

# CITA

THE INTERNATIONAL MOTOR VEHICLE INSPECTION COMMITTEE HAS PLEASURE TO WELCOME YOU AT THE 2006 CITA CONFERENCE

## 2006 CITA CONFERENCE

'The future of Vehicle Inspection – Contributing to Sustainable Road Transport'  
'Developments in Inspection of 2 & 3 Wheeled Vehicles'



## VEHICLE INSPECTION

## KEYNOTE SPEECH 3

In-service Vehicle Inspection



Road Transport





Road Transport

# 2006 CITA CONFERENCE

'The future of Vehicle Inspection – Contributing to Sustainable Road Transport'

'Developments in Inspection of 2 & 3 Wheeled Vehicles'

## AUTOFORE Strategy and Emerging Findings

Speaker : Mr. Ron Oliver  
Organization : CITA  
Country : Belgium

Presentation to CITA Conference in  
Hanoi Oct 2006

# 'Autofore' STRATEGY AND EMERGING FINDINGS

Ron Oliver

Chair of Autofore Project Steering Group

# *AUTOFORE*

## *STRATEGY & EMERGING RECOMMENDATIONS*

### Objectives of this Presentation

- To provide an overview of the Autofore Project
- To give you an insight into emerging thinking

# *AUTOFORE*

## *STRATEGY & EMERGING RECOMMENDATIONS*

### **Autofore Workshop Presentations will:**

- Provide detailed information on the Autofore Project
- Provide you with opportunity to discuss the Autofore strategy and emerging thinking

# *AUTOFORE*

## *STRATEGY & EMERGING RECOMMENDATIONS*

### **TWO PARTS TO THIS PRESENTATION**

- Background and origin of Autofore
- Project objectives
- Project structure and progress to date
- Autofore Strategy
- Overview of emerging findings
- Use of an economic model to determine the scope and standards of roadworthiness

**Ron Oliver**

**Prof  
Wolfgang  
Schulz**

# *AUTOFORE*

## *STRATEGY & EMERGING RECOMMENDATIONS*

### *Background and origin of Autofore*

#### **Situation in 2000 -**

- Roadworthiness in Europe controlled by 2 'directives'
- 96/96/EC on periodic inspection
- 2000/30/EC on roadside inspection
- Each has been amended several times

# *AUTOFORE*

## *STRATEGY & EMERGING RECOMMENDATIONS*

### *Background and Origin – Continued*

- New vehicle technology, OBD, etc.
- New communication technologies
- Development of alternative strategies
- EU Target to reduce road deaths by 50% by 2010

EU Commission concluded that it was time to step back and take a **strategic look at the future direction**

# *AUTOFORE*

## *STRATEGY & EMERGING RECOMMENDATIONS*

### *Background and Origin – Continued*

- Two failed attempts in 2001 & 2003
- Third successful attempt in 2004
- **CITA-led consortium** proposed  
'Autofore'
- EU Grant awarded in December 2004
- **'Autofore'** started in February 2005

# *AUTOFORE*

## *STRATEGY & EMERGING RECOMMENDATIONS*

### Objectives of Autofore

- Primary purpose is to develop a **proposal for the future direction of roadworthiness enforcement in the European Union.**
  - Taking account of –
    - current situation in EU
    - developments in technologies and communications
    - economic assessment of costs & benefits of roadworthiness enforcement options
    - implementation plans

# *AUTOFORE*

## *STRATEGY & EMERGING RECOMMENDATIONS*

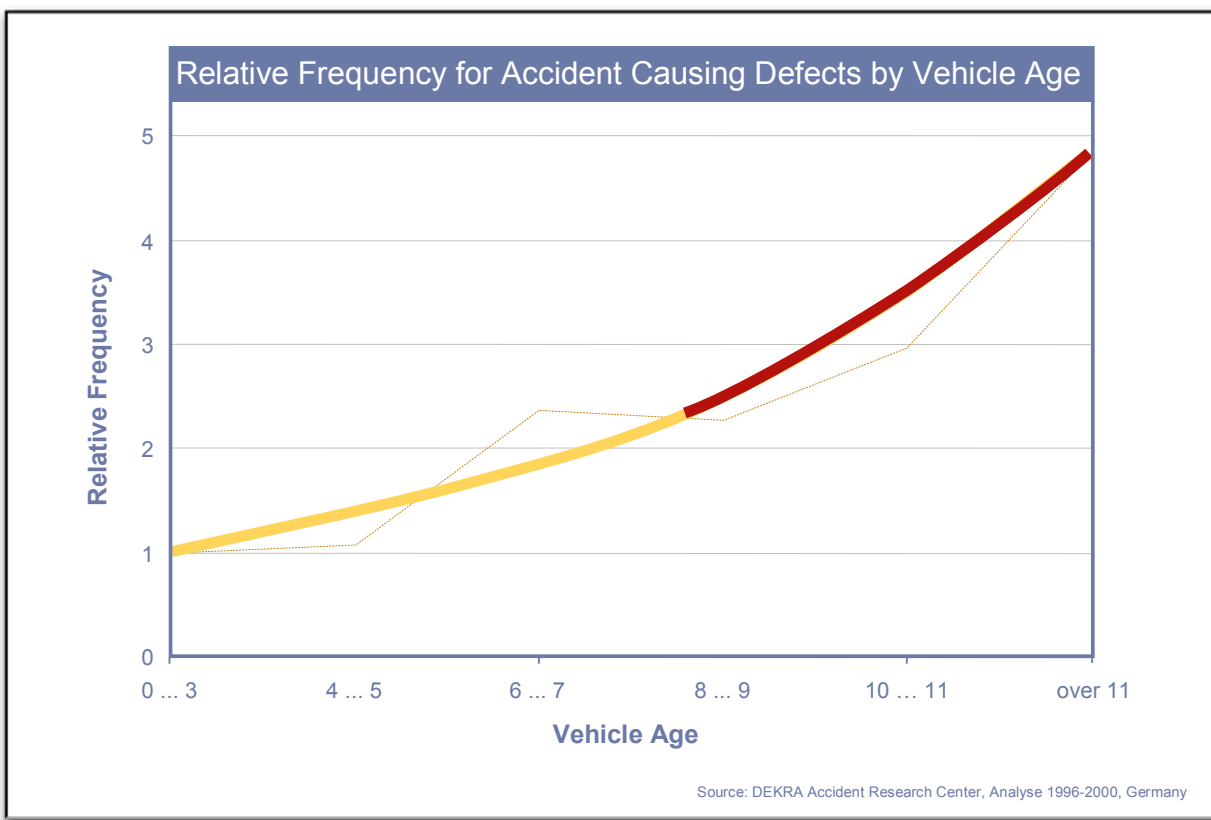
### Project structure and progress to date

