Intelligent multi-modal solutions for safe and sustainable transport

Achieving operational efficiency with optimised transport and mobility systems
Sopra Steria has been providing intelligent transport systems for more than 45 years.

We are an international partner to private and public sector operators in road, water, air, rail and city transport.

We are a key partner in the 14-year public-private partnership delivering the French Government’s eco-tax project tracking 15,000km of roads.

Most of the French and Swiss expressway networks are managed by a Sopra Steria system.

Our expertise in systems integration and interoperability is used in the GAIA Virtual Sky project delivering the Single European Sky ATM (Air Traffic Management) Research programme creating the world’s most efficient air transport infrastructure.

Airports across the world use our solutions, from China, Denmark and Dubai, to France, Italy and the UK.

We have a research and development centre in Singapore dedicated to innovation in transport.

We help optimise routes and operations for global logistics providers.

We work with key industry and technology players, including Airbus Pro Sky, Esri (geographic information systems), HP, IBM, Microsoft, Oracle and SAP.

We have a partnership with the technology research centre CEA Tech to develop innovative cyber-security, transport and energy solutions.

We have been labelled by Aerospace Valley in France as a market leader in cyber-security.

“Sopra Steria’s teams speak the same ‘language’ as we do and know our business, our requirements and our challenges perfectly. We’ve built a relationship of mutual trust that enables us to share and thus improve our on-site development and qualification processes. Furthermore, Sopra Steria provides us with the expertise and culture of innovation it has acquired as a result of implementing numerous IT projects.”

Guillaume LE MANDAT, Project leader for RATP CCS (Central Control Systems) modernisation
Smart systems for a smoother journey

Do you have the intelligent, interoperable solutions and mobile technologies you need to provide a better passenger experience across multiple transport modes?

Operators today face a complex range of challenges unique to the transport industry. Operational efficiency is a priority, whether in road, rail, air, city transport, logistics, or shipping. Companies must also work hard to reduce the environmental impact of travel. Eco-innovation will see operators developing technologies and solutions in areas such as climate change, health and noise.

Seamless mobility is another key challenge. It demands the development and integration of the best mobility and interoperability solutions in passenger information and security, maintenance, transport infrastructures and sustainability.

Heightened security is also a key factor, setting the global safety of any transport system as a top priority that requires efficient use of infrastructure and network capacity. And as deregulation opens up markets to greater competition, operators must find ways to enhance competitiveness through cost optimisation and differentiation despite reduced budgets.

With a network of more than 600 professionals dedicated to transport, Sopra Steria helps today's transport operators to secure the movement of people, products and vehicles. Our transport services make full use of the best practices and approaches that we have developed during more than 45 years in this business sector.

Innovation and technology
Every day our clients trust us to run their IT infrastructures and applications portfolios and support them with efficient testing and business process optimisation.

But that’s not all. We also deliver cost savings, total quality of service and agreed outcomes that meet their needs in the core areas of traveller system management, geographic information systems, multi-modal hub transformation and transport system optimisation.

With a combination of innovative yet pragmatic approaches to delivering services, a deep business process knowledge and powerful technology, we offer crucial benefits, including:

• Real-time information delivering a better service via interoperable systems for all transport modes
• Any time, anywhere, any device solutions to meet evolving mobility needs
• Safer transport systems with effective emergency and crisis monitoring
• Efficient city transport networks promoting greener, more cost effective urban travel
• Superior asset management and maintenance
• Smoother cross border rail travel with Europe-wide railway monitoring

We have a proven reputation for delivery excellence and for building long-term trusted partnerships with our clients. Isn’t it time you took a closer look at Sopra Steria?

Did you know...
Sopra Steria modernised the air traffic control monitoring systems for DFS “Deutsche Flugsicherung GmbH” which is responsible for air traffic control in Germany.
Making passenger information work harder

How do you provide accurate, real-time information that is easily accessible so that passengers and drivers enjoy safe and stress-free travel?

