TERRITORY DEVELOPMENT, PLANNING AND COORDINATION, STAFF
AND GENERAL SERVICES DEPARTMENT

General Direction for Planning and European Programmes

Division 3 : General Plan for Transports and Logistic

ARTIST Projects in Italy

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SFERA Project - Measure III.4 ITS - PON Trasporti

FRAME BOARD MEETING

Avenue Louise 326, Brussels - 5th December 2006
State of the art: projects

1. PON - Trasporti, Measure III.4 - ITS
   1. STIB
   2. SI NTAS
   3. ULISSE Project
   4. “Pilot Project - Metropolitan Cities”
   5. “Pilot Project - Safe Trinacria”
   6. “Pilot Project - Neptune”
   7. ITS systems development in the national naval junctions for the Puglia harbour system

2. Collaborations with Universities
   1. SI TI
   2. SITUS-TP project
   3. STRIM-TP

3. Collaborations with local Authorities
   1. Road Safety Integrated System (SI SS) for Milan province
   2. SNSTMP Project.
Projects concerned Areas

1. Local Public Transport
2. Dangerous Goods Transport
3. Goods Transport
4. Harbour Management
5. Road Safety
6. Infomobility
We’d like to pursue the following general goals:

1. **Rationalising the services** - urban and extra urban services modal integration and iron/rubber (railway/street) usage re-balancing.

2. **Retrieving the public transport quotas** in comparison with the private transport usage, so as to increase the L.P.T. usage accessibility and convenience.

3. Increasing and improving the services supplied through the adoption of **technological solutions**.

4. Implementing an **open and interoperable system so as to**:
   - provide the opportunity for expanding it towards other technological systems (localisation, information),
   - promote a better coordination among the managers,
   - optimise the investments.
**LPT: Tariff integration**

**Tariff integration**, an essential and fundamental tool for the local public transport development that, if used with other technologies, allows:

- combining and rationalising the public transport demand;
- retrieving the public transport quotas;
- using **one structure and one tariff system**;
- unifying the **sale network**;
- exchanging data between the Transport Managers and Authorities;
- integrating the public transport system with other service types;
- accomplishing a **Clearing** among the Companies;
- increasing the **forgery** and “**evasion/elusion**” controls;
- using **new payment modalities**.
LPT: information system

SITUS-TP
Telematic Informative System for the Public Transport made by the Salerno University (Salerno University Agreement)

- information about the scheduled services and the estimated shuttle arrival times available at all the bus stops in the Campus and on the web too
- information about the current shuttle position respect to the bus stops, available both at the bus stops and on the web too

- information about the lessons schedule, the exams dates, the cultural events organised by the nearer Faculties, available at the bus stops
- news, weather forecast information, as well other general information too, available at the bus stops
**LPT: monitoring**

**STRIM-TP**
Integrated Regional Telematic System for Monitoring the Public Transport (Salerno University Agreement)

The ITS telematic transport technologies provide the system actors with a series of high value services useful for:

1. monitoring the supplied service, by displaying quantitative data useful for accomplishing the service execution during its planning stage;

2. gathering the data concerning the supplied service, so that comparing them with the scheduled service data may help to figure out the service efficiency which is useful for verifying the compliance with the minimum quality standards, as being defined in the service contracts;

3. providing the L.P.T. users with the information about the integrated mobility demand on the territory, updated in real time.

**ARTIST Projects in Italy**
Dangerous Goods Transport

ULISSE
Unified Logistic Infrastructure for Safety and Security in Campania
(Integrated Telematic System for monitoring Dangerous Goods in Campania)

The main goals of this project can be resumed as follows:

- Prevention
- Protection
- Integration
- Monitoring
- Quality

**Strategy 1**: monitoring the dangerous goods traffic;
**Strategy 2**: developing the monitoring strategies;
**Strategy 3**: providing users with information (help services);
**Strategy 4**: Supporting the emergencies management on the Campania regional territory.
Dangerous Goods Transport

Safe Trinacria
Multi-access integrated telematic platform for monitoring and controlling dangerous goods and waste materials in transit along the Sicily Region

- Creating a surveillance system in Sicily aimed at monitoring the road or naval transport of dangerous goods continuously,

- Monitoring routes on “geo-referred” cartography with frequencies already assigned by the Ministry of Communications,

- Decreasing the risk of both important and fraudulent accidents, so as to avoid the concealment of harmful substances in the Sicilian territory.
Metropolitan Cities
Integrated telematic data transmission Platform for tracking and tracing the goods distribution in town (Sicily Region)

The project goals are:

• interacting with the goods mobility monitoring, controlling and management systems, so as to find out the scheduled and the occasional events occurring on the urban network, and updating the goods traffic information in real time;

• optimising distances and timetables, accordingly to the mobility demand;

• keeping on tracing all the goods along the whole distribution chain;

• building up infrastructures in order that different systems whose actors take part in the logistic process, are allowed “to talk” each other;

• ensuring a high safety level for the people involved and for the goods transported.
Harbour Management

ITS systems development in the national naval junctions for the Puglia harbour system

The project foresees the installation of three systems, one per harbour, but each one is autonomous and self-consistent. All the harbours have the same informatic and telematic structure, so as to ensure a fully logical integration.

