

The Basics

The research-group "Institut für Telematik" of the department for computer-science at the University of Trier is a research and development-center formally administered by the Fraunhofer Society and was established on January 1, 1998 and has since then evolved into an ever-growing competence center that develops solutions for problems in the interfaces between telecommunications and information technology. Around 30 scientific staff members from various countries who are experts in different areas of science are currently with the institute.

The scope of the working group "Institut für Telematik" covers a wide spectrum: From application-oriented information technology and telecommunications research to the development of customized solutions and pilot systems for commerce, industry, medicine and administration. It is also focusing on new media training and continued education, which is offered to cooperation partners as well as employees of companies domiciled in the region and in other areas.

Project Partners

High tech businesses, as well as large and even small and medium sized companies support the institute as project partners. The partner firms implement the institute's scientific findings in practical applications. The focus of the work is on the development and utilization of new information and communications media for technical, medical and social applications.

Areas of Competency

The current research and development projects aim at the practical implementation of the latest scientific findings in the areas of electronic publishing, Internet/Intranet, tele-medicine, secure data transfer, system development and analysis. The Institut für Telematik focuses primarily on the following technological applications:

- Editor systems: Web-based information and knowledge management
- Navigation systems: Processing of information, data interfaces, EAI, data warehouse
- Database management: Innovative middleware on open standard basis, e.g., Smart Data Server (SDS)
- Open network security: Architecture, policies
- Network security: Firewalls, Lock-Keeper, Tiger Teams, CERT
- Content security: Public-Key-Infrastructures, digital signatures
- Mobile technologies and applications: Ubiquitous Computing, Mobile Security, ad hoc-Networks, Smart Cards
- Tele-medicine: Patient CD, DICOM-image management and compression,
- Consulting: Studies, evaluations, audits

Patent Protection has already been awarded to the institute for two of its solutions: <Lock-Keeper> – a security <sluice> between Internet and Intranet, that protects users more effectively against online attacks than firewalls – and <Dicomzip> an image compression process that reduces the transmission times of medical images from several hours to just a few seconds.

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Research for M-Commerce of the Future in Germany's Oldest City

Trier. Just four years after its inception, the scientific balance sheet of Germany's leading Internet research center, the Institut für Telematik in Trier (Institute for Telematics) is already chock-full of outstanding achievements: Two patents, three promotions and more than 70 presentations at international conferences. Under the leadership of Professor Christoph Meinel (47) the team of almost 50 staff members has attained an excellent reputation since it was first established as an institute for public welfare in early 1998. Meinel's young team of experts is developing user-friendly and highly practical high-tech Internet solutions is just a stone's throw from the world-famous Porta Nigra memorial in Germany's oldest city. A new key area in the institute's portfolio: M-Commerce, i.e., all things considered mobile electronic business transactions.

Simple and Practical Solutions

We are researching and developing opportunities that allow users to efficiently access information available on worldwide computer networks at any place and at any time while making their utilization secure and intelligent. Business, administration, transportation and healthcare processes can be optimized thanks to our practical approach to related projects. It is our objective to make the utilization of our products as easy and as user-friendly as possible" explains Professor Meinel, the director of the institute, in summarizing his research and development center's mission. The institute is linked to the Fraunhofer Society

Meinel, a professor for information technology at the university in this Mosel metropolis is heading this organization, which was set up as a registered non-university association for research and development.

The institute is the only one of its kind in Germany. Established in 1998, the leading young research institute is engaged in application-oriented basic research as well as in the development of custom-solutions for medicine, trade, industry and administration.

"Thanks to our organizational structure, we are quite autonomous. We have extremely high standards and our staff members have top qualifications. Moreover, we are very flexible and always ready to take on new research subjects", explains the Trier-based professor for telematics. He cites these qualities as the key ingredient that allows the institute to repeatedly achieve excellent results in a very short period of time.

Tele-medicine, Internet/Intranet, open data network communications security, electronic publishing – these are the research and development sectors the internationally renowned institute is currently involved in. It is entirely committed to the uncovering and development of the latest scientific findings for business and social applications. Dr. Thomas Engel, the institute's alternate director, describes the organization's work as follows. "We are basically riding on the tidal wave of the latest technological developments and are "exploiting" technical potentials to the fullest to create pilot solutions for every-day practical applications. "

Working for Public Welfare Yields Autonomy

The fact that this German research and development facility is working for the welfare of the public provides the institute with the autonomy it needs to do this kind of work. Unrestricted state subsidies, public institutions and projects obtained from businesses each provide one third of the current annual budget of Euro 1.5 million. The institute receives its orders from world renowned business conglomerates such as Siemens or the Dresdner Bank as well as medium-sized companies, hospitals, financial service providers and the government administrations of Rhineland Palatine, Baden Wurtemberg and Luxembourg.

The Trier-based center has its roots in a department of Kaiserlautern's "Institut für Techno- Wirtschafts-

mathematik"(Institute for Techno and Business Mathematics). This branch, which was also headed by Professor Meinel evolved into a highly respected and renowned institution in just two years. It focused on the research and development on Internet and New Media related information tools. When the branch was spun off and established as an independent institution on January 1, 1998, its activities also became a part of its name. "Telematics is a young and highly innovative scientific discipline. It evaluates a wide range of new possibilities derived from melding telecommunications and information technology that allows the utilization of data that is distributed worldwide and accessible electronically. Consequently it plays a key role in our evolution from an information into a knowledge society," comments Professor Meinel.

After four years of hard work, the institute's staff members are in high demand as keynote speakers at scientific conventions while doctorates who work at the institute are getting certified in record time. Dr. Thomas Engel, vice president of the institute: "We work just like a hot water heater. Thanks to our application-oriented approach, we're getting the academic elite that specialize in our field ready for executive positions in businesses quickly and on target."

Scientific Talent Development

The <cadre factory> in Trier aims at attracting even more talented and curious young people to its key activity – telematics – and to deliver outstanding scientific results. "We expect anyone who wants to work for us to bring a willingness to work hard and an interest in demanding research tasks as well as ambition and stamina to the table". This is Professor Meinel's wish-list for ideal job applicants. The goal is to provide science and later businesses with the top leaders that these days are still extremely hard to find.