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Meeting with ITS Russia
Rome, September 14, 2011

Mobility Management for Large Events:

Applications of ITS
(Intelligent Transport Systems)

Luca Masnata.
Manager, ITS Division

Thetis, Venice, Italy
www.thetis.it



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about Thetis S.p.A.



An Integrated Engineering Company:
some 200 people, 28 MEur revenues, 11 MEur share capital

Customized solutions and services for:

- The management of Mobility and Public Transport
- The improvement of environmental performances of the territory
- The management of infrastructure construction



- Urban Mobility Management is essential for Sustainability, to:
 - **Improve air quality**
 - **Reduce health costs (due to pollution, accidents, ..)**
 - **Reduce economic losses (wasted time in traffic)**
 - **Improve urban economy**
- Large events are a trigger to improve mobility and produce permanent benefits:
 - **New Mobility Infrastructures**
 - **Better Public Transport**
 - **Better Information to Passengers**
- Intelligent Transport Systems are the way to make things work



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Investing in Mobility Management is worth

Benefits are more than 5 times the value of investments

(source: EU estimates, literature, benchmarks)

Benefits are spread over several issues:

Health costs reduced

Wasted time in traffic reduced

Improved quality and attractiveness of Public Transport

Improved Urban Economy

Industry and Services cost savings

...



1. Mobility planning

Traffic modelling
Traffic simulators



2. Increase Share of Public Transport

Advanced planning and optimization of vehicles
Service Management Systems (AVM – Automatic Vehicle Monitoring)
Passenger Infosystems (onboard, at stops, on mobiles)



3. Traffic/Air Quality Management

Air quality monitoring
Traffic Management Systems



4. Infomobility

Variable Message Signs
Other modes: Web, mobile, radio, ...



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Some experiences in ITS for Large Events

Rome Jubilee, 2000

New bus services and related ITS to manage the new Public Transport concession contract

