

ITS Lisbon 2023 SIS 43

# Result from German project “VV-Methods” -- VVM building blocks for safety assurance --



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Supported by:



on the basis of a decision  
by the German Bundestag

# VV-METHODS ► PEGASUS family

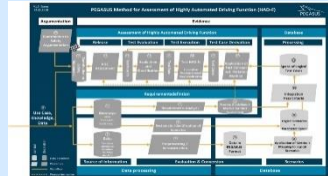
- The **PEGASUS Family** -publicly-funded methods and tools for AD systems on highways and in urban environments

Slide already released for VVM mid-term event 2022 with minor changes

## PEGASUS

<https://www.pegasusprojekt.de/en/home>

- Scope: **Basic methodological framework**
- Use-Case: L3/4 on highways
- Partners: 17



## VV-Methods



- Scope: **Methods, toolchains, specifications for technical assurance**
- Use-Case: L $\geq$ 3 in urban environments
- Partners: 23 partners
- Timeline: 07/2019 – 12/2023



## SET Level



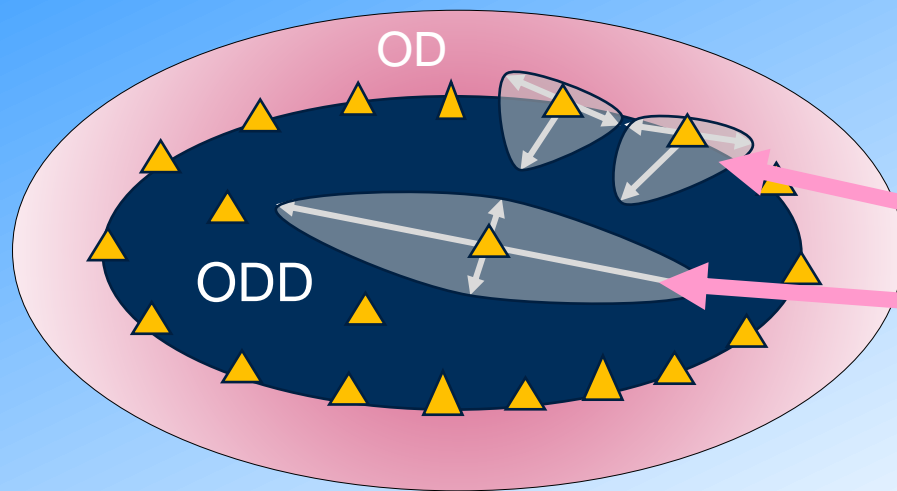
- Scope: **Simulation platform, toolchains, definitions for simulation-based testing**

