

Galileo

The European Programme for
Global Navigation Services

Public Transport



The optimisation of public transport is essential for reducing traffic congestion, pollution and other negative features. It can help to improve today's imbalance between the usage of public transport (20%) and private cars (80%). The benefits of Galileo for public transport are manifold. The use of well-established tools such as road navigation and fleet management can be enhanced by Galileo, and complementary services can be offered to users.

Some examples of practical uses of Galileo

* Guidance

Guidance tools assisted by satellite navigation are already well-established. Galileo's 30 satellites in optimised orbits will offer increased accuracy and availability of the positioning signals in urban areas. Thanks to the localisation furnished by this system, many additional services can be offered to drivers, such as emergency calls with automated transmission of the locale, breakdown assistance and traffic jam avoidance. Galileo will offer more comfort, confidence and security.

* Fleet management

Taxi, bus and train fleet management are crucial and complex tasks. Satellite navigation tools, combined with a communication system, could enable a control centre to know the positions of all its vehicles in real-time. It would allow public transport operators to plan and manage different aspects of their businesses. For example, if two buses are circulating too closely, the second could be slowed to better share the passengers. Knowing the positions of buses at all times in all parts of the city will generate statistical information on delays that can then be used to improve the service.

* Benefits for public transport users

When operators know the status and location of their fleet, they can offer customers additional services:

Delay and arrival information: passengers see in real-time the time until the next bus or train, and learn about the connecting services.

Tourist information and points of interest: passengers often like to know about local points of interest. Information about nearby restaurants, theatres and shops can be provided inside the vehicle.

Buses

Buses equipped with satellite navigation sensors can notify passengers about the next station, and inform the people waiting at the stops about the predicted times of arrival.

Trains

Information about train arrival and departure times, especially when there are delays, is important. Onboard passenger information is also desirable. Knowing the position of the train opens up additional services to passengers such as connection and tourist information. Equipping the engine and carriages with Galileo receivers will enable the operators to track the rolling stock and inform their clients promptly and efficiently.

*** Taxis**

Taxis can use Galileo to follow the optimum route to the client's desired location. Drivers connected to a traffic information service can avoid traffic jams. Taxi operators can manage their fleets more efficiently. If there are not enough vehicles in a particular place (depending on the different zones, time of day or specific events), they can dispatch more. Optimal distribution will increase each taxi's use by collecting more customers and minimising the holding time.

Location-based services combining mobile telephony with Galileo receivers will allow a customer to call a taxi to a specific location simply by pushing a button.

*** Car rentals**

Guidance systems for rental cars are very attractive, as the driver often does not know the area. Even better if there is a database with all the regional points of interest linked to the system. This is particularly useful for foreign travellers, who can receive the information in their mother tongue. Galileo will also provide a continuous overview of the fleet and contribute to the pricing of the service. Such a system could also be used for car sharing. The same Galileo receiver can also aid recovery of stolen or damaged vehicles.

Galileo



*** New public transport mode: taxi-bus**

Knowing the positions of buses opens the door to new types of public transport services like the taxi-buses. Instead of travelling a fixed path between two points, buses could change their routes to go directly to their clients and take them to where they want to go. Such a flexible service would better serve rural areas and avoid empty runs.

*** Security**

Galileo can increase the security of taxi and bus drivers. Simply pressing a distress button in the event of an attack will immediately alert the police. The Galileo receiver will indicate the position of the vehicle.



Galileo Benefits

By integrating Galileo with other technologies, the public transport sector can benefit from:

- optimised services and costs
- optimised fleet usage, with better coverage of different town zones
- increased driver security
- new solutions for car-sharing
- public transport mixed solution via centralised monitoring of fleets
- improved car navigation systems

How is Galileo different from other systems?

- ✓ Galileo is specifically designed for civil and commercial purposes
- ✓ increased accuracy, service guarantees, certification and liability of the service operator
- ✓ traceability of past performance and operation transparency
- ✓ increased availability of signals in demanding environments

Galileo: The European Satellite Navigation Programme is a joint initiative of the European Commission and the European Space Agency. Galileo will offer positioning and timing services worldwide.



For additional information, please contact the Galileo Joint Undertaking: JU@galileo-pgm.org or visit the websites http://www.europa.eu.int/comm/dgs/energy_transport/galileo/ <http://www.esa.int/navigation/galileo/>