



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

## **Collaborative Project & Coordination and Support Action**

### ***EuCARD***

Project title: **European Coordination for Accelerator Research  
and Development**

Project number: **227579**

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

Project homepage: <http://eucard.web.cern.ch/EuCARD/index.html>

HZDR participant: **Institute of Radiation Physics**

Starting date: **01.04.2009**

Duration (months): **52**

### **Summary**

Particle physics stands at the threshold of a new era of discovery and insight. Results from the much awaited LHC are expected to shed light on the origin of mass, supersymmetry, new space dimensions and forces. In July 2006 the European Strategy Group for Particle Physics defined accelerator priorities for the next 15 years in order to consolidate the potential for discovery and conduct the required precision physics. These include an LHC upgrade, R&D on TeV linear colliders and studies on neutrino facilities. These ambitious goals require the mobilisation of all European resources to face scientific and technological challenges well beyond the current state-of-the-art and the capabilities of any single laboratory or country.

EuCARD will contribute to the formation of a European Research Area in accelerator science, effectively creating a distributed accelerator laboratory across Europe. It will address the new priorities by upgrading European accelerator infrastructures while continuing to strengthen the

collaboration between its participants and developing synergies with industrial partners. R&D will be conducted on high field superconducting magnets, superconducting RF cavities which are particularly relevant for FLASH, XFEL and SC proton linacs, two-beam acceleration, high efficiency collimation and new accelerator concepts.

EuCARD will include networks to monitor the performance and risks of innovative solutions and to disseminate results. Transnational access will be granted to users of beams and advanced test facilities. Strong joint research activities will support priority R&D themes. As an essential complement to national and CERN programmes, the EuCARD proposal will strengthen the European Research Area by ensuring that European accelerator infrastructures further improve their performance and remain at the forefront of global research, serving a community of well over 10,000 physicists from all over the world.