


# The way of mobility



**gertrude**

Intelligent Transport System

## URBAN MOBILITY MANAGEMENT

# Gertrude, leading solutions

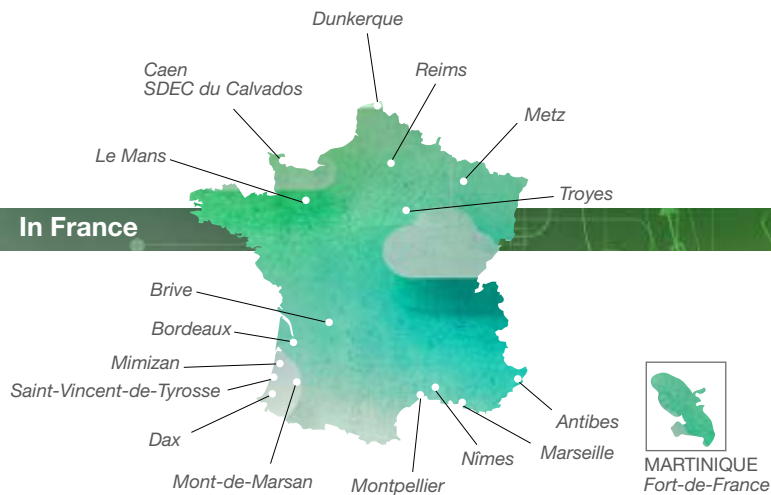


**French engineering company, Gertrude develops, installs and provides maintenance for expert computer systems customised in the sector of urban transport.**

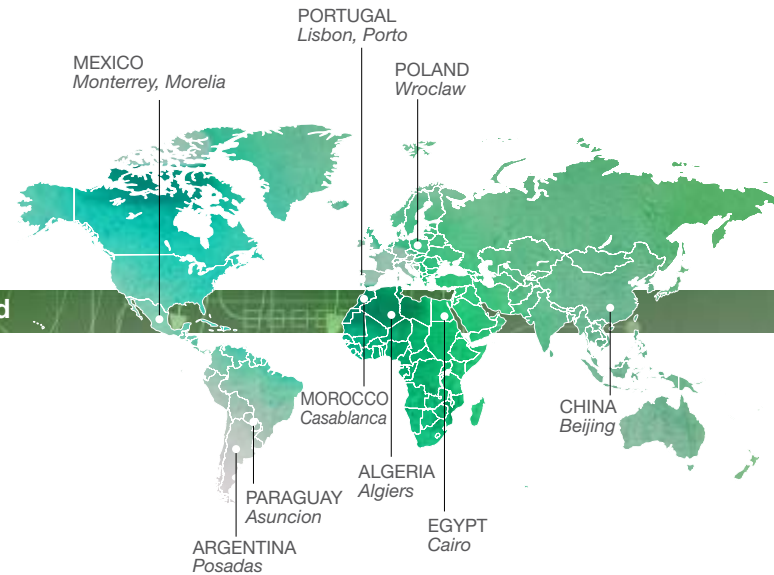
A pioneer in the design of a regulation system of multimodal urban traffic in real time, the intelligent transport systems of Gertrude respond to key challenges of the city for today and tomorrow.

- Reduce urban congestion
- Optimize existing infrastructures
- Reduce travel time
- Promote alternative modes
- Decrease environmental impact and respond to climate issues
- Assist and serve users
- Reduce accidents and ensure the safety of people

## Export of expertise and solutions



## Abroad





## Major projects in partnership

Through strategic alliances and partnerships, selected and durable, Gertrude Company creates and catalyses skills around its intelligent management system of urban transport (France, Mexico, Argentina, Portugal, Algeria, Poland, China, and Morocco). Gertrude collaborates with **Dimension Data, Signal Group and Wasko SA.**



## A CULTURE OF SERVICE

*Developed in community services of Bordeaux in the seventies, Gertrude is a precursor concept of urban traffic management and sharing the road network. Since 1981, its development and exploitation are entrusted to Gertrude Saem branch of Bordeaux Metropolis.*

*We support Bordeaux agglomeration in its transformation supported by a mastery of the role of the car in the city centre, helped by a network of buses and trams in perpetual expansion and a shift to alternative modes.*

*Available and reactive, our teams are listening to implement solutions that respond to traffic management policy, and we help all the cities which trust us with the same level of commitment.*

Eric Franceries  
General Manager

**THE HEART OF COMPETENCE**

# The fluidity of urban traffic

Gertrude relies on its base of skills, result of 35 years of experience to develop a single high-performance system on the market.

