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Seismological observatories and research infrastructure within EPOS

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Within the EPOS Research Infrastructure initiative, the international European coordination of the seismological research infrastructure is coordinated through ORFEUS (www.orfeus-eu.org) and considerable assistance from EMSC (www.emsc-csem.org). A newly installed EPOS working group 1 ensure a coordinated engagement of all involved seismological research infrastructures. We are working on a comprehensive overview of the seismological observational networks and research infrastructure within Europe and its direct periphery. We will present this overview, its current capabilities and future potential as a coordinated infrastructure.

In the past year a number of different projects and initiatives have been launched to investigate new IT developments and its opportunities for improved data services, quality control, data integration and interoperability. Specifically developments include web-services, distributed archives, real-time data exchange software, data curation, data provenance, quality control, etc. EC-projects like NERA, VERCE, EUDAT, ENVRI, COOPEUS, REAKT, but also a large number of national initiatives have obtained funding. We will provide an overview of their activities and their potential impact on the seismological research infrastructure. We will also present the challenges involved in coordinating and implementing these different IT initiatives.

The seismological research infrastructure involves a widely diverse set of observational networks; broadband seismic networks, local specialised monitoring networks, mobile deployments, acceleration networks, borehole observations, near source observational networks, etc, divided over many countries. We will present an overview of these networks, and the initiatives and challenges to integrate these data and facilitate access for research.

Consequently, we will present a comprehensive overview of the current seismological observatories and research infrastructure within Europe, its developments and its potential. We hope this overview triggers a debate on how to make full advantage of these research infrastructures and where near time development priorities should be.