COMeSafety
Specific Support Action

ITS Consolidation and Standardization – Common Architecture

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Outline

- Introduction COMeSafety
  - Goals
  - Partners

- Consolidation and standardization process

- Architecture document
  - Process
  - Closer look at current status
  - Outlook
Link between Gremia & Projects
**Project Goals**

- **Worldwide harmonization of the basic radio system**
- **Recommendation for and consolidation of European projects**
- **Push forward a coordinated EU frequency allocation process**
- **Support and coordination of standardization**
Project Partners

VOLKSWAGEN AG
European Projects
- coopers
- CVIS
- SAFESPot
- etc.

Consolidation
- Convening
- Stimulation
- Moderation
- Editing
- Dissemination

Group of Experts

Combination

Clarification

Specifications

Standardisation
- ETSI
- CEN
- IEEE
- ISO
- IETF

Political, Social and Economic Interests

Process: How do we ensure the best progress?

ETSI ITS Workshop, Sophia-Antipolis, 05.02.2009
Frequency Allocation – Current Status of ITS

ETSI ITS Workshop, Sophia-Antipolis, 05.02.2009

TPC range 30 dB
Max. TP e.i.r.p.: 23 dBm/MHz,
but not more than 33 dBm

Protection feasible

ECC Rec.
ECC/REC/(08)01

ECC Decision
ECC/DEC/(08)01
Future Extension

EC Decision
(autumn 2008)

Non-safety ITS

Mitigation required

ITS Road Safety

Justification for
30 – 50 MHz

e.i.r.p. limit (dBm/MHz)

Frequency (MHz)
COMeSafety: Goals

- Worldwide harmonization of the basic radio system
- Recommendation for and consolidation of European projects

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Harmonized European ITS Communication Architecture
European ITS Communication Architecture
Overall Framework
Proof of Concept Implementation

22.10.2008 release of version 2.0
(final first version for delivery)

Public available, download via http://www.comesafety.org/
Architecture Document Structure

Four major parts:

- Non-Technical Aspects
- IST Station Reference Architecture
- Technologies
- Implementation
Process of Architecture Definition

Stakeholder Aspirations

Requirements

Architecture

ETSI ITS Workshop, Sophia-Antipolis, 05.02.2009
What use cases should the architecture comprise?

- Agreed overall objectives are improved traffic safety and traffic efficiency.
  - Anything else?
- What are the aspirations of the stakeholders?

→ Open use case collection
FRAME: European Framework Architecture for ITS deployment in the 21st Century

- Project founded by EC as part of the 5th Framework program
- FRAME ’s focus was on process and user needs, co-operative systems were not covered.
- FRAME already defined a lot of user needs / requirements!
Requirement Collection

Current version of FRAME architecture

COOPERS
Requirements

SAFESPOT
Requirements

CVIS
Requirements

Map to FRAME (done in project)

84 mapped FRAME User Needs, 248 new User Needs

120 mapped FRAME User Needs, 12 new User Needs

45 mapped FRAME User Needs, 92 new User Needs

ETSI ITS Workshop, Sophia-Antipolis, 05.02.2009
Requirement Collection

Collaboration, Consolidation

Combined Requirements for Co-operative Systems

Main Document

Document is attached to “European ITS Architecture”

ETSi ITS Workshop, Sophia-Antipolis, 05.02.2009
What is an ITS Station?

ETSI ITS Workshop, Sophia-Antipolis, 05.02.2009
ITS Station Reference Architecture (Top Level)

Result of:
- Top-Down Approach (FRAME Methodology)
- Bottom-Up Approach (Solutions implemented by EU Projects and C2C-CC)
Facilities:
- Cooperative Awareness Message
- Local Dynamic Map
- Vehicle Access
- …
Network and Transport

- ITS Transport: Support for Lightweight Ad-Hoc Communication
- TCP/IP: Interaction with Internet Services
Available Access Technologies outlined in Architecture Document

No prescribed technologies for applications
Functionalities of an ITS station might be divided to several physical devices:
- e.g. one application unit and one communication unit
- e.g. an vehicle manufacturer specific gateway to the vehicle data

Selection of a suitable interface between the devices:
- e.g. Ethernet, USB

Number of devices is an implementation issue and might be influenced by several aspects:
- e.g. cost, in-vehicle architecture, project organization

ITS Station Management handles the devices and their interaction.
COMeSafety’s European ITS Communication Architecture is a „Living Document“

Document currently extended in PreDrive C2X Project

Close interaction with ETSI TC ITS WG 2 for future standardization

Of course all other projects and stakeholders are invited to contribute