Final Conference

eIMPACT

Accident Data Compilation - Challenges and Solutions

Susanne Schoenebeck
Bundesanstalt fuer Strassenwesen (BASt)

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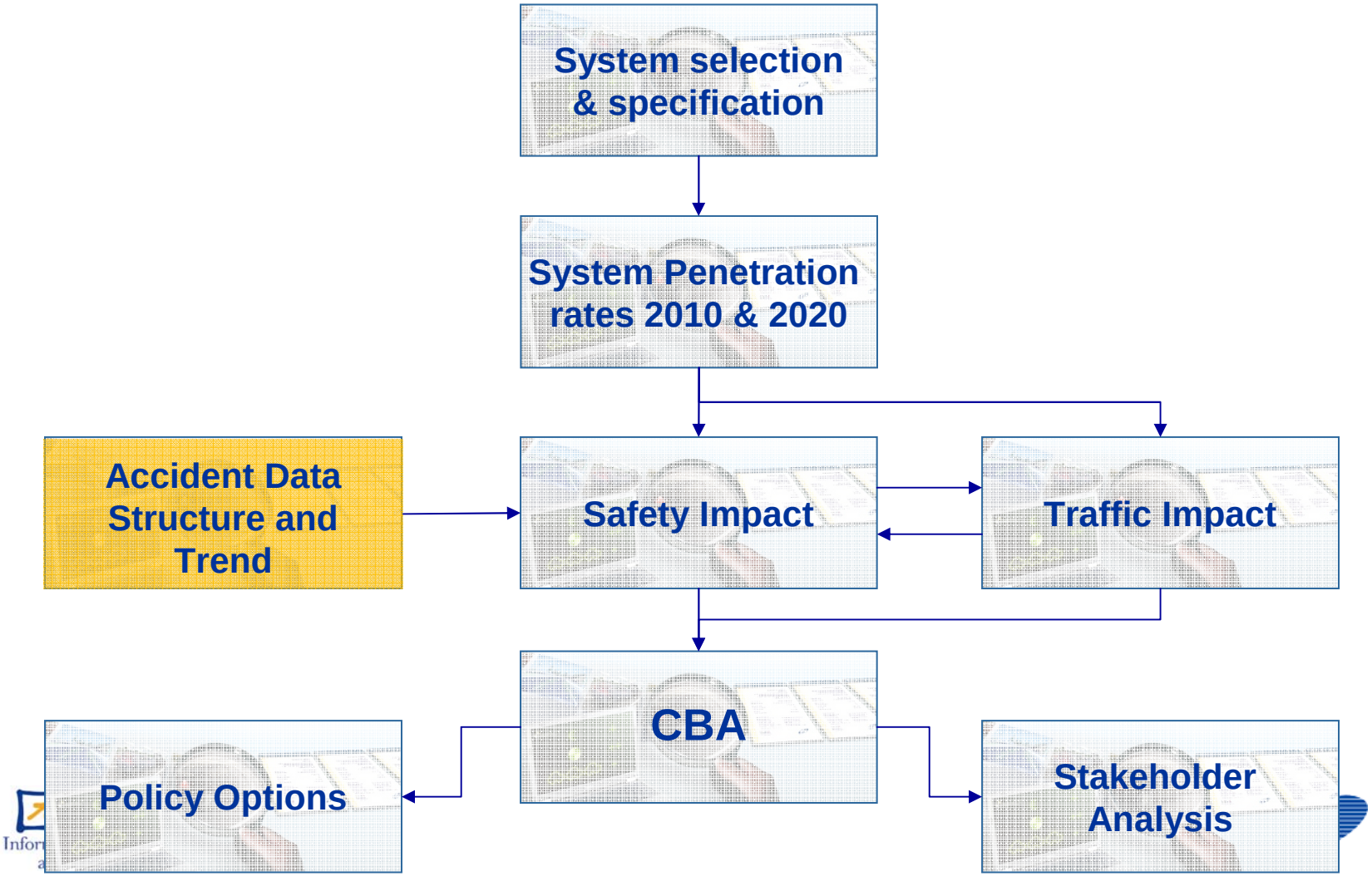
Accident Data Structure and Trend in eIMPACT



