



Federal Ministry  
of Economics  
and Technology



**kompetenznetze.de 2006|2007**

Networks of Competence in Germany

[www.kompetenznetze.de](http://www.kompetenznetze.de)

## Words of Welcome

A relentlessly advancing process of globalisation, and associated structural changes, make it clear that we will increasingly have to rely on our innovation capacity in the future to remain competitive internationally, and attractive as a location for economic activities.

Germany must remain in the position to develop and market innovative products and services.

A prerequisite for this is not only world-class research but also efficient technology transfer. Thus, we need to mobilise all the potentials available, in research and in business, to generate outstanding innovations within increasingly short cycles, and to transform these innovations into high-quality and marketable products.

Made in Germany has been the badge of quality under which goods and services produced in Germany have earned worldwide recognition, and this must remain so.

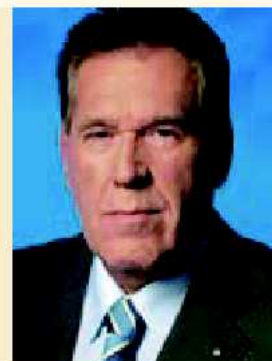
Attaining this goal requires a close and successful cooperation among the players from the scientific and business communities involved in the innovation and production process.

The "competence networks", operating as part of the identically named initiative supported by the German Federal Ministry of Economics and Technology, are regionally concentrated but supra-regionally active innovation clusters with a specific thematic focus, ranging from the life sciences, biotechnology and medicine, to energy, medical and environmental technologies, to the so-called new technologies such as information and communication, microsystems and nanotechnologies.

The competence networks produce innovation with a particularly strong value-added potential and cover several stages of the value-added chain as well as various branches and disciplines.

The active interaction and communication among scientific and business participants in the networks ensure an efficient technology transfer.

Particularly for small and mid-sized companies, which often cannot afford to finance their own research, competence networks offer an ideal framework for successful participation in the development of innovative products and services.



The following brochure presents more than one hundred of the total of 130 competence networks involved in the initiative. They provide an impressive picture of Germany's innovation capacity and attractiveness as a site for scientific and economic investments. I cordially invite you to read the following pages and to gain your own view of this selection of German competence networks and of their huge potential. Sincerely,

A handwritten signature in black ink, which appears to read "Michael Glos". The signature is fluid and cursive, written over a white background.

Michael Glos  
German Minister of Economics  
and Technology

## BioProfile Regeneration Biology



**BioProfile**  
Regenerationsbiologie



### Objectives

BioProfile Regeneration Biology is a joint initiative by biotechnology companies and research establishments in the Stuttgart, Tübingen, Esslingen, Reutlingen and Neckar-Alb region, whose aim is the sustainable establishment of regeneration technologies for biology and medicine in the region. The network has set itself the goal of creating the ideal conditions for business and research in regeneration biology.

### Members of the network

- ▶ 86 biotechnology companies, 18 of which are involved in "BioProfile Regeneration Biology" projects
- ▶ 3 universities and 5 universities of applied science dedicated to life sciences
- ▶ 9 non-university research institutions
- ▶ 1 association entitled "The Society for the Promotion of Biotechnology Stuttgart/Tübingen/Neckar-Alb e.V."

### Contact

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### Focus of activities

Pooling the expertise of its universities, research institutions and business companies, the STERN region chose to focus on the topic of regeneration biology, going on to win the BioProfile competition sponsored by the German Federal Ministry of Education and Research (BMBF).

This brought the STERN region 18 million euros of funds. Biotech companies in the region can participate in this sponsorship program to promote the commercialisation of practically oriented projects. Central coordination of the Regeneration Biology network is assured by BioRegio STERN Management GmbH.