- 8 work packages
- 5 partners – IDIADA, argetp21, IKA (University of Aachen), Knibb Gormenzano & Partners and TERNZ
- 3 Sub-contractors – TNO, University of Cologne, and University of Prague

Now well advanced with Work Package 7 in progress

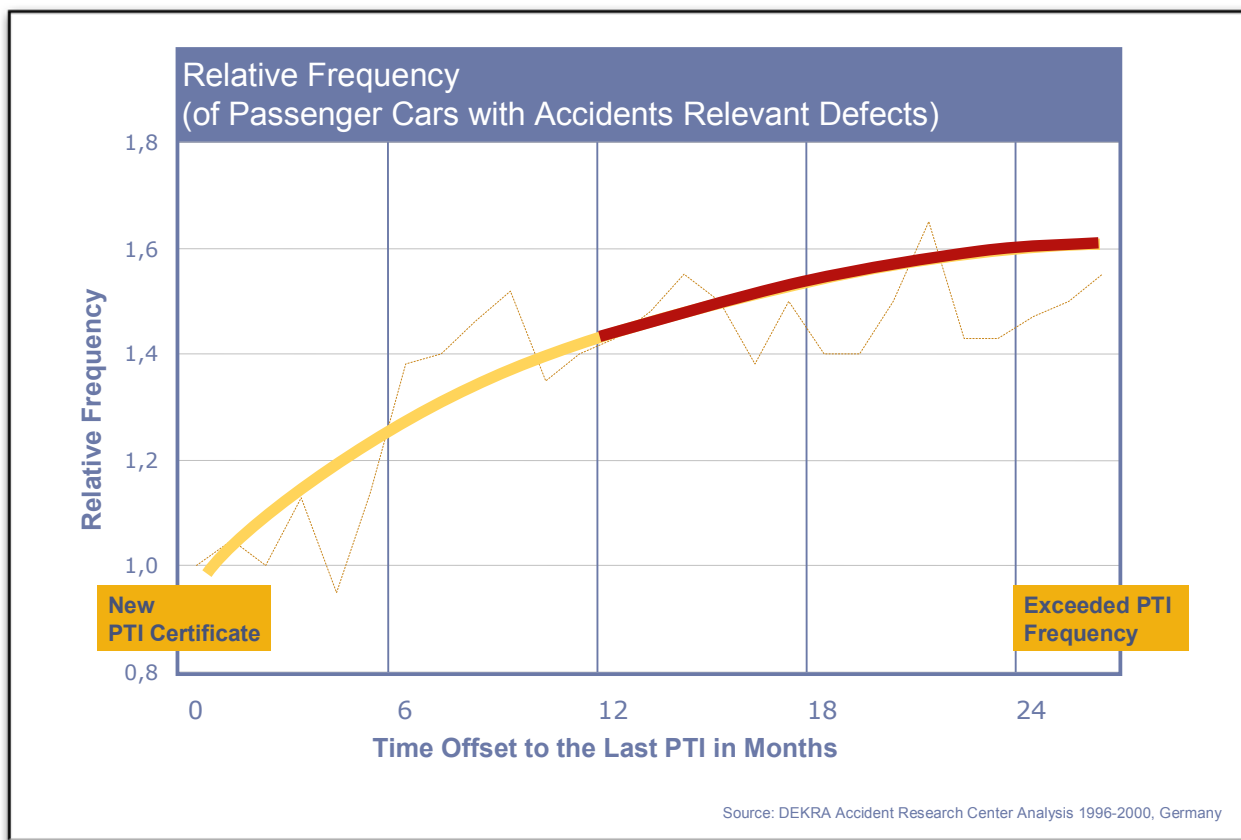
# AUTOFORE STRATEGY

Vehicles deteriorate as they get older



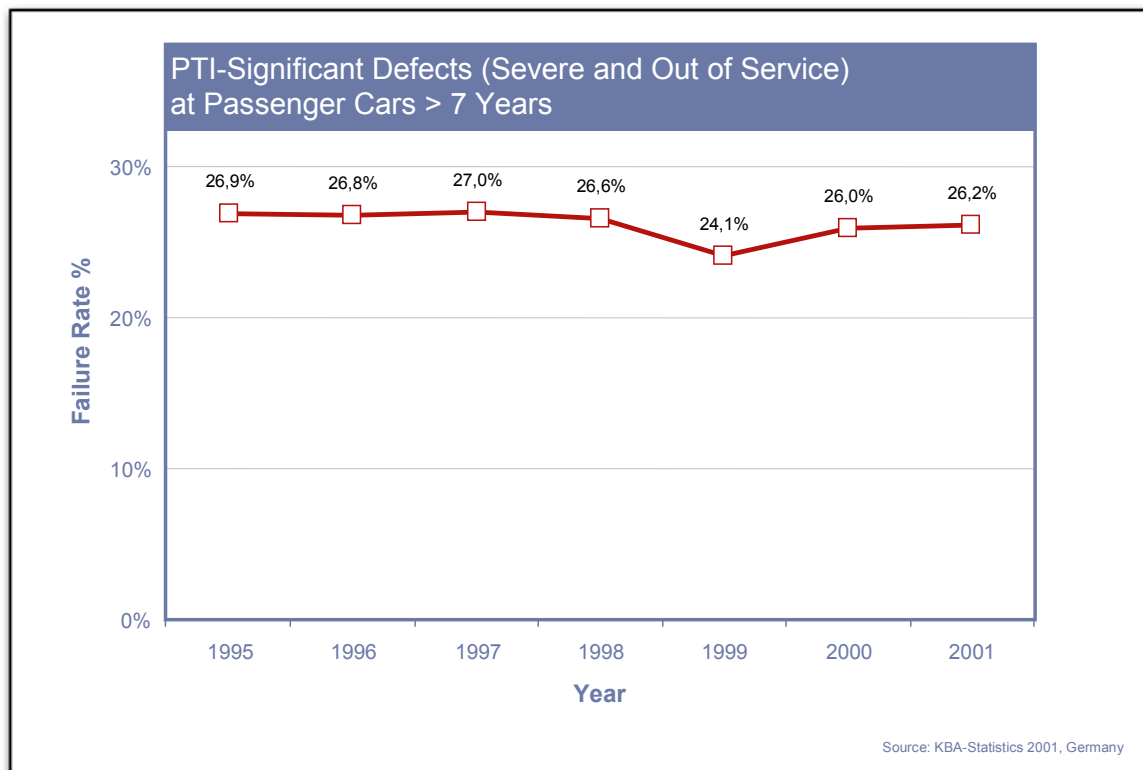
# AUTOFORE STRATEGY

## Vehicles deteriorate in-use



# AUTOFORE STRATEGY

Are vehicles becoming more durable/reliable?



# *AUTOFORE STRATEGY*

Strategic “vision” being proposed for  
Autofore