Accident Data – The Challenges

Challenges

- Provision of data on accidents / casualties for safety impact analysis
  - measures: injury accidents, fatalities, severe injuries, slight injuries
  - variables: collision type, place, weather, light, junction

- Safety performance prediction for EU-25 (years 2010, 2020)
  - measure: fatalities

Accident Data – The Challenges

Challenges

- Provision of data on accidents / casualties for safety impact analysis
  - measures: injury accidents, fatalities, severe injuries, slight injuries
  - variables: collision type, place, weather, light, junction

BUT: Limited provision of desired data by the CARE database

- database limited to EU-14 (EU-15 excluding Germany) plus Estonia, Hungary and Poland
- not all variables included in CARE (e.g. collision type variable)
- completeness of data not given for every country included in CARE

- Safety performance prediction for EU-25 (years 2010, 2020)
  - measure: fatalities

BUT: Up-to-date forecast of accidents/casualties not available

Accident Data – The Solution

Solutions

- Provision of data on accidents / casualties for safety impact analysis

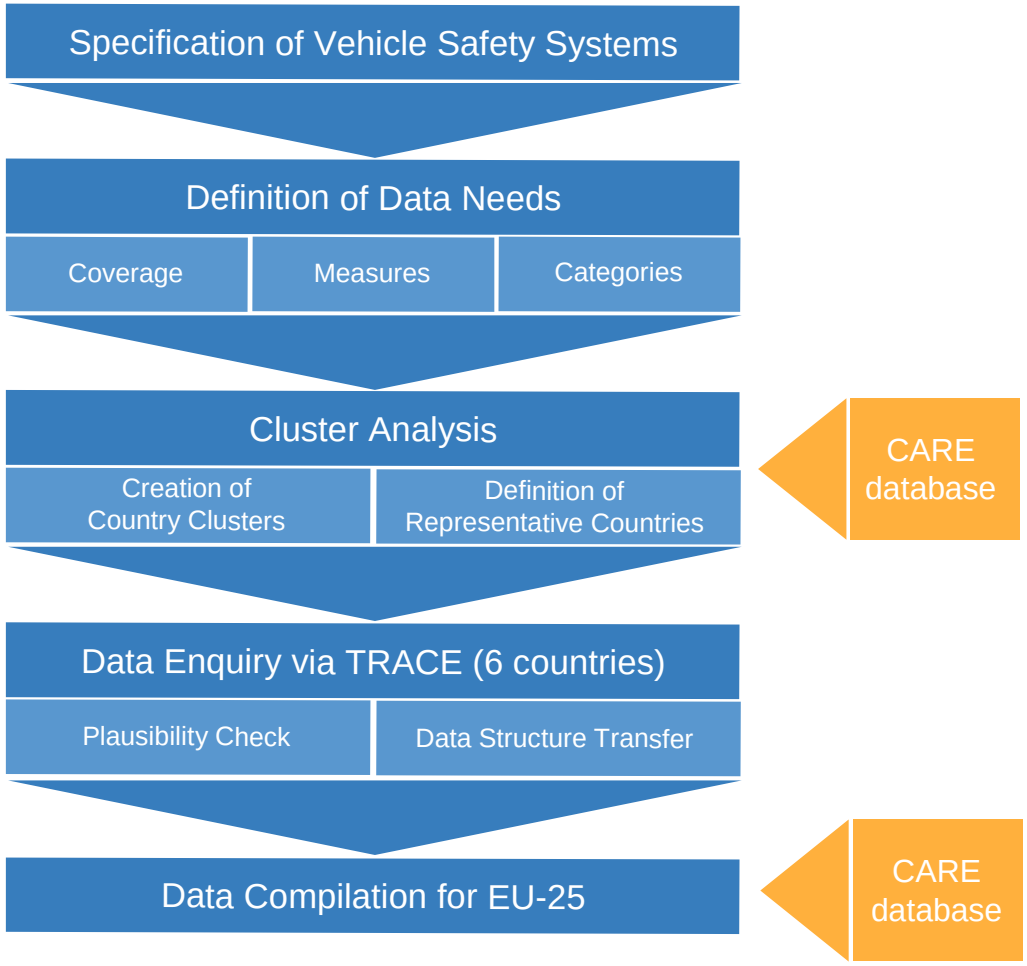
  ⇒ National enquiry via TRACE (Loughborough University)
  - All desired variables included
  - Information on EU-25 as a whole
  - Efficiency of enquiry