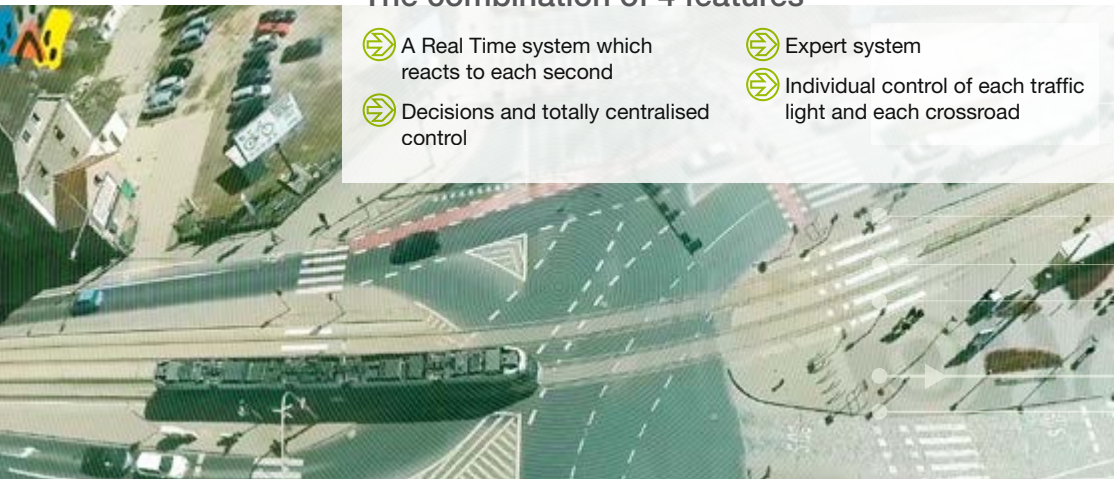


## Real Time

An intelligent transport system that optimises the regulation of the crossroads of the city capitalising on existing transport infrastructures.

### The combination of 4 features

- ⌚ A Real Time system which reacts to each second
- ⌚ Expert system
- ⌚ Decisions and totally centralised control
- ⌚ Individual control of each traffic light and each crossroad



A demonstrated efficacy, an evaluated performance

14 to 50%

**reduction** of travel time of cars and public transports in Bordeaux<sup>1</sup>

45%

**reduction** of pollution levels (CO2) in Lisbon<sup>2</sup> (Portugal)

24%

**reduction** of travel time of cars in Monterrey<sup>3</sup> (Mexico)

SOURCES:

- <sup>1</sup> CETUR
- <sup>2</sup> Town hall of Lisbon
- <sup>3</sup> University of Nuevo Leon

**EXPERTISE ITS**

# A control center of intelligent transport management

The major objectives of the traffic strategy are the urban mobility, security and pollution control. Any Smart City project involves many professions and integrated or interoperable systems, so it is necessary to improve the cooperation of all these stakeholders.

Centralisation and aggregation of all the information ensuring constant precise vision of mobility conditions thus the guarantee of the implementation of coherent and complementary multimodal actions.



## TO RESPOND TO THE CONNECTED CITY

# An intelligent and integrated management platform

**Resolutely looking to the future in a connected city context, Gertrude ITS offers upgradeable solutions to design dynamic management of multimodality.**

Gertrude's ITS platform is designed to be the heart of the urban mobility and security of Smart City project, by integrating Cloud and Big Data. It integrates as needed, applications, specific platforms or solutions of the world leaders in their sector of activity.