*“That by 2020 all vehicle systems that affect road safety, the environment and other beneficial outcomes should be in continuous compliance with an optimised standard of roadworthiness”*

# *AUTOFORE STRATEGY*

## What is Roadworthiness?

A vehicle is defined as being “*roadworthy*” when its performance and condition meets or exceeds agreed standards

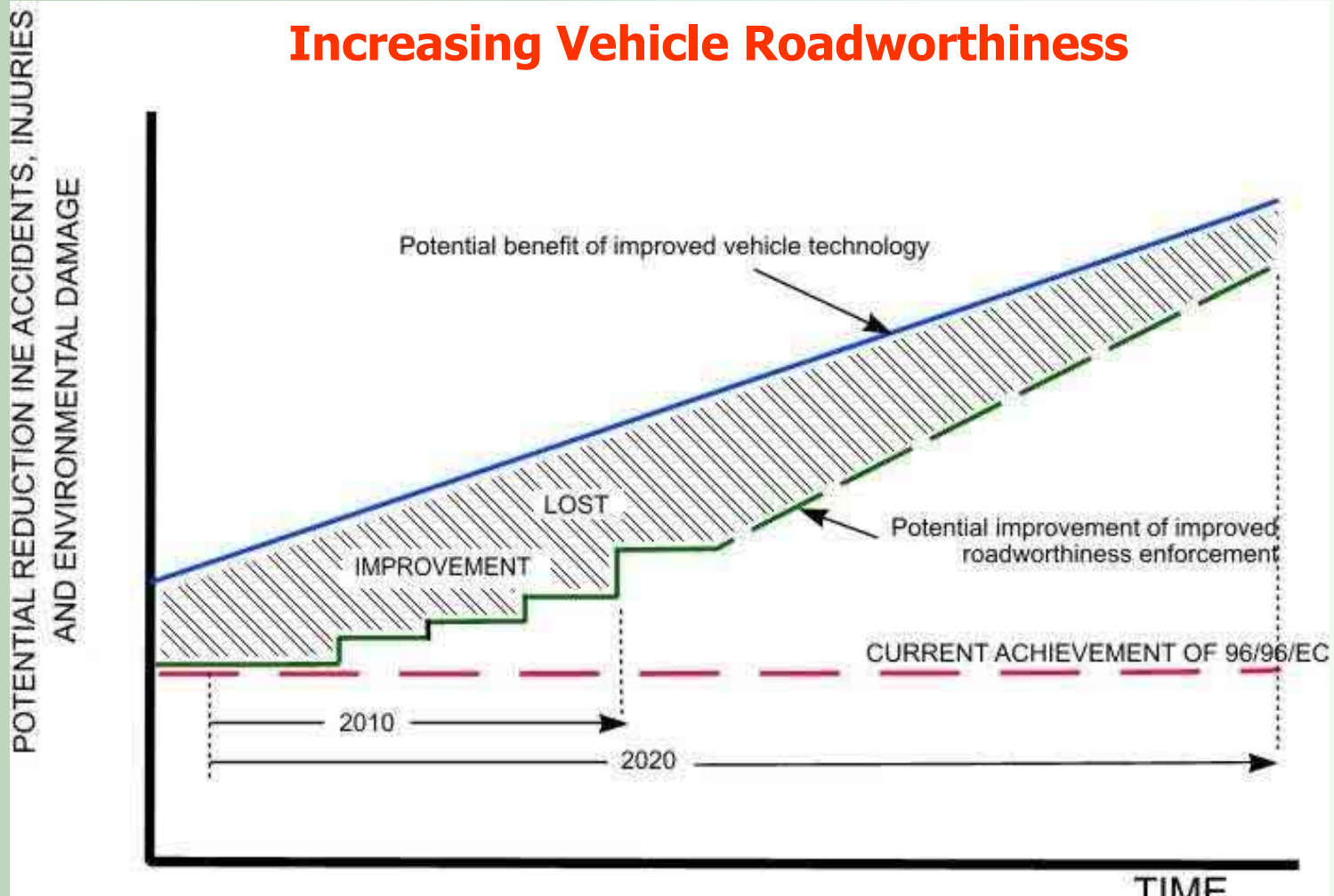
# *AUTOFORE STRATEGY*

## Autofore Strategic Thrusts

- Increasing vehicle “roadworthiness” as a contribution to safety and environmental protection
- ‘Intelligent periodic inspection’
- ‘Continuous compliance’

