Studying Sustainable Mobility in University Campuses

- Quantitative data analysis
- Qualitative information analysis
- SWOT Analysis
- GAP Analysis
- State of the art

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Valencia, 27th March 2018
Objectives

• Each project partner analyzed its framework site in order to obtain a defined **state of art of data, policies and planning instruments** with regard to mobility to/from/inside the Campus and its integration with urban mobility

• Collection of **Quantitative** data and **quantitative** information

• Implementation of **SWOT** and **GAP** Analysis
Partners

- National Technical University of Athens
- Magna Graecia Foundation Catanzaro University
- University of Malta
- University of Valencia
- University of Split
- University of Cyprus
- University of Bologna
Methodological approach

1. Brainstorming
2. Survey and interview design
3. Participants university and experts’ selection
4. Survey execution
5. SWOT Analysis
6. GAP Analysis
7. Results Synthesis
# CAMP-sUmp

**CAMPus sustainable University mobility plans in MED areas**  
**Project Nb. MED15_2.3_M1_238**

**Starting date:** 01/11/2016  
**Ending date:** 30/04/2018

## Deliverable D3.2.1: Quantitative data

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<td>Review and approval by</td>
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**Refer to this deliverable as follows:**  
Deliverable 3.2.1: Quantitative data

Objective
to collect Quantitative Data of each partner on local level concerning mobility of student's flows in Campus areas

Questionnaire structure
• Current mobility
• Desired Mobility
• Mobility problems
• Proposed measures/policies/tools
• Participant information
### Sample characteristics

<table>
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<tr>
<th>University</th>
<th>Location</th>
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<th>Students</th>
<th>Personnel</th>
<th>Sample</th>
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Quantitative results (1/2)
### Quantitative results (2/2)

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<tr>
<th>Setting up cycle rental services</th>
<th>Setting up public bicycle/bike sharing systems</th>
<th>Access restrictions in the whole campus or in parts of it</th>
<th>Use of clean vehicle technologies</th>
<th>ICT tools to improve information to passengers</th>
<th>Speed limitation zones</th>
<th>ICT platform for carpooling</th>
<th>Setting up of a mobility center</th>
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<td>Safety on crossing</td>
<td>Increase frequencies</td>
<td>Improve the density and extent of the public transport network</td>
<td>Infrastructure regarding disabled people</td>
<td>Pedestrian network</td>
<td>Pavement maintenance</td>
<td>Coordination (Intermodality transport)</td>
<td>Promotion of travel plans for Regions</td>
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<tr>
<td>Improve the density and extent of the public transport network</td>
<td>Infrastructure regarding disabled people</td>
<td>Pedestrian network</td>
<td>Use of clean vehicle technologies</td>
<td>ICT tools to improve information to passengers</td>
<td>Speed limitation zones</td>
<td>ICT platform for carpooling</td>
<td>Setting up of a mobility center</td>
</tr>
<tr>
<td>On-street electric vehicle charging points (e-mobility)</td>
<td>Actions to implement Intelligent Transport Systems (ITS)</td>
<td>Provision of parking areas and facilities for bikes</td>
<td>Night distribution</td>
<td>Regulation of freight transport: (delivery hours, freight restrictions)</td>
<td>Pavement maintenance</td>
<td>ICT platform for carpooling</td>
<td>Setting up of a mobility center</td>
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<tr>
<td>Awareness raising activities to promote and encourage...</td>
<td>Promotional activities for Regions</td>
<td>ICT platform for carpooling</td>
<td>Setting up of a mobility center</td>
<td>Setting up cycle rental services</td>
<td>ICT platform for carpooling</td>
<td>Setting up of a mobility center</td>
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<td>ICT tools to improve information to passengers</td>
<td>ICT platform for carpooling</td>
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<td>Setting up cycle rental services</td>
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<td>Setting up of a mobility center</td>
<td>Setting up of a mobility center</td>
</tr>
</tbody>
</table>

