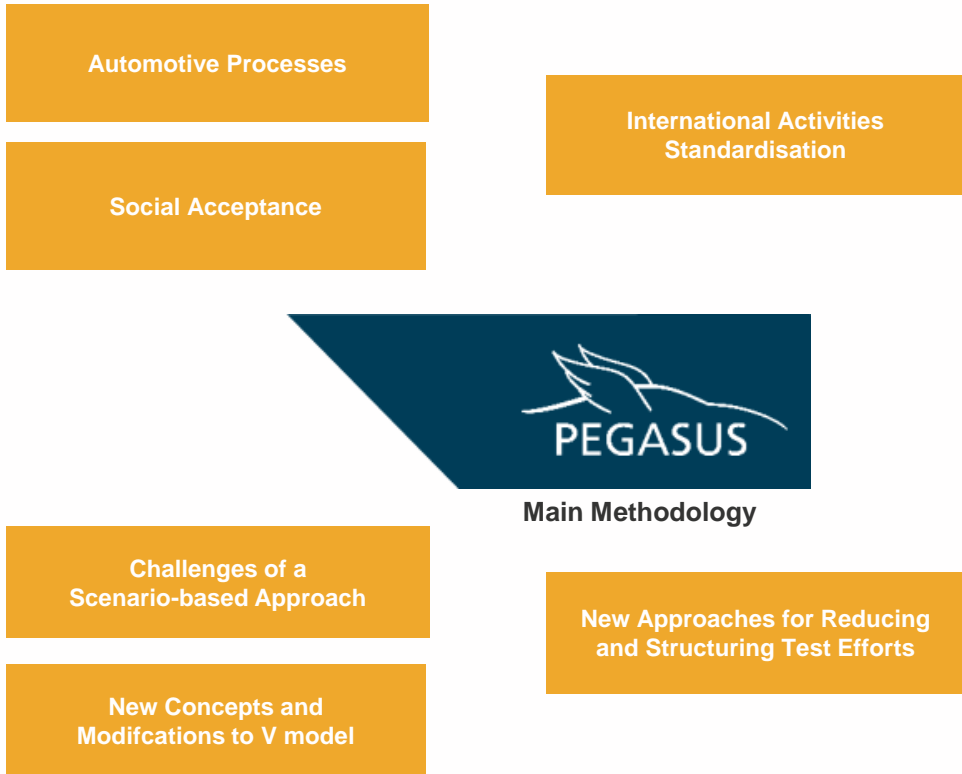


REQUIREMENTS AND CONDITIONS – Booth No. 02

FRAMEWORK FOR SAFEGUARDING



Automotive Engineering is highly Complex ...
Even more are the Challenges of Automated Driving

**PEGASUS Project is an important building block
to address the challenges and looks beyond.**



Supported by:

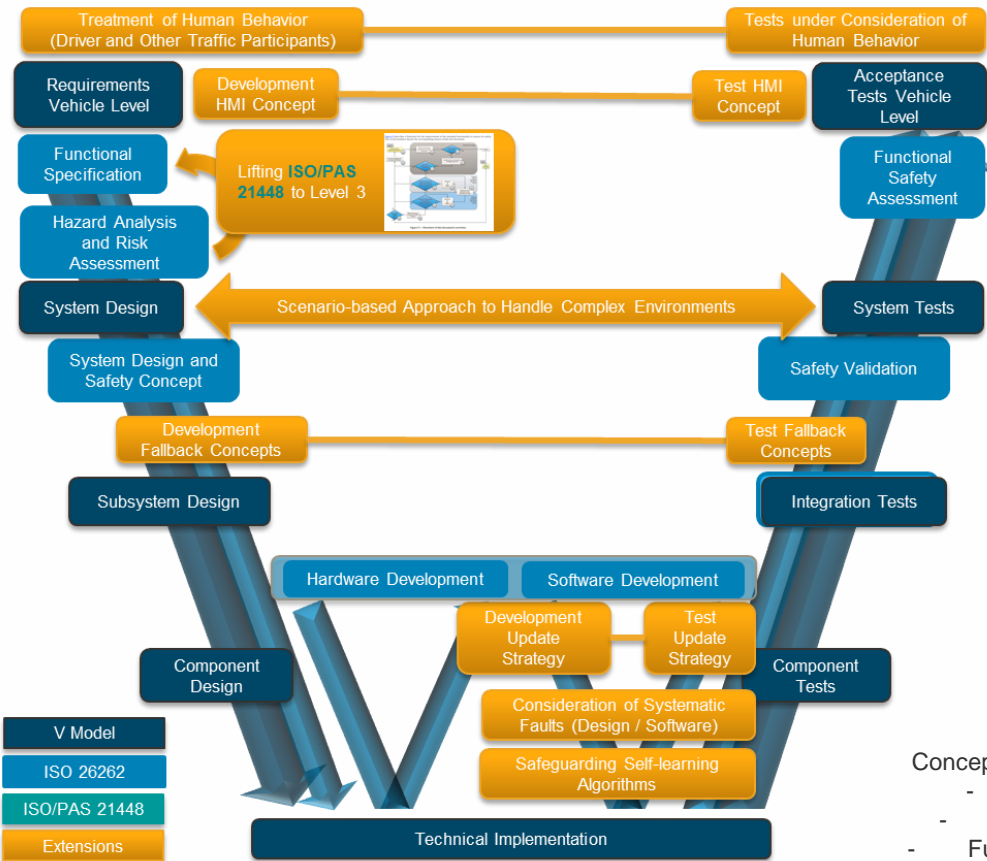


on the basis of a decision
by the German Bundestag

FRAMEWORK FOR SAFEGUARDING



Well-established Development Practises and Methodologies are already in place



- Analysis of existing processes required
- Modification needs to be identified
- Novel concepts should smoothly fit in

→ Booth 3

Supported by:



on the basis of a decision by the German Bundestag

FRAMEWORK FOR SAFEGUARDING



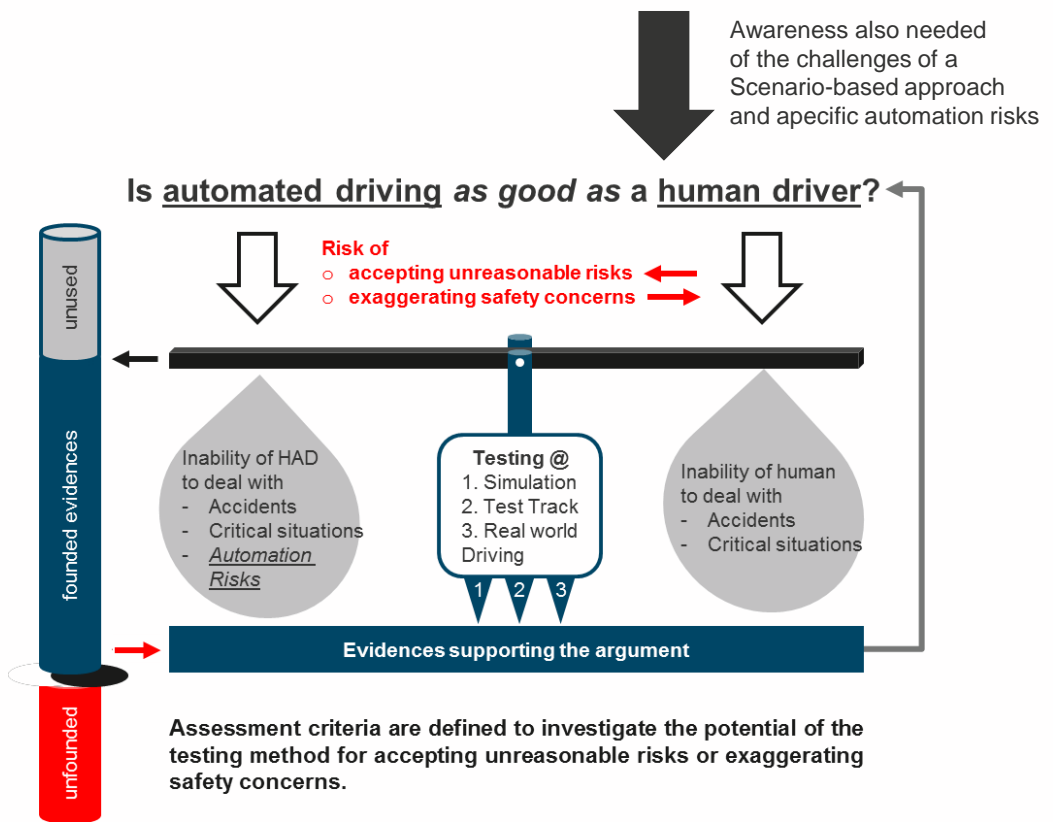
How to proceed?

