

ENGINEERING FOR THE **TERRITORY**

Study, research, design
and site works supervision
for infrastructures.



SINA



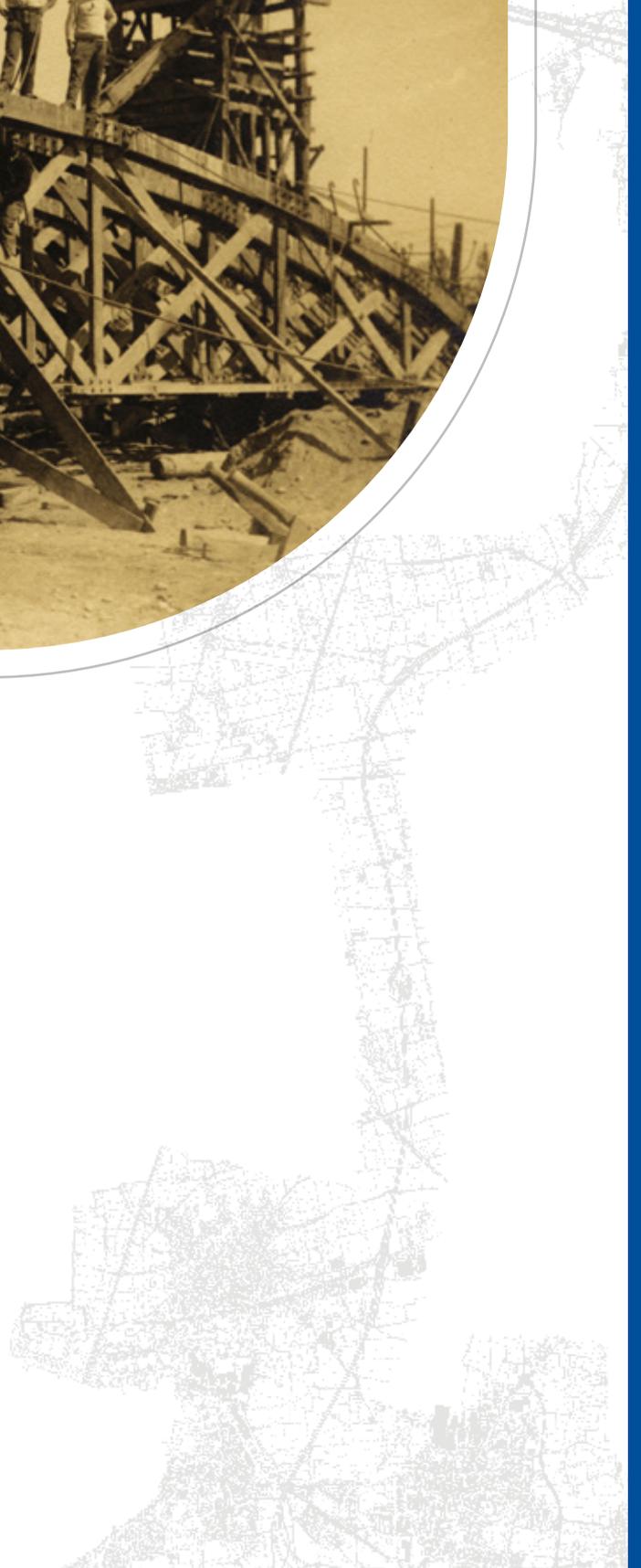
Società Iniziative Nazionali Autostradali - **SINA S.p.A.** was established in 1962 for the study, design, realization and management of new works in the sectors of roads, telecommunications, road and rail transportation.

From the time of its establishment, the company has seen constant growth in its turnover and number of employees. Thanks to its ability to provide Clients with a highly innovative and comprehensive service, SINA took over a position of leadership within its sector. Affiliated companies were founded, and in only a few years SINA was able to meet the increasing infrastructure needs that emerged, with a complete range of services. For more than 50 years, the company has been a leader in the realization of road and railway works, with linear infrastructure projects and remarkable know-how, acquired in General Contracting and Project Financing.

Due to its position as part of the **ASTM Group** - the second largest operator of motorways in Italy - and the close interaction with its Concessionaires, the company embraces all of the phases which go from design to the start-up of a new infrastructure: feasibility studies, Project Financing, design, environmental impact assessments and compensation studies, safety, Works Supervision and management support. SINA has developed analysis criteria and methods for the insertion of the infrastructures into a given territory, through both the environmental impact assessments and compensation studies, and the monitoring and enhancement of the sites involved. In the context of civil works, the company stands out due to its specialization in large outside and underground architectural works, integrated with important road structures.