### BioStar – International Congress on Regenerative Biology

Advanced research, pioneer projects and new scientific fields will be presented at BioStar, the 2nd. International Congress on Regenerative Biology from 9 – 11 October 2006 in Stuttgart. BioStar takes place in the STERN Bio-Region every two years and promotes both science and business.  
[www.biostar-congress.de](http://www.biostar-congress.de)

### RegenerationNet

BioRegio STERN Management GmbH launched the new Internet portal [www.regenerationnet.com](http://www.regenerationnet.com) in 2004. The portal is a one-stop shop for information from all areas of regeneration biology. The Internet pages are available free of charge as a source of information for all network partners and interested parties worldwide. The service covers:

- ▶ Portraits of companies and institutions with organisation and service profiles
- ▶ New ideas and technologies
- ▶ Info on products and patents
- ▶ Constantly updated news



Highlight 1: Chip and direct stimulation field implanted under the retina in University Eye Hospital Tübingen. © Retina Implant

- ▶ Conference calendar and notices of forthcoming events.

It is also possible to subscribe to a bi-monthly online newsletter – also free of charge – which reports on the latest developments in all areas of regeneration biology.

### Projects

**PROstat – Regeneration of the urinary function in cases of benign prostatic hyperplasia through immune therapy**  
**Support from:**

- ▶ BMBF

### Project members:

- ▶ immatics biotechnologies GmbH, Tübingen

The objective of this project is the regeneration of the urinary function in cases of benign prostatic hyperplasia (BPH) by applying peptide-based immune therapy. There are currently very few drugs with market approval that can be used to suppress the symptoms or to suppress the growth of the prostate adenoma.

The immatics PROstat project focuses on using short peptides that bind to MHC class I molecules as active agents in the treatment of adenomatous prostatic hyperplasia in order to achieve



Highlight 2 © Arthro Kinetics plc.

non-operative regeneration of the bladder and ureter functions. This will ultimately enable the introduction of new, targeted drug candidates for the treatment of BPH.

The PROstat project makes use of the XPRESIDENT™ technology, for which an international patent is pending. XPRESIDENT™ combines approaches from genomics, peptidomics, bioinformatics and immunology. In terms of speed and sensitivity, it is about 100 times more effective than conventional technologies in identifying peptides that are potentially suitable as drugs. The declared aim of immatics is to translate the technological edge gained through projects such as PROstat into new preclinical and clinical drug candidates faster than ever before.

More than 25 employees at immatics are meanwhile engaged in the product

development of several multi-epitope peptide vaccines for the treatment of adenoma and carcinoma, including vaccines for renal cell, colon and pancreatic carcinoma.

The identification of peptide antigens specific to the prostate gland is the first step towards creating a therapeutic vaccine that will permit targeted immunotherapy of the prostate adenoma.

On completion of the PROstat project, the findings are expected to undergo further development in clinical applications.

### Innovation highlights

#### Highlight 1

##### Retina Implants

Reutlingen-based medtech company Retina Implant AG has developed an electronic chip that is implanted in the



Highlight 3 © euroderm GmbH

eye under the retina and is intended to restore partial vision to many blind people. The project is now in the clinical trial stage after years of technical development. At the end of 2005, operations were successfully performed for the first time on two patients who up to then had been completely blind. [www.retina-implant.com](http://www.retina-implant.com)

#### Highlight 2

##### CaReS®

CaReS® is an innovative concept for the operative treatment of joint lesions (2.5 to 10 cm<sup>2</sup>). The specially developed 3D cell collagen I matrix assures the production of cartilage-specific type II collagen as well as a high degree of controllable cell activity and functionality in the transplant. CaReS® is superior to classic substitution methods in terms of biomechanical stability, convalescence time, duration of surgery and postoperative trauma. [www.arthro-kinetics.com](http://www.arthro-kinetics.com)

#### Highlight 3

##### EpiDex™

EpiDex™, an autologous epidermis transplant, has proven its therapeutic efficacy in a phase IIb clinical trial (Wound Rep Reg 2003;11:248-252). [www.euroderm-biotech.com](http://www.euroderm-biotech.com)