

SYSTRA SOLUTIONS



**The partner
you can trust to define
your MOBILITY SERVICES**

WORDWIDE SUPPORT FOR LONG-TERM COUNTRY PLANNERS AND DECISION MAKERS. HELPING YOU TO ACHIEVE YOUR AMBITIONS FOR DEVELOPMENT & MOBILITY.

As decision makers, you must look to the future and act now.

- You have to take a long-term view of your public actions, so you can make the right decisions and choose the best infrastructures and services for transporting people and goods.

Your choices have to balance environmental issues, transport policies and efficient use of energy.

- Popular support depends on constant communication
- Coordinated solutions are needed to respect the complex interactions between public policies.

To help to develop areas, we have to provide solutions that meet your special needs:

- Public authorities need complete, realistic solutions that are affordable.
- Private enterprises want to build consistently profitable projects.





- >> **60 years experience**
 - >> **Projects** that pass the reality check (with the experience on over 1,000 projects worldwide)
 - >> **800 transport planning consultants**,
330 permanent staff in Asia,
325 in the UK, 100 in France
 - >> Interdisciplinary and cross-functional expertise
 - >> Specialist in **mass transit and mobility**
 - >> For large or small areas
 - >> **Collaboration with academic institutions**
 - >> **ISO 9001** international quality standard

CHOOSE A WORLD LEADER

When you choose SYSTRA to create, scale and model your transport policies, you get a world leader. SYSTRA's approach is based on an integrated vision of mobility. We assess all relevant issues right from the start of a project: current and future travel needs, urban planning, economic and social development, environmental protection. We give a detailed insight into users' needs and aspirations, in order to design better places and encourage people to use sustainable transport options. We work on railways, airports, urban & road transport for passengers and freight.

The world's finest projects

Our transport solutions are tailor-made for towns, regions and countries.





PLANNING TODAY FOR THE FUTURE

OUR JOB IS TO HELP TRANSPORT AUTHORITIES TO BUILD A DEVELOPMENT STRATEGY THAT SATISFIES THE DEMAND FOR MOBILITY IN THE YEARS TO COME.

Our experts conduct travel demand forecasts, traffic simulations, economic and socio-economic assessments, financial analyses and environmental impact surveys.

These are used to forecast the impact of proposed developments, and to optimise the technical, economic and environmental outcomes.

Using the latest network planning tools and digital technology, our experts deliver the best solutions to meet your needs.

1

PERFORM AND SHARE AN ASSESSMENT

Whatever the area concerned, district, conurbation, state, region, country, we analyse the situation, and integrate socio-economic and environmental issues, along with existing transport modes.

We investigate every present and future issue in the area: traffic generating points, existing networks, mobility and transport behaviour. You get the best possible assessment, so you can deploy the most suitable solution. We analyse planning documents and regulations, to include them in the overall view and context.

2

MODEL THE OPTIONS, TO ANTICIPATE FUTURE NEEDS AND BEHAVIOUR

Our studies and models of transport demand show the short and mid-term consequences of your projects. We can offer different models and methods, to suit your needs and issues. They will enable stakeholders to build a shared vision of transport across the chosen area.

Analyse the market

We conduct quantitative and qualitative surveys, cross-referenced with socio-economic data and public databases, to study the attitude of individuals to the available options, anticipate your development prospects, and assess the impact of your new transport offer.

We deal with all modes of

transport, across large or small geographical areas, over short or long timescales. You will receive carefully presented reports that are great for communicating.

Build models

Our models to underpin decision making are constructed logically, to integrate the variables that control the supply and demand for transport.

Single or multimode, complex or simple, urban or long distance, conventional or innovative, we can build models to suit every situation and meet your every need. They use socio-demographic and economic forecasts to simulate the impact of your transport projects.

We use digital data provided by the latest technology (e.g. telephony & GPS trace). This data is processed by powerful softwares. Some softwares were developed in-house to satisfy special requirements. Our staff support you at every stage, preparing, guiding and monitoring studies, coordinating and interfacing with other analyses.

