Information and Communication Technologies

A Handbook on the Austrian Research and Innovation System

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FOREWORD

Hubert Gorbach
Vice-Chancellor and
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Ladies and Gentlemen

In recent years it has become a proven evidence that Information and Communication Technologies (ICTs) play a decisive role in sustainable growth and creation of new jobs in our economies. According to OECD studies more than half of the productivity growth in advanced economies is stemming from ICT, thus being responsible for substantial parts of added value in products, services and business processes. ICT acts (as recent ISTAG findings propose) as constitutive technology. It is by no means overstated to say that ICT is a key driver for progress, innovation and prosperity in nearly all sectors of the economy and society.

Yet, the high dynamics of ICT we have witnessed in the last decades will stay alive at least for the next 20 years. It is for this reason that the enhancement of research capacities at national and European level is a demanding policy task in order to address future challenges of this technology in a complex globalised world and to exploit the full potential of ICT for the benefit of economic and societal prosperity.

As you might extract from this Handbook, Austria is doing well on its path towards this common European goal: in recent years serious endeavours have been made in order to increase the Austrian ICT-performance in several areas.

Programmes such as FIT-IT (a top-down ICT- RTD-programme, focused on Embedded Systems, Semantic Systems and Systems on Chip), the Competence Center Programme (a structural programme fostering co-operation between academia and industry and establishing 7 high performing research centres) or the reorganisation of the Austrian Funding System by the establishment of the Austrian Research Promotion Agency (FFG) – to name just a few initiatives –have led to an upgrade of the Austrian Innovation System in this important area.

I do hope that this Handbook will provide you with useful information on the Austrian ICT-landscape and will inspire new insights and new co-operations.

Executive Summary

In recent years and in the context of globalisation National Research and Innovation strategies have increasingly obtained an important role in strengthening the competitiveness of the industry. Fostering the knowledgebase of industries through research programmes and promoting incentives for innovation have become tasks with high priority on the political agenda.

Since Information and Communications Technologies (ICTs) - being cross-sectoral technologies affecting nearly all aspects of economy and society - are considered as key factor and driving force in the progress towards a knowledge based economy, this handbook will introduce the Austrian Research and Innovation System focussed on activities related to ICTs.

The first part outlines the overall picture of ICT-Research activities both in the context of the Austrian Innovation System and their historical development.

Part two focuses on the Policy Framework of ICT-Innovation in Austria, providing background information to the quite complex national governance structure and to several recent e-initiatives.

Measuring information society within the national or European ICT-landscape has become more and more an important matter, in order to back up long-term policy decisions and to monitor their impact on economy and society. Thus part three showcases some well known key indicators in ICT, based on recent OECD figures and benchmarking Austria in the context of global competition. During the last decade the Austrian performance was marked by a rapid growth in several ICT-areas.

Finally in the fourth part some 150 national industry players, research and innovation centres in the area of ICT are presenting their research portfolio and providing contact details to potential co-operation partners.

Setting the Scene

Introducing Remarks

1.1 Background

Information and communication technologies (ICTs) have been identified as a major driver of economic growth in recent decades. Until today they have been among the sectors with the highest technological and economic dynamics. ICTs not only contribute significantly to productivity growth and create new markets for goods and services but as 'general purpose technologies' they also penetrate practically all parts of our societies and change the ways we communicate, work and live.

Due to this importance, ICTs have also been at the centre of research, technology and innovation policies in many countries. Recognition of the fact that the development and diffusion of ICTs are both part of a larger development towards knowledge-based economies and societies and at the same time an important enabler of this broad societal trend calls for a wide range of coordinated policies as well as for better monitoring of statistics to follow policy measures and their impact. To fully reap the economic and societal benefits of ICT, countries are therefore currently addressing a whole range of policies from R&D to diffusion and framework conditions to foster ICT development and use.

This brochure aims to give an overview of ICTs and the respective policies to foster the development and diffusion of ICTs in Austria with special emphasis on a comparison of Austria within an international context. This publication is organised as follows: In part I (Setting the Scene), a general overview of the R&D and innovation system in Austria and its relevance for ICT is given (Chapter 1.2.1). This explains the background in which the special ICT-related policies are embedded. Chapter 1.2.2 presents the various policy measures addressing ICT (or Information Society at large) in detail. It covers a wide range of policy measures and coordinating activities, ranging from policies which address the general development of the knowledge and information society in Austria (e.g. e-government, ICT diffusion, ICT skills) to specific measures developed to foster research and innovation activities in ICT. Chapter 1.2.3 gives empirical evidence on ICT and its diffusion in the Austrian economy and society. A set of indicators is used to position Austria within an international context. The indicators are organised in various sub-themes, namely the economic significance of ICT, research and development in ICT, diffusion of ICT and e-government. Part II (Governing R&D in ICT) presents an overview of important ICT players in Austria. It provides an insight into selected Austrian companies and organisations active in ICT research and gives detailed information on the respective organisations, such as fields of activities, research projects, grants received etc.

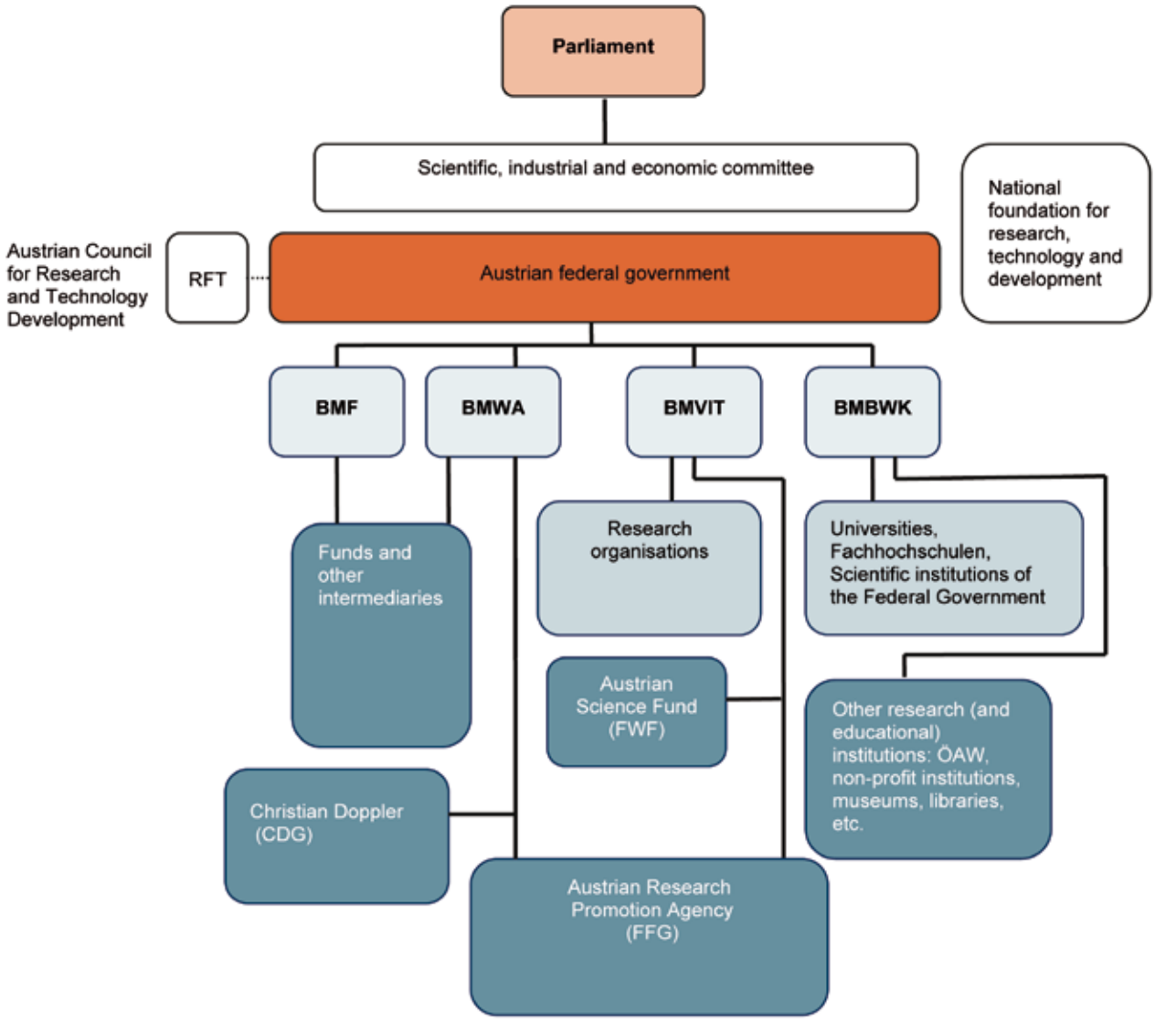
1.2 The Austrian Innovation System – a brief overview

1.2.1 R&D and Innovation Policy in Austria

Major responsibilities in R&D and innovation policy are allocated to four ministries (BMVIT / Federal Ministry for Transport, Innovation and Technology, BMBWK / Federal Ministry for Education, Science and Culture, BMWA / Federal Ministry for Economic Affairs and Labour, and the BMF / Federal Ministry of Finance). These ministries have strategic and financial responsibilities for several technology policy agencies (aws / Austrian Economic Service, FFG / Austrian Research Promotion Agency, FWF / Austrian Science Fund) which are in charge of implementing and managing operational programmes and instruments, ranging from basis scientific research to seed financing, applied research in private business and thematic technological programmes. As a consulting body the Austrian Council for Research and Technology Development was founded in the fall of 2002 to advise the federal government in all matters related to policies for research, technology and innovation. It has also been involved in a multitude of decisions concerning the distribution of special funds made available by the federal government for research and technology since 2001.

The major agency for applied R&D is the FFG, bringing four previously independent subsidy-distributing institutions (FFF – Industrial Research Promotion Fund; TIG – Technology Impulse Association; BIT – Bureau of International Technology; ASA – Austrian Space Agency) under a single umbrella. The FFG is now responsible for most of the research and technology policy programmes that promote industrial R&D and related innovation activities. Many of these initiatives promote IT themes; some of them support projects that are investigator-driven irrespective of the thematic orientation of the R&D project. The Ministries for Economic Affairs and Labour (BMWA) and for Transport, Innovation and Technology (BMVIT) share the responsibility for this new organisation. An overview of its current structure can be seen in the figure 1.

Figure 1: Organisation of technology and innovation policy in Austria



ARC:	Austrian Research Centers
AWS:	Austria Wirtschaftsservice Gesellschaft mbH
BMBWK:	Bundesministerium für Bildung, Wissenschaft und Kultur (Federal Ministry for Education, Science and Culture)
BMF:	Bundesministerium für Finanzen (Federal Ministry of Finance)
BMVIT:	Bundeministerium für Verkehr, Innovation und Technologie (Federal Ministry for Transport, Innovation and Technology
BMWA:	Bundesministerium für Wirtschaft und Arbeit (Federal Ministry for Economic Affairs and Labour)
CDG:	Christian Doppler Forschungsgesellschaft (Christian Doppler Research Association)
FFG:	Österreichische Forschungsförderungsgesellschaft (Austrian Research Promotion Agency)
LBG:	Ludwig Boltzmann-Gesellschaft
ÖAW:	Österreichische Akademie der Wissenschaften (Austrian Academy of Sciences)
RFT:	Rat für Forschung und Technologieentwicklung – now a public law entity (FTFG, Federal Law Gazette I 73/2004)

(Source: Austrian Research and Technology Report 2005, p. 17)

1.2.2 Main Bodies and Players in ICT Policy

In Austria, ICT policy responsibilities and programme implementation are spread between a number of ministries and other administrative bodies. A brief account of the distribution of competence and responsibilities is given below:

Table 1: Federal Ministries with special relevance for ICT in Austria

Organisation	ICT-related responsibilities, main ICT activities
Federal Chancellery (BKA)	e-security / e-government / data protection and privacy / technical specifications / co-ordination of horizontal activities
Federal Ministry for Economic Affairs and Labour (BMWA)	ICT innovations / e-Business / e-content
Federal Ministry for Transport, Innovation and Technology (BMVIT)	ICT-related R&D / broadband use / ICT infrastructure and telecommunication / ICT innovations
Federal Ministry for Education, Science and Culture (BMBWK)	e-Learning / education / IT for schools, polytechnic colleges and universities
Federal Ministry of Finance (BMF)	electronic documents / electronic payments / taxes
Federal Ministry of Justice (BMJ)	legislation concerning telecommunication and e-commerce / e-security
Ministry of Social Security, Generations and Consumer Protection (BMSGK)	e-commerce consumer protection / development of IT-applications for relevant areas
Federal Ministry for Health and Women (BMGF)	health telematics, e-Cards

In addition, the communications regulatory body (RTR), the Austrian Chamber of Commerce and the Chamber of Labour, the nine federal provinces, social security bodies, and research and innovation funding institutions also play important roles in shaping, determining and carrying out ICT-related policies.

Table 2: Organisations and institutions with significant relevance for ICT in Austria

Organisation	Main ICT related activities
Austrian Council for Research and Technology Development (RFT)	advisory council to the federal government and the ministries in all matters related to research, innovation and technology policy
Austrian Regulatory Authority for Broadcasting and Telecommunications (RTR)	legal authority for regulation, specific questions, management of and support for legal procedures and operating licenses
Austrian Fund for Scientific Research (FWF)	funding of basic research
Austrian Research Promotion Agency (FFG)	funding of applied research and technology development, management of science-industry collaborations
Austrian Economic Service (aws)	support of start-up companies, granting of loans and advisory services for businesses
Austrian Social Security Agencies (HSVG)	preparation and introduction of the e-card, health insurance certificates
Austrian Federal Chamber of Commerce (WKO)	information platform, training and Telefit-roadshow, social partnership
Austrian Federal Chamber of Labour (BAK)	background reporting, advice, social partnership

1.2.3 Co-ordination of ICT Policy

The nature of ICTs as generic technologies affecting nearly all sectors of the economy and society and the resulting number of institutions addressing ICT policy in one way or the other raise a huge challenge for establishing a coherent policy towards ICT (or Information Society policies at large). A number of bodies have been put in place to ensure policy co-ordination and coherence.

In terms of overall co-ordination, the Federal Chancellery co-ordinates horizontal information concerning social issues, in co-operation with several ministries: the Ministry for Economic Affairs and Labour, the Ministry for Transport, Innovation and Technology, and the Ministry for Education, Science and Culture.

An advisory board for the Information Society (BIG), which was created by the Federal Chancellery in 2005, is developing a plan of action for Austria's ICT-policy ("eAustria 2010").This board meets every three months. It is composed of representatives from relevant bodies (including the Chamber of Labour and the Chamber of Commerce, the Federal Ministries, consumer organisations, internet service providers, R&D funding institutions, industry, and the regulatory authorities for broadcasting and telecommunications). This forum discusses legal issues and emerging problems as well as the implementation of EU-level policy in Austria.

The national communications regulatory authority (RTR) was requested by the Minister for Transport, Innovation and Technology to prepare a White Paper on ICT-Strategy ("IKT-Masterplan 2005"). It was first presented at the end of 2005 and is currently undergoing review and discussion.

1.2.4 Major Policy Activities and Programmes in ICT

E-Government

E-government is a high priority for Austrian ICT policies, and it is a declared strategic aim to maintain Austria's advanced position in the implementation of e-government services. Austrian e-government services are characterized by high interactivity and are relatively advanced compared to the majority of the other European countries. E-government is increasingly important as a driver of business ICT applications and it is improving the efficiency of governmental services. In 2004, more than 75% of Austrian businesses used e-government services on public websites, such as the downloading of forms and obtaining of information.

It is possible to use Austrian e-government services for the exchange of data between government institutions and citizens, such as the filing of income and corporate taxes. From 2005, electronic files (ELAK) are replacing hard copy paper files in all Austrian Ministries. The 'Federal Act on Provisions Facilitating Electronic Communications with Public Bodies', enacted in March 2004, sets the framework for electronic interaction between administration and citizens, notably through the use of electronic identification in line with the Austrian citizen card concept. The Austrian government has decided to devote particular attention in 2006 to the issue of interoperability, electronic delivery, electronic identity management and the recognition of electronic signatures in order to further enhance the possibilities for electronic interaction with the citizens. Recently the e-government innovation centre (egiz), was installed with the aim of providing a platform for research activities on e-government solutions. In Austria, e-government initiatives are a main driver both of ICT development and diffusion, not least because of the importance of the public sector as a user.

Regulation of telecommunications market

Austria's telecommunications market has been progressively liberalized since the early 1990s and is now a very competitive market. This has been recognised recently in the EU report on competition, where Austria is among the countries allowing for most competition in these markets in European comparison. Telecom liberalisation has had a strong impact on competition and tariffs: more than 40 operators offer their services in the fixed voice telephony market, together with eight providers for GSM and five providers for UMTS mobile telephony. Residential telephone charges are well below the OECD average, and the composite basket of business charges in Austria is close to the OECD average.

The telecommunication market has shown continuing growth in general, with rapid growth in the market for mobile telephony, which has approached full saturation (i.e. close to 100 % market penetration). In

terms of total sales, in 2004, it surpassed the fixed voice telephony market. Also broadband connections have shown a very high growth rate both in the number of connections as well as in revenues. The national communications regulatory authority (RTR) was created to further enhance competition and prevent oligopolistic behaviour on these markets.

Funding ICT research

A considerable share of public support to private R&D in Austria is funnelled without a focus on a specific technology (e.g. via the 'bottom-up' funding of the FFG). Nevertheless, a major part of this support accrues to ICTs (30% of total funds, almost € 30 million in absolute terms). The same holds true for most of the other generic instruments of R&D policy: e.g. in the programmes fostering centres for the creation of academic spin-offs (A+B programme) or the competence centre programmes (k-plus, k-ind, k-net), aiming at establishing long-term collaborative relations between academia and business, ICTs again occupy a significant share.

Apart from these 'non-earmarked' monies, a dedicated programme, FIT-IT, was launched by the Ministry for Transport, Innovation and Technology in 2002 and is run by the Austrian Research Promotion Agency (FFG) and Eutema. It is a targeted support programme for IT and aims at funding projects of strategic orientation with a time horizon to market them of some three to eight years. It is organised around so-called thematic programme lines in which calls are organised and the respective project applications are evaluated by international peer review. It was evaluated favourably in a mid-term evaluation. Currently the programme lines comprise "Embedded Systems", "Semantic Systems" and "Systems on Chip". Initially, the Ministry for Transport, Innovation and Technology earmarked a budget of about € 10 million for 2002/2003 and 19.7 million for 2004/05 respectively.

In addition, a number of other thematic programmes (like i2 – intelligent infrastructures, logistics Austria plus or a telematics application programme for public transport) have a strong ICT bearing.

Thus, it can be said that even if there are only few R&D programmes directly addressing ICT, the overall amount of funding for R&D in ICT is very substantial.

1.2.5 Trends in Economic Development

Austria is a small, open economy which is among the most developed industrial nations. The strength of Austria's economy places it well ahead of most other OECD countries: its gross domestic product (GDP) per capita is more than 15% higher than the OECD average; in 2003 it ranked number six in purchasing power per capita.

Its post-war growth trajectory has been characterized by a long-lasting catching-up process, in which high growth rates of production and labour productivity were achieved mainly through comparably high investments in physical capital combined with a well trained labour force. The growth advantage realised in this period faded when Austria approached the technologically most advanced nations in the 1980s and 1990s. Since then, and especially since Austria's accession to the EU in 1995, the country has undergone considerable modernisation and structural change. Major elements of this structural change were increased investments into the knowledge base and catching up with respect to ICT development and diffusion.

After a recent period of slower economic growth, the economy has recovered, with a GDP growth of currently around 2%. These growth rates – while lower than in past decades - are higher than those of major European countries like France, Germany, Italy or Spain. This economic performance is, however, still weaker than that of small countries in Europe comparable to Austria such as Finland or Sweden. These top performers have been consistently investing a higher percentage of their GDPs in R&D, especially in growth drivers such as information technology and innovation.

1.2.6 R&D in Austria

In terms of investments in the knowledge base, Austria is among the few countries which have seen an increasing R&D intensity at a pace compliant with the Barcelona target of reaching 3% R&D intensity

by 2010. Both public and private expenditures for R&D have risen steadily and considerably over the last couple of years, with R&D from abroad as a major source of funding especially for the business sector. The increase in R&D intensity was to be seen across all sectors, including 'traditional' ones (like wood, basic metals, chemicals) and among enterprises of all size. With respect to R&D performed in the business sector, Austria also meets already the second Barcelona target of enterprise involvement in the national R&D effort with an approximate share of 2/3 stemming from the private sector.

For 2005, the overall gross economic expenditure for R&D [GERD] was € 5,773 million (according to estimates provided by Statistics Austria), an increase of 8% over the previous year. With this, the GERD has grown significantly faster than the gross national product [GDP]. The R&D intensity (that is, the GERD as a percentage of the GDP) increased from 2.27% (in 2004) to 2.35% (in 2005). This development has been fuelled by increases in expenditure by each of the three key financing sectors – private business sector, public sector and financing from abroad. In the long term, the importance of the private business sector has been increasing due to its higher growth rates. Domestic companies are now financing 43% of domestic R&D spending. The percentage share of the public sector declined during the past decade and is now 36%. Foreign financing has remained nearly constant at about 20%.

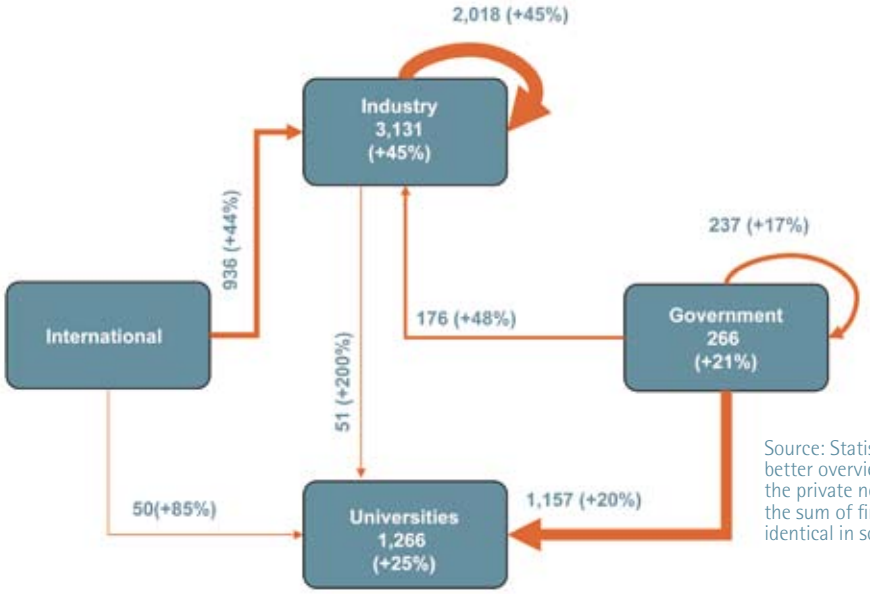
The goal of achieving 3% of the GDP as R&D expenditure, defined by the European Council Meeting in Lisbon in 2000 as a desirable percentage by 2010, appears to be feasible for Austria, provided that the positive development of recent years continues. As of 2004, Austria's R&D intensity is above the EU15 average, and it is close to the total OECD average. The growth of Austria's aggregate R&D expenditure has been well above OECD and EU15 averages already since 1995.

The still growing degree of internationalisation is also an important factor that has influenced innovation in Austria. Membership in the European Union and Austria's active participation in the European Framework Programmes for Research and Technological Development have been contributing factors, together with more foreign investments within Austria's corporate sector. Almost 40% of the R&D performance in the domestic corporate sector stems from foreign institutions. The financial support of foreign-owned companies based in Austria contributes substantially to the level of R&D currently undertaken in Austria. Austria is attractive as a R&D location due to the availability of highly qualified scientists and engineers, the accessibility of cooperative universities and research labs, and the proximity to key customers. The benefits gained from the participation of Austrian researchers in the EU Framework Programmes are considerable, and Austria's researchers play an important role as collaborators and as co ordinators in the 6th Framework Programme for Research and Technological Development.

With respect to the development of Human Resources for R&D, Austria has been approaching the generally higher European average lately: in 1998, Austria had only 4.8 R&D personnel per 1,000 employees; by 2002 this figure had grown to 6.1 per 1,000 employees. In the corporate sector, the total number of R&D employees rose during the same period from 20,400 to 26,700 (in full-time equivalents), corresponding to an average growth of 7%. Austria's universities are intensifying their activities with regard to knowledge and technology transfer. The number of collaborative projects between university institutes and companies in the private sector has risen substantially as science-based technologies have gained ground and more funding – through EU-initiatives and specific programmes in Austria – has become available.

A look at the financial sources for R&D as well as at the distribution of the research projects carried out demonstrates a clear division between two areas: the corporate sector on the one side and the public sector, including universities, on the other. The corporate sector essentially finances its own research: in-house resources and international inflow together cover almost 95% of the R&D activities in industry. Research carried out at the universities and in the public sector is financed almost entirely by the public sector alone. This split in the country's innovation system is quite persistent and has only recently started to change. Although private enterprises currently support R&D at universities with € 51 million per year, this represents only 4% of the total R&D investment in the university sector. However, this share constitutes the most rapidly growing financial flow in the innovation system, with an increase of 200% between 1998 and 2002. International financing for the universities has also grown considerably: an increase of 85% between 1998 and 2002 has been seen (see figure 2).

Figure 2: Financing and performing of R&D in Austria 2002, and change between 1998 and 2002, in million €



Source: Statistik Austria, representation by tip. For a better overview, several minor financing flows and the private non-profit sector were left out, so that the sum of financing and implementation is not identical in some sectors.

(Source: Austrian Research and Technology Report 2005 p. 14)

Support in Austria for R&D and innovation has focused on (a) basic funding given to universities and research centres, (b) direct project funding given to research institutions and firms, and (c) indirect funding through R&D tax incentives. During the last years, the share of public institutional funding for basic R&D has diminished, whereas direct and indirect business funding has increased considerably. The support has focused increasingly on applied research with market potential. Cooperative research aimed at academic excellence and industrial needs is being supported through several structural programmes (such as the K-plus, K-net and K-ind Centres and the CD/Christian Doppler Laboratories), with a majority of the funds' recipients being ICT-related centres.

1.2.7 ICTs in Austria

The ICT sector in Austria accounts for 6.7 % of total employment in the private sector (in 2003); a value which is close to the EU average but considerably lower than Finland (10.7 % share of ICT employment) and other IT-intensive economies. With respect to ICT specialists (programmers, software developers etc.), the European Labour Force survey found in 2003 that Austria has caught up from a weak position in 1995, as did Denmark, Finland and Canada (see part 3, figure 3.3.4).

During the mid-1990s in Austria, diffusion and use of ICTs (e.g. PC diffusion in households) was well below the OECD average, but has increased considerably since. Yet still only about 44% of Austrian households had Internet access in 2004, well behind the Nordic countries with rates between 70% (Denmark) and 80% (Iceland). In terms of broadband connections, Austria's position is close to the OECD average: broadband usage increased by almost 40 % between June 2004 and June 2005, twice the OECD average increase during this period. Many of the 'e-readiness indicators' for Austria are in the middle range and are moving up. The overall strongly pro-competitive regulatory framework and the increase in R&D – including ICT R&D – provide a good basis for further growth.

In terms of development of ICTs, Austria has seen major changes in market structures, following the comparably late liberalisation of its telecom markets. Due to increasing adoption of ICTs both by enterprises and households, a rapid diffusion of some ICTs like mobile telephony or wireless broadband access could be observed. The public sector on its part intensified activities in e-government. As a consequence, Austria has climbed up the ladder of various ICT related rankings from the position of a laggard to a position reaching or in some indicators even surpassing the EU average. Austria has already a higher share of ICT in

value added than countries such as Japan, Belgium and Denmark, the share of ICT employment in Austria is close to the respective shares of Germany and the United States.

However, investment in the acquisition of knowledge (R&D, software, higher education as a share of the GDP) was still below the OECD and EU average in 2002. Furthermore, the share of GDP spent for investments in machinery and other material equipment was, in the same year, above the OECD and EU average, and the percentage has remained the same in the following years, reflecting the weight of traditional machinery-intensive industries in Austria's economy.

While exports of the sector and investments in ICT in Austria still account for a lower share than in countries with a pattern of industrial specialisation more skewed to ICT such as Finland, Korea or Ireland, both have been growing steadily over time (see part 3, Figure 3.2.4). The European Innovation Scoreboard 2005 finds Austria already among the countries with ICT expenditures above the EU average. Moreover, ICT components are embedded in a wide range of the diversified Austrian export structure, including many so-called 'mature' product markets.

1.2.8 R&D in ICT

Alongside the general growth of R&D intensity, also R&D in the ICT sector has increased and occupies a major share of the R&D total in Austria, accounting for some 30 percent both of the overall R&D expenditures as well as of R&D employment in the private business sector. This makes the ICT sector the most R&D intensive one in Austria, with ICT related private business R&D amounting to some €900 million in 2002. The overwhelming part of this R&D is performed by firms of the radio, television and communication equipment industry with other manufacturing industries playing only a minor role. The size of computer related R&D in services is about 10% of total R&D in ICT and is significantly growing over the course of time not only in absolute terms but also as a share of total R&D in ICT.

The quality of Austrian R&D in ICT is underlined by the fact that Austrian enterprises and research institutions have been participating and currently are participating intensively in the respective parts of the EU Framework Programmes for R&D (e.g. in the IST programme of the 6th Framework Programme) and that they were able to achieve a quite high success rate with respect to projects granted.

Despite the recent intensification of 'knowledge intensive' investment such as R&D and ICT, there is still room for further catching up vis-à-vis other small European countries, notably the Nordic countries, most of which undertook modernisation and liberalisation several years earlier and which are now more advanced in terms of ICT production and diffusion.

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Governing R&D in ICT

Policies and Programmes

2.1 Introduction

Information and communication technologies (ICTs) have become a major technology policy issue during the past two decades. A widespread diffusion of ICT and a thriving IT research community are regarded as important pillars of economic growth. Consequently a broad range of measures and initiatives have been designed to foster ICT and ICT-related R&D. In this chapter we discuss the overall governance structure of ICT policy in Austria, the underlying strategies and the various institutions and instruments which are in place to explicitly or implicitly influence the creation of new knowledge in ICT and/or the diffusion and use of ICT.

In Austria there is a general consensus among technology policy makers and actors that ICTs are among the key technologies to foster economic growth and global competitiveness. A strong ICT sector as well as a widespread use of new IC technologies is regarded as an important prerequisite of reaping the potential fruits of the information society. Information and communication technologies greatly influence both our business and social relationships through the immense reduction in transaction costs, in particular with respect to reachability, speed and transparency. Not only businesses, but also the government plays a significant role in defining the quality and efficiency of services. Consequently e-government has become a very important policy area in Austria. It is regarded as a key element where policy can directly enhance the ICT use and the quality and acceptance of ICT in the society. The wide range of applications and services makes e-government clearly a cross-sectional topic and the generic nature of ICT requires the involvement of a wide-range of ministries and institutions. Since ICT R&D policy is a generic policy area, the Austrian ICT policy system encompasses a wide range of institutions and policy actors. The following sections describe the policy framework and the distinctive policy measures and initiatives in detail. Chapter 2.2 starts with an overview of the broader context of policies orientated towards the information society as a whole and the general strategies and coordinating activities associated with these policies. Chapter 2.3 focuses on the R&D and innovation oriented policies in Austria and describes the wide range of programmes which have been developed to foster these knowledge creating activities. In chapter 2.4 a diverse set of initiatives is described which may be summarized as diffusion oriented polices. These initiatives range from e-government and public sector activities to diffusion-fostering funding programmes for the private business sector and to programmes to enhance ICT related skills. In Austria, the federal provinces are playing an important role for technology policy in general and ICT policy in particular. Thus, chapter 2.5 gives a brief overview of important ICT-related activities and initiatives at the regional level.

2.2 Information Society Policies: General Strategies and Co-ordination

Austrian ICT policy is based on strategic aims defined at the European level, particularly by the Council of Feira (2002) and Lisbon (2000). Other influential EU activities include the Seville European Council (June 2002) and the Council Resolution on the Implementation of the eEurope 2005 Action Plan (January 2003). E-government is a high priority for the Austrian government and it is a declared strategic aim to maintain Austria's leading position concerning the implementation of e-government. Within the Federal Chancellery a number of responsibilities have been localised which formulate the strategic routes to an integrated and holistic approach to e-government in Austria.

The Chief Information Officer (CIO): The CIO is consulting the federal government in strategic and technical matters of e-government and ICT in public administrations; heading the strategic platform "Digital Austria" (for details see below); linking up with the e-government bodies of federal provinces and local government bodies; representing Austrian e-government interests at the European level and internationally in various organisations and groups.

The strategic platform "Digital Austria": This board presents an umbrella and consists of the CIOs from the federal ministries, governments of the federal provinces, representatives from the cities association and the municipalities association, and further representatives from private or independent government bodies (e.g. the Chamber of Commerce, the central healthcare organisation, the central institute for statistics, etc.). "Digital Austria" is responsible for the strategic decision-making with respect to the prioritised e-government projects in Austria, for the monitoring thereof and for the communication and co-ordination of these projects. It is headed by the CIO (see above). On operational level, it is served by the ICT strategy group installed at the Federal Chancellery, by task forces of the former ICT Board

and E-Cooperation Board, and by the various working groups installed for specific purposes (such as the development of standardised communications architectures, e-government forms style guide, LDAP directory for governments, core components of registers, long-term archiving, Internet policies.). The working groups are usually formed by representatives of the relevant governments including provincial and local governments. The new consolidated structure of the strategic boards installed in autumn 2005 guarantees a broadly accepted coordination of the three levels of government in Austria and it continues the tasks set up in the Austrian e-government strategies since 2001. In this way, sustainability of ICT developments for the public sector is guaranteed. The consolidation further eliminates overlapping tasks from the former boards and it strengthens the next challenges of a broad implementation, roll-out, integration and usage of e-government solutions at all levels of government in Austria.

The ICT strategy group at the Federal Chancellery: Established in autumn 2005, the ICT operative unit headed by the CIO of the federal government and the ICT department of the Federal Chancellery has been consolidated to continue the tasks of both units in a unified group thereby strengthening the common co-ordination and implementation efforts of the federal government in Austria. The main tasks of this group are the co-ordination of legal and organisational e-government matters in Austria together with the linkage with, and representation of Austria in international activities/organisations, the co-ordination of technical infrastructure at federal level, the ICT project and programme management in the Austrian government, the ICT budget controlling and related procurement, and public relations.

The e-government innovation centre (EGIZ): With the consolidation of the ICT bodies installed for the period of 2001 – 2005 into the above introduced entities, the e-government innovation centre has been founded. EGIZ is a group of researchers that investigates innovative technologies and solutions for e-government. With this co-operation both groups (the EGIZ for research, the ICT strategy unit for the implementation) can put their core focus on their respective duties. On the other hand, a closer collaboration between research and application is envisaged. The EGIZ should be the platform for research activities with respect to e-government solutions and an Austrian network in this field.

A major player, the ICT board of the federal ministries, was introduced in June 2001 and began its operation in August 2001. The Austrian government founded the board in the context of the reorganisation of its ICT strategy. The ICT board was responsible for co-ordinating horizontal e-government activities on the federal level. The responsibilities covered the planning, decision making and monitoring of the implementations. Adjoined to the ICT board, the ICT operative unit at the Federal Chancellery supported the board on the operational level.

With the e-government initiative 2003, the e-government platform was founded on the political level headed by the Federal Chancellor. The e-government platform put forth a so called e-government roadmap 2003-2005 that included a master plan for joint projects, financing models, an implementation framework and general objectives. As an assistive body on the operational level, the E-Cooperation Board was put in place, headed by the executive secretary for e-government. It focused the co-ordination of ICT developments of the federal government with the federal provinces, the local governments, and with the private and other sectors according to the e-government roadmap 2003-2005.

In 2005, the e-government policies and projects settled in the ICT strategies 2001 and 2003 were reached more than satisfactorily. E.g. the legal basis of all e-government activities was defined by the e-government law on March, 1st, 2004, several by-laws were put in place in 2004-2005, the basic infrastructure for e-government has been in place since 2005 and the roadmap projects (more than 70) have been successfully implemented (for a more detailed description see later on). To guarantee sustainability of the ICT policies for the public sector and to continue developments and investments made so far, a consolidation process has taken place since the beginning of 2005. Several milestones guarantee the continuation of the e-government agenda, which were approved by the council of ministers in June 2005:

- consolidating the ICT board with the E-Cooperation Board to form the strategic platform "Digital Austria" (the tasks thereof are described above);
- merging the ICT operative unit and the ICT department of the Federal Chancellery to strengthen common efforts and to eliminate redundancies in investments;
- confirming the continuation of the ICT policies to guarantee sustainability and large diffusion of e-government solutions throughout all levels of Austrian government (see details later on); and
- contracting the e-government innovation centre (EGIZ) to link up forward-looking innovation in e-government technologies with the core targets of implementation, i.e. to create a stronger dialogue between research and application.

In conjunction with the organisational adaptation, the national ICT strategy and implementation plan is being settled to address the challenges for the coming years. The main pillars of this strategy are (i) Application of e-government by large and its sustainability: in the last five years, Austria has successfully implemented the main e-government building blocks. The next natural step is the broad usage of these building blocks in order to guarantee sustainability and return of investment on the one hand, and convenience and quality of service on the other hand. (ii) International co-operation: with the approach Austria implemented within the last years, a leading position has been reached in Europe. The experience gained and standards specified so far shall be shared with others. Quite some challenges still lie ahead such as pan-European e-services, interoperability in national and international e-government solutions, European electronic ID management, long term archiving, intelligent and accessible content, ICT and e-government skills development. To advance solutions in these issues, a strong international co-operation is required.

The following core topics are currently being detailed to form the national ICT strategy and implementation plan for the next period:

- Creating and increasing the use of (cross-border) e-services (regardless of sectors and public/private dimension) thereby adding the value to content, and improving the transparency and quality of service.
- Strengthening basic principles such as interoperability, seamlessness, accessibility and usability, multi-platform access (technological neutrality), security, data protection, trust and confidence in order to comprehensively enable e-services provision and e-processes within and across organisations
- Skills, trust in the technology and proper work environments suitable for an all-inclusive and knowledgeable information society are the preconditions for a broad usage and acceptance of new technology.
- New technologies, new services, knowledge-enriched content, new modes of work (net-worked organisations) and integrated process execution will add value to the current services and content. Innovation in ICT from within government including sectoral advancements (e.g. for healthcare, education, police, emergency management) is crucial for advancing the domain and to guarantee sustainability, economic growth and global competitiveness.

2.3 ICT Innovation and R&D Policies

The main players involved in ICT innovation programmes are the Ministry for Economic Affairs and Labour and the Ministry for Transport, Innovation and Technology. Recently, the Austrian technology policy system has undergone a major change. The so-called FFG (Austrian Research Promotion Agency) was established in 2004 as a result of the merger of the former Austrian Industrial Research Promotion Fund (FFF), the Technology Impulse Association (TIG), the Bureau of International Technology (BIT) and the Austrian Space Agency (ASA). The FFG is now Austria's main agency to promote industrial R&D and innovation activities. The activities of the FFG are of major significance for ICT related R&D in Austria at various levels. There are several Austrian initiatives promoting ICT innovations which have been developed by these ministries, some of them specifically targeted to ICT, some of them do not have any thematic restrictions albeit they do have a high significance for ICT. A great deal of these programmes aim at industry-science co-operations, an area which was perceived as a severe bottleneck in Austria in the 90ies and hence, various instruments have been developed to tackle this problem. The various programmes differ with respect to the innovation stage they target (i.e. basic research, applied research, product/process development and innovation), the role they assign to private industry and public science partners and the maximum time-frame of the funded projects. In the following the various programmes and initiatives are described in some detail to shed light on the diverse policy system to foster ICT-related innovation activities in Austria.

2.3.1 ICT R&D Programmes

R&D programmes are mainly carried out by the Ministry for Transport, Innovation and Technology, some of them directly targeted towards ICT, whereas others have a high, but indirect impact on ICT. The main current R&D programmes as well as some others from the most recent past with high relevance for ICT related R&D in Austria are described in the following:

FIT-IT is a programme developed by the Ministry for Transport, Innovation and Technology and addresses explicitly certain thematic areas within ICT. It was launched in 2002 after the approval of the Council for

Research and Technological Development (RFTE). FIT-IT supports co-operative research that addresses challenging innovation and technology development in the area of information and communication technologies by focusing on visionary and interdisciplinary projects. They aim at significant technological innovation and at a time-to-market frame for new application areas of three to eight years. FIT-IT is explicitly targeted towards precompetitive research. Thus it is aimed to foster research co-operation between academia and the business sector. FIT-IT It is organised around so called thematic programme lines currently called "Embedded Systems", "Semantic Systems" and "Systems on Chip" in which calls are organised and the respective project proposals are evaluated by international peer review. Initially, the Ministry for Transport, Innovation and Technology earmarked a budget of about € 30 million for 2002 to 2005 and € 13.5 million for 2006. The project management is carried out in co-operation with Eutema Technology Management and FFG. The project administration and financial controlling is undertaken by the Austrian Research Promotion Agency (FFG).

Promotion of investigator driven industrial R&D projects regardless of the thematic orientation of the project: As mentioned above the former Austrian Industrial Research Promotion Fund (FFF) was integrated into the newly established FFG in 2004 and the funding is now running under the auspices of FFG. This programme scheme invests into innovative projects from all areas, without any thematic restriction. Firms get support in several ways, often with interest-free loans. The total amount of funding for ICT provided by the (former) FFF in the year 2004 amounted to € 76 million, which means that the FFF allocated about 30.6 % of its funding to ICT projects. Thus, due to its scale, this scheme is among the major programmes in fostering R&D projects at the level of private business firms.

Promotion of investigator driven basic R&D projects regardless of the thematic orientation of the project: The Austrian Science Fund (FWF) is the main instrument to foster basic research in Austria. To gain funding an investigator-driven project has to been approved by an international peer review process. According to FWF sources about 7 % of all funded projects are ICT related in the narrow sense (i.e. from informatics and related disciplines). During the last years, the emerging discipline of quantum informatics was especially successful and received significant funding from the FWF.

Bridge is an umbrella programme which was developed to tackle the perceived gap between basic research on the one side and applied research and development on the other side. Bridge consists of two interdependent programmes: (i) the "Crossing Bridge Programme" ("Brückenschlagprogramm") in the responsibility of the FFG aimed at the private industry sector and (ii) the "Transnational Research" in the responsibility of FWF aimed at the public re-search sector ("academia"). These Programmes address researchers and businesses independently of thematic orientation or industrial specialisation. A first call was organised during spring 2005, currently a second call is open (deadline: September, 15th, 2005). The first call received 87 project applications of which 37 got funded with a total volume of € 4.97 million. According to information of the FFG six of these projects (with a funding volume of € 467.000) belong to the ICT sector.

Seed-financing-Programme: In the area of the provision of venture capital, the seed-financing-programme finances and supports the development of innovative high-tech firms during their start-up and initial growth-phase. Seed-capital is provided in form of mezzanine-financing and equity capital. In addition, assistance services for the start-up or the early phases are provided. Firms can be funded up to a maximum of € 726,728.34. The seed-financing programme was evaluated in 2004 (Malik Management Zentrum St. Gallen). The programme portfolio consisted of 136 enterprises during the period 1989 – 2003. The seed-financing-programme is not restricted to specific industrial sectors, the main criteria for selection are based upon R&D, patents and growth potential. However, ICT firms have a high share in the portfolio of firms covered by the seed-financing-programme.

The AplusB programme was established in 2002 to foster the formation of spin-offs from universities and other public research organisations. Today, the programme funds nine AplusB centres (organised at universities) which promote spin-offs by offering general information and assistance for the set-up process, covering costs and services associated with the set-up process and delivering office room etc. Although AplusB centres are open to academic spin-offs irrespective of their technology orientation ICT orientated spin-offs have a significant share of the total number of spin-offs which are covered by this programme.