The approach to design, which takes care to seek the best solutions from a technical and economic standpoint, places particular emphasis on the aspects of subsequent maintenance and operation of the Infrastructures to be built. From this standpoint, the technical personnel also work on the design relating to modernization of the existing infrastructures (ports-railways-subways). SINA's commitment does not end with the start-up of the infrastructure, but continues over time to provide support for its management and improvement.

With a constant focus towards innovation and improvement, SINA has developed an in-depth "Customer Care" analysis for each sector of activity. By monitoring the performance of the Client expectations and measuring indicators of their satisfaction, the company combines flexibility in its interventions with methodological strictness, based on compliance with the UNI EN ISO 9001:2008 Quality Management System procedures.





Company Organization

The company organization, which is strengthened by its operation under a quality system, is conceived in order to provide Clients with a comprehensive service.

The service is carried out starting with the conceiving of an infrastructure work, and through the necessary project and approval steps, guarantees the realization of the job itself, within the relevant regulatory and legislative framework, in compliance with national and European strategic programs.

The structure is flexible, but complete, and through the management and the main departments, is able to manage all types of problems: technical, administrative, contractual, regulatory, legal and commercial.

SINA operates through processes managed according to their typology and needs. The management supervises the **engineering production process**, ensuring the policies, methods and resources to reach the company's goals, and is supported by staff and monitoring functions, which enable to guarantee the value of the services provided, and by support functions, which guarantee the resources necessary for the company's activities.

For that purpose, SINA has adopted an organizational and internal control system, in accordance with Legislative Decree 231/2001, in an integrated framework which includes the certified Quality System UNI EN ISO 9001:2008 and all of the procedures that regulate the safety in the workplace and the security of IT data and the processing of personal data.

Through multidisciplinary skills, with the ability to manage and monitor the full course of the management and operational processes, SINA can efficiently manage any problem solving situations. The needs of Clients and all of the elements necessary for operational planning are rigorously analyzed, in order to propose the most appropriate solutions for the completion of the service.

The engineering production is monitored by a dedicate team, with constant checks of the ongoing projects, managed by proceedings able to ensure the compliance with production standards and service specifications. The research and adoption of the most advanced technological systems for design and monitoring are indispensable elements that allow for providing high-quality, excellent services, and for ensuring an integrated and synergetic relationship with Clients and Partners.

The consolidated and active partnership with Universities and leading institutions in the sector of transport systems innovation, has allowed the company's human resources to remain closely in step with the new regulatory, technical and technological scenarios that continue to arise.

Directly referring to Director Production Plant and constantly dealing with technical divisions, the following six staff production units work with operational responsibilities of management: Project Coordination Department, Environmental Technical Department, Systems and Safety Technical Department, Infrastructure Technical Department, Works Supervision Technical Department, Construction Planning Technical Department.



Environment

Engineering works are often evaluated from a standpoint that goes beyond their strict intrinsic function. This is demonstrated by article 2 of the Italian Regulation to guide the design of the National works, approved by the Ministerial Decree of 29 May 1895, that just more than a century ago, established: "Projects must always follow the concept of satisfying all needs of stability and aesthetics..." Only in our times, however, the environmental planning has been elevated to the rank of an independent discipline.

Thanks to operational experience of more than fifty years now, SINA is organized in such a manner as to guarantee the monitoring and management of environmental issues, developing unique qualitative and quantitative experience in this sector. The projects developed place particular attention to the local territory in which the works are placed, conceiving the works themselves as a part of the landscape. The development of study, criteria and methodology is integrated with the design phase from the very beginning, and the activity encompasses all of the phases ranging from the initial idea to the start-up of a new infrastructure, and continues up to the point of providing support for operation and any necessary adjustments.

Through the **Environmental Technical Department**, SINA manages their study and design of the measurement for the optimal integration of the infrastructures and their related systems, to safeguard the environment during the construction and operation phases.

This is followed by the design of environmental mitigation and compensation works, the final restoration of the areas of the sitework and the sites for recovery and storage of excavated material; the safeguarding of the soil, the surface and the underground waters is guaranteed by a characterization plans and actions for reclamation, recovery and enhancement of contaminated areas.

The development of innovations and new techniques concerning the environment and territory is carried out with technical studies, also aimed to optimize the use of the infrastructures, in respect of the transport and environmental aspects of mobility.