- Safety performance prediction for EU-25 (years 2010, 2020)

  ⇒ Trend extrapolation based on exponential regression for road safety performance indicators
  - Prediction of total number of fatalities in the EU-25

Accident Data – The Solution

Provision of data for safety impact analysis



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eIMPACT
Assessing the Impacts of
Intelligent Vehicle Safety Systems

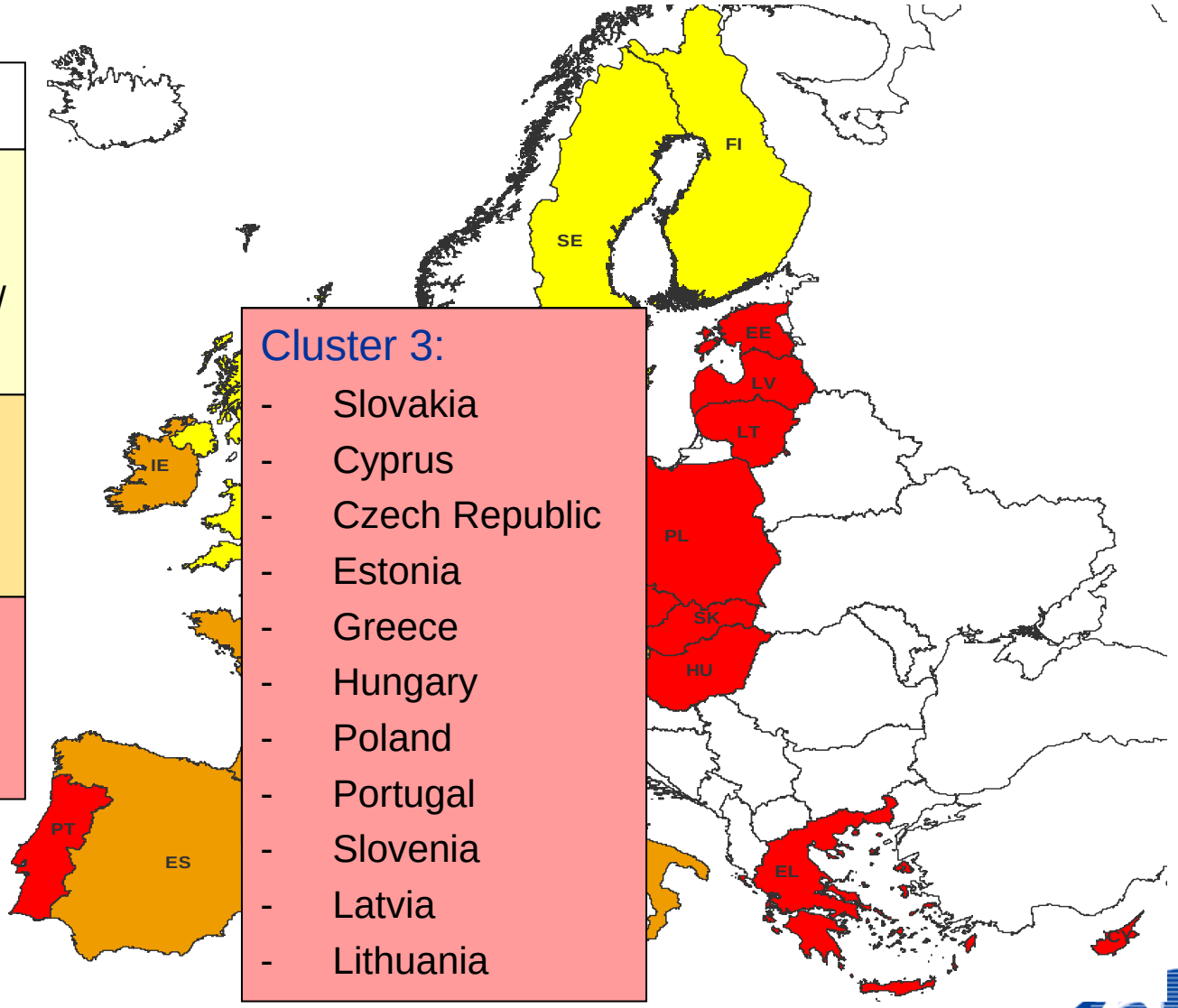
Accident Data – “Country Clusters“

Representatives

Cluster 1:
- Germany
- United Kingdom / Great Britain

Cluster 2:
- France
- Spain

Cluster 3:
- Czech Republic
- Greece



Cluster 3:
- Slovakia
- Cyprus
- Czech Republic
- Estonia
- Greece
- Hungary
- Poland
- Portugal
- Slovenia
- Latvia
- Lithuania

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Accident Data – National data enquiry

Collision type

1. Single vehicle accident: c
2. Single vehicle accident: c … e road)
3. Other single vehicle acci … her single vehicle accidents
4. Accidents with two vehicles without pedestrians: frontal co
5. Accidents with two vehicles without pedestrians: side-by-side collision
6. Accidents with two vehicles without pedestrians: angle collision
7. Accidents with two vehicles without pedestrians: rear collision
8. Other accidents with two vehicles

Pla

- M
- O
- In
- U

Weathe

- Normal
- Bad
- Unknown or other

Light

- Daylight
- Darkne

Ju

- N
- At
- U

Measures

- Injury Accidents
- Fatalities
- Injuries
  - Seriously injured
  - Slightly injured

Collision type	Place	Weather	Light	Junction	Number of Injury Accidents	Fatalities	Injuries	of which seriously injured	of which slightly injured
	area, no motorway	Bad	Darkness	No junction					
				At junction					
				Unknown					
		Unknown or other	Daylight or twilight or unknown	No junction					