*Note: The table above lists various actions and initiatives aimed at improving urban mobility within the CAMP – sUmp MED project, focusing on different aspects such as cycle rental services, public bicycle/bike sharing systems, access restrictions, clean vehicle technologies, ICT tools, speed limitation zones, and parking solutions.*
# CAMP-sUmp

**CAMPus sustainable University mobility plans in MED areas**  
*Project Nb. 1MED15_2.3_M1_238*

**Starting date:** 01/11/2016  
**Ending date:** 30/04/2018

## Deliverable D3.2.2: Qualitative Information

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**Review and approval by**

**Refer to this deliverable as follows:**

Deliverable 3.2.2: Qualitative information

Objective
to collect qualitative information regarding the state of the art of mobility inside the campus and related urban mobility, services and policies of students' mobility and sustainable mobility planning instruments

Survey structure

• Stakeholders, decision makers
• Current mobility situation
• Practices/policies/tools
For each **practice/measure/tool** identified the following information were requested:

- Name
- Description
- Aim
- Links to city mobility system
- Strategic Framework
- Activities conducted
- Indicators used
- ICT or other tools involved
- Estimated Cost
- Financing
- Date Issued
- Status
- Main Stakeholders
- Most Affected Stakeholder
- Problems faced
- Solutions introduced
- Success
- Reasons for fail/success
<table>
<thead>
<tr>
<th>University</th>
<th>Location</th>
<th>Students</th>
<th>Mobility From/To campus</th>
<th>Mobility Inside campus</th>
<th>Mobility plan</th>
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<tr>
<td>University of Catanzaro</td>
<td>Outside</td>
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<td>Train, Bus, Car, Motorcycle</td>
<td>Car, Motorcycle, Walking</td>
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<tr>
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<td>Metro, Bus, Car</td>
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<tr>
<td>University of Malta</td>
<td>Inside</td>
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<td>Bus, Car, Motorcycle, Bicycle, Walking</td>
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<td>University of Valencia (1 campus)</td>
<td>Outside</td>
<td>10,000</td>
<td>Tram, Bus, Car, Bicycle</td>
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<td>University of Split</td>
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# Deliverable D3.3.1: SWOT Analysis

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**Review and approval by**

Refer to this deliverable as follows:

Deliverable D3.3.1: SWOT Analysis

Objective
implementation of a SWOT analysis based on a questionnaire survey on experts

- **Strengths** - the advantages of Campus mobility tools/instruments/plans
- **Weaknesses** - disadvantages, gaps in capabilities, lack of mobility policies/tools/instruments etc.
- **Opportunities** – overall impacts on mobility and the environment, staff/students satisfaction, quality of life, innovation and technology
- **Threats** - financial instruments, cost of development, cost of deployment and maintenance, legislation
Sample

- 33 experts from 7 partner Universities

- The ideal mix of participants:
  - University **mobility/planning manager**, if such professional figure exists
  - At least 2 **technical representatives** of local, regional and national public institutions from each partner
  - At least 1 member from **Associated Partners**, selected by each partner
  - **Project Manager** of each partner

<table>
<thead>
<tr>
<th>University</th>
<th>Interviews</th>
</tr>
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<td><strong>Total</strong></td>
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SWOT - Campus inside urban areas

Strength
- Well located in the city and easily accessed by public transport
- Infrastructure for active traveling (bicycle, walk etc)
- Ability to leverage the existing transportation network and city’s mobility solutions
- High level of knowledge and expertise within University members

Weaknesses
- Lack of dedicated parking space
- City’s traffic congestion leads to reduced campus accessibility
- Travel modes and/or connections to support the last mile
- Insufficient development of ICT tools linked to campus operations
- Lack of coordination between university activities and city demand evolution
- Organizational barriers
SWOT - Campus inside urban areas

Opportunities
- Possibility of financing from EU funds
- University can be a leader in sustainable mobility for the city center
- Innovations sourcing from universities that can be exploited to deliver mobility tools
- Integrated ICT tools