2016

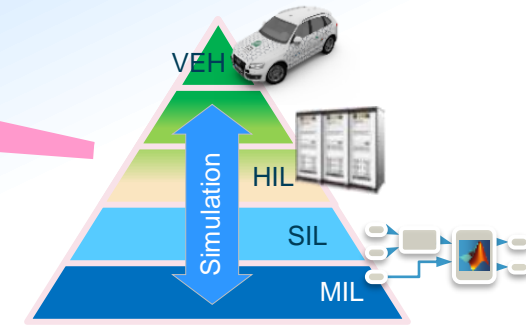
2019

Time

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Argumentation

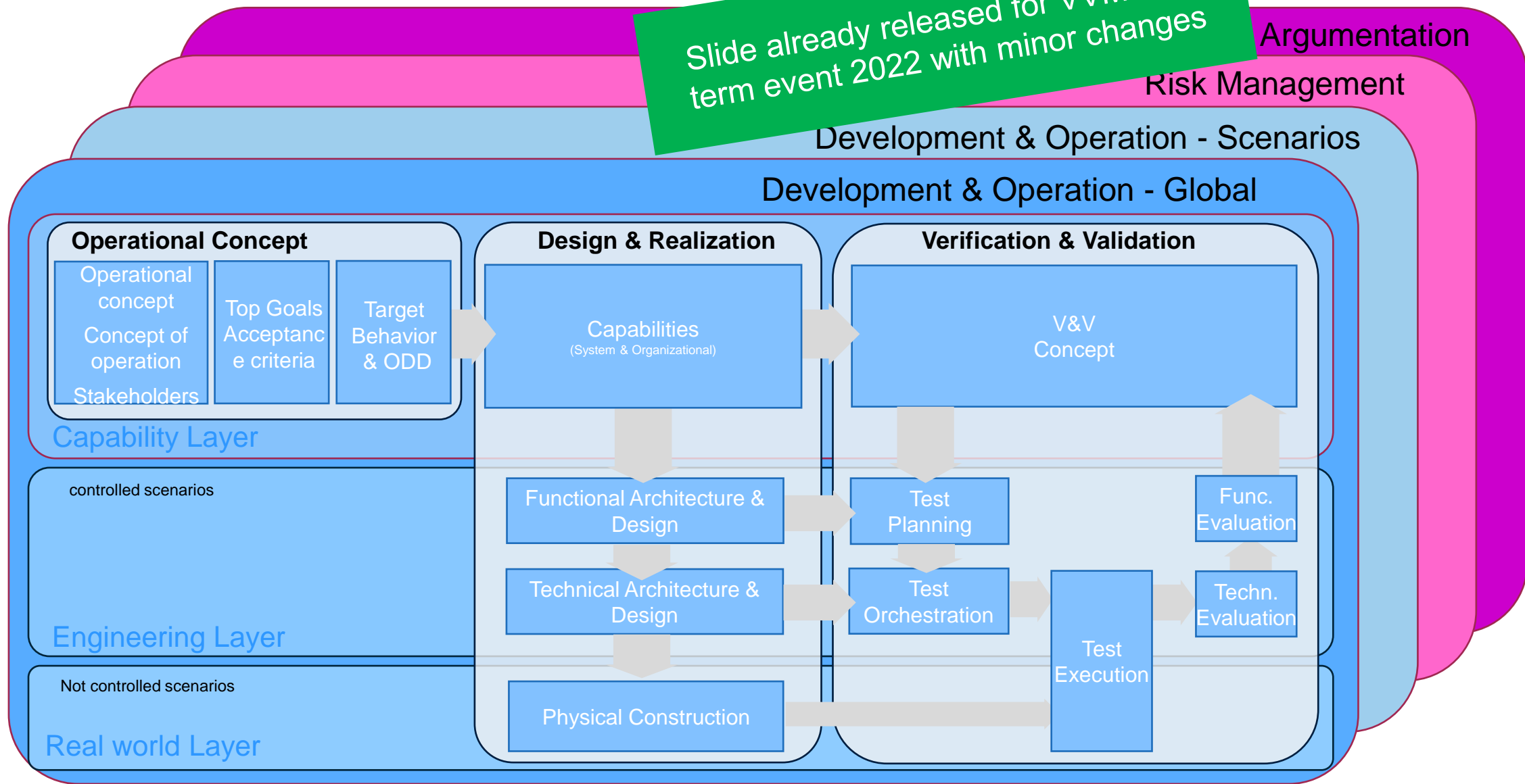


## Concept

- Systematic argumentation of ODD coverage by argumentation

 full system test

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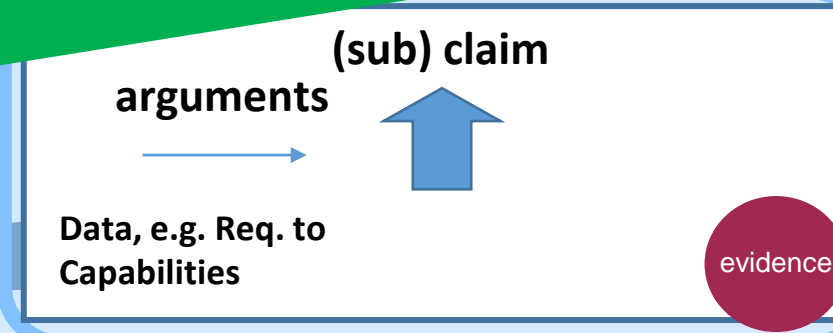




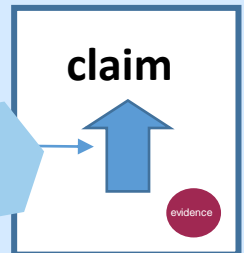
Slide already released for VVM presentation for finale event of SET Level project 2022 with minor changes

## Argumentation

- Based on VVM **argumentation structure** the **simulation task / goal** of the Credible Simulation Process can be defined.
- Claims incl. assumptions can be argued via exact fitting evidences.



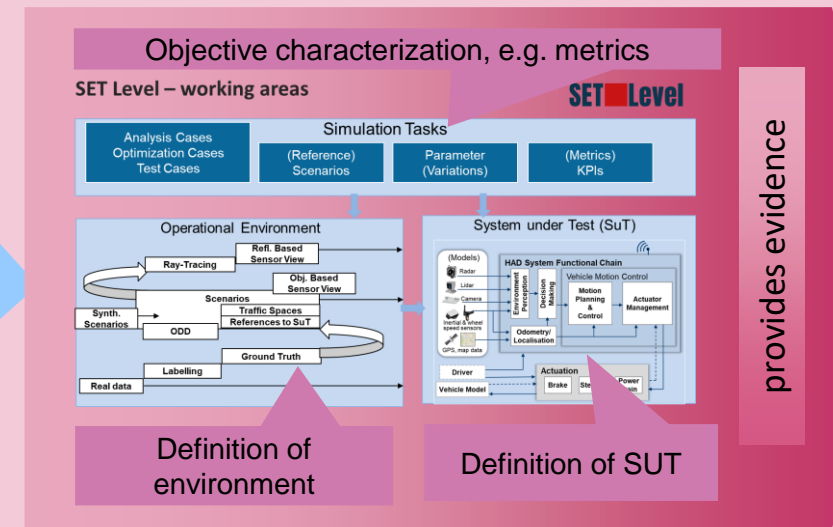
Arguments Evidences



## SET Level

### Virtual safety assurance

- Simulation objectives, environment and system under test are derived by **claims, arguments** and **system data** as, so requirements to models can also be derived.



# Thank you!

Roland Galbas, Robert Bosch GmbH



**A project developed by the  
VDA Leitinitiative  
autonomous and connected driving**

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