Mid-Term Presentation 15 / 16 March 2022

International Session

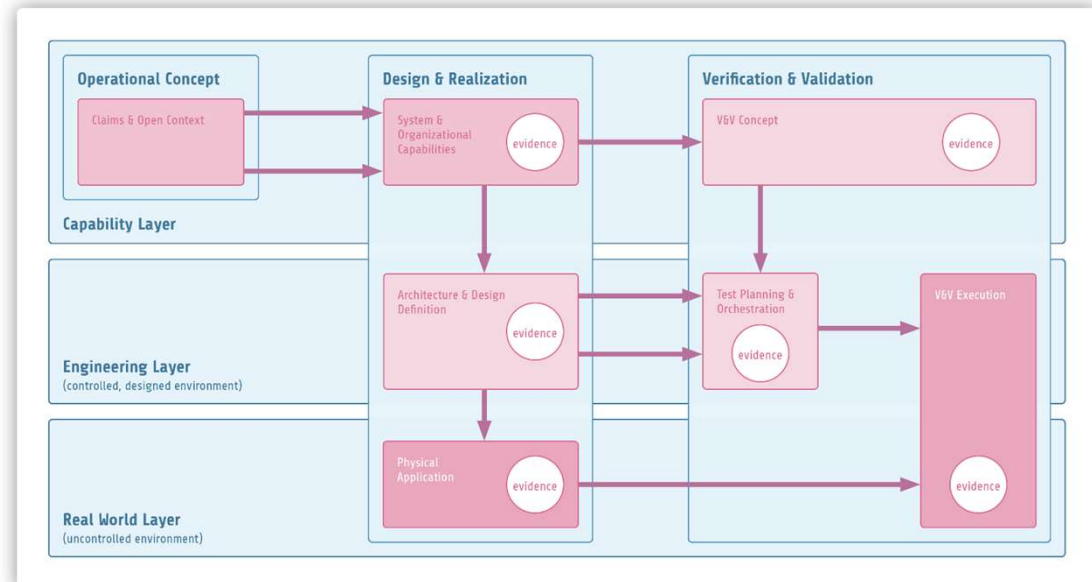Marcus Nolte, Technische Universität Braunschweig

Supported by:

Federal Ministry
for Economic Affairs
and Climate Action

on the basis of a decision
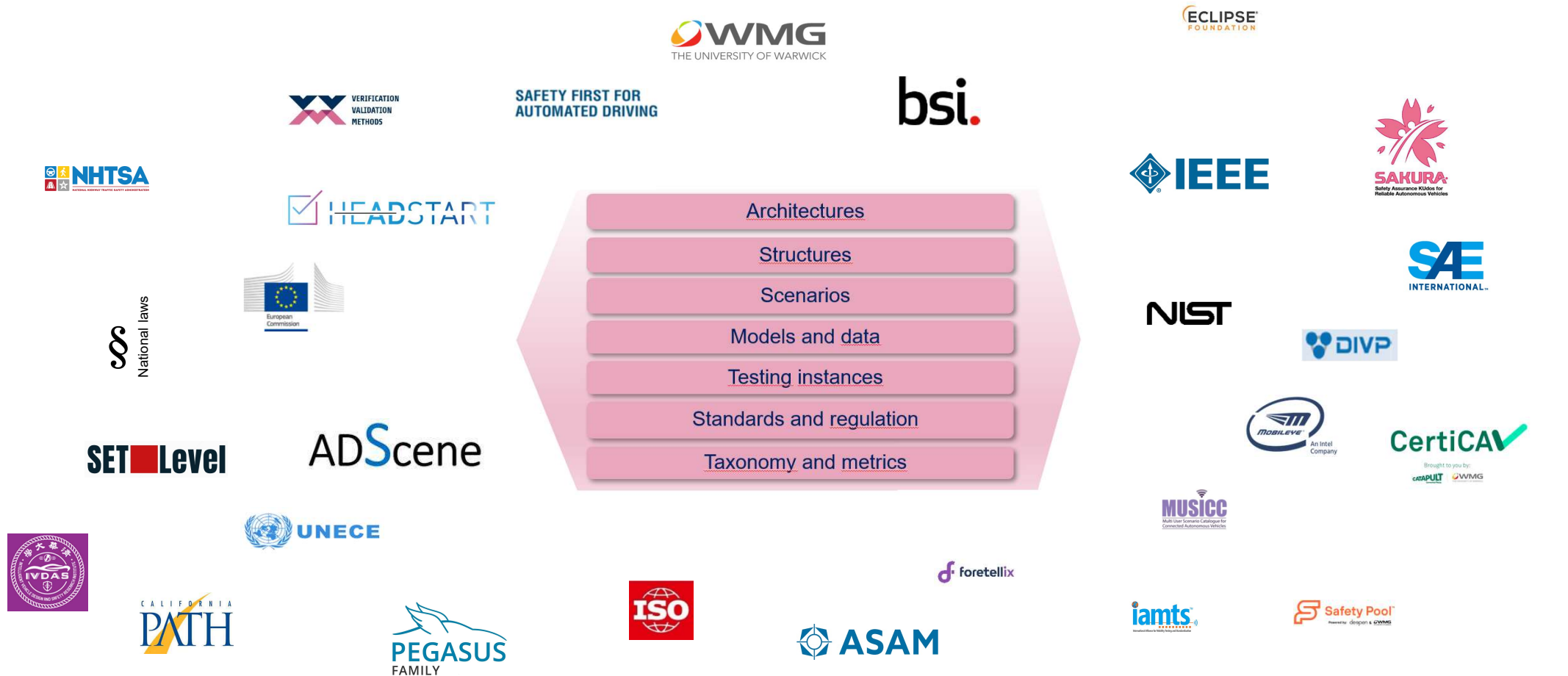by the German Bundestag

Questions regarding harmonization

- How can we achieve a harmonized handling of risk acceptance criteria over different stakeholder and different countries?

