



Terabit Network for Research and Academic Big Data in Italy

2023

HPC infrastructure



The Italian node of European infrastructure PRACE

High-speed Network



GARR, the Italian Education & Research Network

Cloud edge for Big Data and AI



The INFN distributed computing infrastructure

In Europe



EuroHPC
Joint Undertaking



The data highway for scientific research

HPC enhancement



Terabit network



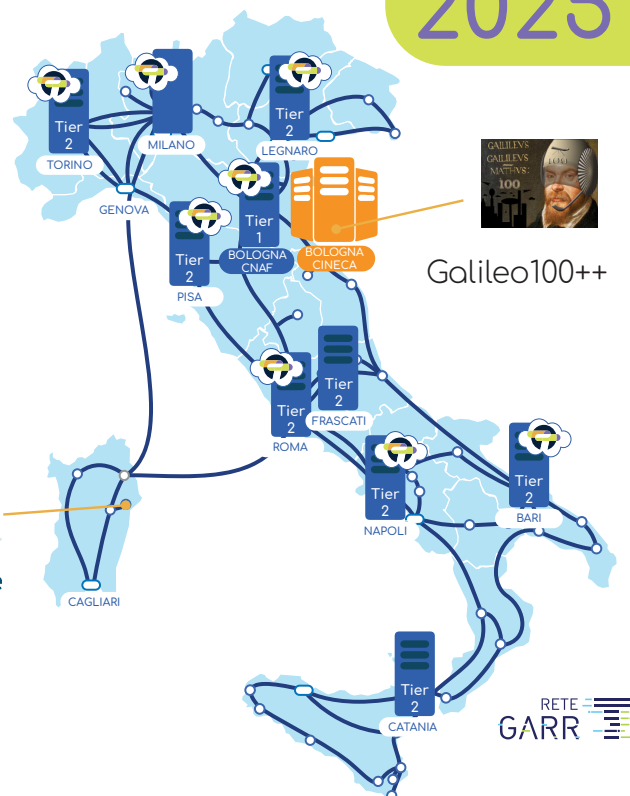
HPC bubble



The infrastructure will be based on state-of-the-art dedicated fiber optics, which will enable ultra-fast data exchange on the order of one Terabit per second (one trillion bits), providing access to high-performance computing resources to all researchers, wherever they are.



2025

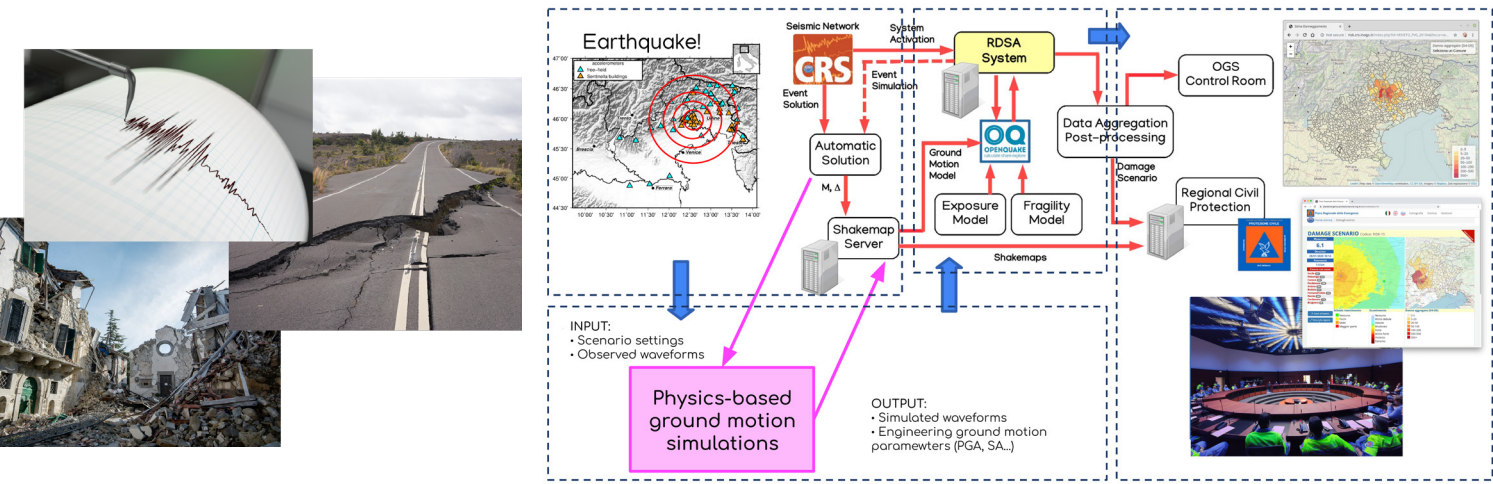




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use case

A near real-time earthquake physics-based ground motion simulations in northeastern Italy



Initial results

- Definition of the calculation workflow and requirements (time, HPC resources)
- Workflow implementation within the Terabit infrastructure
- Definition of two seismic scenarios for testing
- Identification of challenges and opportunities on different Terabit services

Rapid assessment of seismic damage

with the support of POLITECNICO MILANO 1863

