eSafety Implementation Road Map

Results and Recommendations of the Implementation Road Map Working Group

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Working Group

- Car manufacturers (BMW, Renault, Daimler-Chrysler, PSA, Fiat, Ford)
- Bosch
- ACEA, ERTICO, FIA
- ADAC, KGP, DEKRA, VTT
- European Commission
- Road authorities (France, Germany, Sweden)
- Transport Ministries (UK, Germany, Czech)

- Links to other WGs and CEDR

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 regard to eSafety systems capable of affecting road fatalities in Europe 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**

Approach

- Concentrate on main objective
  - reduce fatalities by 2010
- Concentrate on most promising systems
- Utilise work done in other Working Groups

Assessment of systems

- safety problem affected (number of fatalities)
- safety impact (%) on cars equipped
- other benefits
- costs of in-vehicle system
- costs for road infrastructure (inv./maint.)
- costs for information infrastructure (inv./maint.)
- year of technical readiness
- year of implementation readiness by vehicle class
- other actors involved
- user acceptance and willingness to pay
- year of implementation by regulation (if likely)
- implementation issues
- cars equipped in 2010

Priority systems

- **Autonomous Vehicle Systems:**
  - **ESP**
  - **Blind spot monitoring**
  - **Adaptive head lights**
  - **Obstacle and collision warning**
  - **Lane departure warning**

