



Motivation

Antonio Kung

Trialog

In-vehicle Communication, Telematics and Co-operative Systems
Workshop on Security and Privacy Issues

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[Overview

- Intelligent roads will be based on a large scale infrastructure including
 - Vehicle to Vehicle (V2V) links
 - Vehicle to Infrastructure (V2I) links
 - In-car information and communication systems
- Infrastructure misuse (accidental or malicious)
 - could make road transport vulnerable
 - could violate the interests of the users

[Prerequisite for Deployment

- Make Cooperative Systems Secure e.g.
 - hazard warning data cannot be modified by attacker
 - no location tracking / no access to personal data (e.g. medical records)
 - no unauthorised access to the internal vehicle communication system
 - security policy enforcement for integrated nomadic devices
 - secure open platforms / trusted coexistence of independent applications

[Potential Vulnerabilities

- Access link to vehicle internal networks
 - Includes dedicated link to allow for software update
- In-vehicle open platforms
 - Includes nomadic device interface
- Communication links
 - Vehicle - Vehicle
 - Vehicle - Ground

[Cooperative Systems are SoS

- Systems of systems :
 - **Autonomy.** Ability for individual systems to behave independently
 - **Belonging.** Ability for individual systems to engage into a relationship
 - **Connectivity.** Ability to link with others
 - **Diversity.** Many heterogeneous elements
 - **Emergence and evolutionary behaviour.** Support of new properties

[Challenges

- Network scale and dynamics
 - Adhoc network
 - Real-time behavior
- Privacy vs Liability
- Trust
 - Many stakeholders
 - Many independent applications
- Cost
- Gradual deployment



[Participants

- The eSecurity Working Group involves
 - industry stakeholders (OEMs and suppliers)
 - network operators and service providers
 - public authorities
 - researchers...



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[Objective

- Identify recommendations related to
 - Research, technology, standardisation
 - Legislation, certification, responsibilities
 - Quality assurance, inspections, organisation
- Takes into account
 - Stakeholders and their roles in value chain
 - Risk and security analysis
 - Vehicle lifecycle





[Thank You

■ Antonio Kung

■ Trialog

■ 25 rue du Général Foy

■ 75008 Paris, France

■ www.trialog.com

■ www.esafetysupport.org/en/esafety_activities/esafety_working_groups/eseconomy.htm

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