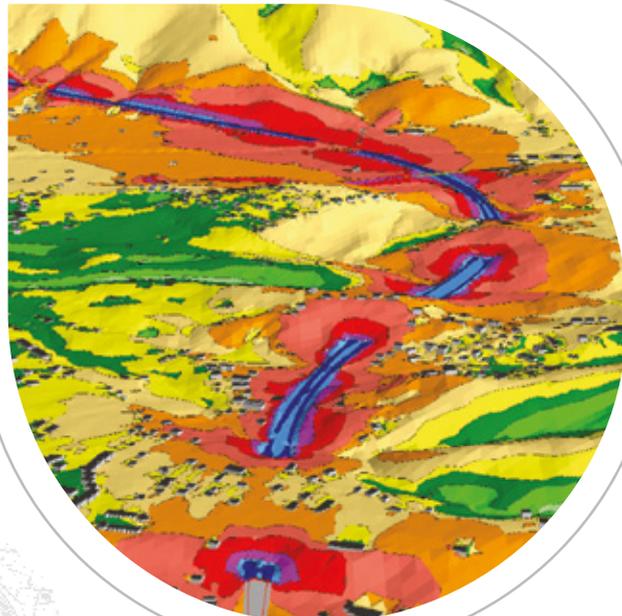
SINA designs Environmental Monitoring Plans, to be implemented in the phases of construction, modernization and operation of infrastructure systems, and draws up the manuals of the Environmental Management Systems for Worksites, including the initial analysis and the relevant operating procedures and instructions.

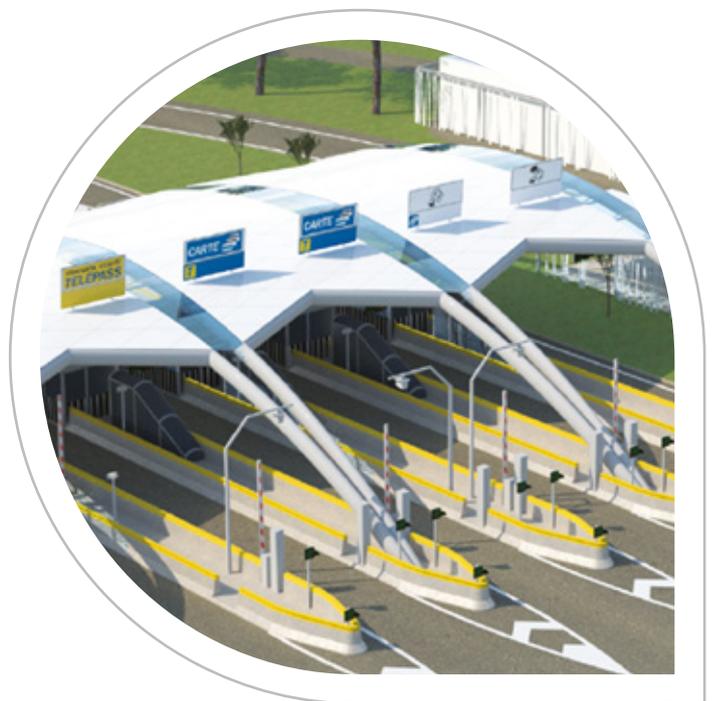
The company coordinates and implements the environmental monitoring activities (in all phases of work) linked to the realization of the infrastructures, as well as the environmental audits of the worksites.

The main activities of the Environmental Technical Department are:

- Environmental studies and planning.
- Reclamation and management of soils and waste.
- Environmental monitoring and auditing of worksites.
- Archeological studies and surveys.
- Specialist studies regarding noise pollution.







Infrastructure design

Through the **Infrastructure Technical Department**, SINA acts in an integrated and multidisciplinary process to develop transport infrastructure projects (road, railways, ports) and logistics projects (intermodal centers, logistics areas and buildings), in the field of the project management, overall responsibility for projects and of the specialist activities regarding the related civil works.

The engineering services range from the feasibility studies and infrastructure master plans, to the design in its complete cycle: preliminary, final and detailed design. In addition a particular attention is dedicated to the assistance at the siteworks, implementing the construction design phase and all the design assistance to the team dedicated to the sitework supervision.

The study and design activities are carried out both in the context of complex works (motorways, railways, harbour), and smaller but significant works, such as ordinary roads, bridges and tunnels, as well as the upgrading of existing infrastructures.

All of the technical and management activities are developed regarding the design of infrastructures, their integration in the local territory, their construction, operation and safety, as well as the verification of the safety of existing infrastructures.

For the latter, which has gradually taken on greater importance, the company makes use of the most advanced techniques for analysis, that along with traditional design, think highly of optical, mechanical and psychological principles in the use of the infrastructure by the users.

SINA takes care of and leads specialist activities in the preparation and support of design: aero photogrammetric, topographical, architectural and photogrammetric surveys, geognostic surveys, and geological, geotechnical, hydrological and hydraulic studies, as well as computations, economic estimation and the issue of technical specifications.

