



ENGAGE |

Engineering group for Underground solutions

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for Underground
solutions



ENGAGE is an experienced Team of professionals with the common goal to provide a valuable support and consultancy in projects where **Tunnels and Underground Structures** are involved.

Our strength lies in the solid background as Designers of infrastructures with a large underground component in the road, railway and hydraulic sector, and in the capacity to find technical solutions for complex cases of soil-structure interaction and applied Geology.

ENGAGE is an initiative by 3 existing Italian Engineering firms: **ENSER**, **Geotecna Progetti** and **GEODES**. Active in the field of Tunnel and Underground Engineering for several decades, they have complementary competences and strong common values and possibility for synergy.

Who
are
we?

ENGAGE wants to provide to its Clients a valuable service, performed by expert and **motivated professionals**, always seeking for innovative solutions and for personal improvement.

150+

PROFESSIONALS

7+

CERTIFIED BIM SPECIALISTS

7+

OFFICES

2'260M€+

OF COMPLETED TUNNELS
AND UNDERGROUND PROJECTS

175km+

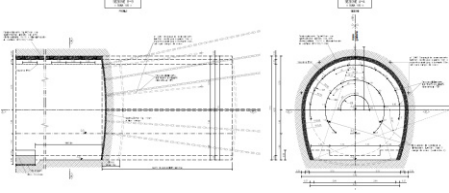
OF TUNNELS
DESIGNED

7.5M€+

ANNUAL
REVENUE

Our Services

Preliminary and Detailed Design



Design Verification



Assistance during Construction



Project Management and Work Supervision

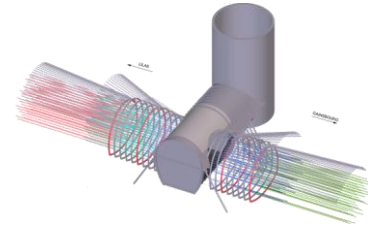


Our Competences

Created in 2022, **ENGAGE** is the initiative by 3 Italian Engineering firms involving over 150 professionals with multidisciplinary skills and experiences

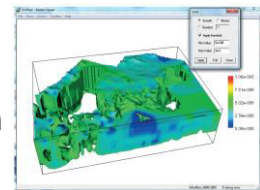
ENGAGE works in a **BIM** environment, as it is becoming requested nowadays by most Clients and by the software development.

Underground projects often have interference with MEP and existing infrastructures, and quality control of construction drawings is critical when the contractor is on site.



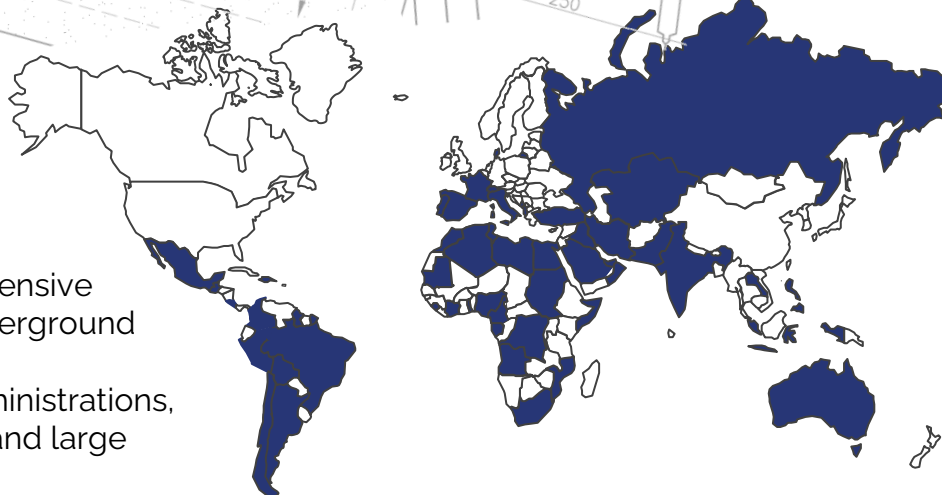
Combining BIM software with **parametric design** gives us the flexibility to adapt easily to our Client's needs.

We can perform **hydrogeological modeling** (with MODFLOW) for the evaluation of the drainage capacity of a tunnel and the effects on the surrounding groundwater.



World-wide Experience

The firms of ENGAGE have extensive experience of Tunnel and Underground projects in Italy and abroad. Our Clients include Public Administrations, multi-utility service providers and large International Contractors.



TBM excavated tunnels with precast concrete segments

Metro and urban railways

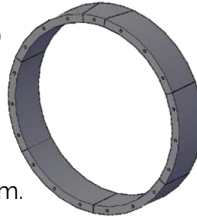


Investigation tunnel "La Maddalena" for new HS rail link Turin-Lyon (Chiomonte, Italy)

Detailed Design (incl. excavation supports), geomechanical characterization, numerical analyses and construction assistance. L=7.2km. Max overburden 2000m

Tunnel for Hydro Power Plant (Torito, Costa Rica)

Detailed Design (incl. excavation supports), geomechanical characterization, numerical analyses and construction assistance (EPBM borers). Precast concrete segments reinforced with rebars or fibers. L=3.5km. Max overburden 180m.