Investigation of the state-of-the-art

- Awareness of challenges, awareness of complexity

Enhance and modify V model with new approaches

- Establish appropriate metrics for the application
- E.g. „Silent Testing“ attractive when performing Incremental technology development in known ODD
- E.g. Simulation-based approaches using hybrid reality



→ Booth 12



Supported by:

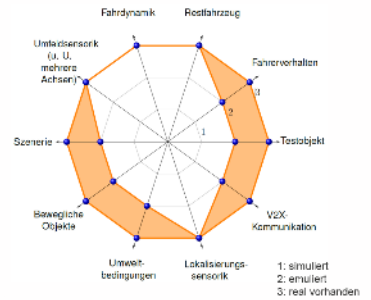
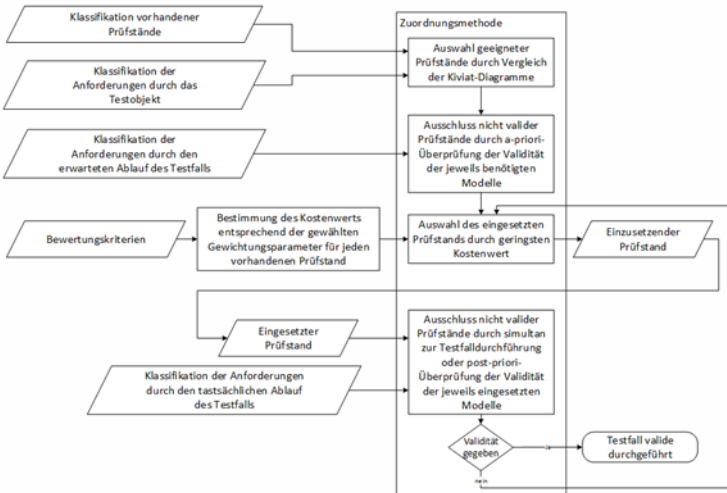


on the basis of a decision by the German Bundestag

FRAMEWORK FOR SAFEGUARDING



Structuring of decision process for the applied methodology and toolchain concept needed

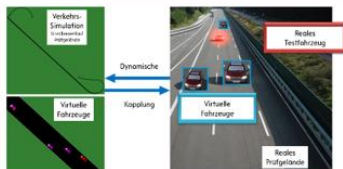


Especially when considering novel
– e.g. virtual or hybrid reality –
X-in-the-Loop approaches



Virtual ↔ Virtual

Left → „Road Infrastructure“
Right → „Vehicle“



Virtual ↔ Real

Hybrid Virtual/Real ↔ Real

→ Public Funded Projects Ko-HAF / SetLevel4to5



Supported by:

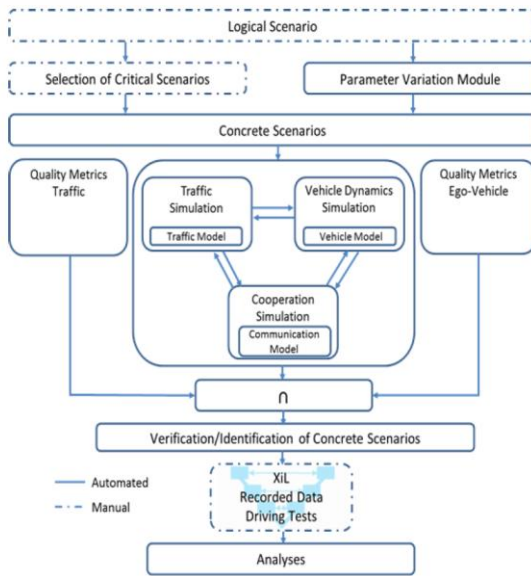


on the basis of a decision
by the German Bundestag

FRAMEWORK FOR SAFEGUARDING



Structuring of decision process for the applied Methodology and toolchain concept needed

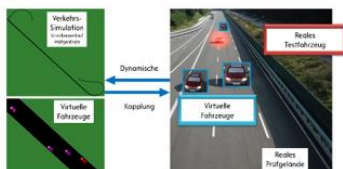


Especially when considering novel
– e.g. virtual or hybrid reality –
X-in-the-Loop approaches



Virtual ↔ Virtual

Left → „Road Infrastructure“
Right → „Vehicle“



Virtual ↔ Real

Hybrid Virtual/Real ↔ Real

→ Public Funded Projects Ko-HAF / SetLevel4to5



Supported by:



on the basis of a decision
by the German Bundestag

FRAMEWORK FOR SAFEGUARDING



Scenario-based testing big step forward compared to conventional mileage-based testing

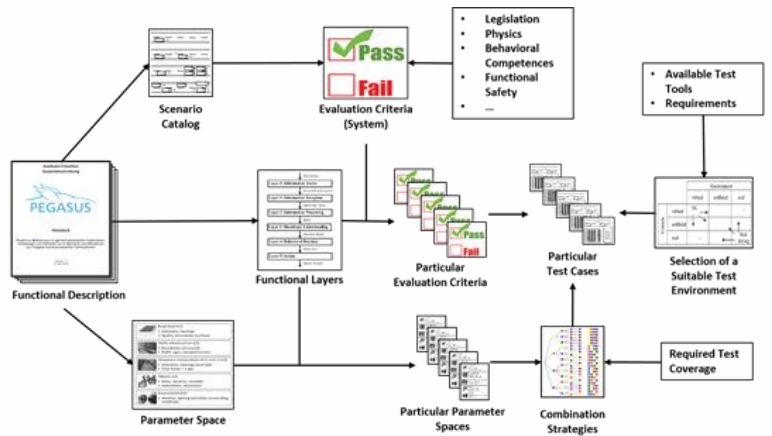
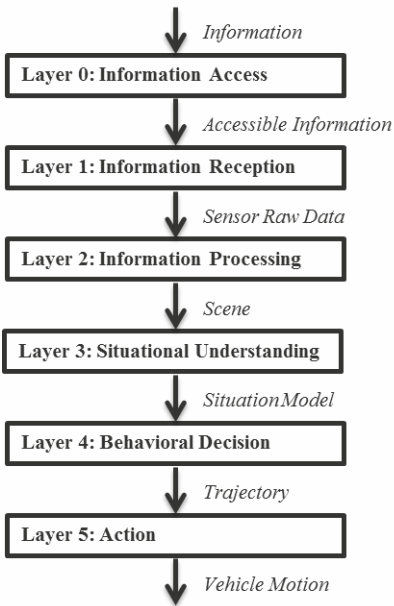


BUT: Still immense test efforts needed



Functional Decomposition proposed as a valuable tool for reducing test effort

Basic Idea: Find particular tests for independent functional layers



→ Booth 13



Supported by:



on the basis of a decision by the German Bundestag