ROME UNDERGROUND INFRASTRUCTURE “B1 LINE”

Structural Health Geotechnical Monitoring

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Consorzio TreEsse is involved in Structural Health Monitoring activities during the excavation works of the new line of Rome underground “B1 line”. The total length of the B1 line of Rome underground is 5 Km.

Plan of Rome underground infrastructures

“B1 line” Rome underground

Annibaliano Metro station

Monitoring-sections plan of Rome underground “B1 line”

HICAP MONITOR: management software tool of Consorzio TreEsse Geo-structural monitoring System

Geodetic measurements by total automatic stations in Rome underground “B1 line”

European Project
GENESI: Green sENsoR Networks for Structural monitoring

Project Coordinator: Prof.ssa C. Petrioli of the University of Rome “La Sapienza”

GENESI will develop a new generation of large-scale, heterogeneous, energy-efficient, situation-aware wireless sensor networks for structural health monitoring and control which are able to autonomously operate for several decades performing in situ reasoning and evaluation of potential failures invisible to current monitoring.

Settlements and all kind of displacements (inclination, movements) are measured by geodetic measurements by total stations. These measurements are automatic and their advantage is to cover a great number of points in a large area.

Sensors sensor nodes are applied to monitoring at Rome underground “B1 line” tunnel under-construction. Each monitoring section is constituted by 2 or 3 concrete segments, equipped with 6 strain gauges with vibrating wire.