TAKE ÖV (Telematics Applications for Public Transportation Passengers) is a project platform initiated by the Ministry for Transport, Innovation and Technology aiming to bring together high-tech industry, public transportation operators and research institutions. The programme aims at the development

and implementation of intelligent telematics applications in public transportation. The duration of the programme was from 1999-2003 and it covered four different themes: (i) ASSIST - Austrian information services for travellers; (ii) BSI - Systems and intelligent infrastructure; (iii) TRANSACT - Transaction systems; and finally (iv) ÖV-IV - Interface between public transport and individual transport.

Logistik Austria Plus a programme, developed by the Ministry for Transport, Innovation and Technology was running from 1999-2003. It aimed at promoting research and development in Austrian logistics firms. The programme focused on four thematic areas: logistics infrastructure, green logistics, supply chain management and e-business in logistics, whereby "e-business in logistics" represents the link to transportation telematics. Seven calls for R&D projects were hosted with a total of 70 funded projects (out of 176 project applications). The total amount of funds was € 9.7 million which initiated a total of € 23 million of project investments.

CIR-CE ("Co-operation in Innovation and Research – Central Eastern Europe and South-eastern Europe") is a new programme developed by the Ministry for Economic Affairs and Labour. It is the direct successor programme of Strapamo. Again it aims to exploit possible synergies and complementarities between Austria and its neighbouring countries in Central Eastern Europe and South-eastern Europe. This programme aims to develop networks of actors (enterprises, especially SMEs, research institutions, intermediaries) across the border of Austria and its neighbours in Central and South-eastern Europe. To be eligible for funding a concentration on a certain technology theme is necessary. The call for projects was started in May, 2005 and will end in September, 2005. Strapamo was the direct predecessor of CIR-CE. It was an initiative to intensify international co-operation in R&D between Austria and the new EU member states in Eastern and South-eastern Europe. The total budget of Strapamo was about € 1.1 million. Twelve projects (out of a total of 21 project applications) were selected for funding in the summer of 2003. Four of them included ICT topics.

Other R&D programmes with relevance for ICT: There are several R&D programmes which have a non-ICT thematic focus but are of high relevance since ICT-related research will be an important part and a distinctive share of projects may be characterised as particularly ICT related. Examples of these programmes are TAKE OFF (aeronautical R&D), ASAP (space related R&D) and NANO (nanotechnology). Another programme with high and implicit ICT relevance is HEADQUARTERS, a programme designed to attract foreign R&D labs and/or regional headquarters. It is expected that a considerable amount of funding within this programme will go to ICT related projects. Another special programme is I2-Intelligent Infrastructure, developed by the Ministry for Transport, Innovation and Technology in 2002. It promoted business R&D on system-integrated telematics applications for the transport sector (e.g. traffic management, traffic and travel information systems, transport surveillance, transport safety). The first two calls were organised in 2002/03 and 2003/04 respectively. The third call started in June 2005. Again private business enterprises (from all economic sectors) as well as university institutes, CRO institutes or individual researchers are eligible for applying.

2.3.2 Structural Programmes: Innovation Networks and Cluster

The promotion and fostering of innovative networks is a cornerstone of the Austrian technology policy. During the 90ies, the lack of intensive interaction between public science and the private business sector has been identified as a major obstacle in the Austrian national innovation system. Thus a number of programmes (see below) have been established to ease and to foster the flow of knowledge between science and industry. Some of these programmes (e.g. the K-programmes) and their respective measures are now well established and are often regarded as a good practice case, even internationally. Although, these programmes are open to all technology fields, their significance for ICT related R&D is particularly high.

During the late 90ies so called Competence Centres have been created to foster the interaction between academia and industry. These centres offer a new organisational form suited for long term science-industry co-operations. The structural requirements of the competence centres lead to openness to industry needs. In general this programme uses a bottom-up approach to define the thematic orientation of the possible competence centre. There is no ex-ante definition of technology areas which are suitable for funding. Two parallel competence initiatives exist. The Ministry for Economic Affairs and Labour runs Kind (several firms and research institutes operating in a single location) and Knet (a research network dispersed in several locations). These programmes aim to establish innovative networks between firms

with the possible inclusion of research institutions. The Ministry for Transport, Innovation and Technology runs Kplus which has a structure similar to Kind but which is commonly regarded as more advanced concerning the scientific/technological requirements. The main aim of Kplus is to foster the link between science and industry by promoting co-operative research. This research should be carried out in a new centre of which the founding firms as well as the research organisations, mainly universities and contract research organisations (CROs) such as ARC Seibersdorf Ltd or Joanneum Research Ltd, are stake-holders. The new research centre (Kplus centre) receives public funds on a medium term basis. Since 1998 three calls have been organised resulting in a current total of 18 projects with total funding of about € 116 million. Both programmes (Kind/net as well as Kplus) have been evaluated extensively in recent years. These evaluations confirmed that the K-programmes are important and successful vehicles to foster industry-science links and to establish a new "culture of co-operation" in the Austrian research landscape. Currently 18 Kplus and 22 Kind/net centres/networks are in operation with about a total of 1500 researchers and about 450 involved firms. Originally the duration of the funding for the K-centres was restricted to seven years. However, the success of the centres up to now has resulted in the conclusion that the centres should receive sustained funding well above this restricted period. Thus, a new integrated programme is to be designed which will integrate the successful centres into a new successor programme. Beside these competence-centre programmes there are a number of important initiatives which are engaged in networking innovative activities and which play a prominent role for ICT in Austria.

The Christian Doppler Society is a non-profit organisation promoting applied basic research in science, technology and economics as well as the resulting business applications. Christian Doppler Laboratories (CD labs) are organised at universities as public-private partnerships between industry (private corporations) and university institutes. Talented scientists conduct research in areas determined by industry partner. The science-industry partnerships are designed to strengthen early stage-innovations and technology transfer.

Recently, Fachhochschulen (polytechnics, tertiary education institutions created in the 1990ies with technical and business oriented curricula) are encouraged to engage in applied research and are actively supported via a special programme (FHplus). The "Research Studios" are a non-university research organisation founded by ARC Seibersdorf, the leading contract research organisation (CRO) in Austria. Research studios are financed by the Federal Ministry for Transport, Innovation and Technology and the Federal Ministry for Economic Affairs and Labour (through the programme "Innovation through eBusiness"). The research studios are engaged in applied research (product and process innovations) in ICT and new media technology. They aim at developing prototypes for technical applications based on the specific needs and advice of industrial partners. Firms often choose not to co-operate with competence centres and universities when seeking firm-specific solutions, because requirements to publish results can create competitive disadvantages for the firm. The aims of the programme are to produce concrete and useful R&D results and rapidly turn idea and concept into applicable solutions (rapid prototyping process), create an environment in which research can be adapted to industry-requirements without an obligation to publish results.

A. Kplus competence centres:

There are six Kplus centres with a special focus on ICT to be described in detail below:
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- Advanced Computer Vision (ACV). ACV aims to develop cutting edge technologies in digital image processing and pattern recognition and to transfer the results into industrial applications. Possible applications range from access control using biometric sensors to automotive technology, robotics, industrial inspection, medical image processing, remote sensing and surveillance.
- Telecommunications Research Centre Vienna (FTW). FTW focuses on pre-competitive research projects in three related fields, in which Austria already possesses internationally recognized know-how: communication networks and services, signal processing for data transmission and mobile radio. Basic research projects are specified for each of the three areas, involving all FTW partners and laying the ground for more specific applied research projects, where industry takes the lead. The projects have been defined in intensive joint discussions. Ten projects were selected in the initial phase based on their economic relevance.
- Software Competence Centre Hagenberg (SCCH). The SCCH works on strategic and application-oriented research projects. Scientific research projects focus on developing a methodological and application-oriented base for other projects, as well as conducting innovative R&D in software technology. Application-oriented projects are based on contracts between the SCCH and its industrial

partners. These projects focus on industrial research and pre-competitive development in software technology. To verify the industrial relevance of project results, software prototypes in realistic dimensions are produced. SCCH aims at bundling the research potential of the partners to develop further competence through research activities in order to become a competent and internationally recognized partner for a broad spectrum of software techniques.

- Centre for Virtual Reality and Visualisation (VRVis) VRVis aims to strengthen the innovative and competitive ability in Austrian firms (in particular SMEs) using virtual reality and visualisation techniques. Researchers and technicians are trained and a long-term basis is established for co-operative projects with universities and research institutes.
- The Virtual Vehicle (VIF). The VIF competence centre uses virtual modelling and simulation as an innovative and competitive method for vehicle development. During the last decade Styria and especially Graz have become the centre of the Austrian vehicle industry, i.e. for the automotive and railroad vehicle sector. The modelling and simulation environment envisioned in VIF is intended to cover all four main stages of the vehicle design cycle, i.e. virtual design (interrelationships of vehicle-components are developed and/or optimised based on mechanic, thermodynamic and fluid flow aspects), virtual engineering (optimisation of vehicle components with respect to manufacturability and competitiveness), virtual manufacturing (optimisation of complete production lines and component performance); and virtual testing (assessment of functionality and safety, based on virtual models and coupled with physical devices in a hard-ware-in-the-loop). The strength of this concept is the availability of intermediate design results for all versions and variants developed throughout the design history. Furthermore, virtual development is much faster, more complete and economical than real physical development.
- Competence Centre for Knowledge-based applications and Systems (Know Centre). Know-Centre focuses on the pre-competitive development of knowledge-based systems and applications. The Know-Centre uses its profound experiences in innovative information and communication technologies (ICT) for addressing ICT-related dimensions of knowledge management. The partners also investigate psychological and cultural aspects of knowledge management.

B. Kind/Knet Centres

Currently the following five ICT-related Centres are operating within the Kind/Knet programme:

- Health Information Technology Tyrol (HITT) is based in Innsbruck/Tyrol and focuses on the research and development of IT-solutions for the health sector (e-health including bio-informatics and medical technology). HITT aims to develop decentralised and integrated structures for the health system. It is working on developing a modular, integrative IT-concept for the health-system (including analysis, planning, operative central systems, operative department systems, basic software).
- Evolaris conducts R&D in interactive e-business, focusing on the interfaces between economic-legal aspects, applications and technologies. Evolaris analyses consumer wants, evaluates the benefits of internet activities, develops innovative business models and provides support for legal and technical aspects regarding security. Evolaris is organised around a research lab (contract R&D) and a so-called solution centre (project development/implementation).
- Ec3 promotes the development of e-commerce. The research activities of ec3 cover the entire business loop and can be divided into three aspects: business engineering, business intelligence and business modelling. The three parts interact with each other: business engineering explores the use of new technologies for electronic and mobile business organisation and processing. Its value and effects are made known to the market by business intelligence. This is combined with theoretical economic considerations and then it is taken into consideration in business modelling.
- Salzburg NewMediaLab focuses on the design, development, presentation and re-use of digital content. Technological and market studies are carried out providing recommendations on how digital content engineering principles can be applied to improve the production and maintenance process of digital content. Technological test beds and prototypes accompany the theoretical work and provide a practical proof-of-concept. The main research areas in particular are: Semantic web technologies and their application to multimedia information spaces; knowledge based search and retrieval technologies; digital content engineering; content management systems. Funding institutions are the Federal Ministry for Economic Affairs and Labour, the province of Salzburg and several industrial partners.
- anet – The Austrian network for eTourism. Anet focuses on research and development in the area of ICT and tourism. Anet co-ordinates and focuses on all the competencies of its research, development, and business partners which are clustered in three "nodes" in Innsbruck (ECA, e-tourism competence

centre Austria), Salzburg (ETC, eTourism Center) and Krems (Krems Research – Tourism Research Center Krems Ltd.). Thus, it prepares the ground for new innovative knowledge for the whole ICT and tourism sector. The actual operative research and development takes place within the three "nodes".

C. Christian Doppler Laboratories with ICT-focus

Currently, there are three ICT oriented labs which together have an average annual total budget of € 754,339 Euro. There are two other CD laboratories that do not directly focus on ICT, but are engaged in areas with a significant ICT relevance. These are the laboratories on "genomics and bio-informatics" and on "new functionalised materials".

- Compilation Techniques for Embedded Processors;
- Design Methodology of Signal Processing Algorithms; and
- Non Linear Signal Processing.

D. FHplus

Since 1995 the Austrian tertiary education landscape has undergone a major reform. So called Fachhochschulen (universities of applied science or polytechnics) have been established which offer tertiary education with academic background. Various courses of these universities of applied science can be found in the ICT area. To foster applied research at these new polytechnics, a specific programme, namely the so called FH*plus* programme, was established in 2002. The main aim of this programme is to develop research infrastructures and to intensify co-operations between universities of applied research and the private business sector. A first call was organised in 2002 and 2003 with about 20 projects and a total federal funding volume of € 10.6 million. In 2004 a second call was organised leading to 69 applications of which 23 were selected by international peer review. The total federal fund for this call is about € 7.5 million . About half of these projects have a special focus on an ICT related topic.

E. Research Studios

Currently there are five Research Studios with a special focus on ICT areas in operation:

- The iSPACE studio focuses on geo-referenced media and technologies. It engages in creative research around geo-information, mobile systems and geo-media, building competence and the developing innovative concepts on the business level.
- Smart agents focuses on intelligent agent solutions for convergent media. The aim is to develop application-orientated prototypes using intelligent agent technology. The focus is on user-friendliness, the integration into legacy systems and the convergent availability of these systems.
- Advision focuses on applied 3D Computer graphics and advanced web-based visualisation technologies. The main focus is creative research in rule-based 3D modelling and special graphic techniques.
- Digital Memory Engineering focuses on processes and techniques for the development of digital memory systems.
- eLearning Environments consists of a virtual learning platform combined with a modern ERP-Systems. The studio aims to develop the next generation of eLearning software.

2.3.3 Assessment and Evaluation of ICT-related R&D Policies in Austria

The importance of evaluation procedures in (re)formulating policy goals and instruments has been clearly acknowledged in Austria and evaluation has become a standard policy tool in recent years. Within the realm of Austrian technology policy an association, the so-called fteval (Platform Re-search & Technology Policy Evaluation), has been formed. Its mission is to encourage more, better and more transparent evaluations and to develop a culture of evaluation. Its members comprise all relevant ministries, funding agencies and other intermediaries as well as evaluation practitioners in the field of Austrian technology and research policy. Founded in 1996 as an informal co-operation, its members re-founded the Platform Research & Technology Policy Evaluation in 2001 as a corporation under civil law (GesbR). The platform has recently published evaluation standards.

Most of the programmes discussed in chapter 2 have been exposed to extensive evaluation procedures. These evaluation processes include:

- Ex-ante evaluation of the stated rationales and goals and their appropriateness given the perceived problems.
- Ongoing monitoring of the processes associated with the programmes/instruments.
- Interim-evaluation at a certain stage to assess the development of the instruments and the achievements in respect to the stated rationales and goals allowing the adaptation of the programme and its instruments if appropriate.
- Ex-post evaluation of the outcomes and – if appropriate – the impacts. However, given the size and scope of most of the programmes, impact analysis is often not carried out in a quantitative way and/or at the meso/macro level (i.e. impact of certain instruments on overall growth performance etc.). Usually the measurement/estimation of the additionality of the programmes/instruments at the firm level plays a prominent role in ex-post evaluations.

Information on the evaluation of some of the programmes discussed in chapter 2 is presented below. As most of the measures are not specifically targeted towards ICT, only the evaluation of the FIT-IT programme (as the only ICT-dedicated R&D programme) is presented in some detail:

FIT-IT Evaluation (Interim): The first three calls of the embedded systems line of the FIT-IT Programme were recently evaluated. The results of this interim evaluation can be summarized as follows:

- The programme is successful in bringing together actors from the private business sector and from the science sector to work on "advanced" innovations (rather than incremental innovations which usually are prevalent in Austria) in ICT.
- The performance and efficiency of the management of the programme is assessed very positively by firms and scientists who participated. This positive assessment holds true for successful applicants as well as for unsuccessful assessments.
- One of the explicit goals was to establish "Embedded systems" as a significant and important technological theme within Austria and to increase the level of awareness by Austrian firms and scientists. The programme was successful in achieving this goal. It was possible to establish a long-term orientation towards R&D in this technological field within a significant number of firms.
- There was a total of 41 applications during the first three calls of which 14 resulted in funded projects. This corresponds to an approval rate of 34 %. A total of € 8.4 million was allocated for project funding. Thirteen enterprises and seventeen scientific institutions are involved to carry out these fourteen funded projects. These enterprises encompass eight large enterprises and five SMEs. Of the scientific institutions ten institutions are university institutes, four are polytechnics and three belong to contract research institutions.
- In addition eleven accompanying measures and five dissertations were funded.
- The average project was about € 600,181 of which on average € 397,693 was funded. Thus, the average size of the projects exceeds by far the funding standards of (former) FFF-projects (€ 146,000) and FWF-projects (€ 197,000).
- The average duration of the funded projects was about two years.

K-programmes: Both programmes (Kind/net as well as Kplus) were evaluated extensively in recent years. These evaluations confirmed that the K-programmes are important and successful vehicles to foster industry-science links and to establish a new "culture of co-operation" in the Austrian research landscape. Thus, the K-programmes have been highly successful in tackling one of the most important bottlenecks of the Austrian innovation system of the 90ies, the perceived lack of interactions between the science sector and the private business sector. Originally the duration of the funding for the K-centres was restricted to seven years. However, the success of the centres up to now resulted in the conclusion that the centres should receive sustained funding well above this restricted period. Thus, a new integrated programme is to be designed which will integrate the successful centres into a new successor programme.

FFF Evaluation: The FFF fund was evaluated extensively in 2004. As one result of this evaluation procedure, the FFF was integrated into the newly founded (autumn 2004) FFG, which is now a crucial player targeting private business research. The projects funded by the (then) FFF were shown to have substantial additionality (i.e. leverage on private R&D spending as well as behavioural additionality), but could be improved with respect to the associated risk and the degree of innovativeness. Current considerations about reform of the funding instruments within the newly formed FFG will take this result into account.

2.4 Increasing Diffusion and Use of ICT

2.4.1 E-government and Public Initiatives in Austria

E-government is regarded as an important vehicle to (i) enhance the efficiency of public administration procedures and (ii) to stimulate and accelerate the diffusion of ICT within the Austrian society. The Austrian ICT strategy for 2001 – 2005 focused on providing the main building blocks for e-government. The following components are among the most crucial ones that provide an interoperable infrastructure for all levels of government in Austria:

Citizen Card Concept: In November 2000, the Austrian government initiated the plan to create a citizen card. Citizen Cards shall become the "official identity documents" in the electronic administrative procedures, such as filing applications via the Internet. Certain requirements needed to be fulfilled in order to develop the secured procedures which are defined in the so-called "Citizen Card Concept". The Austrian concept is not restricted to smartcards. Thanks to a standardised software interface (Security Layer) commodity devices such as mobile phones, PCs or laptop attachments like USB tokens that follow the Citizen Card concept can be used as a "Citizen Card". Thus, the notion "Austrian Citizen Card" does not stand for a specific card that is the same for each citizen, such as, e.g., a passport. The Austrian Citizen Card is rather a concept that allows designing secure electronic public administration services and thus enables carrying out administrative procedures electronically. Currently, several implementations of the Citizen Card are available such as smartcards from A-Trust, ATM bank-cards, the eCards of the healthcare institution, student ID cards, the membership card of the Austrian Computer Society OCG, employee ID smartcards of public and private organisations, and a solution based on mobile phones.

The Electronic Record System (ELAK): One project of high impact on the mode of working in the public sector was the establishment of a common electronic workflow system at the federal government level (so called ELAK). The project was initiated already in the late 1990s with the functional specification and unification of the main activities across the federal government. In the following years, the decision was taken that one central workflow system serving all ministries should be tendered instead of each ministry tendering its own workflow system based on the commonly agreed specifications. After the tendering and implementation phase, the ELAK was rolled out in 2004 (ministry by ministry). The most significant change impacted by this system is that the routing of processes in the ministries is carried out via the electronic workflow system instead of paper-based process flows. The ELAK leads to considerable cost savings in the long run and it provides a core component (backbone) to seamless electronic service provision from service invocation to processing, delivery and archiving. The benefits for the customers of public administration lie in the invocation of the service from anywhere via Internet (provided that an online form is available), faster processing of an application (some applications may result in the delivery of service just in a few seconds such as the residence registration certificate; precondition is that the online form is available and the forms intake is directly interfacing the ELAK in real time), faster information on status request and improved quality of service as well as convenience. Currently (2005) about 8000 work places at the federal ministries are equipped with a web client to use ELAK.

EDIAKT II: Interfacing different workflow systems in the public sector was an issue already in the late 1990s. In 1997, a first specification of the EDIAKT (Electronic Data Interchange for electronic files (AKT)) was published. In 1999, it was transferred to the XML format. With the introduction of the ELAK (see above) and workflow systems at regional and local levels of government, a revision of the specification took place in order to map the structures of the different record structures existing at the various levels of government. EDIAKT II provides a consistent and unique mapping of distinct record structures in XML schema. It has not only become the recommendation for IT providers to interface among distinct workflow systems, but also to interface domain applications and other information systems being used in the various environments. EDIAKT II may also become a key to the interface of archiving systems. Currently, an EDIACT viewer is being developed to allow also governments, whose workflow systems are not yet compatible to EDIACT II or which do not yet have an electronic workflow system, to be able to view an electronic record received from another public authority in EDIAKT format.

E-Payment (EPS): The CIO operative unit and the banking sector cooperatively developed a procedure through which payment receipts are automatically transmitted to the government authority, after online payment for an e-government procedure is completed by the user. First applications using cellular phones

are ready, further applications using credit card and home banking as underlying payment methods started in 2004. Additionally an electronic payment form has been developed which allows the seamless payment via online banking applications or even the printing and offline payment of the pre-filled form. The electronic payment form looks similar to the one currently used in the financial sector. In order to facilitate the implementation of e-payment solutions for authorities, a demo implementation for handling the protocol and for issuing electronic payment forms is available for the public (including source codes).

E-government Act: With March, 1st 2004 the e-government act became operative. This law plays a pivotal role in defining the legal conditions for e-government and its associated reform of administrative procedures. Important areas like the citizen card, the personal identification numbers, sector-specific personal identification, administrative signatures etc. are defined in this law. Austria was among the first EU member states to enforce such a legal framework for e-government. Since the e-government act came into force, several by-laws have been settled as well. Examples are the order for the source pin register, for the supplementary register, the sector identification order, or the order of delivery services.

E-card: The introduction of the E-card substituting the traditional paper health insurance certificate is certainly among the most prominent projects in the area of IT and health. De facto every citizen is affected by this major milestone and technical systems change. Originally this project was initiated as early as May, 2001, it had to be terminated unsuccessfully however due to technical problems. Hence a new call was issued in spring 2003. The card enables electronic identification and acts as a full substitute for the old paper document. After a trial period in selected locations the broad full-scale distribution of e-cards (as well as the introduction of the required hardware for reading and processing the data in the offices of medical doctors) is currently at the end of the roll out (2006). The introduction of the e-card reduces associated administrative costs at the employer level as well as at the employee level (employees had to pay about € 3 per paper health insurance certificate).

Health Telematics: The Federal Ministry for Health is working on a legal framework to allow the transmission of sensitive patient data between parties in the Austrian Health Care System. This will have to be supported by high level ICT-security and professional information management. The "health telematics law" is based on a set of commonly accepted rules ("MAGDA-LENA") defined in the year 2000 by an expert group appointed by the government. Accompanying measures to support project delivery, focusing on national as well as on international health telematics harmonization ("health telematics strategy") are being prepared. A health telematics initiative carried out by the government, the social security sector and the business sector is aiming for more efficiency through better exploitation of synergies inherent in the health care telematics systems. There is a commitment of all three stake-holders to develop common strategies and to implement key technologies in order to increase the value added. The government will take care of the co-ordination of public administrations and the involvement of regional and local authorities in the strategy developing process. The social security sector will provide the necessary participation of the parties concerned. The private sector ensures the strategy implementation on the business level. Benefits are expected through better regulation, interactive communication, electronic billing and the use of infrastructure on a large scale.

Government Services: Electronic delivery of official notifications is one of the fundamental elements of the e-Government strategy. It is based on the creation of one or more privately run delivery services that citizens can subscribe to in order to electronically receive requested documents or official notifications from public administrations. This solution for securely sending and receiving messages is entirely based on open standards and it is also open to be adopted by the private sector. A prototype of an electronic delivery service has been developed on behalf of the Federal Chancellery and the service is now fully operational. This first delivery service is expected to stimulate demand and lead to the development of a competitive market for private delivery services. A public tender for the operation and maintenance of the service by a private organisation is currently prepared. With the increasing number of official proceedings online a growing demand for delivery services is expected. The delivery service concept will have to be implemented by the respective authorities at all administrative levels. From 2007 on it is intended as the only solution for legally binding electronic delivery.

The one-stop government portal: Help.gv.at is the official platform for information on public services including the possibility of downloading official forms, filling in official forms online, etc. It was awarded the eEurope 2003 prize and was praised for its co-operative approach between the federal government,

federal provinces and cities/municipalities, its user-friendliness and its (current and planned) multi-lingual content. Originally, help.gv.at was designed as an information platform. Recently it has been extended to a transaction portal and has been aligned with the new e-government transaction standards. Help.gv.at provides about 40 forms to invoke services at local administrations. Currently, about 500 local authorities use the central portal as a cost efficient way to offer public services online to their citizens.

The Ministry of Finance launched FINANZOnline as a public platform in 2003. The portal of the fiscal administration allows all citizens to carry out tax adjustment or advance re-turns online and it enables electronic access to files. Also businesses can carry out their tax formalities irrespective of opening hours. For the tax and accounting professions, the online communication via FinanzOnline has become an obligation. Electronic document transfer is possible and is equipped with the necessary security functions (SSL and server certificates). User identification and authentication is possible by Citizen Card and conventional PIN-codes. In the first six months since it was launched around 126,000 citizens and 12.,600 firms have used the service. After the launch of the electronic declarations for income and corporation taxes about 140,000 businesses used the service between May and October 2004. The latest addition to the service portfolio was the application for family allowance.

The Austrian Centre for Secure Information Technology (A-SIT) is a publicly financed non-profit association, founded in 1999. Charter members are the Federal Ministry of Finance, and the Graz University of Technology; the Styrian Business Promotion Agency joined A-SIT in 2003. A-SIT is a confirmation body under the Austrian Signature law and as such notified under the EU electronic signature directive. Its mission is to monitor and conduct research on security technologies and security threats, to develop legal and technical standards, and to assist public authorities and the legislator in IT security aspects. A-SIT provides public institutions with expertise, high-level security strategies, evaluations and prototypes. Since one of the founding members of A-SIT is the Austrian National Bank (OeNB), A-SIT also focuses on the security of e-money and e-payment systems. A-SIT also offers its expertise to the private sector, but does not interfere with their business transactions, i.e. it is not involved in commercial systems for businesses or product developments.

Bezahlen.at is an electronic bill presentation (EBP) service which offers citizens a secure and reliable possibility to authorize the payment of transfers and invoices as well as taxes and public fees online. The payment itself is made by bank collection. The service of bezahlen.at is free of charge.

E-Payment: The CIO Board co-ordinated a new e-payment module for e-government transactions, which includes online banking as well as payment by credit card or via cell phone. It introduces a secure payment procedure based on the current Electronic Payment Standard 2 (EPS2). EPS2 is an XML based national standard for bank transaction which allows an online confirmation of payment to the seller/public authority as the transaction is made. EPS2 can be employed by the private and the public alike. Besides, the CIO also provided a specification for an electronic payment form which allows asynchronous payments.

Electronic delivery of public documents allows the online handling of interactions between citizens/private enterprises and public authorities. The Federal Chancellery certifies electronic delivery services and defines the specifications which are required to get official certification for electronic delivery services (Zustelldiensteverordnung [ZustDV], BGBl. II Nr. 233/2005).

The Central Residence Register (CRR) provides fundamental services for e-government applications. It enables the identification of citizens, providing public authorities with the central register number in order to match applications to applicants on the basis of an encrypted code. On the other hand it is essential for the implementation of the concept citizen card certifying the personal identity link between the card and the card-owner in the certification procedure. The CRR is the one and only source of residence data to be used in administrative processes and also by private organisations. For reasons of data protection businesses have to prove the specific purpose of their queries in order to gain access to the CRR. Only recently (2005) it has become possible to request the residence registration certificate online and also to provid it online. The physical presence at the residence registration office is not necessary in order to complete the transaction. Application, identification and authentication by digital signature, payment and delivery can be carried out online without location or time constraints. To achieve this, the basic building blocks of the Austrian e-government strategy (e.g. MOA, Citizen Card – see above) and the Central Register of Residence (see above) were integrated in one application. The service is provided via Help.gv.at, the national administrative portal (see above).

E-Law: The Federal Chancellery is one of the first public authorities in Europe which has implemented a completely digital law making system. The system called "e-Law" allows the electronic involvement of all institutional stakeholders and interested parties during a law making process. It plays a vital role through the lifecycle of a legislative act covering all stages of law-making: from the very beginning of a first draft up to the online publication of the authentic law. The electronic law-making system represents a fundamental cultural change in Austrian Government. The law in its original is no longer solely published in the official gazette. Instead, at the end of an e-Law proceeding stands the task of publishing the authentic version online in the Internet, i.e. providing the general public free access to the laws. Authenticity of the online law is guaranteed by electronic signature.

Electronic legal communication (ERV): The Ministry of Justice (BMJ) uses electronic legal communication based on EDI technology in its communication between the court and the involved parties (lawyers, firms etc). By 2005 nearly all lawsuits are exchanged among the BMJ and the professionals and filed electronically. This was made possible by allowing and enabling the cashless payment of court-fees. Since 2001, the commercial registry allows the electronic publication of balance sheets. Instructions for the correct balance sheet format are given online (XML) and can be integrated into the accounting software. Thus a company can directly generate the correct balance sheet format and send it to the court by ERV.

Edict Database: Courts in Austria now make their edict data publicly available online. The respective database includes all information that the courts are required to publicise, with respect to insolvencies, the commercial registry, real estate auctions or auctions of realities etc.

2.4.2 Diffusion of ICT in the Private Business Sector

Fostering diffusion of ICT has been a major concern in Austria, especially when Austria seemed to lag behind in terms of penetration of ICT in the 90ies. A couple of programmes proved to be quite successful (e.g. EDI-business to enhance B2B and B2G business models) in accelerating the rate of diffusion. Now, some programmes are especially geared towards SMEs, which have – albeit rapidly catching up – still lower usage of modern IT methods and concepts.

Protec2002+ is a technology transfer programme initiated by the Ministry for Economic Affairs and Labour running from 2002 to 2006. One focus is to increase the integration of ICT and eBusiness technology into SME business processes, improving the innovative output of firms (SME). However, protect+ is open to all sectors and technological fields. Protec2002+ consists of three programme lines, protec-TRANS, protec-INNO and protec-NETplus:

- protec-TRANS aims to foster technology transfer between academia (university institutes, CROs) and SMEs by enhancing the use of external resources by SMEs
- protec-INNO aims to foster the development and diffusion of new innovation management instruments and consulting techniques within SMEs.
- protec-NETplus aims to establish innovation co-operations and networks between SMEs and/or between SMEs and RTD organisations such as Universities, R&D Labs etc.)

During the first three calls a total of 49 projects (out of 133 project applications) with 335 participating enterprises (of which 197 SMEs) received funding. The amount of funds was about € 7.8 million which initiated a project volume of about € 17.2 million . A fourth call is to be announced to open in autumn 2005. The programme line protect-TRANS is an open call lasting until the end of 2006.

2.4.3 Professional and Managerial Skills & Demonstration Programmes

Recently, various programmes have been developed to enhance the general computer literacy and to increase special ICT-related skills. In particular, it is a stated aim to foster the participation of women in research and development, especially in fields with a historically low female participation rate (e.g. natural sciences, engineering and informatics).

- E-training (eFit): E-training is part of the large-scale eFit initiative hosted by the Ministry for Education, Science and Culture to enhance the general computer literacy in Austria. eFit consists of a number of focus areas (e-teaching, e-science, e-training, e-culture). E-training is designed to improve information and advisory services on training and further education (via its portal), to develop new teaching and learning methods, to increase further education awarding industry certificates. E-teaching focuses on IT-training for teachers at school, ensuring that their IT-qualifications conform to the level of the European Computer Driving License ECDL.

- "Girls go technics": The Labour Market Service (AMS) Vienna delegates various initiatives for the training of unemployed persons to external training institutions. In the IT area, one important initiative is "girls go technics", a training programme for women between the age of 15 and 21. It consists of intensive and condensed IT training and development of social and communicative competences. Participants are chosen to participate in core training in ECDL (European Computer Driving Licence) and social skills. This is followed by a company internship and specialisation in one of three areas (homepage maintenance, pc-administration, helpdesk support).

- Women and occupations in technics and handicraft: This programme by the AMS (Austrian labour market service) aims to foster specific technical qualifications among women. The total amount of funds for this programme is about € 15 million. Among those qualifications there are areas of ICT, mathematics, physics and some technical handicrafts. Training will take place within businesses, in training centres or in certain training organisations ("Stiftungen").

- FemTech: FemTech is an initiative of the Federal Ministry for Transport, Innovation and Technology to foster the participation of women in research and technology (especially in natural sciences and engineering). FemTech encompasses a huge variety of measures ranging from training, financing of gender-oriented projects to the organisation of workshops.

- Ecaustria is an information, service and event platform for e-business. It is organized as a public private partnership involving a number of private businesses (about 15 industrial partners) and public institutions. Among the public institutions the Federal Ministry for Economic Affairs and Labour and the Federal Economic Chamber (WKO) are the main financial supporters. Ecaustria was honoured among 162 European e-business projects as a 'good practice model' by the European Commission. The platform provides information on IT developments and successful implementation methods. The platform should develop into a self-supporting medium that assists SMEs in their transformation process and is financed through sponsors and membership-fees. The Ecaustria action line includes an e-business-information platform, an e-business-forum for SMEs, sector-specific events for firm-representatives from higher management, presentations on successfully implemented e-business solutions, workshops held by supplier-firms (e-business for services, trade, e-business for e-government, seminars and symposia on specific topics (e.g. electronic payment etc.)). It co-operates with influential print and online media in order to create awareness for the topic and to generally promote the platform.

- Research IT: Research IT Austria is an online directory for Austrian organisations active in IT Research and Development. Detailed organisation profiles display information like working areas, know-how and experience and are a useful guide for starting international R&D co-operation with Austria. For international users Research IT Austria is the source for finding high quality ICT research institutions in Austria. The database is operated by FFG (Austrian Research Promotion Agency), which controls not only the quality but also promotes this service within Europe.

2.4.4 Enhancing the Infrastructure - Broadband

In 2003 Austria introduced a tax-subsidy for new broadband access. New broadband subscribers were able to deduct both the access fee (max. € 50) and the monthly payment (up to a maximum of € 40) from their income tax until the end of 2004. Tax deductibility applied to all new contracts signed between May 2003 and December 2004.

The Austrian Regulatory Authority for Broadcasting and Telecommunications (RTR) started a broadband initiative in May 2003. The RTR has taken an active role in the process and provides an

informative support platform. The main motivation for the initiative is to push Austria to the forefront in broadband-usage and thereby enable Austria to reap benefits though applications and content. Price is definitely an important determinant in broadband usage and whereas Austria has the third-lowest ADSL access-costs in Europe, Austria has the second-highest costs for access by cable-modem in Europe. An important player engaged in opening access lines and promoting broadband is the association of Internet providers in Austria (ISPA).

The regional government of Lower Austria - one of the nine federal provinces of Austria – carried out a tender for the extension of its regional broadband infrastructure in spring 2003 and selected NÖKOM.

Currently broadband is available for about 80% of all Austrian households (about 2.5 million) mainly in the urban and metropolitan areas. Consequently the chances of development for at least 20% of the population and businesses not located in these areas are affected by this handicap. For this reason the Federal Ministry for Transport, Innovation and Technology (BMVIT) has launched its BROADBAND INITIATIVE to increase the number of broadband internet access connections. The aim of the initiative is to make broadband access available to approximately 98% of all households by the end of 2007.

Broadband services are offered only in a competitive market environment. This means that providers will make the required infrastructure available only on the basis of profitability; consequently less densely populated areas will lack the financial incentive for blanket coverage. A substantial component in the promotion of broadband is a scheme of subsidies offered by the Federal Ministry for Transport, Innovation and Technology (BMVIT) which, in co-operation with the provinces of Austria, is to create incentives for an expansion of the broadband infrastructure. Thus, the required broadband infrastructure may be expanded even in peripheral areas, which under strict market conditions may be less attractive for infrastructure investments. With the directive "Sonderrichtlinie Breitbandinitiative" new broadband infrastructure should be established in hitherto uncovered Austrian regions. This programme was lasting until the end of 2005; requests for grants could be put forward until the end of September 2005. The maximum support time of projects will be two years. The BMVIT has provided an amount of € 10 million for this programme, in addition to almost the same share raised by the Austrian provinces. In total, an investment volume in infrastructure of at least € 100 million is expected.

In 2005 the Federal Ministry for Transport, Innovation and Technology initiated the development of a so called ICT master plan. The master plan was developed by the RTR (Austrian Regulatory Authority for Broadcasting and Telecommunications). Infrastructure plays a prominent role within this master plan and improving the ICT related infrastructure is defined as a strategic aim. Thus, the ubiquitous provision with modern, high-end (i.e. broadband) infrastructure is a stated goal for the immediate future. The ubiquitous existence of this infrastructure is a necessary prerequisite for a sustained provision of modern (broadband) services for each citizen and corporation. A liberalized and competitive market combined with specific incentives is regarded as the appropriate mechanism to guarantee such a ubiquitous provision of infrastructure. As the principal regulator, the RTR plays a prominent role to guarantee the effectiveness of a liberal market and to avoid specific market failures (i.e. monopolistic behaviour, entry barriers etc.).

2.4.5 Promoting Trust Online and Consumer Protection

Several measures have been established to promote trust and to give a sense of security to consumers in the rather new realm of e-business. The most important measures in this direction are described in the following:

Public Key Infrastructure (Telecom Control Commission): In September 2002 the Telecom-Control Commission's public key infrastructure (PKI) became operational. The PKI is maintained by the Austrian Regulatory Authority for Broadcasting and Telecommunications according to the Austrian Signature Act. The PKI issues certificates to all Austrian certification services, and – on request – to certification-services of foreign providers. The PKI allows verification of all certificates issued by Austrian certification service providers, enables supervision of the certification service provider by the Telecom-Control Commission (TCC) and verification of whether or not the certification service provider is accredited by the TCC. The supervisory scheme and the voluntary accreditation scheme have been operational since 2000. Supervision covers all certification services, regardless whether qualified or non-qualified certificates are issued.

CIRCA - Computer Incident Response Coordination Austria: The ISPA (Internet Service Providers Austria) alliance started the project CIRCA to protect the Internet infrastructure, the ISPs and its users from destructive attacks, i.e. viruses, denials of service, hacking etc. The persons in charge of network security at the ISPs form a "web of trust" co-ordinated by the ISPA. The creation of interfaces to similar organisations on the European and international level is planned. CIRCA is part of the Austrian eEurope 2002 activities. The ISPA and the Federal Chancellery are engaged in a public-private-partnership project. The pilot phase began at the end of 2002, the full operation started in October 2003. Even though public and private units work closely together in Internet-protection, both units are clearly separate, so that the confidence of the participants in the particular "web of trust" is not affected. Software, technology and systems applications are co-ordinated between the ISPA and the Federal Chancellery and are implemented by both parties. The Circa project was presented in the EWIS (European Warning and Information System) Initiative and was recognised as being the most fully developed and most concrete early warning system in Europe that satisfying both the interests of public and private infrastructure operators. A European task force with collaboration from the Austrian Federal Chancellery and ISPA are evaluating the possibility of creating a CIRC Europe. Furthermore, a number of national ISPs have voiced their interest to adopt the CIRCA system. ISPA will open its software and system configuration to the other EuroISPA members.

Privacy Protection: In accordance with data protection rules a special encryption mechanism has been developed. The mechanism uses the central registration number - allocated to every citizen - for administrative purposes, without saving or storing the number. Service users receive an encrypted number for each online transaction they choose to carry out. This number is generated on the basis of the Central Registration Number of the applicant and the specific administration number of the specific e-government area.

Austrian E-Commerce Trust Mark: The Austrian E-Commerce Trust Mark is awarded to firms who set an example in consumer friendliness and trustworthiness in consumer transactions. It was developed by public authorities and the social partners in order to increase consumer confidence and popularity of e-business. Firms to whom the Trust Mark is awarded have to follow particular guidelines with respect to their electronic transactions. However, the Trust Mark does not provide information on the quality of the product sold. The Austrian E-Commerce Trust Mark was introduced in October 2000. Since the end of 2002 the Austrian E-Commerce Trust Mark is part of the European initiative "Euro-Label".

The Internet Ombudsman provides information on the security of online shopping and helps with problems incurred through Internet-shopping. If a private settlement is not possible members are given legal assistance. The Internet Ombudsman awards the E-Commerce Trust Mark. It aims to raise consumer confidence in the Internet.

The Austrian e-Government Quality Mark acts as a reliable signal for the quality of services, software and hardware. It can be requested by companies and administrations of all levels offering products or services in line with the established e-government standards and concepts. Besides content requirements (e.g. information about a service provider) mostly technical specifications e.g. for digital signatures or payment, have to be followed where applicable. The Quality Mark aims to strengthen the trust of citizens in e-government services. Currently 14 administrative organisations and 23 private businesses have been awarded the Quality Mark.

IT-Security Handbook. A revised electronic version of the Austria IT-Security Handbook was developed in 2004. The Handbook is written fully in XML and therefore allows an easy adoption to everyone's needs. While the federal resorts are committed to the Handbook, other private and public organisations are welcome and encouraged to adopt the Handbook as a whole or the parts needed. The IT-Security Handbook is divided into two parts. The first one (IT-Security-Management) provides specific information on how to implement a continuous and entire IT-Security-Process within a governmental but also within a private body. The second part (IT-Security-Measures) describes basic organisational, personal, infrastructure and technical security measures for IT-systems. The intention is to provide an entire and huge collection of measures for a whole (platform-independent) system life-cycle. It describes general security threats and strategies, explains particular countermeasures for the case of a threat and offers checklists helping users to implement IT-security.

2.5 ICT Policies at the Regional Level: The Federal Provinces of Austria

The role of the nine Austrian federal provinces in technology policy has increased significantly during the last decade. Their share of total R&D funding in Austria has increased from 3.66 % in 1998 to 5.7 % in 2005. In absolute terms R&D spending of the federal provinces amounts now (2005) to € 329.25 million, a gain of 132.1 % since 1998 (compared with a growth rate of total R&D funding in Austria of 57.25 % in the same period). Associated with this growing R&D funding was the establishment of institutions, which are responsible for strategy formulation in technology policy at the regional level and are implementing and operating specific technology-oriented policy measures. In addition, some measures at the national level are co-financed by the federal provinces (competence centres, CD laboratories etc. described in detail in Chapter 3 of this report).

As it is the case at the federal level, a core issue of recent years of the provinces has been the implementation and expansion of e-government at the regional level. The current ICT-relevant responsibilities and activities of the federal provinces range from implementing and providing e-government services and applications for regional governments, providing ICT infrastructure for local or provincial schools and promoting diffusion to firms and households at the local and regional level. For the co-ordination of strategic ICT matters with the central government, the provinces have formed two working groups, one with organisational and one with technical responsibility, where the CIOs of the provinces are represented. In these working groups, also the respective representatives of the cities association and the municipalities association are joining. Apart from the implementation of ICT strategies in their own environments, these groups are nurturing the co-ordination of ICT developments with the federal government.

Fostering IT and especially IT-related R&D has become one of the core areas of regional economic and technology policy. Table 1 shows important strategy documents which are either directly related to IT at the regional level or do have high significance for regional IT policy. ICT is among the technological fields which are typical chosen as special priorities (for instance in technological fields such as bio-technology, new materials, nanotechnology) in Austrian federal provinces.