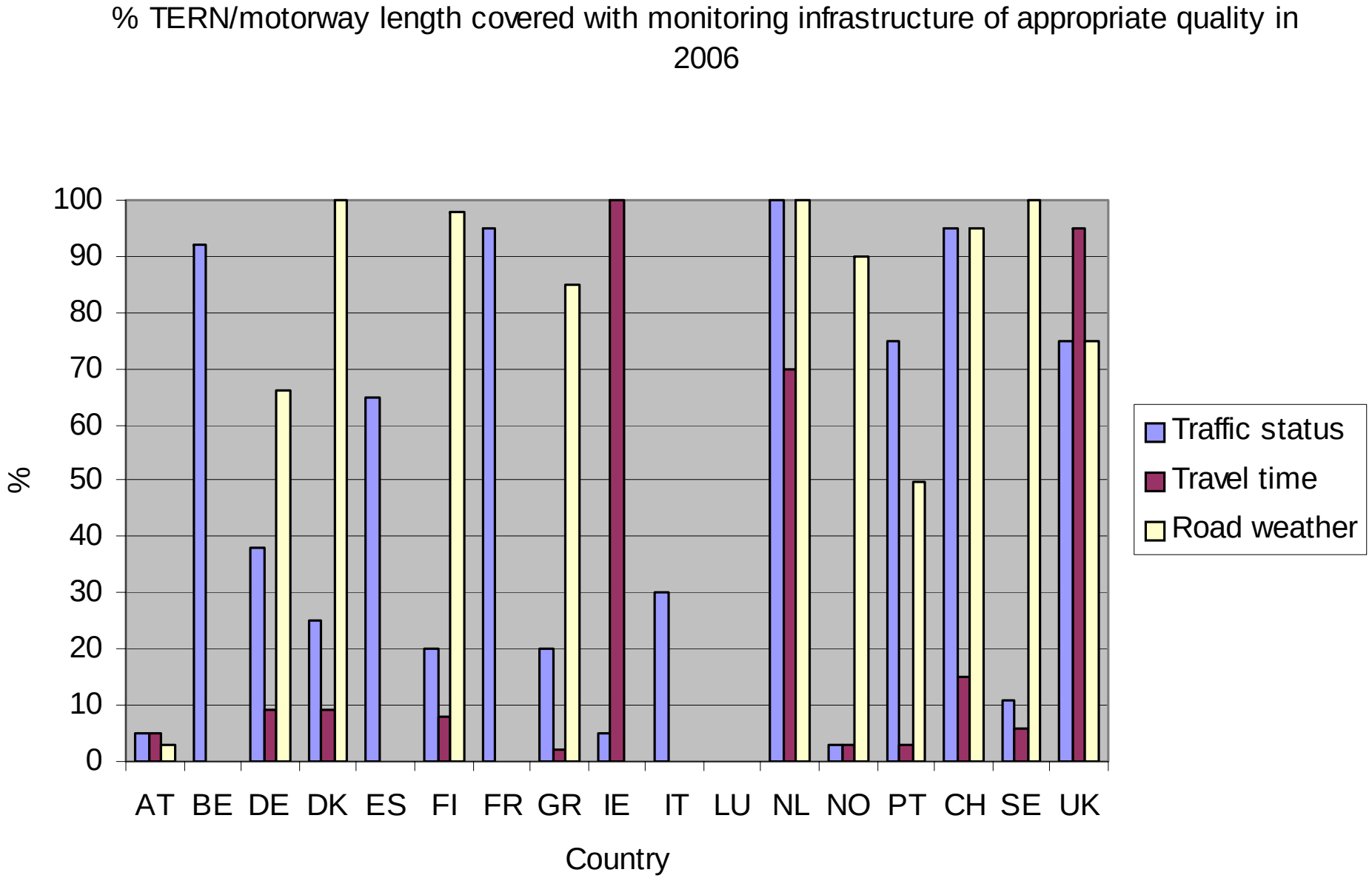
Priority systems

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

Implementation Road Maps

- Description of safety effects
  - Literature review
  - Overviews based on expert assessments and databases (Germany, Sweden, CARE)
- Assessment of current status of deployment