The experience developed by SINA, allows the company to deal with and resolve any needs relating to the study and design of infrastructures, with the use of the best IT hardware and software systems, to obtain the best results in terms of time, quality of issued documents and compliance with regulations.

As a function of the needs expressed by the Clients, SINA develops solutions that allow to guarantee safety, reliability and maintainability of the structures, in line with the standards set by existing regulations, taking into account the legislative and regulatory requirements on the subject and all of the local conditions that can influence the choices concerning design, costs and execution.

The main activities carried out by the Infrastructure Technical Department are:

- Support for design.
- Road and rail routes.
- Road superstructures.
- Structural design.
- Road safety.



Systems and safety

SINA acquired considerable experience in the design of systems that support road, motorway and railway infrastructures, developed through the variety of challenges dealt with over the years.

Through the **Systems and Safety Technical Department**, the company acts on the design of the electromechanical and safety systems, TLC communications systems, toll systems and also the design of complementary works that are able to guarantee the optimal level of safety and comfort of the infrastructures; SINA also produces lighting and ventilation studies, including on-site surveys for the design of those systems.

The experience gained over the years and developed on dozens of kilometers of tunnels, allows SINA to deal with and solve any type of needs regarding safety, lighting and ventilation in tunnels, performing specialist studies and detailed design of systems supported by modern calculation programs that guarantee compliance with mandatory regulations.

In this area, all of the technical and management activities are developed regarding tunnel safety in accordance with Italian Legislative Decree No. 264 of 5 October 2006, in terms of the design of the interventions and development of risk analysis and safety documentation, as well as assistance for operators in the phase of preparation of the operational safety plans, the planning and execution of the exercises required by regulations, and the definition of technical and performance specifications for the systems and structural equipment as required by law.

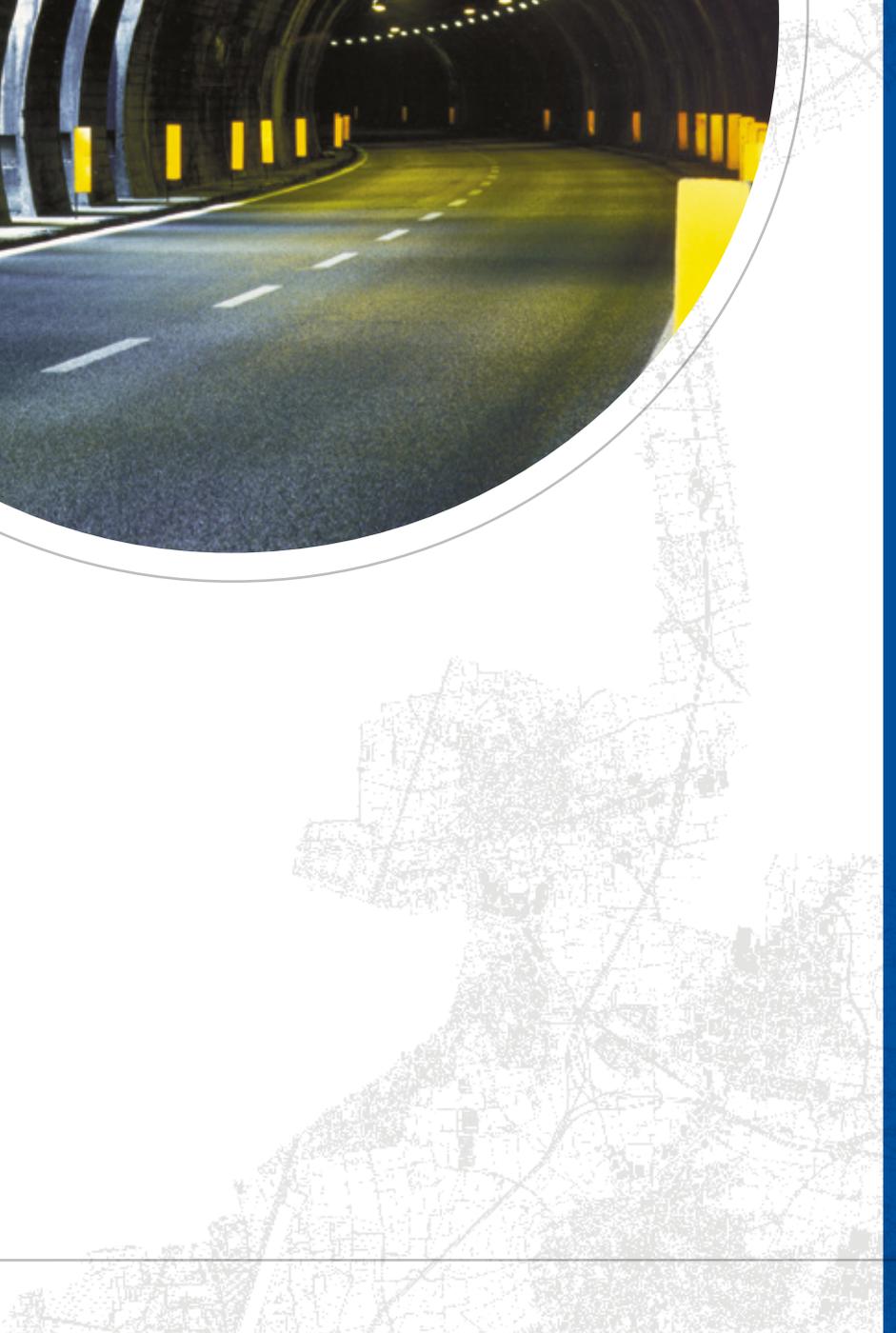
In order to maintain a high level of competitiveness at the company and increase the know-how, specific attention is dedicated to studies and research aimed at monitoring innovations concerning tunnel systems and safety, as well as the development of new design and analysis methods, through participation in national and international scientific associations that are of particular interest.