SYSTRA +

- A WIDE CONSULTANCY EXPERTISE IN TRANSPORTATION
- A STRATEGIC AND TECHNICAL SUPPORT ALONG THE LIFECYCLE OF YOUR PROJECTS, FROM DEVELOPMENT TO OPERATION
- A MASTERY OF ADVANCED COMPUTER TOOLS IN MACROSIMULATION, MESOSIMULATION, MICROSIMULATION AND PEDESTRIAN SIMULATION
- GRAPHIC RENDERING AND WRITTEN REPORTS OF GOOD QUALITY, THAT CAN BE DISTRIBUTED TO THE GENERAL PUBLIC OR SUPPORT HIGH LEVEL POLITICAL DECISIONS

3

ASSESS PROJECTS AND THEIR TRANSPORT POLICIES

Assessing the socio-economic value of projects makes sure you get the best value for money and achieve the fairest possible balance between societal, economic and environmental concerns.

Financing for transport projects must be analysed at the feasibility study stage, to assess their viability and find required funds to implement them. Fare studies can also help decisions about new projects.

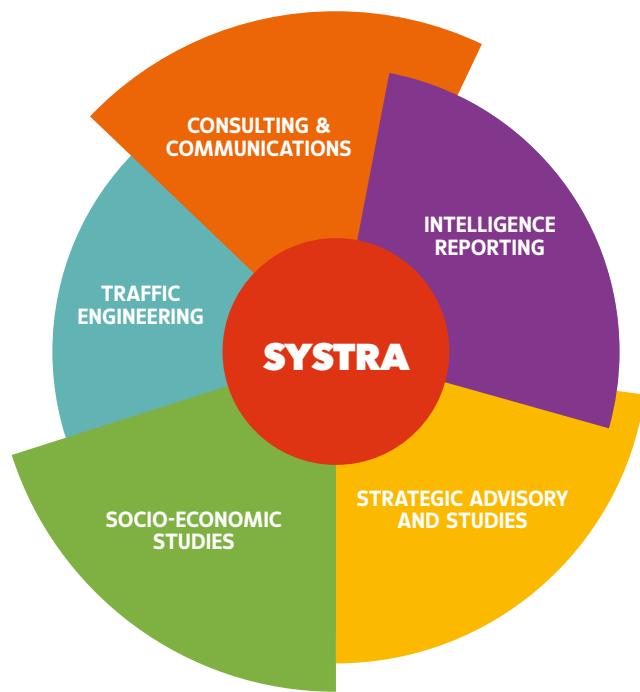
4

DEFINE AND PROGRAMME TRANSPORT POLICIES

A new transport policy, scheme or service modification requires qualitative and quantitative proof that it will be relevant and effective. This involves gathering new data and analysing existing data.

All decision makers, governments, private sector developers, railway and bus operators need proof that their investment will succeed and attract the necessary ridership.

We help public and private sector decision makers to understand their stakeholders' needs and demands. We help our clients to choose the best survey to suit their purpose, and we regularly develop creative new ways to reach remote social groups that could otherwise be forgotten.

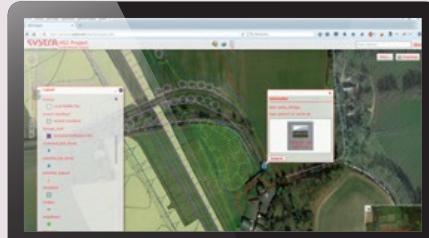


5

DEFINE A REALISTIC FUNDING PROGRAMME

When decisions are made to invest in transport, they have to achieve a robust and sustainable financial equilibrium, despite increasingly restricted budgets.

Our analysis includes an overall assessment of the transport system throughout the area, to monitor the results of planned investments. We also produce financial reports on the different legal and fiscal situations. You can be sure that your action strategy will fit into a realistic programme that covers investment and operating costs.



IMMERSIVE SCENARIO EXPLORER

Immerse is used to consult the public on transport proposals. Via a website, citizens can navigate virtually in their neighbourhood to explore what new transport infrastructure will look like.

This software application also creates immersive 3D presentations of a project. It uses acoustic and topographical data to create an accurate 3D model that generates realistic audio-visual displays of the planned infrastructure. A long term global approach is used to consult the public on transport proposals.