## A CULTURE OF INNOVATION

*The open architecture of our platform facilitates the integration of all these new and future technologies.*

*Gertrude is actively involved in focus and research groups, incubators or clusters: Cerema, Compass 4D, ITS Infra, Mov'eo, Topos and Bordeaux University of Science and Technology.*

*Gertrude strengthens its development policy and is engaged in various areas of progress.*

Daniel Yung  
Innovation manager

- Identification and localisation systems for special vehicles (green, eco-citizen, emergency) using GPS tracking system and prioritisation of their travels
- Experimentation of a new method of urban traffic regulation using FCD data (Floating Car Data) collected from navigation systems
- Multimodal dashboard connected to the Open Data Services
- Data Exchange Program with the «connected world» and generation of eco-driving advice based on interactive and collaborative process
- Preparing management models of green axes and «carbon rating» of traffic regulation

# Because each city is unique, each solution is unique...

**These powerful global solutions proposed by Gertrude benefit both to agglomerations of modest size as to larger cities.**

## A company not like any other

Gertrude is a company created by a city, administered by cities. Both this background and this experience guide our solutions and allow their complementarity, their integration into the strategies of the city in accordance with political decisions.

## A «Customised» offer

Through the global integration of the various components of urban mobility in the city and quality of regulation engineering, Gertrude implements solutions customised for the specificities of each area and each crossroad.



**TELE MONITORING**  
isolated intersections to improve the technical control and security.



**MACRO-REGULATION**  
Central room of traffic regulation.



**GERTRUDE REAL TIME**  
expert system for a fine and fast regulation.



**GERTRUDE ITS**  
intelligent and integrated management platform

## A high level of customisation

### Optional modules

- + Emergency vehicles
- + Video Monitoring
- + Automatic incident detection
- + Bus assistance
- + Absolute priority (Industrial Patent)
- + User's information
- + Traffic simulation
- + Pollution control
- + Staking parking
- + Management of alternative route



## Areas of expertise

- MOBILITY ENGINEERING
- URBAN PLANNING STUDIES
- REGULATION IN FULL REAL TIME
- PRIORITY TO PUBLIC TRANSPORTS
- ITS AND INTEGRATED PLATFORM
- INTEGRATION OF EQUIPMENT AND TECHNOLOGIES
- VIDEO SURVEILLANCE AND SECURITY
- SIMULATION (ON LINE / OFF LINE)
- USERS COMMUNICATION STRATEGIES
- SOFTWARE DEVELOPMENTS
- OPERATION AND MAINTENANCE

## A tramway and BRT expertise

### The speed and regularity in harmony with traffic

Gertrude has innovated and obtained a patent by developing an absolute priority management centralised solution for trams and BRT.

#### Its added value:

- Effectiveness of priority actions,
- Reducing the impacts on other modes of transport,
- Maintaining consistency with surrounding intersections.

These principles are extended to all public transports.



# Gertrude, sustainable and upgradeable design



**The intelligent transportation system of dynamic management of traffic is designed to respond to the cities, their decision-makers and their engineers in long term.**

Our system evolves according to the needs, integrates new technologies and adapt to new mobility policy.

## 4 key components ensure that capacity scalability

### ➤ A CARTOGRAPHIC SUPERVISION INTERFACE, ERGONOMIC AND DIDACTIC.

A guarantee of prompt and efficient handling.

### ➤ AN OPEN AND INTEROPERABLE ARCHITECTURE

A warranty of connection and of compatibility to the system with all current and future technologies.

### ➤ AN UPGRADEABLE SYSTEM AUTONOMOUSLY Engineering, study and design functions

Design and traffic engineering tools for active users participation in the development of their solution.

### ➤ AN OPERATION AND MAINTENANCE AVAILABLE Operation, control, information, monitoring and optimisation

- Advanced tools of supervision and exploitation with an intuitive supervision interface, accessible to everybody.
- Perennial and sustainable systems by a guarantee of use at 100% of their capacities.
- Wide operating and maintenance features: Technical surveillance, Real time animation crossroads, Statistics modules, Database, Management of routes, Simulation, Big Data.



## A CULTURE OF **SKILLS TRANSFER**

*Gertrude ensures the sustainability, durability and scalability of its solutions.*

*We are committed to train teams of our client cities to allow them optimal use of our facilities and to acquire their own system operating autonomy.*

*This training is carried out by specialised engineers and relies on a methodology that has demonstrated its effectiveness.*

*Our teaching teams rely on an excellent knowledge of the market, products, their implementation and technological innovations to design actions of skills transfer customised.*

Philippe Cahagne  
Production Manager



# Establishments in France and abroad

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