



Brisa Innovation and Vehicle Communications

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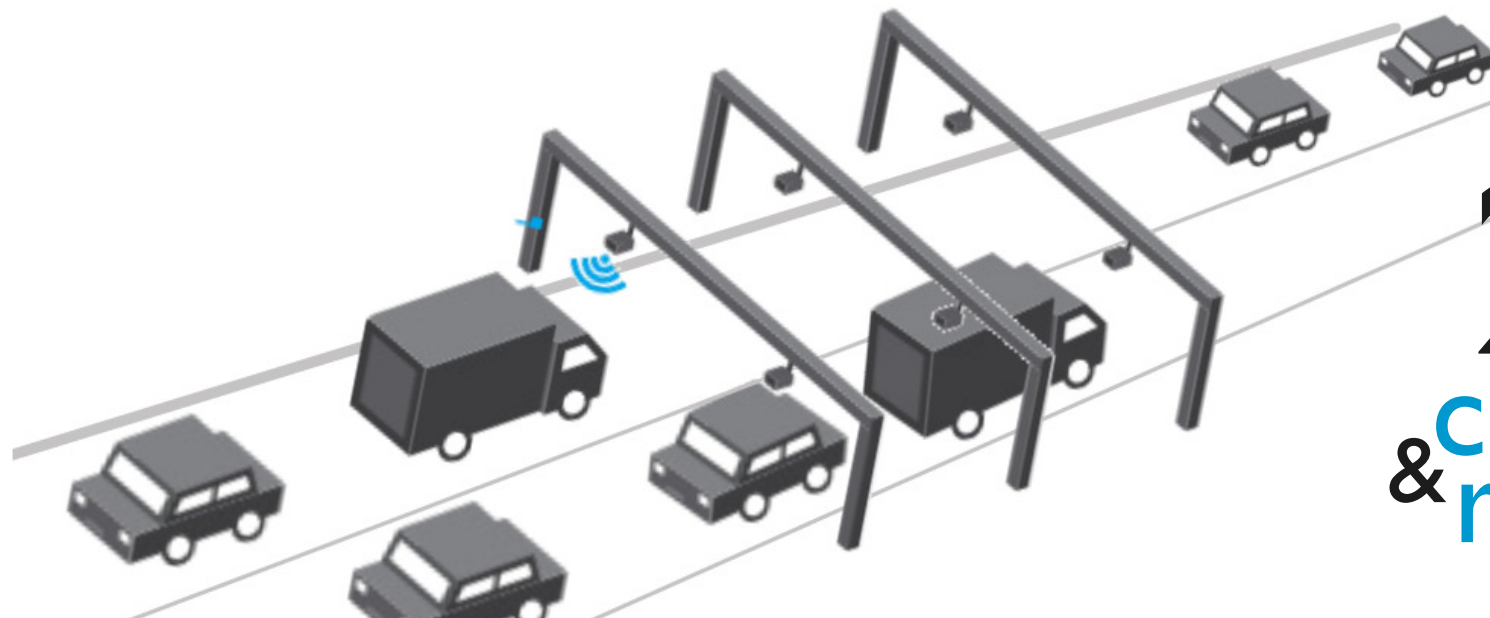
3.May.2016



Who we are: Pioneer in ETC

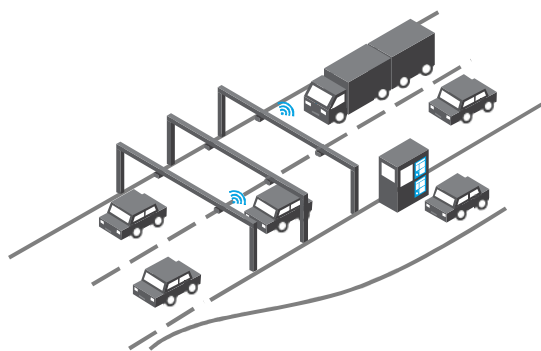


ETC
nationwide

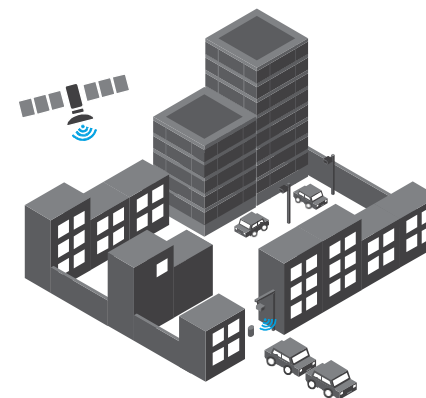


20+ years
& creating
running

Our portfolio



TOLLING & TRAFFIC MANAGEMENT



SMART URBAN MOBILITY



What are the challenges



- ▼ Energy and environmental impact
- ▼ Assure levels of service
- ▼ Increase in congestion on highways and urban centres
- ▼ Impact on accidents rate
- ▼ Efficiency of the network
- ▼ Assure safety
- ▼ User satisfaction
- ▼ Innovate and increase knowledge

Why V2X?