In the area of railway design, SINA develops the design of rail and signal systems, for both railways and subways and for tram systems.

The main activities of the Systems and Safety Technical Department are:

- Tunnels lighting - ventilation - safety.
- Toll collection systems.
- Railway design.
- Alternative energy sources.
- High and low-voltage energy transport studies.







Works Supervision

SINA has created a department dedicated to the supervision of site works in the infrastructure area. This organization has evolved over the time until reaching a size and level of experience that allows it to deal with very complex problems.

SINA operates in the field of **Works Supervision** and High Surveillance for construction and/or modernization work on motorways and national roads, with the execution of tests on the contractor's work, starting from embankments and pavements, with controls on works such as bridges and viaducts in pre-stressed reinforced concrete or steel structures, on special foundations (piles, large-diameter piles, jet grouting, reinforced cement diaphragms, sheet piling), on the execution of artificial and natural tunnels, dug with traditional or mechanized methods.

For the highway concessionaries, the organization supervise the works related to service buildings such as toll barriers, administrative buildings and maintenance buildings, verifying the work of the contractor related to the proper execution of construction and systems.

As well as in the civil works field, SINA also operates on everything that relates to electromechanical, lighting, rainwater disposal, toll collection, safety barriers, ventilation and fire prevention systems.

The activities of the Works Supervision cover the motorway sector, the railway sector (traditional and High-Speed network), both for the civil and systems activities (signals, reinforcement, electrification).

The services comply with all of the job related to the preparation of worksites book-keeping and the relevant documentation: progress reports, measurement books, accounting registers and plans.

Completing its activity, SINA provides assistance to Clients in preparing the documentation related to claims that take place during the realization of the work, as well as the verification of the progress of the work schedule, identifying any critical points and suggesting the ways to overcome them.

SINA also prepares all the necessary documentation related to job variances during work execution.

The services of the Site Works Supervision and High Surveillance make use of specialty areas of the SINA engineering field, when necessary, related to environmental monitoring, in-progress tests, structural or design tests, change order presented by the contractor or those that become necessary during the work progress.

The personnel employed include the figures of the Project Manager, the Operational Directors and the Project Assistants for specialties (roads, structures, systems, tunnels), book-keeping for worksites and specialists such as geologists, laboratory personnel and environmental or structural monitoring personnel.

The main activities carried out by the Works Supervision are:

- High surveillance.
- Works accounting.
- Assistance for Clients in claims.
- Variance surveys and change order.
- Tests during site work.



Research and development

SINA promotes **technical and management innovation** for transport systems, following the evolution of regulations and the methods for realization of infrastructure networks.

