

# ARIADNA

AWARENESS RAISING AND CAPACITY BUILDING INCREASING ADOPTION OF EGNSS IN URBAN MOBILITY APPLICATIONS AND SERVICES

The ARIADNA project aimed to support the adoption of EGNSS (European Global Navigation Satellite System) for public transport and urban mobility. It did so by raising awareness on Galileo and EGNOS benefits and their superior technical features among different stakeholders, including key decision makers, public transport operators and authorities worldwide. It also supported the introduction of new solutions provided by SMEs and start-ups, in a fruitful cooperation with academia and research centres, ultimately promoting visibility at global scale, generating broad awareness and technological competences on leveraging EGNSS.

# ARIADNA

PROJECT COORDINATOR

## FACTUAL



[www.ariadna-project.eu](http://www.ariadna-project.eu)  
[@ProjectAriadna](https://twitter.com/ProjectAriadna)



This project has received funding from the European Union Agency for the Space Programme (EUSPA) under grant agreement No 870264

## KEY INFO

Coordinator: **Factual**

€ Budget: **€673,000**

Calendar icon Duration: **24 months**  
(December 2019 – November 2021)

“ARIADNA has raised the profile and knowledge of Galileo as a key enabler for more resilient, more efficient, more sustainable urban mobility, with a focus on public transport. It has done so by educating key stakeholders in the urban mobility domain on the challenges facing GNSS, highlighting the benefits of leveraging Galileo, in Europe and at global level.”

**Josep Laborda**  
CEO and Managing Partner, Factual, ARIADNA Coordinator



# ARIADNA aimed to... 1) Raise awareness 2) Build capacity 3) Facilitate EGNSS deployment

## Key Reports



- ◆ **White Paper: EGNSS technology in Urban Mobility and Public Transport**
  - In depth analysis how the incorporation of Galileo positively impacts all existing applications of GNSS in urban mobility services and even enables new ones
- ◆ **Report: The role and challenges of GNSS for Urban Mobility & Public Transport**
  - Analyses the main features of Galileo to support next generation public transport systems
- ◆ **Survey: How satellite navigation is empowering Public Transport & Urban Mobility solutions**
  - Insights from 70 stakeholders (PTOs, PTAs, fleet managers, shared mobility operators, technology providers) into whether and how Galileo is used and the role of geolocation data in improving urban mobility services

## Capacity building in the sector



- ◆ Various sector webinars about the benefits of Galileo, including *Space for Green & Resilient Cities* (December 2020) and *Galileo for Mobility Start-ups & SMEs* (June 2021)
- ◆ A list of heads of networks and a database of European start-ups, and nearly 20 interviews with start-ups, SMEs and PTOs highlighting real use cases and experiences with EGNSS
- ◆ Two papers submitted and accepted in recognised worldwide events, including the 10<sup>th</sup> ICTR (September 2021) and the ITS World Congress (October 2021)
- ◆ Two Hackathons facilitating the development of urban mobility solutions integrating Galileo
- ◆ One dissemination brochure and a **White Paper Abstract**, developed for start-ups and SMEs working in urban mobility

## Facilitating of EGNSS deployment



- ◆ ARIADNA developed the Galileo Demo Kit (GDK): a complete hardware and software solution that can be used to showcase in real time the difference in positioning performance between a multi-constellation receiver compared to a GPS-only receiver. The GDK is available to all stakeholders interested to evaluate the increased performance of Galileo-enabled receivers in their concrete applications.
- ◆ 2 bus operators, 1 railway operator, and 1 carsharing company have already shown interest in seeing how the GDK would perform on their services. ARIADNA is in conversations with each of them to run demos that will show them how they could benefit from the leading edge of positioning technology.

## Space4Cities Forum



The ARIADNA Space4Cities Forum included 22 stakeholders from the entire public transport sector (cities, technology providers, sectorial clusters) that support ARIADNA's vision & ambition to:

- ◆ Receive technical support and advice from Galileo technical experts and ARIADNA consortium partners
- ◆ Network with other city councils, PTOs and PTAs, share and discuss best practices, experiences, and talk about management issues related to urban mobility and public transport
- ◆ Share experience and feedback in dedicated webinars
- ◆ Steer some of the project activities, e.g. topics of ARIADNA's hackathons

## ITxPT and ARIADNA



INFORMATION TECHNOLOGY for PUBLIC TRANSPORT

As a result of the collaboration with ITxPT, technical requirements for the adoption of multi-constellation GNSS receivers in public transport fleets have been finalised and included in the ITxPT specifications (ITxPT S02P03-GNSSLocation), to replace the previous GPS-only approach.

The ITxPT community gathers public transport stakeholders from all over the world to provide authorities and operators with recommendations and requirements to support the purchase and integration of interoperable IT architecture, as well as industry suppliers with specifications to design ITxPT-compliant equipment.

## Why Galileo for urban mobility?

ARIADNA's vision is that public transport not only includes the traditional modes such as bus, metro, tram, interurban train, and taxi, but is also the backbone of urban mobility in its broadest sense, which includes shared mobility and disruptive schemes such as Mobility as a Service (MaaS). These innovations come with a number of challenges that need to be tackled.

Galileo is providing, already today:

- ◆ Improved positioning accuracy and reliability in urban environments
- ◆ New security features, such as authentication, addressing the needs of payment and liability critical applications and services in the transportation domain



## Dissemination in ARIADNA

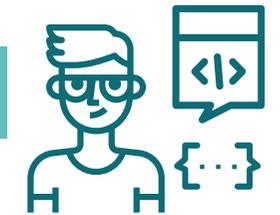
Dissemination was at the heart of ARIADNA. Via various tools and channels, the consortium has raised awareness about Galileo and its benefits.

- ◆ Interview series about EGNSS
- ◆ Liaison with other EUSPA projects
- ◆ Attendance to conferences
- ◆ Dissemination of GSA paper 'Recommendation of the GSA on the benefits of EGNOS and Galileo receivers for public transport'
- ◆ Press outreach and online news articles

## ARIADNA fostered international cooperation & dissemination:

- ◆ Cooperation with GIC Brazil
- ◆ 2 Hackathons with international participants
- ◆ Presentation at Smart City institute Japan' webinar
- ◆ Outreach in Japanese press & through GNSS Asia

## HackARIADNA



### Competing for a more sustainable world

- ◆ 2 online #HackARIADNAs (Autumn 2020 & Autumn 2021)
- ◆ Calling on young professionals, robotics experts, tech individuals and companies to design and develop new applications that will support better mobility through the use of EGNSS & Galileo
- ◆ 20 selected teams in total, from all continents
- ◆ First edition focused on the attractiveness of Public Transport post COVID-19. Two winners: HAMBAs (South Africa) and SENSE4AIR (Italy & Netherlands)
- ◆ Second edition focused on Sustainable and Inclusive Mobility. One winner, ROTAM (Brazil) and 2 candidates awarded with "Inclusion prize", DABAGO (Marocco) and ACE Mobility (Kenya).