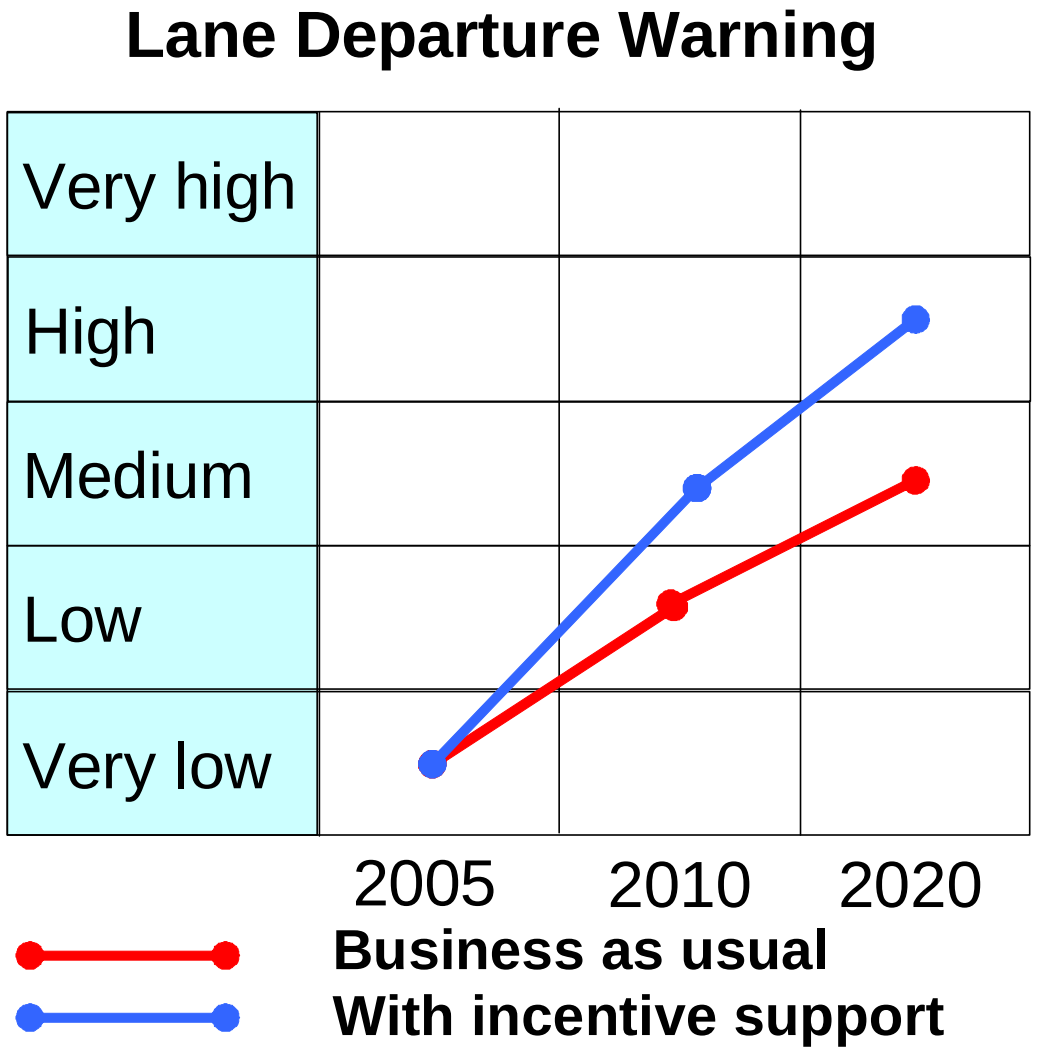
Assessment of current status; example



Implementation Road Maps

- **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%



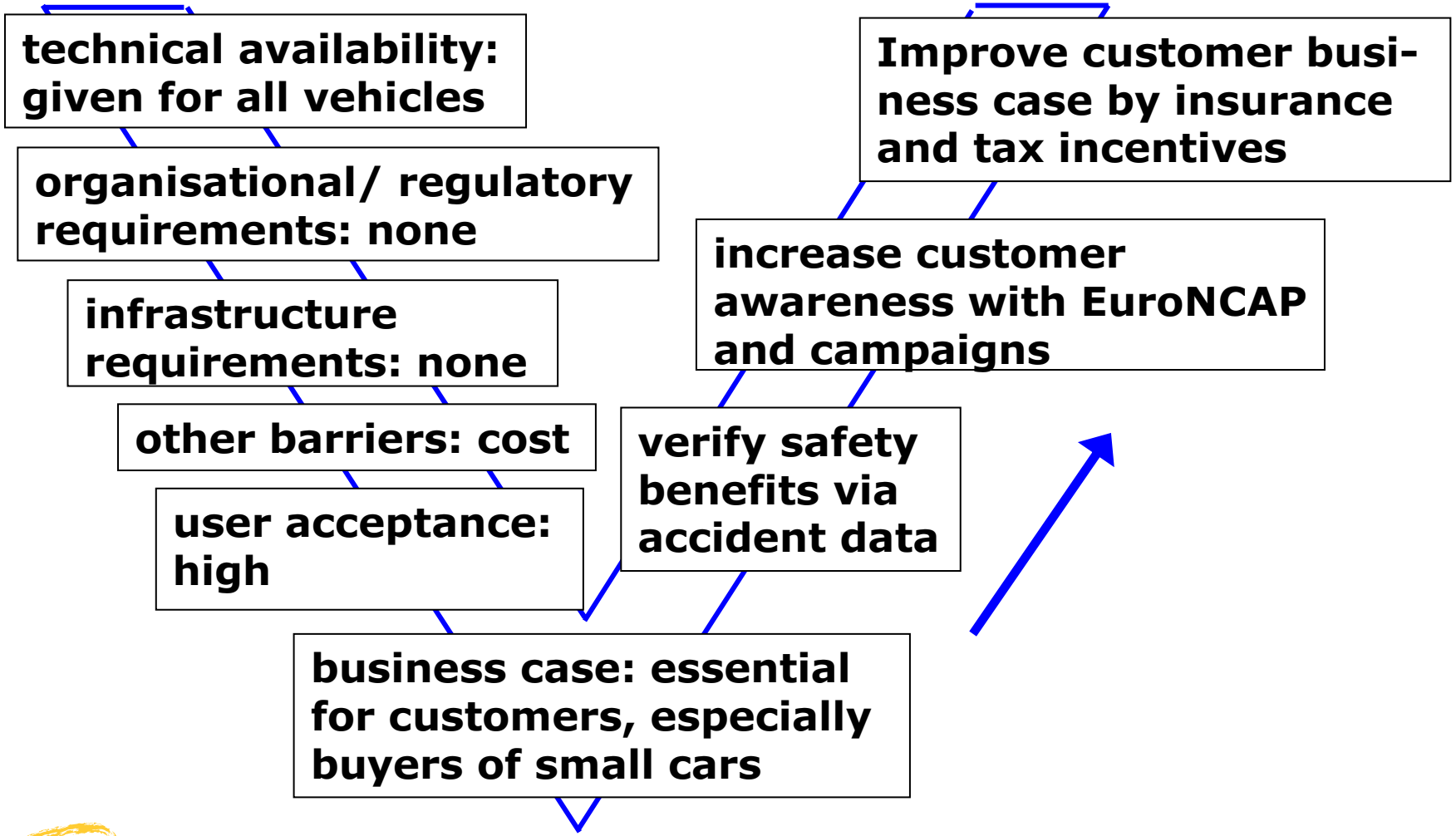
Assessing safety impacts

LANE DEPARTURE WARNING	EU fleet equipped (%)	EU-25 annual fatalities	Fatalities reduced	
			lower (-3%)	higher (-10%)
Business as usual				
2010	4,1	37000	46	152
2020	19,9	28000	167	557
With incentives				
2010	5,85		65	216
2020	36,3		305	1016
Systems installed before 2006				
