies, Seismic Protection, Radiation Biology and Human Health, Sustainable Development and Innovation of the Agro-Industrial System) and NEW TECHNOLOGIES (Radiation Applications, Material Technologies, Energy and Environment Modeling, ICT). As National Agency for Energy Efficiency, ENEA provides agency services in support to: public administrations as Ministry for Economic Development (MSE) and Regions; SMEs to draw up National Action Plans for Energy efficiency and Annual Report; citizens to allow them to provide the necessary measures in order to achieve the national energy saving objectives.</p> <p>Staff information Number of people specifically working on Space Technologies (EO, Sat navigation, Telecommunications): XX</p> <p>Actual Staff profiles in ST (e.g. professors, researchers, technicians, administrative, PhDs, etc.): XX Res XX Prof NN Tec</p> <p>The competences involved in Earth Observation, Satellite Navigation and Telecommunication at ENEA belongs to different Technical Units and the staff involved in it is composed of 20 persons considering Researchers, Technologists and Administrative ones.</p>	

Section 3 - Description of your main expertise and activities in the field of Space Technologies

Areas of expertise (max 2.000 characters)	<p>The Technical Unit UTAGRI - ENEA and particularly its "Sustainable Management of agro-ecosystems" Laboratory, carried out research activities on desertification within the framework of several national (RIADE) and European (DESERTNET, DESERTWATCH, LUCINDA, IMAGE and DESURVEY) and International (NATO Programme on Science for Peace and Security) projects. Such projects involve collaboration with Universities, other public research institutes and private companies.</p> <p>Within ENEA, fruitful collaborations with other Technical Units are in progress, especially with the Global Climate and Environmental change items, environmental protection, innovative analytical systems, etc. Interdisciplinary collaboration meant involvement of staff with different scientific background (such as agronomists, biologists, chemists, physicists, geologists, information technologists, engineers, mathematicians, naturalists, sociologists, and various technicians) working in six different research centres in Basilicata and in others Regions. In this way, an interdisciplinary group whose strength is the integration of different perspectives and the "holistic" approach tackles a complex problem</p>
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	<p>such as desertification. This is a necessity, given the heterogeneity of the different desertification processes occurring in Italy, in the Mediterranean basin, and in developing countries (especially in Africa, whose importance is highlighted by the problems of immigration towards Italy).</p> <p>Within the Technical Unit UTAGRI - ENEA, a strict relationship between ecosystem protection, desertification and agriculture has been developed with the aim of promoting sustainable development. A shared space was created in which tools and functions aimed at developing knowledge and technologies are interactively integrated with their application to local environmental problems and to an evaluation of their effectiveness. In this way, links are developed between scientists, high-tech companies, and local administrators.</p>
<p>Keywords describing the activities performed by the organisation (if needed more than one)</p>	<ol style="list-style-type: none"> 1. AGRO-ECOSYSTEM 2. GLOBAL CLIMATE 3. ENVIRONMENTAL CHANGES 4. ENVIRONMENTAL PROTECTION

Section 4 – List of Projects implemented in the last 5 years

Project	Programma Operativo Nazionale di "Ricerca, Sviluppo Tecnologico ed Alta Formazione"
Title	Ricerca Integrata per l'Applicazione di tecnologie e processi innovativi per la lotta alla Desertificazione
Project Acronym	RIADE
Source of funding / Programme	National funding
Status	Completed
Role of the organisation	Coordinator
Responsible	Massimo Iannetta
Duration	2002 – 2006
Content	<p>A team of fifty researchers belonging to several ENEA Centers (Casaccia, Frascati, Trisoia, Portici, Bologna and Brindisi) coordinated by Massimo Iannetta, developed an integrated informative system to monitoring desertification processes located in particular areas in the South of Italy. It's an applicative research project able to contribute to determine the cause/effect connections in the phenomena going on in a desertification process and, for this reason, able to promote territory safeguard interventions. The Italian regions risking desertification processes are: Sicily, Sardinia, Basilicata and Puglia. Here the phenomenon it's already an environmental emergency that influences the social-economic development of the whole area. The observations related to the project are confirmed in several soil degradation processes typical of the Mediterranean area. Several has been the collaborations started with the SME's world; spin-off initiative and enterprises born to favorite the applicative falls of the project.</p>
Website	www.riade.net

Project	
Title	A Service Platform implementation against drought and desertification in Mediterranean Regions thought a pilot system
Project Acronym	DESERNET
Source of funding / Programme	Programma Interegg IIC-MED-OCC,
Status	Completed
Role of the organisation	Partner
Responsible	NRD Massimo Iannetta per ENEA
Duration	October 2005 - June 2008
Content	Continuing the DeserNet project experience, developing, potentiating and integrating it with innovative aspects. Specific objectives are the partnership's consolidation, strengthening, and amplification thought the implementation and innovative functions integration into the System Platform (PdS); structuring a pilot action system connected with program and territorial planning; intersectorian and territorial integration; creating an efficacy results transfer mechanism to the Institutions and local population sensitization with promotion initiatives and results dissemination.
Website	www.desernet.org