# AUTOFORE STRATEGY

## Increasing Vehicle Roadworthiness



# *AUTOFORE STRATEGY*

## Intelligent PTI

- Inclusion of **new technology systems** where cost-beneficial
- Greater use of **existing OBD** information; encourage **extension of OBD** to other vehicle systems
- Greater use of **vehicle specific values**
- Data bases of **vehicle data**
- Data bases of **operator information**
- Use of **'Intelligent inspection equipment'**

# AUTOFORE STRATEGY

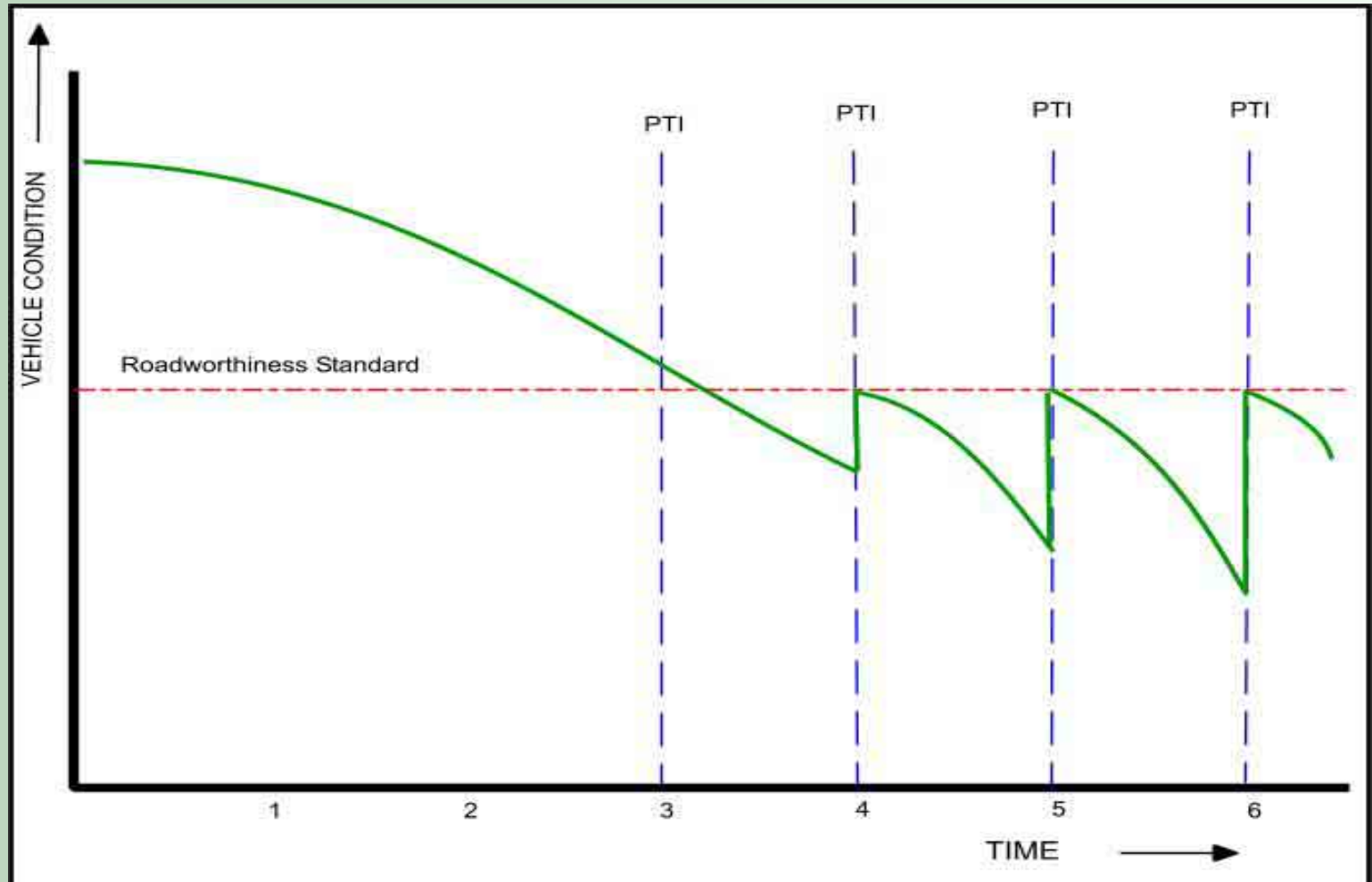
## *Continuous Compliance*

The 'ideal' is for vehicles to be maintained in **continuous compliance** with the economically justified standards.

