



**ISTITUTO NAZIONALE  
DI GEOFISICA E VULCANOLOGIA**



**THE ITALIAN  
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& RESEARCH  
NETWORK**

PRESS RELEASE

### **The GARR network is growing: INGV is a new partner**

*Real-time monitoring and seismic rooms in the cloud: with the entry of INGV among the members, the Consortium GARR Association, which manages the Italian research and education network, expands.*

*[Rome, November 5, 2020]*

The Consortium GARR Association, which takes care of the national backbone for research and provides ultra-broadband connectivity and services to the scientific, educational and cultural community, is enriched with a new piece of Italian research: National Institute of Geophysics and Volcanology (INGV) has become a new member.

The INGV therefore joins the promoters: CNR, ENEA, INFN and Crui Foundation representing Italian universities and INAF, also recently associated.

*“We are happy and honored by the participation of INGV in our Association”, says GARR President Sauro Longhi. “It is the consolidation of a fruitful collaboration of over 20 years. By participating directly in GARR activities, INGV will bring prestige and good practices to the entire network and the benefit will be for the entire national research community”.*

*“The association with GARR consolidates a more than ten-year collaboration. With it the whole INGV IT backbone becomes more robust and certainly resilient in any down of local networks, events always possible considering the dense network of sensors, located even in the most inaccessible points of our territory such as the peaks of the volcanoes”, says Carlo Doglioni, President of INGV.*

To date, there are 13 INGV offices connected with very high bandwidth capacity with the GARR network: a digital infrastructure essential for real-time observation and monitoring of earthquakes, volcanoes and tsunamis. Some of these Observatories, Centers and Laboratories carry out highly specialized activities and, in some cases, are located in areas with a strong digital divide such as the headquarters of Nicolosi (CT) on the slopes of Etna, the Info Point of Stromboli and the Lipari Geophysical Observatory, headquarters of strategic centers for monitoring Aeolian volcanoes.

Among the many international collaboration activities involving the two entities is the European Multidisciplinary Seafloor and water column Observatory (EMSO) initiative. It is an international consortium (so-called ERIC) whose Italian participation (host country) is coordinated by INGV, which sees among its nodes the Sicilian site of Portopalo di Capopassero (SR), already connected by optical fiber. This site will be the home to a data center of strategic importance, which hosts a network of marine observatories for

monitoring and studying geophysical processes, oceanographic and biological that take place in the depths of the ocean.

A recent successful collaboration experience was the one that is leading to the creation of a cloud seismic room.

*"With the creation of a private INGV Cloud distributed between the monitoring offices in Catania, Naples and Rome, we have laid the foundations to promote the technological convergence of the operating rooms, with the advantage of achieving an operating economy even in the long term. With this choice we ensure operational continuity between them, given that the Cloud infrastructure created is one of the possible solutions for the operational continuity of monitoring services, although it is not proposed as a system for Disaster Recovery, but as an infrastructural feature or facility to be used within a broader plan for business continuity"* says Giovanni Scarpato, Head of the Information Services Center INGV and Person in Charge INGV to GARR.

The goal was to federate the INGV seismic rooms of Naples, Rome and Catania using the GARR federated cloud model which among the advantages offers the guarantee of monitoring continuity, even in the case of unavailability of one of the rooms, for example due to an evacuation. The cloud solution gives the ability to access data and computing power regardless of the location of the hardware or researchers. The three rooms have been interconnected, so that the individual data centers can communicate with each other and can be considered as a single room with no geographical distances.

The presentation of the distributed seismic room and the best practice of using cloud resources for EMSO activities will be an integral part of today's GARR 2020 Workshop entitled "Net Makers, the community that innovates the network".

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