Beijing Olympics, 2008

A Traffic and Air Quality Management Pilot System

An ITS to manage the Olympics spectators Bus Service

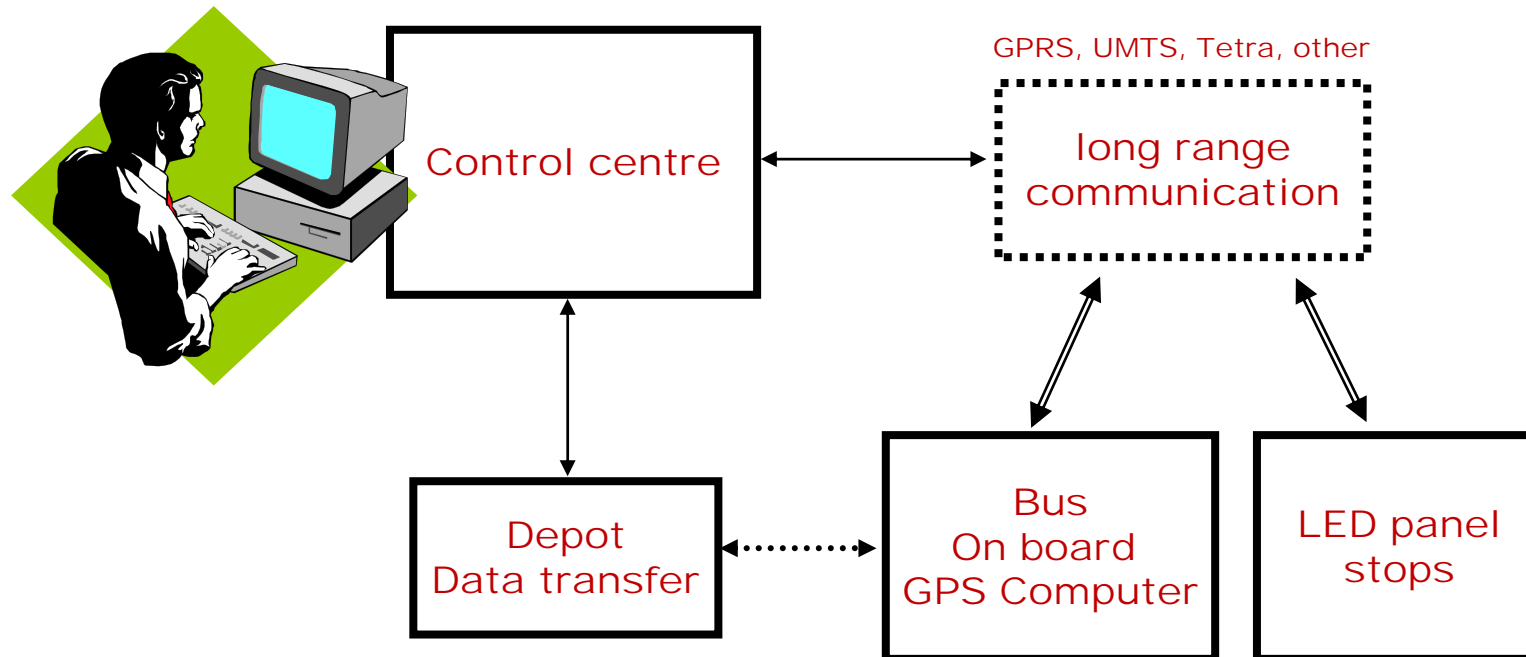
Delhi Commonwealth Games, 2010

A study for an Urban ITS

An ITS demonstrator for Public Transport and Paratransit Management and Passenger Information Systems

1. Rome

The Jubilee Bus Management System



A dedicated bus service with 32 lines
for a one-year long event
with millions of visitors



The long term results after the large event

- Buses: extended to 450, i.e. all the Rome Bus Transport assigned to private operators
- ITS system: renewed in 2011 to include:
 - Real time control of service punctuality based on GPS
 - Passenger information onboard and on mobiles
 - Videosurveillance onboard
 - Passenger counters on all buses
- **Important:** The ITS system is the **invoicing tool** of the Contract between the Rome Municipality and the Bus Operator: payments are made per documented km and with penalties for delays
- **New:** A similar contractual scheme and use of ITS is now applied to the Malta new Public Transport Concession Contract to Arriva, and Thetis is the technology provider.

The Rome bus onboard systems

Onboard computer



Driver terminal

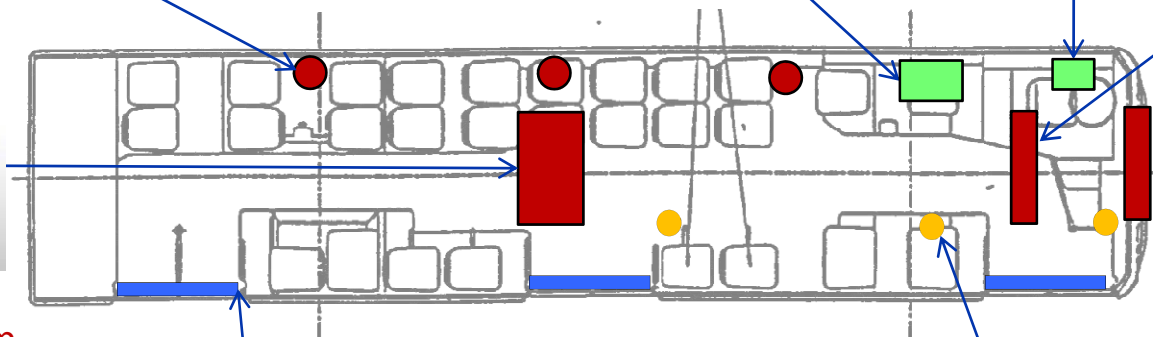


Info: Audio
announcements

Info: displays



Info:
Multimedia system
(Rome)