- PTI ensures that vehicles are periodically brought up to the required standards
- Other methods need to be added to enforce or encourage compliance between tests
- For most vehicles, full continuous compliance is not economically achievable, but some progress towards the ideal might be justifiable

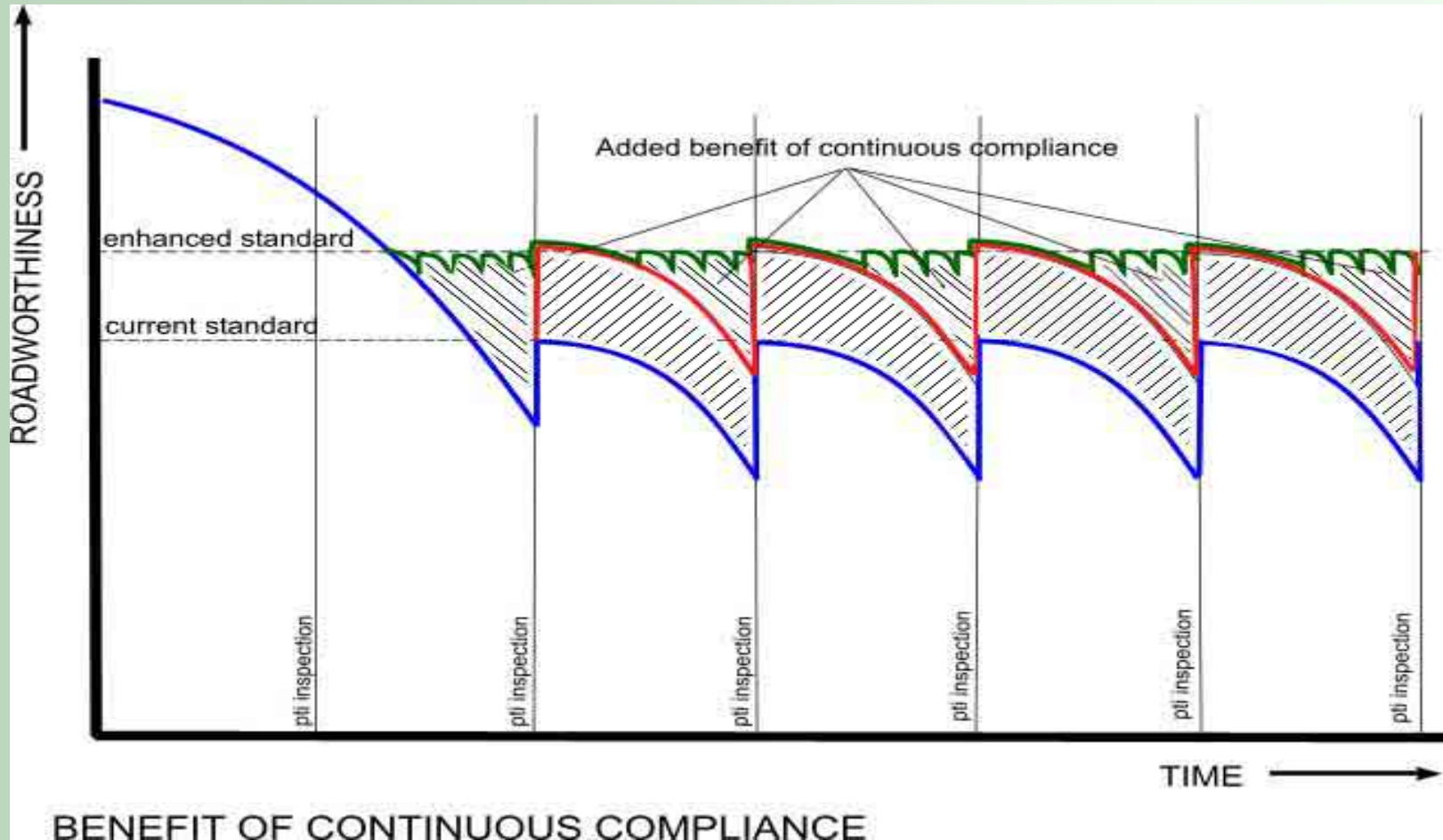
# AUTOFORE STRATEGY

## *PTI as sole enforcement tool*



# AUTOFORE STRATEGY

## Enhancing PTI & adding other roadworthiness enforcement tools



# *AUTOFORE*

## **Emerging Findings**

Two packages have been developed for economic evaluation –

- **2010 Package**
- **2020 Package**

The packages have been developed for two classes of vehicles –

- **Private vehicles** (cars, light goods vehicles)
- **Commercially Operated Vehicles** (operated by organisations requiring an operators licence)

# *AUTOFORE*

## **Emerging Findings**

### Autofore “Enablers”

#### Objectives of Autofore Enablers –

- develop and enhance the economic assessment model
- enhance effectiveness of PTI and roadside inspection
- enhance operator licensing arrangements
- promote other means of achieving continuous compliance

# **AUTOFORE**

## ***EMERGING RECOMMENDATIONS***

### Autofore potential

From 2010

- More effective PTI

From 2020

- Further enhancements to increase effectiveness of PTI
- More effective roadside inspection
- More commercial vehicle operators maintaining their vehicles between PTI
- Manufacturers placing higher priority on improving reliability and durability

# THANK YOU

**Ron Oliver**

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Road Transport

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'The future of Vehicle Inspection – Contributing to Sustainable Road Transport'

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## Socio-Economic Assessment of Vehicle Inspections – The Autofore Approach