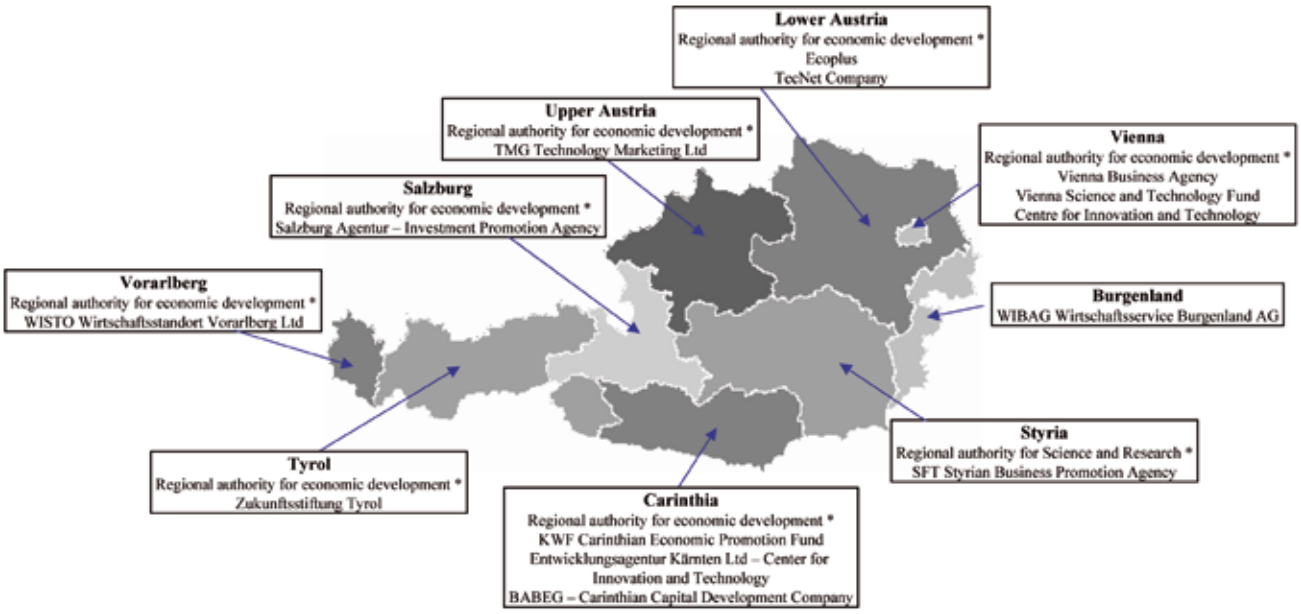
Table 1: ICT-relevant policy strategies in the federal provinces

Federal province	Policy	Year	Comment
Burgenland	Federal law of economic policy	1994	
Carinthia	Masterplan 2014	2005	ICT and Microelectronics
Lower Austria	Law on telecom infrastructure	2003	Lead projects ICT
Upper Austria	Innovative Upper Austria 2010		ICT as thematic R&D area
Salzburg	Mission on Science and Research	2001	Thematic Priority: ICT
Styria	Research Strategy 2005 plus	2005	
Tyrol	Economic Mission 1998	1998	
Vorarlberg	Strategic programme 2005	2005	
Vienna	Technology Offensive	1997	Strategic area: ICT

Based upon this strategic orientation towards ICT specific policy measures and instruments have been developed at the regional level to foster ICT-related R&D directly. Figure 1 gives an overview of the institutional setting of regional technology policy in Austria. These institutions are responsible for the management of special IT-related programmes and measures at the regional level. They are funding R&D projects of private businesses and are occasionally running special programmes geared towards IT. The zit (centre for innovation and technology) in Vienna may serve as an example in this regard. In 2004 the zit organised a special call "Information and communication technologies Vienna 2002" with a total funding volume of € 2.2 million. All areas of ICT were eligible for funding, but special emphasis was on mobile applications, security aspects of information processing, simulation modelling and open source software. A total of 63 Viennese firms have applied for funding, of which 17 R&D projects were selected by an independent jury. Although all firms (as well as start-ups) can apply for funding, this instrument is especially geared towards small and medium sized enterprises. SMEs received an overwhelming share (82 % or € 1.8 million) of the total funding volume. Although these funding programmes may play

an increasing role (especially for SMEs and/or young enterprises in their early business cycle), they are complementing the funding programmes at the national level but not substituting them.

Figure 1: Technology policy institutions in the federal provinces



Notes: * Regional authorities for economic development are offices of the regional government, mainly responsible for co-ordinating and administrating regional economic policies.

Recently, network and cluster initiatives have gained increasing importance at the regional level in Austria. Some of these measures have been proven to be quite successful in stimulating regional clusters in certain industrial sectors. Today, various ICT related network and cluster initiatives can be found in a number of Austrian federal provinces:

- Vienna: VITE Network
- Lower Austria: Technopol Wiener Neustadt; Micro systems technologies
- Upper Austria: Cluster Mechatronics
- Salzburg: Cluster Digital Media
- Styria: Telereg, Nanonet Styria
- Carinthia: Silicon Alps; Cluster Micro electronics me2C

These network and cluster initiatives are organised typically as somewhat loose platforms with public institutions and private firms participating. The underlying idea is to pool resources, to share information, to act as incentive to co-operate etc. to gain mutually beneficial externalities. Mostly, these networks/ clusters have a management platform funded by the regional public authorities (as well as membership fees for private businesses). These management platforms act as information brokers and co-ordinators.

Some federal provinces established special contract-research organisations, which are owned and (partly) funded by the provincial governments. The main aims of these CROs are applied research and technological development, technology transfer to business, industry and public administration. Traditionally, Styria was the only federal province owning and funding a full-scale contract-research organisation, established as early as in the 1960ies. However, recently the federal provinces of Upper Austria and Salzburg established their own research organisations in 1999 and 2000, respectively. As comparatively "large" research organisations they are significant players at the regional level and major pillars of regional technology policy in Austria.

- Joanneum Research Ltd (JR): Joanneum Research is the second largest CRO in Austria owned by the provincial government of Styria (TNO, a Dutch CRO holding a minority share of 10 % since 2004).

Currently, Joanneum Research has about 375 employees (as of 6-30-2005). JR is also a partner in various ICT related institutions such as competence centres. ICT related research is among the major technological specialisations and has a strong tradition at Joanneum Research. It is centred in two divisions: (i) The division "Information Technology" and (ii) "Electronics and Sensor Technology".

- Upper Austrian Research: Upper Austrian Research Ltd. was founded in 1999 to cluster and support R&D efforts and to promote knowledge transfer from science to the private business sector in the regional province of Upper Austria. It is fully owned by the federal province of Upper Austria. ICT related R&D is carried out mainly in the thematic field of medical informatics with a staff of about 11 researchers.

- Salzburg Research: Salzburg Research Ltd is a contract research organisation founded in 2000 and fully owned by the federal province of Salzburg. Salzburg Research conducts applied research and has a special focus on ICT (actually, its predecessor institute was an ICT research institute), carrying out research with a focus on creating and managing digital content. It employs about 55 researchers in the areas of digital media, e-culture, e-tourism and e-education.

2.6 Concluding Remarks

Austria's ICT policy is regarded as a cross-sectional, generic topic. Hence, a broad range of ministries, governmental bodies and institutions are engaged in ICT policy. As it was shown in the preceding chapters e-government is a major pillar of ICT-related policy in Austria. There are several benefits to be expected from this strategy of fostering e-government applications. First, e-government enhances the productivity and quality of government services, which is an important aim in itself. Second, e-government applications demonstrate advantages of e-services in general and may work as an important ICT diffusion accelerator. Today, Austria belongs in many respects to the leading European countries and Austria is committed to take further steps to improve and broaden e-government activities continuously. In addition, the ICT sector is regarded as a crucial pillar for technological and economic development. Thus, ICT is one of the most important thematic priorities of Austrian technology policy. Various programmes (e.g. FIT-IT as the ICT flagship programme) are specially designed to address specific needs of the ICT sector with regard to R&D and technological development. Other programmes, although in principle non-discriminatory (positively as well as negatively) towards specific technologies, have a significant impact on the ICT sector as well. Especially various network-related programmes developed throughout the 1990ies (e.g. the so called K-programmes) should be mentioned. Together, these programmes tackle all aspects of innovation, R&D and technological development in the ICT sector and the associated impediments and problems.

Interpretating the Facts

Key Figures on ICT in Austria

3.1 Introduction

Figures on the Austrian ICT sector in international perspective

In this part some significant indicators are selected for giving an overview about the importance and structure of the ICT sector in Austria compared to EU and OECD countries. Some indicators are available only on the national level and provide more detailed information on the ICT research in Austria specifically.

Sources

This publication uses statistical information mainly from Eurostat and OECD. Due to data availability results are drawn primarily from the so-called EU-15 countries (Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain, Sweden and the UK or in some cases the EU-14 without Luxembourg), while for the new member states (Czech Republic, Cyprus, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Slovak Republic and Slovenia) only scattered evidence is available. At the national level the main source is the statistical office of Austria (Statistik Austria).

Definition of ICT sector

In this part the OECD method is used to define the ICT sector. According to this method the ICT sector encompasses the following economic classes (division number of ÖNACE 2003 classification in brackets): Office machinery and computers [30]; insulated wire and cable [31.3]; radio, television and communication equipment [32]; instruments; industrial process control equipment [33.2 +33.3]; wholesale of computers, peripheral equipment and software; wholesale of electronic equipment [51.84 + 51.86]; telecommunications [64.2]; renting of office machinery, including computers [71.33]; computer and related activities [72].

NACE stands for "Nomenclature générale des activités économiques dans les Communautés européennes".

EU averages

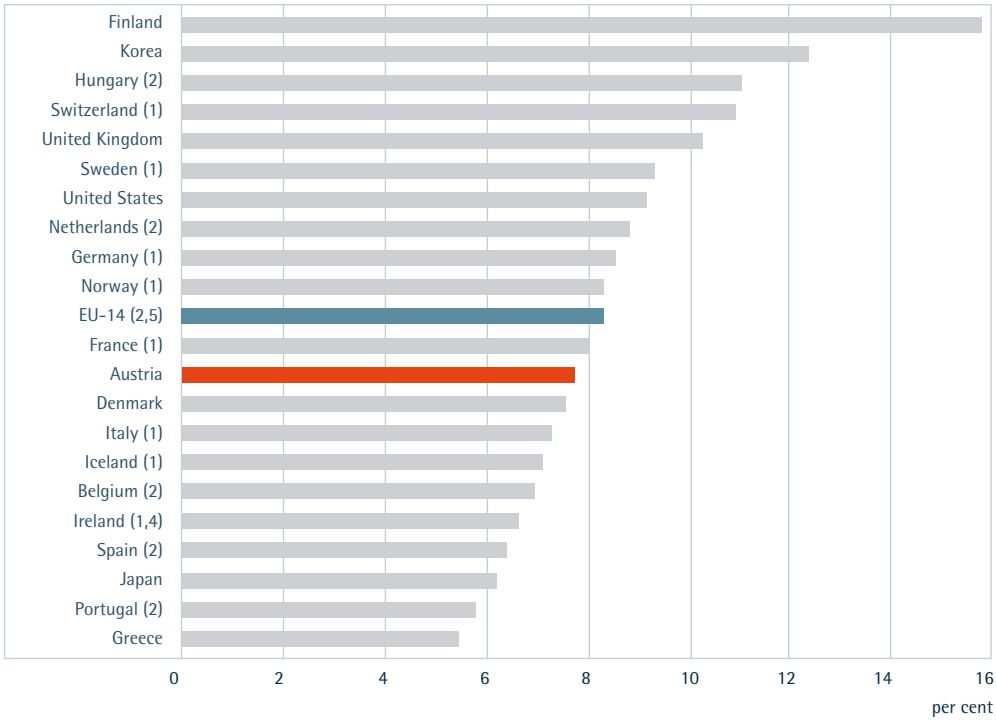
The publication refers to EU averages. This is usually a weighted average in relation to the population of the individual countries depending on the indicator applied. The use of unweighted averages is indicated separately.

Structure of this part

This part is structured as follows: It starts with indicators on the overall economic significance of the ICT sector (3.2). The second group (3.3) of indicators depicts R&D and ICT, while the third (3.4) covers various diffusion related indicators.

3.2 Economic Significance of ICT

Figure 3.2.1 Share of ICT sector in per cent of value added, 2003



Notes:
Value added in ICT related industries is on the basis of ISIC, Rev. 3 divisions: 30 (manufacture of office, accounting and computing machinery), 32 (manufacture of radio, television and communication equipment and apparatus), 33 (manufacture of medical, precision and optical instruments, watches and clocks), 64 (post and telecommunications) and 72 (computer and related activities).

(1) 2002 instead of 2003
(2) 2001 instead of 2003
(3) without division 33 (medical, precision and optical instruments, watches and clocks) and division 72 (computer and related activities)
(4) without division 72 (computer and related activities)
(5) unweighted average without Luxembourg

Source: OECD STAN database, January 2006.

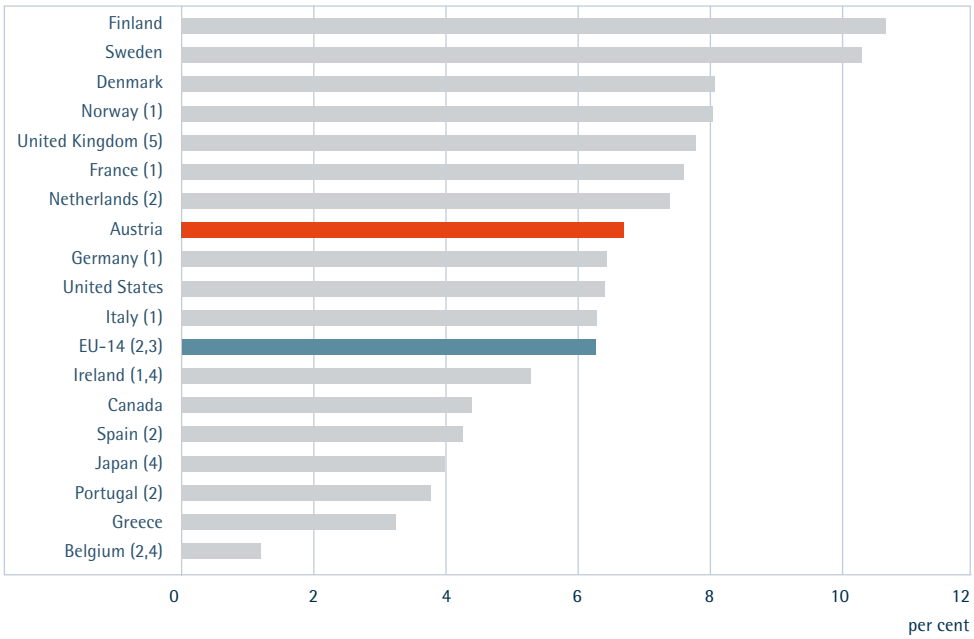
A few countries led by Finland are highly specialised in ICT

There is a wide dispersion between countries regarding the economic importance (measured as share of value added). A few countries (Finland, Korea and to a lesser extent Hungary, Switzerland and the United Kingdom) have a pronounced specialisation in ICT industries with a share on value added of more than 10 per cent.

With a share of about 8 % Austria's share of ICT industries is close to EU average

The recent phase of catching up has brought Austria close to the EU-14 average. Now Austria has already a higher ICT share than countries like Japan, Belgium and Denmark.

Figure 3.2.2 Employment in the ICT sector as share of overall employment, 2003



Notes:
Total employment in ICT related industries is on the basis of ISIC, Rev. 3 divisions: 30 (manufacture of office, accounting and computing machinery), 32 (manufacture of radio, television and communication equipment and apparatus), 33 (manufacture of medical, precision and optical instruments, watches and clocks), 64 (post and telecommunications) and 72 (computer and related activities).

(1) 2002 instead of 2003
(2) 2001 instead of 2003
(3) Luxembourg not included
(4) without 64 (post and telecommunications) and 72 (computer and related activities)
(5) exludes self-employees

Source: OECD STAN database, January 2006.

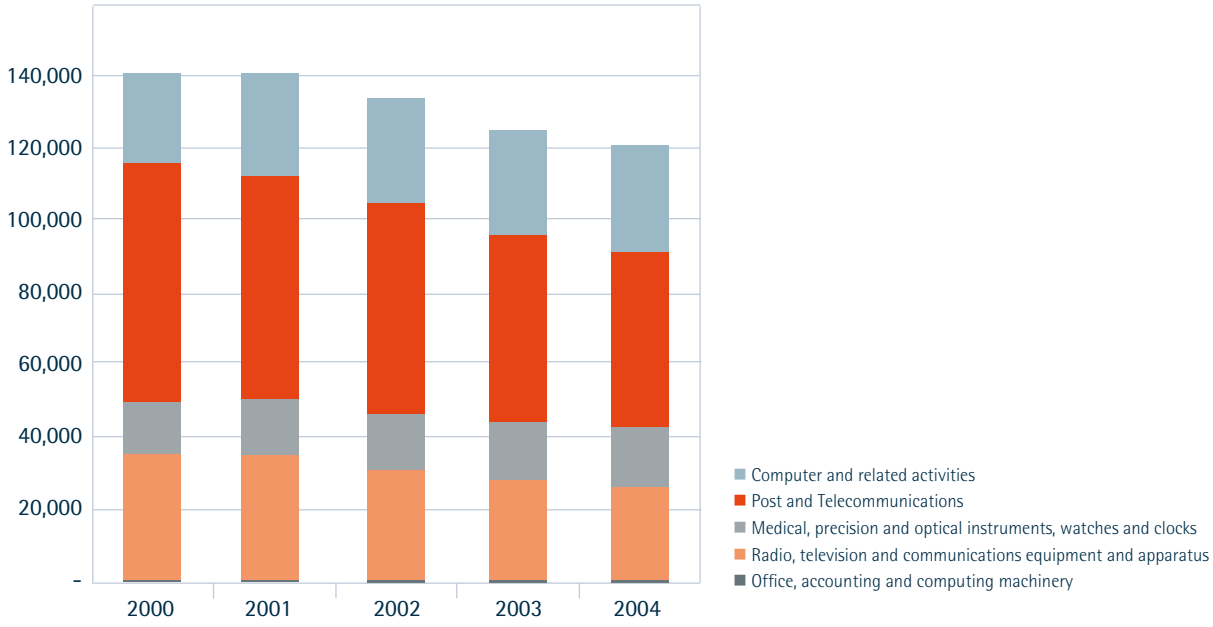
ICT sector has a high productivity

The relation of the ICT sector's share in valued added and in employment indicates a high overall productivity of the ICT sector. However, the country ranking changes for some countries (including Austria) indicating significant international differences in productivity.

Austria slightly above the EU-14 average

The share of ICT employment is an even stronger indication that Austria has reached the level of an advanced ICT country. According to this indicator Austria is slightly above the EU-14 average and within a close range to Germany and the United States.

Figure 3.2.3 ICT related employment in Austria, 2000 - 2004

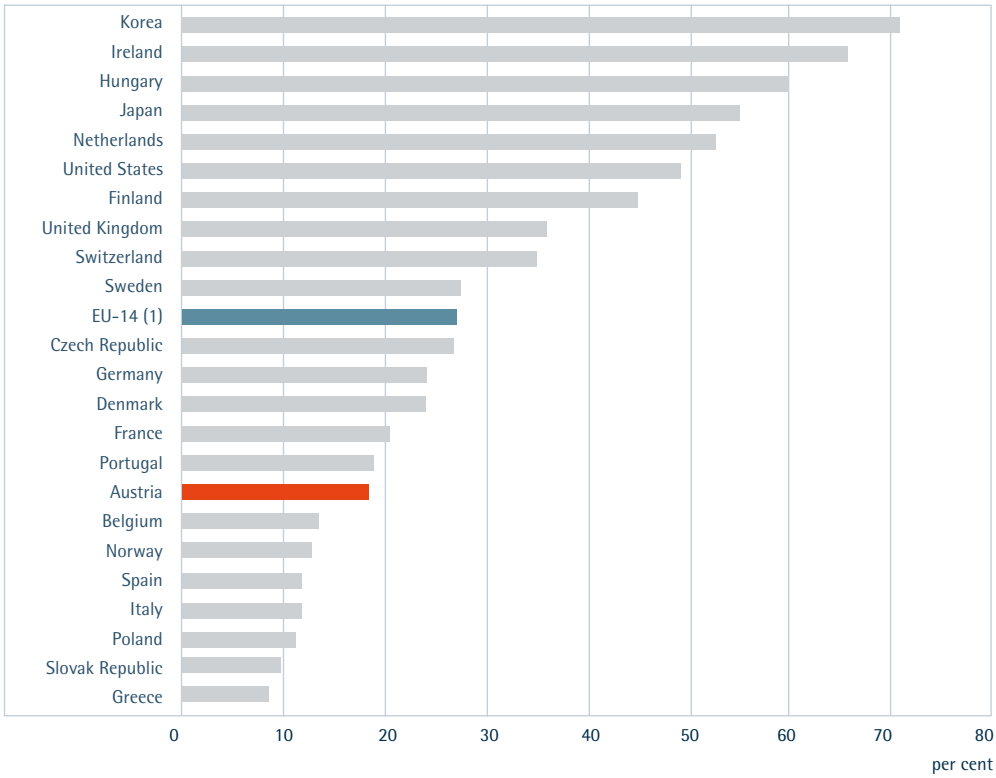


Note: Definition of ICT sector is based upon the OECD concept of ICT sector
Source: Hauptverband der Sozialversicherungsträger, 2005

Re-organisation processes in former public sectors like telecommunications result in declining overall employment figures of the IT sector

Recently, overall employment in the ICT sector has been shrinking, mainly due to decreasing employment in post & telecommunications caused by structural re-organisation processes in this (former public) sector. The production of radio/television and communication equipment dominates the manufacturing ICT sector in Austria whereas office and computer machinery plays only a minor role. Over time, the importance of ICT services (computer and related activities) is growing.

Figure 3.2.4 ICT exports as share of total exports, 2003



Notes:
Covers exports of goods, but no services.

(1) unweighted average without Luxembourg

Source: OECD, International Trade in Commodity Statistics (ITCS) and Structural Analysis (STAN) databases, December 2005.

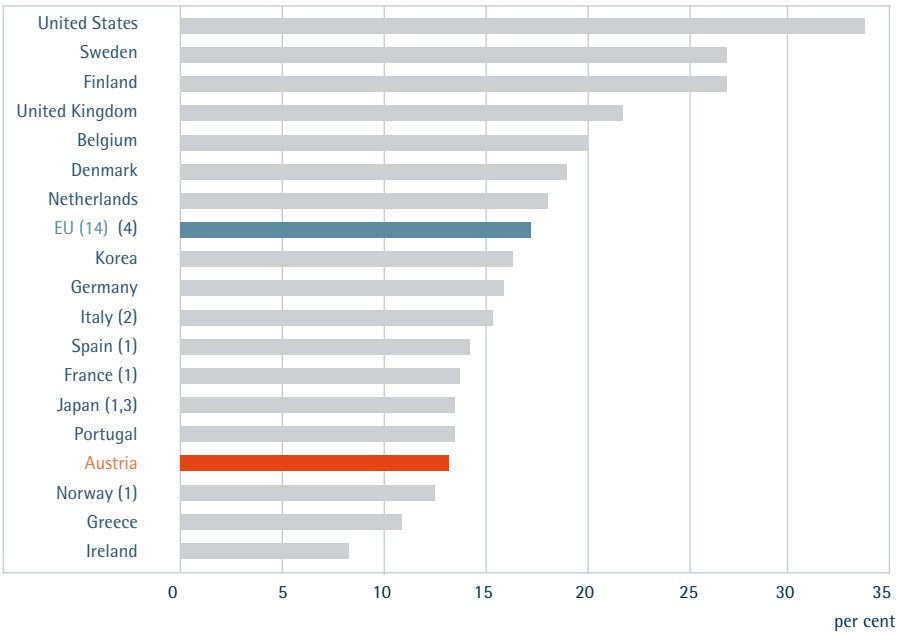
A few countries have exceptionally high export shares

With a share of 50 per cent and more, the ICT sector is the main source of export revenues in some highly specialised countries like Korea, Ireland, Hungary and Japan.

Austria below the EU-14 average

In Austria, exports of ICT goods as share of total goods exports amount to 9.2 per cent of which more than a half are radio, television and communication equipment. The reason for this comparably lower share is the generally more diversified export structure of Austrian manufacturing (e.g. machinery and transport equipment, semi-finished products).

Figure 3.2.5 Investment in ICT as share of gross fixed capital formation, 2003



Notes:
ICT equipment is defined here as computer and office equipment and communication equipment; software includes both purchased and own account software.

(1) 2002 instead of 2003
(2) 2001 instead of 2003
(3) Software investments in Japan are likely to be underestimated, owing to methodological differences.
(4) unweighted average without Luxembourg

Source: OECD, database on capital services, July 2005.

In the U.S. and Nordic countries ICT investment accounts already for more than a quarter of total investment

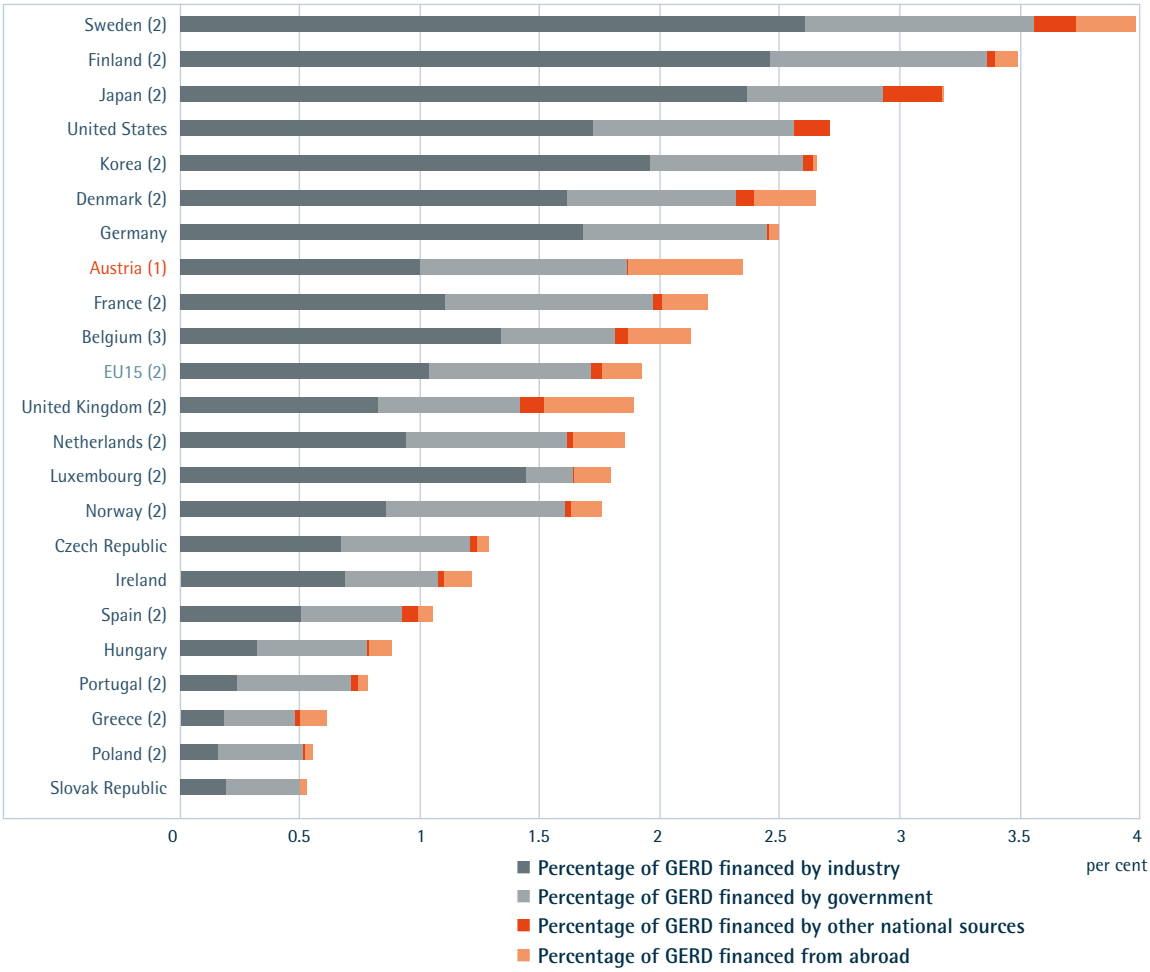
The importance of ICT as a generic sector is underlined by its growing share in overall investment. The differences between the countries are very pronounced indicating different specialisation patterns with respect to ICT.

Austria is slightly below the EU-14 average

Investment in ICT equipment and software in Austria amounts to 13.2 per cent of gross fixed capital formation in 2003, which is below the EU-14 average of 16.9 per cent.

3.3 Research and Development in ICT

Figure 3.3.1 Shares of financial sources of R&D, 2004 (in per cent of GDP)



Notes:

Percentage of GERD (Gross expenditures in R&D) financed by industry, government, other national sources and from abroad.

(1) 2005 instead of 2004

(2) 2003 instead of 2004

(3) 2001 instead of 2004

Source: OECD, Main Science Technology Indicators, 2005.

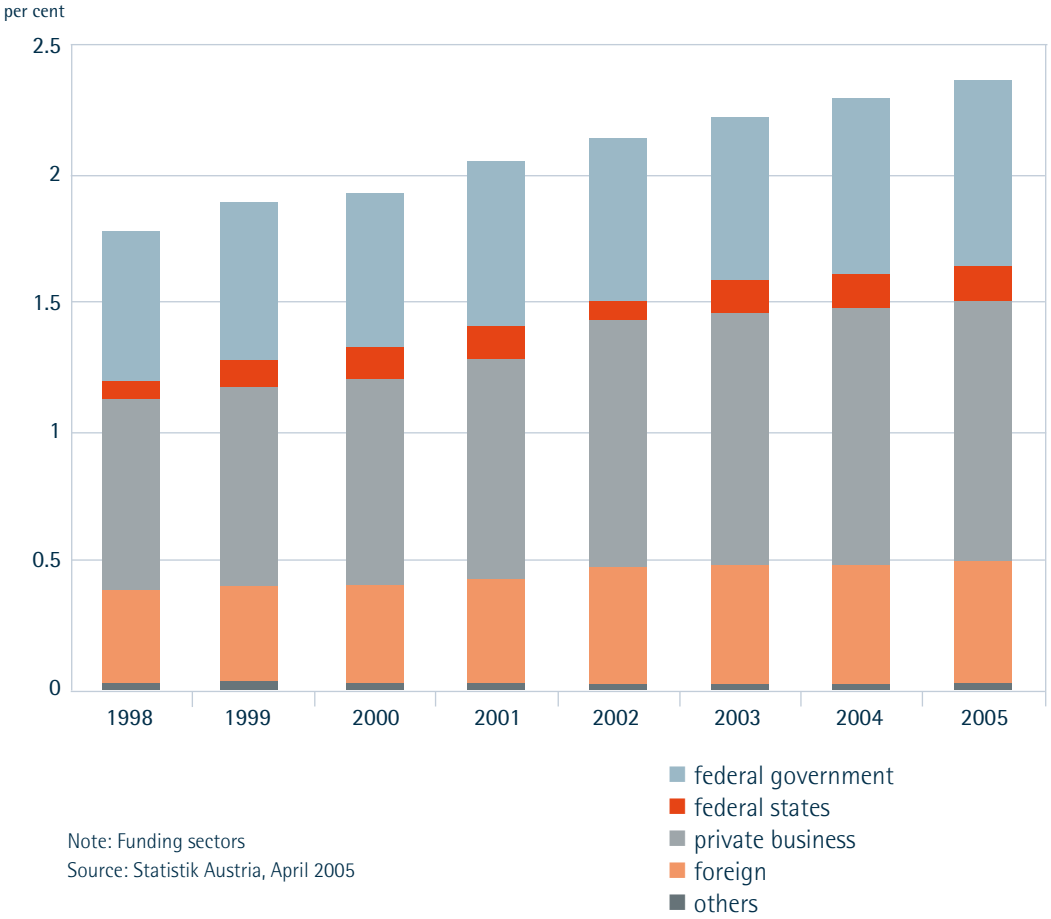
The private business sector is the main source of funding for R&D in most countries

In countries with a high overall R&D intensity the private business sector is usually the single most important source of R&D funding. Some EU countries (like Luxembourg, Sweden and Finland) already surpass the Barcelona target of a private business sector share of 66 per cent of total R&D funding.

An exceptionally high share of R&D funding in Austria originates from abroad

In Austria 43 per cent are financed by the domestic private business sector. Foreign sources account for about 20 per cent of R&D funding of which an estimated 90 per cent stem from transnational corporations funding their Austrian subsidiaries. Thus, the share of R&D funded by the private business sector as a whole is already close to the Barcelona target with respect to the share of business R&D.

Figure 3.3.2 Gross domestic R&D expenditures as percentage of GDP in Austria, 1998 - 2005



Note: Funding sectors
Source: Statistik Austria, April 2005

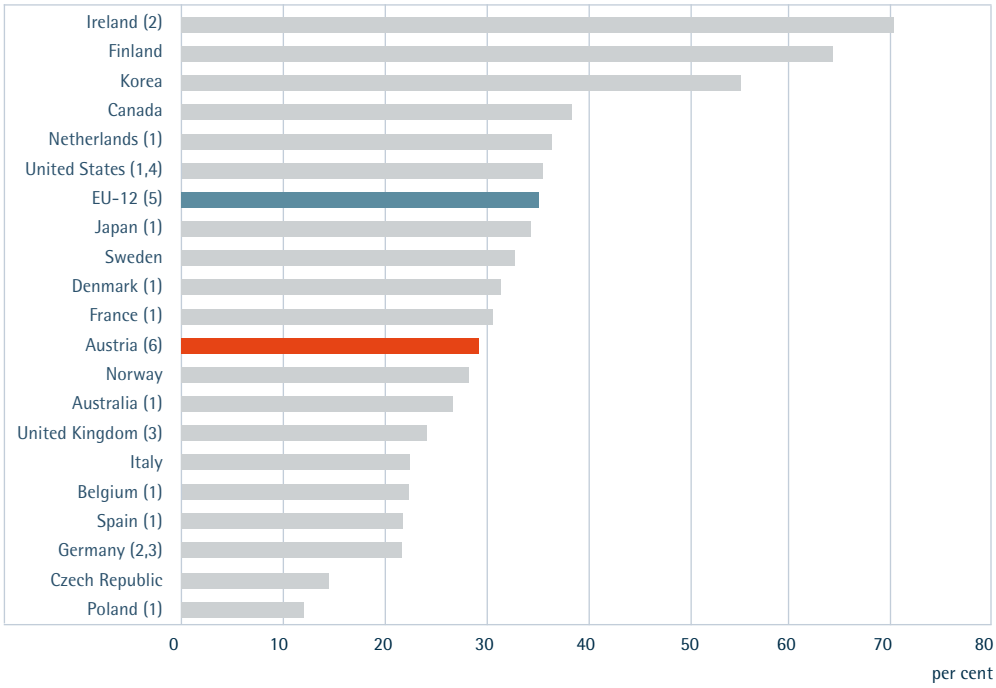
Growing R&D intensity in Austria

Gross domestic R&D expenditures in Austria increased considerably during the last years. Between 2004 and 2005 the growth rate of R&D expenditures was 8 per cent, among the highest within the OECD. Measured in per cent as GDP the share of R&D expenditures grew from about 1.7 % in the late 90ies to about 2.3 per cent in 2005. Thus the R&D intensity of Austria surpassed the EU average (of 2.2 per cent) recently. Over time, the share of R&D funded by the private business sector is growing.

The private business sector followed by the federal government and the foreign sector are the biggest financiers of R&D in Austria

With a share of more than 40 per cent (43 per cent in 2005) the private business sector is the biggest contributor to overall R&D expenditures followed by the federal government with a share of about 30 per cent.

Figure 3.3.3 R&D expenditures in the ICT sector, 2003 (share of total R&D expenditures in private business sector)



Notes:

R&D expenditure in ICT related industries are on the basis of ISIC, Rev. 3 divisions: 30 (manufacture of office, accounting and computing machinery), 32 (manufacture of radio, television and communication equipment and apparatus), 33 (manufacture of medical, precision and optical instruments, watches and clocks), 64 (post and telecommunications) and 72 (computer and related activities).

(1) 2002 instead of 2003
(2) 2001 instead of 2003
(3) Division 64 not included
(4) Due to unavailability of data for division 64, class 642 (telecommunication) is included in services ICT R&D as a proxy. Available information shows that in the United States class 642 accounts for about 97-98% of division 64 total
(5) unweighted average EU 12 without Greece, Luxembourg and Portugal
(6) Data from Statistik Austria for 2002

Source: OECD, ANBERD database, March 2005

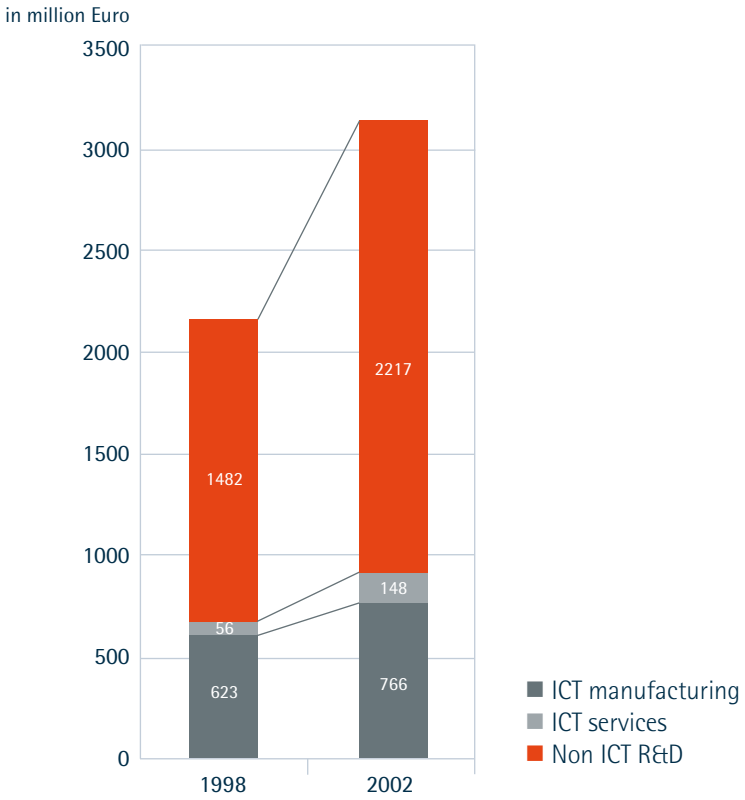
Ireland, Finland and Korea highly specialized in ICT R&D

The ICT sectors in Ireland, Finland and Korea account for exceptionally high shares of expenditures on ICT-related research and development of total R&D expenditure in the business sector. The pronounced ICT specialisation of these countries is reflected again in the R&D figures.

In Austria roughly 30 % of private R&D is performed in the ICT sector

In Austria, as in other countries, the share of R&D in ICT is much higher than ICT's respective share in valued added or employment. This indicates the outstanding R&D intensity of the ICT sector. Indeed, ICT is the most R&D intensive sector in Austria.

Figure 3.3.4 Sectoral composition of ICT-related R&D expenditures in Austria, 1998 and 2002

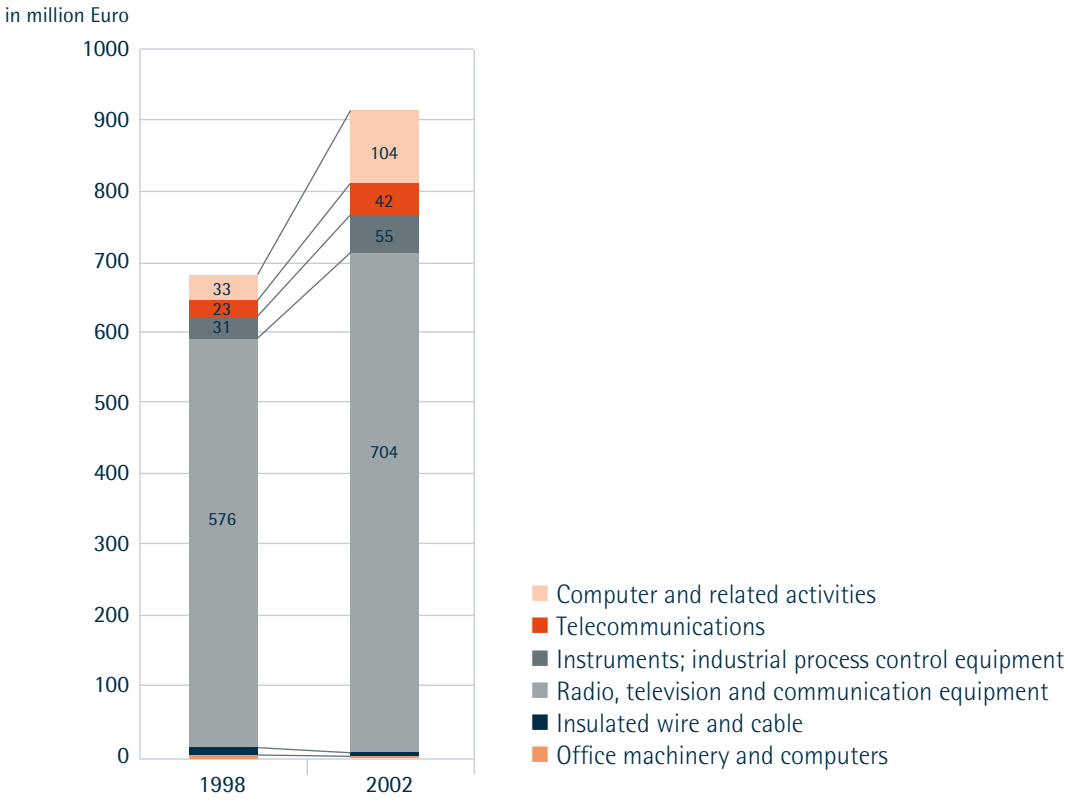


Note: Definition of ICT sector subclasses according to the OECD
Source: Statistik Austria, June 2005

IT related private business R&D is still dominated by manufacturing

The share of ICT related R&D on total private business R&D (€ 3.1 billion) in Austria is about 30 %. Most of this research (€ 766 million) is performed in the ICT related manufacturing sector. The R&D expenditures of the ICT service sector are about € 148 million. The latter has been increasing with above average growth rates during the last years and hence the share of service sector ICT related R&D is growing substantially.

Figure 3.3.5 R&D expenditures in Austria in ICT sub-sectors, 1998 and 2002

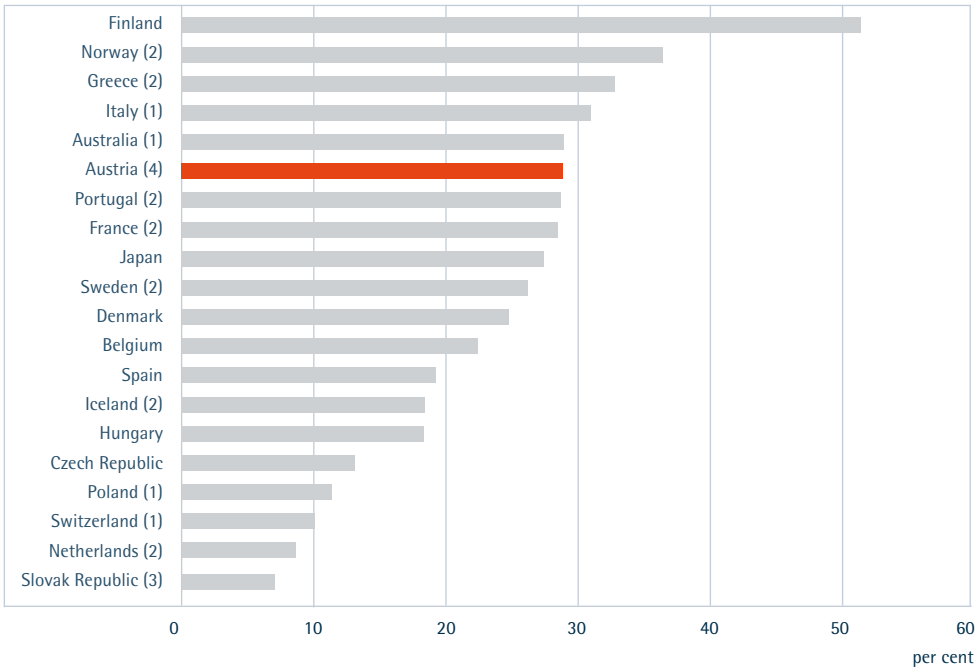


Note: Definition of ICT sector subclasses according to the OECD. Some sector subclasses (e.g. wholesale retailing of computer equipment; renting of office machinery) are not included due to zero or very low R&D expenditures.
Source: Statistik Austria, June 2005

IT related private business R&D is overwhelmingly dominated by firms of radio, television and communication equipment

ICT related private business R&D amounted to € 900 million in 2002 (an increase of 30 per cent since 1998). An overwhelming part (77 per cent) of ICT related private business R&D is performed by firms of the radio, television and communication equipment industry. Other manufacturing industries play only a minor role.