Information sits at the heart of an efficient, traveller-friendly transport system. With the right information accessible when and where it is needed, it is possible to keep traffic flowing and provide a smooth passenger journey through airports and cities, as well as across rail and road networks.

Sopra Steria has more than 20 years’ experience in delivering traveller systems and multimodal transport information. We give travellers the ability to plan their journeys and manage disruptions with contextual information for any mode of transport. This improves transport efficiency and reduces traveller stress.

Our traveller system management solutions give the right information, any time, anywhere and include:

- **Multi-modal information systems**: giving travellers the information they need consistently and accurately on websites, mobile devices and bus, train and airport information boards
- **Real-time information**: up-to-the-minute details of train and bus delays, traffic accidents and road works allowing operators and travellers to plot alternative routes and minimise disturbance to journeys
- **Mobile applications**: information and booking services, as well as e-ticketing delivered to travellers on the move. Our real-time SMS transit information system in Singapore encompasses internet portal, SMS gateway and mobile applications allowing travellers to check bus times and plan their journeys with a real-time bus location viewer
- **Customer relationship solutions and call centres**: collection of data on traveller behaviour and usage to better understand customers’ needs. We also implement and optimise contact centres and the operator’s workplace, improve the ergonomics of self-service facilities, and centralise all customer contact channels to manage big data and improve business intelligence
- **Geographic information systems** (see page opposite).

Our traveller system management solutions can be complemented with the know-how of our broader business portfolio, including Business Intelligence, Big Data, Security and Advanced Payments solutions.

Did you know...

Sopra Steria planned and implemented an on-board customer information system for SBB, the largest travel and transport company in Switzerland, providing travellers with real-time information broadcasting and improved travel planning capabilities.

Easing congestion

The intelligent Sopra Steria Traffic Expert solution offers the ability to acquire real-time traffic information, for example on congestion or incidents, and to enforce speed control, ramp metering and traffic regulation. Modular and scalable, Traffic Expert supports safer, smoother travel with traffic information and management, in-vehicle telematics services, tunnel control and management and speed enforcement solutions. It enables operators to perform real-time data analysis on the information gathered.
Improving performance with geographic information

Are you in control of managing, planning, evaluating and maintaining your transport system?

From understanding and optimising route networks for more efficient transport and logistics operations, to forecasting transport levels in support of infrastructure planning, more and more organisations are realising the benefits of geographic information.

A geographic information system (GIS) can help transport organisations monitor traffic conditions on road and rail in real time. It can be used to support safety assessments on busy routes and inform asset and maintenance programmes. Our “Smart Geo Solutions” is an end-to-end GIS offering built on 15 years’ experience of geographic information projects. We partner with leading GIS technology companies to design, build, implement and run the best GIS solution for our clients’ individual needs.

• We track 16,000 taxis across Singapore with a monitoring and tracking solution incorporating real-time GPS data collection
• On board devices deployed in vehicles include geographic information for emergency and maintenance calls, driver behaviour profiling, route optimisation and sustainability reports and advice
• We develop transport reference systems for centralising public transport networks (bus, tram, metro, etc) that can be visualised in a central map. This makes it easier to localise transport disturbance and, for example, determine how to change the itinerary of a bus line (or other transport mode) in response to this
• Our Field Service Management solutions help to manage route planning and optimisation and provide timely access to vital information, enabling field operators, such as trackside engineers, to respond quickly to maintenance incidents or emergencies
• We provide a variety of support, integration and IT services that help India’s Uttar Pradesh Police to respond quickly and efficiently to emergency calls from the 3.5 million citizens of the city of Kanpur. The GIS-based platform captures caller information and location coordinates and dispatches them to the nearest police patrolling vehicle for emergency handling
• We provided project ownership assistance for French railways operator SNCF as it implemented a GIS to manage vegetation on the railway track and surrounding areas.

