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agenda item 3.)

# ***eSafety - Status and Outlook***

European Commission  
Directorate General Information Society and Media

ICT for Transport

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**Head of Unit**



- ***The eSafety Initiative – where do we stand?...***
- ***The Intelligent Car Initiative and future steps***

# The eSafety Initiative

The **eSafety Initiative** was launched in 2002 as a **joint initiative** of the European Commission, industry and other stakeholders.

It aims at accelerating the development, deployment and use of Intelligent Integrated Safety Systems that use Information and Communication Technologies (ITC) in intelligent solutions, in order to **increase road safety and reduce the number of accidents on Europe's roads.**

- **Forum Plenary:** Platform for consensus among stakeholders (currently over 150 members)
- **High-Level Meetings** with Industry and Member States defining strategy
- **Working Groups:** Solution-oriented, reporting to the Forum

Mailbox info: [INFISO-eSafety@cec.eu.int](mailto:INFISO-eSafety@cec.eu.int)



# Road Fatalities in Europe ...

## Main Causes and driving errors:

- ✓ **95%** of all road accidents **involve some human error**
- ✓ In **76%** of the cases the **human is solely to blame**
- ✓ **Misjudging, driving dynamics, weather (50%)**
- ✓ **Distraction (38%)**
- ✓ **39%** of Passengers vehicles and **26%** of trucks do not activate brakes before a collision
- ✓ Some **40%** more **do not brake** effectively

## Underlying Causes:

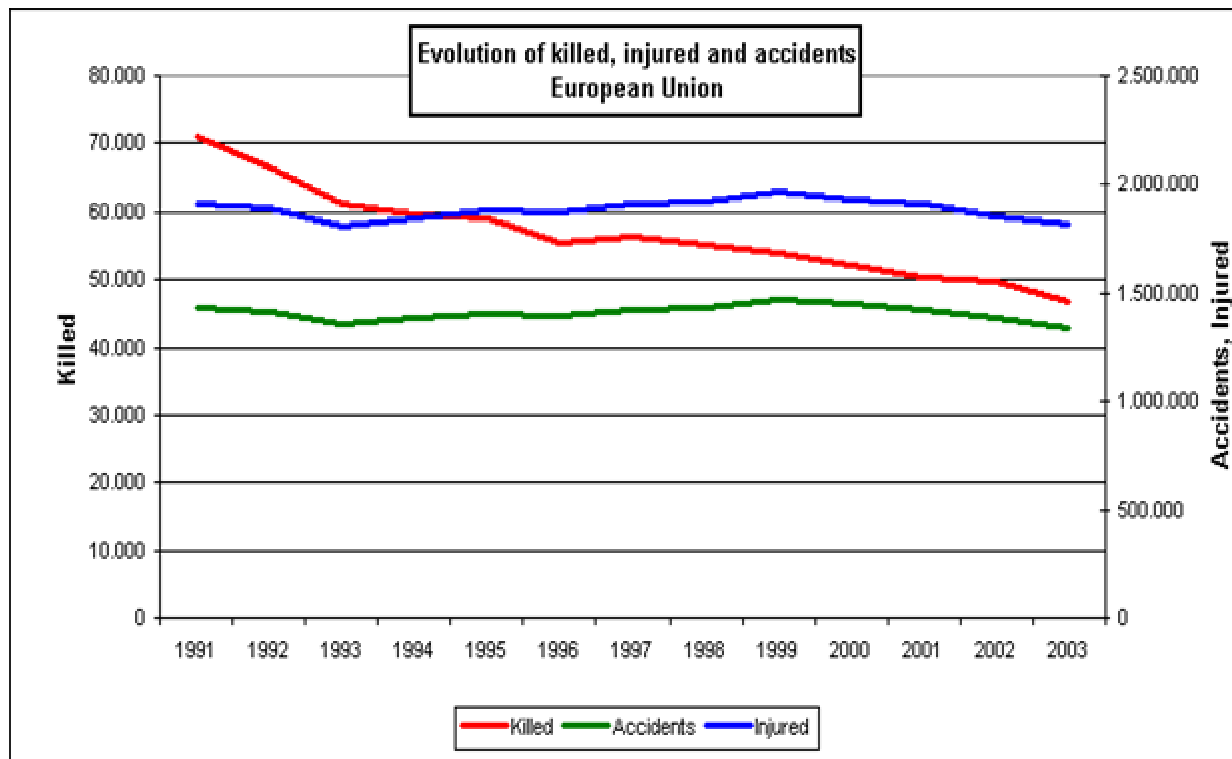
- ✓ **Alcohol**
- ✓ **Inexperience**
- ✓ **Tiredness**

## Transport in EU25

### Road Accidents (2004 data)

- *43.500 fatalities*
- *1.3 million accidents involving injury*
- *2.0 million injuries*

Source: DG TREN-Statistical Pocket Book 2004



# The problem of market implementation

- Market implementation takes too long
- Most intelligent systems are not yet on the market

→ ABS → 20 years to full penetration  
→ ESP → 10 years to reach 40% of market  
→ ACC → more than 25 years since development phase  
and yet a very low penetration rate

## Main reasons

- ✦ legal barriers
- ✦ competitive situation of the automotive sector
- ✦ high cost of intelligent systems
- ✦ lack of customer demand
- ✦ lack of information

- ***Introduction***
- ***The eSafety Initiative – where do we stand?...***
- ***The Intelligent Car Initiative and future steps***

## *“Information and Communications Technologies for Safe and Intelligent Vehicles”*

*COM(2003)542 Final, 15.9.2003*

### 3 priorities:

- **eCall** (Pan-European eCall)
- **RTTI** (Real-Time Traffic & Travel Information)
- **HMI** (Human-Machine Interaction)





