PROJECT

PRECIOSA

Privacy Enabled Capability In CO-operative systems and Safety Applications

Funding: European (7th RTD Framework Programme)

Duration: Mar 2008 - Aug 2010

Status: Complete with results

Total project cost: €2,465,870

EU contribution: €1,667,000

Call for proposal: FP7-ICT-2007-2

CORDIS RCN : 86606

Background & policy context:

Research and development in the field of Intelligent Transport Systems (ITS) currently focuses on the next generation of technology in transportation. Co-operative Systems is one of the key terms which includes a new way to collaborate between individual travellers, the operators of transport systems, and service providers, all equipped with state-of-the-art technology.

By introducing Vehicle to Vehicle (V2V), Vehicle to Infrastructure (V2I), and Vehicle to X (V2X) communication, new potential is opened up to improve safe and green mobility. PRECIOSA contributes to ICT research in co-operative systems by focusing on privacy aware V2V and V2I communication for new functionalities.

Objectives:

The goal of PRECIOSA was to demonstrate that co-operative systems can comply with future privacy regulations by demonstrating that an example application can be endowed with technologies for suitable privacy protection of location related data.

Objectives
The objectives were the following:

- Define an approach for evaluation of co-operative systems, in terms of communication privacy and data storage privacy
- Define a privacy aware architecture for co-operative systems, involving suitable trust models and ontologies, a V2V privacy verifiable architecture and a V2I privacy verifiable architecture. The architecture includes components for protection, infringement detection and auditing
- Define and validate guidelines for privacy aware co-operative systems
- Investigate specific challenges for privacy

Expected impacts
PRECIOSA set out to contribute to a common pan-European architecture with these objectives:

- Trust models and ontologies for privacy
- Communication verifiable architecture
- Data storage privacy and verifiable architecture
- Validated guidelines for privacy verifiable co-operative systems.

Methodology:

The approach is to investigate a number of use cases, collect application and privacy protection requirements, to select a non-privacy aware application, to integrate selected mechanisms for protection, infringement detection and auditing, and to assess the resulting privacy aware application. This assessment carried out in liaison with industry stakeholders (e.g. C2C-CC), public authorities (e.g.

data protection, article 29) should enable the validation of guidelines for privacy awareness that will submitted to the eSafety community.

Parent Programmes:

FP7-ICT - Information and Communication Technologies

Institute type: Public institution

Institute name: European Commission

Funding type: Public (EU)

Lead Organisation:

Trialog

Address:
25 Rue Du General Foy
75008 Paris
France

EU Contribution: €623,140

Partner Organisations:

Universitaet Ulm

Address:
HELMHOLTZSTRASSE 16
89081 ULM
Germany

Organisation Website:
http://www.uni-ulm.de

EU Contribution: €290,448

Ptv Planung Transport Verkehr Ag

Address:
Stumpfstrasse 1
76131 KARLSRUHE
Germany

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

EU Contribution: €200,000

Oracle Belgium Bvba

Address:
Leonardo Da Vincilaan 15
1831 Diegem
Belgium

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

EU Contribution: €222,500

Humboldt-Universitaet Zu Berlin

Address:
Unter Den Linden

10099 Berlin
Germany

Organisation Website:
http://www.hu-berlin.de

EU Contribution: €330,912

Technologies:

Advanced driver assistance systems
Sensor and Communication Platform for ADAS system

Development phase: Demonstration/prototyping/Pilot Production

Key Results:

PRECIOSA contributed to ICT research in co-operative systems by focusing on privacy aware vehicle to vehicle and vehicle to infrastructure communication for new functionalities. Although PRECIOSA did not contribute to field operational tests, it liaises with related existing and future field tests to ensure a smooth transition towards privacy aware applications. While PRECIOSA is a STREP (Specific Targeted Research Project), it also included major co-ordination actions to ensure that eSafety stakeholders and data protection agencies converge towards common guidelines for privacy aware co-operative systems and safety applications.

During the project 'Guidelines for Privacy Aware Cooperative Application' was developed. This document provides a broad overview of privacy approaches and guidelines in the non Intelligent Transport Systems (ITS) world and discusses how they could be transferred to ITS scenarios.

Furthermore, trust models and ontologies for privacy have been developed. PRECIOSA created a conceptualisation of privacy by defining meta-models, models, and ontologies which describe fundamental privacy concepts and their relationships. The models might be used in vehicle to vehicle/infrastructure applications and presents privacy ontologies needed at the application level for privacy policy management and verification.

In addition, a description is given of a design of the so called 'Privacy-verifiable Architecture', i.e., an architecture that can guarantee certain privacy properties and these properties can be verified by some external partner, e.g., a user or trusted third party. It will guarantee that future ITS systems will be designed in a privacy friendly way and that users of such systems can rely on them to respect the privacy policies that the users set for their sensitive data.

Strategy targets

- An efficient and integrated mobility system: Service quality and reliability
- Innovating for the future: technology and behaviour: Promoting more sustainable development

Documents:
V2X Privacy Issues Analysis (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