Conclusions and Outcomes from the ES-PT Cross Border Corridor

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5GMOBIX

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Presentation Outline

- ES-PT Cross Border Corridor Expected Outcomes
  - ES-PT characteristics;
  - Expected outcomes.
- Example of a potential "in site" solution adoption
- Conclusions

ES-PT Cross Border Corridor Expected Outcomes

ES-PT characteristics

- **Diversity of scenarios**
  - Highway and non-highway (open) borders (great for exploring a seamless transition between countries);
  - The proximity of two nearby cities in each side of the border;
  - Two different and exclusive MNOs in each side of the border.
- **Partner complementarity**
  - Complementary stakeholders covering the complete value chain including car manufactures, telecom companies, public administrations and research institutions;
  - The involvement of the countries' public road authorities in the project.
- **Open border with a strong relation between the two adjacent municipalities**


Complex maneoeuvres
in cross-border settings
TUI
Automated shuttle remote
driving across borders
Public Transport with HD media
services and video surveillance
VALENÇA

Expected Outcomes

- The applicability of 5G connectivity to CCAM V2X use cases, taking a broad service approach, including and reaching beyond the safety/efficiency use cases of C-ITS;
- Qualify and quantify, from a business perspective, the added value of cellular connectivity compared to purely disconnected scenarios (vehicles and VRUs);
- Enable a wide range of services to connected vehicles in support of innovative business models enabled by 5G connectivity (e.g. a new mobility scenario);
- Take forward cellular connectivity for vehicles, targeting use cases which are difficult or impossible to realize with existing technology and requiring improved performance (low latency, reliability, security, location, throughput);

Expected Outcomes

- Validation of 5G in a broad CCAM context through this 5G cross border corridor;
- Determine specific requirements of 5G technologies for CCAM;
- Define options for deployment, taking into account the evolution from earlier cellular technology (e.g. LTEV2X), and possible coexistence with other technologies;
- Assess cost/complexity of the various technology deployment options is in scope and identify who has to invest and who will benefit commercially.

Example of a potential “in site” solution adoption


EUROCIDADE
EUROCIDADE TUI VALENÇA | VALENÇA TUI
Dúas cidades, tres linguas e dous pobos, unidos por un río, unha emoción e unha vontade
Duas cidades, três línguas e dois povos, unidos por um rio, uma emoção e uma vontade