# The pan-European eCall: WHY?



- Build on E112
- Reduction of average response time to the accident:
  - ✓ 50% in Rural Areas
  - ✓ 40% in Urban Areas
- Reduction of accidents severity
  - ✓ 15% to less severe medical category
- Annual lives saving
  - ✓ Estimated to be over 2.500 in EU 15
- Costs savings  
(exceed many times needed investments)
  - ✓ ~ 21 billion Euro in EU 15 annually



Impact

With **100% penetration rate by 2010**:

- More than **2500 lives saved** (< 5%-10%)
- **10% - 20% less congestion**
- **2 - 4 billion€ cost saving** (source SEiSS study)



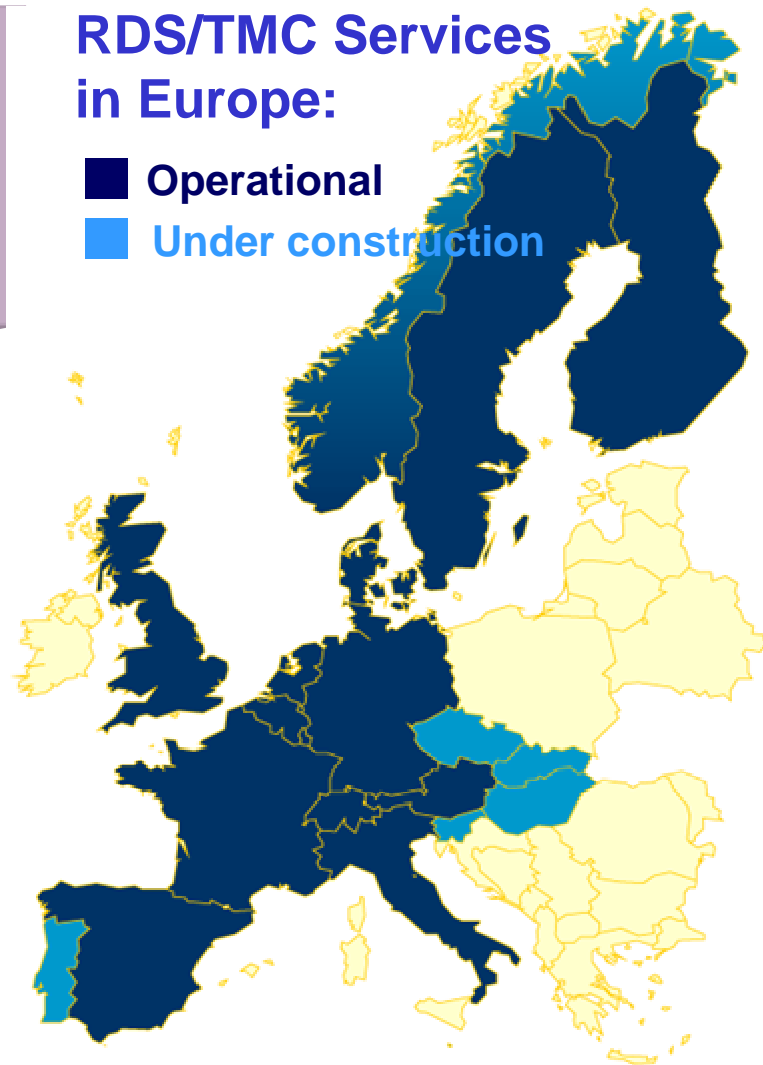


To identify and remove the obstacles for European-wide implementation of **RTTI** services

- **Goal:** 80 % of all journeys served with adequate, standardised services by 2010
- **Short term:** RDS/TMC
- **Longer term:** more advanced services with more advanced technologies for broadcasting and communications
- **Final Report:** 12 detailed recommendations to the Member States

RDS/TMC Services in Europe:

- Operational
- Under construction



To analyze ways to increase user awareness/user demand

**Crucial activity in 2005-2006!**

## Progress Achieved:

- Final Report issued with recommendations to all stakeholders
- Expert meeting held in March'05 in Paris
- National dissemination actions foreseen
- Drafting of new ESoP started
- New version of ESoP presented in a public Workshop on 28<sup>th</sup> of June'05
- **Final version targeted for May'06**