Keeping road traffic moving

Our free flow tolling systems are designed to keep road traffic moving while providing transport authorities with a means to collect tolls and manage taxes. We offer end-to-end systems integration and operation for solutions that include: ERP, security, electronic data management, GIS, storage, framework management and the global architecture of whole systems.

In France, along with four partners, we built the eco-tax system for heavy goods vehicles. We manage the project’s central IT system, which enables interoperability between numerous external systems, such as those operated by the state, taxpayers and tax agents. Sopra Steria also developed the website enabling heavy freight vehicle drivers to search for their itineraries and the corresponding tax based on a GIS.

Did you know...

Sopra Steria delivered a multi-channel information system covering more than 600 transport lines for Isère Conseil Général, the local government authority in Grenoble, France.
Improving resource management in busy transport hubs

How do you meet traveller expectations for seamless access to airports, railway stations and other multi-modal hubs?

Travellers often use several modes of transport to complete a journey. They might catch a taxi to the airport before jetting off on a plane. Or they will hop off a bus and onto the metro or a ferry to get to work. Airports, train, bus and metro stations and ferry terminals are thus often busy, multi-modal transport hubs.

The challenge for transport operators is how to safeguard travellers in these hubs and give them the information they need to get seamlessly from A to B. Are there enough resources on hand to manage incidents or delays? How well do different transport providers coordinate their services?

Sopra Steria has extensive experience in helping to optimise transport hubs, including expertise in airport organisation and related IT systems (see ‘ManagAirport’ – a vital information resource, see page opposite).

Our systems include the following.

- Multi-modal supervision and information systems for taxi, parking and public transport. For example Parking Expert provides data in real-time and embraces systems for equipment supervision, including entry-exit barriers and audio message broadcasting systems, ticketing management and multimedia data processing
- Resource allocation IT systems for fuel, facilities, people, air-side access, security, baggage handling and more
- Collaborative decision-making (CDM) systems. For example we contributed to the design, implementation and test of an airport CDM system improving airspace and slot utilisation for Oslo Airport in Norway that improves air traffic flow, overall efficiency capacity and punctuality in the airport
- Advanced access control and security systems, such as video surveillance for road networks, passenger screening, the regulation and monitoring of heavy goods on roads, speed radar and ticketing. Our biometrics systems can restrict access to authorised personnel only or smooth the flow of passengers through busy transport networks

Transport operators benefit from the ability to use forecast and real-time information to manage hub resources. They have the information they need to provide travellers with end-to-end services and to accommodate the flow of passenger traffic.

Here’s how we’re helping some of our transport clients

- The Sopra Steria Taxi Expert solution for British Airport Authorities at Heathrow Airport’s five terminals uses fixed and hand-held devices to monitor taxis equipped with RFID tags
- Vinci Airports relies on a web-based application developed by Sopra Steria to simulate resource allocation (car and aircraft parking, check-in desk, turntable, boarding lounge) at its Nantes Atlantique airport in France
- Zurich International Airport is improving customer satisfaction and security in its car parks with a single access control system built by Sopra Steria around the airport user databases and open architecture.

Did you know...

Sopra Steria has implemented an integrated supervision and management solution for all car parks in Geneva airport.
ManagAirport – a valuable information resource

Developed in co-operation with international airports, our ManagAirport solution is a rich information resource. It provides airports with a comprehensive picture of their infrastructure utilisation and acts as a decision support tool, thus enhancing the quality of service to passengers. It is designed to manage resources (runways, conveyors, luggage, etc) in line with flight plans, provide information for passengers and partners and control the quality of airport services information management. ManagAirport also provides a comprehensive and reliable full end-to-end billing solution for airport authorities to bill airline companies.

Like many other airports, Bristol International Airport (BIA) in the UK selected ManagAirport when it needed a high performance solution ahead of a new terminal opening.
Reach for the skies
Sopra Steria’s expertise in simulation, systems integration and interoperability is being used in the Shared Virtual Sky (SVS) solution. This is the first European simulation platform that is available to all aviation companies. By enabling the interconnection of their systems and, in particular, of their airborne and ground navigation systems, SVS is accelerating innovation and making it possible to test the new air navigation concepts that underpin the SESAR project (Single European Sky Air Traffic Management Research) to improve the safety and fluidity of air transport.