Figure 3.3.6 R&D employment in ICT sector as share of total R&D employment in private business sector, 2002



Notes:
R&D employment in ICT related industries are on the basis of ISIC, Rev. 3 divisions: 30 (manufacture of office, accounting and computing machinery), 32 (manufacture of radio, television and communication equipment and apparatus), 33 (manufacture of medical, precision and optical instruments, watches and clocks), 64 (post and telecommunications) and 72 (computer and related activities).
Since some important EU-countries (Germany, UK) are missing due to unavailable data no EU average is indicated.

(1) 2000 instead of 2002
(2) 2001 instead of 2002
(3) 2003 instead of 2002
(4) Data from Statistik Austria for 2002

Source: OECD Main Science Technology Indicators, 2005

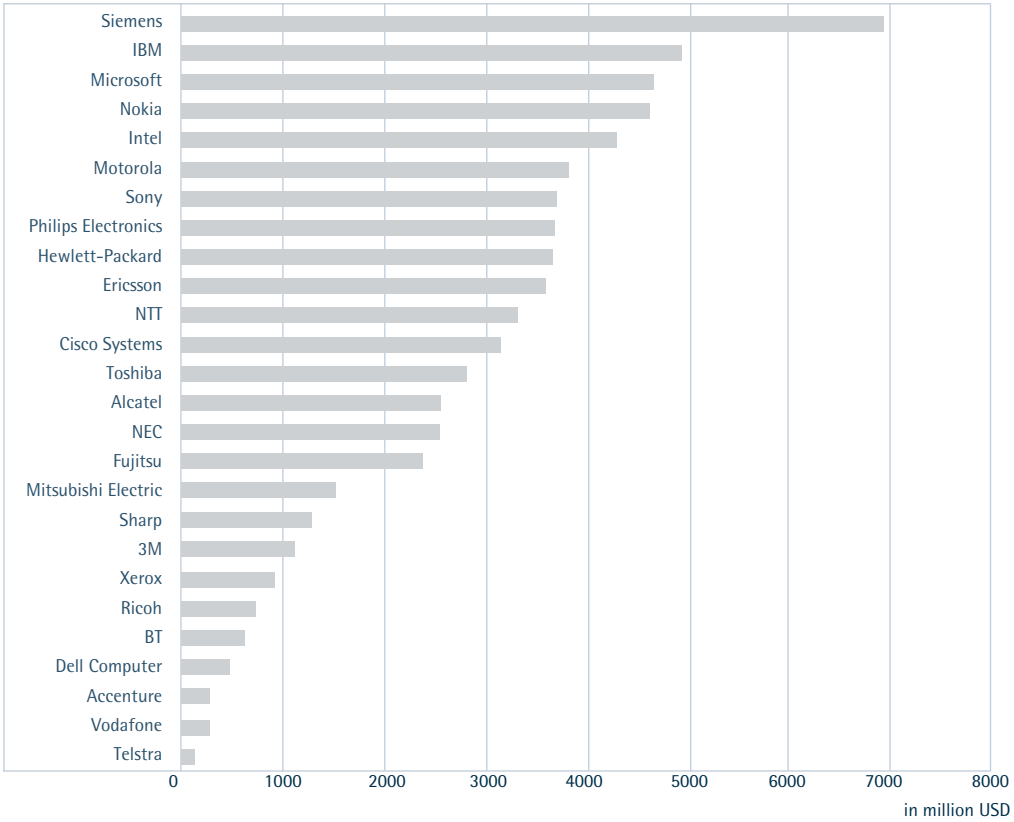
ICT accounts for a significant share of R&D employment

The prominent role of ICT for R&D is also reflected in its high share of R&D employment. The outstanding country is Finland, where more than 50 per cent of R&D employment can be found in the ICT sector.

Austria´s ICT Sector employs a considerable share of total R&D personal in private business sector

In Austria the share of ICT in total R&D employment, with about 30 per cent, is equivalent to its respective share in R&D expenditures underlining the importance of this sector for the Austrian innovation system.

Figure 3.3.7 Top R&D spending ICT Enterprises global, 2003



Note: This sample is selected from a compilation of the top ICT 250, which includes companies having a majority of their revenue from ICT related activities (industry sectors: communication equipment and systems, electronics and components, IT equipment and systems, IT services, software and telecommunication services). Broadcasting, media and content are excluded. Large differences in the scope of product segments between the corporations may bias the indicated ranking.
Source: OECD Information Technology Outlook 2004

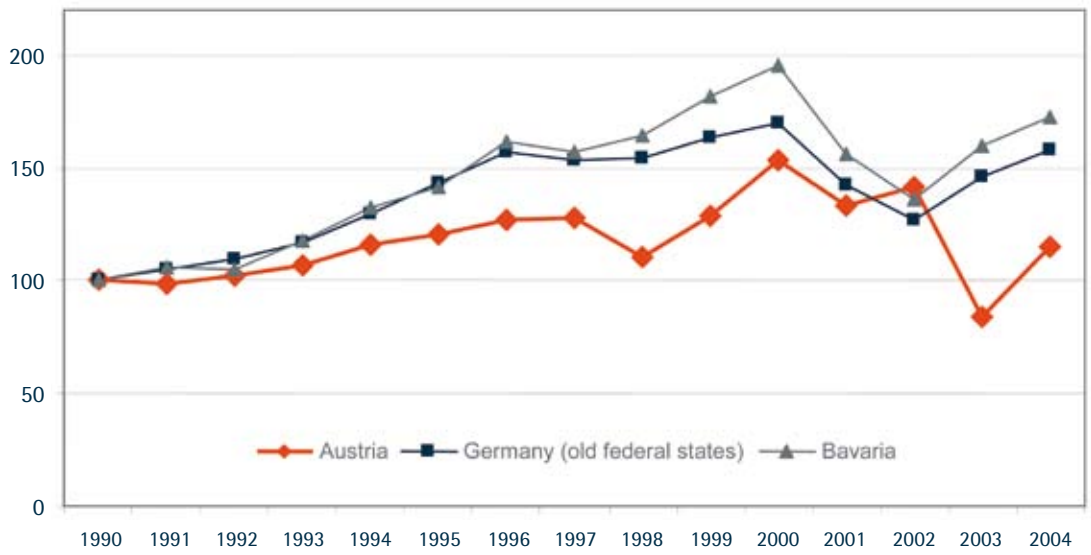
Siemens is by far the biggest spender in R&D

The top ICT firms in terms of revenue like Siemens, IBM and Microsoft have also the biggest R&D budgets. From the reporting companies Siemens has by far the highest R&D expenditures amounting to 6900 million USD. Well-known companies like Siemens, Philips Electronics, Ericsson or Alcatel also have R&D units located in Austria.

R&D expenditures vary widely

Across these firms the R&D expenditures vary considerably, also due to the developments of the last years, where more of them have reduced their R&D expenditures than increased them. With Siemens, Nokia, Philips Electronics and Ericsson a few European firms are in the top league.

Figure 3.3.8 New firm formation in the ICT sector, 1990-2004 (Index 1990 = 100)

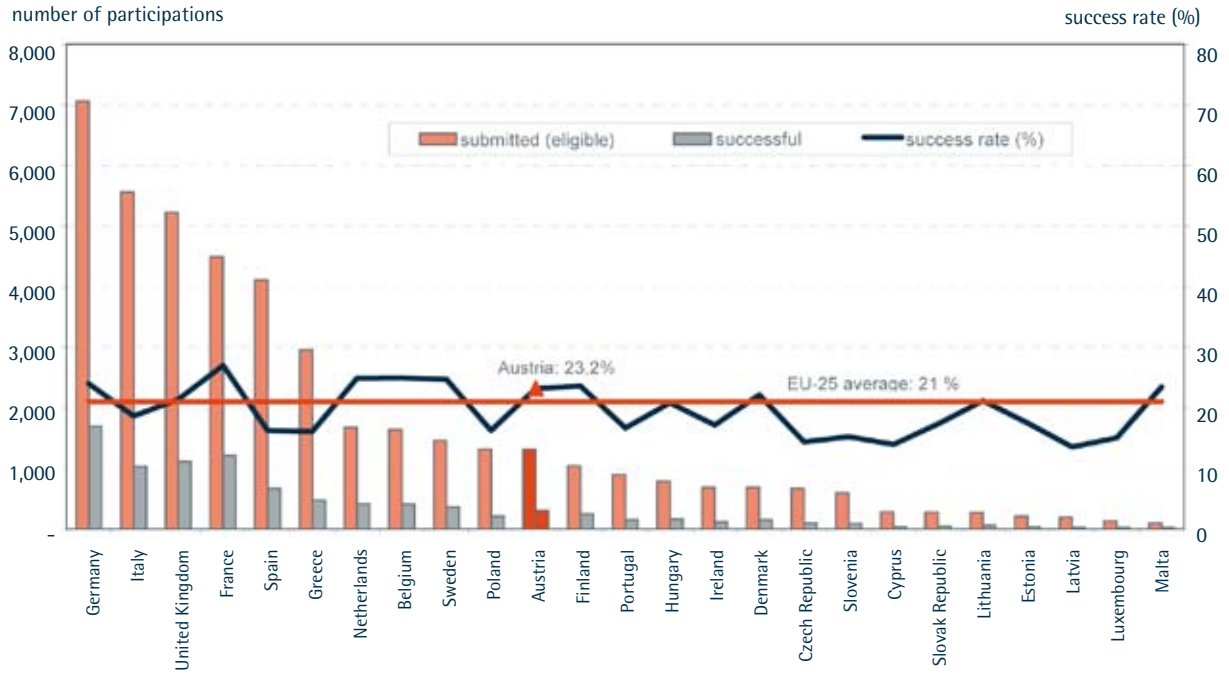


Note: Definition of ICT sector according to the OECD
Source: Centre for European Economic Research/Joanneum Research, January 2006

Firm formation in the ICT sector is growing considerable in the long term. However, the burst of the new economy bubble led to a sharp slump.

In the 1990ies firm formation in the ICT sector grew continuously in Austria as well as in Germany (and Bavaria as the most dynamic federal state in Germany concerning IT). However, in the aftermath of the burst of the new economy firm formation dropped sharply. It took two years in Germany and three years in Austria to reverse this declining trend. Recently, firm formation in the ICT sector had been growing again at a significant rate.

Figure 3.3.9 Submitted and successful participation and success rates in IST programme of 6th European Framework Programme, January 2006



Notes: Share of successful applications for co-operation in IST programme of 6th Research Programme of EU.
Source: Proviso, January 2006

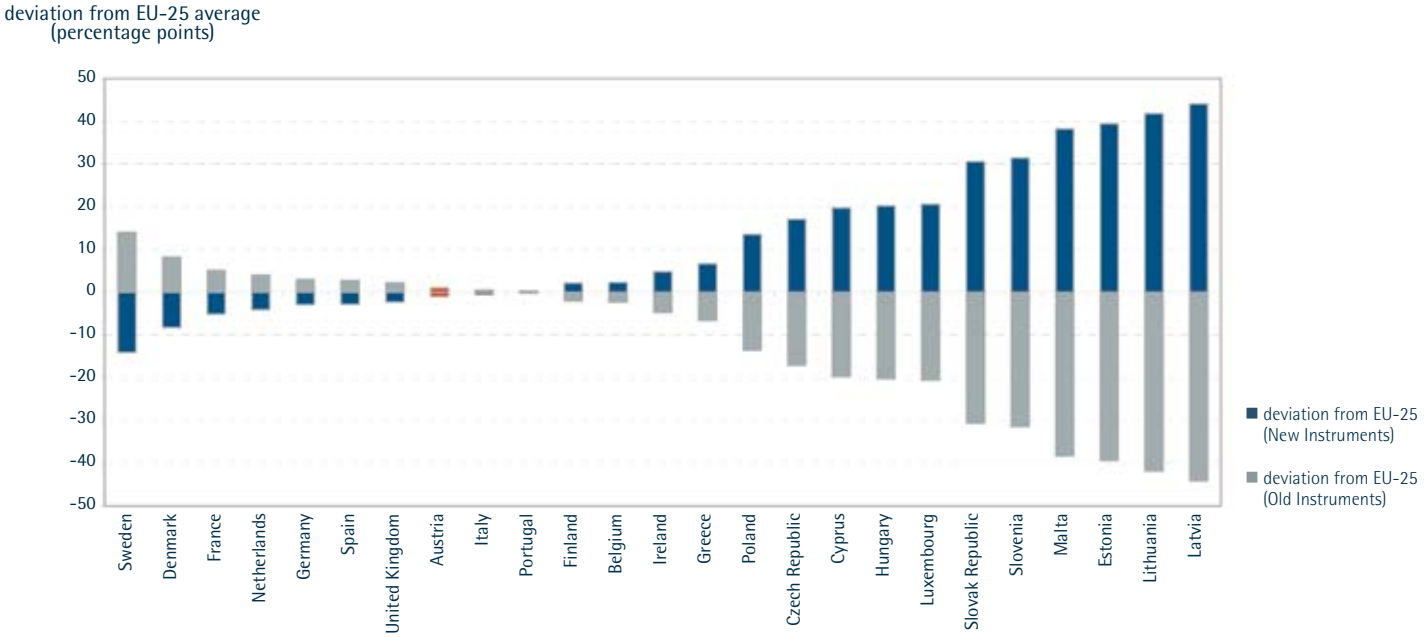
Austria among the countries with high success rates

Austrian submissions for participation in the IST programme of the 6th Research Programme of EU achieved an approval rate of about 23 per cent which positions Austria among the ones with higher success rates.

Success rates do not differ by country size

Submissions for participation in absolute terms are highest in large countries but success rates are more evenly distributed. Furthermore, three blocks of participating countries according to the number of submissions are observable: large "old" EU countries (i.e. Germany, Italy, the United Kingdom, France and Spain), smaller countries (i.e. the Netherlands, Belgium, Sweden etc.) and small new member states of the EU (i.e. Cyprus, Slovak Republic etc.).

Figure 3.3.10 Successful participation by instruments, January 2006

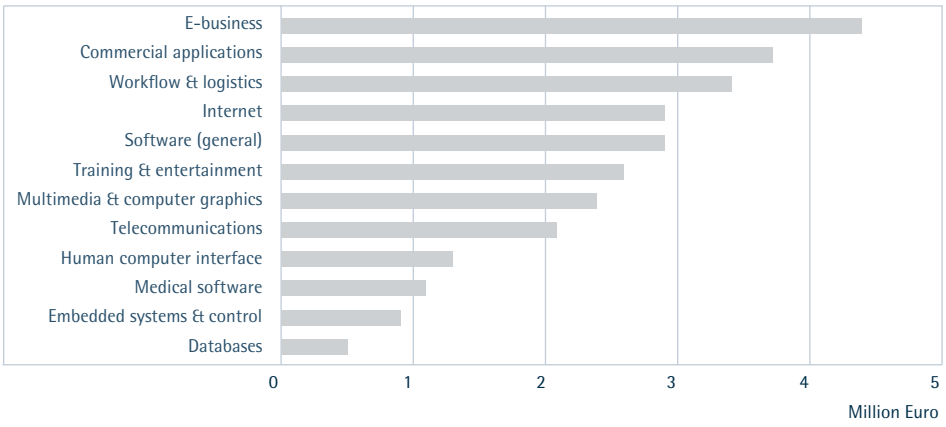


Notes: Successful submissions for participation in the programme IST of the 6th European Framework Programme, deviations (percentage points) from programme average (EU-25)
Source: Proviso, January 2006

New EU member states are more successful in the "old" instruments

In this figure, the performance of each EU-25 country is shown relative to the EU-25 average for the New and the Old Instruments. Values above zero mean higher (better) performance and values below zero mean lower (poorer) performance. While countries such as Austria, Italy and Poland are close to the EU-25 average, some countries such as Sweden, Denmark and France seem to prefer the New Instruments. In contrast, countries such as Estonia, Lithuania, and Latvia seem to prefer the Old Instruments.

Figure 3.3.11 Public support of private business ICT R&D: Bottom-up funded (FFG) ICT related R&D projects, 2003 – 2004



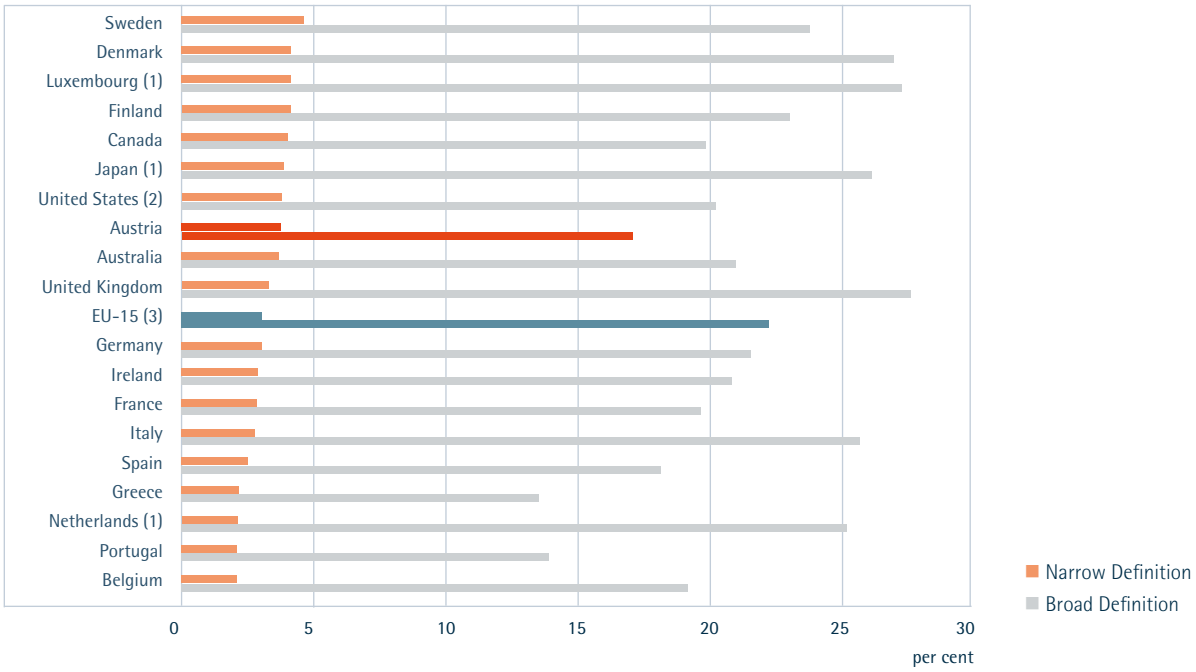
Note: Bottom-up funded projects are those investigator driven research projects funded by the former FFF (Austrian Industrial Research Promotion Fund). These funding activities are now part of the Austrian Research Promotion Agency (FFG).
Source: FFG, September 2005

A considerable amount of industrial research funded by the main Austrian funding organisation (FFG) belongs to ICT

The Austrian Research Promotion Agency (FFG) is the main player for funding industrial research in Austria. A major part of R&D funding is defined bottom-up, i.e. investigator-driven research. About 30 per cent of this bottom-up defined research funded by the FFG is allocated in ICT (or almost € 30 million in absolute terms). E-business, commercial applications and workflow & logistics are the dominant technological areas in which ICT projects are funded. In addition, some technology areas of ICT (i.e. embedded systems) are also covered by special thematically oriented programmes (e.g. FITIT). Hence, their overall importance and their contribution to ICT-related R&D may be somewhat underestimated in this figure.

3.4 Diffusion of ICT

Figure 3.4.1 Share of ICT-related occupations in the total economy, 2003 (broad and narrow definition)



Notes: Broad definition includes ICT specialists and users (suppliers and users of ICT tools) while the narrow definition covers only ICT specialists (suppliers of ICT tools). See methodology described in chapter 6 of Information Technology Outlook 2004. Here the focus is on employment in occupations that use ICT to various degrees while in figure 3.2.2 all occupations of the mentioned industries are included, even if they do not use ICT.

(1) 2002 instead of 2003
(2) OECD estimates for 2003.
(3) Includes estimates where a full dataset was not available

Source: OECD, Information Technology Outlook 2004.

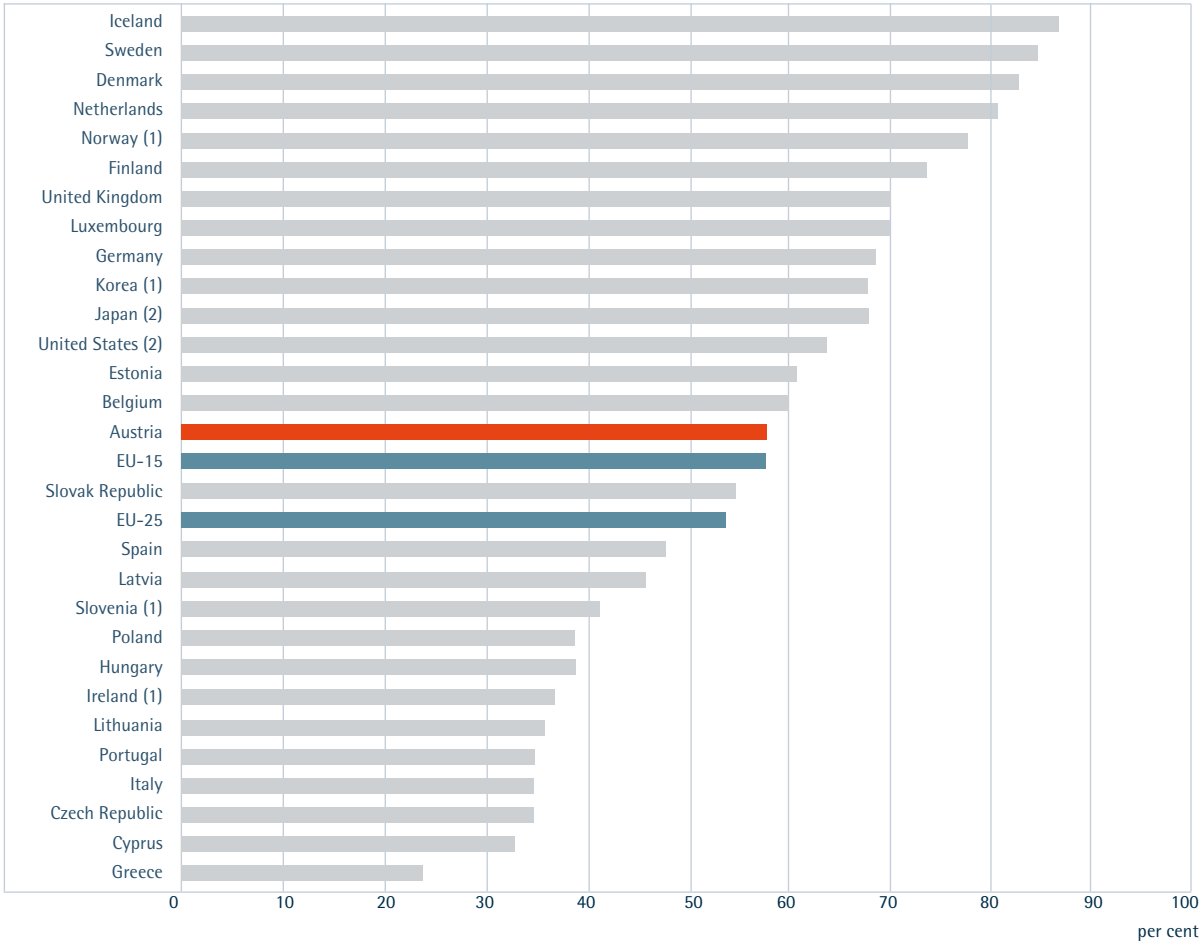
Austria shows a high share of ICT specialists but a low share of ICT users

ICT-related occupations are devided into two groups: a narrow group of advanced and generic ICT specialists (e.g. software developers) and a broad group of ICT users. Austria has a quite high share of 3.8 per cent of ICT specialists (narrow definition) but a relatively low share of 17.2 per cent ICT users. The somewhat lower share of PC users may be a result of the still strong presence of traditional manufacturing sectors in Austria.

The Scandinavian countries have highest shares of ICT specialists

Scandinavian countries rank at the top with regard to the share of ICT specialists (narrow definition). Concerning the broad definition the picture is somewhat different with countries like the United Kingdom, Italy and the Netherlands at the top ranks.

Figure 3.4.2 Share of population using internet, 2005)



Notes: Data generally refer to Internet use in the last 12 months.

1 2004 instead of 2005
2 2003 instead of 2005

Source: Eurostat, January 2006

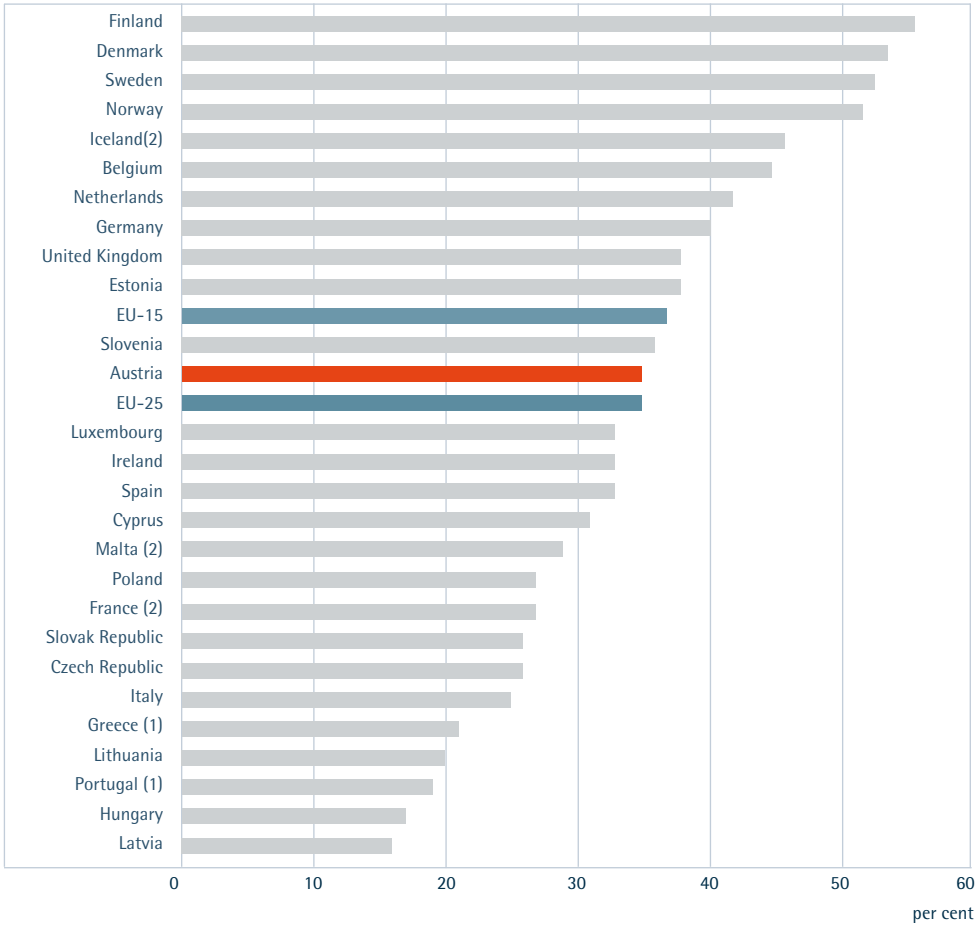
Iceland and Sweden have highest Internet use with above 85 per cent

Internet penetration shows a clear-cut pattern, which has been well established for years. Scandinavian countries have the highest shares of Internet use, indeed with shares of about 80 per cent and more, Internet use is almost universal in these countries. Within Europe at large there is a north-south divide with the lowest penetration rates to be found in southern countries.

Internet use in Austria equals EU-15 average with 58 per cent in 2005

Internet use has grown continuously in Austria over the last years. Today, an Internet use rate of 58 per cent of the population positions Austria well in the average of the EU-15.

Figure 3.4.3 Share of PC users of total number of employees, 2005



Notes:
(1) 2004 instead of 2005
(2) 2003 instead of 2005

Source: Eurostat, January 2006

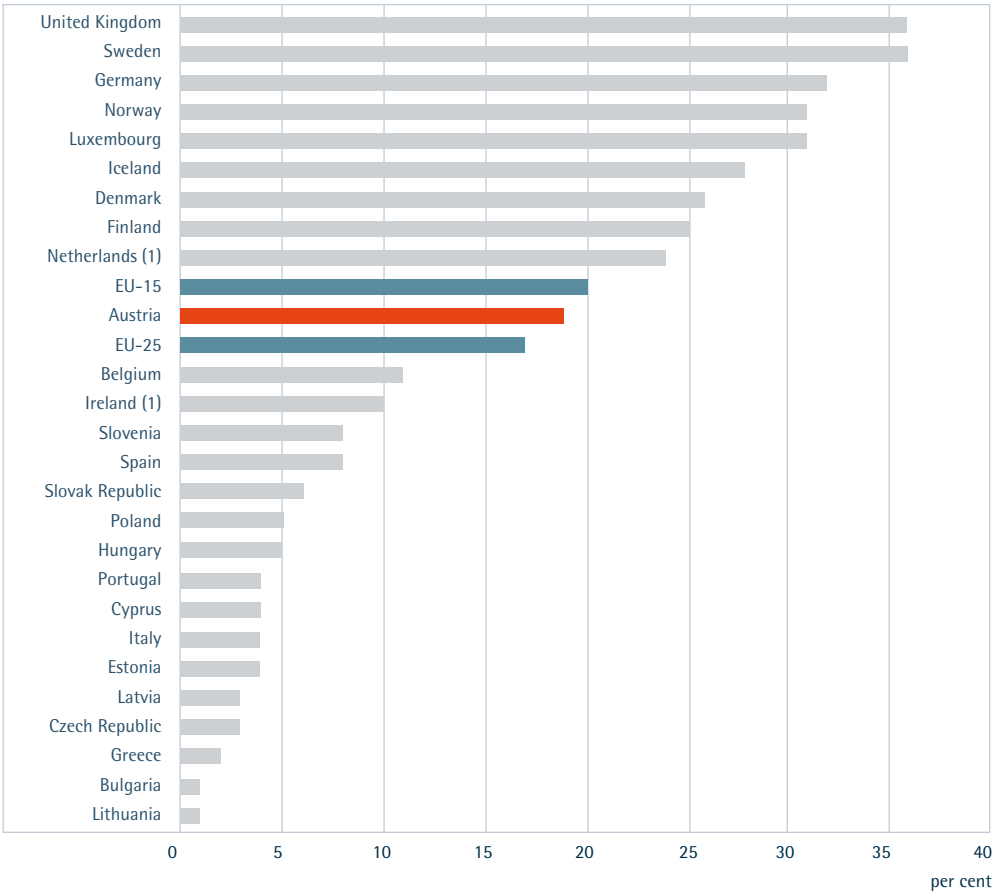
High rate of PC users in the Scandinavian countries

The share of PC users connected to the Internet during their working time as share of the total number of employees was slightly below the EU-15 average in Austria with 35 per cent. Again Scandinavian countries are at the top of the ranking with shares above 50 per cent.

Low EU-15 average

For the EU-15 countries as a whole, the average with 37 per cent in 2005 is much lower than that in the Scandinavian countries. With the exception of Estonia, all new member states of EU and all southern countries are below the EU-15 average.

Figure 3.4.4 Share of individuals using B2C, 2005



Notes:
(1) 2004 instead of 2005

Source: Eurostat, January 2006

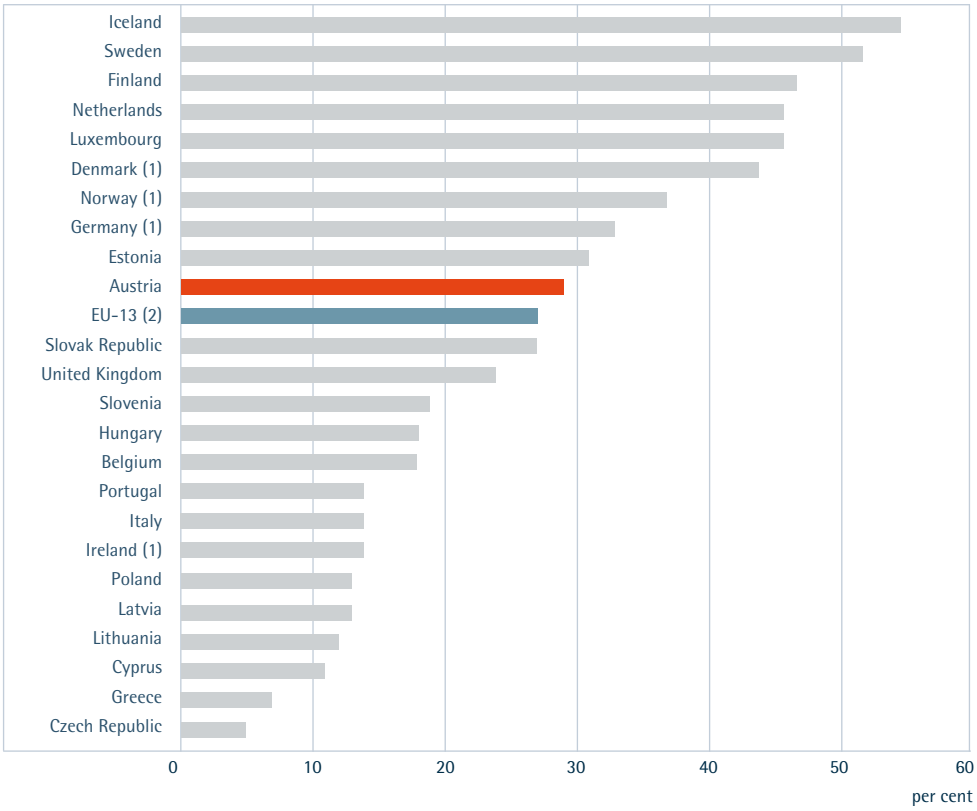
Austria almost at EU-15 average

The figure shows the share of individuals in the countries in 2005 who have ordered and bought goods or services for private use via the Internet in the last three month. With 19 per cent Austria is almost at the EU-15 average of 20 per cent.

United Kingdom and Sweden are leading with 36 per cent

Typically the northern countries show higher shares, but also other states, especially the United Kingdom, Germany and Luxembourg are part of the leading countries in Europe. The United Kingdom and Sweden are at the leading position with 36 per cent.

Figure 3.4.5 E-government: share of individuals using public digital services, 2005



Notes:
Percentage of individuals who have used the Internet, in the last 3 months, for interaction with public authorities (following activities: "obtaining information from public authorities websites", "downloading official forms" or "sending filled in forms")

(1) 2004 instead of 2005
(2) unweighted average without France and Spain due to unavailable data

Source: Eurostat, January 2006

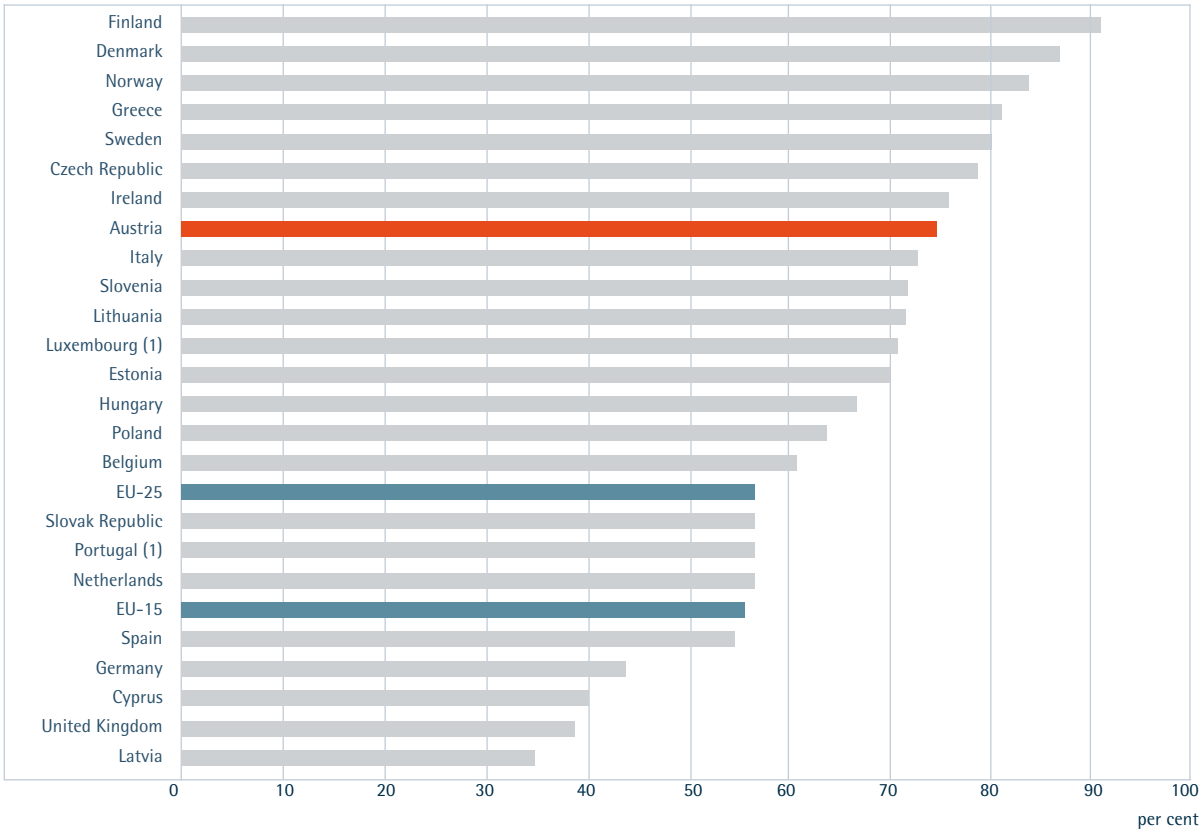
In Austria 29 per cent interact with public authorities via internet

29 per cent of Austrian citizens used the Internet in 2005 to interact with public authorities via Internet, i.e. to get information, download forms or submit forms. This is slightly above the EU-15 average but only about half of the Scandinavian countries.

Primarily Scandinavian countries are leading

Typically the Nordic countries show higher shares. Only the Netherlands and Luxembourg (with shares of about 40 per cent) are able to join this Nordic bloc regarding the use of public digital services.

Figure 3.4.6 E-government: share of enterprises using public digital services, 2005



Notes:
All enterprises employing 10 persons or more, without financial sector.
(1) 2004 instead of 2005

Source: Eurostat, January 2006

Austria´s enterprises often use public web sites

While 55 per cent of all enterprises with more than 10 persons employed used the Internet for interacting with public authorities on the average in EU-15, three out of four enterprises used it in Austria in 2005.

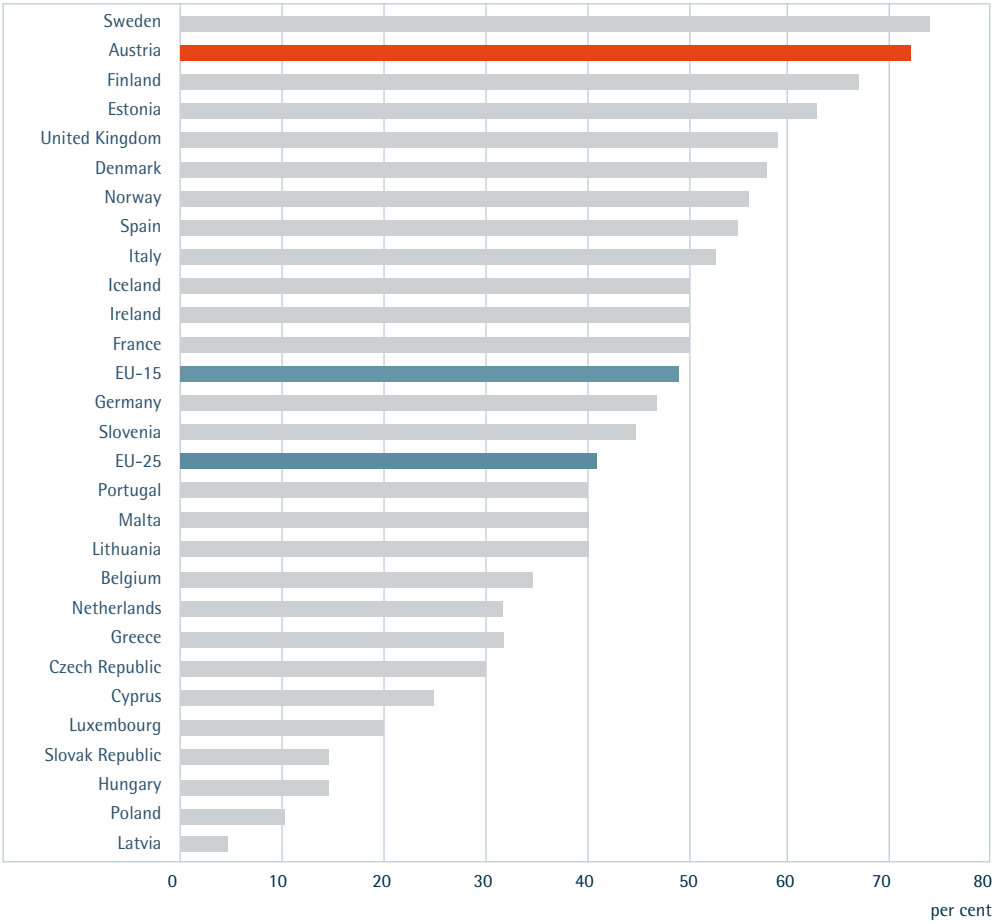
Large differences between countries

The enterprises of the Scandinavian countries used the Internet by amounts of above 80 per cent to interact with public authorities. Surprisingly, shares below EU-15 are given in Germany with 44 per cent and the United Kingdom with 39 per cent in 2005.

EU-25 average is above EU-15 average

EU averages are built by weighting the countries with their population so the low shares of use in countries with large populations like Germany, the United Kingdom and Spain have a reasonable influence on EU averages. So the EU-15 average is slightly below the EU-25 average.

Figure 3.4.7 E-government: online availability of transactional public services (October 2004)



Notes: The figures are based on 20 selected services and illustrate the share of these solutions offering full electronic case handling, including decision and delivery. The measurement comprises 16 public services aimed at individuals and 8 aimed at enterprises.

Source: Eurostat, January 2006

Sweden with 74 per cent and Austria with 72 per cent are leading

Offering 72 per cent of the measured services, Austria is the second best performer after Sweden with 74 per cent in 2004, while on the EU-15 average 49 per cent of public services are available online.

About the measurement

The indicator measures the on-line availability of public services for citizens (income taxes, job search services, social security benefits, personal documents, car registration, application for building permission, declaration to the police, public libraries, birth and marriage certificates, enrolment in higher education, announcement of moving, health-related services) and for businesses (social contribution for employees, corporate tax, VAT, registration of a new company, submission of data to statistical offices, customs declaration, environment-related permits, public procurement).

Getting in Contact

Selected organisations and players

Looking for IT Research organisations in Austria?

Check „RESEARCH IT AUSTRIA"!

Research IT Austria - http://www.research-it.at -is the online directory for Austrian organisations active in IT Research and Development. Detailed organisation profiles display information like working areas, know how and experiences and are a useful source for international users finding high quality IT research institutions in Austria.

The profiles published in this book help to catch a glimpse on Austrian R&D players, but do not cover the whole range of Austrian IT research potential. So in addition to this, you can find a more extensive and quality-checked online directory for Austrian IT Research and Development on the internet http://www.research-it.at. The online version offers also the added value to screen the organisation entries due to search criteria such as field of activity, research projects, grants received, patents or publications.