## *2nd Commission Communication on eSafety:*

### *Bringing eCall to Citizens*

***COM(2005)431 Final 14.9.2005***

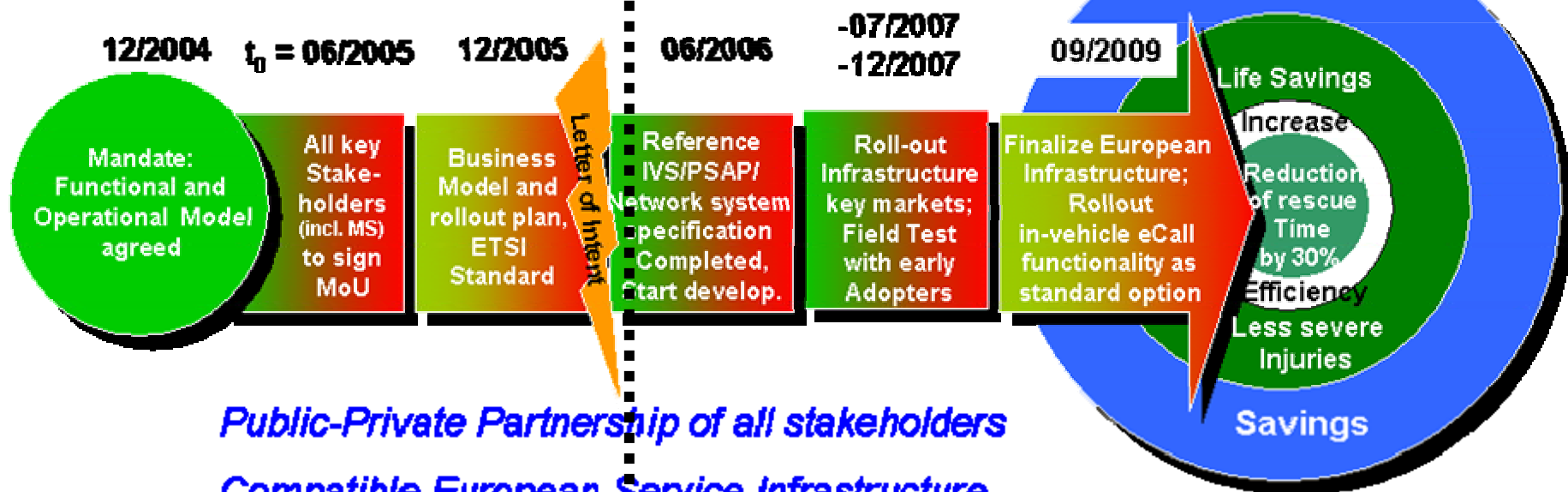
- eCall: A key recommendation of the 1st eSafety Communication
- Significant progress towards the full-scale roll-out of eCall

**But: Roll-out can be delayed if the national and regional governments do not invest in the necessary infrastructure for eCall**



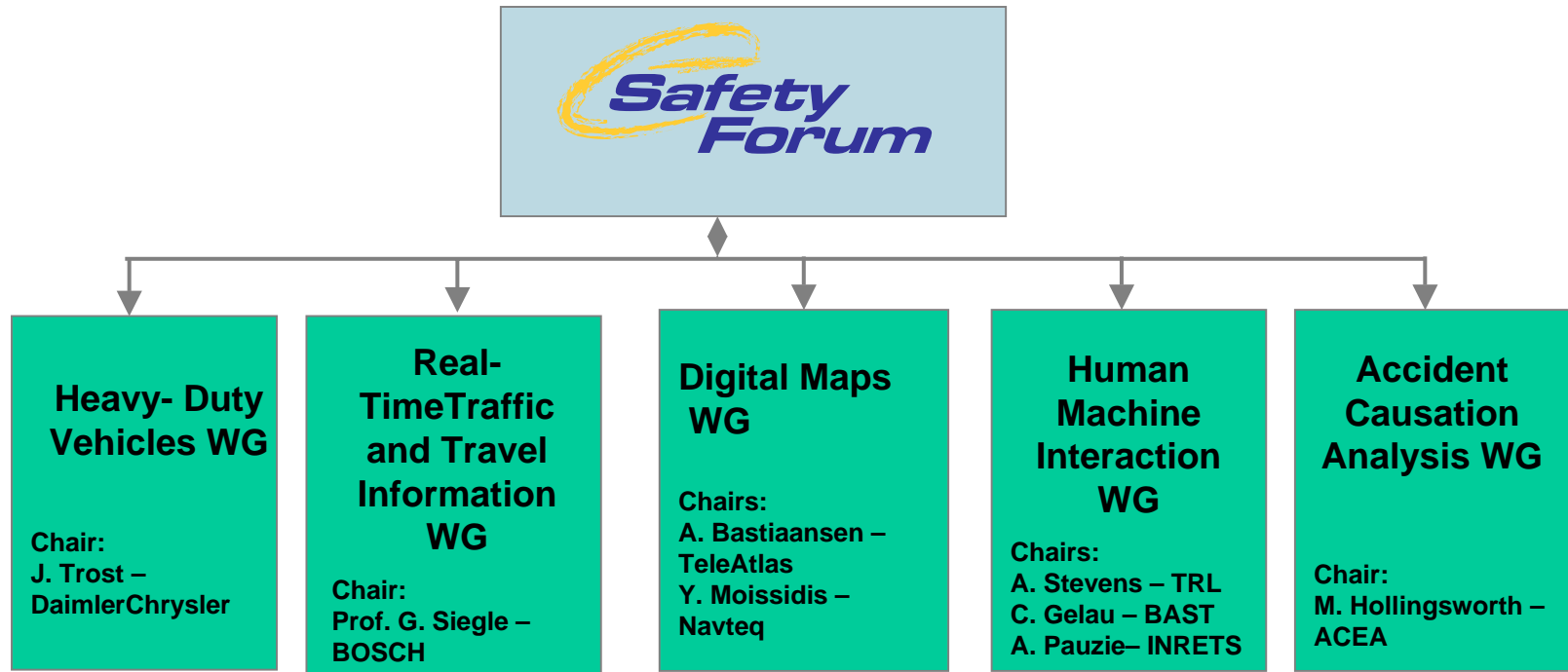
# eCall: Plan to success

*Low cost in-vehicle eCall functionality as standard option*  
*Common specifications and reference design*  
*Shared costs and benefits*



*Public-Private Partnership of all stakeholders*  
*Compatible European Service Infrastructure*  
*Full coverage of key Member States*  
*Financial incentives for ramp-up*