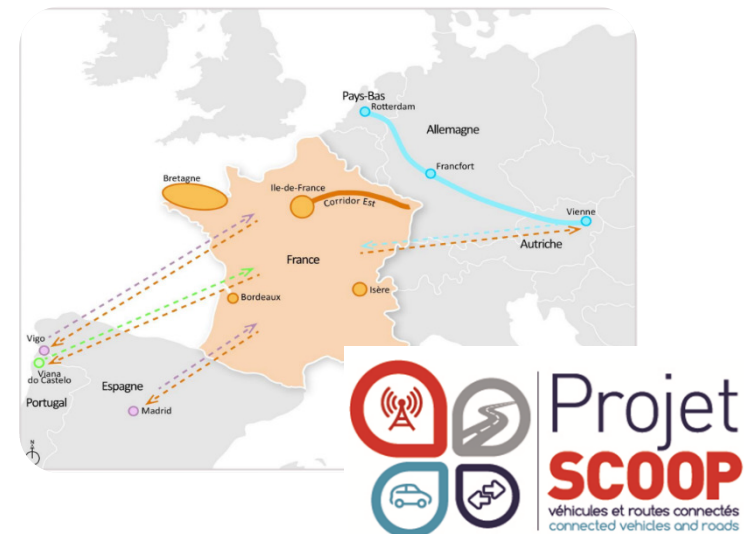
And if the road infrastructure, vehicles and respective drivers, highway operators and other road users could cooperate with each other in order to become more efficient, safe and comfortable during their trips?

- ▼ V2X communication is key to increase safety on roads
- ▼ Very important tool for road operators in order to achieve gains in efficiency with the use of this information



What is BIT doing

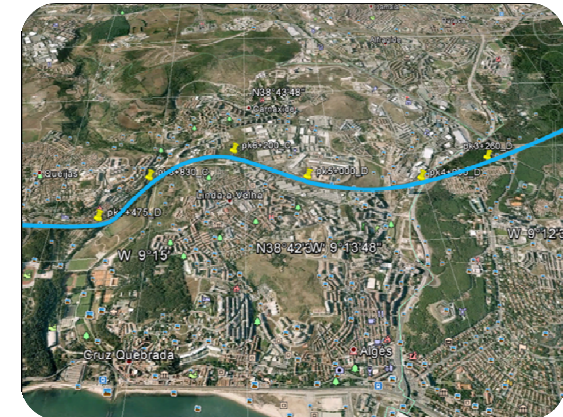
- ▶ We have been following the state of the art developments in this area through the participation in several European projects, namely:
 - ICSI: Intelligent Cooperative Sensing for Improved traffic efficiency
 - SCOOP@F Part 2: Système Coopérative Pilote
- ▶ Gain skills either through the acquisition of information coming from vehicles or through the operating systems that receive information and analyze them and work
- ▶ R&D innovative solutions for a more efficient mobility



ICSI FOT: Use cases tests

- ▶ The ICSI use cases were tested along the Lisbon highway A5, a 25 km highway in Portugal connecting Lisbon to Cascais
- ▶ Six IT2S G5 RSU (Road Side Units), were installed on several roadside equipment cabinets
- ▶ The RSUs interconnected by TCP-IP network and together with the ICSI gateways, implemented the ICSI platform

define a new architecture to enable cooperative sensing in intelligent transportation systems, and to develop a reference end-to-end implementation



ICSI FOT: Use cases tests



Route guidance and
intermodal support



Wrong way warning



Emergency vehicle
warning



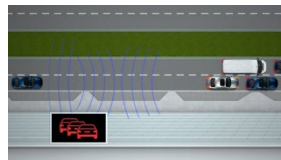
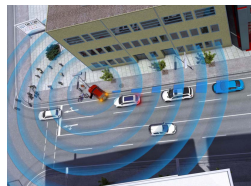
Hazardous location
warning



