

Services Overview



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Value proposition

Technological solutions for security, resilience and sustainability of infrastructure and territory

Combining advanced research and technological development, NHAZCA creates state-of-the-art solutions that protect and monitor the environment and critical assets.



About us



NHAZCA (Natural HAZards Control and Assessment) is an international leader in the analysis and monitoring of natural hazards and large infrastructures for the management and mitigation of risks.

We are passionate geologists, civil engineers, project managers, and technicians, offering a unique blend of expertise from both the private and academic sectors.

Since 2009, our ambition has been relentless: to transform geological and geotechnical data into action for the prevention and management of natural hazards, ensuring the sustainability of structures and infrastructures, with a single, globally applicable protocol.



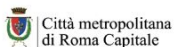
Our mission

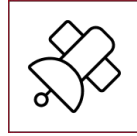
To empower clients with comprehensive solutions for analyzing and monitoring natural hazards and structural health. Through a combination of expertise, innovation, and dedication, we deliver consultancy services and technological tools that enhance safety, optimize performance and minimize risks.

Our vision

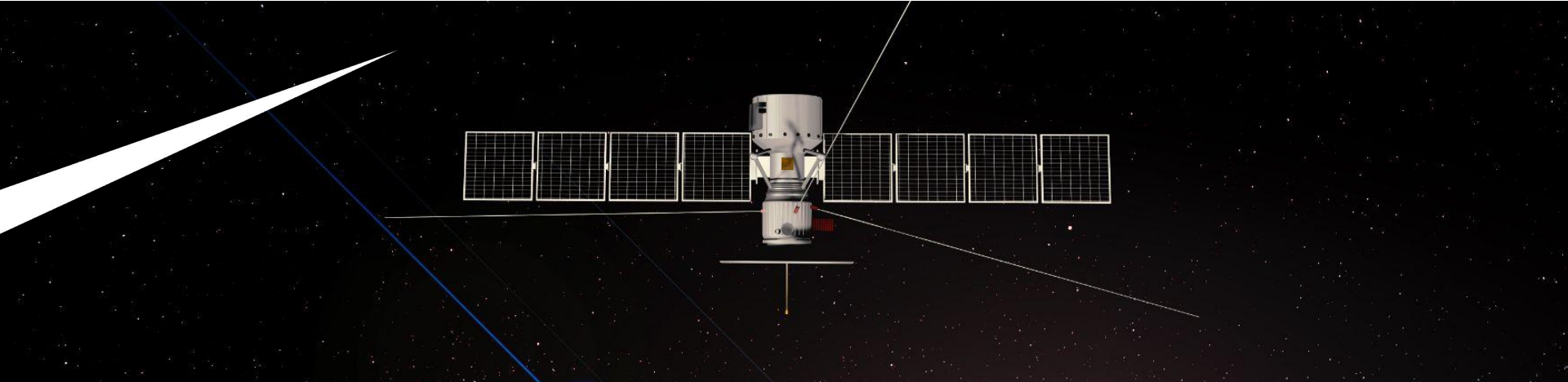
To become the premier provider of efficient, reliable, innovative, high-quality products and services for the analysis & monitoring of natural hazards and structural health.