# eSafety Forum: the Completed WGs



Final Reports are available at the websites

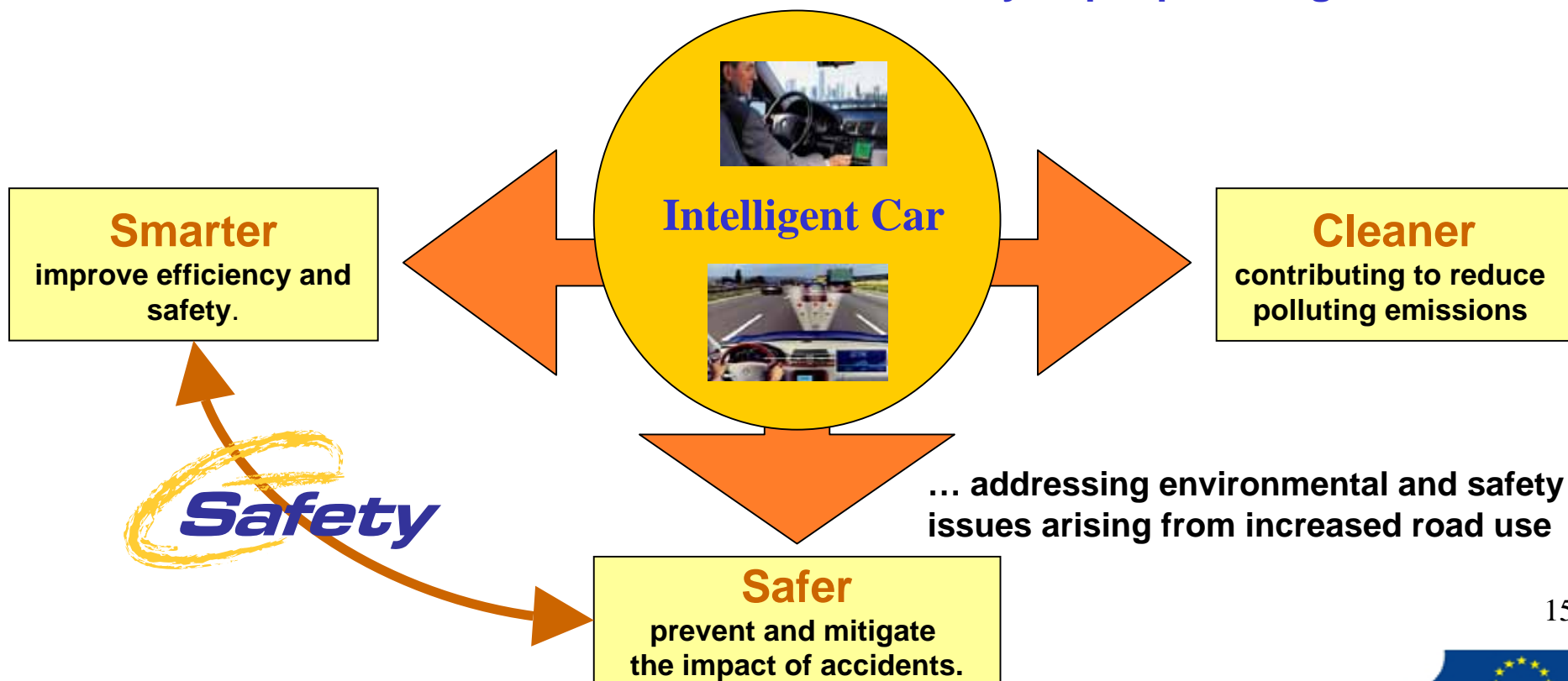
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# i2010 and the Intelligent Car Initiative

On June 1, 2005 the Commission adopted the initiative  
“**i2010: European Information Society 2010 for growth and employment**”

The **Intelligent Car** is one of the i2010 Flagship Initiatives.

The objective is to improve the quality of the living environment by supporting ICT solutions for **safer, smarter and cleaner mobility of people and goods**.





## 2 Launching of the Intelligent Car Initiative

**Held in Brussels' Autoworld Museum on 23 February 2006**

- **Commissioner Reding** presented the *Communication on the Intelligent Car Initiative*
- **display of**
  - ✓ **24 “intelligent” vehicles** equipped with safety features
  - ✓ **eight simulators** illustrating the way such safety devices function



- **more than 230 stakeholders**
- **85 journalists & camera teams**



**So far...**

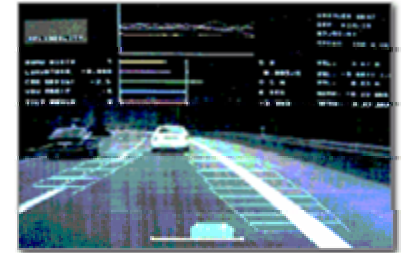
- ✓ **10 TV slots** broadcasted
- ✓ **85 articles** published



# Intelligent Car: Objectives

## Objectives of the Intelligent Car Initiative

1. Coordinate and support the work of relevant stakeholders, citizens, Member States and the Industry
2. Support research and development in the area of smarter, cleaner and safer vehicles and facilitate the take-up and use of research results
3. Create awareness of ICT based solutions to stimulate user's demand for these systems and create socio-economic acceptance

