

49th ASECAP DAYS

*Decarbonizing Road Infrastructure : Challenges,
Perspectives and Actions in Tough Economy*

ASECAP DAYS



BRUSSELS 2022



Hotel Marriott Grand Place, Brussels
24 – 25 November 2022



A Living Lab for ITS solutions

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Be

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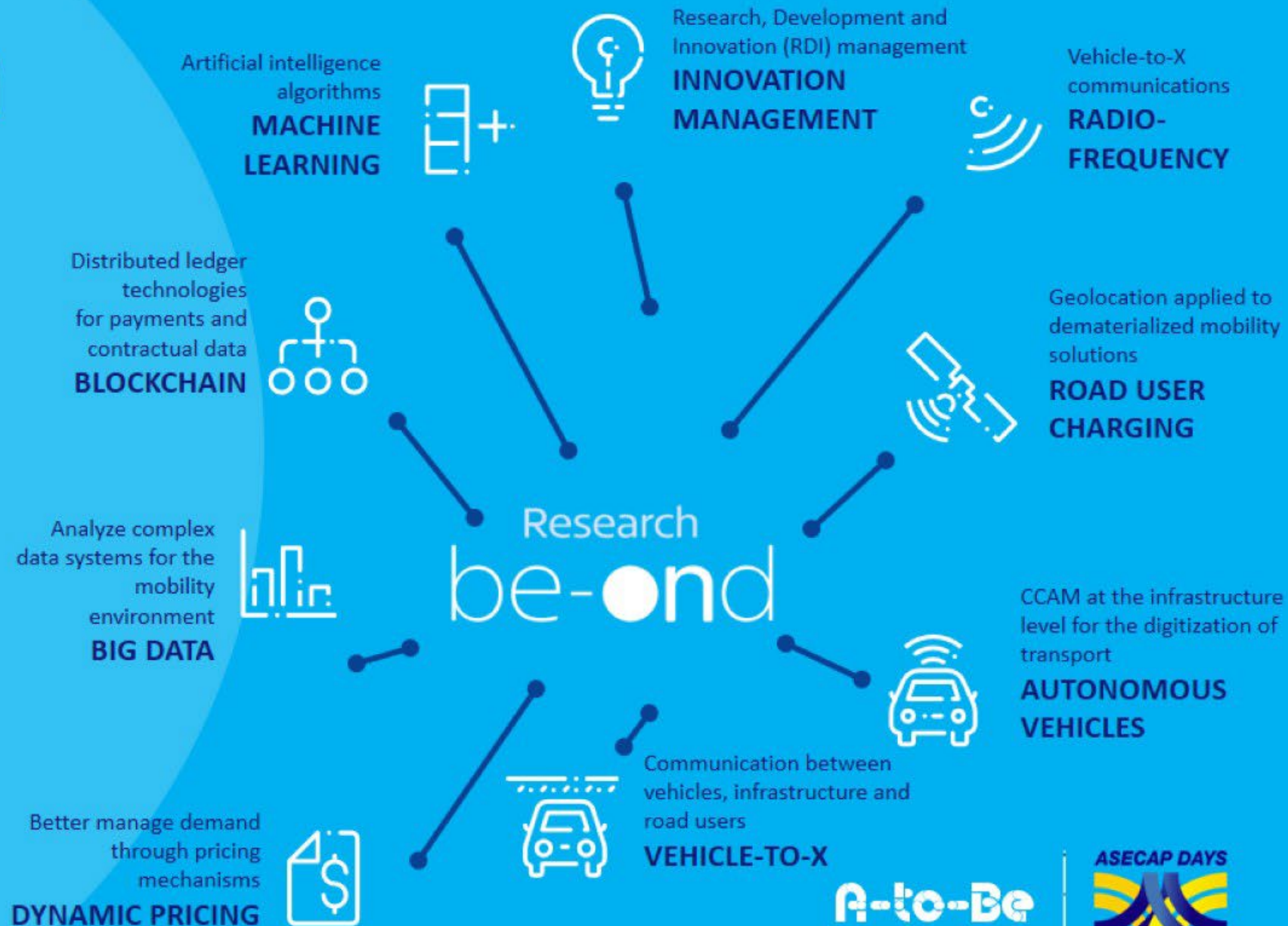
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Innovation in action

RESEARCH AREAS

We never stop moving, and we never stop exploring ways to make mobility smarter, safer and easier for people. We're committed to innovation in all of our research and development projects, involving users, universities, research centers and startups.



