



EPOS-WP16: A Platform for European Multi-scale Laboratories

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The participant countries in EPOS embody a wide range of world-class laboratory infrastructures ranging from high temperature and pressure experimental facilities, to electron microscopy, micro-beam analysis, analogue modeling and paleomagnetic laboratories. Most data produced by the various laboratory centres and networks are presently available only in limited "final form" in publications. As such many data remain inaccessible and/or poorly preserved. However, the data produced at the participating laboratories are crucial to serving society's need for geo-resources exploration and for protection against geo-hazards. Indeed, to model resource formation and system behaviour during exploitation, we need an understanding from the molecular to the continental scale, based on experimental data. This contribution will describe the work plans that the laboratories community in Europe is making, in the context of EPOS. The main objectives are:

- To collect and harmonize available and emerging laboratory data on the properties and processes controlling rock system behaviour at multiple scales, in order to generate products accessible and interoperable through services for supporting research activities.
- To co-ordinate the development, integration and trans-national usage of the major solid Earth Science laboratory centres and specialist networks. The length scales encompassed by the infrastructures included range from the nano- and micrometer levels (electron microscopy and micro-beam analysis) to the scale of experiments on centimetre sized samples, and to analogue model experiments simulating the reservoir scale, the basin scale and the plate scale.
- To provide products and services supporting research into Geo-resources and Geo-storage, Geo-hazards and Earth System Evolution.