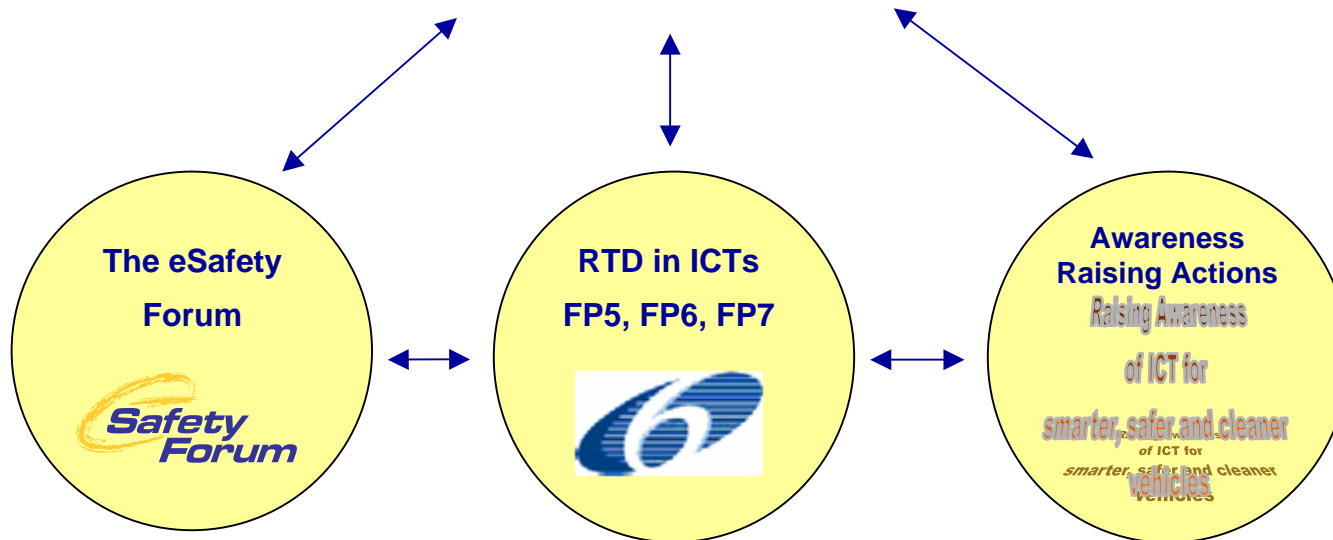


# Intelligent Car: Structure

The i2010 Intelligent Car Initiative will build on the work of the eSafety initiative and follow a three – pillar approach:



## Intelligent Car Initiative



(1) The eSafety Initiative and the



(2) RTD in Information and Communications Technologies

(3) Awareness raising Actions

# First Pillar: eSafety

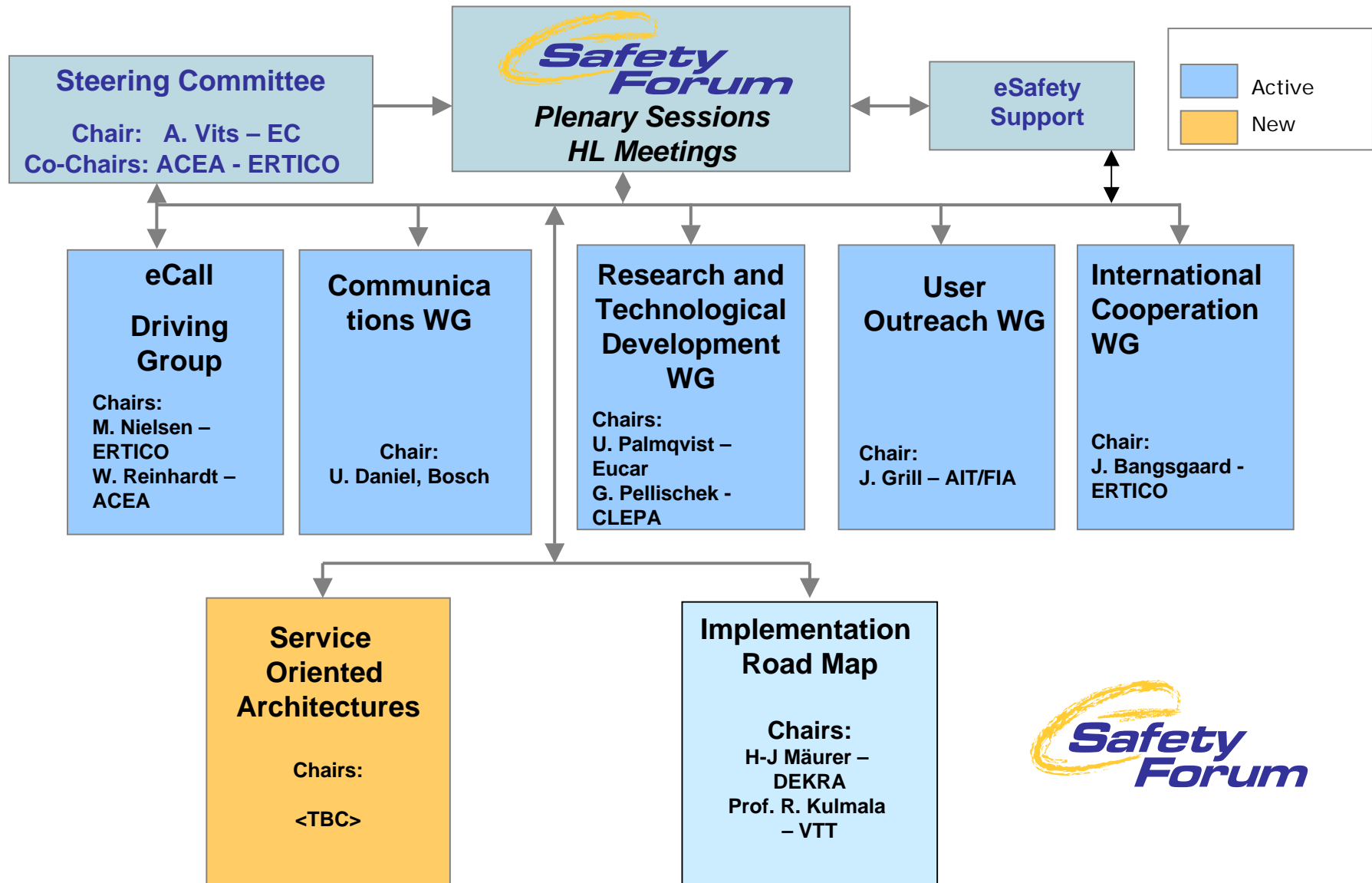
## The Focus in the eSafety Initiative will remain in Deployment:

- Pan-European Deployment of *eCall* by 2009
- Updated European Statement of Principles ESoP (HMI) – Commission adoption, May'06
- Adoption of the EP Report on *eCall*, April 2006
- Launch of the *eSafety* Communications Platform
- Expand the scope include fuel efficiency

## eSafety Forum Plenary meetings:

- 2/3 May, Brussels
- November, Brussels





## Second Pillar: The Research Programme

- The Intelligent Car Initiative activities **build upon the achievements and results of EU Framework Programmes** on research and technological development.
- The long-term objectives of the Intelligent Car Initiative will be **part of the ICT priority**
- The research priorities of the Intelligent Car fully support the **ERTRAC strategic research agenda**



## Second Pillar: The Research Programme (2)

### Main action lines:

- Enhance performance of Active Safety Systems
- Further step in the development of truly Cooperative Systems (vehicle-vehicle, vehicle-road)
- Info-mobility services for persons and goods – a new step forward
- Field operational tests: Share objective data between key stakeholders: industry-operators-MS

### Workprogramme preparation:

- Working Groups have started work
- Wide consultation May-September
- November-December: Adoption of Workprogramme & Launch of first Calls.



## Third Pillar: Awareness Actions

The awareness pillar of the Intelligent Car Initiative will promote, active information dissemination to a wide audience:

- To raise drivers and policy maker's **knowledge about the potential of intelligent vehicle systems**
- To stimulate **user's demand** and create socio-economic acceptance
- To **facilitate the deployment** of mature technologies and systems in the initial phase of market penetration
- To encourage stakeholders initiatives supporting i2010





## Third Pillar: Awareness Actions (2)

### 2006:

- **Eurobaromètre Survey:** Citizens knowledge of active safety devices
  - » Qualitative survey (2 Q)
  - » quantitative survey (3 Q)
- **2 studies:** - **Benchmarking MS initiatives/Industry**  
- **Performance Testing (explore the needs -) (May)**
- **Participation in major conferences** (paper & exhibition):
  - **Transport Research Area – Göteborg, 12-15 June**
  - **ITS World Conference – London, 8-12 October**
- **i2010 High-Level Conference** - Helsinki, 27-28 September

### 2007:

- **Intelligent Car Event**
- **e-Impact & TRACE outputs**

***Thank you  
for your attention***



# More information

**eSafety Mail Box:**

**INFSO- [intelligent-car@ec.europa.eu](mailto:intelligent-car@ec.europa.eu)**

**INFSO-eSafety@ec.europa.eu**

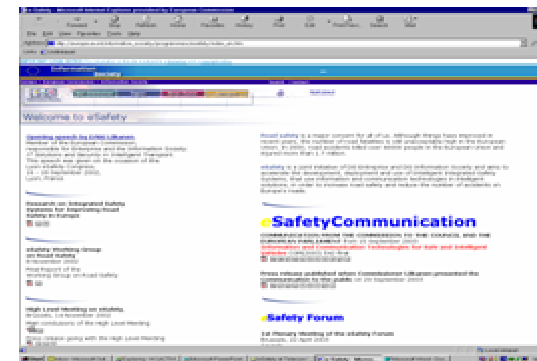


**Mailbox of the Unit:**

**INFSO-G4@cec.eu.int**

**eSafety Web-site:**

**[http://europa.eu.int/information\\_society/programmes/esafety/index\\_en.htm](http://europa.eu.int/information_society/programmes/esafety/index_en.htm)**



**eSafety on CORDIS website:**

**[www.cordis.lu/ist/so/esafety/home.html](http://www.cordis.lu/ist/so/esafety/home.html)**

**eSafetySupport website**

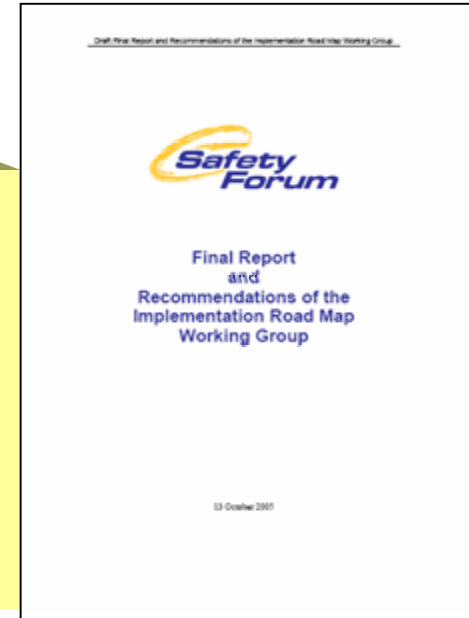
**[www.eSafetySupport.org](http://www.eSafetySupport.org)**



## Main objectives:

To identify the technical and economical potentials of the industry as well as the topics and time table for infrastructure improvements by the public sector with regards to eSafety systems capable of affecting road fatalities in Europa by 2010

To develop regularly reviewed road map which focuses technological steps and economic implication models for introduction of intelligent integrated road safety systems as well as the required improvements in road and information infrastructure



