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RHETICUS®: DYNAMIC AND CONTINUOUS GEOINFORMATION SERVICE FOR DISASTER
MANAGEMENT AND CRITICAL INFRASTRUCTURE**Abstract**

Land and infrastructure monitoring is a key activity to ensure people's safety, environmental protection and the safeguarding of assets at all stages of the life cycle of infrastructure design, production and management. The reducing costs of satellite data, with the continuous availability of free and open Copernicus data, in conjunction with the power of cloud platforms, provides an unprecedented opportunity to increase the strength of different applications for infrastructures monitoring and disaster risk monitoring and reduction. To exploit the value of the constantly increasing availability of satellite data collected on weekly and even daily basis on Earth, Planetek Italia created Rheticus®, a cloud-based platform which provides tools for the automatic selection, processing and delivery of ready-to-use geo-information services, thus enabling the integration of vertical applications for different markets. Thanks to Rheticus®, users worldwide avoid a number of potential problems, such as the lack of expertise in data management. They subscribe to on-line services which continuously deliver information in the form of maps, reports, alerts and geospatial indices, which are dynamically displayed through an intuitive online dashboard, on mobile applications or in a machine-to-machine (M2M) way, directly in users' applications. Among the services that Planetek currently sells through Rheticus® platform, the ones that are focused on disaster management and emergency response are shortly described below:

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Network Alert: is a vertical web service for the continuous monitoring of instability phenomena affecting pipeline networks (water and sewage) in urban areas, caused by ground displacement.

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Safeway: is a vertical web service for the continuous monitoring of instability phenomena affecting transportation infrastructures (roadways, railways, including bridges and tunnels) and/or their nearby areas, caused by structural defeats or ground displacements such as landslides or subsidence phenomena.

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Building Check: is a vertical web service to support the management of the field inspection of buildings based on the ground/building motion measurements.

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Safeland: is a vertical web service that offers periodic reporting of the stability of the territory through the portioning into cells of the area of interest and their classification based on the trends and anomalies measured.