EUROPEAN CIVITAS DESTINATIONS PROJECT

Shared Use Mobility Agency and CELSO system in ELBA Island

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July 6th 2020
Established in 1994, MemEx is an independent engineering consultancy company supporting Public Authorities and Transport Operators in the design and implementation of:

- **Urban mobility and Public Transport**
- **Intelligent Transport Systems (ITS)**
- **Flexible Transport Services and Rural shared mobility**
- **Urban and Port Logistics**
- **Smart Cities**
CIVITAS DESTINATIONS Project

- 2016 - 2020
- 29 Partners incl. China partners
- 6 Islands (Live Laboratories)
- 1,2 million inhabitants
- 6 million of visitors
- Budget 19 Ml Euro (17,8 EU)

Deployment of integrated package of mobility solutions for residents and tourists towards decarbonised islands
DESTINATIONS Approach

... aims to address the challenges of residents, tourism and mobility in touristic destinations ...

... by promoting innovative mobility solutions

80 Measures in 6 Laboratory Areas

1. Mobility planning
2. Improvement public spaces
3. Urban freight
4. Mobility demand management
5. Shared mobility services
6. ITS

INNOVATION

Tourist Mobility

- Small tourist town(s)
- Medium tourist cities
- Large tourist cities

Residents Mobility

- Mobility Demand more erratic and less systematic
- Emerging role of TNC and asset sharing services
- Mutual interrelations among Tourists and Residents needs and requirements
- Decision Makers much influenced by ICT and social media

Share Tourist Mobility vs Residents Mobility

- PT services are not relevant both for residents and tourists
- All the sites, less one, present similar problems as in small-medium towns
What do we mean by ‘innovation’?

What role for innovation?

Which level of innovation?

Organization and operation
Planning and Engagement
Business model and marketing
Product and service schemes
Priority and impacts

ICT enabler

Innovation, Mobility and Transport services

Key Role of Bus

Shared use mobility web
Portfolio: technologies, systems and services
Systems in CIVITAS Destinations

One size doesn’t fit all.

MemEx is responsible of DESTINATIONS ITS level

ITS categories

Key evaluation and decision in the design phase

Common functionality design
Implementation based on local requirements

Platform/middleware for data aggregation

Info mobility APP

ITS for PT (e-ticketing, AVL, info)

EV

System for Ride/Asset sharing

PMS

Elba
Rethymno

Limassol
Funchal
Malta
Elba

Funchal Las Palmas
Elba Rethymno Limassol

Limassol
Las Palmas
Rethymno Elba

Las Palmas
Rethymno
Elba

Malta
Working at different dimensions

ICT & ITS

Procedures & Organization

Business models

Institutional, regulatory and financial framework

Stakeholders and Citizens Engagement Levels
COVID-19 IMPACTS

- Municipality needs to come back to a central role about Public Transport and collective services

- New space management policy to guarantee dedicated spaces to collective transport

- Integration of occasional fleet in public transport service, ride/asset sharing schemes and personal mode (active, clean)

- Control, coordination and reporting transport services offered in one or more areas

- Need to have common platform/tool/device for monitoring and collecting data of the different services

- New partnership and business model: The Agency could be a main mobility component

COVID-19 hugely impacted transport sector with risk of “new rise” of private car use
RID E and ASSET Sharing Services in DESTINATIONS

- Bike sharing services
- Car sharing services
- Ride sharing service - Demand Responsive Transport
- Shared Use Mobility Agency

From one service to the integration of ride sharing solutions with the overall mobility and Public Transport services

To be planned as “mode” with PT services in the Sustainable Urban Mobility Plan

IT solutions for operating Public Transport integrated with Shared Mobility services
Elba Island site, one of the 6 Laboratories

- Third Italian largest island
  - 225 Sqkm, 32,000 inhab. (142 inh/Sqkm)
  - Summer season (PRE-COVID-19)
  - ~30,000 p/day 450,000/year- tourists

ELBA divided into 7 municipalities with two main ports

- Limited and narrow road network
- Heavy Traffic Congestion in summer period
- High Frequency Ferry
- Parking scarcity
- High seasonal variability in mobility demand
- Dispersed Origins and PoI, concentrated School Location
- Dominance of private cars and motorbikes
- High number of bike-car-moto rentals
- Low use of PT services only 14% of the overall trips
- High demand also for beach and night localities
- TARGET: less use of CAR when the Tourist stay in ELBA
- Problems similar to Small towns or Rural area!
- **Users** as potential mobility service provider
- Cooperation and Networking schemes
- IT platform, connectivity and open data
- “Notice board” for sharing common trips

First “step” of a future MaaS scenario in Elba Island

Center for planning, managing and coordinating mobility and ride sharing services, infomobility, operators networking and demand analysis
- Open and aggregated Data Layer
- Service Operators Networking
- Transport Services Integration
- Infomobility services
- Ride sharing / Notice board
- Demand Analysis tool
- Service data accessibility and exposure
- Third part developers
Large use of “open source solution” (Drupal, DKAN, etc.)