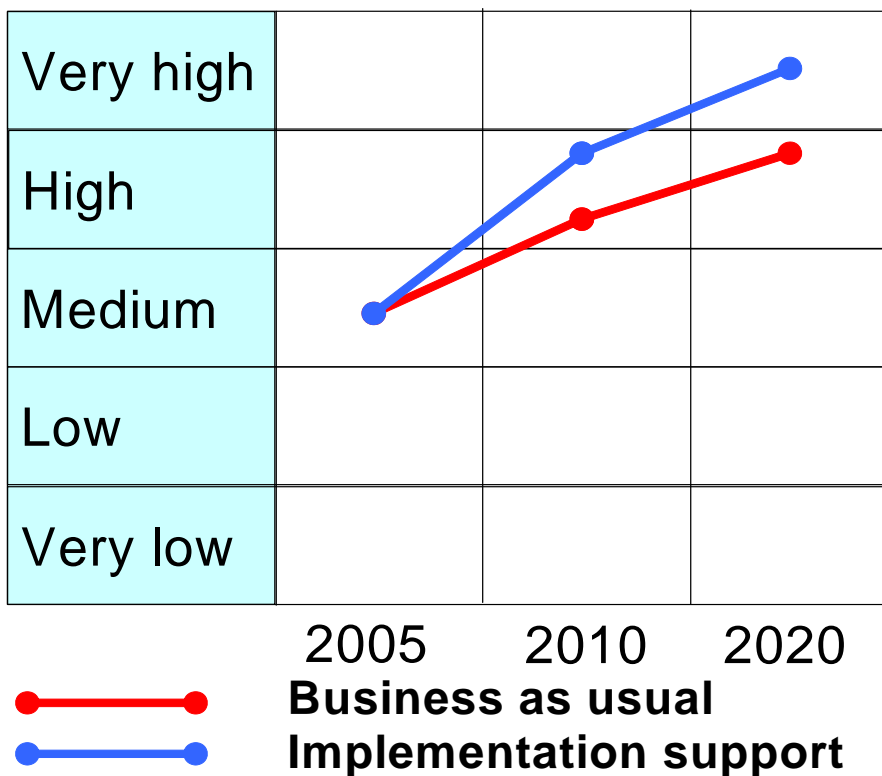
## **Autonomous Vehicle Systems**

- **ESP**
- **Blind spot monitoring**
- **Adaptive head lights**
- **Obstacle and collision warning**
- **Lane departure warning**

## **Infrastructure related Systems**

- **eCall**
- **Extended environmental information (extended FCD)**
- **Real-time Traffic and Travel Information**
- **Dynamic traffic management**
- **Local danger warning**
- **Speed Alert**

## Electronic Stability Program



## Effect of ESP

installed after 2005

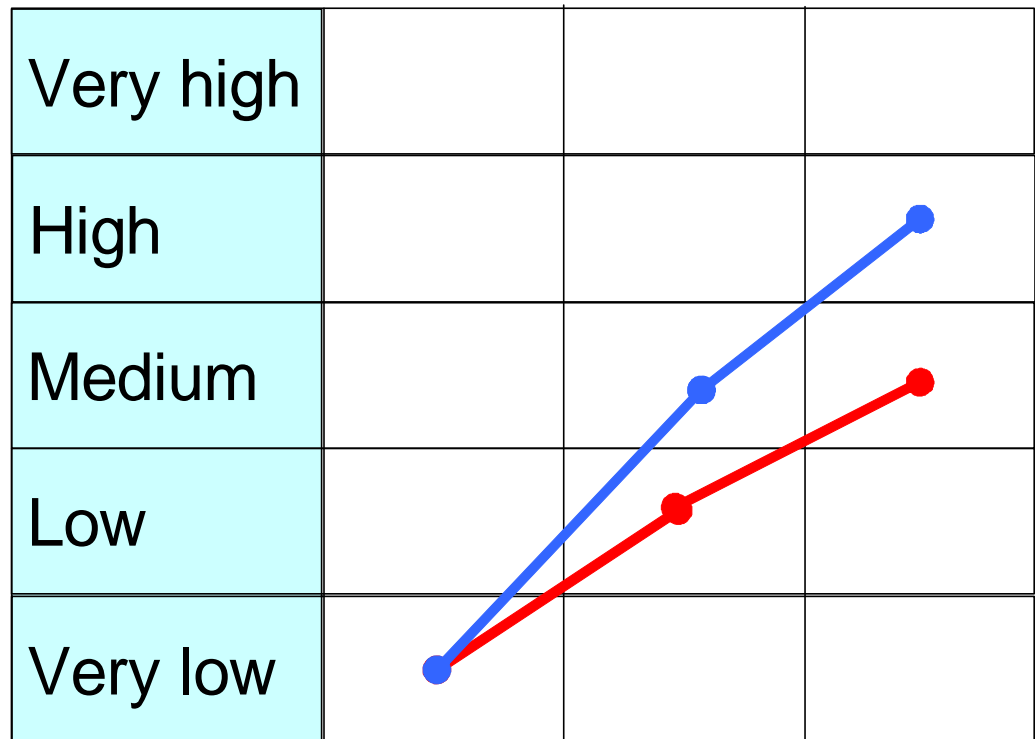
- **Business as usual:**
  - 2010: ca. 1,000 lives (2,300 M€)
  - 2020: ca. 2,400 lives (5,400 M€)
- **eSafety actions (incentives etc.):**
  - 2010: ca. 1,400 lives (3,100 M€)
  - 2020: ca. 3,400 lives (7,800 M€)

Estimation of  
market penetration

example  
(penetration for  
new cars)

