International Telecommunication Union

HELLENIC REPUBLIC
Ministry of Digital Policy,
Telecommunications and Media

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of Digital Policy,
Telecommunications
& Media

BRINGING TOMORROW
TODAY,
FOR EVERYONE

Towards 5G Enabled Gigabit Society

11-12 October 2018 | Athens, Greece

Session 8: 5G for Connected and Automated Vehicles

"5G Balkan Corridor (Bulgaria – Greece - Serbia)"

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Ministry of Digital Policy, Telecommunications and Media

Greece

International Telecommunications Union

Letter of Intent signed on 26 June 2018 – Sofia:

- to develop experimental **5G cross-border corridors** that will allow pilot testing of driverless vehicles, on the basis of 5G deployment

- Ensure continuity, interoperability, safety and integrity of the vehicle, security, privacy → prime features

- Joining other cross borders corridors in Europe

- 2 vertical axes of Egnatia Odos motorway→ decision should be made
  - Connexion with Sofia and Serbia: Kalotina – Gradinje – Pirot – Nish
- Technical specifications
  - Vehicle Type (class/level of automation, passenger car/shuttle bus/vans/trucks)
  - Safety Issues (safety of driver/passengers of the test vehicle, safety concerning other road users)
  - Common safety requirements
  - Specifications for the digital infrastructure

- Infrastructure to be identified:
  - **road infrastructure**:
    - geometry of the road (width, number of lanes, length etc.)
    - type of the road (motorway, sub-urban/rural, urban roads)
    - traffic signs (markings and signage, road signs and signboards)
    - special infrastructure environments (i.e. toll stations, tunnels)

  - **Communications/connectivity**
    - Data and connectivity (to vehicles, to roads, to services, to other infrastructures)
    - access and data use
    - cyber security
    - Making available spectrum, sharing spectrum, flexibility to the spectrum access
    - Continuity coverage
    - Technologies combination (satellite, fiber)

- Regulatory and legal framework (common to telco and auto sectors)
  - Impact of proposed EECC on M2M (Internet of Vehicles)
  - Coexistence-interoperability of technologies (ITS G5, 5G, LTE-V)
  - Net neutrality
  - ePrivacy
  - Cybersecurity
  - Ownership, use and access to data
  - Licensing schemes
- The existing legislation in 3 countries does not regulate the use of CAD ➜ a lot to be done
- Interministerial elaboration of a Working Group

- *Some views on the* C-ITS *Delegated Act*
  - *Finland, Norway, Spain and Sweden signed a letter where:*
    - call for a technology neutral regulatory framework to ensure the interoperability of different technologies
    - commission to provide a roadmap for adjusting and strengthening the overall framework for data protection
    - More time to ensure a hybrid communication approach and interoperability

- Funding tools and collaborations
  - 5G-MOBIX (H2020 ICT-18-2018):
    "5G for cooperative & connected automated MOBIlity on X-border corridors"
    - Coordinator Ertico, Partners 60+
    - largest industrial stakeholders of Europe from both sectors:
      - Major Automotive partners: Daimler, Ford, PSA, Denso, Siemens
      - Major Telecom partners: Nokia, Ericsson, Telefonica, KPN, Cosmote, China Mobile
    - Greek partners: Ericsson Hellas, Cosmote,, Intrasoft, WINGS ICT Solutions, NTUA University of Piraeus
    - Both Ministries → Letters of Commitment
    - Includes:
      - The Greek pilot & cross-border use cases (national trials)
      - 2 cross border 5G corridors: Porto – Vigo and Antwerp-Eindhoven
      - 3 regional 5G corridors in Germany, Finland and France

- Trials of 5G technologies for connected and automated driving. Trials will be carried out at the cross-borders of FR-GE-LUX, SP-PT and in the Greek territory

- Test the capabilities of 5G connectivity for higher-level autonomous driving cases

- Unique opportunity to advance and promote 5G technology within Greek territory

- Our Ministries will take part in providing the infrastructure, work on the requirements and validate the results (use case)

- There is lot to be done:
  - in national and in European level
- Cross border corridor → to start the implementation
- The project MOBIX starts next month

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THANK YOU!