Arvier Hydroelectric Plant Diversion Tunnel (Arvier, Italy)

Detailed Design and Construction supervision for tunnel excavation in hard rock (3.6 m diameter, open TBM excavation) L=1.6km. Max overburden 215m.

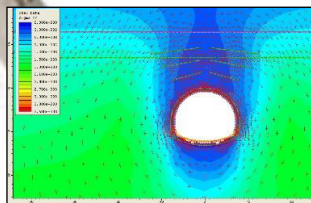
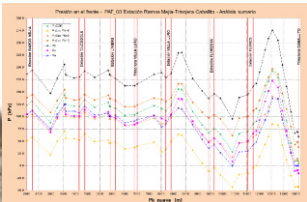
Mavi Hydraulic Tunnel (Konya, Turkey)

Detailed Design (incl. excavation supports), geomechanical characterization, numerical analyses and construction assistance (double shield TBM). L=17km. Max overburden 400m.



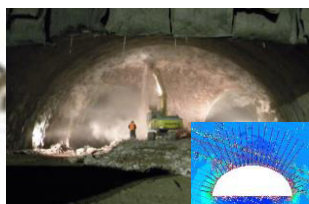
Burying of Sarmiento railway line, (Buenos Aires, Argentina)

Preparation of PAT (Plan of Advancing TBM) and monitoring plan for new Sarmiento railway tunnel below existing surface railway line (TBM-EPB excavation). Max overburden 20m.



Buttoli Tunnel along new highway A1 Bologna-Firenze (Buttoli, Italia)

Detailed Design (incl. excavation supports), numerical analyses and construction assistance. L=1 km. Max overburden 50m.



Connection SS12 - SS48 (Ora, Italy)

Detailed Design and construction assistance for the South portal of the S. Daniele tunnel. Max overburden 60m.



Vancouver Rapid Transit urban railway line (Vancouver, Canada)

Detailed Design and construction assistance (double shield TBM). L=2.5km.

Metropolitana di Brescia, Marconi Station (Brescia, Italy)

Preliminary and Detailed design, assistance during construction.



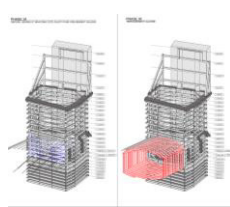
Cityringen Project, Metroselskabet (Copenhagen, Denmark)

Design verification of Preliminary and Construction Design of stations, shafts and double track tunnels (TBM and EPBM excavated). L=17.4km.



Mairie des Lilas station new accesses (Paris, France)

Tender and Detailed Design of 3 accesses with BIM modeling (LOD450), assistance to construction, mission G3 étude.



Emergency exit for Meudon railway tunnel (Paris, France)

Detailed Design, BIM modeling, assistance to construction, mission G3 étude for D=9m circular shaft and L=59m horizontal tunnel. Max overburden 43m.



Huckepack Corridor along Simplon railway (Premosello-Iselle, Italy)

Detailed Design and construction assistance for tunnels shape adaptation, maintaining railway operations. Max overburden 1200m.



Conventional tunnels for road and railway infrastructures

Key Professionals



Eng. Francesco Carlomagno

Technical Supervisor of **ENSER** with 18 years of professional experience (initially with ITALFERR). In ENSER he is lead designer of underground structures and tunnels, foundation works, slope stability measures, soil improvement. He is also skilled in soil dynamics, geomechanics and FEM numerical modeling of soils.

Eng. Cristiano Orci

Technical Supervisor of **ENSER** with 13 years of professional experience, Manager of the Succursale ENSER France. After early involvement in Detailed Designs of civil and maritime works in Italy and abroad (incl. missions in West Africa), he is lead designer of underground works for many ongoing Paris Metro expansion projects.



Prof. Eng. Gianfranco Marchi

Formerly Professor of Geotechnics at the University of Bologna, he is one of the founders and currently President and Technical Director of **ENSER**. With over 40 years of academic and professional experience, he is still an active and fundamental technical reference for the Geotechnical Engineers and Geologists of ENSER.

Eng. Ezio Baldovin

Technical Director of **Geotecna Progetti** since the year 2000, with 40 years of experience in the design and technical assistance during the construction of over 140 km of hydraulic tunnels, 20 hydroelectric plants and 60 dams in Italy and abroad.

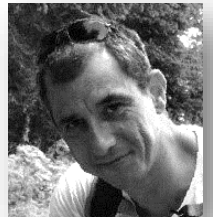


Eng. Andy De Paola

Technical Director of **Geotecna Progetti** with more than 20 years of activity. He attends to the design, verification and technical assistance during the construction of large infrastructural works (over 100 km of railway, road, hydraulic and underground tunnels).

Prof. Geol. Gian Luca Morelli

Technical Director of **Geotecna Progetti**. He has developed his professional skills during more than 25 years of experience with specific tasks of increasing responsibility in the planning, coordination and execution of geological, geotechnical and geomechanical studies of infrastructural works.

