

Methodology for Cost-benefit analysis

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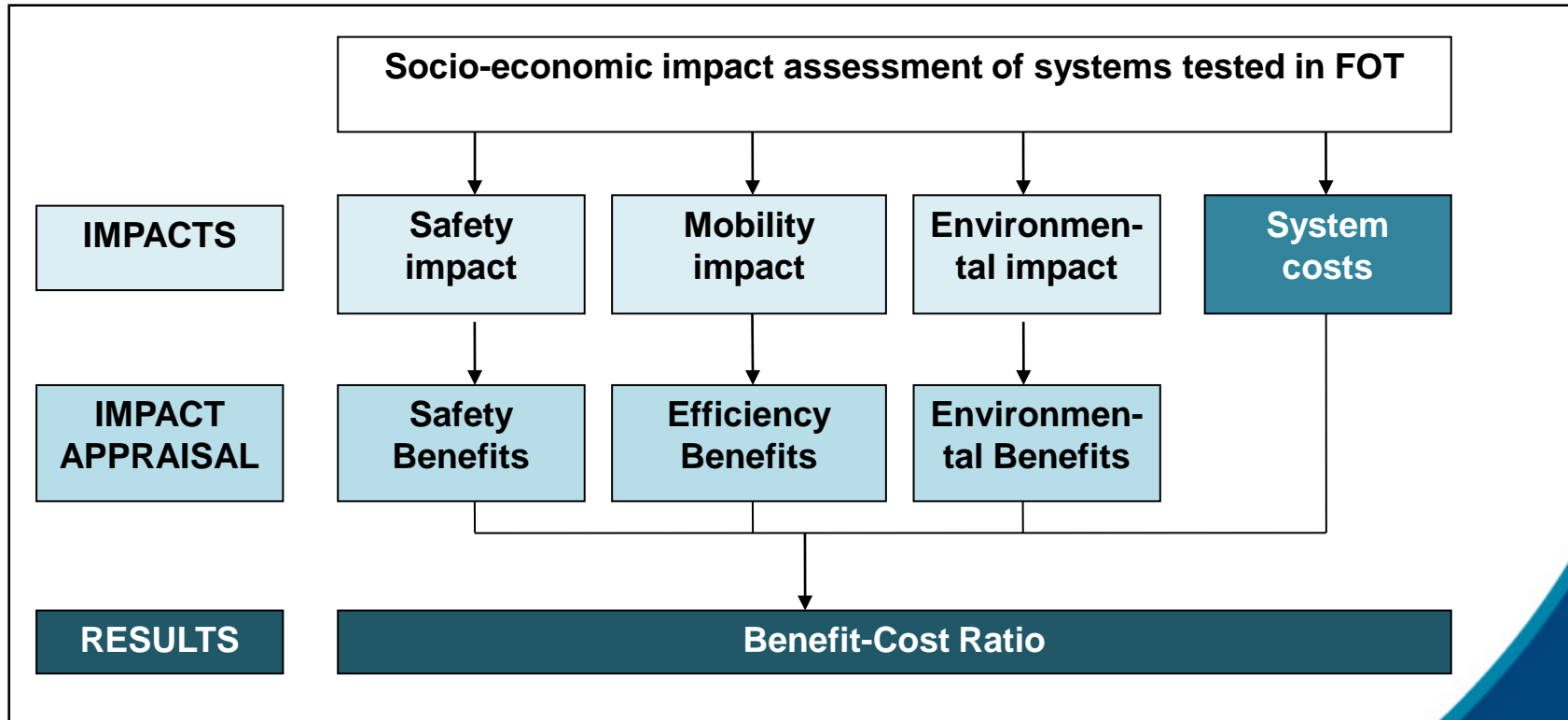