Release of first version on IOS - Android Market Place
Under testing by specific user groups
Notice Board Tool

Notice board for sharing trips

- Sharing a trip to some Elba localities when the user is on the ferry
- Planning the shared trip
- Sharing the trip when the user is in some specific location or POI (beach, lounges, etc.)
- Sharing a taxi call or trip meeting at the same taxi area
- Safety Tracking including certified Hitchhiking
- User Safety Certification

Many use cases - scenario where notice
Service Scenario-1

Sharing a taxi trip/call meeting at the same taxi station and at the same time
Service scenario-2

Sharing the trip when the user is located in some specific Pol (beach, museum, etc.)

@ an ELBA BEACH PoI

Certified hitchiking

ELBA RIDE SHARING Platform

Agreement

Final destinations

In all the scenarios notice board is key element
Driver Offer and Passenger request

If the agreement is not finalized, the passenger receives further notifications of other “compatible” offers.

Info about the driver and comments

Cancel the request for a contact

Sending a request for a contact

Call
Networking of service operators

- Operators Networking (i.e. through a “centralized” window)
- Link to contact info and existing info-portals (i.e. rental/parking operators)
Operational Networking

Localisation on the map

List of rental operators

RENTAL OPERATOR CAN ACCESS TO UPDATE INFO (i.e. availability of vehicles)

SELECTION

Info details
Infomobility services

- Multimodal trip planner
- Links other tematic APPs
- Service Location, Time table
- Service availability
Infomobility Services App

- Trip planner
- Parking info
- Ticket purchase by SMS
- Link to web site
- Mini Questionnaire
- SUMP Measures Evaluation
- PT lines info
- Bus stops info (real time/planned)
- User feedbacks
- News
- Read of Ticket
- Ride services
- Travel diary
ELBA: Different PT services and schemes

- PT services only 14% of the overall trips
- High demand in summer period
- Problems as Small towns or Rural area!

TARGET: less use of CAR when the Tourist stay in ELBA

- Conventional PT service
- Feeder
- Demand Responsive Transport
- School Bus Service
- Service in Rural areas
- Shuttle Bus
- Sub-contracted Lines
- Seasonal PT service

7 Municipalities
Different actors, different questions but same solution

Public Authorities

- Is the operated service compliant with the scheduled one?
- Is the service optimized in terms of demand and offer?

Transport Companies

- How many kms has each bus travelled?
- Where is the bus location at any time?
- Which are the most critical network conditions?

End Users

- What is the bus arrival time at the bus stop?
- Is the bus on time?
- Can passengers provide feedback on service performance and quality?

Celso

Different actors, different questions but same solution.
PT service planning / programming in «Celso»

Common Device

«MARE BUS and CHICCHERO» Tourist service in Elba Island

Service monitoring (Real Time)

«Mare bus» service and «Celso INFO»

Monitoring Time Table
Driver Support
Service data Gathering
User Information

BI and Reporting activities

«Celso INFO» APP Info users
CELSO as a service

- Cloud infrastructure
- Central Control
- Front end web application
- System immediately available

On board APP on tablet
- Configuration
- Route planning/design
- Real Time communication
- Bus service monitoring
- Bus occupancy rate

GPRS/UMTS/LTE

Service:
- Planning
- Monitoring
- Management
- Data mining
- Reporting

Fleet monitoring

Flexible/DRT service monitoring

Users web-portal to book trips and seat

School children monitoring

Trip and seat booking
## Elba Sharing vs collective services perspective

<table>
<thead>
<tr>
<th>Conventional PT</th>
<th>School Bus</th>
<th>Marebus (Tourist service)</th>
<th>Sea Boat</th>
<th>Fleeder / DRT</th>
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### Knowledge-Dashboard for planning and coordinating mobility service

- CELSO a Common device as service integrator for monitoring, control and reporting

### Including in the AGENCY as 7 Municipalities with several services

- Monitoring
- Control
- Reporting
CELSO system awarded with "Seal of Excellence" by the H2020 SME Instrument Programme as High-Quality Solution

The booklet (pdf version) is available at: http://www.memexitaly.it/en
Thank you!

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Role of SUMAgency: we are working on

**Pillar:**

**Component** of the overall mobility system

To be considered **Complementary** of PT and defined in SUMP

Need to **support** Municipality in terms of resources (after COVID-19)

**OPEN Questions:**

- which level of **integration** with the PT services?
- which **role** of Local Authority in Agency sign off and management?
- Which level of **partnerships with private sector** (i.e. tourism operators)?
- which level of **data** and tools sharing among local actors and stakeholders?
- Which Agency “**dimension**” in terms of type, scale and services with respect to the different areas and mobility service situation?
Final consideration

• Municipality needs to come back to a central role about Public Transport planning

• New space management policy to guarantee dedicated lanes to public transport

• Possibility to integrate occasional fleet in public transport service

• Coordination, Control and Reporting the transport services offered in one or more areas

• Need common tool for collecting data on the different services

• The Agency could be the main mobility component to be defined in SUMP