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Printed for 5GCAR, 2018

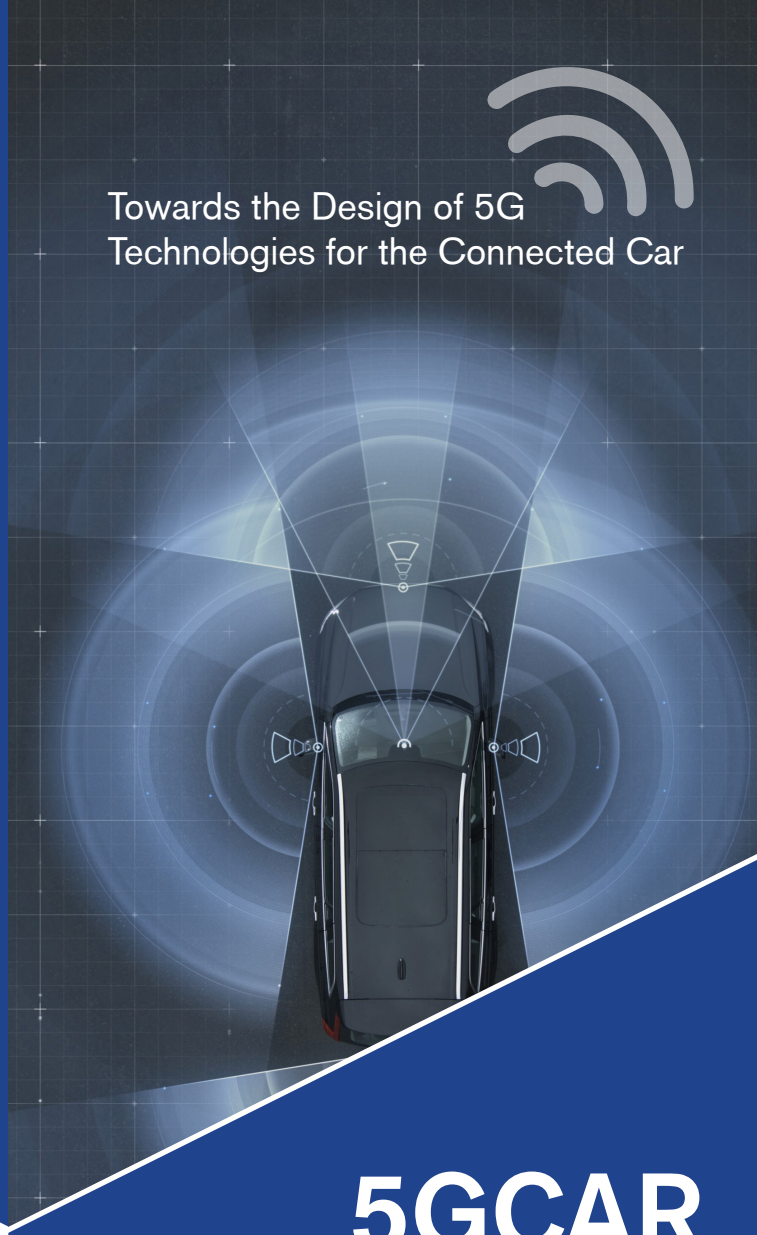
5G PPP

Supported by the

European Commission

This project has received funding from the European Union's Horizon 2020 research and innovation programme.

Towards the Design of 5G Technologies for the Connected Car



5GCAR

Fifth Generation Communication Automotive Research and Innovation

5GCAR – Towards the Design of 5G Technologies for the Connected Car

MAIN OBJECTIVES

Develop an overall 5G system architecture providing optimized end-to-end vehicle-to-everything (V2X) network connectivity.

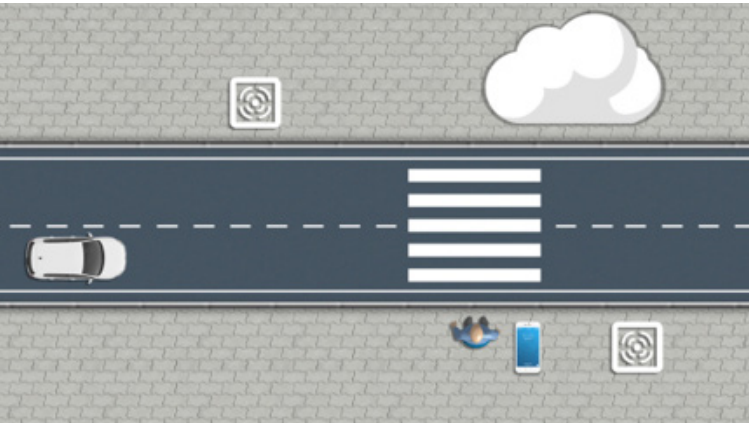
Interworking of multiple Radio Access Technologies (multi-RATs) that allows embedding existing communication solutions and novel 5G V2X solutions.

Develop an efficient, secure and scalable sidelink interface for low-latency, high-reliability V2X communications.

Propose 5G radio-assisted positioning techniques for both vulnerable road users and vehicles to increase the availability of very accurate localization.

Identify business models and spectrum usage alternatives that support a wide range of 5G V2X services.

Demonstrate and validate the developed concepts and evaluate the quantitative benefits of 5G V2X solutions using automated driving scenarios in test sites.



USE CASES

Cooperative maneuver
Sharing local awareness and driving intentions and negotiating the planned trajectories.

Cooperative perception
Perception extension is built on the basis of exchanging data from different sources, e.g., radars, laser sensors, stereo-vision sensors from on-board cameras.

Cooperative safety
Achieved by exchanging the information about detection of the presence of road users.

Autonomous navigation
Construction and distribution of real-time intelligent high-definition map.

Remote driving
Control the different actuators of the car (steering wheel, brake and throttle) from outside the vehicle through wireless communication.

PROJECT COORDINATOR
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