We are largely responsible for the IT architecture in SVS through our software and interconnection resources. We also host the SVS portal.

Efficient transport management every step of the way

Can you maintain optimal traffic flow, whether by air, rail or road, and ensure all your equipment and systems are in place to facilitate the passenger journey?

Travellers don’t want to know how the transport network works; they simply expect it to function day-in, day-out. To make this happen, operators need efficient traffic supervision systems for air, rail and road. They must be able to monitor and manage each system and its associated equipment in real-time. And all stakeholders have to be provided with efficient communication tools.

Sopra Steria gives you the transport system optimisation capability you need to meet these challenges head on. Our range of interoperable and highly effective systems includes the following:

• **Traffic supervision systems for highways and tunnels**: for example our Traffic Expert solution helps to relieve congestion on heavily used roads for better flow control and traffic management

• **Operational control centres**: we provided an all-in-one command and control platform for Singapore’s Land Transport Authority that is enabling faster responses to accidents, vehicle breakdown and slow traffic

• **Optimised maintenance**: we worked with Singapore’s Land Transport Authority on a large-scale implementation of a customised Maintenance Management System (MMS) software package. Designed for the fully automatic, driverless underground North East Line mass rapid transit (MRT) system, the MMS supports the timely maintenance of assets in depot, stations and tunnels

• **Simulators**: the ability to simulate resourcing needs makes it possible to plan for future transport demands and optimise existing services to travellers. Jointly developed in partnership with Vinci Airports, our SimuAirports solution precisely calculates airport occupation rates, waiting times, usage and passenger flow based on real-time flight schedules. It is designed to integrate both with our own ManagAirport solution and with other systems in use by airport operations teams. (See also ‘Reach for the skies’, below.)

With our intelligent and interoperable systems, we’re helping to enhance traveller safety and comfort. Operators can anticipate and ensure the appropriate reaction in the event of traffic disturbance and improve communication with all travellers, security services, on-site operators and all other stakeholders.

We will help you maintain your systems for efficient transport management, improved traffic regularity and reduced operation and maintenance costs.

Did you know...
We delivered and have subsequently upgraded the central system for the Expressway Monitoring and Advisory System (EMAS) in Singapore. EMAS is an intelligent incident management tool that manages traffic by detecting accidents, vehicle breakdown and other incidents promptly, ensuring a fast response to restore normal traffic flow.

Reach for the skies
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Here’s how we’re helping some of our transport clients

- FEDRO, the Swiss Federal Roads Office, depends on a trans-regional control system developed and implemented by Sopra Steria
- We worked with leading German vehicle manufacturers, components suppliers, telecommunication companies and research institutions in a joint project to test car-to-car and car-to-infrastructure communication
- We developed the Norwegian vehicle and driving licence registration system “Autosys”, one of the biggest and most complex ICT solutions in the Norwegian public sector, for the Norwegian Public Roads Administration
- We implemented a Maintenance Management System (MMS) software package to help Taiwan High Speed Rail manage and maintain over 65,000 civil works utilising handheld devices
- Sopra Steria built the system architecture that is enabling the operational control centres at RATP (the Paris transport operator) to minimise both the impact of incidents and the time interval between trains.
A modern approach to 21st century transport challenges

Working with clients at every level of the transport market, Sopra Steria offers solutions that incorporate new business models, game-changing technologies and proven expertise in business process optimisation.

