



Assessorato all'Università e Ricerca Scientifica,  
Innovazione Tecnologica e Nuova Economia,  
Sistemi Informativi e Statistica



# INTERNAZIONALIZZAZIONE DEI Centri Regionali di Competenza



## **CeRICT – Centro Regionale di Competenza sulle Tecnologie dell’Informazione e della Comunicazione - Information and Communication Technology**

The Centre’s mission answers the regional and national productive network’s demand for medium and long term advanced research in the ICT sector. Its work is geared towards the technological transfer of results attained and the creation of new productive entities through spin-offs or the establishment of specific businesses.

---

### **The Principal Outputs**

#### **Distributed Networks**

The use of distributed networks can produce a real change in the supply processes of many services which shall no longer be “static”, defined on the basis of standard protocols, but rather by highly dynamic processes, difficult to predict in advance. This innovative vision is fulfilled by adopting and transferring to business management systems, where suitable, the emerging concept of “virtual company”, intended as a temporary network of independent entities, distributed throughout the territory and connected by an infrastructure that allows the individual entities to share costs, resources, benefits (sharing of data banks and storage and computation resources). One of the main strong points of these products resides in their flexibility which allows them to offer solutions to very different sectors, in both private business and public administration and with a multiplicity of uses.

#### **Wireless Systems**

Wireless networks are, and are expected to be, an increasingly more important form of communication for many activities, especially in business. Creditable studies show that wireless will, in future, replace cable technology in many professional applications, both indoor and outdoor. The service will be available at very high speeds, with a very wide coverage and extremely reliable connection, allowing users to utilize the best network connection, thanks to the growing number of bandwidth-intensive broadband applications. The Centre, in this respect, has also developed mixed wireless-wired and terrestrial-satellite wireless transmission systems. At present this technology is even more affordable than, for example, a cable network structure for a building. The web will be available from the most varied devices, allowing navigation and use of many applications by nomadic and mobile users. To demonstrate this technology’s potential, a project for the development of a guide service for the tourist industry, with useful information and services available through commercial palm devices on a wireless network for those who wish to visit museums, archaeological sites and nature parks, has been created.

#### **Virtual Reality**

Augmented reality mixes perception of the surrounding reality with computer-generated images, giving the user additional information without affecting his ability to move in and interact with the native environment.

In relation to the services offered 3D graphics can be included and utilized together with computer animation in the development of images for cinema or television, videogames, engineering and architecture, and commercial and scientific uses.

Augmented reality is used in the military, where, for example, a pilot observing terrain is supplied with digital information, such as the classification of military vehicles, through devices integrated within the helmet of in the airplane’s cockpit.

Another area of applicability is minimally invasive surgery. The images seen directly by the surgeon through a camera are integrated with TC or MRI images previously obtained from the patient. Other possible applications may be found: in tourism (benefits of mixed reality), in the entertainment industry, for videoconferences, to develop services for design and architecture in general and for the restoration sector in particular, and for diagnostic and chirurgical support in medicine.

## **E-learning**

E-learning is utilized in on-line training and for the implementation of new modules that supply solutions within business and staff training services. Recent studies agree that investing in training is a must for all businesses. For this reason training and e-learning must be considered strategic for all business activities.

This output has a wide range of potential uses, with the possibility of continual improvement of didactic methods and of performing quick updates on the training subject.

Another strong point is the ease of training dispensation with this system.

In this field more and more companies try to develop a differentiated training offer, especially thanks to the use of new technology. The evolution of business dynamics increasingly focuses on the human factor as primary element in a company's attainment of performance goals.

