

EGU22-10071

<https://doi.org/10.5194/egusphere-egu22-10071>

EGU General Assembly 2022

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Facilitating Multi-Disciplinary Research via Integrated Access to the Seismological Data & Product Services of EPOS Seismology

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The European Plate Observing System EPOS is the single coordinated framework for solid Earth science data, products and services on a European level. As one of the science domain structures within EPOS, EPOS Seismology brings together the three large European infrastructures in seismology: ORFEUS for seismic waveform data & related products, EMSC for parametric earthquake information, and EFEHR for seismic hazard and risk information. Across these three pillars, EPOS Seismology provides services to store, discover and access seismological data and products from raw waveforms to elaborated hazard and risk assessment.

ORFEUS, EMSC and EFEHR are community initiatives / infrastructures that each have their own history, structure, membership, governance and established mode of work (including data sharing and distribution practices), developed in parts over decades. While many institutions and individuals are engaged in more than one of these initiatives, overall the active membership is quite distinct. Also, each of the initiatives has different connections to and interactions with other international organisations. Common to all is the adoption and promotion of recognized international standards for data, products and services originating from wider community organisations (e.g. FDSN, IASPEI, GEM), and the active participation in developing those further or creating new ones together with the community.

In this presentation we will briefly review the history and development of the three initiatives and discuss how we set up EPOS Seismology as a joint coordination framework within EPOS. We will highlight issues encountered on the way and those that we are still trying to solve in our attempt to create and operate a coordinated research infrastructure that appropriately serves the needs of today's scientific community. Among those issues is also the 'timeliness' of data and products:

while a number of services offer almost-real-time access to newly available information at least in theory, this comes with various downstream implications that are currently actively discussed. We also cover the envisaged role of EPOS Seismology in supporting international multi-disciplinary activities that require and benefit from harmonized, open, and interoperable data, products, services and facilities from the waveform, catalogue and hazard / risk domains of seismology.