

AutoNet2030

Co-operative Systems in Support of Networked Automated Driving by 2030



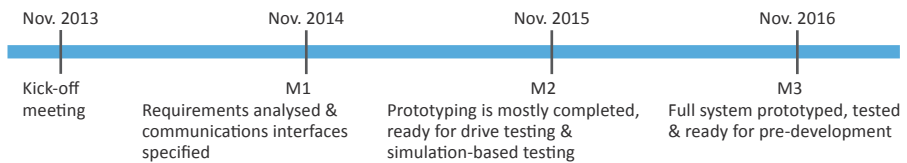
MOTIVATION AND OBJECTIVES

Triggered by the lack of convergence between sensor-based automation and cooperativen V2X communications, the AutoNet2030 project seeks to research and validate procedures and algorithms for 802.11p-based interaction control among co-operative (automated and manually-driven) vehicles focusing on:

- Cooperative decentralised control system to realise fully-automated vehicles and drive the advised manoeuvring of manually-driven vehicles,
- V2X-message-based communications to (feed ETSI ITS standardisation and) enable automated manoeuvre planning (e.g., lane merging) and traffic flow optimisation,
- Onboard sensor-based architecture to enable reliable positioning and lane-keeping automation.

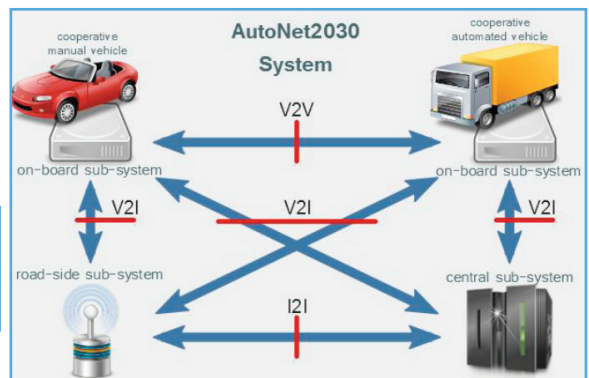
PROJECT PLAN AND MILESTONES

Overview of the project timeline and its major milestones:



TECHNICAL APPROACH

- Research and specifications of cooperative manoeuvring control algorithms and information sharing
- Specification and standardisation of required enhancements to existing cooperative communication protocol standards
- Development of perception processing modules and multi-source data fusion specifications
- HMI specifications and implementation for advised manoeuvring
- Realistic test-track- and simulation-based evaluation



ACHIEVEMENTS

The so-far AutoNet2030 achievements can be summarised as follows:

- Design of manoeuvring control algorithms and collection of system level requirements
- Prototyping of the AutoNet2030 components and specifications for both the internal system interfaces and external (i.e., V2V and V2I) communication interfaces
- Sensor input processing and lane-level positioning on digital maps
- (Dual-display) HMI system design and preliminary implementation
- Definition of cooperative automated driving use cases (that meet road safety requirements)

Goals that are yet to be accomplished:

- Contributions to the standardised use of 5.9 GHz V2X communications for automated driving
- Finalisation of the AutoNet2030 software modules and system/vehicle platform integration
- Test-track drive validation of the cooperative manoeuvring control algorithms and AutoNet2030 system functionality
- Simulation-based verification of the AutoNet2030 system scalability
- Shaping the path for cost-optimised and widely deployable automated driving technology

Budget	4.6 M€	Funding	3.3 M€
Duration	36 months	Start	November 2013
DG	Connect	Contract n°	610542
Coordinator	Angelos Amditis, ICCS	Contact	a.amditis@iccs.gr
Partners	ARMINES, BaseLabs, BroadBit, CRF, EPFL, Hitachi Europe, ICCS, TUD, SCANIA		
Website	www.autonet2030.eu		