Speaker : Mr. Wolfgang Schulz

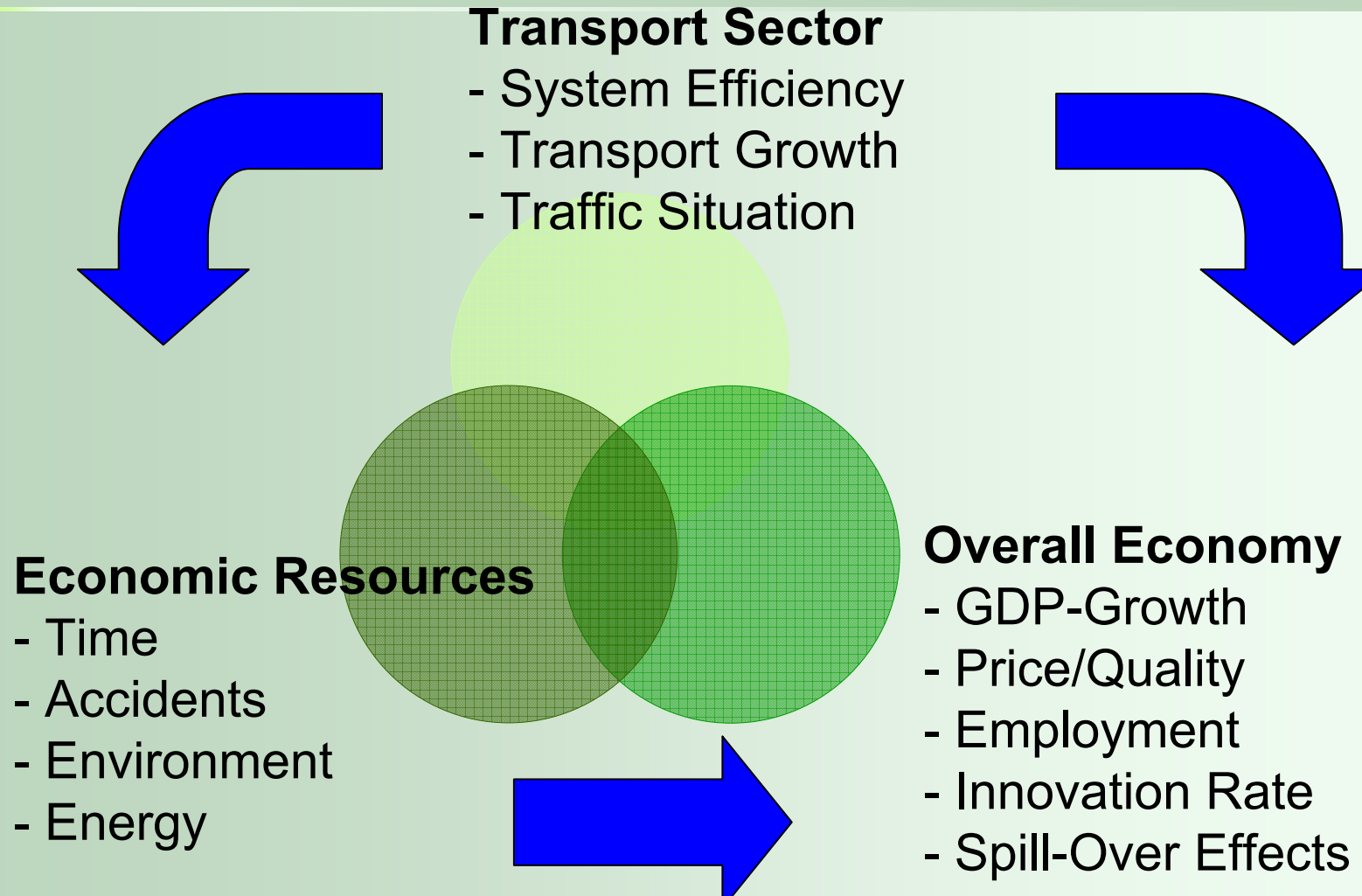
Organization : Fresenius-University / University of Cologne