Passenger counters



Surveillance
TV cameras

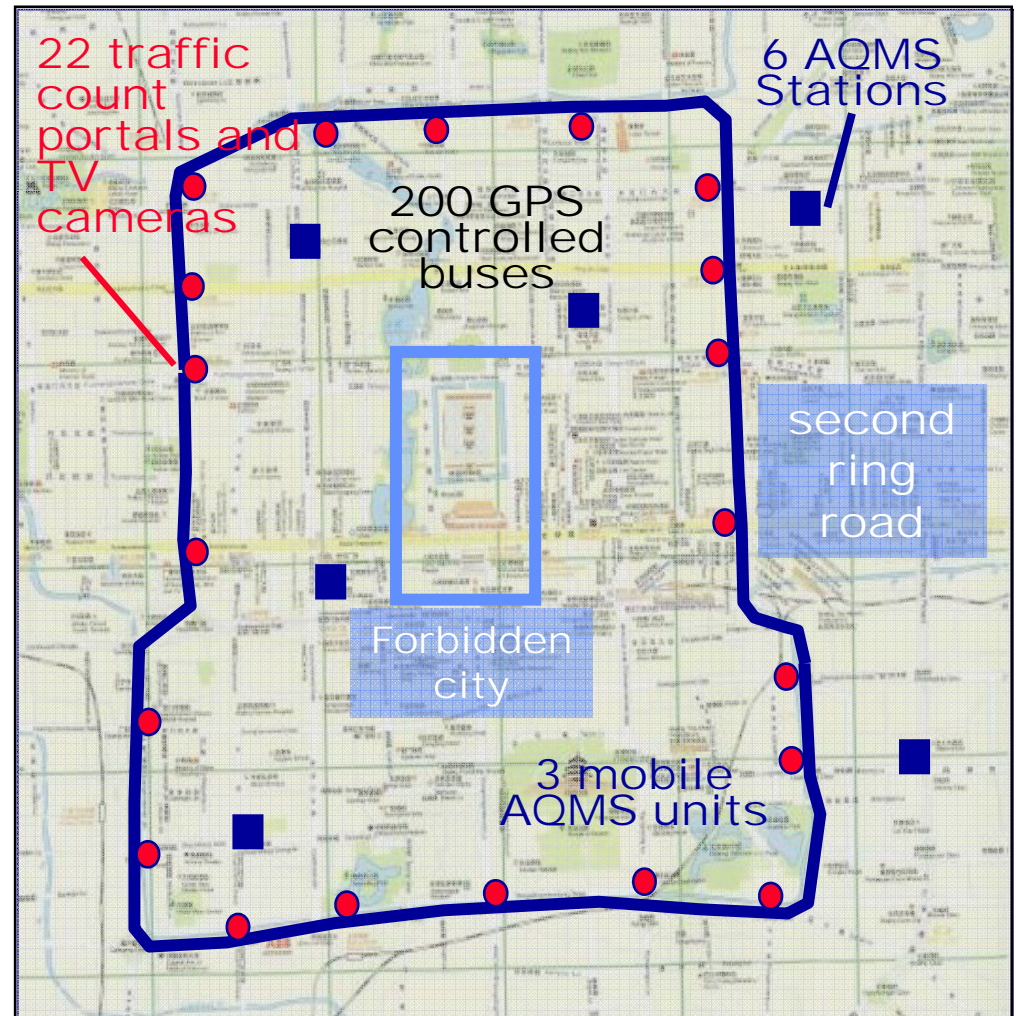
2. Beijing

Pilot System for traffic and air quality management in the city centre

(done within the Sino-Italian Cooperation Programme)

A decision support system for the second ring road area:

- Air Quality Monitoring Systems;
- Traffic count and access control portals;
- Bus GPS fleet management;
- Data Centre.
- Air quality forecast model based on actual traffic and air quality measurements.



The Data Centre at the Beijing Environment Bureau



The Sino-Italian Cooperation Programme

A GPS fleet management system for the Beijing Olympics

The Customer: BPT, a large corporation made of a holding structure and of 11 Bus Operator controlled companies in Beijing. Buses operated by BPT: 22,000.

