



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

Collaborative Project & Coordination and Support Action

EuCARD-2

Project title: **Enhanced European Coordination for Accelerator
Research & Development**

Project number: **312453**

Project coordinator: **European Organization for Nuclear Research CERN,
Geneva, Switzerland**

Project homepage: <http://cern.ch/eucard2>

HZDR participant: **Institute of Radiation Physics**

Starting date: **01.05.2013**

Duration (months): **48**

Summary

Research accelerators are facing important challenges that must be addressed in the years to come: existing infrastructures are stretched to all performance frontiers, new world-class facilities on the ESFRI roadmap are starting or nearing completion, and strategic decisions are needed for future accelerators and major upgrades in Europe.

While current projects concentrate on their specific objectives, EuCARD-2 brings a global view to accelerator research, coordinating a consortium of 41 accelerator laboratories, technology institutes, universities and industry to jointly address common challenges. By promoting complementary expertise, cross-disciplinary fertilisation and a wider sharing of knowledge and technologies throughout academia and with industry, EuCARD-2 significantly enhances multidisciplinary R&D for European accelerators.

This new project will actively contribute to the development of a European Research Area in accelerator science by effectively implementing a distributed accelerator laboratory in Europe.

Transnational access will be granted to state-of-the-art test facilities, and joint R&D effort will build upon and exceed that of the ongoing EuCARD project. Researchers will concentrate on a few well-focused themes with very ambitious deliverables: 20 T accelerator magnets, collimation of extreme beams, innovative high-gradient high-efficiency accelerating systems, and emerging acceleration technologies based on lasers and plasmas.

EuCARD-2 will include six networks on strategic topics to reinforce synergies between communities active at all frontiers, extending the scope towards innovation and societal applications. The networks concentrate on extreme beam performance, novel accelerator concepts with outstanding potential, energy efficiency and accelerator applications in the fields of medicine, industry, environment and energy. One network will oversee the whole project to proactively catalyze links to industry and the innovation potential.