Clients





Technologies

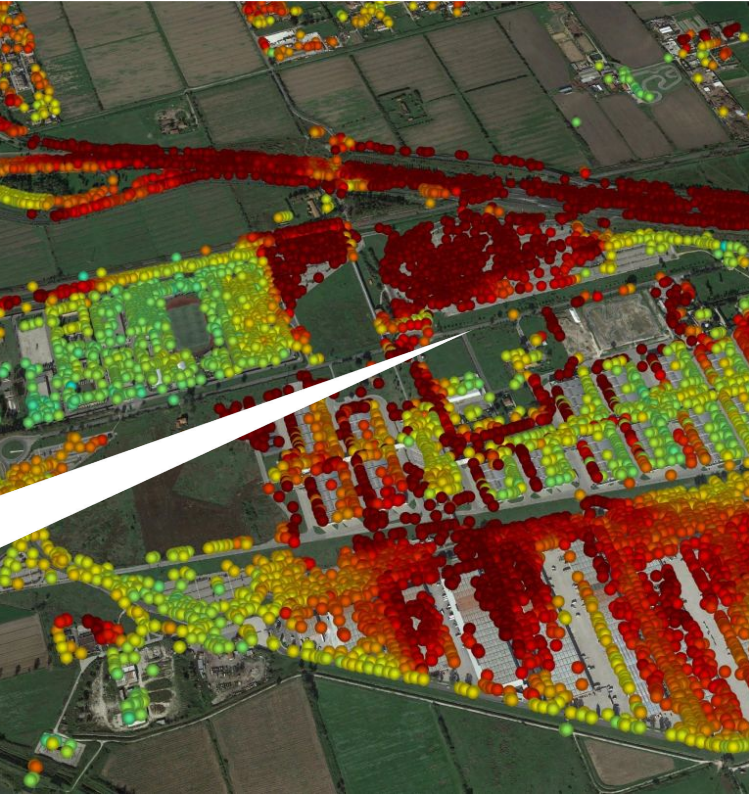


→ PhotoMonitoring™

PhotoMonitoring™ is an advanced monitoring product developed by NHAZCA for analysis and control of property and assets.

PhotoMonitoring™ was developed in response to the growing need for real-time land and structure monitoring solutions. This system is based on the analysis of images acquired by various ground, airborne and satellite sensors and platforms.

This new investigation methodology is based on a series of advanced image processing algorithms, such as digital image correlation and change detection, to identify variations and displacements with sub-pixel accuracy.



Who is PhotoMonitoring™ useful for?



PhotoMonitoring™ for Tunnel Convergences Monitoring

PhotoMonitoring™ for Tunnel Convergences Monitoring is an innovative and cost-effective product for monitoring existing or new tunnels.

By periodically acquiring images from one or more observation points, displacements of the tunnel lining can be measured over time using a temporal (time series of displacements at each visible point in the image) and spatial (full-field displacement maps to reconstruct the entire deformation field) approach.



BENEFITS

No need for physical targets

PhotoMonitoring™ does not require the installation of targets or other objects within the context of interest.

Comprehensive spatial data

The technology moves from point data to spatial data for a detailed and comprehensive view of structural deformation.

Remote management

The versatile, automated and configurable system can be fully managed remotely.



PhotoMonitoring™ for Rockfall Counter & Mapping

The rockfall counter & mapping is a valuable tool for monitoring slopes or rock slopes affected by collapses. By periodically capturing images from one or more observation points, it is possible to detect, map, and quantify rockfall phenomena, even of small scale, to identify the most susceptible portions of the slope.

PhotoMonitoring™ enables the creation of detailed maps showing the distribution and frequency of rockfall phenomena, supporting the development of appropriate preventive or protective measures and enhancing safety in at-risk areas.



BENEFITS

Zero Physical Targets

No need to install targets or other objects in the investigated area.

Change maps

The system generates change maps of the visible portion of the slope or escarpment, transitioning from point data to spatial data.

Fixed observation point

The system uses a fixed observation point, eliminating uncertainty caused by repositioning the instrument for subsequent acquisition.



PhotoMonitoring™ for landslide rapid mapping

PhotoMonitoring™ for landslide rapid mapping is an innovative, relatively cost-effective solution for monitoring the stability of a slope or escarpment affected by landslide events.

Using strategically placed cameras, the system captures high-resolution images from one or more observation points to monitor ground movement and map changes over time.



BENEFITS

Access to detailed maps

The system allows you to work on detailed maps of changes in the visible portions of the slope or embankment, moving from point data to spatial data.

Variable acquisition frequency

Users can easily adjust the image acquisition frequency, increasing or decreasing it based on weather conditions.

Speed of decision-making

PhotoMonitoring™ provides decision support for authorities to mitigate hazards and protect vulnerable areas.

Contacts

**Get in touch with us now and
revolutionise the security of
your area with high
technology**

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