A two stage ITS project:

- Phase 1, 2005-2007: a pilot system for 200 buses.
Objective: familiarise with the use of GPS based ITS technology in the bus service planning-dispatching-reporting processes. The system was used by one of the Bus Operator Companies.
Delivery: control room, bus onboard high-end computer, electronic stops.
- Phase 2, 2008: extension to the >2000 buses dedicated to the transport of the Olympics spectators.
Objective: begin to integrate GPS based ITS in the corporate service management.
Delivery: design of the headquarter new control room, integration of ITS system for the management of the Olympic buses fleet



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The Beijing Olympics Bus Control Centre at BPT



3. Delhi

An ITS for Mobility Management of the Commonwealth Games

Performed for the Minister of Urban Development.

Proposed solution:

- **Creation of a Mobility Agency (done)**
- **Definition of an Integrated Mobility Plan**
- **Implementation of an ITS :**
 - » Air Quality Management
 - » Public Transport Management
 - » Traffic Light control
 - » Variable Message Signs
 - » Traffic Information Services

In cooperation with CNR, Atac
and ITS Association of India

A project of the Indo-Italian Cooperation framework

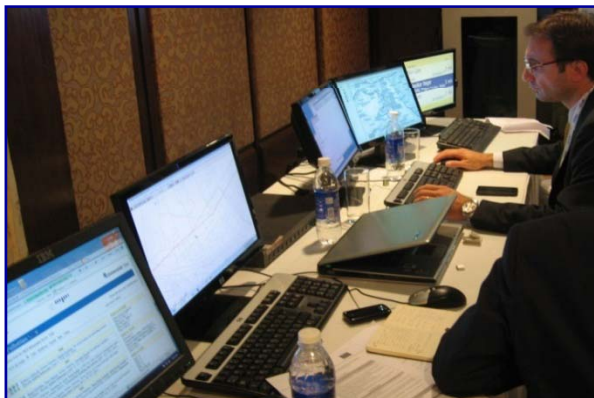


Active since Sept 2010:

- Bus ITS and service planning
- ITS Integration with feeder and paratransit services fleets: auto rickshaw and taxi
- Infomobility on the web and on smartphones