Country : Germany

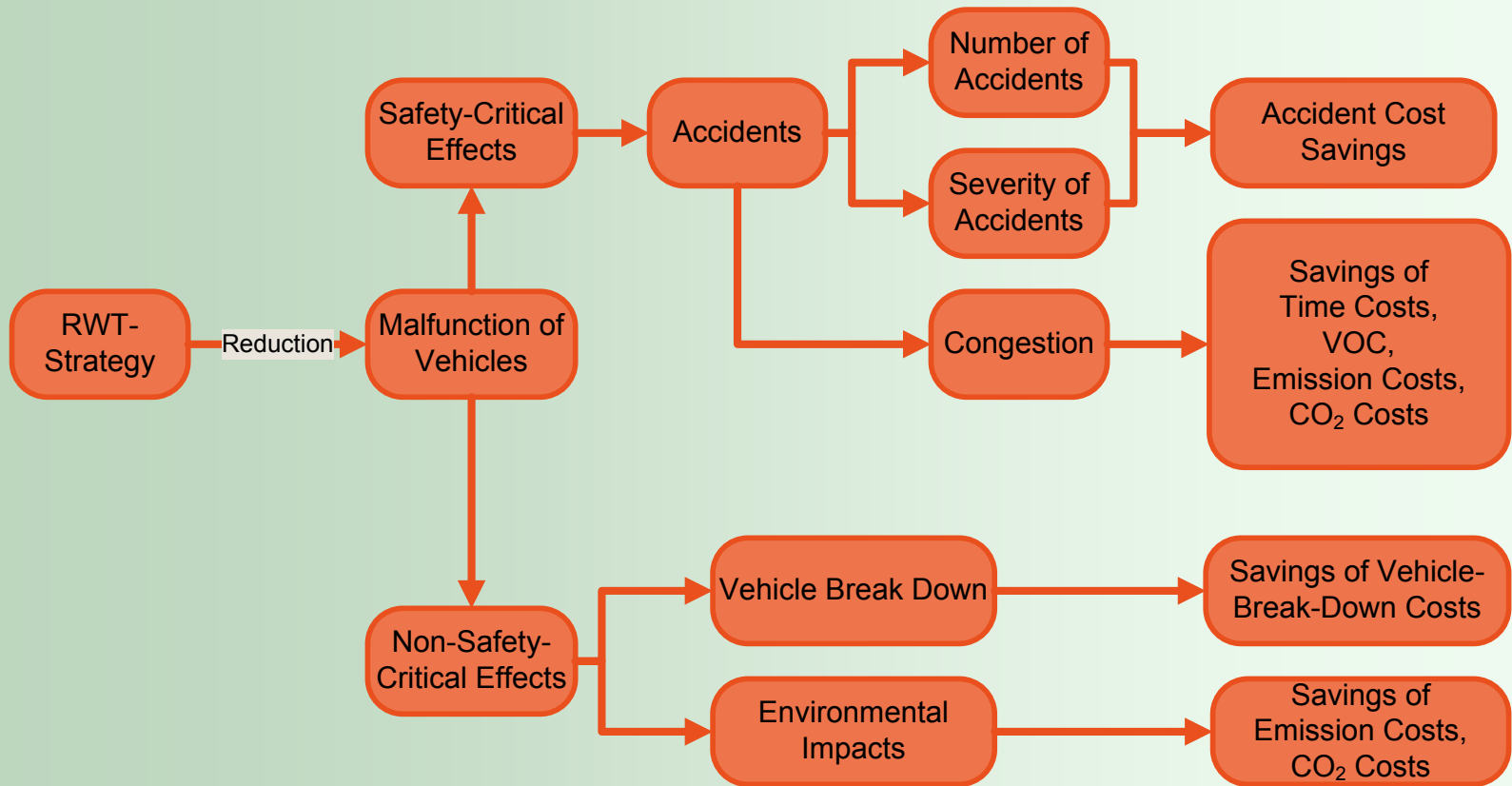
# Content

- Socio-Economic Evaluation – Why?
- Methodological Approach
- Empirical Findings
- Perspectives for Economic Evaluation

# Socio-Economic Impact



# Traffic Effects of Vehicle-Inspection



# Public Interests in RWT

- Different public goals
  - Improve road safety
  - Increase transport efficiency
  - Reduction of environmental impacts
  - Generate economic benefits
- Road accidents as a source of economic losses
  - About 150 bill. EUR in Europe
- Discrepancies in the incidence of costs and benefits
  - Market failure and weakness of the market

# European Economic Research Approach – Automotive Industry

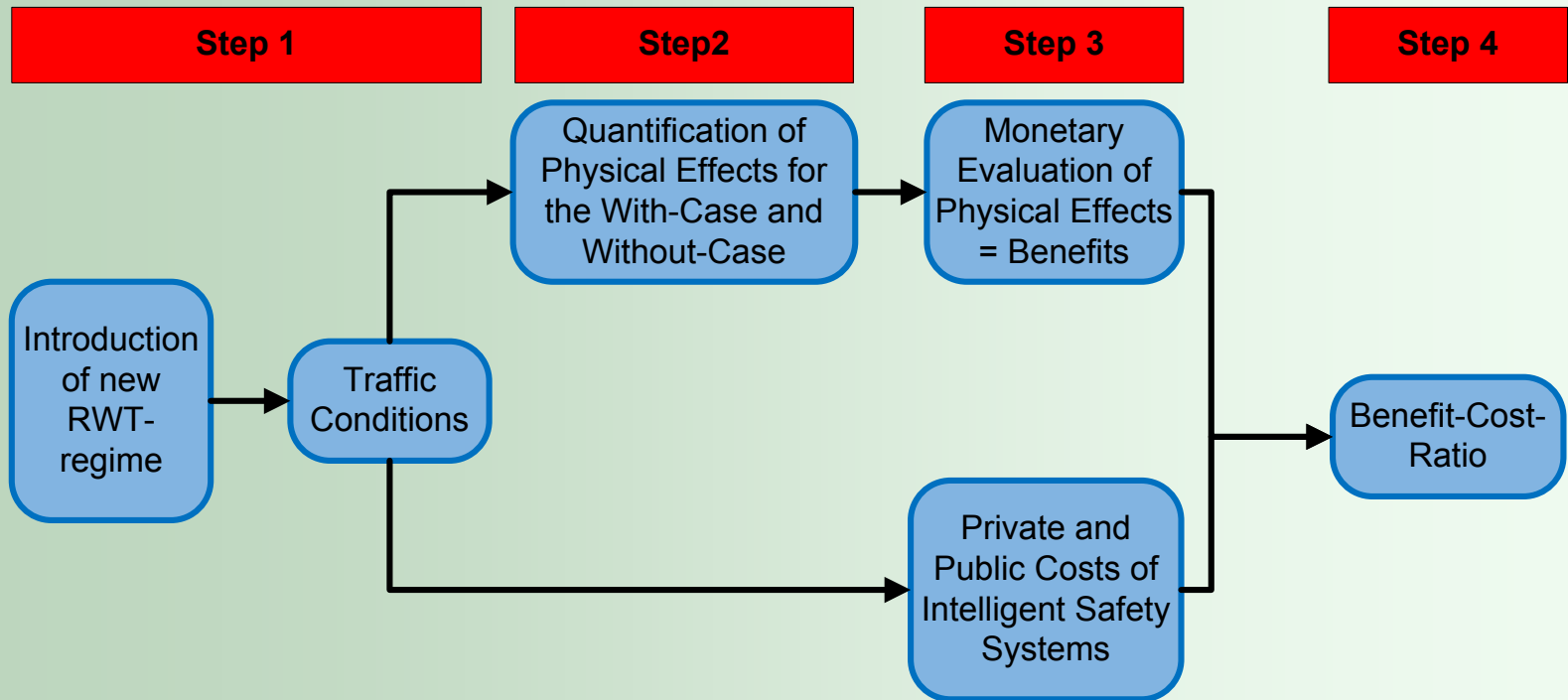
Projects	Partners	Research Focus of IfV	Results
CHAUFFEUR	Vehicle Manufacturers, Automobile Suppliers, Traffic Consultants...	Socio-Economic Impact Assessment	CBA for Tow-Bar (electronic coupling of trucks), Germany
CHAUFFEUR II		Socio-Economic Impact Assessment	CBA and BEA for CHAUFFEUR Assistant (enhanced ACC plus lane keeping), Germany
CARTALK 2000		Socio-Economic Impact Assessment	CBA and BEA for Inter-Vehicle Communication Systems (Basic Warning Functions, Early Braking) Wider econ. Impacts, EU-15
RESPONSE II	Vehicle Manufacturers, Automobile Suppliers, Lawyers, Insurance Comp....	Assessment Methodology	Methodological Framework for Socio-Economic Impact Assessment, EU-15
ROSEBUD	National Traffic Safety Institutions	Assessment Methodology	Methodological Framework, Proposal for Deployment of Methods, Europe