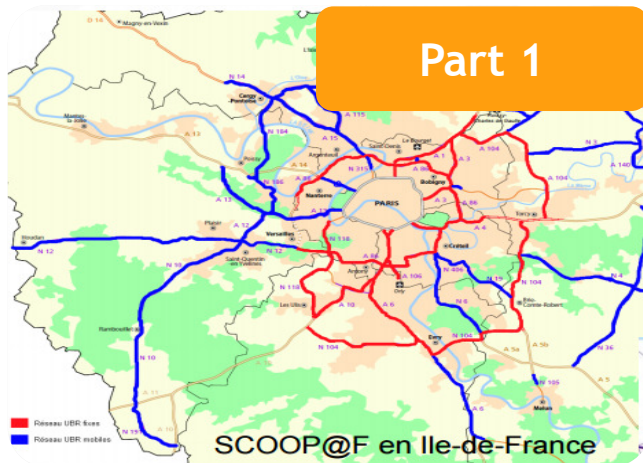
Road works warning



Traffic jam warning

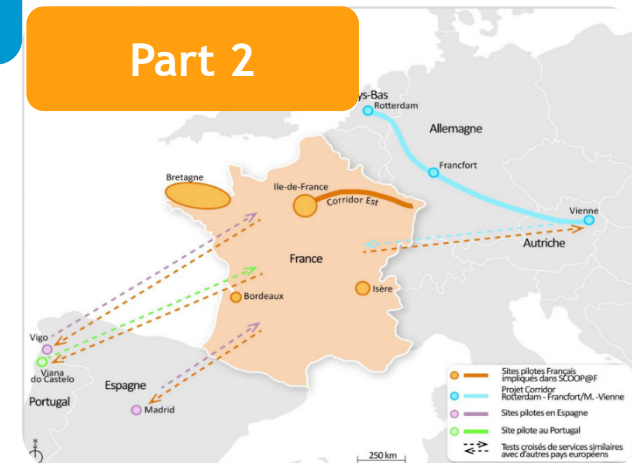


SCOOP@F Part 2



Part 1

SCOOP@F A two step project



Part 2

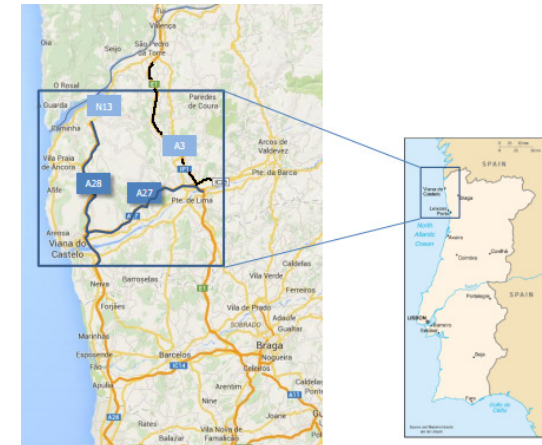
- Specifications developments of on-board units and services
- Development and laboratory evaluation of OBUs and RSUs 5,9GHz
- Specifications developments of security structure

- Experimental setup of phase 1, with validation of the services developed in closed circuit and road
- Interoperability tests with other pilots (Portugal, Spain and Austria)
 - Implementation of 5 pilots sites in France
 - 3.000 vehicles and 2.000km of road
- Hybrid communications (ITS-G5 + 3G)
 - Results evaluation

SCOOP@F Part 2: objectives

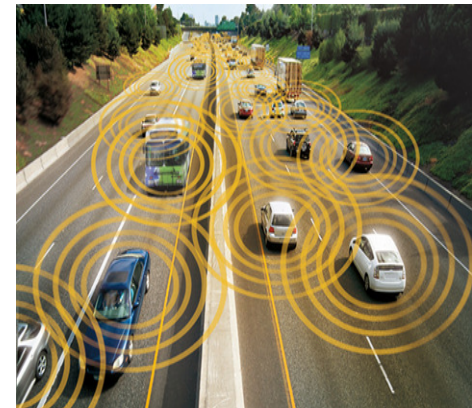


- ▶ Study and implementation of a cooperative system in Portugal, near Spain
- ▶ Specification and development of an ITS central platform (Brisa solution)
- ▶ Pilot deployment (installation of the RSUs)
- ▶ Implementation of several use cases
- ▶ V2I Cross Test with Spain, Austria and Portugal
- ▶ To test interoperability and maturity



Still some issues to overcome

- ▼ Guarantee that V2X systems don't interfere with legacy payment solutions
- ▼ Decentralized real time decision capacity
- ▼ In the future all vehicles will have V2X capabilities but meanwhile we must address the fact that there will be a long transition time
- ▼ What is the future of GNSS and its role in C-ITS



For more
information on
this, we suggest
following this
QR-Code.



<http://www.brisainnovation.com>