Each system consists of the following modules:

- an **informatic platform** *(processing unit)* for managing the electronic messages exchange,
- a **WEB portal** for providing the services distribution and the system access,
- a series of **added value services** for supporting the electronic messages exchange, managing, tracing and tracking the dangerous goods, meeting the transport services demand/supply,
- a **gate** used for checking the harbour in-coming and out-going traffic.
Harbour Management

NEPTUNE
Integrated telematic booking system for ship-boarding in the sea motorways area (Sicily Region)

TARGETS

The telematic system will have to:

- **provide** the freight (trucking) carriers with information about the traffic volume change, road works in progress and exceptional events;
- **optimise the access routes** leading to the boarding points;
- **provide tickets** on the Internet or by GSM/GPRS phones and lay-bys booking services;
- **provide electronic payment services** by creating a sea “Telepass”;  
- **manage the vehicles** track and the wharf access control.

PROJECT OUTLINE

1. a computer-based system for the ship-boarding management of each navigation company
2. a computer-based system for the ship-boarding management together with a “Call Centre”
Road Safety

Main target
Its main goal is to decrease the road accidents risk inside galleries or near-by.

Such a target can be achieved by:

1. planning and creating an innovative system based both on the most recent telematic technologies for monitoring and identifying vehicle flows, and on drivers’ behaviour predicting technologies and software agents typical of the soft-computing.

2. starting up both a logical and a physical architecture, so as to supply particular services for decreasing the road accidents probability on the monitored infrastructure segment.

3. developing innovative algorithms and applications that represent the basic elements for the traffic flow simulators by classifying the vehicle flow data.

4. starting up intelligent software agents for monitoring and characterising the traffic flow change rate.
Road Safety

SITI Safety In Tunnel Intelligent

ARTIST Projects in Italy
Infomobility

Survey, check and analysis in order to determine strategies aiming at decreasing the road accidents rate.

Integrated System for Roads Safety (SISS) in the Milan Province

Basically the main project stages are as follows:

1. **Collecting and surveying data** in the place where the accident has occurred by taking into account the main three variables causing the accident: vehicle data (deformations, maintenance, anomalies) infrastructure data (route type and traffic signs) and driver's (physical and psychic condition).

2. **Gathering data** with the purpose of localising them to one Informative Territorial System in order to monitor the road accidents rate.

3. Identifying the critical infomobility system elements by analysing the road accidents rate in a statistical (cluster analysis, single-variable based analyses) and engineering way (vehicle and infrastructure analysis, dynamics reconstruction).

4. Finding out the accident causes and realising what strategies aim at improving the roads safety.

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**ARTIST Projects in Italy**
A common approach to the ITS: ARTIST

1. Tariff integration and e-ticketing
   1. STIB
   2. SI NTAS
   3. SITUS-TP
   4. STRIM-TP

2. Dangerous goods transport
   1. ULISSE Project - Unified Logistic Infrastructure for Safety and SEcurity in Campania
   2. Safe Trinacria Pilot Project
   3. SNSTMP Project

3. Goods transport
   1. Metropolitan Cities Pilot Project

4. Harbour Management
   1. NEPTUNE Pilot Project
   2. ITS systems development for the national junctions in the Puglia harbour system

5. Infomobility and Roads Safety
   1. Integrated System for Road Safety (SISS) in the Milan Province
   2. SITI

ITS development in ITALY according to the guidelines of a common ARCHITECTURE, ARTIST
## ARTIST in facts

### Modular development accordingly to ARTIST

<table>
<thead>
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<th>Project 1st stage: executive project</th>
<th>ARTIST 1st stage</th>
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<td>Identifying the Users’ Needs</td>
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<td>Defining and classifying the connection data flows between the identified functions and each function input/output</td>
<td>Defining the logical flows</td>
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<td>Localization of the functions</td>
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<td>Identifying the communication technologies</td>
<td>Identifying the enabling technologies and the Physical Architecture</td>
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<th>Project 4th stage: organisational/ management analysis</th>
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<td>Identifying the ones who take care of the functions management in each aspect of it</td>
<td>Identifying the ROLES</td>
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<td>Identifying the functional aspects managed by the ones previously defined</td>
<td>Identifying the RESPONSABILITIES</td>
</tr>
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<td>Identifying competences, asset, know-how, capacities, etc…</td>
<td>Identifying the management equipment and the organisational role-mapped processes flow</td>
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**ARTIST Projects in Italy**
### ARTIST in the PON-ITS projects

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1. **STIB** – Integrated Tariff Fixing System for the mobility in Basilicata
2. **SINTAS** - Development and experimentation Project for Tariff Integration Systems in the local public transport in Sardinia
3. **ULISSE Project** - Unified Logistic Infrastructure for Safety and SEcurity in Campania (Integrated Telematic System for monitoring the dangerous goods in the Campania Region)
4. **Metropolitan Cities Pilot Project** - Integrated telematic data transmission platform for tracking and tracing the goods distribution in town
5. **Safe Trinacria Pilot Project** – Multi-access integrated telematic platform for monitoring and controlling dangerous goods and waste materials in transit along the Sicily Region
6. **NEPTUNE Pilot Project** - Integrated phone-booking system for ship-boarding in the sea motorways area
7. **ITS systems development for the national junctions in the Puglia harbour system**
General Direction for Planning and European Programmes

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Thanks for your attention...

For further information:

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