

Enabling ICT R&D in Central and South-Eastern Europe: National Report

OCG

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1 ICT R&D in General

Information and communication technology is a comparatively young research discipline. Technological advances in ICT are significant during the past years and there is a large demand for ICT solutions in nearly all type of application areas. Thus a lot of R&D efforts are put into applied research also driven and supported by economy and industry. But there is the risk of not sufficiently considering basic research in ICT.

A strategy enabling ICT R&D thus must aim at a balance but also synergies between applied and basic research. This is considered to be a huge potential for central and south-eastern European countries which have traditionally a strong background in basic research.

2 Potential Role of IT Star

The union of IT star is considered to be a valuable platform for supporting such cooperations from an organizational point of view, acting as a communication vehicle for establishing further contacts but also for promoting the visibility of research results.

Austria, because of its geographic position but also out of its history, can play an important integrating role in such initiatives. In fact, several R&D programs and initiatives aim at enforcing the collaboration between Austria and other central and south eastern countries.

3 ICT R&D in Austria

The specific situation of ICT R&D in Austria can be characterized as follows: Austria is comparable concerning the status and structure of its ICT research to other countries (considering the scale factor of size): Many, individually recognized "Players", i.e. academic computer science researchers and institutes with partly international profile. But in total the country is not sufficiently recognized from an international R&D point. There are only a few areas where Austria plays an important role on the international research market. An indicator for this is Austrias successful / non-successful participation in EU funding programs (FP6).

3.1 Organizational structure and funding schemes for R&D

In order to successfully promote innovation and development in ICT R&D, it is necessary to establish both, programs funding the development of technology as an area of its own and programs funding ICT development within specific application domains.

In Austria, government initiatives at the federal level are mainly driven by the Ministry for Traffic, Innovation and Technology (www.bmvit.gv.at), by the Ministry of Education, Science and Arts (www.bmbwk.gv.at), and the Ministry of Economy and Labour (www.bmwa.gv.at). Those federal initiatives are complemented by

regional initiatives, such as the Upper Austrian Strategic Programme 2010, or the Wiener Wirtschaftsförderungsfond (www.wwff.gv.at).

Selected larger funding initiatives include

- a programme for establishing Competence Centers (Kplus, Kind, ...),
- a programme on “Digital Economy and ICT”, or
- the FIT-IT programme.

To support the organization and management of funding programs, the Österreichische Forschungsförderungsgesellschaft (www.ffg.at) was founded, which also manages a certain amount of budget for research.

3.2 Main topics of preference

Core competences within the Austrian R&D community are identified in the following areas:

- E-Commerce
- E-Government
- Embedded systems
- Grid Computing
- Knowledge Based Systems
- Mechatronics
- Semantic Systems
- Security and Trust
- Software Engineering
- Systems on Chip
- Telecommunications
- Visual Computing

3.3 Most important research groups of (ICT-oriented) R&D

The Austrian research landscape in ICT is based on

- Computer Science Departments at Austrian Universities, to some extent also at Universities of Applied Sciences (Fachhochschulen)
- ARC Seibersdorf,
- Austrian Research Studios,
- Joanneum Research,
- Salzburg Research,
- Competence Centers and Christian Doppler Labors, which are partially industry, partially government funded research institutes, as well as
- R&D within companies.

List of Universities with ICT R&D

- Donauuniversität Krems
- Technical University of Graz
- Technical University of Vienna
- University of Economics and Business, Vienna
- University of Innsbruck
- University of Klagenfurt
- University of Linz
- University of Salzburg
- University of Vienna

List of Competence Centers

- Advanced Computer Vision, Vienna

- Carinthian Tech Research
- Electronic Commerce ec3, Vienna
- E-Business evolaris, Graz
- Forschungszentrum für Telekommunikation, Wien
- Health Information Technologies Tirol
- Industriemathematik, Linz
- Know-Center, Graz
- Mikroelektronik Cluster, Villach
- Software, Hagenberg
- VR und Visualisierung VRVis, Wien

List of Christian Doppler Labors

- Compilation Techniques for Embedded Processors
- Design Methodology of Signal Processing Algorithms
- Genomik und Bioinformatik
- Neuartige Funktionalisierte Materialien, Graz
- Nichtlineare Signalverarbeitung
- Software Engineering
- Technologie-CAD in der Mikroelektronik