

The birthplace for new ideas

**Niedersachsen – technology networks and
communication for innovation**



 **Innovation**
Niedersachsen



Niedersachsen

As at: November 2005

Publisher:

Innovationszentrum Niedersachsen GmbH
Gruppenstraße 4
D-30159 Hannover
www.innovation.niedersachsen.de
www.iz-nds.de

In cooperation with the

Niedersachsen Ministry for
Science and Culture

and the

Niedersachsen Ministry for Economic Affairs,
Employment and Transport

No innovation without communication

It's part of daily business routine – we telephone somebody because we have a question. At a conference, we meet somebody in the interval and discover that he has the solution to our problem. We read an article which triggers new ideas. Communication is the transfer of knowledge.

Knowledge transfer in our information society is not only a form of energy but also at the same time a motor. Our ability to perform in business is determined by the way people deal with each other, how they organise themselves and how they acquire and pass on knowledge.

Among the multitude of problems surrounding competition in the marketplace it is those who find answers quickly who come out on top. It is in such situations that networks can provide support; networks which not only bring together interdisciplinary specialists from research and industry but also promote communication among network members. These networks therefore accelerate the solution process and form breeding grounds for new ideas.

The region Niedersachsen (Lower Saxony) in Germany has made a commitment to communication within networks. In recent years, four definitive instruments have been developed in order to promote new ideas. These are the seeds for knowledge transfer and innovations: Federal State Initiatives, centres of excellence, the superordinate Niedersachsen Innovation Network and measures which promote cooperation.

A new communication instrument has since September 2004 been bundling all network activities and innovation successes which originate in Niedersachsen: the online newspaper www.innovation.niedersachsen.de provides an overview of the innovative federal state which is Niedersachsen. The special emphasis of the newspaper is also on the network of players within the federal state who communicate research successes directly via the newspaper and who together continue to develop it.

The housefly is wearing designer glasses!

The Micreon company from Hanover specialises in microfabrication laser technology. Very high frequency pulse lasers are being used for the first time to produce high-precision components. In order to demonstrate the possibilities of precision laser fabrication, developers engineered spectacle frames for a housefly. And what is not obvious for the layman: an extremely precise laser machining method is behind this little gimmick. Applying very high frequency laser pulses, the machining of any material is possible without any associated damage. Precision engineering to an accuracy of less than one thousandth of a millimetre is possible using this process, which offers enormous potential for high-tech products in all fields of microsystem technology.

Micreon is a company which emerged from Laser Zentrum Hannover e.V. and is a member of the PhotonicNet network.



Federal State Initiatives

The Federal State Initiatives are networks of partners in a value-added chain. Innovations have the property that they can emerge at all points in a value-added chain and in each case exercise – often substantial – influence on all other partners. A network which brings together not only directly neighbouring companies in a value-added chain, but also specialists from unrelated fields, can strengthen innovative ability and flexibility in dealing with the challenges of new technology. The creation and maintenance of such a network involves costs to which the federal state of Niedersachsen contributes in the form of start-up financing. From the point of view of the federal state, the “Federal State Initiatives” concept is therefore seen as an offer to industry and research to network themselves more intensively and to purposefully establish a close relationship between industry, science and research.

These are some of the fields which Federal State Initiatives in Niedersachsen focus on:

- Biophotonics
- Telematics
- Logistics
- Bioenergy
- Life Sciences
- Fuel Cells
- New Materials
- Adaptronics

The names of contact persons for the various Federal State Initiatives can be found at:

www.innovationsnetzwerk-niedersachsen.de

The greatest concert hall in the world is just 80 m² in size!

HörTech, the centre of excellence for hearing-aid system engineering in Niedersachsen is a world leader in the research and development of hearing aids. Whether it is a case of the diagnosis of hearing disorders or a test of audio quality for a mobile telephone, HörTech develops the processes. And furthermore it markets the products which are based upon those processes or applies them within the context of service and research projects. Using sophisticated technology in the so-called "Communication acoustic simulator" at the centre of excellence, HörTech can acoustically simulate any space. Here and in other special laboratories, and on a daily basis, people with hearing disorders can test the latest hearing aids for speech comprehension and sound comfort under realistic conditions. Even piano concerts are staged in this unique room in Oldenburg and transport the audience acoustically to the world's biggest concert halls.



