



AUTONET2030: CO-OPERATIVE SYSTEMS IN SUPPORT OF NETWORKED AUTOMATED DRIVING BY 2030

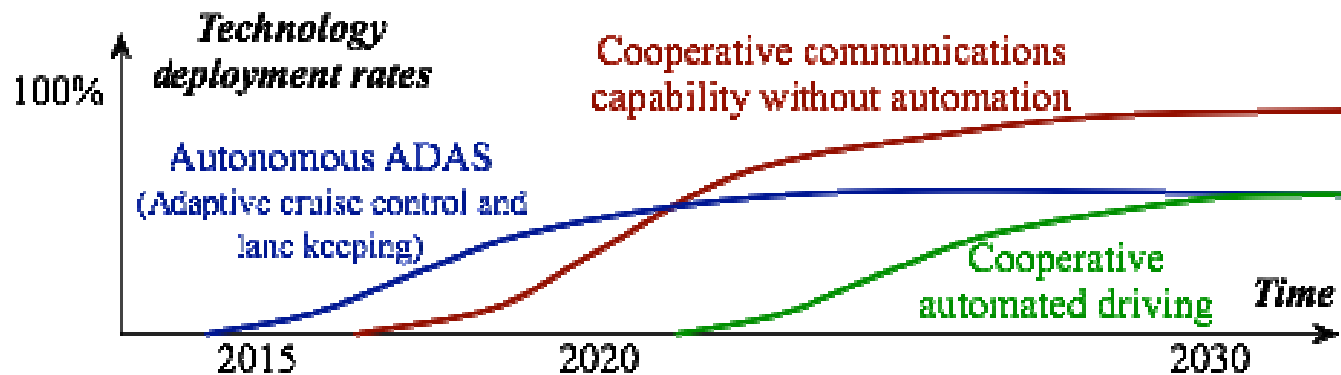
Angelos Amditis, PhD
Research Director,
Institute of Communication & Computer Systems (ICCS)

ERTICO ITS Conference'15, 16 June 2015, Brussels



Status of Cooperative automation and AutoNet2030 motivation

- Automated car demos are typically sensor based (Google car, VisLab car, etc.).
- Cooperative automation demos have mostly focused on truck use cases (highway platooning).



- Cooperative ITS pre-requisite: to be widely deployed before fully automated driving technology becomes matured. Otherwise, it is much more difficult to replace existing technology.

AutoNet2030 overview

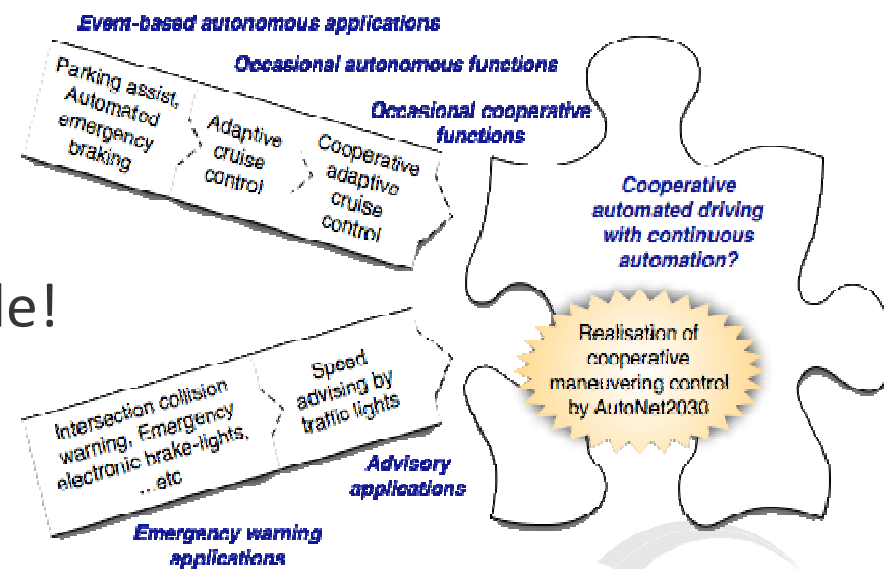
- **Project duration:** November 1, 2013 – October 31, 2016
- **Project budget:** 4.6M Euro
- **EC contribution:** 3.35M Euro
- **Partners:**
 - ICCS* (coordinator)
 - BroadBit
 - ARMINES
 - BaseLabs
 - Fiat Research Center*
 - EPFL
 - Hitachi Europe
 - Technical University of Dresden
 - Scania Trucks



*ERTICO partner

Context and..