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Our Road to Connected Vehicles



EU Project
A-to-Be V2X App part of PT 5G CV

Proof of concept, USA
DSRC 5.9 GHz (WAVE) tested in
NWPKY



EU Project
First RSU Trials at A5



EU Project
HMI and Hardware evolution



EU Project
A9 Autonomous
Driving Trial



EU Project
Harmonization, nation-wide interop-
trials and massive deployment

V2X Tolling
ETSI TR TLS
Implementation and
benchmarking

2010

2020

HeadWay
Prototype



V2X Station
Make 1



V2X App
Initial Version



MOBICS C-ITS-S
C-ITS Management Center



V2X Station
Make 2



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European Research Projects



EU-Funded

2017 - 2021

31 Partners

Preparing infrastructure for C-ITS

Connecting urban nodes

Backbone data sharing



EU-Funded

2018 – 2022

50 Partners & 11 Countries





Accelerate Cross-Border 5G Deployment

Define Deployment Scenarios & Recommendations



“The” V2X Project:

C-ROADS

-  Greatest harmonization effort in Europe since the launch of ITS-G5
-  Involves main relevant entities in most EU member states
 - 16 core members
 - 6 associated members (EU and non-EU)
-  Real-world network
-  Large-scale deployment

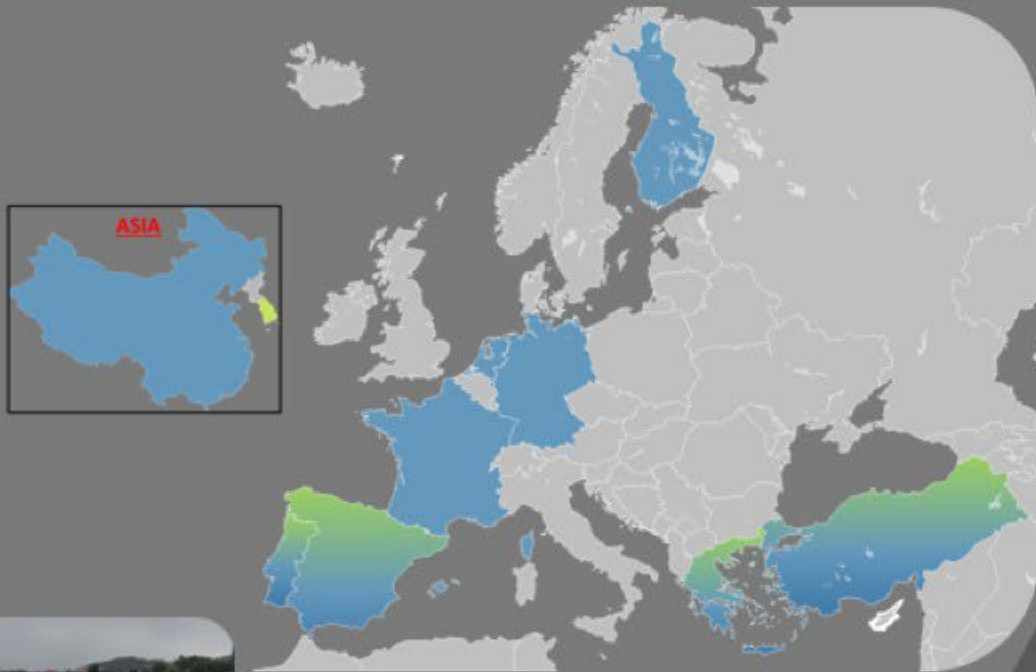


5G-MOBIX



ES-PT Usage Scenarios:

- Lane merge
- Overtaking
- HD Maps
- Cooperative Automated Operation
- Remote control
- 4K bus monitoring
- Multimedia Service for Passengers
- Agnostic network testing



5G-MOBIX

PORTUGUESE CONNECTED VEHICLE

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WATCH THE
VIDEO

it

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This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No. 825496

From...



Technology: **ITS-G5**
Use Cases: **Safety**



Technology: **5G**
Use Cases: **Safety,**
Autonomous Driving

To...

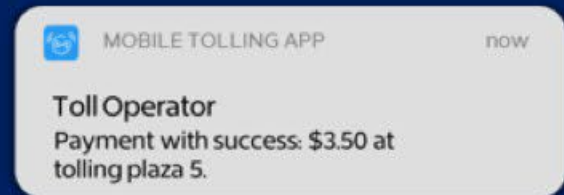
V2X Tolling

Technology: **ITS-G5, C-V2X, 5G**
Use Cases: **Payments**

V2X Tolling

November 8 trials

WATCH THE VIDEO



TOLL ROAD EXIT

The V2X transaction is completed, and the vehicle exits the toll road

Next Up in the Living Lab



Pilot projects for implementing C-ITS services in urban areas, to complement C-ROADS



Develop a decision-making support tool for optimizing traffic operations to support multimodal and (non)automated vehicles, both passenger and freight



Development of vision-based solutions for tolling and traffic management in real environments, namely vehicle classification and HOT/HOV



Innovation never stops moving.



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