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# The Geohazards Exploitation Platform v2: moving Cloud Processing services into pre-operations phase

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## Résumé

The Geohazards 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. It supports the geohazards community by creating an Exploitation Platform with new models of collaboration where data providers, users and technology partners produce and deliver scientific and commercial information products in the Cloud.

The Platform is creating an ecosystem of partnerships for data, applications and ICT resources. With a strong user base of early adopters, initiated in March 2015 and growing since then, it defines a new paradigm for EO data exploitation and valorisation, where partners bring-in applications, and processors are deployed close to the data, in order to create value-added products with a scientific and/or a commercial value. It builds on a partnership model where:

Data providers benefit from an integrated workplace to outreach users that seek to extract value out of sensor measurement products;

Technology providers benefit from the Platform's connectivity to data sources, and from the turn-key environment (PaaS) for software integration activities;

Cloud providers benefit from opportunities to provision commodities and services in support of the ICT challenges created by the growing volume of environmental data from space.

The Platform provider delivers insights and key performance indicator (KPI) on the effective sensor data usages, on the Platform's cost effectiveness in running compute intensive processing workflows, and on the Community engagement related to the exploitation of the generated data products and services. The initiative has already secured funding in order to expand its user base, and will gradually reach a total of 60+ individual users by the end of

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2017. Within GEP, the Open Science practice stands on reproducible, citable, discoverable and shareable data, applications and results. The Platform's integration of Cloud services APIs like Github and Zenodo enables users to share research assets and reference these with Digital Object Identifiers (DOI). Also, the Platform's capability for massive processing on multi-tenant Cloud Computing resources is already addressing scientific challenges such as monitoring the worldwide tectonic areas or studying the crust behaviour.

Six Pilots on the Platform are focused on either integrating a new application, or running on-demand processing services made available on the Platform. Activities planned for 2018 include running them in pre-operations mode. They will aim at validating the version 2 of the Platform developments, dedicated to improved robustness and efficiency of the Platform's services for the Geohazards community. This will pave the road for pay-as-you-go and subscription based services, with accounting and credits management functions, and potentially creating revenue streams for the technology partners, scientific partners, data provider partners and Cloud provider partners operating on the Platform.