Threats
- Financial constraints
- Inefficient bureaucracy
- Resistance to change
- Difficulty to establish a viable cooperation and engagement of stakeholders
- Political will
SWOT - Campus outside urban areas

Strength
- Surrounding space is large and accessible
- Plenty of parking spaces
- New infrastructure (buildings, parking spaces, internal road network)
- Access by passenger cars
- High level of knowledge and expertise within University members

Weaknesses
- Difficulty to be accessed by public transport (areas accessed mainly by cars)
- Insufficient development of ICT tools
- Lack of funding to support the expensive implementation of appropriate mobility policies and tools
- Need for significant funds to support transit connections
- Organizational barriers
SWOT - Campus outside urban areas

**Opportunities**
- Possibility of financing from EU funds
- University can be a leader in sustainable mobility plans
- The construction of new connections with the city center will benefit the socio-economic development of the entire area surrounding the campus
- Integrated ICT tools

**Threats**
- Financial constraints
- Inefficient bureaucracy
- Resistance to change
- Difficulty to establish a viable cooperation and engagement of stakeholders
- Need for significant funding to support mobility policies, which the existing demand may not justify
- Political will
# Deliverable D3.3.2: GAP Analysis

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Refer to this deliverable as follows:

Deliverable D3.3.2: GAP Analysis

**Gap analysis** involves the comparison of actual performance with potential or desired performance.

**Thematic areas**
- Parking management
- Soft modes Infrastructure
- Public transport
- Car related issues
- Road infrastructure
- Environment and energy
- Mobility management
- Freight Infrastructure and Management
GAP – Campuses outside urban area
GAP – Campuses inside urban area

‘CAMP – sUmp MED’
Gap analysis results

Campuses located outside urban areas

- The highest gap is for Information and communications technology (ICT) tools and for Freight Infrastructure and Management

Campuses located inside urban areas

- The highest gap is regarding the existence of a Sustainable Urban Mobility Plan both regarding mobility From/To and inside the Campus
**CAMP-sUmp**

CAMPus sustainable University mobility plans in MED areas  
Project No. IMED15.2_3_M1_238

Starting date: 01/11/2016  
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**Deliverable D3.3.3: State of the art**

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**Authors**  

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Deliverable D3.3.3: State of the art

- to present the **state of the art** regarding mobility plans that have been implemented in universities with focus on:
  - the existence of targeted **mobility action plans**
  - the development of **ICT tools** regarding the mobility from/to and inside the campus
Actions plans characteristics

• Identification of **mobility planning documents** developed for European and Mediterranean cities with a particular focus on universities

• 60 EU cities which host a university have developed a **mobility plan** to ensure sustainable transportation solutions in their geographical area

• 10 MED and 3 non-MED cities are selected for an **in-depth analysis** on the on-going projects concerning sustainable mobility
Classification results

• The size of the analyzed universities varies between 10.000 and 70.000 students

• Most of the mobility plans implemented at city level are distinguished by those features which enable to classify them as SUMP

• The integration between the university and city mobility plan is quite rare between the considered case studies

• Campus location is evenly distributed between inside and outside the city center
State of the art of ICT tools

- The **state of the art** regarding information and communication technologies linked with Sustainable Mobility Plans at Universities

- The **European framework** is analyzed with emphasis on ICT tools for sustainable mobility

- **ICT applications** to Universities are critically reviewed
Overview of ICT tools

- There is not much specific information about how sustainable mobility at universities can be improved through **ICT tools**

- There are several individual **ICT projects** and applications aiming to achieve goals related to the improvement or implementation of sustainable mobility policies at universities
Conclusions

• A road map is missing for a university mobility manager to act as a guide to follow to develop an efficient and effective sustainable university mobility plan

• Limited accessibility to available data and documents

• Most university mobility plans are limited to provide practical information on available transport solutions from/to campus
CAMP-sUmp
CAMPus sustainable University mobility plans in MED areas

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