- How can we harmonize abstract safety cases and quality metrics of technical systems and sub-systems?

- How can we harmonize upcoming standards for (data)-formats, tools and interfaces?

- How can we achieve common approaches for the decomposition of scenarios for scenario-based testing?

➡️ (When) Are we ready for deployment?

A selection of international initiatives and projects

Architectures

Structures

Scenarios

Models and data

Testing instances

Standards and regulation

Taxonomy and metrics

External initiatives and projects – VVM international Session

- ▶ How can we achieve a harmonized handling of risk acceptance criteria over different stakeholder and different countries?

- ▶ How can we harmonize abstract safety cases and quality metrics of technical systems and sub-systems?

- ▶ How can we harmonize upcoming standards for (data)-formats, tools and interfaces?

- ▶ How can we achieve common approaches for the decomposition of scenarios for scenario-based testing?
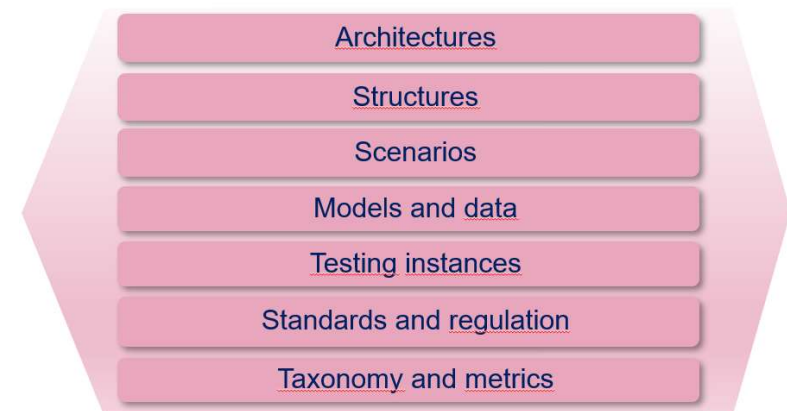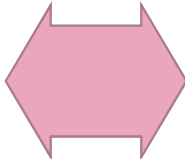
External initiatives and projects – VVM international Session

▶ How can we achieve a harmonized handling of risk acceptance criteria over different stakeholder and different countries?

▶ How can we harmonize abstract safety cases and quality metrics of technical systems and sub-systems?

▶ How can we harmonize upcoming standards for (data)-formats, tools and interfaces?

▶ How can we achieve common approaches for the decomposition of scenarios for scenario-based testing?

▶ *"Validation and Deployment of automated driving functions requires a complete and interoperable evidence based safety architecture including scenario-based testing"*

▶ *"Formal decomposition and virtualization of test scenarios is essential to prove integrity and safety of (sub)-systems"*

▶ *"Seamless toolchains based on open specifications, processes as well as technical proof-of-concepts are essential"*

(When) are we ready for deployment?

What do we have achieved for deployment?

Recap results of VVM

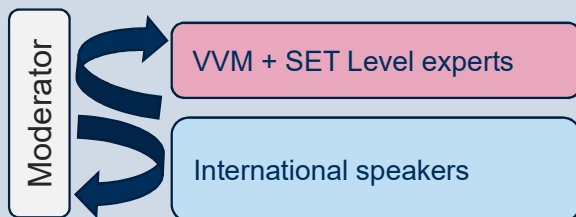(When) are we ready for deployment?

German and European perspectives

(When) are we ready for deployment?

US, Japan and China perspectives

Harmonizing Targets and Solutions for Deployment

Panel

Moderator → VVM + SET Level experts
Moderator → International speakers

Time	Session
9:30 – 9:40	**Introduction to the International Session** Marcus Nolte (TU Braunschweig)
9:40 – 10:00	**The SET Level project approaching the final sprint** Frank Köster (DLR), Germany
10:00 – 10:20	**ODD based safety assurance for Automated Driving Systems – standards and tools** Siddartha Khastgir (WMG, University of Warwick), UK
10:20 – 10:40	**A path to a European scenario database for ADAS and ADS specification and validation** Emmanuel Arnoux (Renault), Stephane Geronimi (Stellantis), France
10:40 – 11:00	**Scenario selection and allocation based on databases** Xavier Sellart (IDIADA), Spain
11:15 – 11:35	**Safety Assurance to Earn Public Trust – Formalizing the Safety Case for ADS (Autonomous Driving Systems)** Steven Shladover (University of California, Berkeley), US
11:35 – 11:55	**Advancing on the development of a sustainable ecosystem for Autonomous Driving safety assurance in Japan** Jacobo Antona-Makoshi (JARI, SAKURA project), Japan
11:55 – 12:15	**Challenges, solutions and industry practices of SOTIF for Autonomous Vehicles in China** Hong Wang (Tsinghua University), China
1:15 – 2:45	**Panel Discussion: Harmonizing Targets and Solutions for Deployment** Moderator: Lutz Eckstein Participants: Roland Galbas (Bosch), Ulrich Eberle (Stellantis), Björn Filzek (Continental), Jan Reich (Fraunhofer), Helmut Schittenhelm (Mercedes-Benz), Frank Köster (DLR), Jacobo Antona-Makoshi (JARI, SAKURA project), Steven Shladover (UC Berkeley), Emmanuel Arnoux (Renault), Xavier Sellart (IDIADA), Hong Wang (Tsinghua University)