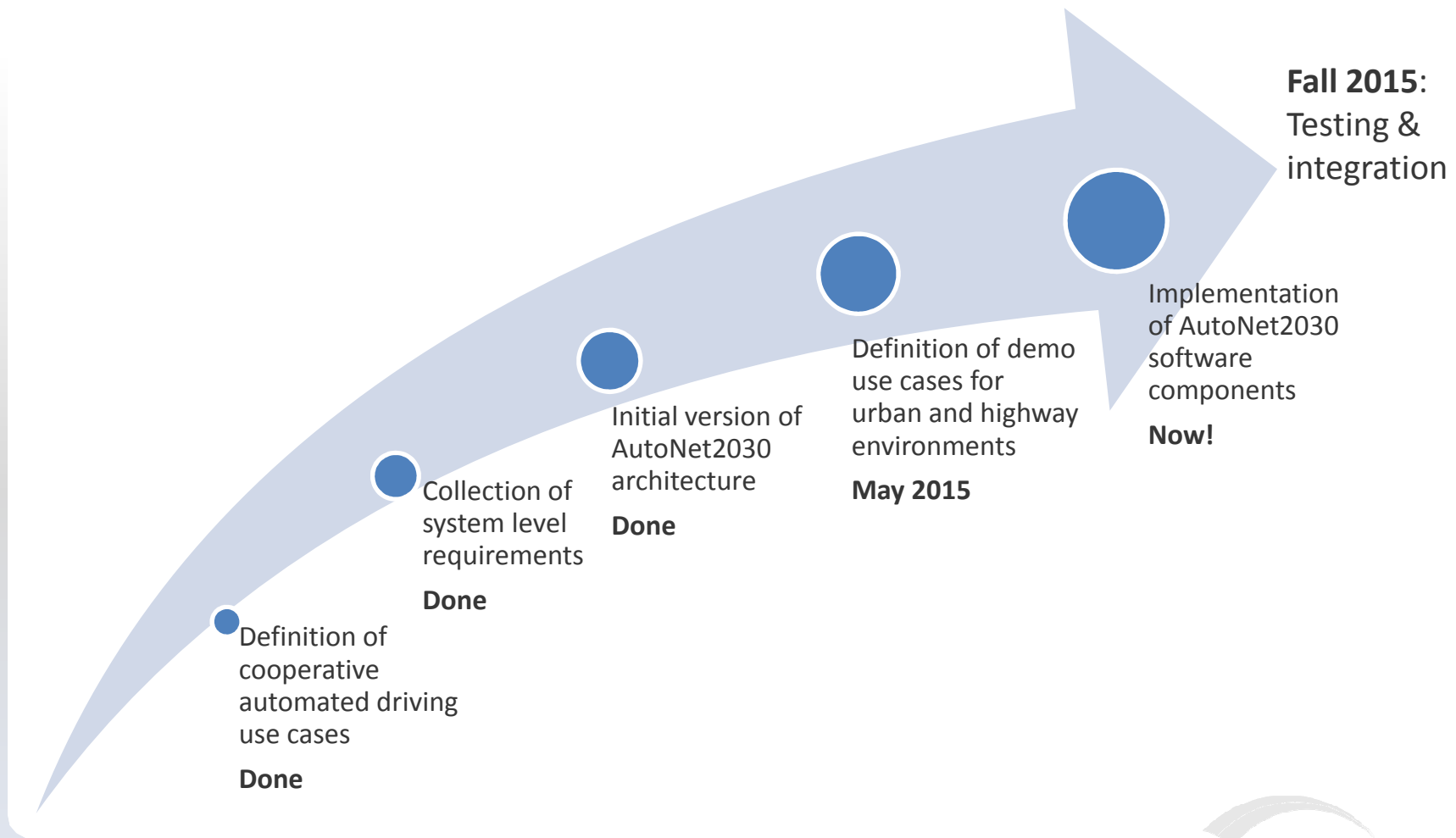
- **Convergence** between *sensor-based* vehicle automation and cooperative *V2X communications*
- Key challenge is to develop the right concepts for mutually useful convergence of these trends, demonstrate improved **cost-efficiency** and **performance** as opposed to pure sensor-based solutions
- Develop common sense, deployable concepts – keep **complexity** as **low** as feasible!
- 2020-2030 expected deployment time horizon



..project objectives

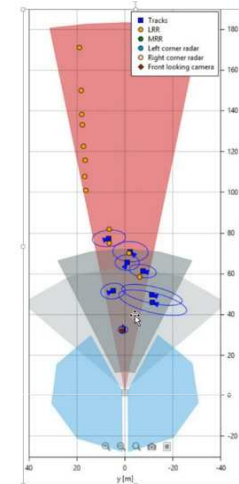
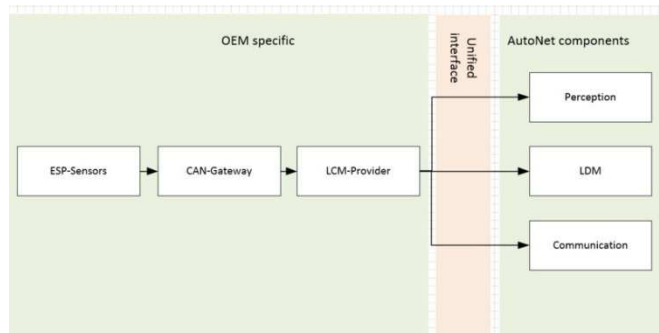
- Specification of V2X messages for automated driving (ETSI contribution)
- Development of maneuvering control algorithm for cooperative vehicle automation
- Development of cost-effective onboard architecture for integrated sensing and communications
- Development of a new HMI system facilitating the interaction between manual driven and automated vehicles

Achieved milestones and on going work



(A teaser:) Snapshots of ongoing work

- AutoNet2030 perception : cooperatively communicated and sensor-based perception data processing
- Integrating AutoNet2030 components into OEM platforms
- HMI system to facilitate advised maneuvering



Standardization work within AutoNet2030

- Working closely with ETSI ITS to contribute the AutoNet2030 concepts and specifications work into international standards.
- **First step:** the automation-relevant standardization work has been established, namely: Platooning, Cooperative Automated Cruise Control, and Position & Timing.
- **Second step:** AutoNet2030 concepts and specifications have been presented at numerous ETSI meetings keeping the ITS standardization community aware.
- **Ongoing:** AutoNet2030 cooperative communication protocol specifications have been published as an open deliverable (D3.2), known to the ETSI ITS delegates. It will serve as the basis for upcoming ITS standards contributions.





**THANK YOU!
ANY QUESTIONS?**

Angelos Amditis, PhD
Research Director,
ICCS
a.amditis@iccs.gr
+30 210 772 2398

