PROJECT

PRESERVE

Preparing Secure Vehicle-to-X Communication Systems

Funding: European (7th RTD Framework Programme)

Duration: Jan 2011 - Jun 2015

Status: Complete

Total project cost: €5,383,431

EU contribution: €3,850,000

Call for proposal: FP7-ICT-2009-6

[CORDIS RCN : 97466](#)

Background & policy context:

Cooperative ITS and V2X communication promise a new age of safer, more efficient, and more comfortable road traffic. However, this promise can only be fulfilled if those systems are designed and implemented in secure way where they cannot be abused by malicious attackers and where the personal data processed by them is not subject to abuse and privacy violations.

Objectives:

The mission of PRESERVE is, to design, implement, and test a secure and scalable V2X Security Subsystem for realistic deployment scenarios.

The goal of PRESERVE is to bring secure and privacy-protected V2X communication closer to reality by providing and field testing a security and privacy subsystem for V2X systems. Another strategic objective of PRESERVE is to contribute to on-going harmonization and standardization efforts on the European level.

SpecificObjectives

1. Create an integrated V2X Security Architecture (VSA) and design, implement, and test a close-to-market implementation termed V2X Security Subsystem (VSS).

2. Prove that the performance and cost requirements for the VSS arising in current FOTs and future product deployments can be met by the VSS, especially by building a security ASIC for V2X.

3. Provide a ready-to-use VSS implementation and support to FOTs and interested parties so that a close-to-market security solution can be deployed as part of such activities.

4. Solve open deployment and technical issues hindering standardization and product pre-development.

Expected Results

PRESERVE is expected to produce the following results:

1. Harmonized V2X Security Architecture

2. Implementation of V2X Security Subsystem

3. Cheap and scalable security ASIC for V2X

4. Testing results VSS under realistic conditions

5. Research results for deployment challenges

Methodology:

PRESERVE will combine and extend results from earlier research projects, integrating and developing

them to a pre-deployment stage by enhancing scalability, reducing the cost-level, and addressing open deployment issues. It aims at providing a comprehensive protection ranging from the vehicle sensors, through the on-board network and V2V/V2I communication, to the receiving application. As a result, PRESERVE will present a complete, scalable, and cost-efficient V2X security subsystem that is close-to-market and will be provided to other FOT projects and interested parties for ongoing testing.

Field testing will investigate a number of important scalability and feasibility issues. Further, the V2X security subsystem will also be provided to other projects to jointly investigate integration and performance in larger fleets of vehicles. >

Parent Programmes:
FP7-ICT - Information and Communication Technologies

Institute type: Public institution

Institute name: European Commission

Funding type: Public (EU)

Lead Organisation:

Universiteit Twente

Address:
Drienerlolaan 5
7522 NB Enschede
Netherlands

EU Contribution: €757,823

Partner Organisations:

Renault Represented By Gie Reginov

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France

Organisation Website:
http://www.renault.com

EU Contribution: €236,572

Kungliga Tekniska Hoegskolan

Address:
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Sweden

EU Contribution: €483,000

Frauenhofer Geselschaft Zur Foerderung Der Angewandten Forschung E.v.

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Organisation Website:
http://www.fhg.de

EU Contribution: €718,321

Trialog

Address:
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75008 Paris
France

EU Contribution: €617,453

Escrypt Gmbh

Address:
WITTENER STRASSE 45
44789 BOCHUM
Germany

EU Contribution: €1,036,831

Technologies:

Road vehicle operations
Communication network for intelligent mobility

Development phase: Research/Invention

Documents:
[Security Requirements of Vehicle Security Architecture (Other project deliverable)](#)

STRIA Roadmaps:
Cooperative, connected and automated transport, Network and traffic management systems

Transport mode: Road transport

Transport sectors: Passenger transport, Freight transport

Transport policies: Digitalisation

Geo-spatial type: Other