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Geo-electromagnetic data and services integration and validation in EPOS

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The European Plate Observing System (EPOS) is a European Research Infrastructure through which science communities will make data and services available in a way that simplifies cross-disciplinary research. Geo-electromagnetic data are currently held in a variety of formats, software and locations, which creates a barrier to access. Data provided through EPOS will conform to common standards and be available from a single portal, opening up cross-disciplinary research possibilities for academics and the public.

Geo-electromagnetic data that will be available through EPOS includes:

- Observatory data from INTERMAGNET, the international network of geomagnetic observatories, and the World Data Centre for Geomagnetism.
- Geomagnetic model calculators, such as the International Association for Geomagnetism and Aeronomy's 'International Geomagnetic Reference Field' and the US/UK 'World Magnetic Model'.
- European regional data and models including data from IMAGE, a dense magnetometer network covering the Fennoscandian region.
- Maps of the crustal magnetic field (MagNetE).
- Data and products related to geomagnetic activity from the European Service of Geomagnetic Indices (ESGI)
- Magnetotelluric time series, transfer functions and conductivity models together with online service for conductivity models update.

We will report on progress in a number of these areas, including:

- The service for Magnetotelluric Data and Models, which is being developed in close contact with its user community. Until now there has been no central server for data storage, therefore this service will rely on data providers facilities. We will describe preliminary agreements with GFZ and the Swedish National Data Centre (SND) to test and use their facilities for data storage and access via EPOS portal. We will also describe work on agreeing exchange formats for data and models with the community.
- Ongoing work to create a metadata system for geomagnetic observatories, including implementation of the database schema and the start of filling the database from existing sources of metadata.
- EPOS has entered a validation phase; a process of scrutinising the sustainability and 'fitness for use' of its products and services. We will describe the input into this validation process of the geo-electromagnetic community in EPOS.