				At junction	252	19	273	94	179
				Unknown	612	32	658	188	470
			Darkness	No junction					
				At junction	36	4	34	12	22
				Unknown	87	4	90	31	59
	Unknown	Normal	Daylight or twilight or unknown	No junction					
				At junction					
				Unknown					
			Darkness	No junction					
				At junction					
				Unknown					
		Bad	Daylight or twilight or unknown	No junction					
				At junction					
				Unknown					
			Darkness	No junction					
				At junction					
				Unknown					
		Unknown or other	Daylight or twilight or unknown	No junction					
				At junction					
				Unknown					
			Darkness	No junction					
				At junction					
				Unknown					

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Accident Data – The Results

Scaled-up results of data enquiry (EU-25, year 2005)

	Injury accidents	Fatalities	Seriously injured	Slightly injured
Collision type				
Collision on the road with pedestrian	11%	13%	13%	8%
Collision on the road with all other obstacles	6%	7%	6%	6%
Collision besides the road with pedestrian or obstacle or other single vehicle accidents	13%	22%	16%	11%
Frontal collision	8%	18%	14%	9%
Side-by-side collision	5%	2%	3%	5%
Angle collision	25%	15%	22%	26%
Rear collision	13%	5%	6%	14%
Other accidents with two vehicles	6%	3%	4%	6%
All other collisions	13%	14%	15%	14%
Road type				
Urban roads (no motorway)	66%	32%	51%	64%
Motorway	5%	7%		
Rural roads (no motorway)	29%	61%	4	
Weather				
Adverse	13%	13%	1	
Normal	87%	87%	8	
Light conditions				
Darkness	26%	39%	3	
Daylight or twilight or unknown	74%	61%	7	
Location				
At intersection	50%	23%	3	
No intersection	50%	77%	62%	48%
Totals				
"eIMPACT-relevant"	1,127,058	36,069	282,128	1,206,847
Total	1,279,554	41,304	323,458	1,381,645
Share of "eIMPACT-relevant"	88%	87%	87%	87%