Project	
Title	Desert watch
Project Acronym	
Source of funding / Programme	ESA DUE Program
Status	Completed
Role of the organisation	Partner
Responsible	ACS S.p.A. Massimo Iannetta per ENEA
Duration	September 2004- August 2006
Content	In 2004, ESA launched a satellite-based information system called DesertWatch to work with three of the European countries most affected by desertification – Italy, Portugal and Turkey. In addition to helping national and regional authorities to assess and monitor land degradation and desertification, DesertWatch also aims to support these authorities in reporting to the UNCCD. Satellite images can highlight relevant land use change along with increased surface reflectivity, temperature, dryness and dustiness. Infrared sensors can detect vegetation stress due to environmental shifts. This satellite data is being combined with in-situ information, processing tools, models and geo-information systems (GIS) to create standardized and comparable geo-information products that can also be used to satisfy UNCCD reporting requirements. DesertWatch products include national and sub-national risk maps plus severity/recovery maps, pressure indicators and state indicators. The intention is to create a means of authoritatively assessing and monitoring desertification and its trends over time.
Website	www.esa.int

Project	
Title	Land Care In Desertification Affected Areas: from Science towards Application.
Project Acronym	LUCINDA
Source of funding / Programme	SSA FP6
Status	Completed
Role of the organisation	Associate partner
Responsible	Faculdade de Ciências Sociais e Humanas – Universidade Nova de Lisboa (Portugal) Massimo Iannetta for ENEA
Duration	January 2006- March 2009
Content	The objective of LUCINDA is to address this situation in two ways. Firstly, by providing a concise and comprehensive information pack containing guidelines for sustainable land management in desertification affected areas derived from the scientific results of past and on-going EU research projects. This information is available to regional and local authorities who, through national participation in the UNCCD, have a specific mandate to combat desertification. Secondly, the organization and dissemination of information is expected to go beyond the dissemination strategies adopted by the individual projects. In particular, the LUCINDA information “products” are user-friendly, avoid jargon, and provide recommendations for actions. The information is more widely distributed than the original project-specific publications and reports. It is bringing together, in an integrated manner, information from the different projects in a coherent format, based on a coherent strategy.
Website	http://geografia.fcsh.unl.pt/lucinda/default.html

Project	
Title	Water and Rural Decision Support System
Project Acronym	Wardss/IMAGE
Source of funding / Programme	Iterreg
Status	Completed
Role of the organisation	Coordinator
Responsible	University of Basilicata Massimo Iannetta for ENEA
Duration	2004-2008
Content	
Website	www.projectimage.eu

Project	
Title	DESURVEY : A Surveillance System for Assessing and Monitoring of Desertification
Project Acronym	DESURVEY
Source of funding / Programme	EU FP6 Global Change and Ecosystems
Status	Completed
Role of the organisation	Coordinator/ Partner/ Associate partner

Responsible	<u>Prof. Juan Puigdefabregas</u> (CSIC, Spain)
Duration	March 2005-March 2009
Content	In spite of the relevance of appropriate actions to counter and to combat desertification, there is a lack of standardized procedures to perform them at operational scales. The DeSurvey project offers a contribution to fill this gap by complementing assessment of desertification status with early warning and vulnerability evaluation of the involved land use systems. In this context, the interactive effects of climatic and human drivers of desertification will be taken into account in a dynamic way. The ambition of the DeSurvey consortium is to deliver a compact set of integrated procedures of desertification assessment and forecasting, with application and tutorial examples at the EU and national scales. The performance of DeSurvey in other desertification threatened areas of UNCCD regional Annexes will be also tested against other expertise and available procedures. Indeed, partners (and sites) from Maghrebian and Sahelian countries as well as from Chile and NW China are associate members of this project.
Website	www.desurvey.net

Project	
Title	The Science for Peace and Security
Project Acronym	SPS
Source of funding / Programme	NATO Committee
Status	In progress
Role of the organisation	Coordinator/ Partner/ Associate partner
Responsible	Massimo Iannetta
Duration	July 2010-June 2013
Content	The Science for Peace and Security (SPS) Committee is the primary NATO committee supporting practical cooperation in civil science and innovation. This new organization oversees a program which contributes to NATO's mission by linking science to society through projects conducted under well-established procedures. It focuses on security, environmental sustainability and other defined priorities of its Partner nations. The SPS Program enables NATO to demonstrate its commitment to practical, visible projects with tangible output. The aim of the Science for Peace and Security Program is to contribute to security, stability and solidarity among nations, by applying the best technical expertise to problem solving. Collaboration, networking and capacity-building are means used to accomplish this end. A further aim is to facilitate continued democratic growth and support economic development in NATO's Partner countries.