ICT FOR TRANSPORT

MOSARIM

MOre Safety for All by Radar Interference Mitigation

European Commission
Information Society and Media

The MOSARIM project's main objectives are the investigation in mutual vehicular radar interference and the definition and elaboration of effective counter-measures and mitigation techniques. Automotive radar operation frequencies from 24 GHz to 79 GHz are within this project's scope.

At a Glance

Project acronym:
MOSARIM - MOre Safety for All by Radar Interference Mitigation

Project type:
Specific Targeted Research Project

Programme:
7th EU Framework Programme

Project coordinator:
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Project partners:

DAIMLER, InnoSenT, Valeo, KIT, HELLA, BOSCH, telefication, VOLVO, GRConsulting, JRC EUROPEAN COMMISSION, TRW Automotive, Continental

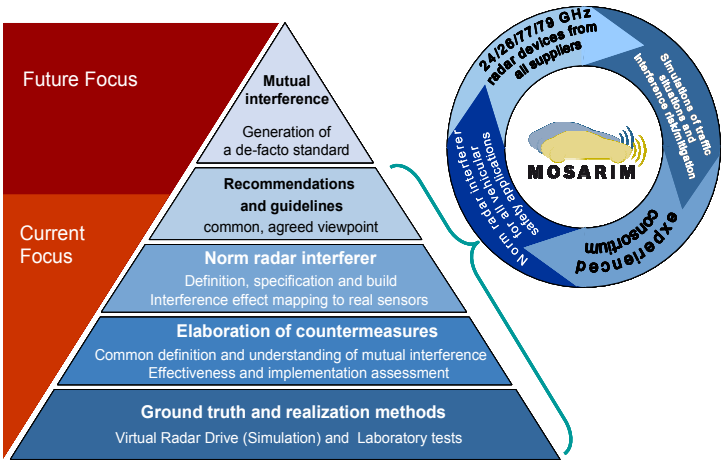
Start date:	1 January 2010
Duration:	36 months
Total cost:	4.82 m€
EC funding:	2.97 m€

Project website:
http://www.mosarim.eu

Objectives

The concept and objectives of the MOSARIM project are:

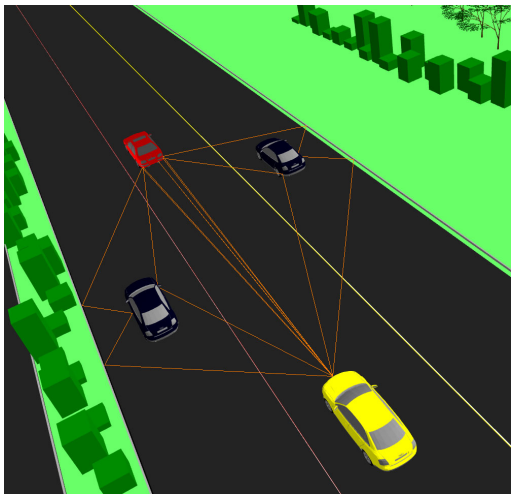
1. Assessment of the actual radar interference potential and impact with off-the-shelf radar sensors already available on the market.
2. Specification and implementation of a vehicular norm radar interferer.
3. Elaboration of comprehensive and realistic simulation models regarding radar interference on different levels.
4. Detection of commonly applicable interference countermeasures to reduce mutual radar interference disturbance.
5. Generation of recommendations and guidelines for vehicular mutual radar interference mitigation.



The MOSARIM project - focus and objectives

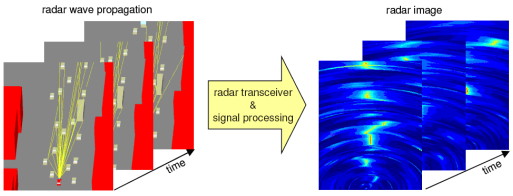
Interference simulation models

The radar interference mechanisms are first of all determined by sophisticated radar simulation models being elaborated and improved during the course of the project.



Radar wave propagation simulation example

Based on ray-tracing principle and complex backscattering models, the road radar interference scenario is accurately simulated and provides a deep insight to the key parameters that influence the interference effects and strength.



Virtual radar drive simulation results

Test candidates

During MOSARIM's runtime several real world measurements with off-the-shelf automotive radars will be made.
At first, ground truth interference data is collected by testing each of the sensors against all the others. Then interference mitigation techniques are developed and applied step by step and the results recorded and compared.

Actual available automotive radar samples

Test campaigns

Interference mitigation effects are validated both in open road tests and in laboratory environments, like e.g. anechoic chambers.

JRC anechoic chamber test setup examples

Expected results

Based on the project's simulation and test results, the most efficient mitigation techniques and factors will be consolidated as a set of benchmarks that show implementation effort versus benefit ratios.

In addition, the project's findings will be summarized in a collection of guidelines and recommendations. Their accurate and consistent application to all new automotive radar products will result in automotive radar operations that will be close to interference free.

For further information:

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