



## 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



## Data Processing Service

The Data Processing Services support the geohazards community with on-demand processing for specific user needs or systematic processing to address specific area-of-interest analysis. To exploit the geo-information generated, the Platform leverages Jupyter Notebooks and open APIs for the interactive processing and post-processing services and enables users to exploit and share the processing results. The Data Processing Services can be consumed in a pay-per-use or subscription model.

Data Processing Service				
Scenario	Billing model	Pack name	What we offer	What it costs
on-demand processing	monthly subscription	<b>Basic (+)</b>	Processing of 250 Input Products 1TB Persistent Storage (*) 1 Jupyter Notebook Support Basic	<b>€300 Monthly fee</b>
		<b>Essentials (+)</b>	Processing of 250 Input Products 1TB Persistent Storage (*) 1 Jupyter Notebook Support Basic	<b>€550 Monthly fee</b>
		<b>Plus (+)</b>	Processing of 250 Input Products (max 40 for MPIC-OPT) 1TB Persistent Storage (*) 1 Jupyter Notebook Support Medium	<b>€750 Monthly fee</b>
		<b>Advanced (+)</b>	Processing of 500 Input Products (max 60 for MPIC-OPT) 1TB Persistent Storage (*) 1 Jupyter Notebook Support Medium	<b>€1100 Monthly fee</b>
	pay-per-use	<b>Flex</b>	Data processing services 1TB Persistent Storage Support Basic	<b>Service consumption (**)(+)</b>
automatic processing	pay-per-use	<b>Pipeline</b>	Data processing services 1TB Persistent Storage Support Plus	<b>Service consumption (**)(***)(+)</b>

(\*) Additional storage available in pay-per-use at €35 per TB/month

(\*\*) €500 minimum monthly consumption; Optional Jupyter Notebook Daily Cost €4

(\*\*\*) €700 setup fee; monthly €450 fee for Support Plus

(+) See list of available services in the next page

The **Flex** and **Pipeline** packs provide access to all Data Processing Services in a pure pay-per-use model.

The monthly subscription packs are divided into 4 categories:

- **Basic:** Optical and SAR services for rapid EO data screening and combination
- **Essentials:** Conventional InSAR/Optical services for earthquake response, land subsidence and volcanoes monitoring
- **Plus:** Optical services for landslide detection, inventory mapping and monitoring of landslide motion
- **Advanced:** Advanced Terrain Motion services for SAR time series analysis

(+) List of available services in each Service Pack, and per product price for pay-per-use processing

Service	Basic	Essentials	Plus	Advanced, Flex, Pipeline	Price per input product
COMBI	x	x	x	x	€ 1,2
RASTER	x	x	x	x	€ 1,2
Sentinel-1 GRD RGB composite	x	x	x	x	€ 1,2
Sentinel-2 Burned Area Analysis	x	x	x	x	€ 1,2
Sentinel-2 RGB composites	x	x	x	x	€ 1,2
Sentinel-3 Active Fire Detection	x	x	x	x	€ 1,2
Sentinel-3 OLCI composites	x	x	x	x	€ 1,2
Sentinel-3 SLSTR composites	x	x	x	x	€ 1,2
COIN		x	x	x	€ 2,5
DIAPASON SM		x	x	x	€ 2,5
DIAPASON TOPSAR		x	x	x	€ 6,0
GMT5SAR ENVISAT		x	x	x	€ 6,0
GMT5SAR S1		x	x	x	€ 6,0
SNAC		x	x	x	€ 2,5
SNAP CSK DInSAR		x	x	x	€ 2,5
SNAP Interferogram & Displacement		x	x	x	€ 6,0
STEMP L8 and ASTER		x	x	x	€ 2,5
STEMP Sentinel-2		x	x	x	€ 2,5
STEMP Sentinel-3		x	x	x	€ 2,5
MPIC-OPT Sentinel-2			x	x	€ 19,0
DSM-OPT			x	x	€ 2,5
ALADIM Sentinel-2			x	x	€ 6,0
ALADIM VHR			x	x	€ 2,4
FASTVEL				x	€ 3,0
P-SBAS Sentinel-1				x	€ 3,5

## Community Data Hosting for Exploitation

The **Community Data Hosting for Exploitation** pack provides a secure environment in the Cloud to host data collections targeted for data access from a community, according to findability, accessibility, interoperability, and reusability (FAIR) principles. The data collections are published in the metadata catalogue for discovery. They are made available for specific combinations of visualization, processing or download tasks (depending on the dataset type).

This pack is targeted for organisations wanting to have a data collection they own hosted on the platform for exploitation or to guarantee the long-term preservation of data processing services results.

This offering includes the provision of the storage space, data ingestion, registry and data discovery and access services via standard API. The catalogue services follow the best practices for search services as defined by the CEOS (Committee on Earth Observation Satellites) using OGC OpenSearch with Geo, Time and EO extensions.

Community Data Hosting for Exploitation				
Scenario	Billing model	Pack name	What we offer	What it costs
data hosting for exploitation and reproducibility	pay-per-use	<b>Community Data Hosting for Exploitation</b>	Data Ingestion Service Data Catalogue with OGC OpenSearch with Geo, Time and EO extensions Support Basic (*)	<b>€0,08 GB / Month</b>

(\*) Support upgrades available according to the User Support Services offering