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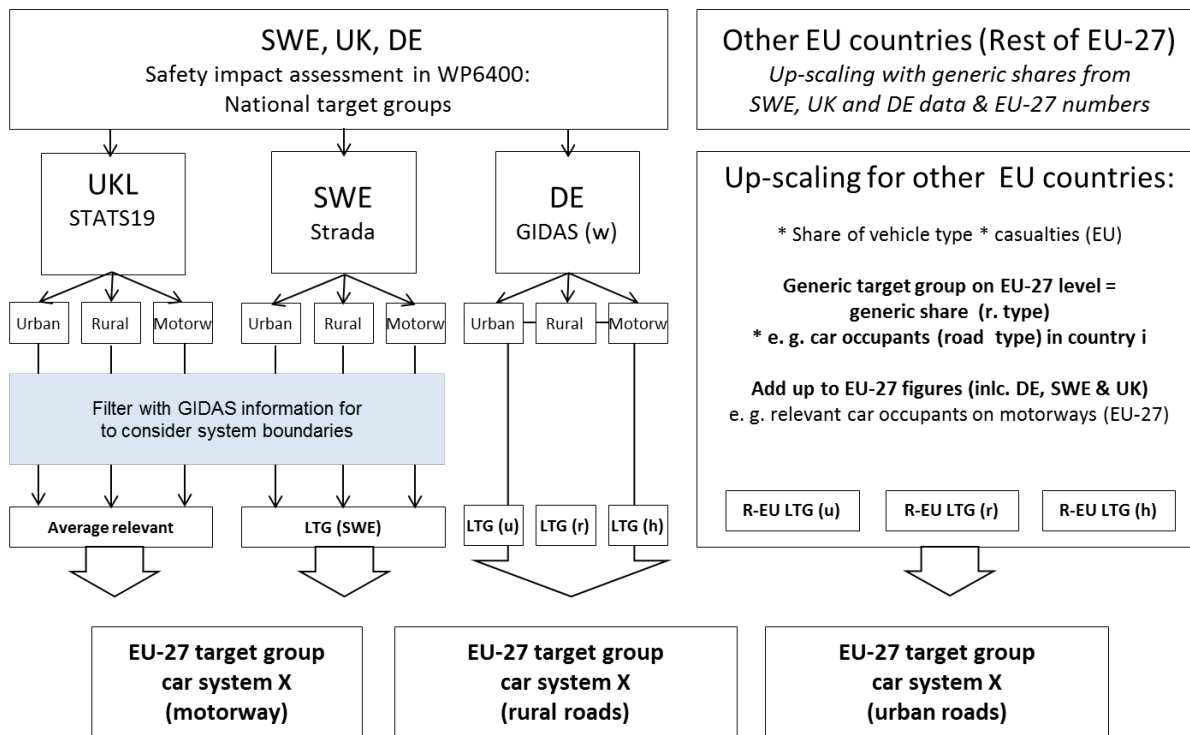
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Bringing intelligent vehicles to the road

Cost-benefit assessment design – Making use of FESTA



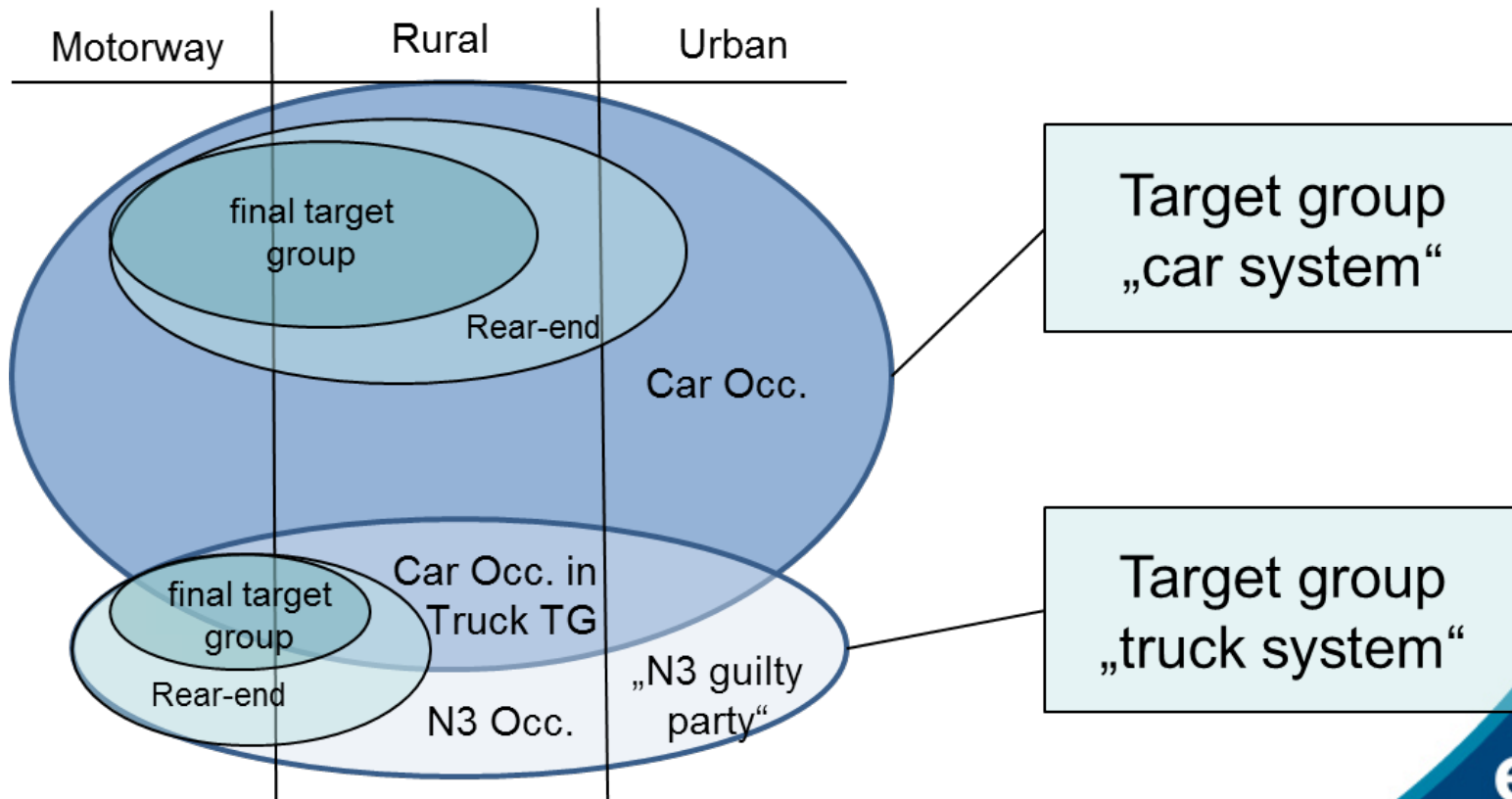
A solid micro fundament for macro level impacts – In-depth databases



Up-scaling is a big challenge in itself!