The usage of the Research IT Austria datebase is free of charge. The initiation of the website was funded by the Austrian Federal Ministry for Economic Affairs and Labour. Research IT Austria is operated and hosted by the division for European and International Programmes (EIP) at the Austrian Research Promotion Agency (FFG) http://www.ffg.at

Disclaimer

The following list of organisation profiles is based on the database www.research-it.at The selection of published entries was accomplished by the written agreement of the institutions to make their data public in print. FFG uses a set of quality criteria to ensure the high grade of the material. Nevertheless, the responsibility of the data set in the profiles is at the institutions and companies themselves. Therefore, the views and opinions expressed by the organisations do not necessarily state or reflect those of FFG. FFG in particular does not endorse or recommend any commercial products, processes or services provided in the information of the presented organisations.

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4.1 Large Enterprise (250+ employees) - in alphabetical order

4.1.1 austriamicrosystems AG/Corporate Communications

Contact

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F: +43-3136 525 01
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www.austriamicrosystems.com
No. of researchers in this organisation: 200

Description

austriamicrosystems is a leading designer and manufacturer of high performance analog ICs, combining more than 20 years of analog design capabilities and system know-how with its own state-of-the-art manufacturing and test facilities. austriamicrosystems leverages its expertise in low power and high accuracy to provide industry-leading customized and standard analog products. Operating worldwide with more than 850 employees, austriamicrosystems focuses on the areas of power management, sensors & sensor interfaces, portable audio and car access addressing the Communications, Industry & Medical, Automotive and Full Service Foundry markets. austriamicrosystems is listed on the SWX Swiss Exchange in Zurich (ticker symbol: AMS).

RTD Areas

- Embedded Systems and Real Time Systems
- Special focus: Printed circuits and integrated circuits
- Semiconductors
- Nanotechnologies

Cooperations

Experience in following types of co-operative research:
- EU RTD Framework Programme 6
- EUREKA
- other international co-operative research
- national co-operative research

4.1.2 Philips Austria Gmbh Styria

Contact

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andreas.muehlberger@philips.com
www.semiconductors.com/identification
No. of researchers in this organisation: 50

RTD Areas

- Embedded Systems and Real Time Systems
- Smart cards and access systems
- Electronic Commerce, Electronic Payment, Electronic Signature
- e-Government
- Mobile Communications
- Wireless Technologies
- RFID systems

Cooperations

Experience in following types of co-operative research:
- EU RTD Framework Programme 4
- other international co-operative research
- national co-operative research

International partner countries:
- Germany
- France

4.1.3 ROSENBAUER International AG/Fire Fighting Components

Contact

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Product Management Telematics
Department: Fire Fighting Components
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Description

The Rosenbauer Group is one of the world's three largest manufacturers of fire-service vehicles. As a producer of fire-fighting vehicles and aerials to both European and US Standards, and of mobile fire-fighting systems, and as a dealer in fire-safety equipment, Rosenbauer is the industry's full-liner. The Group's technological leadership is underpinned by innovational strength and institutionalised development management. Its essential know-how lies in complex, custom-built fire-fighting systems and vehicles. All the processes needed in this connection are united under one roof: development and production of hydraulic pumps and branch pipes; fire-engineering superstructures, and electronic and pneumatic control of the overall system.

RTD Areas

- Automation, Robotics Control Systems
- Embedded Systems and Real Time Systems
- Digital Systems, Digital representation
- Electronic circuits, components and equipment / Electronic engineering
- Advanced systems architecture
- Archivistics/Documentation/Technical documentation
- Computer software
- User Interfaces, Usability
- Special focus: Information Technology/Informatics
- Internet Technologies
- GIS Geographical Information Systems
- Industrial Applications
- Mobile Communications
- Wireless Technologies
- Standardization

Cooperations

Experience in following types of co-operative research:
- EU RTD Framework Programme 6
- other international co-operative research

International partner countries:
- Germany
- United Kingdom
- France

4.1.4 SEZ AG/SEZ Research Center

Contact

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9500 Villach
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www.sez.com

RTD Areas

- Semiconductors
- Nanotechnologies
- Materials Science
- Surface- and Interface-chemistry and -physics
- Electrochemistry
- Sonophysics and -chemistry

Cooperations

Experience in following types of co-operative research:
- EU RTD Framework Programme 6
- other international co-operative research
- national co-operative research

4.1.5 SIEMENS AG Austria/Innovation & Technology

Contact

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1100 Vienna
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wolfgang.brinsky@siemens.com
www.siemens.at

Description

Siemens has been active in Austria since 1879. In addition to a number of manufacturing plants, Siemens has an extensive sales organization in all parts of the country as well as subsidiaries and stakes in other companies. Siemens Austria plays an important part in Austria's economy and is conscious of the social responsibility that goes along with this.

Siemens Austria takes regional responsibility for Slovakia, Slovenia, Croatia, Bosnia-Herzegovina, Serbia and Montenegro, as well as Romania.

RTD Areas

- Automation, Robotics Control Systems
- Electronic circuits, components and equipment / Electronic engineering
- Quantum informatics
- Mobile Communications

Cooperations

Experience in following types of co-operative research:
- EU RTD Framework Programme 4
- EU RTD Framework Programme 5
- EU RTD Framework Programme 6
- EUREKA

4.1.6 T-Systems Austria GesmbH/Corporate Marketing & Communications

Contact

Ms. Edith Lutz-Röchling
Department: Corporate Marketing & Communications
1030 Vienna, Austria
T: +43-(0)57057 8717
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edith.lutz-roechling@t-systems.at, ww.t-systems.at

Description

At T-Systems, we are guided by three core values – flexibility, reliability & expertise. Our goal is to help you grow + develop your business in line with your goals, even in times of changing markets and increasing competitive pressure. We see ourselves as an enabler, making your business more flexible + competitive. Our services are based on our three core values: flexibility, reliability and expertise. We build successful solutions for your business, based on efficient + innovative technologies. And on a clear understanding of your needs. Because our services are as unique as your company. And because we're focused on your success. Our objective is to build a true partnership around your specific needs. With this kind of partnership in place, we can effectively put our technologies and experience to work for you. With T-Systems as your partner, you'll see a significant increase in your company's efficiency + effectiveness, flexibility + competitive edge. In Austria + worldwide

RTD Areas

- Smart cards and access systems
- Optical networks and systems
- Advanced systems architecture
- Archivistics/Documentation/Technical documentation
- Computer software
- Computer Technology/Graphics, meta computing
- Data Interchange, Middleware
- Data Protection, Cryptography, Data Security
- Databases, Database Management, Data Mining
- Electronic Commerce, Electronic Payment, Electronic Signature
- Knowledge and Process Management
- Imaging, Image Processing, Pattern Recognition, Computer Vision
- User Interfaces, Usability
- Information Technology/Informatics
- Internet Technologies
- Applications for Health
- e-Government
- Applications for Tourism
- Applications for Transport and Logistics
- ASP Application Service Provision
- Industrial Applications
- Cultural Heritage
- e-Learning
- Information Filtering, Semantics, Statistics
- Broadband Technologies
- Mobile Communications
- Network Technology, Network Security
- Satellite Technology/Systems/Positioning/Communication/GPS
- Research Networking, GRID
- Wireless Technologies
- Banking Solutions
- Automotive Solutions
- ICT Outsourcing
- Systems Integration

4.2 SME (0-250 employees) - in alphabetical order

4.2.1 3united mobile solutions AG

Contact
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1160 Vienna, Austria
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No. of researchers in this organisation: 15

Description
3united is a leading global mobile consumer infrastructure and application solutions provider. 3united has successfully removed friction in the ecosystem through the ability to create smart bundles that address the emotional and functional needs of a specific target groups lifestyle.
At the core of the platform is a world class enabling solution called Coin Platform (TV, Radio Stations, Print, EntertainGambling & Betting, mobile Content Download, Premium SMS/MMS), a hosted technology suite that combines all relevant pieces of the mobile services layer (content, messaging commerce) in one integrated platform. This expertise delivers impressive operating margins for our content, media, commerce and carriers partners.
Coin Platform is the result of over 50 person years of development, is future proof in that it enables 2G and 3G/UMTS content and is built for rapid integration of 3rd party content.

RTD Areas
- Smart cards and access systems
- Advanced systems architecture
- Artificial intelligence (AI)
- Computer software
- Databases, Database Management, Data Mining
- Electronic Commerce, Electronic Payment, Electronic Signature
- User Interfaces, Usability
- Information Technology/Informatics
- Internet Technologies
- Computer Games, Simulation of social processes
- Applications for Tourism
- Applications for Transport and Logistics
- ASP Application Service Provision
- Cultural Heritage
- e-Publishing, Digital Content
- Special focus: Mobile Communications
- Satellite Technology/Systems/Positioning/Communication/GPS
- Wireless Technologies
- RFID

Cooperations
International partner countries:
- Sweden
- Finland
- United Kingdom
- USA
- Germany
- Switzerland
- Hungary
- Spain and Andorra

4.2.2 AICO Software/Marketing

Contact

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2122 Ulrichskichen
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www.aico-software.at
No. of researchers in this organisation: 1

Description

AICO EDV-Beratung GMBH. Founded 1981 in Ulrichskirchen, lower AUSTRIA. Software Engineering in the Environment of commercial SME takes place. Since 2002 our services are now changed into the field of embedded software systems and components. Core technologies in the real-time communication systems. Collaboration with innovative software companies and research institutes. Project Management in cooperation with well-known specialists in the automotive and telecommunication industry to build bridges and gateways.

RTD Areas

- Special focus: Embedded Systems and Real Time Systems
- Electronic circuits, components and equipment / Electronic engineering
- Semiconductors
- Computer software
- Imaging, Image Processing, Pattern Recognition, Computer Vision
- User Interfaces, Usability
- Information Technology/Informatics
- Computer Games, Simulation of social processes
- Applications for Transport and Logistics
- GIS Geographical Information Systems
- Industrial Applications
- Visualisation, virtual reality
- Mobile Communications
- Satellite Technology/Systems/Positioning/Communication/GPS
- Wireless Technologies
- APOXI
- FlexRay, CAN

4.2.3 AIM Software

Advanced Information Management

Contact

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Description

AIM Software is one of the leading providers of reference data and risk management solutions with offices in Switzerland, the USA and Hong Kong. AIM Software operates on an international scope and services the major financial centers based on its worldwide service and support partner network.

After becoming the market leader with the GAIN reference data management platform in Europe, AIM Software expanded its activities to the United States, the Middle-East, and Asia. So far more than 85 of the leading financial institutions have decided to use AIM Software€ products as a centrepiece of their IT strategy.

The network of strategic alliances with resellers and system integrators is one of AIM Software€ main success factors. The AIM Network ensures a high level of maintenance, support and development quality and strengthens the distribution of the GAIN product family worldwide.

RTD Areas

- Advanced systems architecture
- Data Interchange, Middleware
- Special focus: Databases, Database Management, Data Mining
- Industrial Applications

4.2.4 AIT Angewandte Informationstechnik Forschungsgesellschaft mbH

Contact

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No. of researchers in this organisation: 3

Description

AIT is an Austrian software and research company and was founded in 1979. The company is based since 1983 in Graz, the capital of Styria, Austria.
Research work is done primarily in the field of information management (e.g.: distributed databases, collection management, knowledge engineering). This is carried out within the EC (e.g. IST, Ten-Telecom, Interreg etc.) action lines or on national and regional level. Examples of successful international research projects we participated in are: e.g.MOSAIC, COVAX, Media.Alp; and we also coordinated one of the biggest projects in the cultural heritage field of the IST EC-research programme: REGNET (23 partners in 12 countries).
Industry: The company is specialized in information engineering and development of information systems tailored to the complex environments for clients in very different markets. We develop automation systems for projects in the fields of public administration and industry management applications.

RTD Areas

- Special focus: Databases, Database Management, Data Mining
- Knowledge and Process Management
- Information Technology/Informatics
- Internet Technologies
- Industrial Applications
- Cultural Heritage

Cooperations

Experience in following types of co-operative research:
- EU RTD Framework Programme 4
- EU RTD Framework Programme 5
- EU RTD Framework Programme 6
- EUREKA
- other international co-operative research

International partner countries:
- Germany
- France
- Belgium
- Italy

4.2.5 amit

Contact

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Austria
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F: +43-732 9015 6032
franz.luftensteiner@amit.at
www.amit.at

Description

amit (advanced mobile information technologies) is an innovative company concentrated on the development of IT solutions for mobile computing. amit develops and distributes the mobile framework „service2go". This framework is a comprehensive, standards-based platform for cost effectively deploying, customizing and managing mobile applications. „service2go" enables the seamless integration of mobile users with existing applications.
amit is leading in respect of processing high data quantities on PDAs with high speed data synchronisation. The cooperation with leading Universities and Applied Sciences Institutes guarantees the constant development of its software and the application of up-to-date technologies by way of joint projects.
Company applications like CRM, ERP and systems for logistics as well as for quality management, maintenance and information transfer can be enhanced by a mobile component.

RTD Areas

- Data Interchange, Middleware
- Information Technology/Informatics
- Mobile Communications

4.2.6 anet - austrian network for e-tourism

Contact

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www.anet-network.at

Description

In the course of the technology offensive of the Austrian Federal Government, the Austrian Federal Ministry of Economic Affairs and Employment supports the creation and development of Competence Centers and Competence Networks.
With additional participation of the Federal Provinces of Lower Austria, Salzburg and Tyrol, it was made possible to found a competence network focusing on tourism and information technology - the anet - austrian network for e-tourism.

anet is a competence network with the following main areas:
-Research / development AND education
-Laboratory for development and testing new technologies and methods
-Studies and preview on market developments and market relevance
-Know-how transfer and training
-Assistance of SMEs in integrating IT (technically and organizationally)
-Support of young researchers
-anet is to become an important regional, national and international reference point in eTourism

RTD Areas

- Special focus: Applications for Tourism

Cooperations

Experience in following types of co-operative research:
- national co-operative research

4.2.7 APAC GesmbH

Contact

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laz@apac.at, www.apac.at
No. of researchers in this organisation: 1

Description

EXPERTISE OVERVIEW
- Project management of large industrial projects (including project support)
- Project controlling of industrial projects (set-up, reporting, status audits)
- Safety, quality, test and configuration management for industrial projects
- Analysis, development and implementation of business opportunities
- Management of system development and implementation of business opportunities

DOMAIN KNOW-HOW
- Air traffic management, aerospace and other safety critical systems

EXPERTISE IN DETAIL
-- Project Management
-- Quality Management
-- Safety and Security Management, Reliability Engineering (RAM, FMECA, Safety Case)
-- Configuration Management
-- Software Development
-- Independent Verification & Validation

RTD Areas

- Special focus: Knowledge and Process Management
- Applications for Transport and Logistics
- Industrial Applications
- Satellite Technology/Systems/Positioning/Communication/GPS

Cooperations

Experience in following types of co-operative research:
- other international co-operative research
- national co-operative research

4.2.8 ASI-Tirol Alpines Sicherheits- und Informationszentrum

Contact

DI Christian Klingler
6500 Landeck, Austria
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christian.klingler@alpinesicherheit.com, www.alpinesicherheit.com
No. of researchers in this organisation: 1

Description

The Alpine Safety & Information Center (ASI) was created to promote public safety in and around the mountain environment through providing a communication bridge to all participating organizations in the region.
Products:

- The Emergency Information System (ESIS) enables all involved organizations at an event to communicate on a temporary asynchronous and geographically independent intranet platform.
- Emergency Hotlines can cover disasters or events involving manageable risks (sports events, concerts etc.).
- We develop mobile and internet based communication solutions to handle risk and disaster management.
- We feature checklists that cover key crisis communication strategies and various mountain hazards. Our checklists are waterproof and come in laminated postcard or pocket size.
- Our Ski Law Outline surveys the statutes, case law, and commentary regarding skiing in Austria's Alpine Area.
- Services in disaster communication & crisis management.

RTD Areas

- Archivistics/Documentation/Technical documentation
- Computer software
- Knowledge and Process Management
- User Interfaces, Usability
- Internet Technologies
- Applications for Tourism
- Environment Management Systems
- e-Publishing, Digital Content
- Mobile Communications
- Satellite Technology/Systems/Positioning/Communication/GPS
- Alpine Safety
- Natural Hazard Management
- Special focus: Disaster Communication

Cooperations

Experience in following types of co-operative research:

- EU RTD Framework Programme 6
- other international co-operative research

International partner countries:

- Switzerland
- Germany
- Italy
- Finland

4.2.9 Axmann Geoinformation

Contact

DI Axel Axmann, Owner
2230 Gaenserndorf
Austria
T: +43-2282-5000
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axel@axmann.at
www.axmann.at

Description

We specialize in Geographic Information Systems (GIS). The manipulation of geodata is our domain. Format conversion, data model development, data migration, harmonization etc. As consultants we set up feasibility studies for how to implement geospatial databases in working groups, institutions and other kinds of organizations. We work for the Austrian Standards institute (ON) in the dept. „Geoinformation and Surveying" and have created an object catalogue for the digital cadastre. The fields we have the most expertise in are energy supply, hydrology, transport.
Our reference is the design of a European Transport System (ETIS Agent) for the EC (DG TREN) as a project partner. Other projects were for Austrian Ministries, Cities and Energy Supply Enterprises in Germany and Austria.
Axmann Geoinformation is reseller of Safe Software, Maptext and TeleAtlas.

RTD Areas

- Computer software
- Computer Technology/Graphics, meta computing
- Data Interchange, Middleware
- Databases, Database Management, Data Mining
- Information Technology/Informatics
- Internet Technologies
- Special focus: GIS Geographical Information Systems

Cooperations

Experience in following types of co-operative research:
- EU RTD Framework Programme 5
- national co-operative research

International partner country:
- Algeria

4.2.10 Behacker & Partner

Contact

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ohu@kph.tuwien.ac.at
www.behacker.at
No. of researchers in this organisation: 1

Description

Software company

Main focus on national and European web-based e-learning and e-information educational projects in the school sector.

RTD Areas

- Special focus: e-Publishing, Digital Content
- e-Learning

Cooperations

Experience in following types of co-operative research:
- EU RTD Framework Programme 5
- EU RTD Framework Programme 6
- other international co-operative research
- national co-operative research

International partner countries:
- Estonia
- Slovenia
- Georgia
- Italy
- Malta

4.2.11 BOC Information Technologies Consulting AG

Contact

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www.boc-eu.com
No. of researchers in this organisation: 7

Description

BOC was founded in 1995 as a spin-off of the BPMS (Business Process Management Systems) group of the Department of Knowledge Engineering at the University of Vienna. With the rapid expansion, the first independent subsidiary was established in Berlin in 1996. Starting from the headquarters in Vienna, more subsidiaries were inaugurated in Madrid (1997), Dublin (1998), Athens (1999) and Warsaw (2002). BOC is a world-wide operating consulting and software house specialised in Strategy, Business Process and IT Management. Currently BOC employs over 120 employees working in the following business fields:

* Consulting projects
* Training and seminars
* Product development and support

BOC provides its customers with expertise and assists them in identifying their IT potentials, optimising their business processes, better utilising their knowledge assets and the the optimal deployment of their human and IT resources.

RTD Areas

- Computer software
- Special focus: Knowledge and Process Management
- Information Technology/Informatics
- Internet Technologies
- Metamodelling

Cooperations

Experience in following types of co-operative research:

- EU RTD Framework Programme 4
- EU RTD Framework Programme 5
- EU RTD Framework Programme 6

International partner countries:

- Germany
- United Kingdom
- Spain and Andorra
- Czech Republic
- Poland
- Greece
- Netherlands
- Sweden

4.2.12 cba-x Electronics GmbH

Contact

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Chair man
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Description

cba-x develops and distributes Car-PCs. The current development is the PersonalEntertainmentCopilot PEC410. The Personal Entertainment Copilot "PEC410" is a symbiosis of entertainment, navigation system and personal computer in one device. The user interface and the hardware are exactly adapted to the special requirements in a car (e.g. temperature resistant components). Among other features it provides DVD/Video-Player, MP3-Player, RDS-EON Radio, navigation system with more than 25 countries "on board" and a powerful personal computer with more than 1GHz, up to 1024MB RAM and Windows XP. Thus, software can be installed and used as in your office. Data is transferred via removable hard disk, USB-Stick, CD, DVD, W-LAN, Ethernet, GSM or UMTS.

RTD Areas

- Embedded Systems and Real Time Systems
- Electronic circuits, components and equipment / Electronic engineering
- Computer hardware
- Computer software
- Special focus: User Interfaces, Usability
- Information Technology/Informatics
- Applications for Transport and Logistics
- Mobile Communications
- Satellite Technology/Systems/Positioning/Communication/GPS
- Wireless Technologies

4.2.13 Dipl.-Ing. Dr. Hermann Bühler GmbH

Contact

Dipl.-Ing. Thomas Gyoergyfalvay
Project Manager
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thomas.gyoergyfalvay@buehler.at, www.buehler.at
No. of researchers in this organisation: 6

Description

The company provides innovation-oriented technical services in the area of mobile and radio communications, communications systems, telecommunications and information technology. From their office based in Mödling they manage national and international projects. In the last years the company has become a leading independent centre of competence in mobile communications. Innovation in technology and methodology is one of their special competences. Taking an active part in innovation and research activities on state-of-the-art technology they enrich the scope of their services by membership at the „ftw. Telecommunications Research Center Vienna" and close contact with the Vienna University of Technology at national level and at European level membership at NEWCOM Nework of Excellence in Wireless Communications" as well as participation in „COST273" (European Cooperation on Scientific and Technical Research).

RTD Areas

- Computer hardware
- Computer software
- Data Interchange, Middleware
- Data Protection, Cryptography, Data Security
- Databases, Database Management, Data Mining
- User Interfaces, Usability
- Information Technology/Informatics
- Internet Technologies
- GIS Geographical Information Systems
- Broadband Technologies
- Special focus: Mobile Communications
- Narrow Band Technologies
- Network Technology, Network Security
- Satellite Technology/Systems/Positioning/Communication/GPS
- Wireless Technologies

Cooperations

Experience in following types of co-operative research:

- EU RTD Framework Programme 6
- COST
- national co-operative research

International partner countries:

- Spain and Andorra
- Italy
- Germany
- Hungary

4.2.14 dTech Steyr Dynamics & Technology Services GmbH

Contact

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Managing Director
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www.dtech-steyr.com/english/index_e.htm
No. of researchers in this organisation: 5

Description

dTech Steyr is a company for industrial research and development services in the areas of:

- Computer simulation of structures and mechanisms for automotive industry and product development (finite element analysis [FE, FEM], multi body simulation [MBS, MKS])
- Development of engineering software and simulation methods
- Combined simulation of mechanical systems and control algorithms
- Leasing of simulation experts

Major customers are the european automotive industry and mechanical engeneering companies.

RTD Areas

- Computer software
- Applications for Transport and Logistics
- Industrial Applications
- Visualisation, virtual reality
- Special focus: Computation of stresses, vibrations and mechanisms
- Simulation of combined mechanical- and control systems

Cooperations

Experience in following types of co-operative research:
- national co-operative research

International partner countries:
- Germany
- Hungary
- India

4.2.15 ECE-Consulting/External Trade

Contact

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office@ece-consulting.com, www.ece-consulting.com
No. of researchers in this working group/unit: 1

Description

1. Building-up of cross-border-cooperations in East-Central-Europe between companies and within branches
2. Market-Surveys for selling and developing innovative products
3. Evaluation of prices, product-quality and chances in different target-groups and in different regions
4. Export-/ Import-Coaching in 25 different countries with more than 20 different languages (details at www.ece-consulting.com)
5. Customer-Supports for budgeting, controlling, financing and financial subsidies
6. Finding, training, motivating and Coaching for internal and external sales-staff, innovative and external-trade management
7. Selling of innovative goods

RTD Areas

- Automation, Robotics Control Systems
- Electronic circuits, components and equipment / Electronic engineering
- Computer software
- Knowledge and Process Management
- Applications for Transport and Logistics
- Environment Management Systems
- Visualisation, virtual reality
- Special focus: Development of innovative products with sales-chances

Cooperations

Experience in following types of co-operative research:
- EUREKA
- other international co-operative research
- national co-operative research

International partner countries:
- Czech Republic
- Slovak Republic
- Russia
- Slovenia
- Poland
- Hungary
- Bulgaria
- Armenia

4.2.16 Ed. Hölzel/Cartography

Contact

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Publishing Director
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Austria
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birsak@hoelzel.at
www.hoelzel.at
No. of researchers in this department: 2

Description

Cartographic publishing house, founded 1844.
- long tradition in publishing atlases and maps for educational and touristic purposes
- extensive use of digital cartography and GIS
- research in the development of new methods for preparing high-quality maps and spatial data from different sources; new methods for map design
- use of cartographic data for electronic atlases and web-based map services

RTD Areas

- GIS Geographical Information Systems
- e-Publishing, Digital Content
- e-Learning
- Visualisation, virtual reality
- Cartography

Cooperations

Experience in following types of co-operative research:
- national co-operative research

4.2.17 ekey biometric systems Gmbh & Co KG

Contact

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www.ekey.net

Description

ekey biometric systems - The finger as key to success!

With its innovative and unique product TOCA®, the Austrian company ekey biometric systems offers convenient and secure alternatives to keys, passwords, access-codes and card numbers. Stolen keys and forgotten passwords will be history.

ekey is proud to serve highly satisfied customers from various industries, such as banks, electrical suppliers, hardware dealers, manufacturers, security companies, alarm system vendors, door producers and many more. Highly committed and experienced employees, as well as continuous research and development in biometric technology are the key to the future.

There are virtually no limits: Apart from opening doors and gates or activating an alarm system, ekey developed software to access PCs, notebooks, terminals, networks and even internet via fingerprint.

TOCA solutions by ekey: convenient, simple, secure

RTD Areas

- Special focus: Embedded Systems and Real Time Systems
- Smart cards and access systems
- Computer software

4.2.18 eurofinder econet GmbH

Contact

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www.foerdermittel.com
No. of researchers in this organisation: 2

Description

Eurofinder econet is active since 1991 and is a leading company in Austria in the IT-grants consultancy business. Additionally, the company is experienced in the development of IT-products related with grants databases.

RTD Areas

- Computer software
- Databases, Database Management, Data Mining
- Information Technology/Informatics
- Internet Technologies
- e-Government
- Special focus: e-Publishing, Digital Content
- Consultancy

Cooperations

Experience in following types of co-operative research:
- EU RTD Framework Programme 5
- EU RTD Framework Programme 6
- EUREKA
- other international co-operative research
- national co-operative research

International partner countries:
- Spain and Andorra
- Czech Republic
- Hungary
- Poland
- Germany
- Netherlands
- United Kingdom
- France

4.2.19 eutema Technology Management GmbH

eu|te|ma
TECHNOLOGY MANAGEMENT

Contact

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No. of researchers in this organisation: 1

Description

Managing Research and Technology

eutema offers support, information, analyses, and communication in the areas of research and technological development projects, national and international funding schemes, project management, and public measures.

Our services are designed for: companies and research organisations
our services: project funding, partner search, project management, call information, EU lobbying, networking

public organisations
our services: management of funding schemes, target group analysis and communication, stimulation actions, and project evaluation

policies and investors
our services: technology assessment and feasibility studies, networking, evaluation of research and innovation projects and innovation programmes

eutema´s network of innovative companies, research institutes and public bodies in Austria and the EU ensures access to partners, projects, and funds. Our customers include high-tech companies, ministries, and top researchers.

RTD Areas

- Embedded Systems and Real Time Systems
- Innovation Research
- Technology Policy Research

Cooperations

Experience in following types of co-operative research:
- EU RTD Framework Programme 5
- EU RTD Framework Programme 6
- EUREKA
- other international co-operative research

International partner countries:
- France
- Germany
- United Kingdom
- Belgium

4.2.20 EVOLUTION

Contact

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www.evolution.at
No. of researchers in this organisation: 2

Description

Research & Application of Agile Methods in Software Development and Business Process Management;
eXtreme Programming;
Training in Agile & Lean Methods;
Java & Smalltalk Software Development;
Eclipse RCP
Project & Process Management & Consulting
Lectures at Universities and Tech Colleges

RTD Areas

- Artificial intelligence (AI)
- Computer software
- Data Protection, Cryptography, Data Security
- Special focus: Knowledge and Process Management
- Information Technology/Informatics
- Internet Technologies
- Applications for Health
- Applications for Transport and Logistics
- e-Learning

Cooperations

Experience in following types of cooperative research:
- national co-operative research

International partner countries:
- Germany
- USA

4.2.21 FEMworks Finite Element Software and Consulting GmbH

Contact

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www.femworks.at
No. of researchers in this organisation: 2

Description

FEMworks develops individual Finite Element applications with the most up-to-date methods in computational mathematics.

These applications are built on a solid, ready-to-use core and are tailor-made for the concrete situation.

This leads to:
* memory- and time-optimized simulation-software
* economically feasible simulations
* short development time and short training periods
* high usability

We have already applied the Finite Element Method (FEM) for applications in mechanics, electromagnetics and computational fluid dynamics.

We offer:
* development of applications
* support for the core products
* training for the core products
* outsorcing of research and development in the area of Finite Element simulation

RTD Areas

- Special focus: Computer software

Cooperations

International partner countries:
- USA
- Finland
- Germany
- Japan

4.2.22 GeoData

Contact

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forkert@geodata.at
www.citygrid.at
No. of researchers in this organisation: 5

Description

GeoData developes the hard- and software system CityGrid. CityGrid is the first system available anywhere in the world that allows you to swiftly and economically create an extensive and detailed model of your city. This modular system application gives you the tools you need to record and visualize your urban environment by creating a photorealistic, digital and georeferenced reproduction of a city. The surfaces of land, streets, buildings, vegetation and other structures within the developed area are represented in the form of a model.

RTD Areas

- Imaging, Image Processing, Pattern Recognition, Computer Vision
- Special focus: GIS Geographical Information Systems
- Cultural Heritage
- Visualisation, virtual reality

Cooperations

Experience in following types of co-operative research:
- national co-operative research

International partner country:
- Germany

4.2.23 Hagenberg Software GmbH

Contact

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No. of researchers in this organisation: 9

Description

We support our partners in the design, implementation and optimization of software technologies. Projects are focused on utilizing the technological potential of the internationally reputed Softwarepark Hagenberg and leverage the resources of research institutes (University Linz, University of Applies Science Hagenberg) and Hagenberg-located research companies.

RTD Areas

- Advanced systems architecture
- Archivistics/Documentation/Technical documentation
- Artificial intelligence (AI)
- Computer software
- Computer Technology/Graphics, meta computing
- Data Interchange, Middleware
- Data Protection, Cryptography, Data Security
- Databases, Database Management, Data Mining
- Electronic Commerce, Electronic Payment, Electronic Signature
- Knowledge and Process Management
- Imaging, Image Processing, Pattern Recognition, Computer Vision
- Information Technology/Informatics
- Internet Technologies
- Applications for Tourism
- Applications for Transport and Logistics
- Industrial Applications
- Information Filtering, Semantics, Statistics
- Visualisation, virtual reality
- Mobile Communications
- Research Networking, GRID
- Wireless Technologies

Cooperations

International partner countries:
- Czech Republic
- Romania

4.2.24 HITT - health information technologies tirol GmbH

Contact

Dr. Raimund Vogl, CEO
6020 Innsbruck, Austria
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r.vogl@hitt.at, www.hitt.at
No. of researchers in this organisation: 58

Description

HITT – health information technologies tirol combines research, development, application and sales within a centre of excellence for medical informatics, providing ample scope for cooperation between industry, healthcare facilities, universities and research institutions. HITT has positioned itself as a platform for innovative enterprises in Tirol/Austria developing IT based solutions for healthcare. HITT is both setting up and accompanying research efforts throughout the whole project life cycle: from planning and organising, through financing, funding and controlling down to sales coordination for the resulting products and solutions. HITT – health information technologies tirol focuses on these key fields of research & development:
-ehealth
-bioinformatics
-planning & monitoring for health
Special expertise has been acquired in project management and consulting, aiming to conclude projects with ready-to-market products.

RTD Areas

- Embedded Systems and Real Time Systems
- Nanotechnologies
- Computer software
- Computer Technology/Graphics, meta computing
- Databases, Database Management, Data Mining
- Knowledge and Process Management
- Imaging, Image Processing, Pattern Recognition, Computer Vision
- Information Technology/Informatics
- Internet Technologies
- Bioinformatics
- Special focus: Applications for Health
- e-Learning
- Information Filtering, Semantics, Statistics
- Mobile Communications
- Research Networking, GRID

Cooperations

Experience in following types of co-operative research:
- EU RTD Framework Programme 6
- national co-operative research

International partner countries:
- Germany
- Switzerland
- Lithuania
- France
- Italy
- Czech Republic

4.2.25 HS-ART Digital

HS-ART DIGITAL SERVICE GMBH

Contact

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No. of researchers in this organisation: 3

Description

HS-ART Digital is a spin-off from the Styrian Research Organistion JOANNEUM RESEARCH.
Since its foundation in 1998 HS-ART Digital has focused on transfer of research results into the post-production and broadcast market.
Our main product is DIAMANT, a software for digital film restoration where a worldwide market leadership could be achieved.

RTD Areas

- Computer software
- Computer Technology/Graphics, meta computing
- Data Protection, Cryptography, Data Security
- Special focus: Imaging, Image Processing, Pattern Recognition, Computer Vision
- User Interfaces, Usability
- Information Technology/Informatics

Cooperations

Experience in following types of co-operative research:
- EU RTD Framework Programme 5
- EU RTD Framework Programme 6

International partner countries:
- France
- Germany
- United Kingdom

4.2.26 IDC Central Europe GmbH

Contact

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http://idc.com/austria

Description

IDC is the premier global market intelligence and advisory firm in the information technology and telecommunications industries. We analyze and predict technology trends so that our clients can make strategic, fact-based decisions on IT purchases and business strategy. Over 700 IDC analysts in 50 countries provide local expertise and insights on technology markets, and our management team is comprised of experienced and respected industry luminaries. Business executives and IT managers have relied for 40 years on our advice to make decisions that contribute to the success of their organizations.

Clients can access IDC's technology intelligence through:
Individual research documents, more than 500 subscription research services, One-on-one relationships with industry experts, Custom consulting engagements,World-class conferences and events.

IDC is a subsidiary of IDG, the world's leading technology media, research, and events company.

RTD Areas

- Information Technology/Informatics
- Internet Technologies
- Mobile Communications
- Network Technology, Network Security

Cooperations

Experience in following types of co-operative research:
- other international co-operative research
- national co-operative research

4.2.27 IDEe

Contact

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www.qualifizierung.com
No. of researchers in this organisation: 3

Description

We evaluate products and processes and work as consultants for the Austrian government and enterprises in the fields of e-learning and new media.

RTD Areas

- Internet Technologies
- Special focus: e-Learning

Cooperations

Experience in following types of co-operative research:
- EU RTD Framework Programme 6
- national co-operative research

International partner countries:
- Germany
- Switzerland
- Sweden
- United Kingdom
- Ireland
- Italy

4.2.28 Igisa Softwareproduktions- und Datenserverbetriebs GmbH

Contact

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martin.adelbrecht@igisa.com, www.igisa.com
No. of researchers in this organisation: 4

Description

IGISA was founded in 2000 with the mission of giving mobility to complex data.
We have specialised in the development of fast, portable and (platform-)independent solutions for geographical information systems (GIS). Our client-server-structure is a highly flexible system, capable of visualising geographical data from any sources.
All our solutions are developed in-house. This gives us a clear competitive edge and ensures total flexibility in all future developments - tailored to individual clients' demands. Consequently, our clients are able to offer profitable value-added services with little effort in a minimum of time.
Our technology can be used in a wide variety of ways,e.g. applications for:
- Tracking&Tracing of persons and objects, fleet management
- Mobile rescue: monitoring of patients or endangered persons
- field workers
- coordination of emergency,police,firebrigade; disaster management
- Location Based Services

We are also participating in research projects.

RTD Areas

- Embedded Systems and Real Time Systems
- Computer software
- Data Interchange, Middleware
- Databases, Database Management, Data Mining
- Information Technology/Informatics
- Applications for Tourism
- Special focus: Applications for Transport and Logistics
- GIS Geographical Information Systems
- ASP Application Service Provision
- Visualisation, virtual reality
- Mobile Communications
- Satellite Technology/Systems/Positioning/Communication/GPS
- Wireless Technologies
- location based services
- assisted gps service

Cooperations

International partner countries:

- Germany
- Thailand
- Canada
- Turkey

4.2.29 IMS Nanofabrication GmbH

Contact

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http://www.ims.co.at
No. of researchers in this organisation: 30

RTD Areas

- Microengineering, micromachining
- Semiconductors
- Nanotechnologies
- Special focus: Information Technology/Informatics

4.2.30 ISD - Internet & Software Development

Contact

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F: +43-7239-598324
office@isd.at
www.isd.at
No. of researchers in this organisation: 1

Description

Software Development (indivdual Software), Webdesing, Programming of Web-Applications (ASP, ASP.NET), Webhosting

RTD Areas

- Special focus: Computer software
- Databases, Database Management, Data Mining
- Information Technology/Informatics
- e-Government
- Applications for Tourism
- Applications for Transport and Logistics
- Industrial Applications

4.2.31 IVG e-learning GmbH

Contact

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multimedia@ivg.at
www.ivg.at
No. of researchers in this organisation: 5

Description

We specialize in producing individually designed CBT´s and WBT´s and have been concentrating solely on these two products since 1989.

We have twenty five employees - all based in Linz, consisting of software designers, storyboard authors, designers etc.

We produce for both Industrial and Commercial corporations of all sizes including Insurance companies, Banks, IT-Companies and Government departments to name but a few.

We do not sell licenses, instead producing for the general right for unlimited use of our software.

RTD Areas

- Computer software
- Computer Games, Simulation of social processes
- Special focus: e-Learning

4.2.32 Kabel-X Vermarktungs GesmbH/Finance

Contact

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1080 Vienna, Austria
T: +43-1-5031735-360, F: +43-1-5031735-30
rh@kabel-x.co, www.kabel-x.com
No. of researchers in this organisation: 1

Description

Kabel-X is responsible for developing machinery and seeling licences of the Kabel-X Patent. With this system it is possible to remove old cupper lines (telecommunications, electricity, CA-TV, etc.) from the earth without digging the whole distance. With this system you can renew the old cupper lines to modern fibre optics in shorter time and with less costs. Further advantages are: reusing of old lines, no new payments for land rights, no environmental problems, no traffic jams, the system is maintenance of the old lines. Fiber optics is the future of real broadband all over the world.

RTD Areas

- Automation, Robotics Control Systems
- Digital Systems, Digital representation
- High frequency technology, microwaves
- Computer Technology/Graphics, meta computing
- Data Protection, Cryptography, Data Security
- Internet Technologies
- Cultural Heritage
- e-Publishing, Digital Content
- Human Language Technologies
- e-Learning
- Information Filtering, Semantics, Statistics
- Visualisation, virtual reality
- Audiovisual Equipment and Communication
- Special focus: Broadband Technologies
- Mobile Communications
- Narrow Band Technologies
- Network Technology, Network Security
- Radar Technology
- Satellite Technology/Systems/Positioning/Communication/GPS
- Signal Processing
- Research Networking, GRID
- Wireless Technologies

Cooperations

Experience in following types of co-operative research:

- EU RTD Framework Programme 6
- EUREKA

4.2.33 KOHS - kviecien occupational health solutions

Contact

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office@pimex.at, www.pimex.at
No. of researchers in this organisation: 4

Description

KOHS performs research and development in the occupational health and tele-medicine field. KOHS provides both: methodological research for improvement of working processes and technological research and development to implement new methods.
One of the main activities is the continuous development of the KOHS PIMEX system. The PIMEX-method involves measurement of exposure and visualizes different kinds of workplace hazards. The measured data is superimposed to the recording from a video camera to produce a multi media content film which continuously shows the subject at work and how exposure (e.g. dust, noise) varies. Application can be a physical factor such as vibration. Physiological information, e.g. heart rate can be measured synchronically.
Another focus of KOHS is the integration of information technologies and knowledge management strategies into individual safety and health management environments

RTD Areas

- Embedded Systems and Real Time Systems
- Digital Systems, Digital representation
- High frequency technology, microwaves
- Computer hardware
- Computer software
- Databases, Database Management, Data Mining
- Knowledge and Process Management
- Imaging, Image Processing, Pattern Recognition, Computer Vision
- User Interfaces, Usability
- Information Technology/Informatics
- Internet Technologies
- Special focus: Applications for Health
- Environment Management Systems
- e-Publishing, Digital Content
- e-Learning
- Information Filtering, Semantics, Statistics
- Visualisation, virtual reality
- Mobile Communications
- Wireless Technologies

Cooperations

Experience in following types of co-operative research:
- EU RTD Framework Programme 6
- other international co-operative research

International partner countries:
- Germany
- Sweden
- United Kingdom
- Netherlands
- Greece

4.2.34 Linz Center of Mechatronics GmbH (LCM)

Contact

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No. of researchers in this organisation: 53

Description

The LCM GmbH provides a broad range of innovative solutions and services in the fields of Mechatronic:
- a customer tailored integrated solution from the first studies up to the finished product and implementation at site
- a professional management of the projects with one responsible manager used to work in a profit oriented environment
- a very good infrastructure
- a wide experience applying funding for optimized project financing

Competence fields:
- CONDITION MONITORING AND FAULT DETECTION FOR COMPONENTS („Intelligent Components")
- PROCESS MONITORING AND FAULT DIAGNOSIS
- COMMUNICATION TECHNOLOGY Wireless Technology, Radartechnology, Fieldbus Systems
- SENSORTECHNIQUES AND MEASUREMENT TECHNIQUES
- PROCESS SIMULATION
- DIGITAL SIGNAL PROCESSING and FPGA Design
- STRUCTURAL CONTROL and EMBEDDED SYSTEMS

RTD Areas

- Automation, Robotics Control Systems
- Embedded Systems and Real Time Systems
- Digital Systems, Digital representation
- Electronic circuits, components and equipment / Electronic engineering
- High frequency technology, microwaves
- Printed circuits and integrated circuits
- Semiconductors
- Knowledge and Process Management
- Imaging, Image Processing, Pattern Recognition, Computer Vision
- Industrial Applications
- Mobile Communications
- Radar Technology
- Signal Processing
- Wireless Technologies
- Condition Monitoring and Fault Detection
- Process Simulation and Process Monitoring
- Structural Control and Embedded Systems

Cooperations

Experience in following types of co-operative research:
- EU RTD Framework Programme 6
- national co-operative research

International partner countries:
- Germany
- Switzerland
- Hungary
- Italy
- Czech Republic
- Slovak Republic

4.2.35 LIS Reinisch OEG/Management

Contact

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No. of researchers in this organisation: 2

Description

Fast prototyping and rules development for ERP Systems and other complex structured projects. Morphologic database development with very large fulltext data.

RTD Areas

- Databases, Database Management, Data Mining
- Special focus: Knowledge and Process Management
- Information Technology/Informatics
- Internet Technologies
- e-Government
- Industrial Applications
- e-Publishing, Digital Content
- Visualisation, virtual reality

Cooperations

Experience in following types of co-operative research:
- EU RTD Framework Programme 4
- EUREKA

4.2.36 Lumitech Produktion & Entwicklung GmbH

Contact

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No. of researchers in this organisation: 5

Description

Mission:

Light is more then people can notice. LUMITECHs exercise is to use the opportunity of the phenomenon LIGHT in form of innovative development.
From consulting to development and manufacturing of new products LUMITECH offers a consolidated know-how in electroluminescenc, LED lighting, safety engineering and optoelectronic.

Performance:

Our aim is to satisfy the demand of our costumers reliable, in due time and cost-effective. In our company you just find skilled personal, which is highly qualified for costumer wishes.
Short decisions give us high flexibility, to realise the requests of our partner very quickly and competent. Many companies appreciate our ability. In the last years LUMITECH completed many commissions for more than 30 international renowned companies. We are durable partner for many of these organisations. Beside results-oriented project realisations we guarantee a discrete dealing with your problems.

RTD Areas

- Embedded Systems and Real Time Systems
- Nanotechnologies
- Special focus: Imaging, Image Processing, Pattern Recognition, Computer Vision

Cooperations

Experience in following types of co-operative research:
- other international co-operative research
- national co-operative research

International partner countries:
- Germany
- Switzerland
- Norway

4.2.37 memeticor

Contact

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No. of researchers in this organisation: 2

Description

We are working on a web based collaboration management tool using mainly pictorial representation (topic maps) in consideration of memetic aspects.