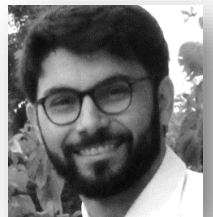


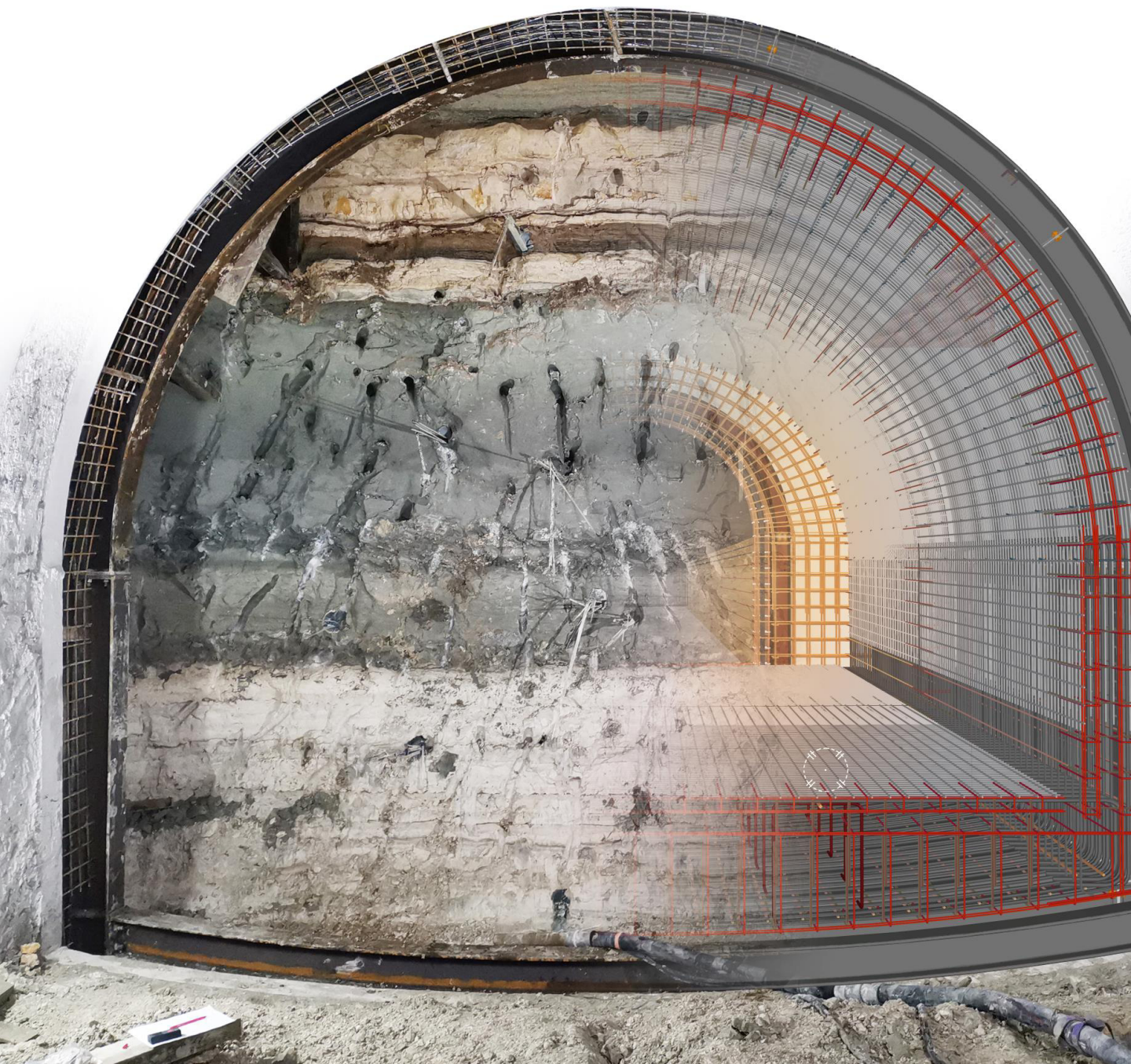
Eng. Luisella Vai

Technical Director of **Geodes** since 2010, with more than 30 years of experience in the field of rock mechanics and rock engineering applied to the Design and construction supervision of underground structures for civil and mining projects, in Italy and abroad, with conventional and TBM excavation method.

Geol. Fabrizio Elettri

Responsible of the geological sector of **Geodes**, he has developed his professional skills over 10 years of experience in geological and geomechanical aspects of infrastructure Design. He is specialized in geomechanical surveys during excavation of tunnels both in civil and mining sectors, in Italy and abroad.





ENGAGE

Via Roncaglia, 14

20146 MILANO - ITALY

geotecna@geotecna.it

Via Volturmo, 48

00192 ROMA - ITALY

ufficio.roma@geotecnaprogetti.it

Piazza Arturo Graf, 124

10126 TORINO - ITALY

mail@geodes.it

Via E. Zacconi, 16

40127 BOLOGNA - ITALY

ingegneria@enser.it

Rue de Stockholm, 1

75008 PARIS - FRANCE

contact@enser.fr

