



SWS



www.swsglobal.com

OUR COMPANY

Since 1982, SWS has been providing specialised engineering, project management and risk management services in the world of infrastructures. For almost 40 years, SWS has been supporting its Clients in conceiving civil works that form the infrastructural backbone of local communities.

Deeply rooted in Italy, but with a solid international presence guaranteed by its foreign offices and the dynamic attitude of the management team, SWS is able to bring the advantages of meaningful international experiences to a local scale.

SWS is committed to technical quality and deeply devoted to excellence & innovation. The Company is organised to provide effective solutions for every Client's requirement, assuring not only comprehensive, detailed and truthful information, but also confidentiality, flexibility, accuracy and punctuality.

SWS, finally, recognises the value of future generations, developing its wide and sound technical knowledge bearing in mind the importance of designing and building infrastructures that are safe, sustainable, economic and characterised by a low environmental & social footprint.

40

years of experience

64km

designer of the longest
rail tunnel in the world

17

offices worldwide



16mln m³

of buildings

5300+MW

of hydro energy

OUR KEY MARKETS

SWS provides end-to-end services for a broad range of markets, ranging from transportation networks to hydropower facilities. After more than 35 years of experience, we know how to meet Clients' expectations, balancing our natural ability to innovate with a rigorous management process.

Railways

Our offices conceive innovative and reliable solutions for the most widely used rail transportation systems. SWS expertise in Conventional Rail Links, High-Speed Lines (HSL) and Light Rail Transit (LRT), covers alignment and general design, structural and geotechnical design of civil works, trackworks, signalling, earthworks and drainage, MEPs, environmental criteria.

Metro

SWS is strongly committed to delivering a 360-degree design service for Mass Rapid Transit in urban areas. Our expertise covers different technical areas such as alignment and general design, structural and geotechnical design of tunnels and associated civil works, settlement analysis and monitoring, MEPs, stations and temporary works design.

Roads

We manage a wide variety of projects, from the simplest to the most complex highway and road interchanges. Our expertise covers different technical areas such as alignment and general design, structural and geotechnical design of civil works, roadworks, earthworks and drainage, MEPs, environmental criteria.

Buildings

Our engineers have technical competence and functional sensitivity to help our Clients shaping their ambitious projects. SWS expertise covers many different technical areas such as structural design, retrofitting, fire engineering, seismic engineering, performance-based design, MEPs, robustness analysis.

Water

Since its foundation, SWS has been developing advanced skills in the field of hydraulics studies and hydropower facilities. The combination of quality and creative thinking allows our engineers to deliver a wide set of services, ranging from feasibility studies to detailed design and construction assistance.

OUR SERVICES

Since its foundation, SWS has been working on a wide range of exciting projects, taking advantage of the strong technical skills and conscious involvement of its employees. Our daily work is driven by renewed passion in solving problems, always trying to find a new way for creative solutions.

Design

- Shop Drawings
- Feasibility Studies
- Concept Design
- Preliminary Design
- Detailed Design
- Architecture & Landscape Design

MEP Design

- Complete Safety System Design
- Ventilation and Fire Safety
- CFD Simulation
- Definition of Ventilation Strategies
- Commissioning Support

Project Management

- Project Planning
- Project Monitoring
- Project Risk Assessment

BIM Modelling

- Civil Works
- Roads & Terrain
- Finishes and MEPs

Construction Management

- Construction Planning
- Construction Monitoring
- Construction Risk Assessment
- Construction Design

Tender Assistance

- Communication Strategy
- Professional Graphic Support
- Schematics and Renders
- Illustrative Videos

Value Engineering

- Project Optimisation
- Implementation of new technologies
- Advanced FE Simulation

Independent Check

- Code Compliance
- Technical Content
- Project Buildability

03
trade mark

05
patents & copyrights



OUR INNOVATIVE SKILLS

SWS strength lies in its original method of facing design problems through “out of the box” solutions and creative passion.

By continuously investing in high innovation, the Company has gained full trust of Clients and decision makers and is now ready to win the new exciting challenges of modern engineering.

Tunnel Tech

Thanks to more than 40 years of experience in the field of underground structures, SWS developed advanced skills in providing innovative solutions for tunnel design and construction, supporting its Clients in adding value to their challenging projects.

Digital Project

Effective infrastructure design requires massive data manipulation. In order to deal with this demanding challenge, we developed an innovative design approach, based on the collection & manipulation of all project data in a flexible and dynamic database.

SSS.infra

SSS. infra is a rigorous design Guideline developed and patented by SWS for the quantitative multicriteria performance assessment of sustainable infrastructure and for the retrofitting of the existing transportation network.

i.BIM

i.BIM represents the way SWS goes beyond the current limits of Building Information Modelling, providing customized workflows and post-processing tools aimed at making infrastructure projects more reliable, productive and profitable.

SWS Digital

SWS digital approach goes beyond the current limits of Building Information Modelling, providing customized workflows and post-processing tools aimed at making infrastructure projects more reliable, productive and profitable.

In fact, effective infrastructure design requires massive data manipulation. In order to deal with this demanding challenge, we developed an innovative design approach, based on the collection & manipulation of all project data in a flexible and dynamic database.