2010	0,55		6	20
2020	0,245		2	7

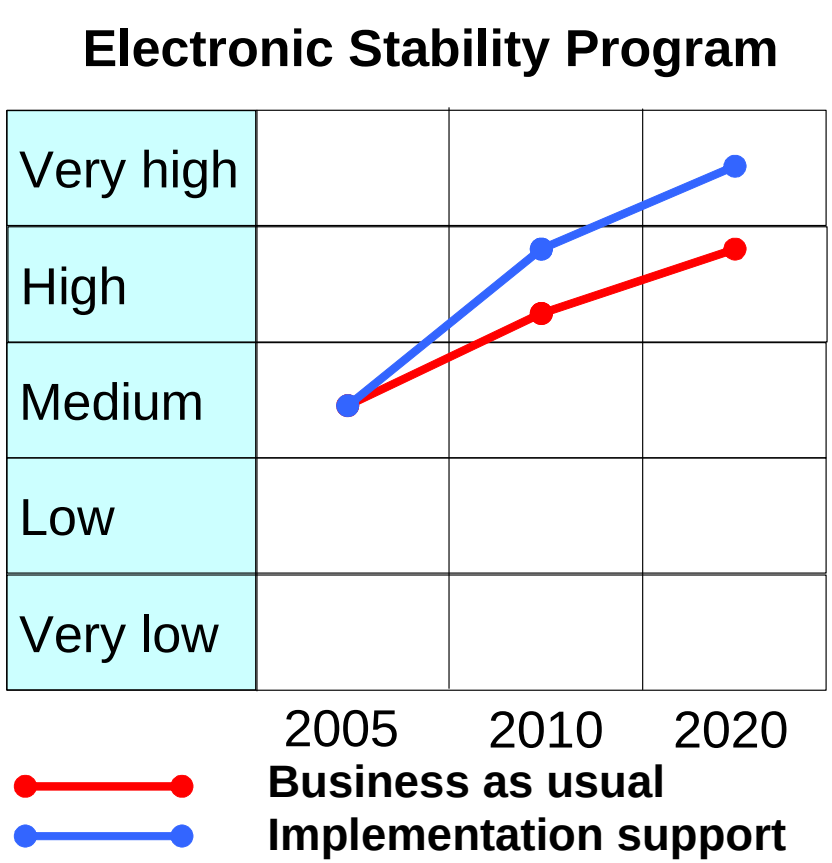
Implementation road maps

- For each priority system
  - System description
  - Technology availability
  - Road and information infrastructure need and availability
  - Organisation requirements
  - Regulatory requirements / barriers
  - Business case / Customer awareness and acceptance
  - Key success factors
  - Feasible deployment strategies

Implementation Road Map: Electronic Stability Program (ESP)