# Autofore

## – Economic Evaluation Approach

- Autofore overcomes empirical and methodological deficits
- Autofore-results will be politically accepted
- Empirical identification of RWT-impacts
  - Safety Effects
  - Traffic Effects
  - Environmental Effects
- Analytical framework for RWT-options
- Cost-benefit analysis
- Re-allocation of benefits to stakeholders

# Cost-Benefit Analysis



# Selected Options for Changes of Vehicle-Inspection Regime

- Annual inspection of passenger cars
- Increased roadside inspections of trucks
- Additional inspection of new electronical vehicle-components
- Introduction of inspection regime for powered-two-wheelers

# Cost-Benefit Results for Annual Inspection of Passenger Cars

Annual Inspections starting with vehicles aged 5 Years and more

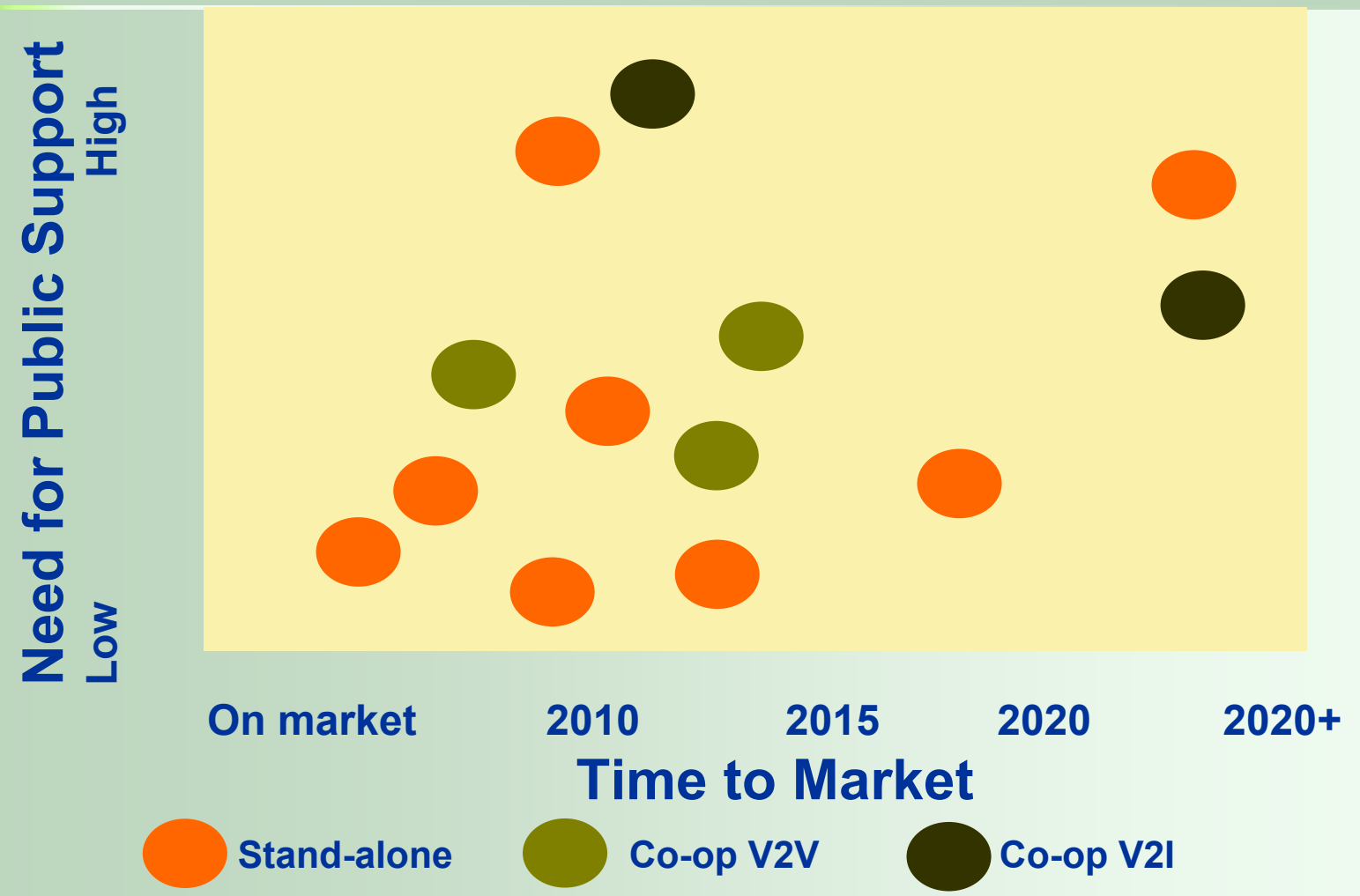
Assumptions:

Share of Accidents caused by technical defects: 2.5% Minimum Case  
9.1% Maximum Case

Share of Avoidable Accidents: 60%

	Minimum Case	Maximum Case
Benefits	1980 Mill. Euro	7288 Mill. Euro
Costs	2232 Mill. Euro	2232 Mill. Euro
Benefit-Cost Ratio	0,9	3,3

# Necessity of Inspection of Electronical Vehicle-Components



Empirical Findings

# Perspectives for Economic Evaluation

- Re-allocation of benefits
- Identification of private costs
- Stakeholder-analyses
  - Users
    - private costs (inspection fees & repair costs) vs private benefits (consumer surplus & lower accident risk)
  - RWT-Institutions
    - Revenues vs private costs of inspection
  - Insurances
    - Reduction of accidents vs reduction of premiums
  - Public Authorities
    - Social benefits vs public costs

# THANK YOU

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