



## **Promotion of Earth Science through Transnational Access to the main European Volcanology Research Observatories and Infrastructures**

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Research infrastructures are crucial for promoting the next future research that will be based on the paradigm of open science and open innovation. At different levels and study domains, the European research community is defining protocols to provide access to its main infrastructures, so as to foster the excellence in research as well as education and innovation. For the volcanology community, which is quite new with respect to other research disciplines, the opportunity of developing a network of accessible volcano observatories and infrastructures represents the key for interconnecting the diverse European institutions dealing with Earth Science. Indeed, the prospect to access high quality services and facilities will on one hand develop and strengthen the cooperation among the research community and on the other will allow engagement of users belonging to diverse contexts, such as academy, industry, and society in general. In the framework of the EPOS IP project, the volcanology community (the 'Volcano Observations' Thematic Core Service; VO-TCS) has been focused on the definition and design of proper procedures and activities of Trans-National Access (TNA) to consent the use of the main European Volcano Observatories and Research Infrastructures' facilities and instrumentation for research purposes. In agreement with what stated in the H2020 2014-15 Work Programme, VO-TCS aims at promoting (i) open science for advancing the knowledge on volcanic processes and the related hazards, (ii) the sharing of best practises in volcano monitoring and data analysis and modelling, and (iii) the sharing of resources and experiences among the project partners. Overall, VO-TCS is working on two main kinds of TNAs – access to the facilities of the Volcano Observatories and Volcano Research Infrastructures by individual researchers or research teams, and educational and training activities on volcanology and monitoring techniques. Effectively, VO-TCS intends to grant access to its facilities according to two Access Modes – Hand-on and Remote. In particular, the 'Hand-on' mode will apply to the education and training activities, access to pools of mobile instrumentation, provision of support for surveys and users' instrument installation, and physical access to infrastructures and permanent instrumentation. The 'Remote' mode will be used in the case of provision of rock samples belonging to the service providers' lithotheques and of laboratory analysis remotely offered. Considering the broad request of the scientific community and other stakeholders, the definition of the TNAs in the frame of VO-TCS activities does not represent the first attempt to approach this kind of service provision; in fact VO-TCS is benefiting from the experience gained by some of its partners in the contest of other European initiatives such as ENVRI PLUS (<http://www.envriplus.eu>). Additionally, EPOS IP will take advantage from the recently approved EUROVOL project that will start on 1 February 2018. In effect, on one hand, EUROVOLC will strategically allow the EUROVOLC community to access the VO-TCS services; on the other EUROVOLC participants will feed VO-TCS with new data and products.