We are looking for different areas of application and have prepared a set of examples.

RTD Areas

- Artificial intelligence (AI)
- Computer Technology/Graphics, meta computing
- Data Interchange, Middleware
- Databases, Database Management, Data Mining
- Special focus: Knowledge and Process Management
- Imaging, Image Processing, Pattern Recognition, Computer Vision
- User Interfaces, Usability
- Information Technology/Informatics
- Internet Technologies
- Computer Games, Simulation of social processes
- Cultural Heritage
- e-Publishing, Digital Content
- e-Learning
- Information Filtering, Semantics, Statistics
- Visualisation, virtual reality

4.2.38 METADAT GmbH

Contact

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No. of researchers in this organisation: 1

Description

METADAT is the architect for communication and knowledge networks in 3 meta-layers: IT infrastructure („networks"), content („knowledge of machines") and expert human knowledge.

RTD Areas

- Special focus: Archivistics/Documentation/Technical documentation
- Knowledge and Process Management
- e-Government
- Broadband Technologies

Cooperations

Experience in following types of co-operative research:
- EU RTD Framework Programme 6

International partner countries:
- Germany
- France
- Belgium

4.2.39 milestone

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www.milestone.at
No. of researchers in this organisation: 3

RTD Areas

- Knowledge and Process Management
- e-Government

Cooperations

Experience in following types of co-operative research:
- EU RTD Framework Programme 5
- EUREKA

International partner countries:
- Belgium
- Germany

4.2.40 ms.GIS informationsystems gmbh

Contact

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Description

With more than a decade of GI/IT - experience in the field of research, engineering and international software projects since 1985, ms.GIS was founded in the late 1990´s as an Austrian privatly held incorporated company.
ms.GIS is strictly focused on solutions and services or the management of spatial resources and respective business processes. ms.GIS provides highly sophisticated services (consulting, project management, modelling and software developement) as well as large-scale, fully customized high performant and standards based solutions to support business processes with spatial context.

RTD Areas

- Computer software
- Information Technology/Informatics
- Internet Technologies
- Special focus: GIS Geographical Information Systems

Cooperations

International partner countries:
- Bulgaria
- Libya
- Oman
- Russia
- Ukraine
- Turkey
- United Arab Emirates

4.2.41 Oesterreichische Computer Gesellschaft (OCG - Austrian Computer Society)

Contact

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Description

The objective of our Society is the comprehensive and interdisciplinary promotion of information processing, with due regard to its effects on man and society. In fulfilling this objective, the Society performs five primary functions:
- It serves as an umbrella organization of associations, organizations, and institutions in Austria involved in information processing
- It represents Austria in the IFIP, CEPIS, IMIA and is Member of the ECDL-Foundation
- It is affiliate member of ACM (Association of Computing Machinery) and of the IEEE Computer Society.
- It provides members with services, information and consultation
- It promotes research and development projects, especially those of an interdisciplinary nature
- It has established several Working Groups dealing with specialized aspects in the field of information technology

At this time the OCG has more than 1300 individual members and more than 100 supporting and institutional members.

RTD Areas

- Automation, Robotics Control Systems
- Embedded Systems and Real Time Systems
- Artificial intelligence (AI)
- Data Protection, Cryptography, Data Security
- Electronic Commerce, Electronic Payment, Electronic Signature
- Knowledge and Process Management
- Imaging, Image Processing, Pattern Recognition, Computer Vision
- User Interfaces, Usability
- Special focus: Information Technology/Informatics
- Internet Technologies
- Bioinformatics
- Applications for Health
- e-Government
- Applications for Transport and Logistics
- Cultural Heritage
- e-Learning
- Information Filtering, Semantics, Statistics
- Visualisation, virtual reality
- Mobile Communications
- Research Networking, GRID
- e-Inclusion
- Accessibility

4.2.42 ÖIR-Managementdienste GmbH

Contact

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No. of researchers in this organisation: 10

Description

ÖIR-Managementdienste GmbH is a consultancy firm mainly engaged in supporting and consulting public administrations in Austria, the neighbouring countries and throughout Europe in old and new Member States. Currently the firm has a permanent staff of 25 persons. The company is backed by a large panel of senior experts who regularly work with ÖIR or on an individual assignment basis. ÖIR has established a substantial portfolio of work throughout Europe: in Austria for national and regional government bodies, in Germany, in Europe for the European Commission (DG REGIO, DG EMPL, DG AGRI, DG RESEARCH) and within the PHARE Programme. The company runs offices in Vienna, Graz, Budapest and Brussels.
The core competencies are:
+ Public management support (with specific focus to structural funds)
+ Policy, programme and project evaluation
+ Studies and consultancy on issues related to socio-economic and regional issues, business development, labour market, innovation and technology.

RTD Areas

- Knowledge and Process Management
- Special focus: Consultancy and Public Management Support
- Cohesion Policy, Social Economic Development

Cooperations

Experience in following types of co-operative research:
- EU RTD Framework Programme 6

International partner countries:
- Slovak Republic
- Slovenia
- Hungary
- Czech Republic
- Germany
- United Kingdom
- Spain and Andorra
- Greece

4.2.43 ON DEMAND Microelectronics AG

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Description

ON DEMAND Microelectronics, a privately held firm headquartered in Vienna, Austria, is an independent intellectual property vendor of sub-micron technology founded in 2002. The core team of ON DEMAND has a total of 70 years experience in digital-, mixed signal- and analog chip design. Our research and generated design methods are based on this extensive experience and technological know-how. ON DEMAND Microelectronics offers its expertise in the form of IP and IC development services. Further benefit for our clients is gained, based on the VSP IP Cores, through which we offer added value of a diverse portfolio of IC development services. The VSP convinces through its ability to handle applications of digital signal processing with extremely high performance demands. The number crunching engine fits perfect for filter processing algorithms as well as its concise suitability for the target market of broadband communication, digital video broadcasting, HDTV and acoustic processing.

RTD Areas

- Embedded Systems and Real Time Systems
- Digital Systems, Digital representation
- Semiconductors
- Advanced systems architecture
- Imaging, Image Processing, Pattern Recognition, Computer Vision
- Broadband Technologies
- Signal Processing
- Chip Design

4.2.44 onlaw internet technologie gmbh

Contact

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No. of researchers in this organisation: 4

Description

onlaw internet technologie gmbh is specialized on content management solutions on open source basis. We develop and host sophisticated web portals like www.rdb.at from content production, indexing, linking, retrieval to the graphical user interface.

RTD Areas

- Advanced systems architecture
- Archivistics/Documentation/Technical documentation
- Computer software
- Databases, Database Management, Data Mining
- User Interfaces, Usability
- Internet Technologies
- e-Government
- Special focus: e-Publishing, Digital Content

Cooperations

Experience in following types of co-operative research:
- EUREKA

International partner country:
- Hungary

4.2.45 psp-gmbh

Contact

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Description

PSP is a software company mainly active in the field of database design and GIS applications. Research activities of the company are in the area of probability theory. Since many years a probabilistic code is under development. The practitioner has an natural approach to the reliability theory and risk analysis, where normally numerical intensive and partly complex analyses have to be done.

- Limit state analysis by means of FORM/SORM and different simulation methods
- Fault tree analysis by means of FORM/SORM, OBDD and simulation methods
- Decision tree analysis
- Outcrossing approach for time variant problems, i.e. use of stochastic processes
- Quantitative risk analysis

The field of activities of PSP is diverse reaching from solutions for classical structural engineering, marine engineering, project control, up to availability analysis of infrastructure networks. With the help of probabilistic thinking PSP aims to find solutions for complex problems.

RTD Areas

- Archivistics/Documentation/Technical documentation
- Computer software
- Databases, Database Management, Data Mining
- Knowledge and Process Management
- Applications for Transport and Logistics
- Environment Management Systems
- GIS Geographical Information Systems
- Information Filtering, Semantics, Statistics
- risk analysis
- probabilistic model code
- structural safety and reliability
- project controling

Cooperations

International partner countries:
- USA
- Germany
- Norway
- Hungary
- Switzerland

4.2.46 rho-BeSt coating GmbH

Contact

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No. of researchers in this organisation: 5

Description

Since 1996 p-BeSt coating produces diamond layers according to a unique and patented coating process. The uniqueness lies in the smallness of the single diamond crystals, that are approximately ten-thousand times smaller than a human hair (crystal size app. 10nm). Many of the outstanding properties of the layer are made possible by this crystal size and allow the application of diamond coatings in totally new areas.
The p-BeSt diamond coatings are presently used in the following areas:

- Cutting industry
- Luxury goods
- Medical technology
- Electronics

RTD Areas

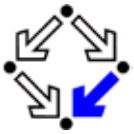
- Special focus: Nanotechnologies
- Diamond
- Thin film diamond
- New materials

Cooperations

Experience in following types of co-operative research:
- EU RTD Framework Programme 6
- national co-operative research

International partner countries:
- Germany
- Netherlands
- Sweden

4.2.47 RISC Software GmbH



Contact

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No. of researchers in this organisation: 21

Description

RISC Software GmbH is a company of the Johannes Kepler University Linz.
RISC provides solutions and software applications in the areas of
- Operation research
- Simulation and control of mechanical systems
- Software solutions for planning business and manifacturing processes
- Simulation of plants
- Numerical Simulation and optimisation
- Knowledgebased systems
- Geometrical and graphical processing
- Individual software development (mobile solutions)
- IT-Consulting

RISC was founded by Prof. Bruno Buchberger in 1987. RISC is an independent organisation but operates in close contact with institutes of the Johannes Kepler University (e.g. Mathematics, Computer Science, Mechatronics, etc.).

RTD Areas

- Automation, Robotics Control Systems
- Computer software
- Data Protection, Cryptography, Data Security
- Databases, Database Management, Data Mining
- Knowledge and Process Management
- Imaging, Image Processing, Pattern Recognition, Computer Vision
- Applications for Transport and Logistics
- Environment Management Systems
- GIS Geographical Information Systems
- Special focus: Industrial Applications
- Visualisation, virtual reality
- Mobile Communications
- Satellite Technology/Systems/Positioning/Communication/GPS
- Optimization
- Simulation and Control
- IT Consulting

Cooperations

Experience in following types of co-operative research:
- EU RTD Framework Programme 5
- other international co-operative research
- national co-operative research

International partner country:
- Germany

4.2.48 RIS Internetsolutions and Services/SW Development, Internet Services

Contact

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No. of researchers in this organisation: 6

Description

RiS GmbH is both a software and application development company on the one hand and a regional Internet service Provider since 10 years.
RiS has done many european developement projects in the last years.
We are specialist and market leader in content management and information systems in the e-government field. More than 30% of all Cities in Austria and 80% of all cities in South Tyrol (Italy) are using our system (in total 850 Cities and Communities).
We are developing videobased learning systems including content delivery network, videoapplications services and convergent user interfaces. Applications in that area are vod, tv over ADSL, serverside pvr, tele teaching etc.
As ISP we are providing, hosting, streaming services as well as nearly all kind of Internet Access Acounts from dial up to dsl for business and consumers.

RTD Areas

- User Interfaces, Usability
- Information Technology/Informatics
- Applications for Health
- e-Government
- Applications for Tourism
- ASP Application Service Provision
- e-Publishing, Digital Content
- e-Learning
- Audiovisual Equipment and Communication

Cooperations

Experience in following types of co-operative research:
- EU RTD Framework Programme 5

International partner countries:
- France
- Germany
- Czech Republic
- Finland
- United Kingdom
- Italy

4.2.49 Sail Labs Technology AG

Contact

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No. of researchers in this organisation: 7

Description

SAIL LABS Technology AG is an internationally active company in the field of speech and language technology. We provide research and development of algorithms, components, products and services in our field. The main areas of interest include the automatic indexing of TV and Radio programs, analysis of telephone conversations and advanced spoken interactive human-machine dialog. SAIL LABS Technology AG is known for it's award-winning products Media Mining, Communication Mining and others. Technological focal points are: speech-to-text, speaker identification, topic detection, named-entity detection, story segmentation, speaker turn detection, gender detection, language identification, European languages, Arabic dialects. Sail has participated successfully in several EU projects, national projects and regional government funded projects.

RTD Areas

- Automation, Robotics Control Systems
- Embedded Systems and Real Time Systems
- Digital Systems, Digital representation
- Artificial intelligence (AI)
- Computer software
- Special focus: Databases, Database Management, Data Mining
- Electronic Commerce, Electronic Payment, Electronic Signature
- Knowledge and Process Management
- Imaging, Image Processing, Pattern Recognition, Computer Vision
- User Interfaces, Usability
- Information Technology/Informatics
- Internet Technologies
- e-Government
- ASP Application Service Provision
- Cultural Heritage
- e-Publishing, Digital Content
- Human Language Technologies
- e-Learning
- Information Filtering, Semantics, Statistics
- Visualisation, virtual reality
- Audiovisual Equipment and Communication
- Broadband Technologies
- Mobile Communications
- Network Technology, Network Security
- Satellite Technology/Systems/Positioning/Communication/GPS
- Signal Processing
- Automatic speech recognition
- ASR
- Language
- Media mining

Cooperations

Experience in following types of co-operative research:

- EU RTD Framework Programme 5
- EU RTD Framework Programme 6
- other international co-operative research
- national co-operative research

International partner countries:

- Germany
- France
- United Kingdom
- USA
- Spain and Andorra
- Italy
- Kenya
- Malaysia

4.2.50 ScienceSoft

Contact

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No. of researchers in this working group/unit: 1

Description

ScienceSoft develops software for scientific purposes. However, our range of services is not restricted to scientific applications; we also provide services for unique software development problems, which may require an unconventional approach.

We aspire to go beyond computer science and be inter-disciplinary in our approach which combines information technology with various disciplines. The interactive demos on our homepage offer a glimpse of the wide array of services that we provide. Further details on our services can be found in the Services section.

RTD Areas

- Special focus: Computer software
- User Interfaces, Usability

4.2.51 Simutech

Contact

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info@simutech.info, www.simutech.info

Description

Simutech's business is simulation, optimization and database software, in the fields of power plants/ energy, manufacturing, hydrography, general environmental techniques, profiles (e.g. river profiles).

We offer
+ tools for the administration and evaluation of environmental data and for the web-based and mobile access to environmental data
+ mathematical and graphical evaluation services
+ web-hosting for environmental databases

Our products are used in energy and environmental IT applications:
+ HIS-3D: the environmental data management system
+ ATPEDS: energy data system
+ eHIS InterStore: the e-commerce platform for geodetic and environmental data
+ pocket eHIS: accessing environmental data on mobile devices (support for GPS, cellular phones)
+ HISarc: the interface between HIS-3D and ArcView (GIS)
+ HISchem: the chemistry module of HIS-3D
+ SIMUL_R: the simulation and optimization platform (e.g. genetic algorithms); hardware-in-the-loop simulation

RTD Areas

- Automation, Robotics Control Systems
- Embedded Systems and Real Time Systems
- Computer software
- Databases, Database Management, Data Mining
- Electronic Commerce, Electronic Payment, Electronic Signature
- Internet Technologies
- Bioinformatics
- Environment Management Systems
- GIS Geographical Information Systems
- ASP Application Service Provision
- Mobile Communications
- optimisation (energy, manufacturing), genetic algorithms
- Special focus: simulation (environmental, manufacturing, energy)
- mobile and GIS based access to centralized data bases

Cooperations

Experience in following types of co-operative research:
- other international co-operative research
- national co-operative research

International partner country:
- Germany

4.2.52 StreamUnlimited

Contact

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No. of researchers in this organisation: 4

Description

StreamUnlimited's Markets:
We fill the development gap between chip and module suppliers as well as product suppliers and final brands. Our focus is on networked products/systems and storage in the Consumer Electronics, Automotive & Entertainment, Health Care and Building Control industries.

The StreamUnlimited proposition:
complete engineering services from idea to mass production introduction for the „Connected World." We have a vast amount of network and storage systems experience, including suppliers, partners, and customers with successful connected products.

... get more deatils on our home page www.streamunlimited.com !

RTD Areas

- Special focus: Embedded Systems and Real Time Systems
- Digital Systems, Digital representation
- Electronic circuits, components and equipment / Electronic engineering
- Advanced systems architecture
- Data Interchange, Middleware
- User Interfaces, Usability
- Audiovisual Equipment and Communication
- Broadband Technologies
- Mobile Communications
- Network Technology, Network Security
- Wireless Technologies

Cooperations

International partner countries:
- USA
- Belgium
- Netherlands
- India

4.2.53 Technikon GmbH/Research and Development

technikon

Contact

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No. of researchers in this organisation: 5

Description

Technikon Research is an independent, privately owned company in Austria, which provides services and consultancy to high-tech companies Europe-wide. Special focus is laid on the research programmes in the field of information society technologies, where Technikon assists multinational project teams in the organisation, evaluation and assessment of research projects.

RTD Areas

- Special focus: Embedded Systems and Real Time Systems
- Electronic circuits, components and equipment / Electronic engineering
- Smart cards and access systems
- Semiconductors
- Databases, Database Management, Data Mining
- Knowledge and Process Management
- Information Technology/Informatics
- e-Government
- Industrial Applications
- e-Publishing, Digital Content
- Audiovisual Equipment and Communication
- Mobile Communications
- Network Technology, Network Security
- Wireless Technologies

Cooperations

Experience in following types of co-operative research:
- EU RTD Framework Programme 5
- EU RTD Framework Programme 6
- EUREKA
- other international co-operative research
- national co-operative research

International partner countries:
- Germany
- Spain and Andorra
- Italy
- Slovenia
- Switzerland
- Netherlands
- Belgium

4.2.54 TeleConsult Austria GmbH

Contact

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howe@teleconsult-austria.at
www.teleconsult-austria.at
No. of researchers in this organisation: 8

Description

The major activities of TeleConsult Austria cover the field of positioning and navigation, particularly the areas of development and combination of navigation, telecommunication, information technologies, and services for applications in the context of mobility. The services offered by TeleConsult Austria include system and project planning, project management, contributions to marketing, retailing, and the development of strategies for new products and services. We support the administration in creating fundamental policies as basics for private investments and the development of Public-Private-Partnership (PPP) as this creates investments and jobs in the most efficient way. TeleConsult Austria analyses market potentials, technologies and services and creates software products according to the needs of its customers. Based on state-of-the-art technologies and system processes, strategies are developed which prepare the transition from today's technologies to those of tomorrow.

RTD Areas

- Computer software
- Applications for Transport and Logistics
- GIS Geographical Information Systems
- Visualisation, virtual reality
- Mobile Communications
- Special focus: Satellite Technology/Systems/Positioning/Communication/GPS
- Signal Processing

Cooperations

Experience in following types of cooperative research:
- EU RTD Framework Programme 5
- EU RTD Framework Programme 6
- national co-operative research

International partner countries:
- Germany
- Italy
- Portugal
- Norway
- France

4.2.55 Two Pi signal processing applications

Contact

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www.two-pi.com
No. of researchers in this organisation: 3

Description

2Pi is a specialized provider of DSP software solutions addressing hearing loss and communications in noisy environments.

2Pi is an external innovation force that helps you easily acquire the newest technological know-how. Ongoing research activities and partnerships with respected research institutions provide us with capability to address ever expanding range of your real-world problems.

RTD Areas

- Embedded Systems and Real Time Systems
- Digital Systems, Digital representation
- Applications for Health
- Audiovisual Equipment and Communication
- Mobile Communications
- Special focus: Signal Processing
- Psychoacoustic
- acoustics
- DSP

Cooperations

Experience in following types of co-operative research:
- national co-operative research

4.2.56 uma information technology GmbH

Contact

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No. of researchers in this organisation: 3

Description

uma information technology GmbH (founded 1994 as virtual real-estate) is internationally recognized for its projects and products in the domain of knowledge management and knowledge mediation with web technology. Uma pursues a comprehensive solution-approach ranging from strategic conception to implementation and operation of whole environments. The focus in all of umas information and knowledge projects is set on easy interaction between the user and the technical system.
uma achieved ground breaking work in interface design and information mediation on a variety of platforms ranging from web-based to mobile applications. This is shown for example in award winning products like the information retrieval technology MELVIL or VICO - the virtual interactive collaboration tool.
Besides the ongoing developments in these technological areas uma is continously working on underlying theoretical foundations and research issues in form of studies and the „scope" conference series.

RTD Areas

- Computer software
- Special focus: Knowledge and Process Management
- User Interfaces, Usability
- Information Technology/Informatics
- Internet Technologies
- e-Government
- Applications for Tourism
- ASP Application Service Provision
- Cultural Heritage
- e-Publishing, Digital Content
- e-Learning
- Information Filtering, Semantics, Statistics
- Visualisation, virtual reality
- Mobile Communications
- Research Networking, GRID
- Gridcomputing
- CHI

Cooperations

Experience in following types of co-operative research:
- EU RTD Framework Programme 5
- EU RTD Framework Programme 6
- national co-operative research

4.2.57 Voice Business GmbH

Contact

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office@voicebusiness.net, www.voicebusiness.net

Description

Voice Business is a solution provider for speech driven dialog systems, to automate phone calls in customer care centers.

RTD Areas

- Artificial intelligence (AI)
- Special focus: Human Language Technologies
- Audiovisual Equipment and Communication
- Mobile Communications

Cooperations

Experience in following types of co-operative research:
- national co-operative research

4.2.58 X-Art Pro Division Ges.m.b.

Contact

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www.x-art.at
No. of researchers in this organisation: 2

Description

We are researching and developing tools for workflow enhancements in broadcast telcos and other corporations using rich media.

RTD Areas

- Advanced systems architecture
- Computer software
- Special focus: Databases, Database Management, Data Mining
- Knowledge and Process Management
- Imaging, Image Processing, Pattern Recognition, Computer Vision
- Information Technology/Informatics
- Internet Technologies
- Applications for Tourism
- ASP Application Service Provision
- e-Learning
- Information Filtering, Semantics, Statistics

Cooperations

Experience in following types of co-operative research:
- national co-operative research

4.2.59 XIMES GmbH

Contact

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Description

XIMES offers Software and Consulting Services on Time Intelligence, i.e. the optimal organisation and planning of working hours. This includes the calculation of personnel needed, optimized shifts (begin, end, breaks etc.) and optimised shift-plans. In the design mathematical, economic, legal as well as health and safety issues are considered. Our customers gain either by purchasing the self developed Software or by competent technical and process consulting.

As consultants we are focussing on Working Hours problems with customers of all sorts of branches every day, and successfully use our Software to find solutions for various problems.

The high specialisation and well-tested combination of Software and Consulting provides XIMES with a very specific knowledge that is internationally recognised.

RTD Areas

- Artificial intelligence (AI)
- Databases, Database Management, Data Mining
- Special focus: Scheduling and Planning
- Risk assessment

Cooperations

Experience in following types of co-operative research:

- other international co-operative research
- national co-operative research

4.2.60 ZTH Consulting Engineering

Contact

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zth@utanet.at, zth.at
No. of researchers in this organisation: 1

Description

ZTH the consulting engineering company for computer science operates in planning, submission, control and inspection of projects. We also act as an advocate for customers in clarifications of factual issues and compositions of concepts and expertises for the following areas:

-- Data Engineering
. Data security and safety
. Data privacy
. Data analysis
. Data recovery and destruction
. Data trusteeship

-- Trusted Services
. Technical Reports
. Legal questions
. Trusted deposition

RTD Areas

- Advanced systems architecture
- Archivistics/Documentation/Technical documentation
- Computer software
- Data Interchange, Middleware
- Data Protection, Cryptography, Data Security
- Databases, Database Management, Data Mining
- Electronic Commerce, Electronic Payment, Electronic Signature
- Knowledge and Process Management
- User Interfaces, Usability
- Information Technology/Informatics
- Internet Technologies
- Applications for Health
- Special focus: e-Government
- Information Filtering, Semantics, Statistics

4.3 University/higher education – in alphabetical order

4.3.1 Carinthia Tech Institute/School of Electronics

ONLINE-LAB.NET

Contact

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No. of researchers in this working group/unit: 8

Description

Center of Competence (CoC) Online Labs and E-learning - Our core competences are:

- Online laboratories in e-learning
- Use of XML for interactive lecture/course scripts
- W3C and Bobby-standardized, XHTML CMS/LMS based Internet Sites

Lab work is becoming increasingly important in Web-based educational systems not only for engineering studies. An important approach is a distributed lab. In this way the high costs of online labs can be minimized. The CoC maintains a Remote Electronic Lab (REL) with locations in Austria, Romania, Spain, Ireland, India. The CoC has developed easy to use standard tools for the design of virtual or remote labs by lecturers or teachers without deep knowledge in informatics or virtual instrumentation. In this context we are working in the completely new field of Micro Web Server Technology. Furthermore we developed fully functional XML templates and the necessary style sheets (xsl, css) for use in online labs and e-Learning.

RTD Areas

- Automation, Robotics Control Systems
- Embedded Systems and Real Time Systems
- Digital Systems, Digital representation
- Electronic circuits, components and equipment / Electronic engineering
- Data Interchange, Middleware
- User Interfaces, Usability
- Information Technology/Informatics
- Internet Technologies
- Industrial Applications
- e-Learning
- Visualisation, virtual reality
- Mobile Communications
- Virtual Laboratories
- Remote Laboratories
- Special focus: Online Laboratories

Cooperations

Experience in following types of co-operative research:

- EU RTD Framework Programme 6
- other international co-operative research
- national co-operative research

International partner countries:

- Germany
- Slovenia
- Romania
- Portugal
- Ireland
- Bulgaria

4.3.2 Danube University Krems/Center for New Media

Contact

Ms. Birgit Tesnohlidek
Secretary
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No. of researchers in this department: 2

Description

Center for New Media

Management, planning, conception and design of interactive systems.

The range of the teachings within the center for new media is particularly occupied with management and development in connection with New Media, Publishing and Multimedia. The curricula is taught by way of seminars and seminar rows.
The emphasis is on management authority and the abilities to deal with multimedia. The use of communication forms and communities within the range of new media is in the field of research and consulting in the center.

Courses:

Professional MSc New Media Management
Professional MSc Multimedia
Web Publisher
Master of Fine Arts in New Media

Seminars:

Efficient Web-Publishing
MS Advanced Technologies

RTD Areas

- Knowledge and Process Management
- Information Technology/Informatics
- Special focus: e-Publishing, Digital Content
- Research Networking, GRID

Cooperations

Experience in following types of co-operative research:
- international co-operative research

4.3.3 Danube University Krems/Department of Information and Knowledge Engineering

Contact

Univ.-Prof. PhD Silvia Miksch
University Professor
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ieg.ifs.tuwien.ac.at/
No. of researchers in this department: 5

Description

Department of Information & Knowledge Engineering conducts research and provides teaching in the following areas:

* Information and Knowledge Engineering
  - Information Extraction and Integration
  - Information Visualization
  - Knowledge Crystallization
  - Ontologies
  - Semantic Web
* Plan Management (Continual Plan Modeling)
  - Temporal Data Abstraction
  - Temporal Representation and Reasoning
  - Verification and Validation
  - Planning, Plan Execution, Plan Monitoring and Evaluation
* Task-oriented Design, Development, and Evaluation in Real-World Environments
  - Bridging the Gap between Theory and Practice
  - Guideline- and Protocol-based Care: Design, Monitoring, and Therapy Planning
  - Medical Environments: (Neonatal) Intensive Care Units, Diabetes Management, Management of Hyperbilirubinemia/Jaundice

RTD Areas

- Artificial intelligence (AI)
- Knowledge and Process Management
- User Interfaces, Usability
- Applications for Health
- Visualisation, virtual reality
- Special focus: Visual Analytics - Information Visualization

Cooperations

Experience in following types of co-operative research:

- EU RTD Framework Programme 5
- EU RTD Framework Programme 6

International partner countries:

- Germany
- Netherlands
- USA
- Spain and Andorra
- United Kingdom
- France
- Australia
- Slovenia

4.3.4 fh-campus wien F&E GmbH/Applied Electronics and Information Technology

Contact

DI Johann Walzer
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fh-campuswien.ac.at

Description

In our study programme "Information Technologies and Telecommunications" we have experts at hand for:
- Analysis of software projects
- Software Engineering
- Development of database applications
- Development of web-pages for elderly people
- Development of digital and analog circuits
- Secure data transmission
- Digital signal processing and image processing
- Firmware for embedded-controller and FPGAs
- Know-how in networks (computer and telecommunications)
- Voice over IP solutions
- Solutions for telecommunication
- Simulation of hard- and software

RTD Areas

- Embedded Systems and Real Time Systems
- Digital Systems, Digital representation
- Electronic circuits, components and equipment / Electronic engineering
- Printed circuits and integrated circuits
- Advanced systems architecture
- Computer software
- Data Interchange, Middleware
- Data Protection, Cryptography, Data Security
- Databases, Database Management, Data Mining
- Electronic Commerce, Electronic Payment, Electronic Signature
- Imaging, Image Processing, Pattern Recognition, Computer Vision
- Information Technology/Informatics
- Internet Technologies
- GIS Geographical Information Systems
- Industrial Applications
- e-Learning
- Network Technology, Network Security
- Signal Processing

4.3.5 FH JOANNEUM University of Applied Sciences/Centre for Multimedia and Learning

Contact

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Centre for Multimedia and Learning
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Description

The Center for Multimedia and Learning is a research department located at the regional university of applied science, FH JOANNEUM, in Graz, Austria. Besides research projects, the CML offers e-learning in-house services mostly study courses. In the research area, the CML is active in four major areas:
1) Deployment of e-learning in higher education: The CML is a leading research institute on e-learning in Austria, supporting the national education ministry in the realisation of programmes, coordinating nation-wide train-the-trainer programmes and supporting different universities in developing e-learning strategies and applications.
2) CML realises innovative learning material deploying innovative concepts, such as game-based learning and integration of technologies like simulation and VR.
3) Virtual Communities and Collaborative Learning.
4) User centred design: The CML guides and accompanies a series of projects, and implements innovative methods of user centred design.

RTD Areas

- Advanced systems architecture
- Computer hardware
- Computer software
- Databases, Database Management, Data Mining
- Knowledge and Process Management
- User Interfaces, Usability
- Information Technology/Informatics
- Internet Technologies
- Computer Games, Simulation of social processes
- Applications for Transport and Logistics
- e-Publishing, Digital Content
- Special focus: e-Learning
- Visualisation, virtual reality
- Simulation in education

Cooperations

Experience in following types of co-operative research:
- EU RTD Framework Programme 5
- EU RTD Framework Programme 6
- other international co-operative research
- national co-operative research

International partner countries:
- Italy
- Germany
- United Kingdom
- Greece
- Poland

4.3.6 Graz University of Technology/Institute for Applied Information Processing and Communications

Contact

DI Manfred Aigner
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www.iaik.tugraz.at

Description

IAIK is an institute of the computer science faculty of Graz University of Technology. Its expertise is characterized by its activities dedicated around the topic IT-security.
VLSI research activities focus on the topics VLSI and security with a strong application emphasis. The area for developed crypto-modules spans from high-end server accelerators to RFID crypto circuits. The group gained a lot of experience in SCA. IAIK-VLSI acts as scientific leader for the FP6-project SCARD. Being an observer of technologies covering the rapidly emerging fields stated above, IAIK assists public and private institutions as consultant. Teaching orientates itself to the research priorities. Emphasis is given in project-oriented and inter-disciplinary approach. Lectures held, span from applied cryptography over operating systems and computer organization to VLSI-design classes. IAIK has been involved in numerous national and international projects. See http://www.iaik.at for more information.

RTD Areas

- Embedded Systems and Real Time Systems
- Digital Systems, Digital representation
- Printed circuits and integrated circuits
- Smart cards and access systems
- Semiconductors
- Computer hardware
- Computer software
- Special focus: Data Protection, Cryptography, Data Security
- Electronic Commerce, Electronic Payment, Electronic Signature
- Information Technology/Informatics
- Internet Technologies
- e-Government
- Applications for Transport and Logistics
- Audiovisual Equipment and Communication
- Wireless Technologies
- Side Channel Analysis
- RFID & security

Cooperations

Experience in following types of co-operative research:

- EU RTD Framework Programme 5
- EU RTD Framework Programme 6
- national co-operative research

International partner countries:

- Belgium
- Germany
- France
- Italy
- Spain and Andorra
- Turkey
- United Kingdom

4.3.7 Graz University of Technology/Institute for Graphics and Vision

Contact

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Professor
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www.icg.tu-graz.ac.at

Description

The Institute for Computer Graphics and Vision (ICG) was founded in 1992 and is headed by Prof. Franz Leberl. Being the only Austrian academic group with the charter to address both Computer Vision and Computer Graphics we are carefully nurturing a culture of Digital Visual Information Processing to resolve the artificial boundaries between computer graphics and computer vision. We look at the world with sensors, create models of the world's objects from the sensed data, and organize the result for visual computation and use. The research at ICG is focused on following topics: Computer Graphics, Medical Computer Vision, Object Reconstruction and Recognition, and Robotics. The Institute is home to 7 civil service positions and about another 20 "soft money" positions. During the most recent 5-year period, the Institute was responsible for 62 diploma theses concluded in Telematics, and the award of 20 doctorates. Teaching addresses about 50 credit hours per year.

RTD Areas

- Artificial intelligence (AI)
- Computer software
- Computer Technology/Graphics, meta computing
- Special focus: Imaging, Image Processing, Pattern Recognition, Computer Vision
- User Interfaces, Usability
- Applications for Health
- Industrial Applications
- Cultural Heritage
- Information Filtering, Semantics, Statistics
- Visualisation, virtual reality
- Autonomous Robots
- Computer Graphics
- Learning

Cooperations

Experience in following types of co-operative research:
- EU RTD Framework Programme 4
- EU RTD Framework Programme 5
- EU RTD Framework Programme 6
- national co-operative research

International partner countries:
- Slovenia
- Czech Republic
- Germany
- USA

4.3.8 Graz University of Technology/Institute of Navigation and Satellite Geodesy

Contact

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www.inas.tugraz.at
No. of researchers in this department: 15

Description

The Institute of Navigation and Satellite Geodesy (INAS), headed by Prof. Dr. B. Hofmann-Wellenhof, performs research, development, and teaching in mathematical and numerical techniques in contemporary geodesy, with emphasis on positioning, navigation, and satellite geodesy. In addition to a wide experience in terrestrial and satellite-based positioning and navigation (GPS, GNSS, Loran-C, INS), it has developed extensive competence in global gravity field recovery based on satellite sensor data, the solution of large systems of equations, the treatment of general optimization problems, in the statistical analysis of geodata, and in all matters related to geolocation.
INAS has also an experience in the organization of scientific research projects and symposia. It has also participated in numerous national and international scientific research projects.

RTD Areas

- Digital Systems, Digital representation
- Applications for Transport and Logistics
- GIS Geographical Information Systems
- Special focus: Satellite Technology/Systems/Positioning/Communication/GPS
- Signal Processing

Cooperations

Experience in following types of co-operative research:
- EU RTD Framework Programme 5
- national co-operative research

International partner countries:
- Germany
- Netherlands
- Italy
- Belgium

4.3.9 Graz University of Technology/Statistics

Contact

Univ.-Prof. DI Dr. Ernst Stadlober
Head of the Department
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8010 Graz
Austria
T: +43-316-873-6478
F: +43-316-873-6977
e.stadlober@tugraz.at
www.stat.tugraz.at
No. of researchers in this department: 6

Description

The research topics of the department cover a broad range of research and research topics. Basic research is carried out for problems of probability theory, stochastic processes and time series analysis of financial data. Methodological investigations include stochastic simulation and statistical modelling, experimental design and exploratory data analysis. Applied research and development is carried out in different fields as biostatistics, environmental research, risk analysis and industrial statistics.
Contacts to the scientific community are maintained in different ways. Periodically we organize workshops and international conferences, participate in meetings and work with guest researchers.
The applied statistical projects are in close cooperation with public institutions and private companies.
Research projects are funded by national science foundations, the European community and our public and private partners.

RTD Areas

- Semiconductors
- Applications for Transport and Logistics
- Special focus: Applied Statistics
- Biostatistics
- Computational Statistics
- Financial Time Series

Cooperations

Experience in following types of co-operative research:
- other international co-operative research
- national co-operative research

International partner countries:
- USA
- Germany
- Hungary
- Italy
- Slovenia

4.3.10 IIG/Institute for Health Information Systems

Contact

Univ.-Prof. Dr. Elske Ammenwerth
Head of Institute
Department: Institute for Health Information Systems
6060 Hall in Tyrol
Austria
T: +43-50-8648-3809
F: +43-50-8648-3850
elske.ammenwerth@umit.at
iig.umit.at
No. of researchers in this department: 6

Description

Research Topics at the Institute for Health Information Systems:

- Development and investigation of methods for the strategic management of health information systems, especially concerning strategic planning and modelling of information systems (e.g. 3LGM-modelling, strategic IT planning).
- Development and investigation of methods for the tactical management of health information systems, especially concerning planning and directing of information systems (e.g. systems analysis, business process modelling, process management).
- Development and investigation of methods for the formative and summative assessment of health information systems (e.g. triangulation of quantitative and qualitative methods, development of evaluation criteria for information systems).
- Development and investigation of (cross-institutional) information system architectures, innovative tools and organisational frameworks that support patient centred, shared care and regional networking of health care.

RTD Areas

• Special focus: Applications for Health

4.3.11 Innsbruck Medical University/Radiology I

Contact

a.o.Univ.Prof.Dr.med. Reto Bale
Department: Radiology I
6020 Innsbruck
Austria
T: +43-512-504-80540
F: +43-512-504-2768
reto.bale@uibk.ac.at
radiologie.uibk.ac.at/eRadiology/Klinik_Abtg_SIPLabor.html
No. of researchers in this working group/unit: 8

Description

1. Support for the surgeon during computer-assisted navigation: image data acquisition and interpretation, image fusion, path planning, adjustment of the targeting device for computer-assisted punctures in the SIP-Lab or in the OR, and navigation in the OR. The navigation system, the registration devices, the immobilization devices and the targeting devices are provided by the SIP-Lab. One radiation technician and/or one radiologist operate the navigation system during surgery.
2. Precise computer-assisted punctures „from head to toe" in the CT.
3. Fabrication of the VBH vacuum mouthpiece which plays the central part for the unified concept in the diagnosis and therapy of brain tumours.
4. CT/MR/SPECT/PET and ultrasound image fusion in the whole body with the use of the image fusion software that is part of the navigation system.
5. Development (targeting device, fixation devices, reference frames, robotic,....).
6. Minimal invasive local tumor therapy

RTD Areas

- Automation, Robotics Control Systems
- High frequency technology, microwaves
- Microengineering, micromachining
- Computer hardware
- Computer software
- Imaging, Image Processing, Pattern Recognition, Computer Vision
- User Interfaces, Usability
- Applications for Health
- Visualisation, virtual reality
- Audiovisual Equipment and Communication
- Intraoperative navigation systems
- Special focus: Radiofrequency ablation

4.3.12 Institute for Applied Knowledge Processing (FAW)

Contact

Mag. Knud Steiner
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ksteiner@faw.uni-linz.ac.at
www.faw.at
No. of researchers in this organisation: 5

Description

FAW was initiated by Univ.-Prof. Dr. Roland Wagner as a Research Institute of the Johannes Kepler University of Linz.
Since February 1992 FAW has been located at the University of Linz and at the Softwarepark Hagenberg 25 km north-east of Linz (Upper Austria). Most of the staff (about 30 people) are working at FAW-Hagenberg. FAW has two further locations in Vienna (Technical University of Vienna) and Prague (Technical University of Prague).
In 1997 the research institute was integrated into the organisation of the university and is now an independent institute of the Johannes Kepler University of Linz: Institute for Applied Knowledge Processing.
Since its foundation more than eighty projects with research partners and partners from trade and industry have been finished successfully. These cooperations are the basis for an extensive research work at FAW and practice-oriented teaching at the University.

RTD Areas

- Advanced systems architecture
- Archivistics/Documentation/Technical documentation
- Artificial intelligence (AI)
- Computer software
- Computer Technology/Graphics, meta computing
- Data Interchange, Middleware
- Special focus: Databases, Database Management, Data Mining
- Electronic Commerce, Electronic Payment, Electronic Signature
- Knowledge and Process Management
- User Interfaces, Usability
- Information Technology/Informatics
- Internet Technologies
- Applications for Health
- e-Government
- Applications for Tourism
- GIS Geographical Information Systems
- Industrial Applications
- e-Learning
- Visualisation, virtual reality

Cooperations

International partner country:
- Czech Republic

4.3.13 Johannes Kepler University Linz/Business Informatics - Software Engineering

Contact

o. Univ.-Prof. Dipl.-Ing. Dr. Gustav Pomberger
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No. of researchers in this department: 11

Description

Our department is committed to research and teaching both in business informatics and in software engineering. Both are interdisciplinary fields that must integrate technical, business administration and social science subject matter. In software engineering we pursue the development of concepts, methods, procedures and tools to design, analyze and assess software architectures as well as user interfaces, to plan, manage and control software development processes, to improve productivity and quality in the production of software and to develop software engineering strategies. In business informatics we concentrate on the development of concepts, methods, procedures and tools to improve productivity and quality in the development and use of computer and communication technologies, to employ information as a production factor, to assess effectiveness and efficiency in the development and application of information and communication technologies.

RTD Areas

- Advanced systems architecture
- Special focus: Computer software
- Data Interchange, Middleware
- Electronic Commerce, Electronic Payment, Electronic Signature
- Knowledge and Process Management
- User Interfaces, Usability
- Information Technology/Informatics
- Internet Technologies
- Industrial Applications
- Visualisation, virtual reality
- Mobile Communications
- Software Quality Management
- Augmented Reality

4.3.14 Johannes Kepler University Linz/Department of Computational Perception

Contact

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gerhard.widmer@jku.at
www.cp.jku.at
No. of researchers in this department: 6

Description

The department was founded in 2004 and focuses on computational models and algorithms that permit computers to perceive and 'understand' aspects of the external world, where 'perception' is interpreted in the widest sense of the word, as the extraction of useful high-level information and knowledge from complex, possibly low-level data (audio, video, images, sensor data, texts, databases, or even the Internet). Specifically, its research and teaching focuses on problems like pattern recognition, knowledge extraction, and data and text mining, with methods from fields like signal processing, statistical pattern recognition and classification, machine learning, and generally Artificial and Computational Intelligence. The department's current research has a particular focus on intelligent audio and music processing.

RTD Areas

- Artificial intelligence (AI)
- Imaging, Image Processing, Pattern Recognition, Computer Vision
- Information Filtering, Semantics, Statistics
- Special focus: Music Information Retrieval

Cooperations

Experience in following types of co-operative research:
- EU RTD Framework Programme 5
- EU RTD Framework Programme 6
- COST
- national co-operative research

4.3.15 Johannes Kepler University Linz/Department of Pervasive Computing

Contact

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www.pervasive-computing.at

Description

The Department of Pervasive Computing is engaged with the next generation of innovative, miniaturized, permanent connected and ubiquitous information technologies, combined with everyday working enviornments, invisibly integrated in everyday things or realizing habitats, which react to people's usage, aims and emotions. Among fundamental research in software frameworks, communication and coordination architectures for networked embedded systems, we test and emphasize current and future technologies and techniques to connect the real world of things with the digital world of bits. In our application related work we have built the "Peer-It" miniaturized ad-hoc computing platform, a context computing framework, public community displays with wireless remote controls ("WebWall"), geo-enhanced, augmented reality mobile navigation systems, RFID based realtime notification systems, wearable computing and embedded internet application frameworks (e.g. "DitgitalAura", "SmartCase", "DigiScope")

RTD Areas

- Embedded Systems and Real Time Systems
- Advanced systems architecture
- Computer software
- Computer Technology/Graphics, meta computing
- Data Interchange, Middleware
- User Interfaces, Usability
- Information Technology/Informatics
- Applications for Health
- Visualisation, virtual reality
- Audiovisual Equipment and Communication
- Mobile Communications
- Wireless Technologies
- Special focus: Pervasive and Ubiquitous Computing
- Sensor Networks
- Augmented Reality
- Software Architecture

Cooperations

Experience in following types of co-operative research:

- EU RTD Framework Programme 6
- other international co-operative research
- national co-operative research

International partner country:

- Germany

4.3.16 Johannes Kepler University Linz/Department of Telecooperation

Contact

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www.tk.uni-linz.ac.at
No. of researchers in this department: 8

Description

The Department of Telecooperation has a strong tradition in research and teaching in telemedia systems and in software technology for telecooperation. "Telecooperation" stands for the fusion of computer science, telecommunication and multimedia. Within this field, three main lines of research are identified, namely cooperation support, mobility support, and media-integration. Contributions in those fields include application design and developments, advances in software technology and evaluation studies (with respect to usability and performance, but also considering economic objectives) of applications and services.
The Department is participating in national (e.g. a RIO project on braodband applications) and international projects (for example EuroNGI, an EU funded network of excellence on next generation internet).
The Department is also experienced in the organisation of national and international workshops and conferences, including WETICE, iiWAS, MoMM, or PERVASIVE.

