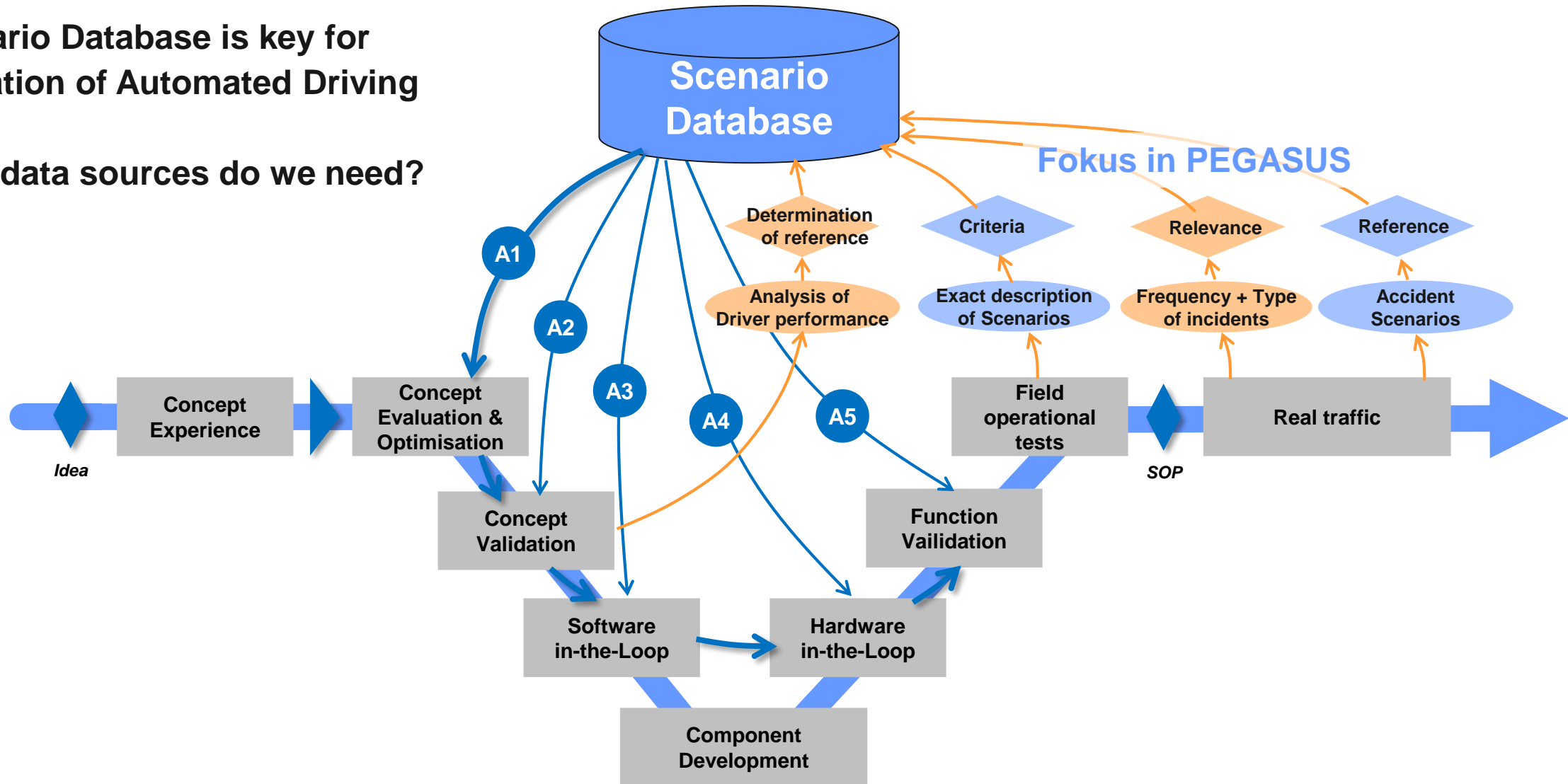


BO11: Scenarios for validation What data sources do we need?

Dr. Adrian Zlocki

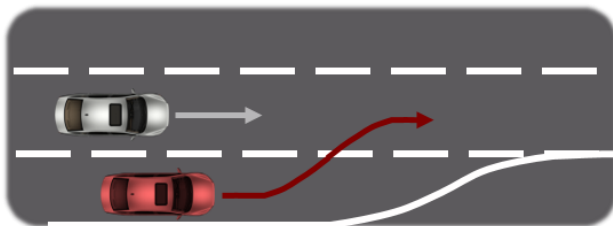
- » Scenario Database is key for validation of Automated Driving
- » What data sources do we need?



» There are several requirements on the data:

Scenario Description

Can the measurement method/data source capture all (possibly) relevant factors of the scenario?



Scenario Relevance

How often does this scenario occur?
(occurrence probability)

Does this frequency change for
ADAS/HAD systems?



Scenario Reference

How do human drivers perform
in this scenario?

(How does the ADAS/HAD-system
perform in this scenario?)



| | Scenario Description | Scenario Relevance | Scenario Reference |
|---|--|--|---|
| Real Traffic Data (Uninfluenced Driving) | Complete Scenario Description | Frequency of scenarios for current traffic | Good to identify human performance |
| FOT with Active ADAS/AD Function | Complete (depending on sensor setup) | Frequency of scenarios with HAD/ADAS-function | Identification of ADAS/HAD performance |
| FOT without Active ADAS/AD Function (sensor vehicle) | Complete (depending on sensor setup) | Frequency of scenarios with human driver, but influenced driving | Good to identify human performance |
| Proving Ground (Test Track) | (forms the basis for the test) | - | Good to identify human performance |
| Simulation / Artificial Data | Identification of physical boundaries of the scenarios | - | Theoretical performance |
| Accident Data | Limited, since ex post | Limited, only with statistical population | Examples for negative human performance |
| Driving Simulator | - | - | Good to identify human performance |

- 1. Felix Fahrenkrog, BMW Group**
 - » Usage of Accident data In the development of automated driving

- 2. Annie Bracquemond, SAFER MOBILITY Consulting**
 - » Decision criteria for data collection: Risks, performance and testing ability?

- 3. Julian Bock, fka GmbH**
 - » LevelXdata – Trajectory data for validation scenarios

- 4. Barbara Metz, WIVW**
 - » Experience from vehicle data collection

- 5. Maria Elli, Intel Corporation**
 - » AV Safety Metrics: Evaluation and Calibration based on Naturalistic Driving Data

- 6. Emmanuel Arnoux, Renault Group**
 - » Scenarios from real life, proposals for AD safety validation French scenario library

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