Tuscany mobility needs analysis

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a.a. 2017/2018
**Introduction**

Disrupting technologies are turning the traditional passengers’ mobility paradigms upside-down.

This new concept is called “**smart mobility**”

The **MOBIMART** project is a smart mobility enabler in the maritime Italy-French coastal regions.

Studying the mobility needs in Tuscany (starting from the existing infrastructures and info-structures) represents the first step to build a “**Mobility as a Service**” (MaaS) smart-mobility environment.
Tuscany territory is located in the barycentre of Mediterranean Sea.

It is crossed by one of the core transport corridors: “the Scandinavian-Mediterranean” one.
Tuscany ports – ferry terminals

Livorno

Piombino

Portoferraio
"MoniCA Service" wraps all applications for monitoring and real-time control of the port system through the elaboration and integration of the data collected by the "MoniCA platform".
Scheduled and real-time services for passengers

Functional requirements for the MoniCA-AdSP website integration”:

1. Digital passengers’ **timetable** (cruises, ro-pax and ferries)
   - Ship data (IMO, name, company)
   - ETA/ETD, expected dock, destination port code

2. Real-time 2D traffic **map** (based on the AIS* data).

3. **User-interface**
   - for personalized statistics (on MoniCA and TPCS DBs)
   - to enable the automatic alert and notification service system (via SMS and/or e-mail).

AIS → data coming from the Italian Harbourmaster network
The MOBIMART project

«From Sardinia to Provence-Alpes-Côte d’Azur, across Corse, Tuscany and Liguria: a single info-mobility tool that will let citizens, tourists and commuters travel in these five regions making them real-time fully informed.»

CNIT, on behalf of AdSP MTS, is involved into the implementation of a service-oriented architecture (SOA) at the port of Livorno.

The architecture could be used to retrieve useful information regarding:

• sea side (ETA, ETD, Passengers Forecast, etc.)
• passengers’ mobility (via C-ITS).

CNIT will provide a high integration level for both
➢ the needed ICT components;
➢ the proper level of connectivity.

In Mobimart, it will be possible to include C-ITS and Traffic Management information (standard DATEX II) to increment road safety.

It will be also possible to calculate routes upon the occurrence of dangerous situations like accidents and roadworks.
GTFS data format

All the public transport data that come from the Tuscany Region and the Province of Livorno are in **GTFS** format (initially developed by Google).

Due to ensure a complete interoperability, data must be **standard** and “open”.

GTFS files are structured in **tables**:

- **AGENCY** – details about the transport company
- **ROUTES** – journeys
- **TRIPS** – trips on the itineraries
- **STOP TIMES** – stop schedule
- **STOPS** – stops’ geographic coordinates
- **CALENDAR** – service days

It is possible to add the “**GTFS Real-time**” extension, for a real-time travel-plan.
Use case for data-oriented application in the port of Livorno
Integrated multimodal travel-plan: suggested solution

Shared register (11 nodes)

Regional register (5 nodes)

Other transport offices register (6 nodes)

GTFS (scheduled data)

GTFS-RT (real-time data)

REST interfaces (parking slots, car/bike sharing…)

Public transport office

Regional transport office

MUTUAL PLATFORM
### MOBIMART SWOT analysis

<table>
<thead>
<tr>
<th>STRENGTHS</th>
<th>WEAKNESSES</th>
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<tbody>
<tr>
<td>Mutual platform</td>
<td>Sometimes transport data is not up-to-date</td>
</tr>
<tr>
<td>Standard common open data format</td>
<td>Weak availability of real-time open data</td>
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<tr>
<th>OPPORTUNITIES</th>
<th>THREATS</th>
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<tr>
<td>Transport data and itineraries will be useful to offer «one-ticket» solutions</td>
<td>Strong competition among MaaS companies</td>
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<td></td>
<td>Changes in data-privacy legal aspects</td>
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MOBIMART as a MaaS service enabler

Mobimart represents the first step for building a MaaS platform

• Mobimart will be a valid help for choosing the right public mean of transport.

• Tourists and commuters should get economic benefits by travelling using public transport.

• According to smart cities, Mobimart could be a sort of enabler for building an innovative smart ecosystem.

• The output of Mobimart project will be a digital platform which will provide an integrated and intermodal travel-plan with a mobile-friendly service too.

• Disposing of all the public transports open data is the fundamental precondition for implementing a MaaS offer atop.

• Seaports will become similar to airports ("variable message panels")
MOBIMART measures and best-practices (compliance)

• Public authorities must **collect, anonymize** and **aggregate** all the incoming **data**, monitoring how they are managed and processed (according to the GDPR, EU regulation 2016/679).

• Data must respect established **requirements** (*availability, accuracy, integrity, up-to-date*) and **structures**, in order to ensure interoperability and trust.

• Due to implement a mutual multimodal platform, it’s important the **sharing of best practices** between partners, who have to ensure the **complete portability** of both personal and non-personal data

• Every dataset must respect detailed specifications. **Standardizing** data will be the first step for implementing a future “single-ticket” solution.

New business processes can be generated, and also third parties, such as private transport operators will seamlessly participate to the MaaS ecosystem and increasing benefits.
Conclusions

- Tuscany area has a very high transport offer potential: the Pisa-Livorno-Piombino-Elba coastal zone is a single “complex logistics node”
  - The Livorno Port Network Authority plays a central and strategical role in a multi-modal transport ecosystem.

- Info-mobility innovation services will be part of the “smart-port” system with data coming from different sources.

Optimizing traffic flows (both physical and informative ones) is strictly important to be compliant with the ITS paradigm.
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