Context

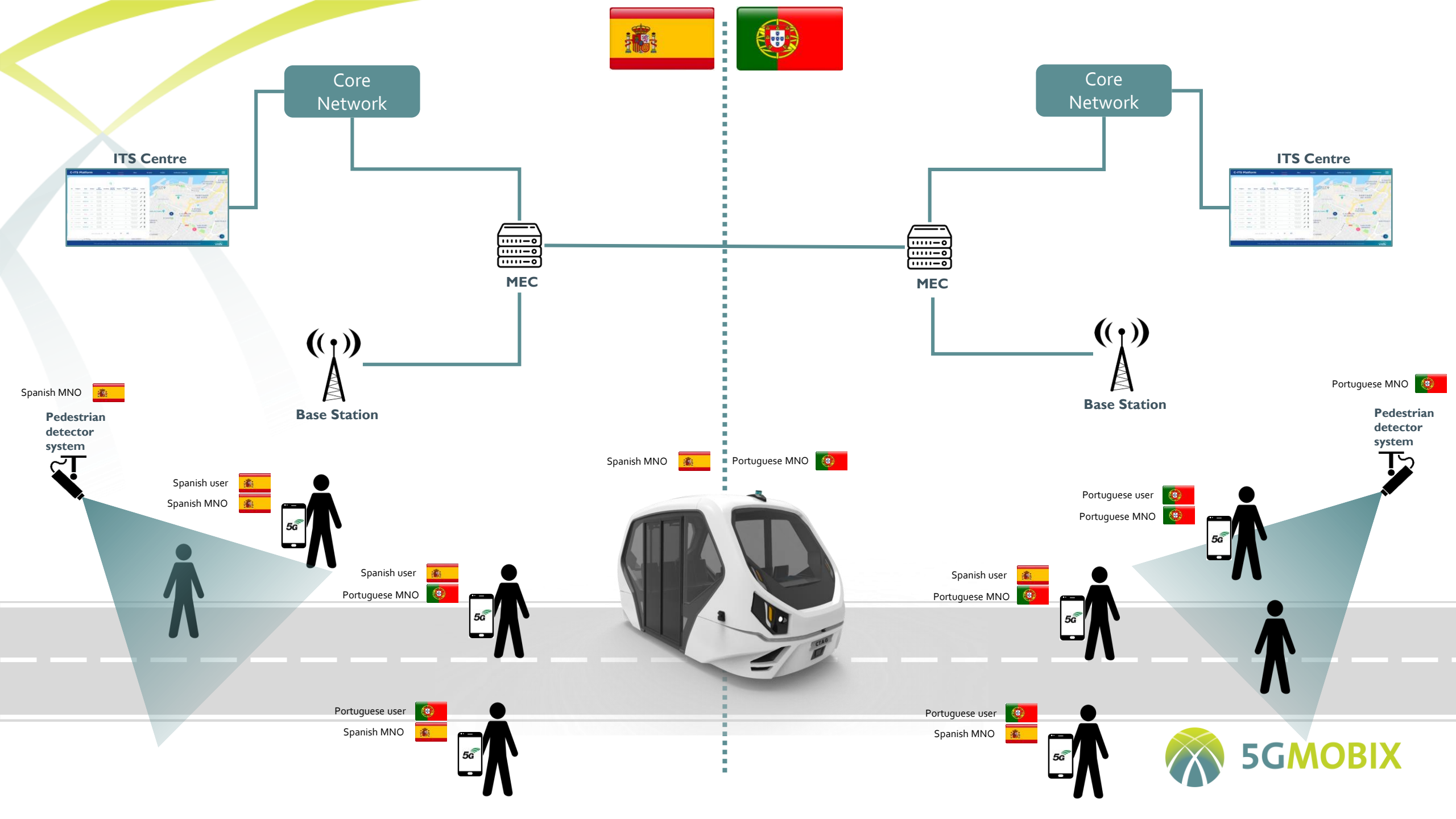
- The "Valença-Tui Eurocity" is a touristic hot spot in a low population density area;
- Municipalities share an intense cultural and commercial bond and a common touristic interest. Tourists visit both these cities at once. Yet, there is a physical separation between these locations with a river and bridges to cross;
- **Establishing a (viable, useful, ubiquitous and safe) transportation link is a compelling challenge that can be enabled with 5G-Mobix.**

An electric automated/remotely controlled shuttle between Valença and Tui.

Challenges to a "real" deployment

CTAG's Shuttle

- Different MNOs;
- Technological challenges;
- Inter-country Regulations and Management (Traffic management/ITS Centres);
- Safety: the presence of VRUs (pedestrians mostly) in mixed environments and blind corners;
- User acceptance (either passengers or pedestrians);
- Economical sustainability.


Core Network
ITS Centre
MEC
Base Station
Spanish MNO
Pedestrian detector system
Spanish user
Spanish MNO
Spanish user
Portuguese MNO
Portuguese user
Spanish MNO
Spanish MNO
Portuguese MNO
Core Network
ITS Centre
MEC
Base Station
Portuguese MNO
Pedestrian detector system
Portuguese user
Portuguese MNO
Spanish user
Portuguese MNO
Portuguese user
Spanish MNO
5G
5GMOBIX

Conclusions

Conclusions

- Partners from Portugal and Spain, together with the partners from all over Europe, are committed in preparing the future of CCAM using 5G-based technologies;
- The geographical, cultural and commercial context of this Cross Border Corridor provides great conditions to explore different use cases in the several dimensions to explore;
- The diversity of User Stories that are being explored will provide great insights about the way how 5G technology can lever CCAM;

Conclusions

A great contribution for the future of 5G CCAM in the region

The deployment of these 5G CCAM services and applications will provide a strong impulse in both countries towards the development of opportunities around 5G in the ITS sector.

- **Technical evaluation, user acceptance and impact assessment activities will provide valuable information that will support future decisions in this area;**
- **Some of the developments may turn into real applications in a near future.**

Thank you

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