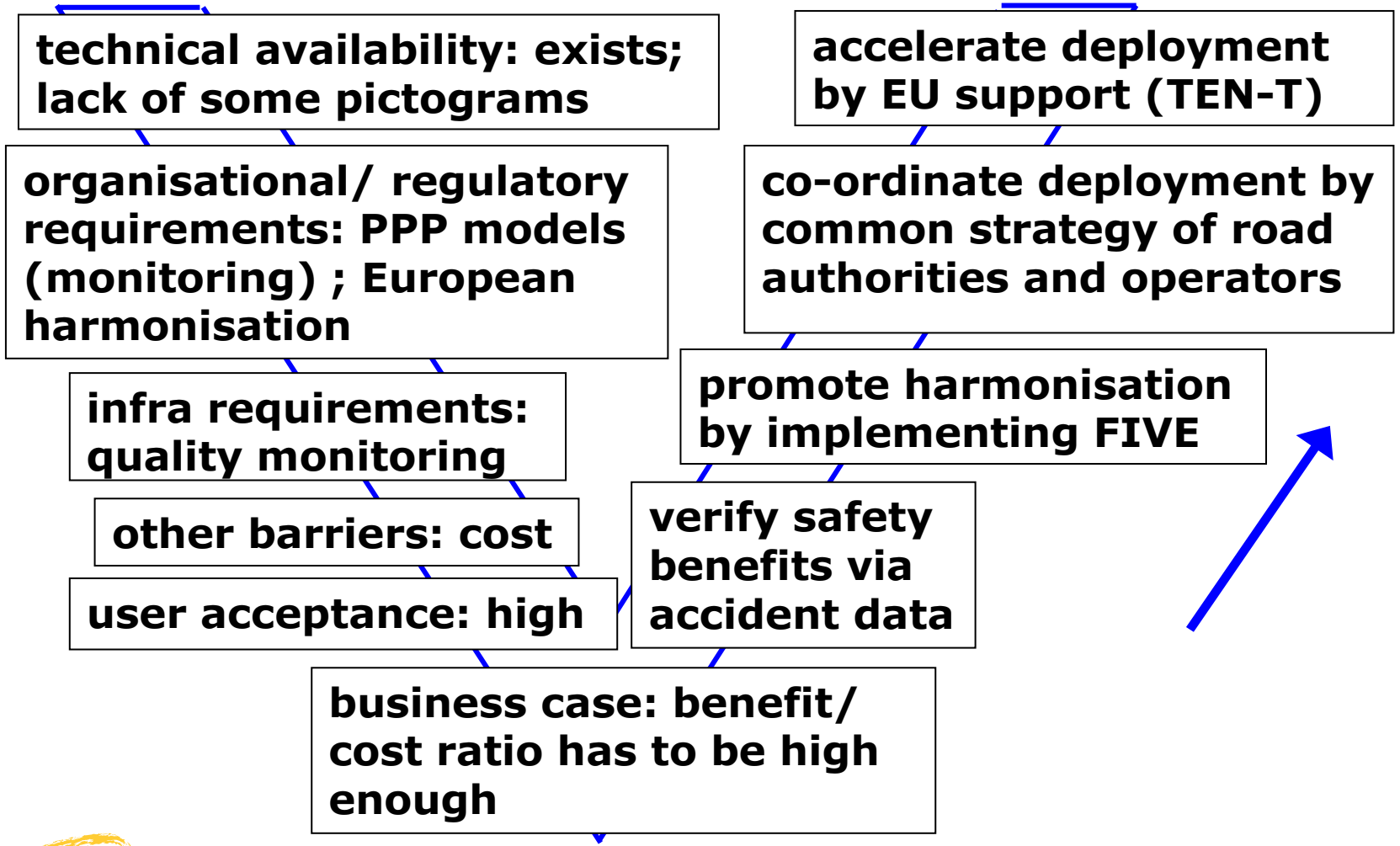


Implementation Road Map: ESP

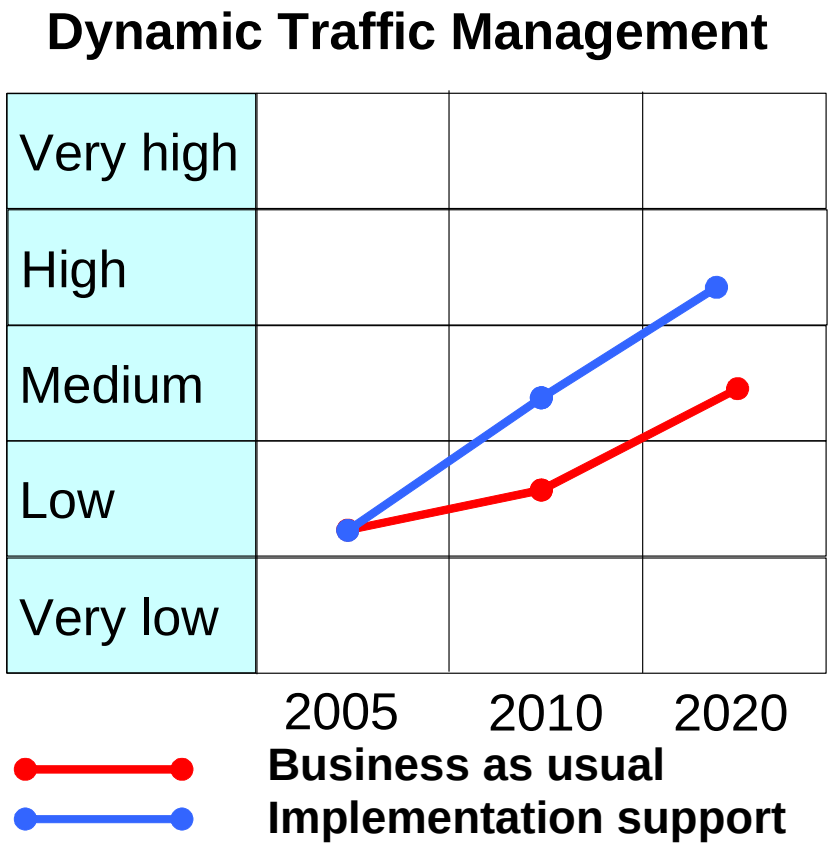


- Note: Effect of ESP installed after 2005
- **Business as usual:**
  - 2010: ca. 1,000 lives (1,000 M€)
  - 2020: ca. 2,400 lives (2,400 M€)
- **eSafety actions (incentives etc.):**
  - 2010: ca. 1,400 lives (1,400 M€)
  - 2020: ca. 3,500 lives (3,500 M€)

Implementation Road Map: Dynamic Traffic Management (DTM)



Implementation Road Map: DTM



- Note: motorways/TERN; only DTM impl. after 2005
- **Business as usual:**
  - 2010: ca. 60 lives (90 M€)
  - 2020: ca. 310 lives (460 M€)
- **eSafety actions (incentives etc.):**
  - 2010: ca. 170 lives (260 M€)
  - 2020: ca. 540 lives (810 M€)

Recommendations: In-vehicle systems

a. Enhance customer awareness via European campaigns

b. Government and insurance incentives

c. Feasible sustainable business models

d. EuroNCAP to incorporate systems mature enough

e. Regulatory actions only as a last option

f. Follow the recommendations of the HMI WG

g. Continue R&D efforts: solutions and effects

Recomm: Infrastructure-related systems

h. MS to ensure deployment of economically feasible systems and services
i. EC to support the deployment
j. Digital maps with the information required
k. Increase the willingness of "early adopters"
l. Continue R&D efforts: solutions and effects
m. eCall: DG recommendations
n. RTTI: WG recommendations
o. Dynamic traffic management and local danger warnings: European vision & strategy
p. Speed alert: specific roap map & solve open issues

Updating of Implementation Road Maps

- Need to update regularly
  - technology, standardisation, harmonisation, transport and industrial policies, investment plans, knowledge on safety impacts
- Involvement of key stakeholders
  - the automobile industry (OEMs and other system manufacturers), MS, road authorities and operators, transport ministries, EC, ERTICO, insurance companies, automobile clubs or other user representatives, academia and research institutes

Updating of Implementation Road Maps

1. The present WG as the platform
2. Preparatory work by designated WG members
3. Annual process:
   - 1st workshop: needs for updates to be discussed and agreed upon
   - Proposal for updated road map validated within organisations
   - 2nd workshop: agreement based on feedback received
4. Involvement of U.S., Japanese and Korean automobile manufacturers
5. Road map dissemination to all its users

Thank-You

- **Further information:**

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