RTD Areas

- Advanced systems architecture
- Computer software
- Data Interchange, Middleware
- Electronic Commerce, Electronic Payment, Electronic Signature
- User Interfaces, Usability
- Internet Technologies
- e-Learning
- Information Filtering, Semantics, Statistics
- Broadband Technologies
- Special focus: Mobile Communications
- Research Networking, GRID
- Wireless Technologies
- performance evaluation
- web engineering
- workgroup computing

Cooperations

Experience in following types of co-operative research:

- EU RTD Framework Programme 5
- EU RTD Framework Programme 6
- other international co-operative research
- national co-operative research

International partner countries:

- France
- Indonesia
- Italy

4.3.17 Johannes Kepler University Linz/Institute for Formal Models and Verification

Contact

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biere@jku.at
University/higher education

Description

The Institute for Formal Models and Verification is concerned with the application of Formal Methods in a very broad sense to the design, optimization and verification of computer systems.
We provide efficient solutions and tools based on mathematical techniques to specific engineering problems in the context of software, hardware and related areas.

RTD Areas

- Embedded Systems and Real Time Systems
- Printed circuits and integrated circuits
- Artificial intelligence (AI)
- Computer hardware
- Computer software
- Industrial Applications
- Special focus: Formal verification

Cooperations

Experience in following types of co-operative research:
- other international co-operative research
- national co-operative research

International partner countries:
- USA
- Switzerland
- Sweden
- Israel, the West Bank and Gaza
- Finland
- Germany

4.3.18 Johannes Kepler University Linz/Institute for Information Processing and Microprocessor Technology (FIM)

Contact

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University/higher education
No. of researchers in this department: 5

Description

The FIM Institute was established in 1982/-83 by the Austrian Ministry of Science and was named, at the time, Research Institute for Microprocessor Technology. The institute's main research during that period was done in the area of microprocessors and their applications in embedded systems.
In the early 90's the FIM Institute intensified its research in the area of software with a strong emphasis on Networks and Network Security, E-Learning, as well as Agent and Adaptive Systems. Approximately at that time, the Institute's title was changed to Institute for Information Processing and Microprocessor Technology, the abbreviation FIM, however, was kept.
FIM has always been engaged in technology transfer, in cooperation with small and medium sized enterprises in particular. As a result, FIM has a long tradition in cooperative project work with industry participation.

RTD Areas

- Computer software
- e-Learning
- Network Technology, Network Security
- Legal Aspects in IT

4.3.19 Johannes Kepler University Linz/Institute for Systems Engineering and Automation

Contact

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No. of researchers in this department: 5

Description

The mission of the institute is to provide students an optimal, long-lasting education in the area of Systems Engineering which enables them to apply their knowledge in the foreseeable future of their career.

Within the area of Systems Engineering the institute focuses on the computer supported, holistic planning, design and maintenance of complex socio-technical systems in the information and communication technology. All aspects are covered especially the users' view (requirements), the systems' view (design) and the project view (management) and the assessment of software products and development processes taking into account quality, risk, standards and resources. Industrially applied development tools are routinely used in teaching and research to support the automation of systems engineering processes.

RTD Areas

- Computer software
- Information Technology/Informatics
- Computer Games, Simulation of social processes
- Special focus: Systems Engineering

Cooperations

Experience in following types of co-operative research:
- EU RTD Framework Programme 5
- EU RTD Framework Programme 6

International partner countries:
- United Kingdom
- Germany
- Slovenia

4.3.20 Johannes Kepler University Linz/Integriert Studieren / Integrated Study

Contact

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No. of researchers in this department: 10

Description

The department was established in October 1991 as a model project which tries to support blind and visually handicapped students in their studies. The main part of the support activities is the digital preparation of studying materials such as books, lecture notes, overhead sheets, exercises, contents of the blackboard and so forth for blind and visually handicapped students all over Austria. Research and teaching is also mainly directed towards this field. In 1995 the model project was established as the 'Department Computer Science for the Blind'. In 2000 an Austrian wide institute was established which changed into the institute Integriert Studieren / Integrated Study 2002 which services students with all kinds of disabilities in Austria.

RTD Areas

- Computer software
- User Interfaces, Usability
- Information Technology/Informatics
- e-Publishing, Digital Content
- e-Learning
- Special focus: accessibility
- people with disabilities
- assistive technologies
- social inclusion

Cooperations

Experience in following types of co-operative research:
- EU RTD Framework Programme 5
- EU RTD Framework Programme 6
- other international co-operative research
- national co-operative research

4.3.21 Johannes Kepler University Linz/Research Institute for Symbolic Computation (RISC)

Contact

Univ.-Prof. DI Dr. Franz Winkler
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Description

Research Institute for Symbolic Computation (Institut für Symbolisches Rechnen) is an institute of the Johannes Kepler University Linz, Austria.
Symbolic Computation is for us
- algorithmic solutions of mathematical problems,
- realization and analysis of algorithms via computer science,
- applications in science, engineering, and industry.

A Short History of RISC:
- 1987 founded by Prof. Bruno Buchberger,
- 1989 moved to the Castle of Hagenberg,
- 1999 new chairman Prof. Franz Winkler.

Initiatives of RISC:
- Journal of Symbolic Computation,
- RISC Software GmbH,
- Softwarepark Hagenberg,
- Upper Austria University of Applied Sciences at Hagenberg,
- Software Competence Center Hagenberg.

RTD Areas

- Automation, Robotics Control Systems
- Artificial intelligence (AI)
- Special focus: Computer software
- Knowledge and Process Management
- Applications for Transport and Logistics
- Industrial Applications
- e-Learning

Cooperations

Experience in following types of co-operative research:
- EU RTD Framework Programme 4
- EU RTD Framework Programme 5
- COST
- other international co-operative research
- national co-operative research

International partner countries:
- Germany
- Italy
- United Kingdom
- USA
- Romania
- Spain and Andorra
- Hungary

4.3.22 Karl-Franzens Universität Graz/Institut für Informationswissenschaft

Contact

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No. of researchers in this department: 5

Description

The "Institut für Informationswissenschaft" (Department for Information Science) is part of the Faculty for Social and Economic Sciences at Karl-Franzens University in Graz. The department contributes in teaching to a wide range of courses in Business Administration, Economics and Sociology at bachelor, master and doctoral levels. The main topics in teaching are Information Retrieval, Information Management, Library Studies and Information Assessment.
The research of the departments' staff concentrates on questions of the application of Information- and Communication Systems in business and society. Data-Management, Knowledege-Management, quality control and evaluation of information systems.
The department is involved in a number of exchange programs on the European level (Erasmus, Tempus).

RTD Areas

- Databases, Database Management, Data Mining
- Electronic Commerce, Electronic Payment, Electronic Signature
- Knowledge and Process Management
- Special focus: Cultural Heritage
- Information Filtering, Semantics, Statistics

Cooperations

Experience in following types of co-operative research:
- international co-operative research

International partner countries:
- Germany
- Croatia

4.3.23 University for Health Sciences, Medical Informatics and Technology

Contact

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No. of researchers in this organisation: 50

Description

UMIT - The University for Health Sciences, Medical Informatics and Technology is devoted to the study of the exciting and rapidly developing fields of medical informatics and bioinformatics, health sciences, nursing science and related disciplines.
UMIT offers cutting edge academic research and teaching in these areas, satisfying the highest criteria. In the field of research, the institutes of UMIT cooperate with research institutions from all over the world. It should be considered remarkable that now, only four years after its foundation, UMIT has gained an excellent reputation due to its involvement in major research projects. In the field of teaching, graduates complete their studies by being accredited internationally recognised degrees of 'Bachelor', 'Master' or 'Doctor'. The main feature of our teaching programmes is their integration with those of the universities we are in partnership.

RTD Areas

- Advanced systems architecture
- Artificial intelligence (AI)
- Data Interchange, Middleware
- Data Protection, Cryptography, Data Security
- Databases, Database Management, Data Mining
- Knowledge and Process Management
- Imaging, Image Processing, Pattern Recognition, Computer Vision
- Information Technology/Informatics
- Bioinformatics
- Special focus: Applications for Health
- Applications for Tourism
- Signal Processing
- Research Networking, GRID
- Wireless Technologies

Cooperations

Experience in following types of co-operative research:
- EU RTD Framework Programme 6
- other international co-operative research
- national co-operative research

4.3.24 University of Applied Sciences BFI Vienna/Department of Project Management and IT

Contact

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No. of researchers in this department: 3

Description

The specific dynamics of information technology (IT) affects the organisational structures of numerous companies. Complex IT products are originating less and less in typical entrepreneurial organisation forms, but increasingly in project organisations. For future IT management staff, this means that profound/ technical knowledge alone is as insufficient as pure (project) management competence.
The FH program of studies "Project Management & Information Technology" combines these two areas, covering eight semesters of academic and practical application-oriented training at university level.
- The training focus combines Project Management and Information Technology.
- The course also includes lectures in Business Studies and Law and Personality Development.
- High practical content is provided from the start through the large number of exercises, programming traineeship and project work (using project management methods).

RTD Areas

- Special focus: Knowledge and Process Management
- Information Technology/Informatics
- e-Learning

4.3.25 University of Applied Sciences FH JOANNEUM/Industrial Management

Contact

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No. of researchers in this department: 15

Description

The degree program of Industrial Management, offered at the University of Applied Sciences FH JOANNEUM, aims at a professional training on a scientific basis at university level. Graduates obtain the degree of a Master of Industrial Management. The degree program combines economic and technical expertise with the most modern information technology and two foreign languages. A tight link to the Austrian and international industry guarantees a constant flow of knowledge transfer between theory and practice and perfect job opportunities for the graduates.
Goals of the Transfer Centre:
- securing the knowledge transfer between theory and practise
- integration of the University of Applied Sciences into regional and national companies by common projects
- location of R&D needs in companies as well as enticement to implementation of innovative and cooperative projects
- function as a platform for information, communication and innovation

RTD Areas

- Automation, Robotics Control Systems
- Data Interchange, Middleware
- Databases, Database Management, Data Mining
- Electronic Commerce, Electronic Payment, Electronic Signature
- Knowledge and Process Management
- Applications for Transport and Logistics
- Industrial Applications
- e-Learning
- Special focus: Enterprise Resource Planning
- Manufacturing Execution Systems
- Organisational Development

Cooperations

Experience in following types of co-operative research:
- other international co-operative research
- national co-operative research

International partner countries:
- Germany
- United Kingdom
- France
- Spain and Andorra

4.3.26 University of Applied Sciences Hagenberg/Computer and Media Security

Contact

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No. of researchers in this department: 4

RTD Areas

- Digital Systems, Digital representation
- Smart cards and access systems
- Advanced systems architecture
- Computer hardware
- Computer software
- Data Interchange, Middleware
- Data Protection, Cryptography, Data Security
- Electronic Commerce, Electronic Payment, Electronic Signature
- Internet Technologies
- e-Government
- Broadband Technologies
- Mobile Communications
- Network Technology, Network Security
- Wireless Technologies
- Special focus: System Security
- Forensics
- Networking Protocols
- High Avail Systems

Cooperations

Experience in following types of co-operative research:
- national co-operative research

4.3.27 University of Applied Sciences Kufstein Tirol/Business Informatics

Contact

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No. of researchers in this department: 5

Description

The FHS KufsteinTirol is a University of Applied Sciences with a strong focus on management-oriented programmes. We are engaged in both, research and education.
The Business Informatics Degree Program aims at the interface of applied informatics and process-oriented business administration. Its application in business shows that the efficient introduction and use of information technology does not only represent a challenge in technology but also in business administration and organization.
At our department, research is conducted in the form of funded research projects as well as individual internal projects. We have cooperation contracts with more than 60 universities and colleges worldwide.

RTD Areas

- Computer software
- Data Interchange, Middleware
- Databases, Database Management, Data Mining
- Electronic Commerce, Electronic Payment, Electronic Signature
- Knowledge and Process Management
- Special focus: Information Technology/Informatics
- Applications for Tourism
- Applications for Transport and Logistics
- e-Publishing, Digital Content
- e-Learning
- Computer Simulation
- Performance Analysis

Cooperations

Experience in following types of co-operative research:

- EU RTD Framework Programme 4
- EU RTD Framework Programme 5
- EU RTD Framework Programme 6
- other international co-operative research

International partner countries:

- Germany
- Spain and Andorra
- Italy
- Hungary
- Czech Republic

4.3.28 University of Applied Sciences St. Pölten

/fh/// Fachhochschule St. Pölten

Contact

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No. of researchers in this organisation: 25

Description

St. Pölten University of Applied Sciences was founded in 1996 and currently has appr. 1,000 enrolled students. Study opportunities comprise degree programmes and continuing education courses in the fields of Social Sciences, Economics and Technology.
St. Pölten University of Applied Sciences offers students a vocationally oriented and academically sound training that prepares them to meet the challenges of the professional world. Each course combines a solid grounding in the subjects with a specialisation, ensuring that graduates are equipped to fulfil a variety of professional tasks in their future careers. Alongside they acquire additional training in e.g. business administration, law, foreign languages, and interpersonal skills.
Students can choose to acquire international certificates (e.g. Cisco, Microsoft, Cambridge). Work placements ensure that they gain hands-on experience in the workplace even before graduation.

RTD Areas

- Automation, Robotics Control Systems
- Embedded Systems and Real Time Systems
- Digital Systems, Digital representation
- Electronic circuits, components and equipment / Electronic engineering
- High frequency technology, microwaves
- Computer hardware
- Computer software
- Data Protection, Cryptography, Data Security
- Databases, Database Management, Data Mining
- Electronic Commerce, Electronic Payment, Electronic Signature
- Knowledge and Process Management
- User Interfaces, Usability
- Information Technology/Informatics
- Internet Technologies
- Computer Games, Simulation of social processes
- Applications for Health
- e-Government
- Applications for Tourism
- e-Publishing, Digital Content
- e-Learning
- Visualisation, virtual reality
- Audiovisual Equipment and Communication
- Broadband Technologies
- Mobile Communications
- Network Technology, Network Security
- Satellite Technology/Systems/Positioning/Communication/GPS
- Signal Processing
- Research Networking, GRID
- Wireless Technologies

Cooperations

Experience in following types of co-operative research:
- other international co-operative research
- national co-operative research

4.3.29 University of Applied Sciences Technikum Vienna/Department of Embedded Systems

Contact

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No. of researchers in this department: 4

Description

The Department of Embedded Systems at the University of Applied Sciences Technikum Wien provides expertise in the field of embedded control systems. In particular, current research includes the testing of distributed real-time systems and component-based engineering of hardware/software, and more generally, design methodologies where considerations of the system architecture are a main issue. Furthermore, the department offers courses dedicated to hardware and software design for embedded systems, including real-time operating systems and embedded internetworking for various bachelor programs of the University of Applied Sciences Technikum Wien.
As of autumn 2006, we are running an Embedded Systems master degree program focusing on dependable embedded control systems.

RTD Areas

- Special focus: Embedded Systems and Real Time Systems
- Industrial Applications

Cooperations

Experience in following types of co-operative research:
- national co-operative research

4.3.30 University of Applied Sciences Vorarlberg/User Centered Technologies Research Institute

Contact

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No. of researchers in this department: 8

Description

UCT Research aims to improve the ease, safety and comfort of use for man machine interfaces by offering a set of usability research, developing and evaluating services and by developing adaptive and intelligent interfaces of the next generation. Current research and development topics are psycho-physiological usability evaluation techniques, interactive multi-media biofeedback interface, adaptive data visualisation in knowledge-retrieval systems, and immersive architectural workflow in virtual reality. The research, developing and evaluating services comprise interactive 3d data visualisation in virtual reality (e.g. virtual prototyping), graphical simulations (e.g. reproduction of illumination scenes), benchmark evaluation of usability (e.g. website evaluation), ergonomic examinations (e.g. optimising user comfort), implementation of multi-modal interfaces (e.g. eye tracking control), psychological analysis of media effects, and feasibility studies.

RTD Areas

- Embedded Systems and Real Time Systems
- Smart cards and access systems
- Artificial intelligence (AI)
- Computer software
- Computer Technology/Graphics, meta computing
- Knowledge and Process Management
- Imaging, Image Processing, Pattern Recognition, Computer Vision
- Special focus: User Interfaces, Usability
- Information Technology/Informatics
- Computer Games, Simulation of social processes
- Bioinformatics
- e-Government
- e-Publishing, Digital Content
- e-Learning
- Visualisation, virtual reality
- Mobile Communications
- Signal Processing
- Wireless Technologies
- media psychology
- human computer interaction
- psycho-physiology
- human communication

Cooperations

Experience in following types of co-operative research:

- EU RTD Framework Programme 6
- other international co-operative research
- national co-operative research

International partner countries:

- Germany
- Finland
- USA
- Bulgaria
- Romania
- Greece
- Hungary

4.3.31 University of Applied Sciences Wiener Neustadt/Information Technology and Geomatics

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No. of researchers in this organisation: 20

Description
The University of Applied Sciences Wiener Neustadt offers three-year bachelor`s degree programs and two-year master`s degree programs in the following fields of Engineering:
1) Information Technology with an emphasis in Computer Engineering or Geomatics;
2) Business and Engineering with an emphasis in Logistics or Technical Productmanagement; and
3) Mechatronics/Microsystem Engineering

RTD Areas
- Automation, Robotics Control Systems
- Embedded Systems and Real Time Systems
- Digital Systems, Digital representation
- Electronic circuits, components and equipment / Electronic engineering
- Microengineering, micromachining
- Printed circuits and integrated circuits
- Optical networks and systems
- Advanced systems architecture
- Computer hardware
- Computer software
- Databases, Database Management, Data Mining
- Imaging, Image Processing, Pattern Recognition, Computer Vision
- User Interfaces, Usability
- Special focus: Information Technology/Informatics
- Internet Technologies
- Applications for Tourism
- Applications for Transport and Logistics
- GIS Geographical Information Systems
- ASP Application Service Provision
- Audiovisual Equipment and Communication
- Network Technology, Network Security
- Satellite Technology/Systems/Positioning/Communication/GPS

Cooperations
Experience in following types of co-operative research:
- EU RTD Framework Programme 6
- national co-operative research

4.3.32 University of Graz/Department of Psychology

Contact

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No. of researchers in this working group/unit: 10

Description

CSS is doing research and development in experimental, theoretical and applied cognitive psychology. This includes psychometrics and interindividual differences. Especially the structures of cognitive processes, the representation of knowledge, and their applications, e.g. in personalized web-based testing and in e-Learning systems are investigated. The Methodology of CSS includes mathematical modelling and eye-tracking.

RTD Areas

- Knowledge and Process Management
- Special focus: e-Learning
- Information Filtering, Semantics, Statistics
- Cognitive Psychology

Cooperations

Experience in following types of co-operative research:
- EU RTD Framework Programme 4
- EU RTD Framework Programme 5
- other international co-operative research
- national co-operative research

International partner countries:
- Ireland
- Belgium
- Turkey
- Germany
- United Kingdom
- Japan
- Lithuania
- Italy

4.3.33 University of Innsbruck/Computer Science

Contact

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Description

The Institute of Computer Science was founded in 2001 as a joint initiative of the Austrian Federal Government, Tyrol and the University of Innsbruck. The goal of the Institute is to strengthen information and communication technologies in Tyrol by establishing internationally leading research groups and to produce well-educated specialists for the regional and international market.
The Institute offers a bachelor program providing broad practice oriented education and a master program supporting the specialization in one of several streams in innovative technologies. The master program leads to the degree of a Diplom-Ingenieur.

RTD Areas

- Embedded Systems and Real Time Systems
- Computer software
- Databases, Database Management, Data Mining
- Information Technology/Informatics
- Internet Technologies
- Information Filtering, Semantics, Statistics
- Broadband Technologies
- Network Technology, Network Security
- Research Networking, GRID
- Image Processing
- Semantic Web
- Computational Logic

Cooperations

Experience in following types of co-operative research:
- EU RTD Framework Programme 6
- other international co-operative research
- national co-operative research

International partner countries:
- Italy
- Ireland
- Switzerland
- Poland
- France
- Germany

4.3.34 Klagenfurt University/Business Informatics and Application Systems

Contact

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www.ifi.uni-klu.ac.at/IWAS/GF/
No. of researchers in this working group/unit: 10

Description

The research group "Computer Science in Production, Operation, and Management" was founded in 1997 by Prof. Gerhard Friedrich. At the moment the group consists of three research assistants, seven project assistants, two technicians and a secretary.
The current research activities of the group are focused on the technical level on the improvement of knowledge-based systems and intelligent man-machine interfaces. These theoretical foundations lie the basis for the more business-oriented research topics of Mass Customization, Open Innovation, IT-strategy and Interactive Selling.
The research group actively participates in multiple international and national funded research projects and also is involved in various projects with industrial partners where research results are evaluated and implemented in industrial environments.

RTD Areas

- Special focus: Artificial intelligence (AI)
- Computer software
- Electronic Commerce, Electronic Payment, Electronic Signature
- User Interfaces, Usability
- Information Technology/Informatics
- Internet Technologies
- Interactive Selling Systems
- Product configuration
- Disruption Management

Cooperations

Experience in following types of co-operative research:
- EU RTD Framework Programme 5
- EU RTD Framework Programme 6
- national co-operative research

International partner countries:
- France
- Italy
- Netherlands

4.3.35 Klagenfurt University/Business Informatics and Application Systems

Contact

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www.ifi.uni-klu.ac.at/IWAS/HM/
No. of researchers in this working group/unit: 10

Description

Integrated and networked information systems have a central position for the development of our information society and the network economy. The research group Practical Informatics/Application Engineering contributes to the development of user- and usage-centred applications.
In particular the group focuses, with a strong emphasis on Model Driven Architectur (MDA) and eXtreme Non Programming (XNP), at both, fundamental and application oriented research in
- User centred requirements modeling
- Model transformation
- Language Understanding: Extracting Requirements Models from Natural Language Requirements Specification
- Natural language technology for modeling
- Modeling Methodologies in the context of the deployment of (webbased) integrated business information systems
- Knowledge oriented / model based breakdown diagnosis and management in industrial environments
- e-Learning: learner centered transformation of knowledge objects to learning objects

RTD Areas

- Artificial intelligence (AI)
- Computer software
- Databases, Database Management, Data Mining
- Special focus: Knowledge and Process Management
- User Interfaces, Usability
- Information Technology/Informatics
- Internet Technologies
- Industrial Applications
- Human Language Technologies
- e-Learning
- Information Filtering, Semantics, Statistics

Cooperations

Experience in following types of co-operative research:
- EU RTD Framework Programme 4
- EU RTD Framework Programme 5
- other international co-operative research
- national co-operative research

International partner countries:
- Germany
- Ukraine
- New Zealand
- Australia
- Finland
- United Kingdom
- Spain and Andorra
- Ireland

4.3.36 Klagenfurt University/Business Informatics and Application Systems (IWAS)

syssec
University of Klagenfurt
System Security Group

Contact

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www.syssec.at
No. of researchers in this working group/unit: 5

Description

The research group "System Security" (syssec), which was founded in 1997, is a competent partner in the area of the security of complex IT-systems. The research areas include applied cryptology, security infrastructures, key management, multi-party computations, and security tokens.

At the time, the scientific staff consists of Full Professor Univ.-Prof. Dr. rer.nat. Patrick Horster (head of the group), three university assistants, Dr. Peter Schartner, Dipl. Ing. Franz Kollmann, and Dipl. Ing. Martin Schaffer, and one project assistant working on a subproject of SECOQC (Development of a Global Network for Secure Communication based on Quantum Cryptography). Besides that, the group employs two technicians and one secretary.

RTD Areas

- Smart cards and access systems
- Special focus: Data Protection, Cryptography, Data Security
- Information Technology/Informatics
- e-Government
- Mobile Communications
- Wireless Technologies
- System Security
- Keymanagement and Authentication
- Security Infrastructures
- Certification (Common Criteria)

Cooperations

Experience in following types of co-operative research:
- EU RTD Framework Programme 6
- national co-operative research

International partner country:
- Germany

4.3.37 Klagenfurt University /Department of Information Technology

Contact

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No. of researchers in this department: 16

Description

The Department of Information Technology (ITEC) at the University Klagenfurt covers computer and communication technology related areas in the Informatics Departments of the Klagenfurt University. ITEC comprises four research groups with currently three full professors and one associate professor, and about 20 scientific, technical and administrative staff.

RTD Areas

- Advanced systems architecture
- Computer hardware
- Computer software
- Computer Technology/Graphics, meta computing
- Data Interchange, Middleware
- Special focus: Information Technology/Informatics
- Internet Technologies
- Applications for Tourism
- e-Publishing, Digital Content
- Mobile Communications
- Research Networking, GRID
- Multimedia Communications
- Distributed Systems
- Multimedia Systems
- Multimedia Adaptation

Cooperations

Experience in following types of co-operative research:
- EU RTD Framework Programme 6
- other international co-operative research
- national co-operative research

International partner countries:
- Hungary
- France

4.3.38 Klagenfurt University/Department of Informatics-Systems

Contact

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www.isys.uni-klu.ac.at
No. of researchers in this department: 15

Description

The Institute of Informatics Systems focuses on development and maintenance of complex, predominantly application independent software systems. Methodological issues of software-, data- and knowledge-engineering as well as of human-computer interaction define the scope of its three research groups. The team of Klagenfurt Informatik Didaktik also belongs to this institute.
The Software Engineering group's research involves particularly software comprehension, re- and reverse engineering and issues of software quality, specifically spreadsheet quality. The research focus of the Information- and Communication-Systems' group is on data base management systems, data ware houses, communication- and workflow systems. HCI-issues transcend these topics. Adaptivity and interface issues for mobile devices are special research interests. In all cases, extensive cooperation with internal and external partners takes place.

RTD Areas

- Artificial intelligence (AI)
- Computer software
- Databases, Database Management, Data Mining
- Knowledge and Process Management
- User Interfaces, Usability
- Information Technology/Informatics
- Internet Technologies
- Applications for Tourism
- e-Learning

Cooperations

Experience in following types of co-operative research:
- EU RTD Framework Programme 6
- other international co-operative research
- national co-operative research

International partner countries:
- USA
- Italy
- Switzerland
- Poland
- Australia

4.3.39 Klagenfurt University/Department of Linguistics and Computational Linguistics

Contact

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No. of researchers in this working group/unit: 9

Description

ZGH aims at improving the situation of deaf and hard of hearing people concerning education and job chances.

It has experiences in

1) sign language teaching and research (sign language courses, first grammar of OEGS = Austrian Sign Language, CD-ROM containing Course I for beginners of OEGS; project "Sign-IT" shows sign language in the internet: www.sign-it.at)

2) deaf user needs (EU-Workshop "Steps Towards an Improvement of the Participation of Deaf Persons in the Information Society" 1999, PROMISE project "Preparing a European Deaf Network for Information and Communication" 2000)

3) deaf education concerning 3a) written language and 3b) computer skills for the deaf (participation in project SMILE - A Sign language and Multimedia based Interactive Language course for the Deaf for the training of European written languages" 1999-2000; LEONARDO project „Internet as a Potential Source of New Employment Possibilities for the Deaf" 2000-03; LEONARDO project DEAFVOC 2003-05).

RTD Areas

- Special focus: e-Learning

Cooperations

Experience in following types of co-operative research:
- other international co-operative research
- national co-operative research

International partner countries:
- Finland
- Czech Republic
- United Kingdom
- Spain and Andorra
- Slovenia
- Germany
- Italy

4.3.40 University of Leoben/Department of Mathematics and Information Technology

Contact

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No. of researchers in this working group/unit: 6

RTD Areas

- Artificial intelligence (AI)
- Computer software
- Knowledge and Process Management
- Imaging, Image Processing, Pattern Recognition, Computer Vision
- Information Technology/Informatics
- Special focus: Machine learning

Cooperations

Experience in following types of co-operative research:
- EU RTD Framework Programme 5
- EU RTD Framework Programme 6
- national co-operative research

International partner countries:
- USA
- United Kingdom
- Italy
- Germany
- France

4.3.41 University of Salzburg/Computer Science

Contact

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No. of researchers in this working group/unit: 6

Description

General Principle: Working in the interaction and interplay of Theory and Practice.
Brief Summary: Knowledge-based and Learning Systems. Mathematical methods and results applied to problem fields in Computer Science, Artificial Intelligence, Engineering, Industrial Areas.Development and application of computer simulations (incl. industrial applications). Knowledge Management, Knowledge Discovery, Information Retrieval, Decision Support Systems (DSS), applications to industrially relevant problems, e.g. DSS in eTourism. Multiagent Systems (MAS) and Robotics. Logical modeling (Logical Fiberings) of MAS. Mathematical modeling with Category Theory (CAT) as unifying mathematical modeling language. Applied and Computational Category Theory (ACCAT), CAT Semantics for computer science. Artificial Neural Networks (ANN), ANN structure modeling with CAT and geometry (homomorphic learning) leading to economic (cheaper) simulations. Soft Computing Methods: ANN, Fuzzy Techniques.

RTD Areas

- Automation, Robotics Control Systems
- Advanced systems architecture
- Artificial intelligence (AI)
- Knowledge and Process Management
- Information Technology/Informatics
- Applications for Tourism
- Industrial Applications
- MAS and Robotics modeling
- Soft computing: Theory and Application

Cooperations

Experience in following types of co-operative research:
- COST
- other international co-operative research

International partner countries:
- United Kingdom
- France
- Germany
- Chile
- Italy
- Czech Republic
- Poland

4.3.42 University of Salzburg/Department of Computer Science

Contact

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www.SoftwareResearch.net
No. of researchers in this working group/unit: 7

Description

The concrete implementation of systems and prototypes, with which concepts and methods are studied, is our foundation of research. The long-term goal is to contribute to something that might be called a handbook for software construction. Let us illustrate this by means of a classical engineering discipline. An engineer who constructs a bridge considers all the relevant parameters according to explicitly documented knowledge about bridge building. This narrows down the number of choices, but helps to ensure that the bridge won't collapse.

In an analogous way a software construction handbook should describe the relevant context and solutions for typical problems at hand. This includes all aspects of software construction, in particular
- software design and implementation
- software reuse and composition
- programming methodology.

A pragmatic research approach requires a focus on certain domain areas. Currently we have chosen socalled embedded (control).

RTD Areas

- Automation, Robotics Control Systems
- Embedded Systems and Real Time Systems
- Advanced systems architecture
- Special focus: Computer software
- Information Technology/Informatics
- Industrial Applications
- Middleware
- Software Quality

Cooperations

Experience in following types of co-operative research:
- international co-operative research

International partner country:
- USA

4.3.43 University of Salzburg/ICT&S Center

Contact

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icts.sbg.ac.at
No. of researchers in this working group/unit: 5

Description

The Center for Advanced Studies and Research in Information and Communication Technologies & Society (ICT&S) is established as independent interfaculty research and study center within the University of Salzburg. The central vision is to face the challenges of the interrelationship between technology and society and deliver interdisciplinary solutions for the fields of business, technology, science, and policy. The eTheory competence unit is concerned with the effects of the modern Information and Communication Technologies (ICTs) on society and the social factors, which affect the genesis of these technologies. In particular, it is the responsibility of the Internet and Society area of competence to analyse theories of the information society, social theories, theories of technology, and crossdisciplinary and philosophical theories, in so far as these theories are suited to substantiate the subject of ICT&S.

RTD Areas

- Knowledge and Process Management
- Computer Games, Simulation of social processes
- Cultural Heritage
- e-Learning
- Special focus: Internet Research
- Information Science
- Collective Intelligence Research

Cooperations

Experience in following types of co-operative research:
- EU RTD Framework Programme 4
- other international co-operative research

4.3.44 University of Vienna/Department of Distributed and Multimedia Systems

Contact

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No. of researchers in this department: 20

Description

The Institute of Distributed and Multimedia Systems is part of the Faculty of Computer Science (Fakultät für Informatik) of the University of Vienna, Austria, headquatered in the City of Vienna. The institute runs several research projects in the field of computer science funded by national, European, and international agencies and industry. The institute has established strategic partnerships with partners from academia and industry. The institute is home of two research groups:

- Distributed Systems, headed by Prof. Günter Haring, focuses on research issues in the field of distributed systems, in particular performance issues, streaming data over networks and mobile networking.
- Multimedia Information Systems, headed by Prof. Wolfgang Klas, focuses on research issues in the area of multimedia databases, multmedia environments, and digital memory engineering.

RTD Areas

- Databases, Database Management, Data Mining
- Electronic Commerce, Electronic Payment, Electronic Signature
- Knowledge and Process Management
- Information Technology/Informatics
- Internet Technologies
- Cultural Heritage
- e-Publishing, Digital Content
- e-Learning
- Information Filtering, Semantics, Statistics
- Audiovisual Equipment and Communication
- Mobile Communications
- Network Technology, Network Security
- Research Networking, GRID
- multimedia information systems
- distributed systems
- mobile computing

Cooperations

Experience in following types of co-operative research:

- EU RTD Framework Programme 4
- EU RTD Framework Programme 5
- EU RTD Framework Programme 6
- COST
- other international co-operative research
- national co-operative research

International partner countries:

- Germany
- France
- Italy
- Belgium
- Switzerland
- United Kingdom

4.3.45 University of Vienna/Department of Materials Physics

Contact

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No. of researchers in this working group/unit: 3

Description

The main research work of our group carried out at the institute focuses on the identification of defects in semiconductors. The influence of crystal defects and impurities in the semiconductor matrix on its electrical properties is investigated. One application of this work is the improvement of photovoltaic solar cells made from lower purity or multicrystalline silicon. Recently a novel front contact grid for multicrystalline solar cells was patented which reduces the influence of the defects at grain boundaries on the solar cell efficiency. Currently thin layers of fine polycrystalline silicon deposited at very low temperatures are investigated in order to develop a new type of thin film solar cell. Parts of the work are carried out in close collaboration with the Atomic Institute of the Austrian Universities and the Department of Geophysics at the University of Vienna.

RTD Areas

- Semiconductors

Cooperations

Experience in following types of co-operative research:
- EU RTD Framework Programme 4
- EUREKA
- national co-operative research

International partner countries:
- Germany
- United Kingdom
- Spain and Andorra
- France

4.3.46 University of Vienna/Department of Mathematics

Contact

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www.univie.ac.at/NuHAG/
No. of researchers in this working group/unit: 10

Description

NuHAG works in an aspiring field of research that may shortly be described as (general) wavelet theory which emerged from harmonic analysis. The overall field integrates harmonic analsysis, functional analysis, numerical mathematics, and applications in signal and image processing. The development of theoretical results, implementations of efficient algorithms, and the gain of new insights by means of numerical simulations are all considered as equally important in our work.
The current emphasis lies on time-frequency analysis and Gabor frames as well as all kind of sampling problems such as scattered data approximation. NuHAG nowadays is an international centre for Gabor analysis and organizes Gabor workshops regularly.

RTD Areas

- Imaging, Image Processing, Pattern Recognition, Computer Vision
- Applications for Health
- Industrial Applications
- Special focus: Signal Processing

Cooperations

Experience in following types of co-operative research:
- other international co-operative research
- national co-operative research

International partner countries:
- France
- USA
- Germany

4.3.47 University of Vienna/Institute for Knowledge and Business Engineering

Contact

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Description

The continuous development of Information and Communication Technology and dynamic change of global markets lead to fundamental changes in companies. The consequences are new tasks and challenges in the research and teaching area of the universities and a new education profile for students, like fundamental knowledge in computer science in addition to basic and specialised knowledge in business administration. Thus the aim and the task of the Institute of Knowledge and Business Engineering is to support interdisciplinary and economic applications of computer and information technologies, express them in research and teaching, and transform them efficiently into industrial applications.

Due to these main ideas the Institute of Knowledge and Business Egineering focuses in its teaching and research activities on the following fields: Business Process Management and Meta-Modelling, Knowledge Management and E-Learning.

RTD Areas

- Special focus: Knowledge and Process Management
- e-Learning

Cooperations

Experience in following types of co-operative research:
- EU RTD Framework Programme 4
- EU RTD Framework Programme 5
- other international co-operative research
- national co-operative research

4.3.48 Vienna University of Economics and Business Administration / Institute for Information Business

Contact

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No. of researchers in this department: 5

Description

The influence of information on the economy and on conducting business is continually increasing and has profound effects on all sectors of modern economy as well as all aspects of society. The department focuses its research efforts on novel results in context of timeless economic concepts concerning all stages of the information life cycle. The department is committed to high-quality research in the academic area, including mentoring selected students to become future researchers. Furthermore, partnerships with industry associations, companies and the public administration are strengthened to stay in touch with the rapid development of the field.

RTD Areas

- Artificial intelligence (AI)
- Data Protection, Cryptography, Data Security
- Databases, Database Management, Data Mining
- Knowledge and Process Management
- User Interfaces, Usability
- Information Technology/Informatics
- e-Government

Cooperations

Experience in following types of co-operative research:
- other international co-operative research
- national co-operative research

International partner countries:
- Spain and Andorra
- Germany
- United Kingdom

4.3.49 Vienna University of Economics and Business Administration/ Institute for Management Information Systems

Contact

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No. of researchers in this department: 10

Description

The Institute for Information Systems is part of the Department of Information Systems and Operations at the Vienna University of Economics and Business Administration. The main areas of teaching and research are Electronic Commerce, Business Strategies, Performance Measurement, Pricing on the Internet, Open Source Enterprise Resource Planning Software, Modeling of Information System, Open Source and End User Computing, Data Quality, Online Branding and Interorganizational Information Sharing and Networks. The faculty of the Institute for Information Systems has published in a broad variety of international conferences and scholarly journals.

RTD Areas

- Electronic Commerce, Electronic Payment, Electronic Signature
- Modeling of Information Systems
- Open Source and End User Computing

Cooperations

International partner countries:
- USA
- Germany

4.3.50 Vienna University of Technology/Geoinformation and Cartography

Contact

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No. of researchers in this working group/unit: 8 0

Description

The Department of Geoinformation is one of the leading institutions in theoretical aspects of geoinformation science worldwide. Research topics range from economic aspects and problems of data quality to the perception of space. The team consists of researchers with various backgrounds (geodesy, geography, planning, computer science).
The department has strong connections to the research community and the members regularly present their work on international conferences. Recent projects deal with revision of geographic data, webmap-services for tourism, and navigation of pedestrians.

RTD Areas

- Digital Systems, Digital representation
- Data Protection, Cryptography, Data Security
- Databases, Database Management, Data Mining
- Internet Technologies
- e-Government
- Special focus: GIS Geographical Information Systems
- Information Filtering, Semantics, Statistics

Cooperations

Experience in following types of co-operative research:
- EU RTD Framework Programme 4
- EU RTD Framework Programme 5
- COST
- other international co-operative research
- national co-operative research

International partner countries:
- Germany
- USA
- United Kingdom
- Greece
- France

4.3.51 Vienna University of Technology/Institute of Architectural Sciences

Contact

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No. of researchers in this working group/unit: 7

Description

Our mission is to contribute to the international efforts toward sustainable and habitable built environments, through teaching and research in:

- Building physics and technology
- Building ecology
- Human ecology
- Building informatics

Our strength lies in the empirical, computational, and theoretical study of the interactions between people, buildings, and environment.

RTD Areas

- Advanced systems architecture
- Artificial intelligence (AI)
- Knowledge and Process Management
- Imaging, Image Processing, Pattern Recognition, Computer Vision
- Information Technology/Informatics
- Environment Management Systems
- Special focus: Building informatics

Cooperations

Experience in following types of co-operative research:
- EU RTD Framework Programme 6
- national co-operative research

4.3.52 Vienna University of Technology/Institute of Computer Engineering

Contact

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No. of researchers in this working group/unit: 13

Description

The Institute of Computer Engineering's research and teaching activities focus on the area of Embedded Systems. Research is primarily dedicated to all aspects of time-triggered real-time systems as well as fault-tolerant distributed algorithms. The actual research topics range from modeling and analysis to SW/HW architectures and touch even the area of chip design. With respect to teaching, the Institute of Computer Engineering is mainly involved in the master and bachelor program in "Computer Engineering", which offer a profound scientific-technological education in the field of Embedded Systems.

RTD Areas

- Embedded Systems and Real Time Systems
- Electronic circuits, components and equipment / Electronic engineering
- Advanced systems architecture
- Computer hardware
- Computer software
- Data Interchange, Middleware
- Information Technology/Informatics
- Network Technology, Network Security
- Safety-Critical Computer Systems
- Special focus: Time-Triggered Technology
- Worst-Case Execution Time Analysis

Cooperations

Experience in following types of co-operative research:
- EU RTD Framework Programme 4
- EU RTD Framework Programme 5
- EU RTD Framework Programme 6
- national co-operative research

4.3.53 Vienna University of Technology/Institute of Information Systems

Contact

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Description

Our research is focused on technologies that enable the construction of advanced distributed applications and services. We are especially interested in dynamic distributed systems and (Web) services in active spaces. Such systems are composed from a heterogeneous set of already available and dynamically evolving set of components and services. Their execution structure is typically multi-tier. The components may be large such as databases, web servers and web browsers or small such as timers and sensors. We are currently concentrating on several areas of such dynamic systems and services: models and development methodologies; composition mechanisms; event-based communications; peer-to-peer communications; web-interface mechanisms; and security of transactions among clients and servers. We use the Internet as the primary infrastructure for our research.

RTD Areas

- Advanced systems architecture
- Computer software
- Data Interchange, Middleware
- Data Protection, Cryptography, Data Security
- Databases, Database Management, Data Mining
- Knowledge and Process Management
- Information Technology/Informatics
- Special focus: Internet Technologies
- Mobile Communications
- Research Networking, GRID
- Wireless Technologies

Cooperations

Experience in following types of co-operative research:
- EU RTD Framework Programme 4
- EU RTD Framework Programme 5
- EU RTD Framework Programme 6
- EUREKA
- other international co-operative research
- national co-operative research

4.4 Private research institutions - in alphabetical order

4.4.1 ARGE DATEN -Österreichische Gesellschaft für Datenschutz

Contact

Ms. Charlotte Schönherr
1160 Vienna
Austria
info@argedaten.at
www.argedaten.at

Description

The society registered in Austria is occupied with examining the interaction between the usage of computer science, information law and society. The society is a non profit making non governmental Organisation.

Aims of ARGE DATEN
The organization wants to achieve that information technology and telecommunication are used in a human way with social responsibility and under protection of privacy. Information is provided to achieve these aims. ARGE DATEN´s effort is to have a close cooperation with research institutions, universities, the industry and related authorities.

We belief that effective privacy rights are the best guarantee for meaningful and beneficial spread of information technologies. We are glad that passing the "Directive 95/46/EC of the European Parliament and of the Council of 24 October 1995 on the protection of individuals with regard to the processing of personal data and on the free movement of such data" has absolutely confirmed our point of view.

RTD Areas

- Special focus: Data Protection, Cryptography, Data Security
- Electronic Commerce, Electronic Payment, Electronic Signature

4.4.2 Austrian Institute of East and Southeast European Studies

Contact

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No. of researchers in this organisation: 15

Description

The institute was founded in 1958 and conducts as an extra-university scientific institution research, documentation and knowledge transfer about post-Communist Eastern Europe in the humanities and social sciences. Its core competencies rest in research in spatial disparities from the topical and historical point of view, in political-national, regional and other cultural identities as well as in neighbourhood and international relations also from the topical and historical point of view. Among the institute´s long-term and larger projects and publications is the Atlas of Eastern and Southeastern Europe, in parts also available on the internet (www.aos.ac.at). On behalf of the Austrian Ministry for Foreign Affairs it provides for the elaboration and updating of the Internet portal of the Danube Co-operation Process (www.danubecooperation.org). As regards service and knowledge transfer, AIESES offers a database of research on Eastern Europe.