Very high	80	-100%
High	50	- 80%
Medium	20	- 50%
Low	5	- 20%
Very low	0	- 5%

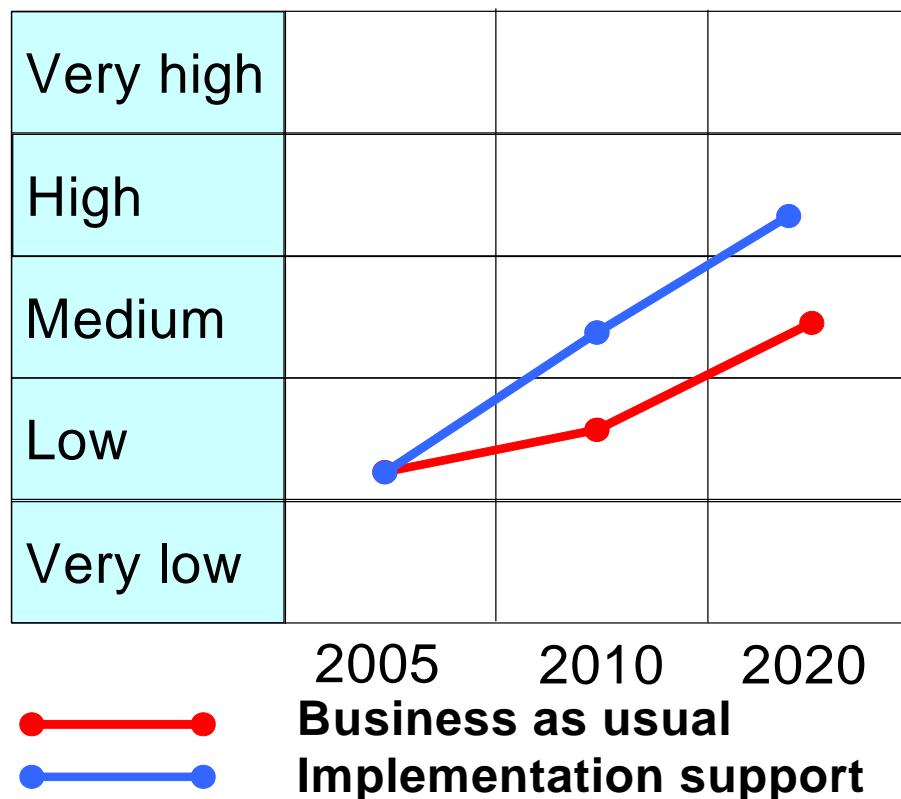
## Lane Departure Warning



2005      2010      2020

**Business as usual**  
**With incentive support**

## Dynamic Traffic Management

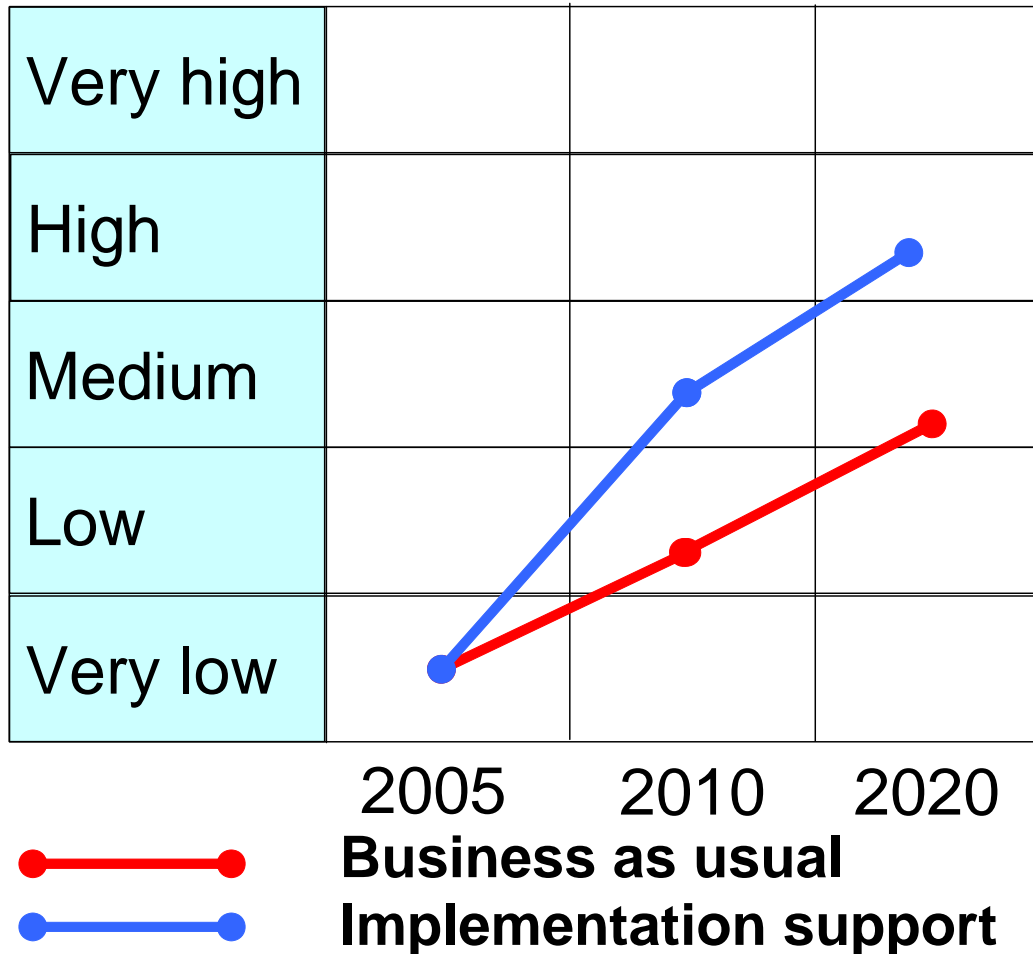


**Note: motorways/TERN;  
only DTM impl.  
after 2005**

- **Business as usual:**
  - 2010: ca. 50 lives (200 M€)
  - 2020: ca. 200 lives (750 M€)
- **eSafety actions (incentives etc.):**
  - 2010: ca. 150 lives (550 M€)
  - 2020: ca. 400 lives (1350 M€)



## Obstacle and collision warning



Estimation  
of  
market penetration