

# Creating the Finnish eCall system - needs of the private users and authorities



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## eCall system - what and why

- The main functions are
  - detecting the location (and severity) of accident and
  - reporting, often automatically, location and other available information to agencies responsible for co-ordination of appropriate emergency response actions.
- The system itself will not reduce the number of accidents. However,
- the main objective is to **improve response times** in the case of traffic accident and save lives by faster help.

## Rapid and deliberated implementation of the eCall system

- Implementation of the eSafety Forum's recommendations
  - eCall is one of the priority actions in Finland
- To ensure the deliberated implementation of the eCall system  $\Rightarrow$  ITS Finland funded a national project in which issues concerning implementation of eCall system are studied widely
  - **user needs**
  - system architecture
  - demonstration and testing of a pilot system
  - ***assessment of possible effects***
  - road mapping
  - ... HUMANIST Workshop Madeira 14.-15.9.2005

## The eCall system - who are “the users” and what are their needs..?

- Users of the eCall systems
  - users of the vehicles in which eCall system will be installed
    - “the lead users” (willing to pay for the device)
    - all drivers (government subsidising the purchase)
  - users of the information provided by eCall system - authorities and other people working in the “rescue process”
    - operators of emergency response centres
    - fireman and ambulance drivers from rescue station
    - traffic policemen
    - Finnish Road Administration’s Traffic Management Centre
    - ...

## The eCall system - who are “the users” and what are their needs..?

- Drivers
  - importance of automatic eCall system
  - possible willingness to pay for automatic eCall system
  - barriers for implementation - possible reservations about automatic eCall system
- Actors at the “rescue process”
  - content of the provided information
  - format of the provided information (technical)
  - possible expectations - expected advantages of the systems

## “Driver” interviews - “prestudy”

- Personal interviews (appr. 10 min.)
  - gas station
  - trains
  - shopping centre
- 91 interviewed person
  - 40% female
  - 50% under 20 000 km/ year
  - 60% under 40 years

age (years)	%
20-29	37
30-39	23
40-49	17
50-59	15
60-70	8

## The overall importance of vehicle devices

The necessity of additional devices for vehicles (1-10)	
	Average
ABS (anti block braking system)	8,8
<b>eCall system</b>	<b>7,7</b>
traction control	7,4
air condition	7,3
anti-theft system (car alarm)	7,0
integrated mobile phone (hands free)	6,4
CD-player	6,1
park assistant	5,7
cruise control	5,4
navigation device	5,4
intelligent speed limiter	4,4
backseat entertainment (DVD-player etc.)	3,4

## The overall importance of vehicle devices - kilometrage

- Drivers driving over 20 000 km yearly
  - rated ABS, cruise control, integrated mobile phone (hands free) and cd-player to be somewhat more important than by drivers driving less than 20 000 km annually
  - rated eCall system to as important than by other drivers

## The overall importance of vehicle devices - driving environment

- Drivers driving more in urban area
  - rated navigation device, parking sensor and car alarm system to be more important than drivers driving more in rural environment
  - rated eCall system to be as important as rated by other drivers

## The overall importance of vehicle devices - drivers' age

- Young drivers (under 30 years)
  - overall rated the additional systems to be less important, except the cd-player
  - rated especially car alarm system and parking sensor to be less important
  - rated intelligent speed limiter to be less important
  - **rated eCall to be less important than other drivers**

## Willingness to pay for automatic eCall system (when buying a new car)

Willingness to pay	sum %
under 2000e	8
under 1000e	41
under 500e	54
under 300e	86
under 100e	95
N/A	100

- For comparison,
  - 62% of these drivers would have purchased traction control, that was rated to as important than eCall system, for 600 euros
  - 31% of these drivers would have purchased cruise control for 600 euros.
  - 24% of the drivers stated that eCall system should be financed by society

## Advantages and disadvantages of the eCall system (open question)

- Getting help in situations when I am not able to call help my self - 54%
- Getting help more rapidly - 53%
- Getting the help to correct location - 23%
  
- False alarms - 58%
- My location could be traced by authorities - 4%

## **Possible reservations about automatic eCall system (statements about the eCall system)**

- 29% agreed that there might be a situation where the eCall would get the rescue team to accident location although the help would not be wanted
- 32% somewhat agreed that the location information might end up to “wrong hands” (criminal use etc.)
- 26% agreed that they have doubts giving the location information to authorities
- However, 82% agreed that their vehicle information could be used when detecting and informing others about congestion

## The functionality of the eCall system

	%
Fully automated (activated by air bags etc.)	30
Emergency call by pushing a button	11
<b>Both automated and manual eCall possibility</b>	<b>56</b>
Does not know	2
N/A	1

## **User needs - authorities and other partners in the rescue process**

- Information content needed from the eCall system
  - location (co-ordinates) and travel direction
  - type of the vehicle and possible cargo information
  - number of persons involved in the accident
  - type and severity of the accident
- For later use
  - time of the accident
  - possible eyewitness of the accident

## User needs - authorities and other partners in the rescue process

- Technical functionality
  - replay of location information
  - possibility to talk to the accident location
  - accuracy at least 95%
- The location information should be given in 10 seconds, other information can be sent later

## Conclusions

- eCall was rated to be important by most people and half of the respondents were willing to pay somewhat reasonable price for device
- the automation of the eCall was appreciated by the respondents. However, the accurate location information was not stated to be very “valuable”
- system with both automatic and manual system were stated to be the most convenient - possibility to make decision about the need of the help (pedestrian accident) and also cancel the eCall

## Conclusions

- There was some doubts about the privacy issues concerning location information. However, if used in good purposes, people were willing to give their information anonymously
- The information needed by the rescue process
  - location, direction (replay of the information)
  - type of vehicle, passengers/cargo
  - type and severity of the accident
  - possibility to talk to accident location
  - time of accident