RTD Areas

- Databases, Database Management, Data Mining
- Visualisation, virtual reality

Cooperations

Experience in following types of co-operative research:
- international co-operative research
- national co-operative research

International partner countries:
- Hungary
- Czech Republic
- Slovak Republic
- Poland
- Romania
- Russia
- Croatia
- Bulgaria

4.4.3 Austrian Research Institute for Artificial Intelligence

Contact

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Austria
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No. of researchers in this working group/unit: 7

Description

Language Technology (LT) has formed a major research area at the Austrian Research Institute for Artificial Intelligence (Österreichisches Forschungsinstitut für Artificial Intelligence, OFAI) since its foundation in 1984. We conduct research and development in modeling and processing human languages, and multimodal interaction. Our work includes:

(a) construction of linguistic resources (such as lexica, grammars, discourse models, and annotated text and speech corpora),
(b) rule- and statistics-based approaches to natural language and speech processing (such as morphological components, part-of-speech taggers, parsers, generators, speech synthesizers, discourse processing components, text mining and text classification algorithms),
(c) speech and application prototypes (such as natural language and multimodal interfaces, animated conversational character systems, advisory systems and concept-to-speech systems).

RTD Areas

- Artificial intelligence (AI)
- User Interfaces, Usability
- Cultural Heritage
- Special focus: Human Language Technologies
- Information Filtering, Semantics, Statistics

Cooperations

Experience in following types of co-operative research:

- EU RTD Framework Programme 4
- EU RTD Framework Programme 5
- EU RTD Framework Programme 6
- COST
- national co-operative research

4.4.4 Austrian Research Institute for Artificial Intelligence/Intelligent Agents and New Media

Contact

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No. of researchers in this department: 5

Description

Research focuses on the effective, flexible and adaptive coordination of autonomous intelligent systems. The aim is to realise the full potential of available competences in dynamically changing application scenarios, including collaboration with laypersons and expert human users; interfaces to natural environments (perception and actuation); and distributed information infrastructures (including the Semantic Web).
In all of these settings, situated coordination supersedes the traditonal notion of control, improving diachronic and semantic interoperability.
Core technologies and reference application scenarios include:
* Situated agents and multi-agent systems for conceptual design and engineering
* Perceptual technologies, e.g. cognitive vision
* Human computer interfaces and sustained interaction, with a focus on emotion-oriented systems
* Information systems in open domains
* Intelligent hypermedia
* Educational applications

RTD Areas

- Automation, Robotics Control Systems
- Embedded Systems and Real Time Systems
- Advanced systems architecture
- Special focus: Artificial intelligence (AI)
- Data Interchange, Middleware
- Knowledge and Process Management
- Imaging, Image Processing, Pattern Recognition, Computer Vision
- User Interfaces, Usability
- Computer Games, Simulation of social processes
- Applications for Health
- Applications for Transport and Logistics
- e-Learning
- Research Networking, GRID
- Emotion-oriented Systems, Affective Computing
- Human-Computer Interfaces, Human-Computer Interaction

Cooperations

Experience in following types of co-operative research:
- EU RTD Framework Programme 4
- EU RTD Framework Programme 5
- EU RTD Framework Programme 6
- other international co-operative research
- national co-operative research

International partner countries:
- France
- Germany
- Italy
- Portugal
- Switzerland
- Sweden
- United Kingdom
- USA

4.4.5 Centre for Social Innovation

Contact

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No. of researchers in this organisation: 29

Description

The CSI performs research, education, network co-ordination and policy advice to fill in the gaps between social needs and technological potentials in the knowledge based information society. Innovative socio-economic research and transdisciplinary solutions contribute to technological development and social coherence. Social innovation is defined as invention, adjustment or application of new societal concepts applicable to decision making and development processes in public administration, political bodies, legislation, private enterprises, organisations of the social partners and of the civil society.
The CSI aims to
- support a socially, ecologically and economically sustainable development of the information society;
- facilitate the social, cultural and economic integration in Europe by scientific research and practical impact;
- improve infrastructures, efficacy, professionalism and internationalisation of the social sciences and humanities in the European Research Area.

RTD Areas

- e-Government
- e-Learning
- labour market, employment
- vocational training
- equal opportunities, migration
- social studies of technology

Cooperations

Experience in following types of co-operative research:
- EU RTD Framework Programme 4
- EU RTD Framework Programme 5
- EU RTD Framework Programme 6
- COST
- other international co-operative research
- national co-operative research

International partner countries:
- Belgium
- Bulgaria
- Czech Republic
- Germany
- Hungary
- Slovenia
- Sweden
- United Kingdom

4.4.6 CURE – center for usability research & engineering

Contact

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1110 Vienna
Austria
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F: +43-1-7435451-30
zindler@cure.at
www.cure.at
No. of researchers in this organisation: 8

Description

CURE is one of Europe´s leading organizations in the area of Usability Engineering, Human-Computer Interaction (HCI), User Interface Design, User Centred Design und Next Generation Interfaces. CURE has been working on the development and application of user centred design methodologies, innovative user interfaces and natural interaction environments for several years. Active in several application domains, CURE has gained outstanding experience in complex application domains. Over the years, CURE has been involved and led more than 150 projects with 120 partners form 15 countries. The projects covered approximately 20 different application fields. Research topics are focused on the advanced interaction modalities, learner centred design, multimedia, mobile systems, advanced web environments and multi channel platforms. In particular all aspects dealing with mobile HCI issues are one of CURE´s major strengths. CURE's laboratories are fully equipped with advanced research facilities.

RTD Areas

- Special focus: User Interfaces, Usability

Cooperations

Experience in following types of co-operative research:
- EU RTD Framework Programme 4
- EU RTD Framework Programme 5
- EU RTD Framework Programme 6
- EUREKA
- other international co-operative research
- national co-operative research

International partner countries:
- France
- United Kingdom
- Italy
- Belgium
- Sweden
- Germany
- Denmark

4.4.7 ftw. Forschungszentrum Telekommunikation Wien Betriebs-GmbH

Contact

DI Dr. Markus Kommenda, Managing Director
1220 Vienna, Austria
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kommenda@ftw.at, www.ftw.at
No. of researchers in this organisation: 59

Description

Telecommunications Research Center Vienna (ftw.) is the joint research center of leading players in telecom business and science in Austria. 59 researchers from all over the world conduct research into telecommunication's fundamentals and technologies for tomorrow. Each project is defined through dialog between academia and industry and selected on the grounds of its industrial relevance. The projects facilitate the transfer of scientific results to innovative applications of telecommunication technologies through direct collaboration between ftw.´s researchers and specialists from its partner companies. The core research areas are:
Signal Processing, Coding and Information Processing, Packet Networking, Creation of Services and Platforms, Economic and User Aspects, Security.

RTD Areas

- Embedded Systems and Real Time Systems
- Digital Systems, Digital representation
- High frequency technology, microwaves
- Data Protection, Cryptography, Data Security
- Electronic Commerce, Electronic Payment, Electronic Signature
- User Interfaces, Usability
- Information Technology/Informatics
- Internet Technologies
- Applications for Tourism
- GIS Geographical Information Systems
- ASP Application Service Provision
- Cultural Heritage
- e-Publishing, Digital Content
- Human Language Technologies
- Information Filtering, Semantics, Statistics
- Audiovisual Equipment and Communication
- Broadband Technologies
- Mobile Communications
- Special focus: Narrow Band Technologies
- Network Technology, Network Security
- Satellite Technology/Systems/Positioning/Communication/GPS
- Signal Processing
- Wireless Technologies

Cooperations

Experience in following types of co-operative research:

- EU RTD Framework Programme 5
- EU RTD Framework Programme 6
- COST
- EUREKA
- other international co-operative research
- national co-operative research

International partner countries:

- France
- Italy
- Sweden
- Germany
- USA
- Spain and Andorra

4.4.8 JOANNEUM RESEARCH Forschungsgesellschaft mbH/ Institute of Information Systems & Information Management

Contact

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No. of researchers in this department: 35

Description

JOANNEUM RESEARCH is a non-profit technology centre, concentrating on applied R&D with a highly qualified staff of nearly 400 people. The centre implements its know-how in all sectors of technology transfer and innovation. Its services include specifically geared development tasks for SMEs, complex interdisciplinary national and international research assignments as well as tailored techno-economic consulting. The Institute of Information Systems & Information Management is the central part of the information technology division. It focuses on the combination of classical information systems with Semantic Web and geographic information with digital media technologies, thus developing leading-edge applications at an international level within its two research areas of Web information systems and digital media. Its application areas range from eCulture, digital film restoration, media monitoring, digital archives, crisis management, transport and mobility, public safety, and eHealth.

RTD Areas

- Advanced systems architecture
- Archivistics/Documentation/Technical documentation
- Computer software
- Computer Technology/Graphics, meta computing
- Data Interchange, Middleware
- Databases, Database Management, Data Mining
- Knowledge and Process Management
- Imaging, Image Processing, Pattern Recognition, Computer Vision
- User Interfaces, Usability
- Information Technology/Informatics
- Internet Technologies
- Applications for Health
- e-Government
- Applications for Tourism
- Applications for Transport and Logistics
- Environment Management Systems
- GIS Geographical Information Systems
- Cultural Heritage
- e-Publishing, Digital Content
- e-Learning
- Information Filtering, Semantics, Statistics

Cooperations

Experience in following types of co-operative research:

- EU RTD Framework Programme 4
- EU RTD Framework Programme 5
- EU RTD Framework Programme 6
- EUREKA
- other international co-operative research
- national co-operative research

International partner countries:

- United Kingdom
- Germany
- France
- Italy
- Spain and Andorra
- Netherlands
- Greece
- Belgium

4.4.9 MEDIACULT

Contact

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www.mediacult.at
No. of researchers in this organisation: 2

Description

International Research Institute for Media, Communication and Cultural Development

research area:
- new communication technologies in the arts
- global music market - music in Austria
- society, policy and cultural development

RTD Areas

- Cultural Heritage
- e-Publishing, Digital Content
- Information Filtering, Semantics, Statistics
- sociology of culture
- sociology of music
- sociology of new media
- cultural policy

Cooperations

Experience in following types of co-operative research:
- international co-operative research
- national co-operative research

International partner countries:
- Germany
- Finland
- Portugal
- Italy

4.4.10 MERIG [Multidisciplinary European Research Institute Graz]

Contact

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www.merig.org
No. of researchers in this organisation: 11

Description

The Multidisciplinary European Research Institute Graz [MERIG], founded in 2003, aims at linking researchers and institutions from diverse research areas in order to pursue and support common research, development and intermediation activities specific to the European Union. The Institute is a non-profit organisation, researchers from different scientific disciplines share their expertise which will serve as a scientific base for the Institute´s activities. The Institute utilises the individual experiences of the members both in specific research areas and project management. The core fields of expertise deal with social, cultural, political ecological and economic issues, the main focus could therefore be described as follows: Cultural, economic and social issues dealing with the enlargement of the EU; Employment policies; General and vocational training, especially the use of ICT in the learning process; Management of national and international projects; Evaluations and assessments.

RTD Areas

- Information Technology/Informatics
- e-Government
- e-Publishing, Digital Content
- e-Learning

Cooperations

Experience in following types of co-operative research:
- EU RTD Framework Programme 5
- other international co-operative research
- national co-operative research

4.4.11 OIAT

Contact

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www.oiat.at
No. of researchers in this organisation: 5

Description

The Mission of the OIAT is to help companies, consumers and government organisations using information and communication technologies more effectively.
The OIAT is an independent non-profit organisation founded in 1993 and currently cooperates with about 100 national and international companies, non-profit organisations and government institutions in various projects and programmes.
OIAT is a member of Austrian Cooperative Research (ACR), the European Internet Co-regulation Network (EICN) and the Euro-Label Network.

Projects and initiatives
Research and development
Knowledge transfer, education

RTD Areas

- Data Protection, Cryptography, Data Security
- Electronic Commerce, Electronic Payment, Electronic Signature
- User Interfaces, Usability
- Internet Technologies
- Computer Games, Simulation of social processes
- e-Learning
- Mobile Communications

Cooperations

Experience in following types of co-operative research:
- EU RTD Framework Programme 5
- other international co-operative research
- national co-operative research

International partner countries:
- Germany
- Hungary

4.4.12 Profactor Produktionsforschungs GmbH/Mechatronics, Smart & Adaptive Structures

Contact

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markus.gusenbauer@profactor.at, www.profactor.at
No. of researchers in this organisatio: 65

Description

PROFACTOR GmbH is an Austrian research company located in Steyr and is focused on developing new methods for integrated production technologies. Profactor is the executive organization of the VPTÖ, an association for production in Austria led by the CEOs of leading companies. Approx. 150 companies are partnering with Profactor. Business value for the partners and know-how is generated in international, national and projects of the EC.
More than 65 scientists of various disciplines research to improve the competitiveness of the production industry and to strengthen the region. Profactor has a broad spectrum of competencies in the field of Energy & Environmental Technology, Intelligent Automation Systems, Manufacturing, Robotics, Image processing, Nanometrology, Simulation Based Design & Optimization as well as Smart & Adaptive Structures.

RTD Areas

- Automation, Robotics Control Systems
- Embedded Systems and Real Time Systems
- Microengineering, micromachining
- Nanotechnologies
- Artificial intelligence (AI)
- Data Interchange, Middleware
- Knowledge and Process Management
- Imaging, Image Processing, Pattern Recognition, Computer Vision
- Information Technology/Informatics
- Industrial Applications
- Signal Processing
- Mechatronics
- Smart Structures
- Adaptronics
- Distributed control systems

Cooperations

Experience in following types of co-operative research:
- EU RTD Framework Programme 4
- EU RTD Framework Programme 5
- EU RTD Framework Programme 6
- EUREKA
- other international co-operative research
- national co-operative research

International partner countries:
- Germany
- Italy
- Greece
- Spain and Andorra
- Czech Republic
- France

4.4.13 SCL SensorTech

Contact

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ernest.fantner@gmx.net
No. of researchers in this organisation: 3

RTD Areas

- Electronic circuits, components and equipment / Electronic engineering
- Microengineering, micromachining
- Special focus: Nanotechnologies

Cooperations

Experience in following types of co-operative research:
- EU RTD Framework Programme 6
- EUREKA
- national co-operative research

International partner countries:
- Germany
- Netherlands
- USA

4.4.14 Software Competence Center Hagenberg GmbH (SCCH)

Contact

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ulrich.bodenhofer@scch.at, www.scch.at/
No. of researchers in this organisation: 45

Description

Vision
We bring your visions and ideas into life with software! We create solutions for our partners and customers on the basis of our application-oriented research excellence and integral implementation competence.

Mission
We support our partners and customers with our expertise and R&D services from the initial idea to its final implementation. This integral cooperation model allows a seamless transfer of scientific results and newest technologies into high-quality solutions for industry.
We create tomorrow´s competitive advantages for our partners and customers and enable both and us to open future markets and to strengthen the position in existing markets.
We are an active node in the Upper Austrian research and technology network. We are bundling competences for industry and contribute to the active exchange of knowledge and experiences between R&D institutions. We are a gateway between science and industry.

RTD Areas

- Embedded Systems and Real Time Systems
- Advanced systems architecture
- Special focus: Computer software
- Data Interchange, Middleware
- Data Protection, Cryptography, Data Security
- Databases, Database Management, Data Mining
- Electronic Commerce, Electronic Payment, Electronic Signature
- Imaging, Image Processing, Pattern Recognition, Computer Vision
- Internet Technologies
- e-Government
- ASP Application Service Provision
- Industrial Applications
- Wireless Technologies

Cooperations

Experience in following types of co-operative research:

- EU RTD Framework Programme 5
- COST
- national co-operative research

International partner countries:

- Germany
- Switzerland

4.4.15 Tourismus Research Center Krems GesmbH

Contact

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www.kremsresearch.at
No. of researchers in this organisation: 7

Description

Tourismus Research Center Krems GesmbH (TRC) is a research center mainly focused towards eTourism. It is part of the competence network ANET. Main research themes are:
a) CRM in tourism
b) Personalised hotel room and hotel
c) Language technology in tourism
d) Indicators for measuring online activities of touristic stakeholders
e) eLearning in tourism

RTD Areas

- Information Technology/Informatics
- Internet Technologies
- Applications for Tourism
- Human Language Technologies
- e-Learning
- Special focus: eTourism

Cooperations

Experience in following types of co-operative research:
- national co-operative research

4.4.16 Verein für Neues Lehren und Lernen/Institute for Future Studies

Contact

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www.futurestudies.org

Description

Profile: The IFS is a young non-profit institution of applied research, which focuses on selected topics of the future of education and work. It has been founded by the Association for Flexible Learning in Innsbruck (Austria).
Main interests are in the research and public discussion of questions concerning future use of information and communication technologies (ICT), especially in professional world and education. A strong focus is put on ICT support for the combination of different learning contexts (formal, non-formal and informal learning). A major goal is the promotion of life-long learning among the population and local, regional, national and European/international policy makers.
The Institute investigates actual trends, analyses possibilities and risks in society and examines consequences on professional and private life.
Besides research the Institute is engaged in the development and evaluation of new teaching and learning systems as well as consultation.

RTD Areas

- Knowledge and Process Management
- Information Technology/Informatics
- Internet Technologies
- Computer Games, Simulation of social processes
- Cultural Heritage
- e-Publishing, Digital Content
- Special focus: e-Learning
- Information Filtering, Semantics, Statistics
- Visualisation, virtual reality
- Evaluation
- Computer Supported Collaborative Learning and social network
- Information Science

Cooperations

International partner countries:
- Greece
- Spain and Andorra
- Germany

4.5 Public body - in alphabetical order

4.5.1 ARC Seibersdorf research GmbH / Biomedical Engineering

Contact

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No. of researchers in this department: 20

Description

The eHealths systems group is part of the biomedical engineering division of the ARC Seibersdorf research GmbH which - in turn - is part of the Austrian Research Centers (ARC), the largest centre for applied research in Austria.
The research team is located in Graz, Hall in Tirol and Wr. Neustadt and focuses on biomedical engineering and eHealth related R&D issues, in particular:
a) biosignal processing (ECG algorithm development)
b) telemedicine (home, health & telemonitoring)
c) web-based IT platforms for Biomedical Research (clinical trials, patient registries, bioinformatics)

A team of engineers and scientists develops solutions for current challenges in these fields in close cooperation with physicians from various specialties and scientists from partner institutions on an international level.

RTD Areas

- Databases, Database Management, Data Mining
- Knowledge and Process Management
- Imaging, Image Processing, Pattern Recognition, Computer Vision
- User Interfaces, Usability
- Information Technology/Informatics
- Internet Technologies
- Bioinformatics
- Special focus: Applications for Health
- ASP Application Service Provision
- Mobile Communications
- Wireless Technologies
- Medical Informatics
- eHealth
- Near field communication (NFC)

Cooperations

Experience in following types of co-operative research:

- EU RTD Framework Programme 5
- national co-operative research

4.5.2 ARC Seibersdorf research GmbH / Information Technologies

Contact

MSc Peter Hössl,
Business Development
1220 Vienna
Austria
T: +43-050 55 0 3132
peter.hoessl@arcs.ac.at
www.smart-systems.at
No. of researchers in this department: 130

Description

ARC Seibersdorf research GbmH / Information Technologies is doing research, design, development, test, implementation and marketing of technologically leading, IT-based smart systems in selected market segments in cooperation with industrial partners.

FROM SCIENCE TO SOLUTIONS
Staff of 200 (135 employees) at the locations Tech Gate Vienna and Seibersdorf create innovative, practical IT-solutions.
Industrial contracts over 41 M € since the Division was founded in the year 2000.

Product Lines:
Optical Inspection
Digital Video Surveillance
Electromagnetic Compatibitity,
Mobile Communications Safety
Software Systems and
Information Management

RTD Areas

- Automation, Robotics Control Systems
- Embedded Systems and Real Time Systems
- Electronic circuits, components and equipment / Electronic engineering
- High frequency technology, microwaves
- Printed circuits and integrated circuits
- Quantum informatics
- Optical networks and systems
- Advanced systems architecture
- Artificial intelligence (AI)
- Computer software
- Data Protection, Cryptography, Data Security
- Databases, Database Management, Data Mining
- Knowledge and Process Management
- Imaging, Image Processing, Pattern Recognition, Computer Vision
- Information Technology/Informatics
- Applications for Health
- e-Government
- Applications for Transport and Logistics
- Environment Management Systems
- Industrial Applications

4.5.3 Ars Electronica Futurelab

Contact

DI MAS Christopher Lindinger, Leitung Forschung
4040 Linz, Austria
T: +43-664-8126243, F: +43-732-7272-680
christopher@fl.aec.at, futurelab.aec.at
No. of researchers in this organisation: 45

Description

Strongly committed to an interdisciplinary approach, the Ars Electronica Futurelab carries out R&D projects that call for state-of-the-art design and highly innovative thinking.
Since its very inception, Ars Electronica's focus has been on the tension and interplay at the nexus of art, technology and society. Formulating and implementing the future manifestations of this interaction is the chosen mission of the Ars Electronica Futurelab.
As part of an international network of collaborating institutional associates, the Futurelab carries out its projects together with artists and scientists from all over the world. Here, the Research and Residence Program plays an important role since it makes an essential contribution to the Futurelab's interdisciplinarity.
The latest results of artistic and technical research being done at the Futurelab as well as works by invited guests are presented each year at the Pixelspaces Symposium and Exhibition held during the Ars Electronica Festival.

RTD Areas

- Artificial intelligence (AI)
- Computer software
- Computer Technology/Graphics, meta computing
- Imaging, Image Processing, Pattern Recognition, Computer Vision
- User Interfaces, Usability
- Information Technology/Informatics
- Internet Technologies
- Computer Games, Simulation of social processes
- Applications for Health
- Applications for Tourism
- GIS Geographical Information Systems
- Industrial Applications
- Cultural Heritage
- e-Publishing, Digital Content
- Human Language Technologies
- e-Learning
- Information Filtering, Semantics, Statistics
- Visualisation, virtual reality

Cooperations

Experience in following types of co-operative research:
- EU RTD Framework Programme 5
- EU RTD Framework Programme 6
- other international co-operative research
- national co-operative research

4.5.4 arsenal research

Contact

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1210 Vienna, Austria
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doris.froehlich@arsenal.ac.at, www.arsenal.ac.at
No. of researchers in this organisation: 175

Description

Efficient transport and sustainable energy systems are the cornerstones of modern society. arsenal research is an application-oriented research and development company offering a wide range of services in the fields of mobility and energy. Our market and customer focused research increases the innovative capacity of our partners in business, science and public administration and enhances their competitive strength.

RTD Areas

- Embedded Systems and Real Time Systems
- Digital Systems, Digital representation
- Electronic circuits, components and equipment / Electronic engineering
- Smart cards and access systems
- Semiconductors
- Artificial intelligence (AI)
- Computer software
- Computer Technology/Graphics, meta computing
- Imaging, Image Processing, Pattern Recognition, Computer Vision
- Information Technology/Informatics
- Applications for Tourism
- Special focus: Applications for Transport and Logistics
- GIS Geographical Information Systems
- Industrial Applications
- Visualisation, virtual reality
- Mobile Communications
- Satellite Technology/Systems/Positioning/Communication/GPS
- Research Networking, GRID

Cooperations

Experience in following types of co-operative research:

- EU RTD Framework Programme 4
- EU RTD Framework Programme 5
- EU RTD Framework Programme 6
- other international co-operative research
- national co-operative research

International partner countries:

- Sweden
- Germany
- Hungary
- Netherlands
- Italy
- France
- Belgium
- USA

4.5.5 Austrian Academy of Sciences/Institute of Biophysics and X-Ray Structure Research

Contact

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T: +43-316 4120 302, F: +43-316 4120 390
peter.laggner@oeaw.ac.at, www.ibr.oeaw.ac.at
No. of researchers in this department: 23

Description

The Institute of Biophysics and X-Ray Structure Research (IBR) pursues basic and applied research programmes in bionanosciences and -technology, and in cutting-edge X-ray methods for nanostructure analytics. It is organized in research groups with thematic focussing on proteomics, lipidomics, complex materials of biomedical and pharmaceutical relevance, and X-ray instrumentation. The IBR operates an international infrastructure user-facility, the Austrian SAXS beamline at the synchrotron radiation source ELETTRA, Trieste. Scientific staff covers expertise in physics, chemistry, biology, and engineering. IBR is actively involved in EC- and national research programmes with a focus on knowledge sharing with industrial research and technology.

RTD Areas

- Automation, Robotics Control Systems
- Special focus: Nanotechnologies
- Computer software
- Bioinformatics
- Applications for Health
- Industrial Applications
- Research Networking, GRID

Cooperations

Experience in following types of co-operative research:
- EU RTD Framework Programme 4
- EU RTD Framework Programme 5
- EU RTD Framework Programme 6
- COST
- national co-operative research

International partner countries:
- Italy
- Germany
- United Kingdom
- USA
- Poland
- Russia
- Czech Republic
- France

4.5.6 Austrian Academy of Sciences/Institute of Technology Assessment

Contact

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wpeissl@oeaw.ac.at
www.oeaw.ac.at/ita/
No. of researchers in this department: 13

Description

The Institute of Technology Assessment (ITA) performs inter-disciplinary scientific research at the interface of technology and society. Its work focuses on development trends, on societal consequences and on options for shaping technological change. The research results provide the basis for giving advice to decision-makers.
Technology assessment aims to develop insights into the societal consequences of new technologies in order to be able to shape the structural conditions for technological change; societal benefit from technological progress should be maximised while avoiding negative impacts.
ITA investigates the applications of new technologies in their societal context. The analysis of technological and social conditions, of risks and opportunities provides the basis for developing technological and organisational design alternatives and regulatory options.
Please visit our homepage http://www.oeaw.ac.at/ita/ for more information on our research projects and publications.

RTD Areas

- Data Protection, Cryptography, Data Security
- Electronic Commerce, Electronic Payment, Electronic Signature
- Applications for Health
- e-Government
- e-Publishing, Digital Content
- Technology Assessment

Cooperations

Experience in following types of co-operative research:
- EU RTD Framework Programme 4
- EU RTD Framework Programme 5
- EU RTD Framework Programme 6
- COST
- other international co-operative research
- national co-operative research

4.5.7 Austrian National Tourist Office/Research & Development

www.austria.info

Contact

Dr. Markus Gratzer
Head of R&D
Research & Development
1040 Vienna
Austria
T: +43-1-58866381
markus.gratzer@austria.info
www.austria.info
No. of researchers in this organisation: 8

Description

The Austrian National Tourist Office is an impetus-giving and innovative player in the network of the Austrian tourism and leisure-time industry. In its new structure, ANTO efficiently fulfils its public service. Through the sale of customised marketing services ANTO grows through its own strength. As worldwide network the Austrian National Tourist Office collects information on markets, analyses the data and sets corresponding product impetus. ANTO gives Austria a clear and recognisable tourism image and offers the tourism businesses in Austria market-oriented services. Top priority will always be the service and customer-orientation of Austrian tourism.

RTD Areas

- Information Technology/Informatics
- Internet Technologies
- Special focus: Applications for Tourism
- Cultural Heritage

4.5.8 INITS Universitäres Gründerservice GmbH (academic Incubator)/ Information and Telecommunication Technologies

Contact

DI Andreas Gschöpf, Coach for Start-ups
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1030 Vienna, Austria
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andreas.gschoepf@inits.at, www.inits.at
No. of researchers in this department: 2

Description

INiTS is part of the Academia Business Spin-off program and was established as an AplusB centre. The AplusB program is an initiative of the Ministry for Transport, Innovation and Technology and is managed by the Technology Impulse company. The AplusB program starts its support in the initial stage of the company formation and therefore closes a gap in the financing within the Austrian start-up scene. In the course of a nation-wide advertisement, 5 AplusB centres, which act on different regional and textual levels, were established.

Our major competencies are in the field of:
- awareness/stimulation
- training/further training
- consulting
- supervision & coaching
- networking (Universities, competence centres, technology transfer institutions , BIT, IRC, Kplus)
- infrastructure (frequencies)
- financing

RTD Areas

- Automation, Robotics Control Systems
- Embedded Systems and Real Time Systems
- Computer software
- Computer Technology/Graphics, meta computing
- Data Protection, Cryptography, Data Security
- Databases, Database Management, Data Mining
- Electronic Commerce, Electronic Payment, Electronic Signature
- Imaging, Image Processing, Pattern Recognition, Computer Vision
- Information Technology/Informatics
- Internet Technologies
- Computer Games, Simulation of social processes
- Applications for Health
- Applications for Tourism
- Applications for Transport and Logistics
- GIS Geographical Information Systems
- ASP Application Service Provision
- Industrial Applications
- Human Language Technologies
- Information Filtering, Semantics, Statistics
- Broadband Technologies
- Mobile Communications
- Network Technology, Network Security
- Wireless Technologies

4.5.9 Oberösterreichische Gesundheits- und Spitals AG/Gesundheitsinformatik

Contact

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www.gesundheitsinformatik.at

Description

The "Gesundheits- und Spitals AG" (Health and Hospital Ltd.) is the public holding of the 13 federal hospitals and 10 health schools of Upper Austria. It is one the largest health service bodies in Austria with 8,500 employees (more than 1,000 of them MDs), serving about 170,000 stationary and 1.170,000 ambulant patients per year. Gespag has a turnover of 500 million Euros and an investment volume of € 120 million per year. Though owned by the federal state represented by the Federal Chancellor, the function of the gespag is to run the public hospitals in a market-oriented way. Special emphasis was put on a streamlined organisational structure and the use of latest information and communication technologies for reaching the highest goals in respect of efficiency and quality.

RTD Areas

- Archivistics/Documentation/Technical documentation
- Computer software
- Data Interchange, Middleware
- Data Protection, Cryptography, Data Security
- Databases, Database Management, Data Mining
- Electronic Commerce, Electronic Payment, Electronic Signature
- Knowledge and Process Management
- User Interfaces, Usability
- Information Technology/Informatics
- Internet Technologies
- Special focus: Applications for Health

Cooperations

Experience in following types of co-operative research:

- EU RTD Framework Programme 6
- national co-operative research

International partner countries:

- Germany
- Italy
- Spain and Andorra

4.5.10 Technisches Museum Wien mit Österreichischer Mediathek/ Österreichische Mediathek

Contact

HR Dr. Rainer HUBERT
Head of Departement
Österreichische Mediathek
1060 Vienna
Austria
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rainer.hubert@mediathek.at
www.mediathek.at
No. of researchers in this department: 7

Description

The Österreichische Mediathek is the Austrian national archive for sound and video; it holds more than a million sound recordings and approx. 25,000 video recordings; music, literature, science, politics, everyday life; open to public (Gumpendorferstraße 95, 1060 Vienna, Tel.: +431 5973669 0; mo wed thu 10-18, tue 10-20, fri 9-15); Mediathek has been digitising its holdings since 2000 (digital long-term-preservation and distribution system); parts of the digitised holdings and a complete online-catalogue are available on the website www.mediathek.at; founded in 1960 (Österr. Phonothek), since 2001 departement of Technisches Museum Wien.

RTD Areas

- Digital Systems, Digital representation
- Archivistics/Documentation/Technical documentation
- Special focus: Cultural Heritage
- Audiovisual Equipment and Communication

Cooperations

Experience in following types of co-operative research:
- EU RTD Framework Programme 6

4.6 Others - in alphabetical order

4.6.1 ARC Seibersdorf research GmbH/Nano-System-Technologies

Contact

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nanosys@arcs.ac.at, www.nanosystemtechnology.com
No. of researchers in this department: 18

Description

The division 'Nano-System-Technologies' was founded in 2004. Its research is motivated by the development of functional electronic, optical and magnetic sensors and nanodevices for applications in medical diagnostics, environmental and ambient monitoring, and memory products. €Nano-System-Technologies combines routine processes of semiconductor and thin film technology with innovative ideas from nanoscience and molecular biology. It therefore comes forward as an interdisciplinary technology partner for SMEs and big industry.

Activities:
-Nano-structured metals and alloys
-Nano-particulate coatings
-Nano-electronics, materials and devices
-Optical materials and devices
-Magnetic materials and devices
-Diagnostics, molecular recognition
-Nano structured sensors
-Self-assembly
-Analytical equipment and techniques
-Deposition equipment and techniques
-Patterning equipment and techniques

RTD Areas

- Magnetic and superconductory materials/devices
- Microengineering, micromachining
- Semiconductors
- Nanotechnologies
- Optical networks and systems
- Nano-biotechnology
- Nanotechnology for sensor applications
- Semiconductor technology
- Thin films

Cooperations

Experience in following types of co-operative research:
- EU RTD Framework Programme 6
- national co-operative research

International partner countries:
- Germany
- Belgium

4.6.2 A-SIT, Secure Information Technology Center - Austria

Contact

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Austria
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www.a-sit.at
No. of researchers in this organisation: 10

Description

A-SIT is a public-funded non-profit association. A-SIT was founded in May 1999 by its charter members the Austrian Federal Ministry of Finance, the Austrian National Bank, and the Graz University of Technology.
The purpose of the association is to act as an independent organization to turn to with IT security issues, to coordinate IT security projects, or to act as an independent advisory body. The objective is also to provide comprehensive support of the legislator, public authorities, and the Austrian social partners.
A-SIT is a confirmation body under the Austrian Signature Law and notified as designated body under the European Signature Directive.
A-SIT has collected significant experience in the area IT security research. Specific topics of expertise include eGovernment, electronic signatures and PKI, cryptography, biometrics, side-channel analysis, or identity management.

RTD Areas

- Smart cards and access systems
- Data Protection, Cryptography, Data Security
- Electronic Commerce, Electronic Payment, Electronic Signature
- e-Government
- Network Technology, Network Security

Cooperations

Experience in following types of co-operative research:
- EU RTD Framework Programme 5
- EU RTD Framework Programme 6
- other international co-operative research
- national co-operative research

4.6.3 DANUBE - European Training, Research & Technology Innovation

Contact

MBA Bruno Woeran
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No. of researchers in this organisation: 3

Description

DANUBE is the regional transfer organisation for European training, research and innovation technology programmes in Lower Austria, Vienna and Burgenland. Its activities involve SME support for project generation, partner search as well as participation in projects on regional development, training material, networking, innovation management, dissemination and valorisation strategies.
DANUBE is third party member of the IRCA - INNOVATION Relay Centre Austria, part of the European wide Relay Centre Network as well as www.tii.org the transeuropean innovation information network.
DANUBE is partner in the Austrian LEONARDO activities network and a founding member of www.Leo-Net.org - the Leonardo Network for Academic Mobility for training and vocational education programmes in Europe. For the past 15 years DANUBE has realised practical training opportunities for Austrian universtity students and recent graduates from Burgenland, Lower Austria and Vienna in companies throughout Europe.

RTD Areas

- Advanced systems architecture
- Archivistics/Documentation/Technical documentation
- Databases, Database Management, Data Mining
- Electronic Commerce, Electronic Payment, Electronic Signature
- Special focus: Knowledge and Process Management
- Applications for Tourism
- e-Learning
- Innovation Management
- Training Programmes and Material

Cooperations

Experience in following types of co-operative research:

- EU RTD Framework Programme 4
- EU RTD Framework Programme 5
- EU RTD Framework Programme 6
- EUREKA
- other international co-operative research
- national co-operative research

International partner countries:

- Ireland
- Spain and Andorra
- Hungary
- Greece
- Italy
- Germany

4.6.4 ECOresearch Network

Contact

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No. of researchers in this organisation: 250

Description

The ECOresearch network brings together scientists of different disciplines to explore the design, implementation, management, funding, promotion and evaluation of networked information systems that advocate sustainability and the protection of natural ecosystems. The network supports the research activities of its members, identifies synergies, coordinates projects, and helps with resource acquisition.

RTD Areas

- Computer Technology/Graphics, meta computing
- Databases, Database Management, Data Mining
- Knowledge and Process Management
- User Interfaces, Usability
- Information Technology/Informatics
- Internet Technologies
- Computer Games, Simulation of social processes
- Applications for Health
- e-Government
- Special focus: Environment Management Systems
- GIS Geographical Information Systems
- e-Publishing, Digital Content
- Human Language Technologies
- Information Filtering, Semantics, Statistics
- Visualisation, virtual reality
- Mobile Communications

Cooperations

Experience in following types of co-operative research:
- international co-operative research

International partner countries:
- Australia
- Germany

4.6.5 Federal Computing Centre Austria/E-Government

Contact

Mag. MAS Carl-Markus Piswanger
Organizer
Department: E-Government
1030 Vienna
Austria
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www.brz.gv.at
Form of organisation: Large enterprise, 100% public

Description

The Federal Computing Centre Austria is the second largest Computing Centre in Austria. Within the Structure you can find the Department "E-Government" with a strength on Portal-Technologies (Portal Austria), Workflow-Systems (ELAK im Bund), Online-Services and E-Democracy.

RTD Areas

- Advanced systems architecture
- Computer software
- Data Interchange, Middleware
- Data Protection, Cryptography, Data Security
- Databases, Database Management, Data Mining
- Electronic Commerce, Electronic Payment, Electronic Signature
- Knowledge and Process Management
- Information Technology/Informatics
- Internet Technologies
- Special focus: e-Government
- E-Democracy

Cooperations

Experience in following types of co-operative research:
- international co-operative research

4.6.6 Know-Center

Contact

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hrollett@know-center.at, www.know-center.at/
Form of organisation: Semi-public research institution (Kplus center)
No. of researchers in this organisation: 29

Description

The Know-Center is Austria's competence centre for knowledge management.

We strive to be the leading organisation in knowledge management in Austria, and to be among the leading application-oriented research institutions in knowledge management in Europe.

With an interdisciplinary team of computer scientists, business economists, and psychologists, our core competences cover information technology as an enabler of knowledge management and organisational aspects of knowledge management. We are also engaged in regional knowledge and technology transfer.

As a connecting link between science and industry, we conduct application-oriented research in cooperation with other academic institutions and with companies. We enjoy particularly close ties to the Faculty of Computer Science at Graz University of Technology and to more than 20 further partners in industry, government, and science.

The Know-Center is part of the Austrian Kplus competence centres programme.

RTD Areas

- Computer software
- Special focus: Knowledge and Process Management
- Information Technology/Informatics
- Information Filtering, Semantics, Statistics
- Visualisation, virtual reality

Cooperations

Experience in following types of co-operative research:
- international co-operative research
- national co-operative research

International partner countries:
- Germany
- Denmark
- Czech Republic
- United Kingdom

4.6.7 Research Institute of the Viennese Red Cross

Contact

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www.wrk.at/forschungsinstitut
Form of organisation: Non Profit Organisation
No. of researchers in this organisation: 15

Description

The Research Institute of the Viennese Red Cross broadly approaches and discriminatingly deals with relevant societal problems and in cooperation with its partners works on developing creative and innovative solutions. Our central concern and also integral part of all our activities is to guarantee the transfer of project results back into the practical context of health and social services. Theory and practical experience go hand in hand in order to assure the quality of our research.
The Research Institute of the Viennese Red Cross works in four research fields:1. Rescue and emergency care, 2. Care and attendance, 3. Labour market, employment and volunteer services, 4. Health promotion and prevention.
Our main competence is methodological knowlegde and long time experience in the health and social sector because of various reference projects. The target groups of our projects range from senior citizens and unemployed to deprived persons and people in need of care and attendance.

RTD Areas

- Applications for Health

Cooperations

Experience in following types of co-operative research:
- EU RTD Framework Programme 5
- other international co-operative research
- national co-operative research

International partner countries:
- Finland
- Ireland
- United Kingdom
- Netherlands
- Italy
- Germany
- Czech Republic
- Poland

4.6.8 Salzburg Research Forschungsgesellschaft m.b.H.

Contact

Univ.-Doz.Dr. Siegfried Reich, Managing Director
5020 Salzburg, Austria
T: +43-662-2288-200, F: +43-662-2288-222
siegfried.reich@salzburgresearch.at, www.salzburgresearch.at
Form of organisation: Research organisation of the Province of Salzburg
No. of researchers in this organisation: 37

Description

Salzburg Research represents a combination of applied research and development activities, as well as socio-economic strategic and market research competencies in ICT.

RESEARCH EXPERTISE

+ Advanced Networking Center: quality-based Internet technology (QoS), testing, measurement, modelling and engineering of Internet based networks, embedded systems
+ Geo-Information Research: economic aspects of geoinformation, emergency management, location-based services
+ Knowledge-based Information Systems: data modelling, formalisms and methods for knowledge representation, semantic web
+ Software and Technology Architecture Group: web-based and mobile information systems, component-based software development, database applications, web engineering
+ Information Society Research: socio-economic studies on the impact of ICT, innovation research, monitoring, benchmarking

The research activities are focussed on the APPLICATION AREAS Digital Media, eCulture, eTourism, and Educational Media.

RTD Areas

- Embedded Systems and Real Time Systems
- Advanced systems architecture
- Computer software
- Data Interchange, Middleware
- Databases, Database Management, Data Mining
- Knowledge and Process Management
- Information Technology/Informatics
- Internet Technologies
- Applications for Tourism
- GIS Geographical Information Systems
- Cultural Heritage
- e-Publishing, Digital Content
- e-Learning
- Information Filtering, Semantics, Statistics
- Mobile Communications
- Network Technology, Network Security
- Wireless Technologies

Cooperations

Experience in following types of co-operative research:

- EU RTD Framework Programme 4
- EU RTD Framework Programme 5
- EU RTD Framework Programme 6
- other international co-operative research
- national co-operative research

4.6.9 Stiftung Secure Information and Communication Technologies SIC/ Institute for Applied Information Processing and Communication

Contact

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http://jce.iaik.tugraz.at/
Form of organisation: Foundation
No. of researchers in this organisation: 8

Description

The 'Institute for Applied Information Processing and Communication' (IAIK) of the Graz University of Technology has established the Stiftung 'Secure Information and Communication Technologies' (SIC) to encourage independent scientific research, development as well as teaching and knowledge transfer in the fields of applied information processing, communication and information security. Stiftung SIC is also responsible for continued development, support and sales of the Java Crypto Toolkits that were originally developed by IAIK.

RTD Areas

- Computer software
- Special focus: Data Protection, Cryptography, Data Security
- Information Technology/Informatics
- e-Government
- Mobile Communications

4.6.10 via donau - Österreichische Wasserstraßen-Gesellschaft mbH

Contact

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Form of organisation: Public equivalent body

Description

via donau - Österreichische Wasserstraßen-Gesellschaft mbH was created from the merger of the Österreichische Donau-Betriebs AG, the Österreichische Donau-Technik GmbH, the Entwicklungsgesellschaft mbH für Telematik und Donauschifffahrt and the semi-privatised Austrian Waterway Authority. This restructuring has given Austria a modern waterway management company that meets the Austrian federal government's responsibilities which specifically concern waterways. via donau provides the Austrian business community with competitive transportation infrastructure in the Danube and works together with Austrian businesses to come up with innovative logistics solutions aimed at increasing the utilisation of this waterway. In addition via donau is tackling important new projects as well as in operating the river navigation information system DoRIS - Donau River Information Services.

RTD Areas

- Applications for Transport and Logistics
- GIS Geographical Information Systems
- e-Learning
- Satellite Technology/Systems/Positioning/Communication/GPS

Cooperations

Experience in following types of co-operative research:
- EU RTD Framework Programme 5
- EU RTD Framework Programme 6
- other international co-operative research
- national co-operative research

International partner countries:
- Germany
- Netherlands
- Italy
- Serbia and Montenegro
- Croatia
- Slovak Republic
- Hungary
- Romania

In recent years and in the context of globalisation National Research and Innovation strategies have increasingly obtained an important role in strengthening the competitiveness of the industry. Fostering the knowledgebase of industries through research programmes and promoting incentives for innovation have become tasks with high priority on the political agenda.

Since Information and Communications Technologies (ICTs) - being cross-sectoral technologies affecting nearly all aspects of economy and society - are considered as key factor and driving force in the progress towards a knowledge based economy, this handbook will introduce the Austrian Research and Innovation System focussed on activities related to ICTs.

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