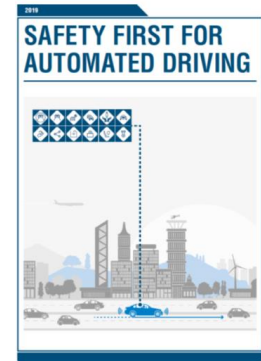


The need of a GE.3-model of a safe use of automated vehicles in traffic to support drafting a new legal instrument

Hans-Yngve Berg, Associated Professor

”...safety focuses on the proper functioning of a system..”

In ”Safety first for automated driving (2019) ” p.21



<https://www.daimler.com/documents/innovation/other/safety-first-for-automated-driving.pdf>

Examples among many others....

GDE-model (Goals for Driver Education)

(Hatakka, Keskinen, Glad, Gregersen, Hernetkoski, 2002)

	Knowledge and skills	Risk-increasing factors	Selfevaluation
Goals for life, skills for living (general)	Lifestyle, age, group norms, motives, self-control, personal values	Sensation seeking Group norms Complying to social pressure Use of alcohol	Risky tendencies Personal skills for impulse control Safety negative motives
Goals and context of driving (trip related)	Modal choice Choice of time Trip goals Social pressure	Alcohol, fatigue Purpose of driving Rush hours Extra motives: competing	Planning skills Typical goals Typical risky motives
Mastery of traffic situations	Traffic rules Observation Driving path Communication	Disobeying rules Information overload Unsuitable speed	Awareness of personal strengths and weaknesses
Vehicle manoeuvring	Control of direction, position Tyre grip Physical laws	Unsuitable speed Insufficient automation Difficult conditions	Strong and weak points of basic manoeuvring

4) Hatakka, M., Keskinen, E., Gregersen, N. P., & Glad, A. (1999). Theories and aims of educational and training measures. (Bfu Report No. 40). In S. Siegrist (Ed.), Driver training, testing and Licensing - Towards theory-based management of young drivers' injury risk in road traffic. Results of EU-Project GADGET, Work Package 3.

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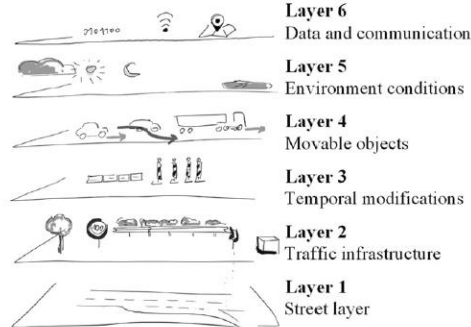


Figure 1. Six-layer model for scenarios (Bock et al. 2018) (reprinted with permission).

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A framework for definition of logical scenarios for safety assurance of automated driving

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Calibration of skill and judgment in driving: Development of a conceptual framework and the implications for road safety

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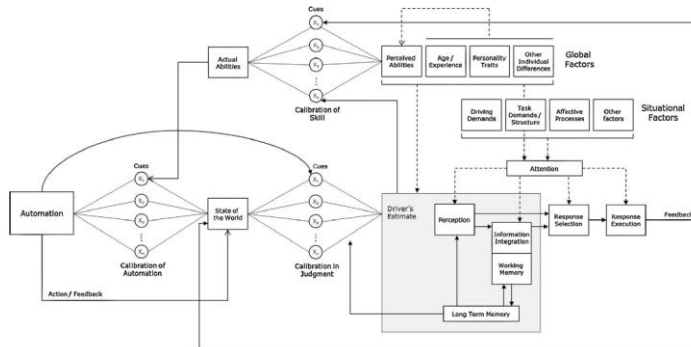


Fig. 3. Framework for examining calibration in driving, expanded to show the role and influence of automation (on the left hand side of the figure).

2019

SAFETY FIRST FOR AUTOMATED DRIVING

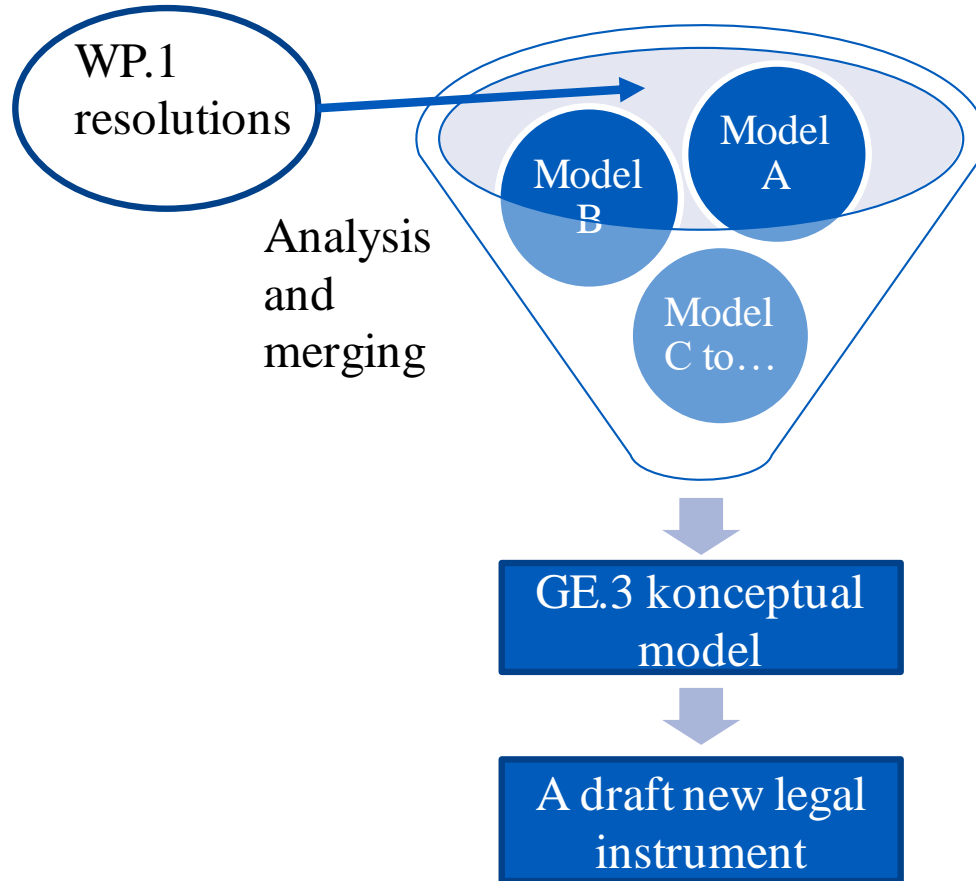
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Expressing a konceptual GE.3-model



- Quality assurance
- Effectiveness
- Efficiency
- Transparency
- Support changes over time
- Etc.