Major Goal:
Keep the added value of measured impacts

The added value in identifying Likely Target Groups (Ex: ACC+FCW)



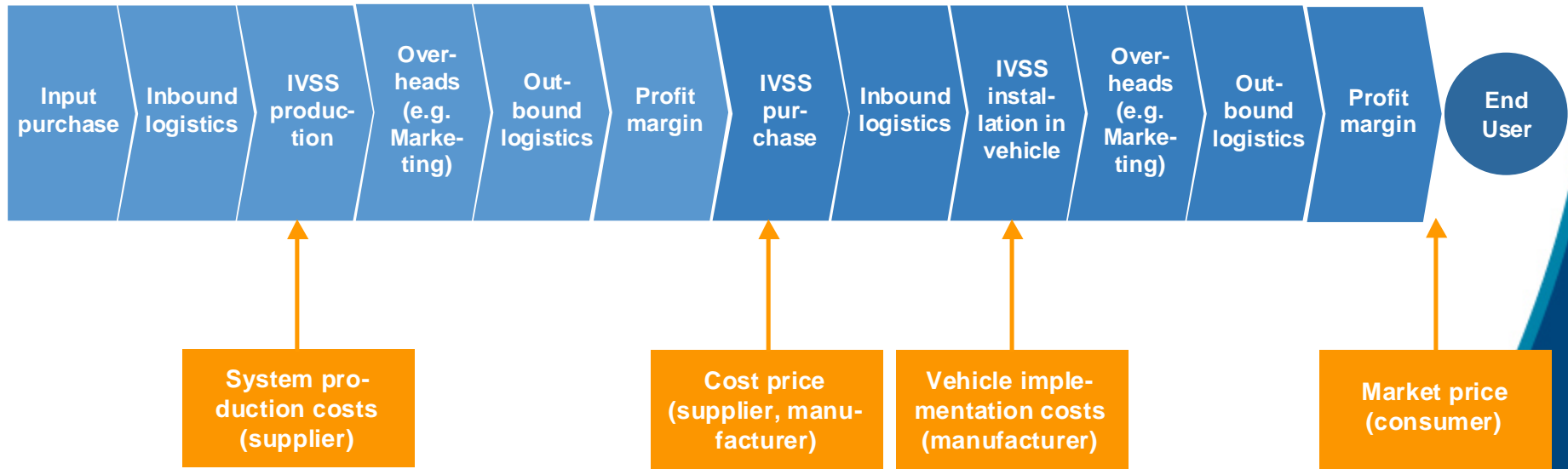
Impact appraisal – Applied Cost-unit rates

Impact	Cost-unit rates (EU-27 average, 2010)
Safety	1.6 MEUR per fatality, 70,000 EUR per injury
Traffic (Indirect)	15,500 EUR per fatal accident, 5,000 EUR per injury accident
Traffic (Direct)	20 EUR per h private use (working/non-working time), 30 EUR per h commercial use
Fuel consumption (net costs, i.e. without taxes)	0.75 EUR per l Gasoline 0.75 EUR per l Diesel
Environment	70 EUR per t CO2

Assessment of system costs – From market prices to costs

Automotive supplier

Automobile manufacturer



Results of the Cost-Benefit Analysis

ACC + FCW	Cars		Heavy Goods Vehicles	
	Lower bound	Upper bound	Lower bound	Upper bound
in MEUR, EU-27, per year				
Safety	460	805	22	59
Traffic Efficiency	286	301	71	72
Environment	84	84	16	16
Total Benefits	830	1,190	109	147
Costs	1,624	1,624	28	28
Benefit-Cost Ratio	0.5	0.7	3.9	5.2

For interpretation keep in mind:

- Effects for full penetration
 - Mileage of HGV substantially higher than for cars
 - Usage rate about 50%
- Cost-benefit analysis

Conclusions

Main achievements

- Cost-benefit analysis performed based on impacts proven in the field
- Better micro-foundation of macro-style impacts
- FESTA methodology was found to be applicable

Main challenges

- Performance restrictions in impact assessment limit applicability of the cost-benefit analysis
- Granularity of available information for upscaling (averages vs. distributions)
- Keep the value added of measured impacts

Methodology for Cost-benefit analysis

8 Functionalities, 28 Partners, 1000 Vehicles

1 Field Operational Test, 8 Functionalities

28 Partners, 1000 Vehicles, 1 Field Operational Test

8 Functionalities, 28 Partners, 1000 Vehicles

1 Field Operational Test, 8 Functionalities

28 Partners, 1000 Vehicles, 1 Field Operational Test

8 Functionalities, 28 Partners, 1000 Vehicles

1 Field Operational Test

