Introduction

The Geohazards Exploitation Platform aims to support the exploitation of satellite Earth Observations for geohazards with primary focus on mapping hazard prone land surfaces and monitoring terrain deformation. GEP provides data processing services and support for the community to integrate their own algorithms on the platform.

Overview

The Geohazards Exploitation Platform (GEP) supports the geohazards community with on-demand processing for specific user needs or systematic processing to address specific area-of-interest analysis. The GEP processing services include basic services providing full resolution imagery and change detection imagery for rapid online visualization and advanced services both for Optical & SAR data processing. The advanced services include Classic InSAR diachronic analysis, Advanced InSAR for Persistent Scatterers and Small Baseline time series, Digital surface model generation from satellite optical stereo images and Detection and measurement of horizontal ground motion from Optical imagery.

The GEP provides also a dedicated Cloud application integration environment with software tools, libraries and access to distributed Earth Observation data repositories powered by dedicated ICT resources and storage. Packaged algorithm can be deployed, operated and delivered as a service in the Geohazards Exploitation Platform

The GEP Processing Services have access to the 70+ Terabytes of ERS and ENVISAT archive data and the Copernicus Sentinel-1 available online. The optical data such as the Copernicus Sentinel-2 and Sentinel-3 and the third party missions SPOT, Pléiades and Landsat 8 complement the data resources.

The GEP offerings are divided in 7 products:
1. Data Processing Service
2. Support to Algorithm Integration
3. Operational Algorithm Hosting
4. Interactive Development Environment
5. Community Data Hosting for Exploitation
6. User Support Services
7. User Training

Support to Algorithm Integration

The **Support to Algorithm Integration** pack provides a dedicated Cloud application integration environment with software tools, libraries and access to distributed Earth Observation data repositories powered by dedicated ICT resources and storage.

This pack is targeted for developers that want to adapt and package their existing algorithms written in a specific language (e.g. Python, R, Java, C++, C#, IDL) to fully exploit the power of distributed computing on a production Cloud.

The support provided is focussed on guiding the developer to define the parallelisation strategy, the data management requirements, the tools and libraries necessary, and identify the overall best production plan in a Cloud environment that can be matched by the integrated algorithm. Ultimately, the algorithm is included in an Application Package ready to be deployed and scaled in the Geohazards Exploitation Platform powered by a production Cloud and exposed through a Web Service endpoint, Web Processing Service (OGC WPS).

This pack includes the access to radar products from the ERS, ENVISAT, COSMO SkyMed and Copernicus Sentinel-1 archived products complemented with optical data products such as the Copernicus Sentinel-2, Sentinel-3, SPOT, Pléiades and Landsat 8.

User Algorithm Hosting				
Scenario	**Billing model**	**Pack name**	**What we offer**	**What it costs**
service integration	monthly subscription	**Support to Algorithm Integration**	2 DCS instances 1TB Persistent Storage (*) Access to free EO data collections available in GEP (**) Support Plus	**€2250 Monthly fee**

(*) Additional storage available in pay-per-use at €35 TB/month
(**) Optionally users can bring their own data products with additional cost of €40 TB/month for storage and catalogue

Operational Algorithm Hosting

The **Operational Algorithm Hosting** pack deploys and operates a previously packaged algorithm, delivered as a service in the Geohazards Exploitation Platform and exposed through a Web Service endpoint, compliant with the Open Geospatial Consortium Web Processing Service (OGC WPS) standard interface.

This pack is targeted for service providers who want to deliver an operational processing service in the Geohazards Exploitation Platform to a group of selected end-users, portals and B2B client applications. The authorized users of the service will have access to the Platform and will be able to define processing parameters and trigger data processing jobs or setup systematic processing requests, and to establish the data pipelines for the retrieval of the information produced from radar products from the ERS, ENVISAT, COSMO SkyMed and Copernicus Sentinel-1 products complemented with optical data products such as the Copernicus Sentinel-2, Sentinel-3, SPOT, Pléiades and Landsat 8.

This offering includes the provision of the ICT resources necessary for the planned usage scenario, the operations management for the hosted service and the Web Applications customized for the service execution and monitoring.

User Algorithm Hosting				
Scenario	**Billing model**	**Pack name**	**What we offer**	**What it costs**
service operations	pay-per-use	**Operational Algorithm Hosting**	Operations Management Processing Capability 1TB Persistent Storage (*) Access to free EO data collections in GEP (**) Infohub for service execution, monitoring and discovery Support Basic	**€1,5 per input product (***)**

(*) Additional storage available in pay-per-use at €35 TB/month
(**) Optionally users can bring their own data input products with additional cost of €40 TB/month for storage and catalogue
(***) Price per initiated hour; €700 setup fee; €500 minimum monthly consumption

Upgrade	Processing Nodes	Price per input
High	up to 4	€ 3,00
Extra	up to 12	€ 6,00
Custom	Contact us for more	