200

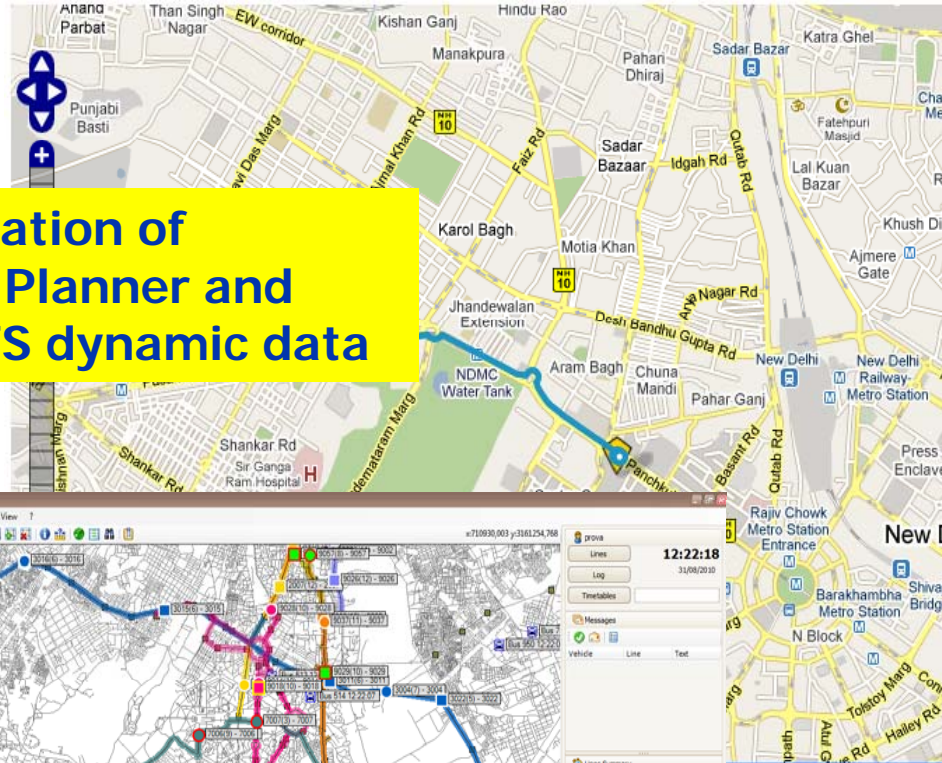


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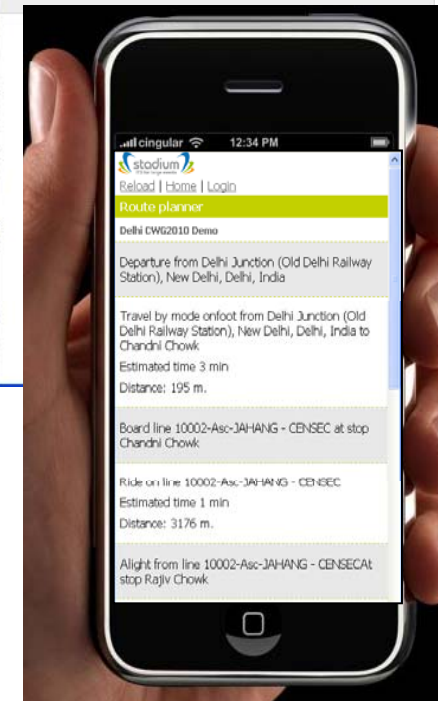
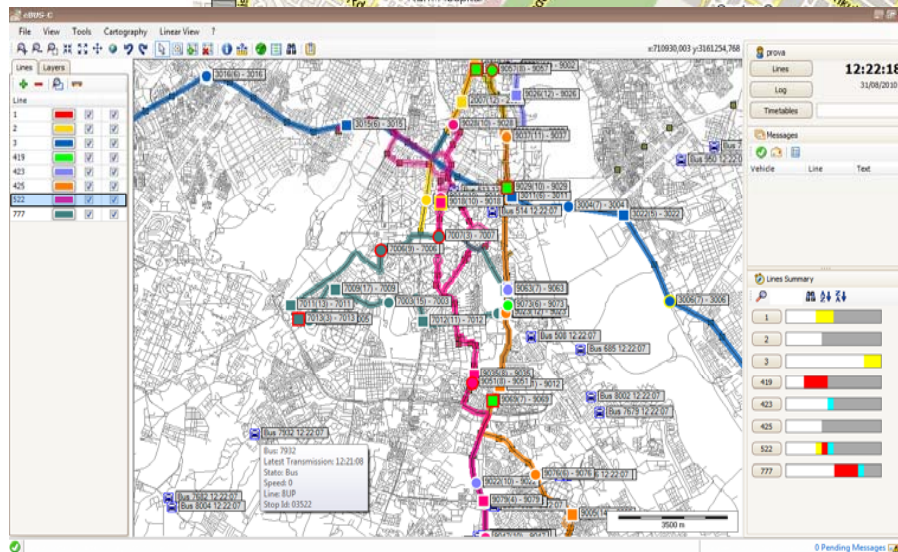
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Integration of Route Planner and Bus ITS dynamic data



Path description

- departure from abdul aziz rd 5
- travel by mode onfoot from abdul aziz rd 5 to Karol Bagh Metro Station
Time: 4min 38sec
Length: 231 meters
- at stop Karol Bagh Metro Station, board the first arriving carrier of the following lines: 522-Asc-RAJNAG - AMBNAG ; 522-Disc-RAJNAG - AMBNAG ;



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conclusion

ITS are an important tool towards Urban Sustainable Mobility

ITS make things working:

Help attracting more passengers to Public Transport

Help smoothing traffic and increase average speed

Economic benefits are always higher than investments

Large Events help addressing investments in ITS to produce permanent results.



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thank you!

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