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The RESIF project: preparing a the French national infrastructure for EPOS

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The EPOS preparatory phase has the challenge of addressing financial, legal, strategic and technical issues associated with building the future EPOS research infrastructure. Preparing national research infrastructures to be future contributions to EPOS is another major challenge associated with the EPOS preparatory phase. The EPOS partners and associated partners therefore need to address – at least – three issues: 1) preparing the existing infrastructure for easy integration and planning for the construction of missing parts; 2) involving all national players such as network operators and the wide research community in an integrated structure; and 3) raising awareness among the national stakeholders to obtain support for the national project. These are three issues at the heart of the French RESIF project which started in 2007.

RESIF (Réseau sismologique et géodésique français; www.resif.fr) is a research project aimed at building an integrated geodetic and seismic research infrastructure for the study of the dynamics of the solid Earth and its associated natural hazards. Part of the project includes a seismic array composed of 200 broadband stations in metropolitan France and approximately as many strong motion sensors, as well as a mobile broadband array of 250 stations. Extending the measurement of Earth deformation to long periods is another essential part of the project, including 50 GPS stations, and 2 sites with permanent gravimeters. A future extension to include for example volcanic observatories, Ocean Bottom Seismometers, worldwide seismic observations and spatial geodesy is also under discussion. The seismic data distribution is being adapted to efficiently integrate the future EPOS seismic data distribution, for which the forward direction has been set through ORFEUS and several European projects such as NERIES and NERA. The vision for other types of data is still being elaborated within the EPOS framework so for example geodetic data distribution will be adapted as the EPOS model moves forward.

The RESIF project is carried out by a consortium coordinated by the CNRS-INSU. The consortium is composed by 14 universities and major institutes covering all areas of research related to the physics of the Solid Earth, and the consortium has close collaboration with yet more institutes, observatories and universities all over France. A national EPOS coordination group is being created covering all the areas of the EPOS disciplinary working group (for an updated list of members see www.resif.fr).

The RESIF project entered the national roadmap of major research infrastructures in 2008. On top of its increased visibility at the highest levels of the CNRS and within the Ministry of Higher Education and Research, it has since 2010 benefited from financial support from the Ministry of the Environment and the ‘Allenvi Allience’.