Our portfolio of transport sector solutions is enabling our clients to respond to a radically altered operating environment. These industry-specific solutions are complemented by our proven IT-enabled services, consultancy and technology solutions that give you the agility you need to make change happen as quickly as possible:

- **Transformation services:** ensuring the efficient transformation of business processes, applications and IT infrastructure
- **Consulting:** making the most of our sector expertise to successfully implement strategic and organisational change
- **Application development and system integration:** from solution definition, design and development, to deployment and ultimate benefits realisation. With our help, your IT can become a significant revenue enabler, unlocking business insight and operational efficiency
- **Testing and quality assurance:** bridging the gap between application development and systems rollout in areas such as innovative mobile device management solutions
- **Application management:** agile, focused IT services based on guaranteed outputs and outcomes designed to optimise and maintain solutions, such as those governing enterprise asset management and mobility
- **Infrastructure management:** meeting the drive for cost reduction, flexibility, performance improvement and growth
- **Business Process Services:** delivering a step change in business efficiency, agility and performance.

As a trusted transformation partner to transport operators, logistics companies and government transport bodies, Sopra Steria is bringing new ways of working. In Germany we helped to transform the onerous bureaucratic burden resulting from hundreds of thousands of applications for the transportation of abnormal loads with an internet-based communications platform for the Ministry for Roads and Road Traffic in Hessen.

We also help to reduce the environmental impact of travel by supporting a number of clients as they deliver their strategies for greener, more sustainable transport. For example, our resource optimisation systems enable fleet managers to achieve the same amount of work with fewer vehicles on the road.

We help logistics companies and transport operators to deliver critical business change. At Royal Mail, for example, the UK’s national postal carrier, we supported a strategically important IT transformation, enabling two separate pension schemes to be set up in an extremely tight timeframe.

Across the entire transport sector we’re using best practice and adapting existing systems and technology to maximise the return on investment, support interoperability objectives and provide a safer, smoother travel experience.

**Did you know...**

Our consulting and carbon accounting solution for Hermes Transport Logistics has enabled the company to reduce emissions through the identification of emission drivers and to establish green products and services.
Sopra Steria’s Transport Solutions

We have developed specific services, solutions and innovations in transport:

**Services:**
- Application Management & Development
- Business Process Consulting and Implementation
- Business Process Outsourcing
- Change Management
- End-to-End Case Management
- End-to-End Testing Management & Governance
- Finance Transformation
- Infrastructure Management
- Operational & IT Outsourcing
- Partner Management
- Programme Management
- Regulatory Change Management
- Transfer of Undertakings (Protection of Employment) - TUPE Management
- Enterprise Solutions (SAP, Oracle)
- Fleet Management Systems
- Geographic Information Systems
- Green Transport
- Intelligent Transport Systems
- Mobile Applications
- Operational Service Enhancement
- Parking - Parking Expert
- Passenger Information
- Procurement Transformation
- Rail Traffic Management
- Road Traffic Management - Traffic Expert
- Secure Toll Payments - Stecard®
- Taxi Management - Taxi Expert
- Telematics
- Traveller Security

**Solutions:**
- Airport Information and Management System - ManagAirport®
- Airport Resources Simulation - SimuAirports®
- Air Traffic Control
- Big Data
- Business Intelligence
- Customer Relationship Management
- Distribution Planning
- Enterprise Content Management
- Enterprise Information Management

**Innovation:**
- Business Visioning
- Channel Strategy & Portal Solutions
- Cloud-based, Infrastructure On Command
- Digital Visioning
- Legacy Enablement
- Location-based Applications
- Mobile Application Development
- Target Operating Model Design & Roll-out
- Technology Insight & Direction

Find out more

Find out more about Sopra Steria’s extensive range of transport services and solutions and our diverse portfolio of IT-enabled business services by visiting

www.soprasteria.co.uk
or email info.uk@soprasteria.com
About Sopra Steria

Sopra Steria, European leader in digital transformation, provides one of the most comprehensive portfolios of end to end service offerings in the market: Consulting, Systems Integration, Software Development and Business Process Services. Sopra Steria is trusted by leading private and public organisations to deliver successful transformation programmes that address their most complex and critical business challenges. Combining high quality and performance services, added-value and innovation, Sopra Steria enables its clients to make the best use of information technology.