


AGENCE D'ETUDES ET DE PROMOTION DE L'ISÈRE

AEPI 2007

Grenoble isère·france

Micro/ Nanobiotechnologies

Grenoble-Isère is your partner for nanobiotechnologies projects

Few places in the world possess the technological, industrial, and scientific foundations needed to successfully rise to the challenges of miniaturization, nanotechnologies, and the convergence of hardware and software. The life and health sciences, fields in which Grenoble-Isère has staked out a position of leadership, will be at the heart of developments in the nanosciences.
This dynamic area has been fertile ground for the life sciences over the past two years, with more than €400 million in investments. Various research projects, industrial development programs, and local initiatives targeting the life sciences have also been rolled out, including NanoBio, which will see €41 million in investments over six years. These investments are in addition to funding for the micro- and nanotechnologies sector, which has racked up €4 billion in investments, with another €3 billion to come in Grenoble-Isère alone.

Leaders in academia and industry

bioMérieux, CEA-Grenoble, CEA-Leti, CHU-Grenoble, CISB, CNRS, CRSSA, DGTec, IAB, INP-Grenoble, Inria, Inserm, IntuiSkin, Memscap, Movea, Roche Diagnostics, Siliflow, STMicroelectronics, Tronics Microsystems, UJF,...

Major R&D initiatives

NanoBio, Nano2life, Minalogic, Minatec, RTRA nanosciences, Lyonbiopole.

NanoBio: innovation cluster focusing on biology and healthcare applications for the micro- and nanotechnologies. NanoBio will bring in innovative businesses and research teams in the field to participate in common research projects.

Nanomaterials and nanostructures

Work is being carried out to improve the performance of in vitro and in vivo diagnostic tests (molecular imaging probes) and therapeutic applications (biomaterials for restorative therapies, nanovectors for targeted drug delivery).

Imaging and biophotonics

At the crossroads of biology and physics, research is being carried out to characterize static and dynamic molecular interaction in the cell and manipulate single biological objects for applications such as digital detectors for medical imaging and optical molecular imaging.

Microsystems (lab-on-chip, cell-on-chip)

Simultaneous in vitro biomolecular and multiparameter analyses on small sample quantities are being developed to save time and reduce costs.

Medical systems

Research is being carried out to develop implantable microsystems for cardiac and cerebral stimulation. Implantable embedded sensors.

Unique educational programs

- Nanotech: European Master's in micro- and nano-technologies for integrated systems and the first joint degree program set up in Europe (INP-Grenoble, Ecole Polytechnique Fédérale de Lausanne, and Politecnico di Torino).
- CIME-Nanotech: European micro- and nano-technologies training center with Europe's largest clean room dedicated to training.

Flagship projects

- **ADNA:** advanced Diagnostics and New therapeutic Approaches, focus on new therapeutic vaccines for infectious diseases and cancer - Mérieux Alliance.
- **Clinatec:** experimental clinic for the use of nano-technologies in neurosurgery - CEA, Inserm, Grenoble University Hospital.
- **IntuiSkin:** skin testing microsystem for dermo-cosmetic diagnostics.
- **Lyonbiopole/Microvax:** manufacturing of new vaccine delivery systems - BD, Sanofi Pasteur, and Inserm.
- **Minalogic/Hameli:** design and manufacturing of energy-autonomous implantable systems such as pacemakers and defibrillators - Dolphin Integration, Ela Medical, iRoc Technologies, and TimA laboratory.
- **Minalogic/Surgimag:** computer-assisted surgery station - Praxim Medivision, Alpwise, Cedrat, Movea, Saxxo Technologies, CEA-Leti, TimC laboratory, Grenoble University Hospital.
- **Minalogic/Imalogic:** digital imaging devices for medical radiology and infrared imaging - Sofradir, STMicroelectronics, Trixell, Ulis, CEA-Leti.
- **Protool:** development of a system to perform nanobiopsies and obtain the proteomic profile of the sample - CEA-Leti/DTBS.
- **In-Check Platform:** point-of-care testing system developed in partnership by STMicroelectronics and CEA-Leti/DTBS.
- **Nanocancer:** new therapeutic approaches to cancer - Canceropole Lyon Auvergne Rhône-Alpes.
- **Nanopump for insulin:** market release of new miniaturized insulin pump to improve quality of life for patients suffering from diabetes - STMicroelectronics and Debiotech.

A range of dedicated facilities available for your project

Biopolis: biotechnologies business incubator that offers the use of common services and technological facilities including a molecular biology room, a cell culture room, and more.

Minatec - High Technologies Building: this shared laboratory offers 10,000 square meters of workspace and clean rooms to corporate R&D teams striving to transfer technology in the micro- and nanotechnologies.

Agence d'Etudes et de Promotion de l'Isère

1, place Firmin Gautier 38027 Grenoble Cedex 1. France. ✆: 33 (0)4 76 70 97 18 - Fax: 33 (0)4 76 70 97 19 - E-mail: AEPI@grenoble-isere.com

In the USA, ✆: (1)310 473 2818 email: sharon@france.com - In Japan, ✆: (81)3 3288 9640 email: t.suzuki@ccifj.or.jp

www.grenoble-isere.com

ginette. Photos : DR, CEA, Chabal Architectes - Studio A4. Rédaction : AEPI.