

Abstract of Contribution 2016**ID: 2016 / 1.04.3: 2****Open Science 2.0****Oral presentation***Topics:* COSMO-SkyMed, ENVISAT, ERS, Landsat, Pleiades, Sentinel-1, SPOT*Keywords:* Thematic Exploitation Platforms, Open Science, Volcanoes, Earthquakes/Tectonics**The Geohazards Thematic Exploitation Platform****Fabrice Brito¹, Herve Caumont¹, Francesco Casu², Michele Manunta², Oscar Mora³, Nico Adam⁴, Pierre Briole⁵, Fabrizia Buongiorno⁶, Jean-Philippe Malet⁷**¹Terradue, Italy; ²IREA-CNR, Italy; ³Altamira Information, Spain; ⁴DLR, Germany; ⁵ENS, France; ⁶INGV, Italy; ⁷UNISTRA, France

The Geohazards Thematic Exploitation Platform (GEP) is an ESA funded R&D activity to exploit the benefits of new techniques for large scale on demand and systematic processing of EO data in the Geohazards domain. It supports the geohazards community¹ by creating an Exploitation Platform with new models of collaboration where data providers, users and processors produce scientific and commercial exploitable results in the Cloud.

The Geohazards TEP is creating an ecosystem of partnerships for data, applications and ICT resources. With already 22 European early adopters in a validation initiated in March 2015 it defines a new partnership where users bring applications and processors that ran against the data to create value added products with a scientific and/or a commercial value. This partnership seeks a concrete balance where:

- Data providers attract users that extract the value out of the data asset.
- Platform provides key performance indicator (KPI) on data usage to the data providers.
- Cloud providers' services provides commodities to support the ICT challenges created by the growing volume of environmental data from space.

Each project is concerned with either integrating an application or running on demand processing using an application available in the platform. GEP has already guaranteed funding to expand the user base to gradually reach a total of 60 separate users in 2017.

Within GEP, the Open Science stands on the reproducible, citable, discoverable and shareable of data, applications and results. The GEP community can make all of their applications and research outputs available in a citable, shareable and discoverable manner. The partnership with platforms like Github, Zenodo and Figshare provides enhanced object, code and document libraries, where the GEP community can upload files in a number of supported formats and items are attributed a Digital Object Identifier (DOI) a "digital identifier" used to uniquely identify a digital object.

Included activities in the developments and enhancements planned for 2016 are the integration of new accounting and credits management functions. This will pave the road for pay-as-you-go and subscription based services, creating revenue streams for the partners on the platform (technology partners, processing service partners, data provider partners and Cloud provider partners) and will ignite a huge change how the different communities interact. The Platform's capability for massive processing on multi-tenant computing resources is already addressing the challenges of monitoring the worldwide tectonic areas, and of studying the crust behaviour. Moreover, to exploit the generated results, the Platform leverages open APIs for the integration of interactive post-processing and visualization services.

In this presentation, we will describe the GEP consortium effort to support the Open Science challenges and the contribution to the CEOS WG Disasters to support its Seismic Hazards Pilot and terrain deformation applications of its Volcano Pilot.

¹ The geohazards community objectives have been defined in the context of the International Forum on Satellite EO and Geohazards in Santorini in 2012