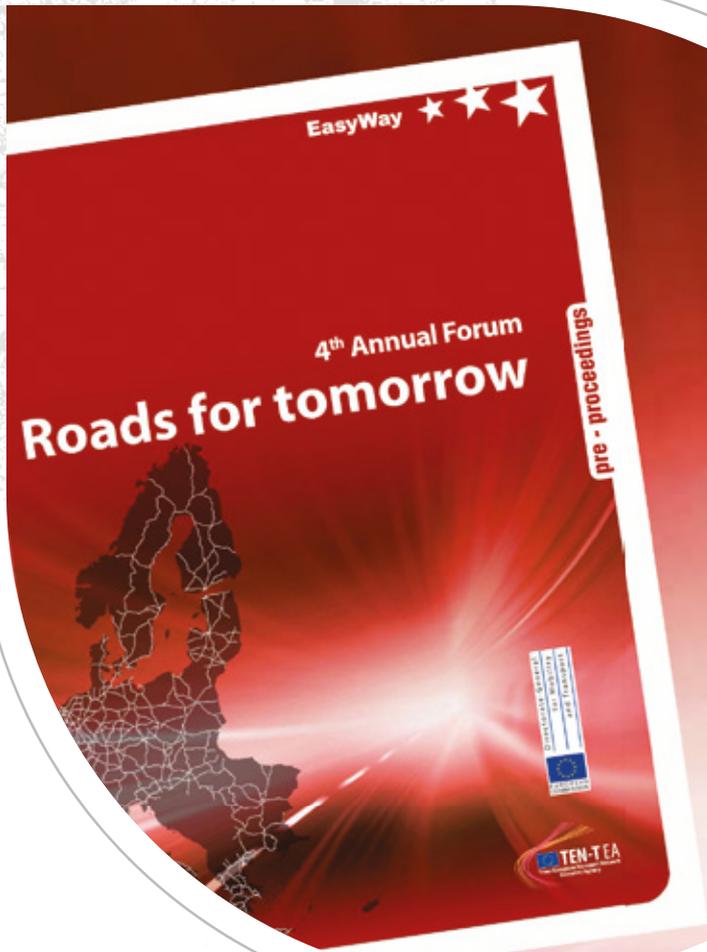
Due to its characteristics, SINA is able to act within a corporate Group and on the free market, as a “control room” able to harmonize and satisfy the different necessities that range from the development of modern technologies in traditional areas of study and research (tunnel safety, passive safety systems), to the guided management of the design and realization of the initiatives, in the field of large transport infrastructure.

The technical solutions, designed by SINA, are taken in different contexts. One example is the studies and tests at actual scale for safety barriers, then installed on over 600 kilometers of national highway network, and on a section of the ESCOTA highway in France and the criteria of ventilation and underground safety, proposed at the end of the 1960s, applied broadly on the national network and today still of great interest, especially in light of the new safety concepts used at the international level.

The company develops and studies calculations and simulation, as well as experimental activities with specifications and innovative equipment for patented field tests (**MARTE: Equipment for testing barrier anchorage**) and research in the sector of road safety, through collaboration with the most important laboratories and research centers in Italy and Europe (LIER, CSI, CIDAUT, STATENS VEGVESEN, VTI).

SINA also contributes to the work of various commissions and technical/scientific working groups in the sector of transport and related infrastructures; it participates actively in European projects and programs (EasyWay, SERTI, CORVETTE, CONNECT, ITHACA), with the role of technical coordination and with the aim of proposing the implementation of new technologies to improve the management of traffic flows, information for users, road safety and efficiency of transport, always respecting the environment.







