



**of the European Community for research, technological
development and demonstration activities (2007-2013)**

Collaborative Project & Coordination and Support Action

SPIRIT

Project title: **Support of Public and Industrial Research using Ion
Beam Technology**

Project number: **227012**

Project coordinator: **Helmholtz-Zentrum Dresden - Rossendorf e.V.,
Germany**

Project homepage : <http://www.spirit-ion.eu/>

HZDR participant: **Institute of Ion Beam Physics and Materials
Research**

Starting date: **01.03.2009**

Duration (months): **54**

Summary

SPIRIT is an Integrating Activities project integrating 7 leading ion beam facilities and 4 research providers from 7 Member States and 1 Associated State. The 7 partners providing Transnational Access supply ions in an energy range from 10 keV to 100 MeV for modification and analysis of solid surfaces, interfaces, thin films and nanostructured systems. The techniques cover materials, biomedical and environmental research and technology, and are complementary to the existing synchrotron and neutron networks. The partners have highly complementary equipment and areas of specialization.

SPIRIT will increase User access and the quality of research by sharing best practice, balancing supply and demand, harmonizing procedures and extending the services into new emerging fields

and to new users especially from the NMS and industry. An independent International User Selection Panel will examine proposals under a common SPIRIT procedure.

Networking activities include the development of common standards for quality assessment; training and consultancy for User researchers and foresight studies. Joint Research Activities will promote emerging fields such as targeted single ion implantation for irradiation of living cells; ion-beam based analysis with ultrahigh depth resolution; ion-based 3-D tomography, and chemical and molecular imaging.

Joint efforts are necessary to improve the systems for detection of ion-induced secondary radiation and to develop means to reduce sample deterioration by the analyzing ion beam. Finally, a unified software package for ion-beam based analysis shall be developed and made available to the community.

The management structure of SPIRIT will consist of a Management Board, 3 Activity Boards (Networking, Transnational Access and Joint Research) and a Project Steering Team. A European Users Panel will provide input on user needs, evaluate service improvements against the benchmark level and assess new capabilities resulting from the JRA.

HZDR is the coordinator of the project and involved in the work packages 1 (Consortium Management), 2 (Coordination and Access Management), 3 (Best Practice and Dissemination), 4 (Transnational Access HZDR Ion Beam Center) and 6 (Improving Analysis).