WEB APPS, DATA ANALYTICS, DATA VISUALISATION

THINKING DIGITAL TO OPTIMISE EXISTING AND FUTURE TRANSPORT NETWORKS

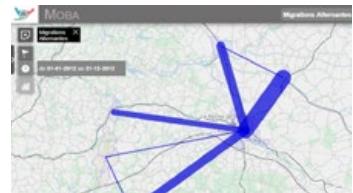
SYSTRA is using today's emerging digital technologies to redefine traffic forecasting and network planning. Our unique expertise and specialist insight are a valuable resource for government agencies and transport authorities. By providing more reliable projections of the current and future needs of a growing and increasingly mobile population, our clients are better equipped to plan and develop tomorrow's public transport networks.



01

IDENTIFYING REAL TRANSPORT NEEDS

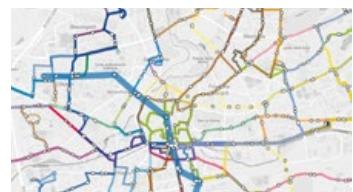
- MOBA
- QUETZAL



02

MEASURING TRANSPORT PERFORMANCE

- ITSIM
- FREIGHTSIM



03

APPRaising NEW PROJECTS

- LINEDRAFT
- IMMERSE

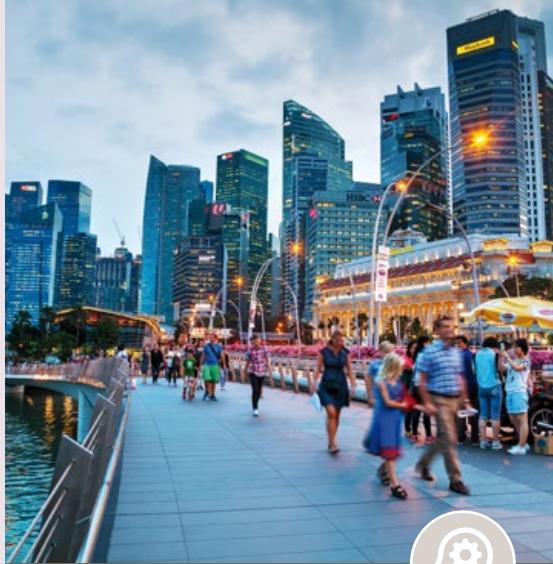


DATA ANALYTICS

SYSTRA's teams develop end-to-end software solutions that encompass the full software development lifecycle. We design and deliver bespoke systems to manage and process transport, traffic and survey data, customised to fit the client's specific requirements.

SYSTRA's team includes IT specialists in data management, database and web development, client/server technologies and GIS. These skills are combined with a deep knowledge of the transport domain ensuring that we provide comprehensive and robust solutions that work in the real world.

An information systems package will include a business analysis from which a detailed requirements specification can be drawn. We will then develop the software design and system architecture which will be robustly tested before final integration and implementation. We oversee migration of data and user training and, once everything is up and running, the team provides comprehensive maintenance and support.



STRATEGIC PLANNING



The interactions between policies such as town and country planning, habitat and economic development, are so complex that it is vital to step back and work in partnership with competent local authorities. A similar approach is also required to cope with tighter restrictions on public spending budgets.

Thanks to our information system and active prospecting, we are the first to know any societal transformations or technical break-throughs (such as new information technology, practical alternatives to cars, to name but two). We help local governments to become aware of these phenomena and suggest innovative solutions to deal with them.

- **Strategic and prospective studies**
- **Masterplans**
(national, regions, counties, urban, pedestrian & cyclists)
- **Assessment of public transport policies**
- **Value analysis**
- **Studies of institutions and governance**
- **Training and methodology guides**



ENVIRONMENT



Government targets are already in place to decarbonise transport by 2050. Together with air quality requirements, more and more attention is focused upon reducing emissions for the way we travel for work, education and for leisure. At SYSTRA, we have hands-on experience of working directly with all levels of government, developers and businesses to help to find solutions and reach their sustainable targets.