Main references

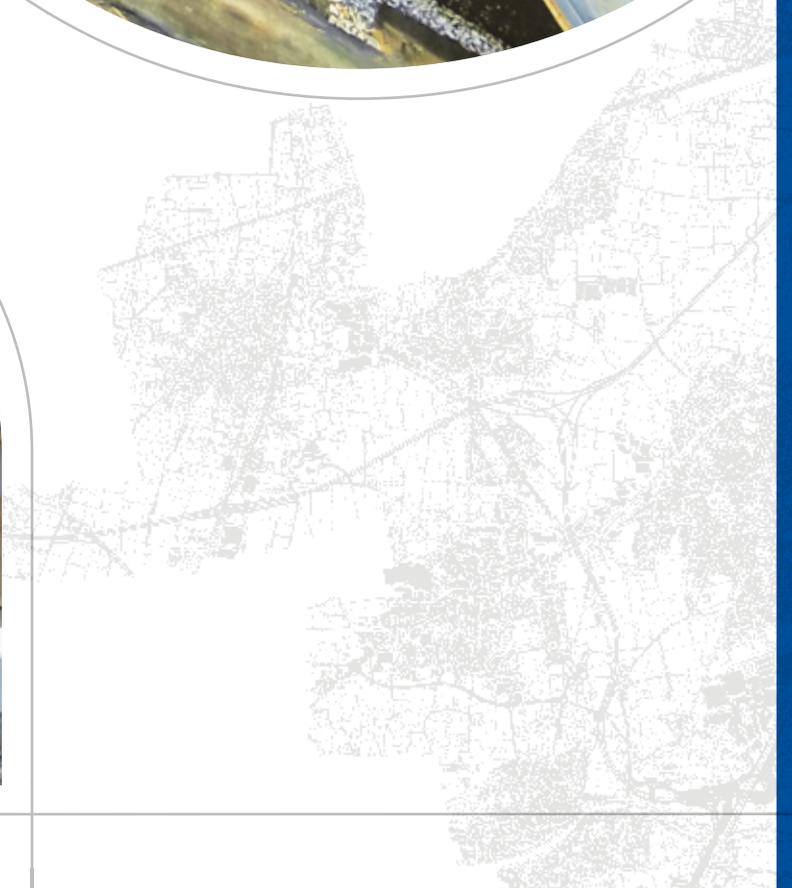
CLIENT	DESCRIPTION	INFRASTRUCTURE				PLANTS	ENVIRONMENT	SITE WORKS SUPERVISION
		PREL	FINAL	DETAIL	CSP*			
AdF - AUTOCISA - SATAP - SAV	Studies for the compliance to D.L. 194/2005 in execution of instruction 2002/49/CE for the environmental noise recording and managing (acoustic maps and action plan).						●	
AdF - AUTOCISA - SATAP - SAV - SITRASB	Plan of acoustic restoring according to DMA 29.11.2000.						●	
ANAS	Modernization of A3 highway, Salerno-Reggio Calabria, section 3 - lot 4.		●				●	
ASTI-CUNEO - A33	A33 highway, Asti-Cuneo section 1, lots 3, 4, 5.		●	●	●	●	●	●
ASTI-CUNEO - A33	A33 highway, Asti-Cuneo section 1, lot 6.		●			●	●	
ASTI-CUNEO - A33	A33 highway, Asti-Cuneo section 2, lot 1 dir.	●				●	●	
ASTI-CUNEO - A33	A33 highway, Asti-Cuneo section 2, lot 1.a.		●	●	●	●	●	●
ASTI-CUNEO - A33	A33 highway, Asti-Cuneo section 2, lot 5.		●			●	●	
ASTI-CUNEO - A33	A33 highway, Asti-Cuneo section 2, lot 6.		●	●	●	●	●	
AUTOCISA	Modernization of Cucchero tunnel, according to decree 264/06.					●		
AUTOSTRADA DEI FIORI - A10	New interchange and highway toll barrier in Borghetto S.Spirito.	●	●	●	●	●	●	●
AUTOSTRADA DEI FIORI - A10	Modernization and new highway toll barrier in Ventimiglia.	●	●	●	●	●	●	●
AUTOSTRADA PEDEMONTANA LOMBARDA	Highway connection Dalmine-Como-Varese-Valico del Gaggiolo; ring roads of Como and Varese, section A8 - A9, lot 1.		●	●	●	●	●	
AUTOVIE VENETE	A4 highway, 3rd lane between Gonars and Villesse and between San Donà di Piave and Alvisopoli.		●			●	●	
BS-VR-VI-PD - A4	Connection between A4 highway and Valtrompia.		●	●	●	●	●	
COCIV	High velocity railway Milan-Genoa, lot Genoa-Novi Ligure.		●	●		●	●	
CODELFA	New railway Novara-Vanzaghello, section Castano Primo-Turbigo.			●				
CODELFA	"Cittadella" Bridge on the Tanaro river in Alessandria.			●				
CONSORZIO M4 - METRO BLU	Milan underground, line 4.		●	●				
CORNIGLIANO 2009	Urban roadway for fast speed connection in Genoa and civil work for the third rail of the Genoa-Ventimiglia railway.			●	●	●		
EUROLINK	Road and railway connections in Sicily and Calabria and electro-mechanical plants for the Messina strait bridge.		●			●	●	
FIAT (CAV TO-MI)	High velocity railway line Turin-Milan.							●
GRUPPO SIAS	Modernization of tunnels for the TERN net, according to decree 264/06.					●		
IMPREGILO	Highway Orastie-Sibiu, lot 3 (Romania).		●			●		

*Safety coordination during the execution phase.

