EOPEN TEAM

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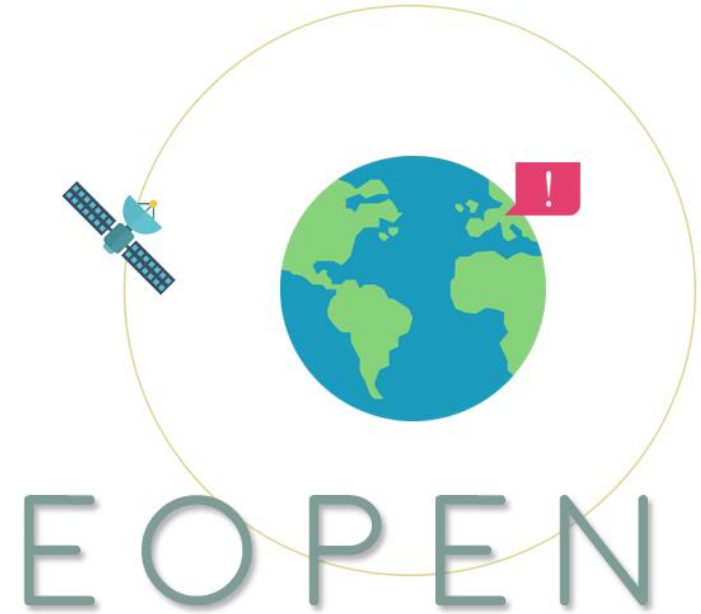E: Guido.Vingione@serco.com

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EOPEN

Open Interoperable Platform for Unified Access & Analysis of Earth Observation Data

**http://www.eopen-project.eu/**

@EOPEN_project

CHALLENGE

Data and services derived from space systems, including satellite images, geo-positioning information and satellite communications, contribute to a number of public policies and economic sectors. Access to data needs to be user-friendly and easy to be integrated into user defined processes. The sheer volume of heterogeneous EO and non-EO data streams puts EOPEN at the forefront of the Big Data challenges.

VISION

Big Data technologies for Copernicus user scenarios are needed to tackle the technical barriers arising from the massive streams of EO data. The vision of **EOPEN** is to ensure scalability of the data standardisation, fusion and exchange methods, combining also non-EO data and metadata annotation, to combine mature ICT solutions and scalable processing techniques, building on top of existing European HPC infrastructure and being compatible with DIAS platforms.

OVERALL GOAL

The overall objective of **EOPEN** is to provide a platform targeting non-expert EO data users (non-traditional user communities), experts and the SME community that reveals and makes Copernicus data and services easy to use for Big Data applications by providing EO data analytics services, decision making and infrastructure to support the Big Data processing life-cycle allowing the chaining of value adding activities across multiple platforms.
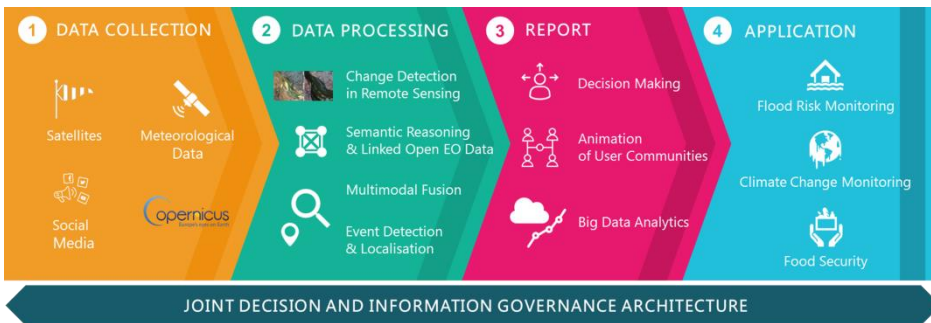

DEMONSTRATION

Flood risk assessment and prevention: EOPEN will be demonstrated in real use case scenarios, and the end users will be citizens of an Italian town (Vicenza), suffering from occasional flash floods and need to monitor the water level, not only using sensor data and social media posts, but exploiting the opportunities offered by the open and free nature of Copernicus data.

Food Security through EO datasets: A novel food security value chain solution will be developed that it is based on Earth Observation, Copernicus Land Monitoring, non-EO (i.e. in-situ, meteorological, geology properties, soil properties, Soil Productivity Index) data, and social media data.

Monitoring climate change through EO datasets: EOPEN shall provide user-friendly, online visualization and analysis tools to investigate regional climate change trends. Emphasis is given on the Arctic change, using satellite and ground-based data on atmospheric temperature and snow cover, and social media posts.

EOPEN APPROACH
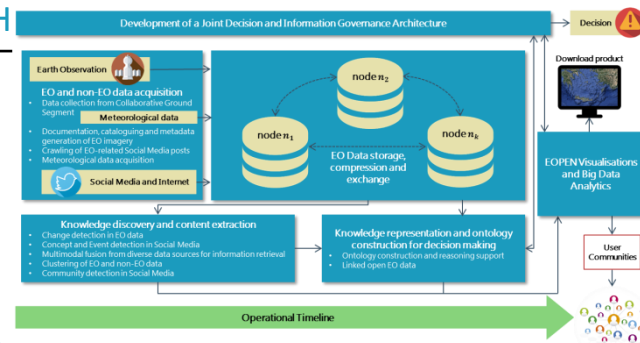
EOPEN collects data from multiple and heterogeneous sources, discovers knowledge, extracts content, semantically represents and links data and generates reports.

EXPECTED IMPACT

EOPEN makes access to the EO imagery easy and user friendly through scalable dissemination and exploitation software based on international standards.

EOPEN establishes interoperable access to facilities to all EU Member States linking and networking data and processioning capabilities.

EOPEN allows public and commercial users to interact with and serve their user base without deploying their own storage and processing facilities.

EOPEN assists preparedness, prevention and response in natural disasters and consequences of climate change, using EO imagery, meteo data, text, image and social media posts.