



## **Towards an integrated European strong motion data distribution**

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Recent decades have seen a significant increase in the quality and quantity of strong motion data collected in Europe, as dense and often real-time and continuously monitored broadband strong motion networks have been constructed in many nations. There has been a concurrent increase in demand for access to strong motion data not only from researchers for engineering and seismological studies, but also from civil authorities and seismic networks for the rapid assessment of ground motion and shaking intensity following significant earthquakes (e.g. ShakeMaps). Aside from a few notable exceptions on the national scale, databases providing access to strong motion data has not appeared to keep pace with these developments.

In the framework of the EC infrastructure project NERA (2010 - 2014), that integrates key research infrastructures in Europe for monitoring earthquakes and assessing their hazard and risk, the network activity NA3 deals with the networking of acceleration networks and SM data.

Within the NA3 activity two infrastructures are being constructed: i) a Rapid Response Strong Motion (RRSM) database, that following a strong event, automatically parameterises all available on-scale waveform data within the European Integrated waveform Data Archives (EIDA) and makes the waveforms easily available to the seismological community within minutes of an event; and ii) a European Strong Motion (ESM) database of accelerometric records, with associated metadata relevant to earthquake engineering and seismology research communities, using standard, manual processing that reflects the state of the art and research needs in these fields. These two separate repositories form the core infrastructures being built to distribute strong motion data in Europe in order to guarantee rapid and long-term availability of high quality waveform data to both the international scientific community and the hazard mitigation communities. These infrastructures will provide the access to strong motion data in an eventual EPOS seismological service.

A working group on Strong Motion data is being created at ORFEUS in 2013. This body, consisting of experts in strong motion data collection, processing and research from across Europe, will provide the umbrella organisation that will 1) have the political clout to negotiate data sharing agreements with strong motion data providers and 2) manage the software during a transition from the end of NERA to the EPOS community. We expect the community providing data to the RRSM and ESM will gradually grow, under the supervision of ORFEUS, and eventually include strong motion data from networks from all European countries that can have an open data policy.