POMERIUM

**POMERIUM** is a cutting-edge **multi-technology** solution design and development by a team of **specialized Companies**, led by **e-GEOS**, to provide services for the **conservation of Cultural Heritage assets.**

CH is a "Common good" suffering by high vulnerability, whose enemies are: time, weather, environmental hazards and anthropic injuries. Both in case of CH assets located in urban context than in rural areas, the monitoring and forecasting of degradation phenomena due to hexogen and endogen risks is of main importance for granting the best conditions for conservation.

POMERIUM offers to this complex task its wide range of solutions, driving the CH managers, through a digital replica of the asset, towards an easier planning of monitoring tasks and maintenance/restoration actions. The system relies on the most advanced technological solutions as RPAS, Satellite data, IOT in-situ sensors, 5G connection and provides digital GeoInformation products as actionable items for the timely asset monitoring. All data and services produced by POMERIUM are accessible through CLEOS/AWARE digital platform, a very performant point of access offering to the User all the most advanced functions to access, experience and manage them.

## TO WHOM

- Central Public Authorities
- Local Public CH managers
- CH professionals
- Scientific Institutions

## CAPABILITIES

- Multisources Integration
- Cloud processing and services
- Easy and cheap assessment and monitoring of the main natural and anthropic risks for CH
- NRT monitoring data availability
- Data analysis
- Tools and statistics
- High precision
- Historical evolution and monitoring

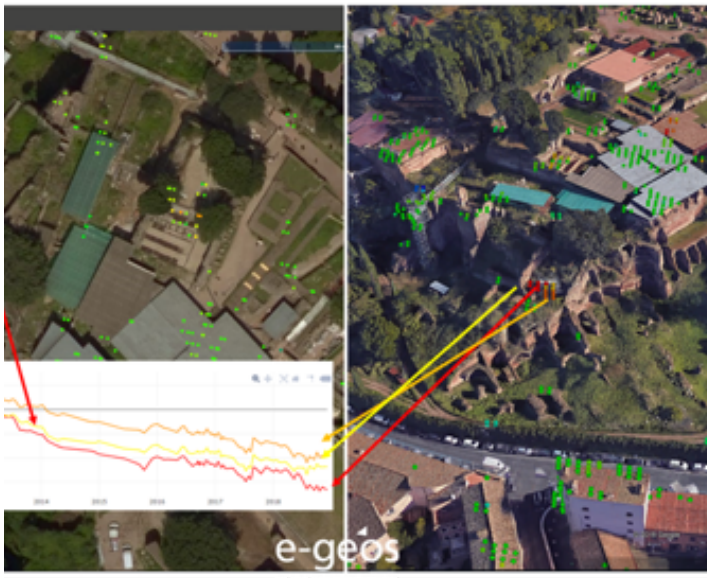
# SERVICES

### Stability analysis

Identifying deformation and landslides in an early stage is crucial to plan maintenance, inspections and prevent major events to CH. POMERIUM, through PSP-IF¬SAR proprietary algorithm, applied to satellite SAR data, enables high quality, millimeter precision, high density InSAR analysis (historical and monitoring) for slow deformations, including high resolution analysis with COSMO-SkyMed.

The outputs of the service are vector maps to visualize in 2D or 3D model and evidencing the most critical situation on the examined areas.

A continuous monitoring can be also set up through dedicated on site IOT sensor networks for critical situations or critical assets




### Anthropic impact analysis

Assessing the impact of the anthropic activities on the CH by remote sensing data (VHR satellite and RPAS surveys) and Image Recognition techniques. Particular attention is dedicated to the illegal use of the territory, such as unauthorized waste discharges. The service gives back vector maps, regularly updated in order to detect changes.

### Weed vegetation monitoring

Monitoring the presence and growth of weed vegetation on the historical structures, in order to avoid damages to their integrity and structural conditions. RPAS close surveys will supply optical and IR images to analyze for the production of vegetation vector maps to be regularly updated to detect changes.

### Air quality analysis and impact evaluation

Assessing, constantly monitoring and forecasting the presence of main pollutant agents to prevent surfaces degradation by a multi-technology set of instruments, RPAS, IOT sensors on site, forecasting algorithms. The service identifies the pollutants distribution around CH, classifies them according to their potential dangerousness, monitors their trends and simulates their future effects on the exposed surfaces.