Share of "eIMPACT-relevant" number of fatalities: 87.3 %

Total number of fatalities (EU-25): 41,304

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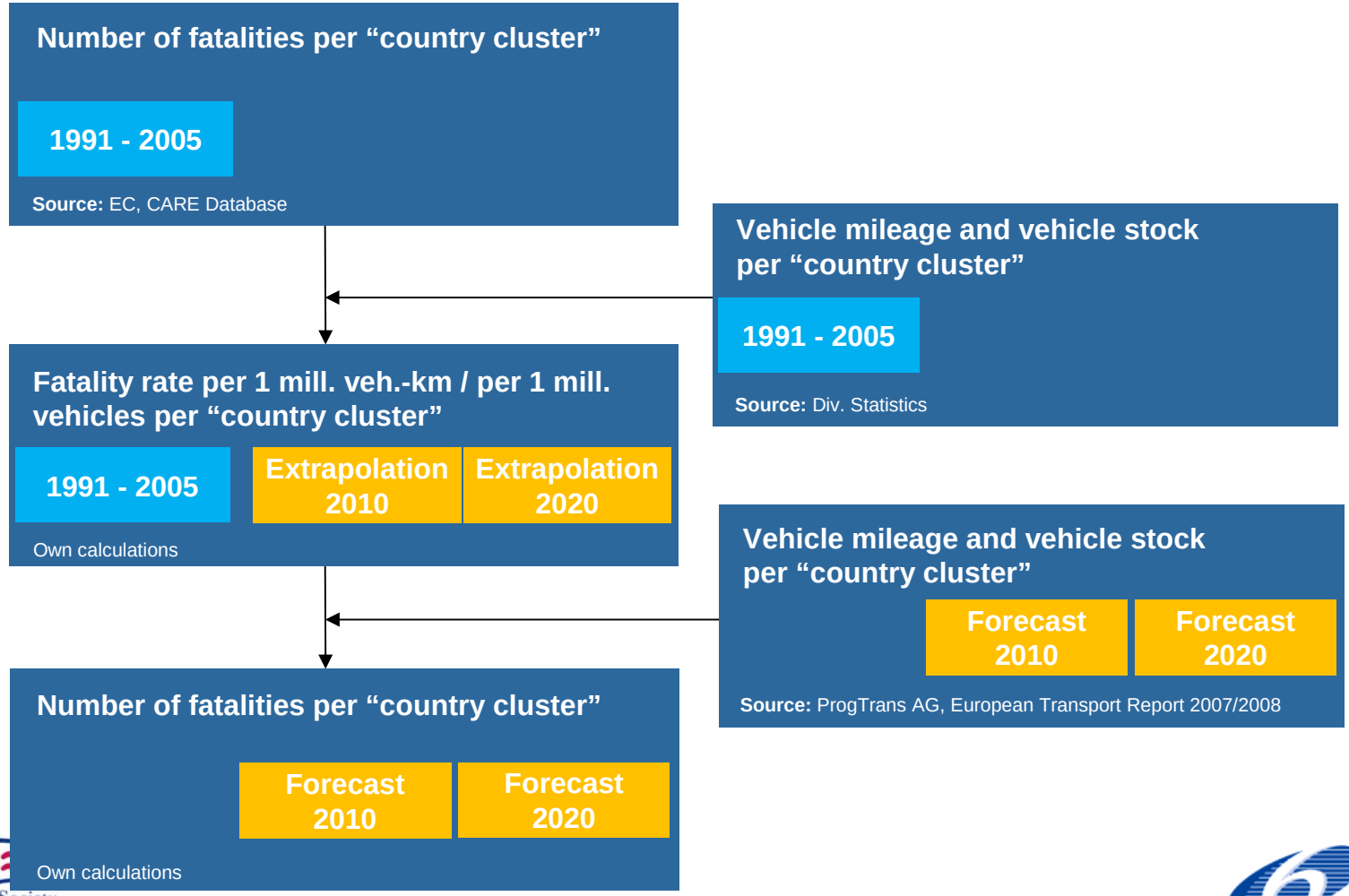
Safety performance prediction – The Solution

