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ORFEUS: Seismological waveform data archiving and access in Europe: A NERA service activity

Torild van Eck, Reinoud Sleeman, Gert-Jan van den Hazel, Alessandro Spinuso, Luca Trani, and the ORFEUS/NERA/EIDA/VEBSN Team

ORFEUS, c/o Seismology division, Royal Netherlands Meteorological Institute, De Bilt, The Netherlands. (torild.van.eck@knmi.nl)

The Observatories and Research Facilities for European Seismology (ORFEUS, www.orfeus-eu.org) coordinate high-quality seismological waveform data exchange, archiving and access in Europe. ORFEUS provides bottom-up coordination between widely different initiatives of individual European seismological observatories and research institutes.
As such is has build up an impressive efficient data exchange and archiving research infrastructure for seismological waveform data. In this presentation we will specifically address four initiatives, representing new developments to enhance data availability to researchers.

The Virtual European Broadband Seismic Network (VEBSN), coordinated by ORFEUS, is a consortium within which seismological observatories (currently 54) agree to exchange real time (or close to real time data) for observational and long-time archiving purposes. This concept facilitates efficient data access for research.

The European Integrated waveform Data Archive (EIDA), based on a data transfer protocol ArcLink, aims at linking together large data archiving facilities (currently four) and providing the user with one data access interface. This concept facilitates a one point entry for users to large amounts of data from globally distributed waveform data archives.

The EC-project NERA (www.nera-eu.org; EC-project 262330) aims at integrating the seismological with the acceleration observational research infrastructure, thus coordinating RI activities relevant for the seismological and earthquake engineering communities in Europe. ORFEUS provides a short overview of this initiative, but specifically its data service facility, which is well integrated within the European seismic data portal (www.seismicportal.eu). .

Data quality is a major issue in long term archiving. Diverse networks, equipment, operators, real-time data transfer, incomplete data information, etc all hamper data quality. Together with the different networks we have developed a large number of QC tools and are implementing more with the ultimate goal to improve the quality of the data ultimately stored