

Case Study: Galileo for Mobility



European
Global Navigation
Satellite Systems
Agency

This project has received funding from the European Global Navigation Satellite Systems Agency under grant agreement No 776381

Galileo Technology



- €10 Bn global satellite navigation system (GNSS)
- 30 satellites (24 operational at any one time)
- Systems offers dual frequencies as standard
- Will offer real time positioning accuracy down to the metre range

Galileo for Mobility



- European project looking to utilise Galileo benefits for MaaS
- MaaS services often require accurate, real-time information on user and vehicle positioning
- But, traditional GPS solutions suffer from:
 - Lack of availability in certain areas
 - Positioning errors and misleading information
 - Unaffordable battery consumption, data communication and device tracking
- Project looks to exploit improved geolocation for MaaS services

Objectives

- Understand, define and validate the requirements for GNSS-Galileo in MaaS
 - Positioning performance
 - Cost
 - Power consumption
 - Data communication needs
- Develop the key elements to exploit Galileo benefits in MaaS
- Disseminate project results and support their exploitation



Consortium



Pilot Sites

- 5 pilot sites within 3 cities
 - Barcelona, Spain
 - Thessaloniki, Greece
 - Paris, France
- Exploring Galileo applied to
 - Car sharing
 - Shared taxis
 - On demand transport
 - MaaS aggregation
 - e-Bike share
 - Autonomous vehicles



Supporting Car/Bike share

- Benefits of improved geolocation
 - Better service provision through improved real-time pooling information – fleet management
 - Improved duration and use information for payment
 - Incident management
 - Security – theft and vandalism



<http://www.galileo4mobility.eu>

CONTACT

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Roundtable Discussions



- Encourage broad discussion on the role of satellite applications technology to support transport challenges in three key areas
 - Discussion point 1 – Rural and island connectivity
 - Discussion point 2 – Accessibility, tackling inequalities and mobility
 - Discussion point 3 - Tourism

Roundtable discussions



Technology

- Improved geolocation accuracy
- Improved connectivity
- Data sets
- Real time information
- Mapping
- Other



Service

- Demand responsive transport
- Dynamic routing
- Shared transport
- Autonomous vehicles
- Multi-modal transport
- Other



Considerations

- Cost requirements
- Power requirements
- Data communication
- Complimentary technologies
- Who needs to be involved?
- Other

Discussion point 1

Rural and island connectivity

Rural and island connectivity



- Challenges
 - Public transport provision is not efficient or cost effective – low passenger numbers and high mileages
 - Connecting people to work and education – avoid ‘brain drain’
 - Accessing vital health services
 - Isolation, particularly of elderly and vulnerable
 - First/last mile provision
 - Digital connectivity

Discussion Point 2

Accessibility, tackling inequalities and
mobility

Accessibility and inclusivity



- Challenges
 - Providing confidence to access public transport services
 - Ensuring awareness of local services and accessibility provision
 - Providing up to date information for passengers and family members/carers
 - Providing support to suppliers and operators

Discussion Point 3

Tourism

Tourism



- Challenges

- Visitors by their nature have generally poorer understanding of local transport provision
- How do we link transport with key tourist areas avoiding ‘honeypots’?
- How do we cope with significant influxes of visitors at key times of the year?
- How do we support local services/infrastructure in dealing with large numbers?
 - North Coast 500
 - Orkney
 - Cairngorm National Park
- How do we maximise the benefits of Scotland’s tourist industry across all of Scotland?
 - Scotland is not Edinburgh, Skye and Loch Ness