Centres of Excellence

The federal state of Niedersachsen promotes the transfer of information from specialist fields via its centres of excellence at universities in Niedersachsen.

These centres are thematically unequivocally aligned, bundle technical excellence in science and network it with the relevant industry. In that sense such transfer does not constitute the promotion of research, but the transfer of research results via a network. Altogether, a total of 15 centres of competence throughout the federal state of Niedersachsen are being supported.

Topics dealt with in those centres include:

- Cardiovascular Implants (Medimplant)
- Construction Materials from Renewable Resources (RIKO)
- Hearing-aid Technology (Hör Tech)
- Agrobusiness in Niedersachsen (NieKE)
- GeoInformatics in Niedersachsen (GiN)
- Information Systems for Mobile Use (NICCIMON)
- Renewable Resources
- The Sustainable Use of Wood (NHN)
- Wind Energy Research (ForWind)

Further information can be found at:

www.mwk.niedersachsen.de

Niedersachsen: World Cup Winners in 2005!

With a gold medal in the 2D Simulation League and a silver medal in the 3D Simulation League, the team from Osnabruck University celebrated sensational success at the Robot Football World Championships in Osaka, Japan. The competition is considered to be a platform for comparing hardware and software solutions for the development of autonomous robots capable of acting in teams and for their control.

Osnabruck University is a member of the Niedersachsen Innovation Network.



 Innovation
Niedersachsen

The Niedersachsen Innovation Network

The Niedersachsen Innovation Network is a union of more than 200 facilities in Niedersachsen from the fields of innovation promotion, technology transfer and technology consultancy.

Members consist of chambers, universities, research institutions, technology centres, special technology transfer facilities and business development agencies.

The objective of this association is to support and strengthen the work of the various innovation promoters and technology mediation and consultancy offices which are active in Niedersachsen through intensified cooperation and the linking of information sources and communication systems.

This network stages information events on both innovative technology fields and instruments of innovation promotion and offers its members the opportunity of actively shaping the innovation landscape in Niedersachsen by taking part in expert discussions and working groups.

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The new Airbus flies on carbon!



The lightweight construction material CFRP (carbon-fibre reinforced polymer) which has firmly established itself in the pioneering sector of aircraft construction is very strong, resistant to corrosion and weight-saving. Compared to similar constructions using aluminium there are weight savings of up to 30%. At CFK Valley Stade (CFK is the German equivalent of CFRP) in Niedersachsen, all tail sections of the Airbus family are produced at the Stade Airbus works using CFRP. The latest example of this is the vertical tail surface of the double-decker A380 airliner, with a surface area of approximately 120m². The world's best partners for CFRP lightweight-construction technology have come together at CFK Valley Stade. Intensive powers of innovation are developing as a result of the concentration of expert knowledge across the whole value-added chain.

Cooperations

In addition to the measures already mentioned for promoting cooperation, the federal state of Niedersachsen has set up further facilities and incentives which support innovation transfer by assisting companies in finding the right cooperation partners. Among these are:

Knowledge and technology transfer agencies at universities in Niedersachsen

This network of transfer agencies offers companies direct on-site access to the whole of the science and services potential at Niedersachsen's universities.

www.forschung-in-niedersachsen.de

N-transfer GmbH

N-transfer is Niedersachsen's cross-university innovation company. It acts as an umbrella organisation for the Niedersächsische Patentverwertungsagentur (Niedersachsen's patent exploitation agency) and the institutes for innovation transfer (ITIs). The ITIs mediate the application-oriented transfer of knowledge between universities of applied

science and industry. The focus here is on commissioned research and development, most especially for small and medium-sized businesses.

www.n-transfer.de

Research networks at universities of applied sciences

Niedersachsen is currently sponsoring networks at universities of applied sciences at four locations and with differing emphases: "Health and Care Sciences" (Lüneburg), "Image Generating Sensor Technology" (Göttingen), "Industrial Information Science" (Emden) and "Material Sciences" (Wolfsburg).

www.mwk.niedersachsen.de

Federal State of Niedersachsen Cooperation Award

The close cooperation between science and industry is encouraged by the annual award of this prize.

Such cooperations facilitate new combinations of knowledge, experience and ideas.

www.vtn.de



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