We often combine our environmental and modelling skills to help predict the impact of new policies or measures - such as new developments, new vehicle technology and changes in congestion patterns - upon future traffic emissions. We have an excellent track record of predicting the environmental impacts for all different types of projects from a small road junction to a national model such as the 'Whole System Energy Model' for Scotland which includes the transport and development sectors.

We have a dedicated team of specialists that understand the environmental implications of transport and development decisions. We adopt a whole life cycle approach to the assessment of potential solutions, providing advice to satisfy legislation, design standards, best practice and cost. We are always striving to identify new solutions and have developed new software tools including Low Emission Strategy Appraisal Tool (LESAT), Environmental Evaluation (ENEVAL) and Optimising the Provision of On-Street Recharging Infrastructure (OPOSRI) tools.



AVIATION AND AIRPORTS



SYSTRA has a dedicated team of airport planning professionals and now offers the full range of services from aviation demand forecasting, airport business and facility planning to surface access planning and market research.

- **Hong Kong International airport,**
China
- **Shanghai Hong Quia airport,**
China
- **Chhatrapathi shiraji international airport,**
India
- **Auckland airport,**
New Zealand



FREIGHT TRANSPORT & LOGISTICS



As public awareness of environmental issues grows, new approaches to logistics and transport are being found, involving the assessment of infrastructure projects, urban logistics, new transport modes, or reduced emissions.

As a consequence, our clients are increasingly interested in:

- Analysing the potential new services offered by infrastructure projects and estimating their socio-economic benefits;
- Exploring the economic and technical feasibility of intermodal logistical options (rail-road, river-road, freight tram,...)
- Finding out more about urban logistical activities and making them more efficient.

SYSTRA helps you with

- Experience for multimodal freight traffic planning
- International acknowledged expertise in railway infrastructure and logistics
- Experience of sea and river ports
- Specific tools to make best use of intermodal logistics
- Assistance at every phase of your projects, and solid arguments prepared and presented to convince partners and motivate your financial backers





SYSTRA

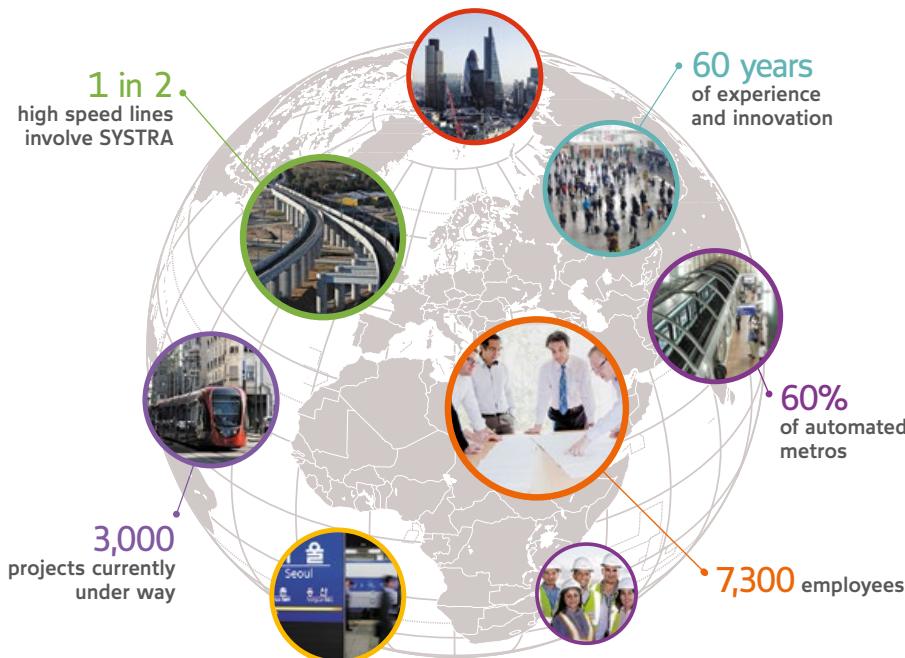
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CONFIDENCE MOVES THE WORLD

The Group assists growing towns and regions that need reliable, fast, clean transport systems, to make a lasting improvement to their residents' living standards.



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