Safety performance prediction



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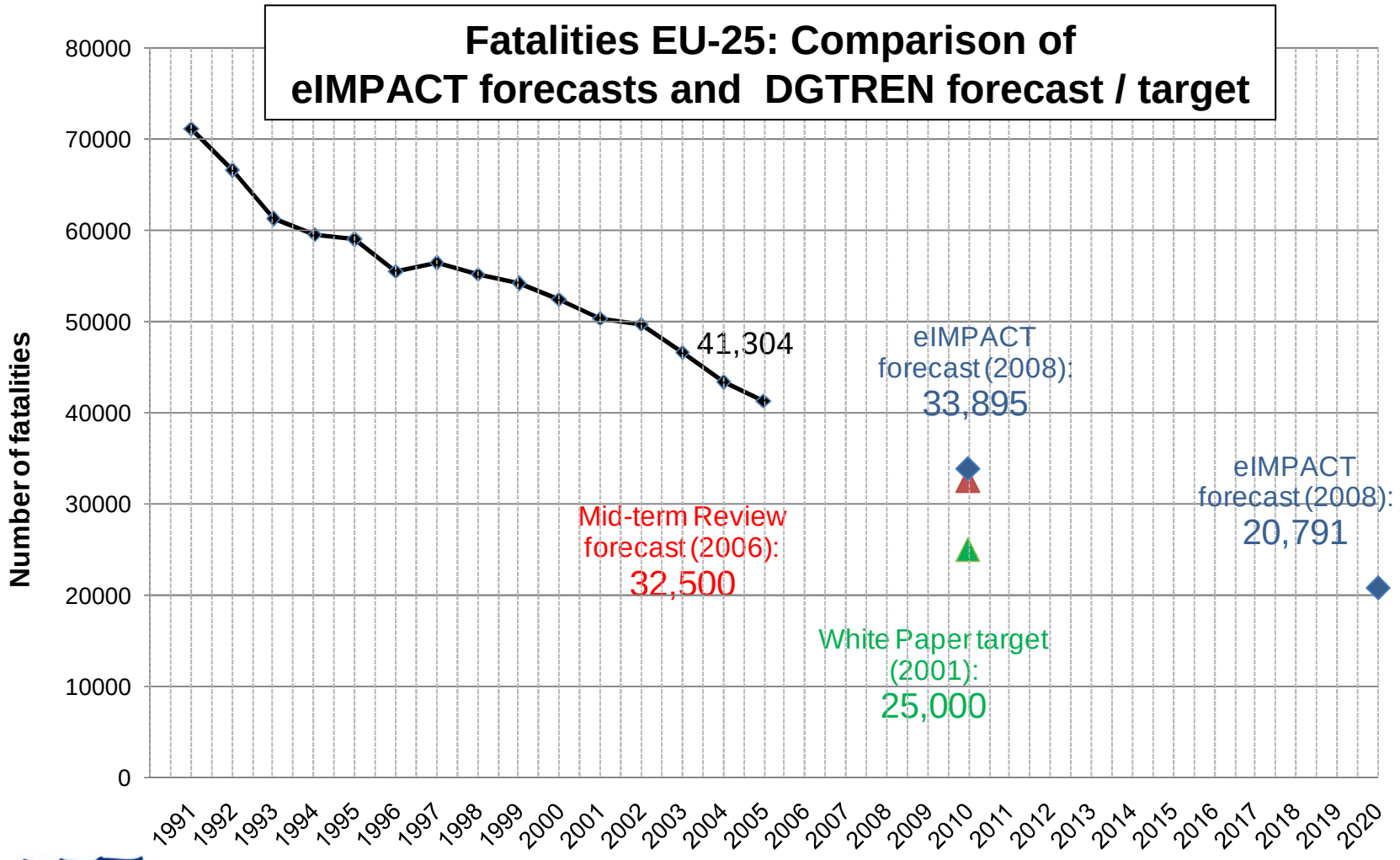
Safety performance prediction – The Results



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For further information: www.eimpact.eu

schoenebeck@bast.de

Deliverable D4:

Impact Assessment of Intelligent Vehicle Safety Systems

(WP3300)