

ROADART Project Presentation

ROADART

H2020 - 636565

*Research On Alternative
Diversity Aspects foR Trucks*

This project has received funding from the European Union's Horizon 2020 research and innovation programme under Grant Agreement No 636565



Project Outline

- Long Title: "Research On Alternative Diversity Aspects for Trucks"
- Topic: MG-3.5a-2014 "Cooperative ITS for safe, congestion-free and sustainable mobility"
- Type of action: RIA
Project Volume: 3 906 875 EUR
- Grant Agreement No 636565



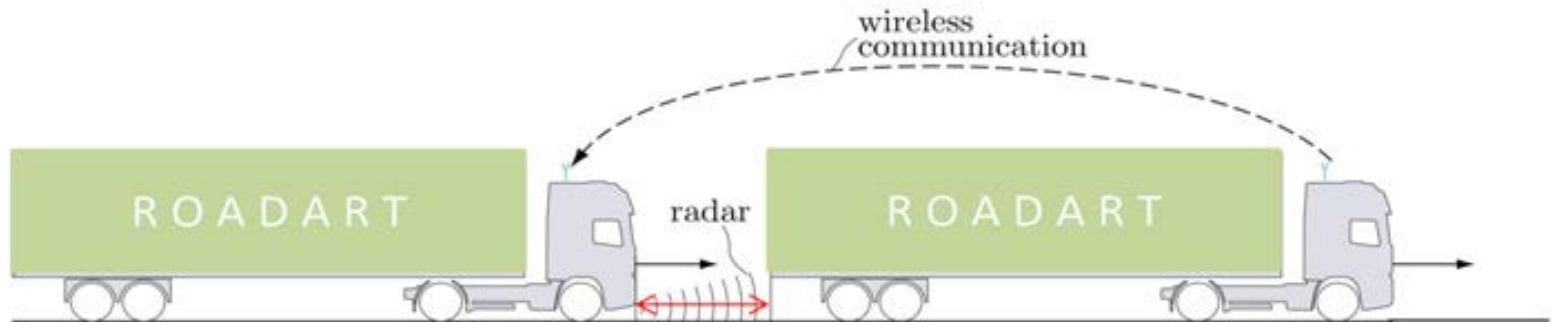
Consortium

- IMST GmbH, Kamp-Lintfort, (IMST)
(Coordinator), Germany
- MAN Truck & Bus AG, Munich, (MAN),
Germany
- TNO, Helmond, Netherlands
- University of Piraeus Research Center,
Piraeus, (UPRC), Greece



Objectives and Use Cases

- Investigate and optimize ITS communication systems for trucks
 - Distributed antennae subsystem
 - Architectural concepts
 - Channel modeling and simulation of worst case T2T and/or T2I scenarios
- Use Case: Cooperative Adaptive Cruise Control



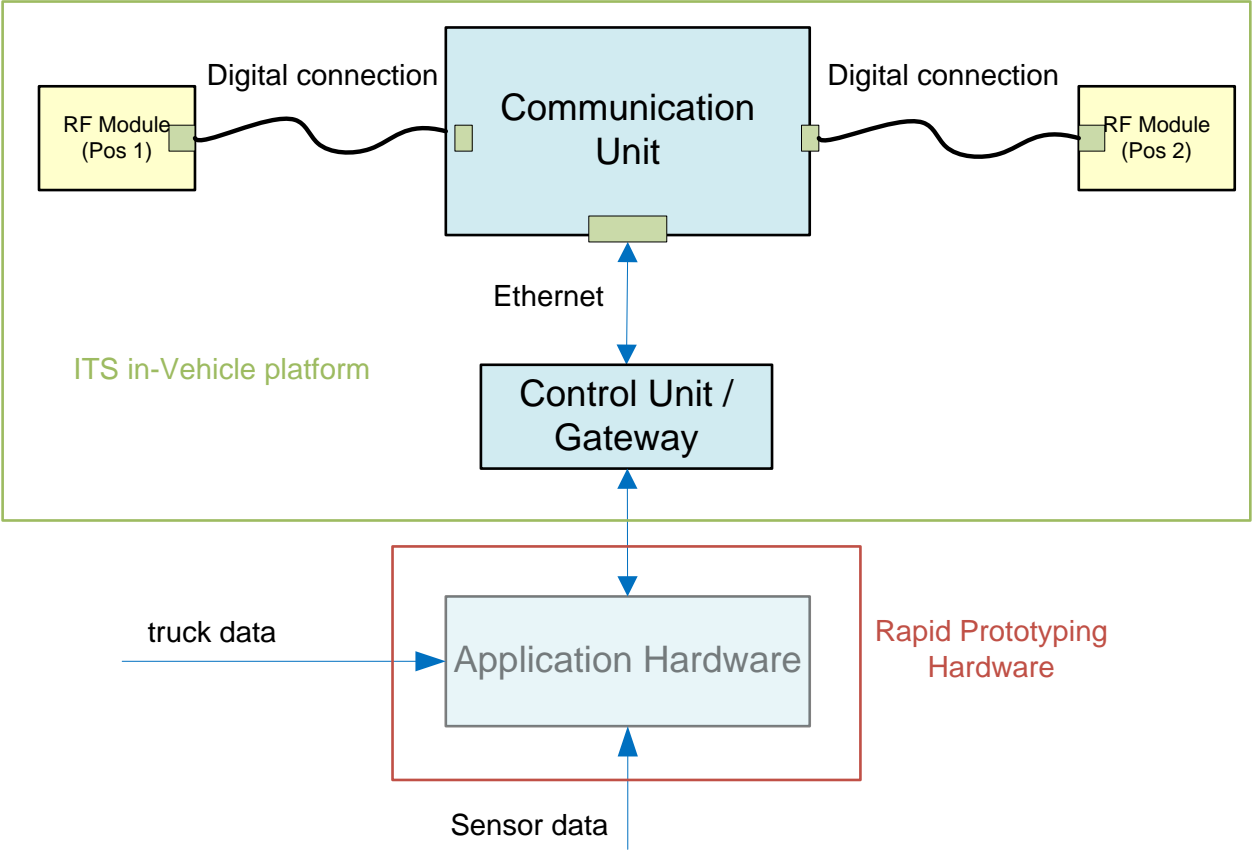
Workplan

→ 8 Work packages

- Measurement campaign and channel modeling
- T2X communication techniques
 - Diversity, Beamforming and Spatial Modulation Techniques
- ITS communication platform
- Robust cooperative adaptive cruise control (C-ACC)
- Integration, test and demonstration



Architectural approach



Deliverables

- Comprehensive measurement data from the channel measurement campaign
- Reliable channel models for worst case scenarios
 - accurate T2T and T2I path-loss models, small scale and large scale fading statistics
- Identification of the appropriate way of exploiting the gains offered by the multiple antennas at the transceivers
 - Diversity techniques, Beam forming, spatial modulation techniques



Deliverables

- ITS Communication platform integrated into trucks
 - Distributed antennae subsystem
 - Communication- and Application Units
- Demonstration of C-ACC Use Case on public roads

With the investigation of future-oriented diversity and beamforming techniques the resulting ROADART platform will assure a sustainable and holistic approach for corporative ITS systems in a way that state-of-the-art systems cannot provide