Main references

CLIENT	DESCRIPTION	INFRASTRUCTURE				PLANTS	ENVIRONMENT	SITE WORKS SUPERVISION
		PIEL	FINAL	DETAIL	CSP*			
ITINERA	Zogno ring road.			●	●	●		
METRO ENGINEERING	BRE.BE.MI highway (connection between Brescia and Milan).						●	●
MILANO SERRAVALLE MILANO TANGENZIALI	Modernization of the Forlanini interchange, Linate airport.							●
MILANO SERRAVALLE MILANO TANGENZIALI	Acoustic mitigation for Cologno Monzese interchange.	●	●		●	●	●	
PIATTAFORMA TARANTO	Taranto logistic platform.		●	●		●	●	
PROVINCIA DI COSENZA	Modernization of Scalea-Mormanno national road.	●	●	●	●	●	●	
PROVINCIA DI PIACENZA	New southwest Piacenza ring road.	●	●	●	●	●	●	●
PROVINCIA DI POTENZA	New road connection Candela-Potenza. Lot 5.							●
PROVINCIA DI TARANTO	Road connection to Grottaglie airport.	●	●	●	●	●	●	
SABROM	Highway Broni-Pavia-Mortara.	●	●			●	●	
SALT - A12	Highway A12, 3rd lane between S. Stefano Magra and Viareggio.	●	●			●	●	
SALT - A12	New interconnection between highways A12 and A15.	●	●	●		●	●	
SALT - A12	Modernization of Monte Quiesa Tunnel, according to decree 264/06.					●		
SATAP	Highway "Pedemontana Piemontese" between A4 and A26 highways.	●				●	●	
SATAP	Section A21 - New connection in Piacenza between A21 and A4 highways, lots 8.9, 8.10 and 8.11.			●	●	●	●	●
SATAP	Section A4 - A4 highway, access road to the new exhibition center in Rho-Pero, Section B.							●
SATAP	Section A4 - Modernization of A4 highway Turin-Milan, lots 1.01-1.02-1.1-1.2.1-1.2.2-1.2.3-1.3-1.4.1-1.4.2.			●	●	●	●	●
SATAP	Section A4 - Modernization of A4 highway Turin-Milan, lots 2.1-2.2-2.3 - Bernate Ticino interchange.		●	●	●	●	●	●
SCR PIEMONTE	Strevi ring road - Lot 1.							●
SCR PIEMONTE	Tortona ring road.		●		●		●	●
SITRASB	Gran San Bernardo tunnel - Safety Tunnel and Ventilation System.	●	●	●	●	●	●	●
TE	Milan - external ring road (TEEM).	●	●			●	●	●
TE	Milan - external ring road (TEEM), tollplants and barriers.					●		
TUNNEL FREJUS	Safety tunnel, lot 2 civil works - Italian side.		●	●	●	●	●	

*Safety coordination during the execution phase.



CONSTRUCTION



MOTORWAY



ENERGY



TRANSPORTS,
PORTS
AND LOGISTICS

TECHNOLOGY



SHIPBUILDING



ENGINEERING



ASTM Group

ASTM is a holding company engaged, through its subsidiaries, in the **design, construction and management of infrastructure networks** in the field of **technology** applied to transport mobility. Special attention is placed on the highways sector, whose operations contribute to the development and progress of a country and promote the mobility of people and goods, fostering the economic and social growth of any region. **In the toll road concessions field**, the Group is the **second largest highway operator in the world** with a network of approximately **5,600 km** of roads under management in Italy, Brazil and the United Kingdom.

In Italy, it holds concessions for approximately **1,420 km of highway** networks, being **the leading operator in the north-west section of the country**.

In Brazil, through its co-subsidiary **EcoRodovias**, which is one of the main infrastructure players in the country, the Group manages approximately **4,100 km of highway network**, while it is active in the **United Kingdom** through its stake in **Road Link**, a company that holds concessions for approximately **80 km of roadways** between Newcastle and Carlisle.

In the EPC sector (Engineering, Procurement and Construction), **ASTM** operates through its subsidiaries.

SINA S.p.A. (Società Iniziative Nazionali Autostradali), the Group's **engineering company**, has been active in the field of large-scale infrastructure engineering since 1962. It offers services ranging from the analysis, design, construction and management of new works in the transportation, telecommunications, road and rail transport sectors and, lastly, transport infrastructure maintenance engineering.

ITINERA S.p.A. is a global player in the construction of **transport infrastructures** (roads, freeways, railways, subways, bridges, viaducts, tunnels) and **civil and industrial building projects** (hospitals, large shopping centers, airports). Among the reference markets, ITINERA is present in the United States through **Halmar International**, which is one of the main companies in the metropolitan area of New York in the construction of transport infrastructure.

Euroimpianti S.p.A., the Group's systems engineering company, develops and implements various supervision and remote control systems for highways and industry in the technological systems sector. Its main services comprise the **design, implementation and maintenance of high-tech systems**.

In the technology sector, **ASTM** is represented by **SINELEC**, a company specialized in the design, implementation and management of advanced **security systems, infomobility and toll collection**.

Through its subsidiaries, **ASTM** is constantly committed to the environment on a daily basis by devising and implementing policies for road safety and protection of the communities in which it operates.





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