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## **Research and Innovation Action (RIA)**

### **AIDA-2020**

Project title: **Advanced European Infrastructures for Detectors at Accelerators**

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

HZDR participant: **Institute of Radiation Physics**

Starting date: **01.05.2015**

Duration (months): **48**

### **Summary**

Particle physics is at the forefront of the ERA, attracting a global community of more than 10,000 scientists. With the upgrade of the LHC and the preparation of new experiments, the community will have to overcome unprecedented challenges in order to answer fundamental questions concerning the Higgs boson, neutrinos, and physics beyond the Standard Model. Major developments in detector technology are required to ensure the success of these endeavours.

The AIDA-2020 project brings together the leading European infrastructures in detector development and a number of academic institutes, thus assembling the necessary expertise for the ambitious programme of work. In total, 19 countries and CERN are involved in this programme, which follows closely the priorities of the European Strategy for Particle Physics. AIDA-2020 aims to advance detector technologies beyond current limits by offering well-equipped test beam and irradiation facilities for testing detector systems under its Transnational Access programme.

Common software tools, micro-electronics and data acquisition systems are also provided. This shared high-quality infrastructure will ensure optimal use and coherent development, thus increasing knowledge exchange between European groups and maximising scientific progress. The project also exploits the innovation potential of detector research by engaging with European industry for large-scale production of detector systems and by developing applications outside of particle physics, e.g. for medical imaging.

AIDA-2020 will lead to enhanced coordination within the European detector community, leveraging EU and national resources. The project will explore novel detector technologies and will provide the ERA with world-class infrastructure for detector development, benefiting thousands of researchers participating in future particle physics projects, and contributing to maintaining Europe's leadership of the field.