## **Optoelectronics**

Fibre optic communications are among the most important applications of optoelectronics. GARR-X is the next-generation multiservice telematics network which will gradually replace the current GARR-G infrastructure network and will provide new features and a higher level of global performance, thanks to the acquisition of proprietary fibre optics, not only on the back-end but also in access to user sites. GARR-X presents itself as an evolved platform for the experimentation and diffusion in Italy of advanced applications such as Grid, Telemedicine, Distance Education, as well as multimedial access to and fruition of Museums and Libraries, and the actuation of support systems for Multimedia and Voice over IP (VoIP) Activities. The Centre puts forth, as an example of this output's application, a system for monitoring the integrity and the adaptive control of aeronautic and aerospace transport infrastructure. An important innovation is the possibility to build logical networks that can be redesigned by their users on the basis of their requirements. These services, developed according to specifications agreed with the other European Research Networks, may be supplied by end-to-end method across all of Europe.

## **Structure**

The way in which ICT collaborates with enterprises presents some innovative aspects compared traditional partnership methods which lack a strong integration of competences and contribution between the scientific and business.

The resources and competences that make up ICT are connected with two Departments: Information Technology (IT Department) and Telecommunications Technology (TLC Department) and eight Hubs. The Departments and Hubs are designed to guarantee the structural concentration and managerial coordination of the research institutes, forming a critical mass of competences and human and technological resources. Each Hub or Department constitutes an access portal to this critical mass of competences and resources, regardless of where their geographical collocation on the regional territory.

Well-defined decisional mechanisms that allow for possible additional phases may lead the partnership towards the presentation of a proper project, supplying, in addition, a contribution in relation to regulations and the management of relations with the institutions.

By overcoming the dichotomy between scientific/technological and management/application knowledge, through a real integration of both the different disciplines involved and phases within the cycle of innovation (basic research, applied research and technological development), it has been possible to overcome the typical problems with inter-university and university-business cooperation, through the search for solutions that aspire to conjoined excellence in three aspects: Scientific and Technological Research, Private enterprise resource involvement, Mobilization and vitalization of local resources.

## **Potential Market**

The individual products which the Regional Competence Centre ICT proposes must into account the general issue within which they are collocated. In particular the needs and

potential of the target markets and respective B2B partners to whom one may potentially turn must be considered. The eastern European markets are in an intermediate state of development in the ICT sector, offering therefore a greater structural propensity/necessity to invest. It's worth targeting medium sized business for cooperation, as larger organizations probably have a lesser interest in new technological partnerships, because of the greater likelihood of them being already equipped with the competences necessary for development. While at the other end, small sized businesses usually have a radius of action and area of competence too limited for sustaining an effective partnership with the Centre.

### **Clients/Commissioning Bodies**

University of Naples "Federico II", University of Salerno, SUN, University of Naples "Parthenope", National Research Centre, National Institute for the Study and Cure of Tumours "G. Pascale", National Inter-University Consortium for Information Technology (CINI), Science and Technology Park of Salerno and Inner Areas of Campania, Technapoli Consortium, EDS Italia Software S.p.a., Italdata S.p.a, Hewlett-Packard, Engineering S.p.a., Global Value Solutions, Global Value Services, Datamat, SchlumbergerSema S.p.a., Maggiore, DIAL, Marcopolo, Corited, Circumvesuviana, Alcatel Italia, C.I.R.A, Italsystems

### **Technological Contact**

ICT - Centro Regionale di Competenze sulle Tecnologie dell'Informazione e della Comunicazione

Via Traiano, 1- Palazzo ex Poste - 82100 Benevento  
Palazzo Genovesi-Piazza Sedile di Campo 84100 (SA)  
Telefono: 0824/305534  
Fax: Tel 0824/305534  
Email: [cdc\\_ict@unisannio.it](mailto:cdc_ict@unisannio.it)  
Website: [www.crdc-ict.unisannio.it](http://www.crdc-ict.unisannio.it)

### **Marketing contact**

Fondazione FORMIT  
Via G. Gemelli Careri, 11  
00147 Roma, Italy  
tel. +39-06-5165001  
fax +39-06-5137868  
email: [crdc-campania@formit.org](mailto:crdc-campania@formit.org)  
website: [www.formit.org](http://www.formit.org)