SWS digital strategy transforms traditional design input into digital models which can be handled in a database and visualised in 3D, models and non-graphical data are coordinated within a unique clash detection resolution model, with information processing performed on the digitalized project model.

SWS is able to provide other additional services such as Augmented Reality application, IoT data integration and advanced predictive analysis of tunnel ring positioning.

TBM Tunnels

SWS developed advanced skills in providing innovative solutions in the field of Mechanized Excavation, which brings to the definition of methodologies and tools capable of carrying out extremely detailed evaluations regarding the choice of the excavation method, the most suitable types of excavation machines to a specific geological - geotechnical - environmental context.

CFD Simulations

SWS engineers apply the Computational Fluids Analysis (CFD) simulations to create model of fire-driven fluid flow. Computers require surfaces defined by boundary conditions in order to simulate the free-stream flow of the fluid (liquids and gases). CFD can be applied to a wide range of research and engineering fields.

30+
BIM
infra projects

OUR OFFICES

During the last years SWS moved a step forward, increasing its presence worldwide. Currently, the Company has its headquarter in Italy, and twelve foreign offices.

Each branch is represented by a regional responsible who is the direct contact for the development of new market opportunities and local partnerships, acting as a legal representative if needed.



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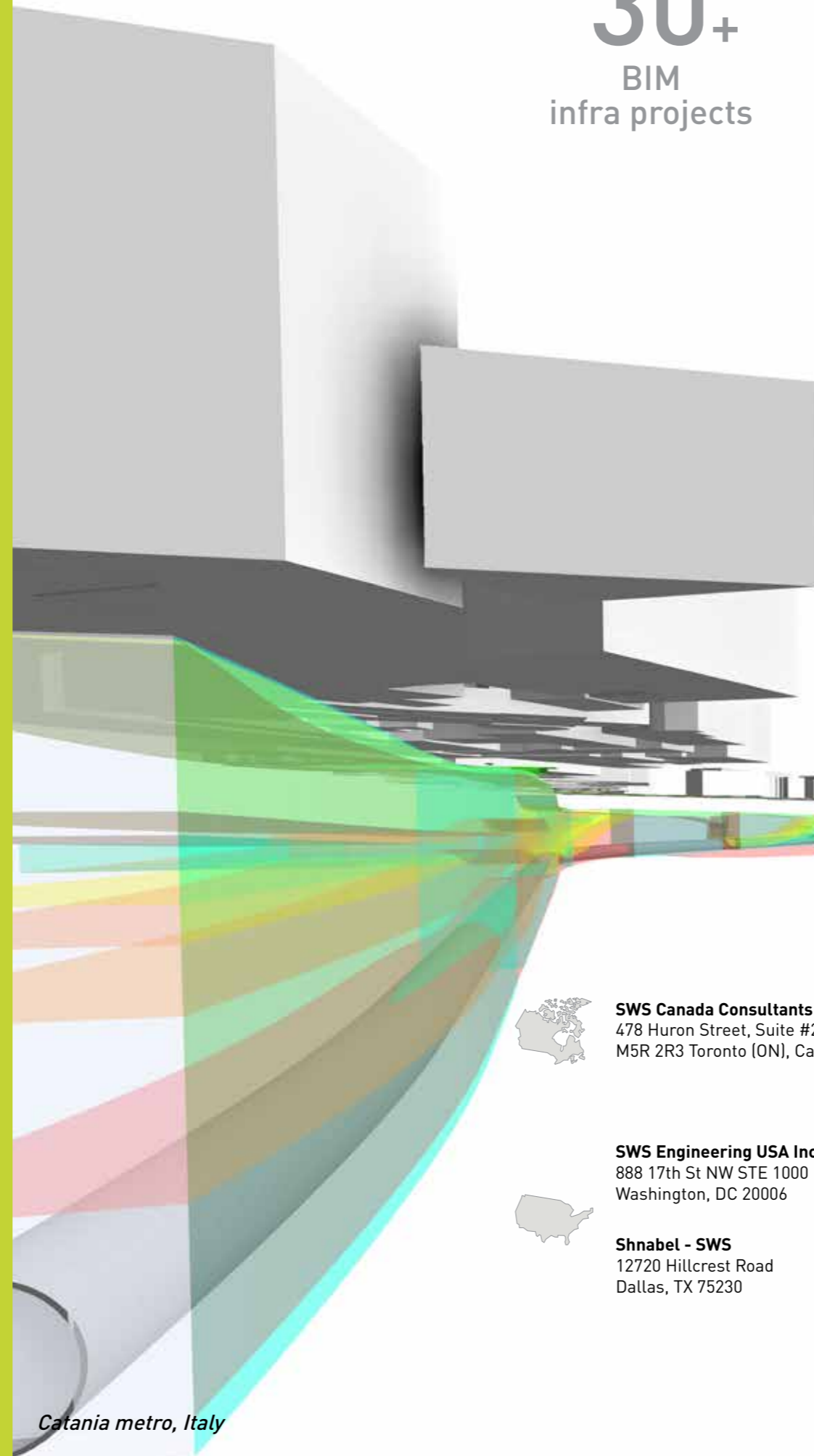
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