eCall Implementation Roadmap for Finland

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Background

- eCall is the European in-vehicle emergency call system based on common European emergency number E112
- eCall reduces road traffic fatalities and is one of the priority actions identified in the European ITS Action Plan
- eCall has been estimated to have potential to reduce fatalities in Finland by 4–8% (Virtanen 2005 and Sihvola et al. 2009)
- The standards of eCall are being validated in the European HeERO project (Harmonised eCall European Pilot, http://www.heero-pilot.eu)
- The current aim expressed by the EC is to have eCall functional in October 2015


Pan-European eCall

When the sensors installed in the vehicle detect an accident or eCall is activated manually, the eCall in-vehicle system (IVS) opens a 112 emergency call to the public safety answering point (PSAP), sends the minimum set of data (MSD) and opens a voice connection between the vehicle and PSAP.

EN 16072: Pan-European eCall Operating Requirements
CEN TS 16454: eCall End to End Conformance Testing (prEN 16434 under drafting)

Vehicle and PSAP:
EN 15722: eCall Minimum Set of Data
EN 16062: High Level Application Protocols

(Adapted from presentation given by Emilio Davila-Gonzalez, 24th October 2012, 19th World Congress on ITS, Vienna, Austria and a picture presented in Öörni, R. 2013. eCall MSD transmission – results from a field test in Finland. Submitted to IET Intelligent Transport Systems)
Objectives

- The objective of the paper is to provide a description of the national implementation roadmap for eCall in Finland
- The main focus of the work is the pan-European eCall defined in European standards
Methods used

- Roadmaps are versatile tools that can be used to plan and present future developments of technologies, businesses and products and services.
- Preparation of a roadmap typically involves collection of information on the current situation, the goal and the actions or developments necessary to achieve the objective.

![Structure of the eCall implementation roadmap for Finland](image)
Preparation of roadmap and sources of information used

- Material collected from Internet
- Opinions of Finnish stakeholders
- EU level regulation for eCall
- Material from EeIP, HeERO and HeERO2
- eCall roadmap work
- Questionnaire to car OEMs, IVS manufacturers and car importers

Data collection | 1. Stakeholder meeting with public authorities | Revision and updating of roadmaps | Publication of roadmaps
Main tasks related to implementation of eCall in Finland

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eCall stakeholders

- The key stakeholder in deployment of eCall is the Emergency Response Centre Agency
- Other public sector stakeholders in the deployment of eCall in Finland include:
  - Ministry of the Interior
  - Ministry of Transport and Communications
  - Finnish Communications Regulatory Authority (Ficora)
  - Finnish Transport Safety Agency (TraFi)
- Private sector stakeholders identified in the roadmap:
  - Mobile network operators
  - Vehicle industry and vehicle importers
  - Service providers and equipment manufacturers
  - Standardization organisations
Discussion of results (1)

- The roadmap provides an insight into the future based on available information.

- The future events and their timings presented in the roadmap are ones which are considered likely and whose timing can be determined with some reasonable level of confidence – this does not mean that they are by any means certain.

- In general, the limitations of roadmapping methods include, but are not limited to:
  - tendency to assume linear development
  - technical and rational focus and
  - Implicit certainty assumed for events (Kappel 2001).

Discussion of results (2)

- The roadmap presented in the paper addresses the deployment of eCall but does not cover the lifecycle of the service over a longer term.
  - Mobile network technologies and emergency call functionalities provided by them may change in the long term.
  - A specialist task force has been set up by ETSI (European Telecommunications Standards Institute) to study how requirements related to eCall can be supported in IP based LTE networks.
  - Long lifecycles of vehicles when compared to lifecycles of mobile terminals are also a challenge; a vehicle produced in 2013 may still be in use in 2033.

- The focus of the roadmap is in Pan-European eCall:
  - Integration of eCall with other ITS services is likely to remain as a research topic in the foreseeable future.
Summary and final remarks (1)

- eCall will be mandatory in new passenger cars and vans type-approved after 1st October 2015
  - A proposal for vehicle type approval requirements (COM 2013/316) is available at the EC web site
- The eCall discriminator will likely be available in Finnish mobile networks until 31st December 2014
- Capabilities to receive and process eCalls will be implemented until the end of 2015 in Finnish PSAPs (new information system of PSAPs is under development)
Summary and final remarks (2)

- The key stakeholder in deployment of eCall in Finland is the Emergency Response Centre Administration
- The other important stakeholders are
  - Ministry of the Interior
  - Finnish Transport Safety Agency
  - Finnish Communications Regulatory Authority
  - Ministry of Transport and Communications
  - Mobile network operators
- End-to-end field operational tests should be carried out before full-scale roll-out of eCall
Recommendations

- End-to-end field tests covering the whole eCall service chain
- Clear division of responsibilities and strengthening of cooperation between ERC Authority and other stakeholders working with eCall
- Participation in activities of European eCall Implementation Platform (EeIP) and standardization and architectural work related to eCall
- The roadmap should be updated as more information becomes available on:
  - the performance of the available eCall solutions and the whole service chain
  - Progress of the related European regulation
  - the recommendations provided by the eCall pre-deployment project HeERO
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