

# OpenPASS & TME

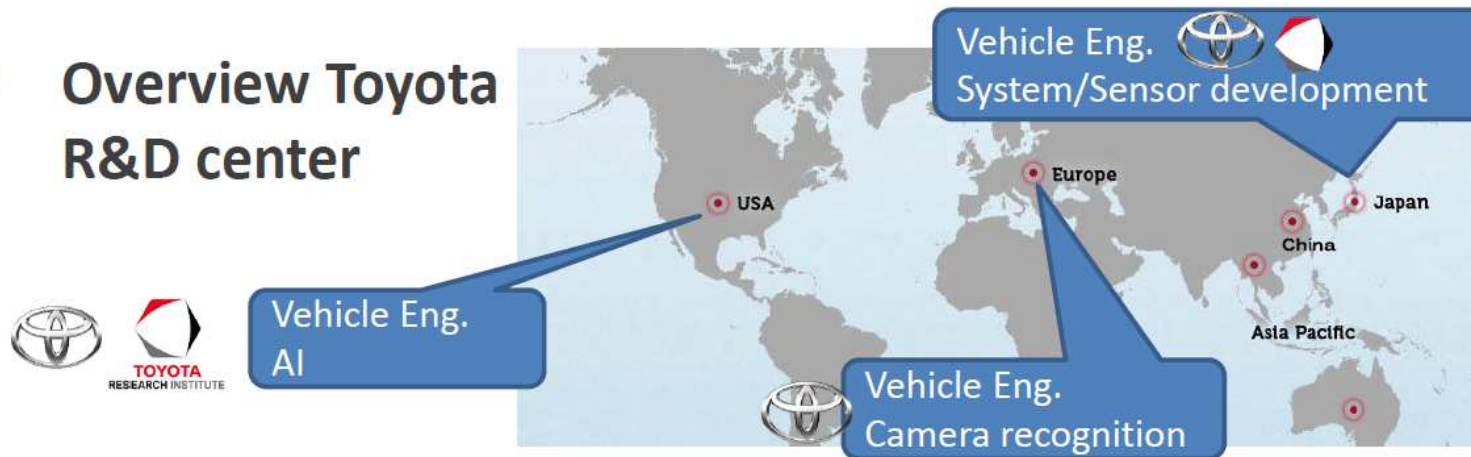
## Contribution and Expectation

23/07/2018

# 1) Toyota AD Development related centers

- **Toyota Motor Corporation** would decide to use for automated driving simulation environment.
- **Toyota Motor Europe** should investigate for automated driving simulation environment. And we need to share to **Toyota Motor Corporation** this information.

- **Overview Toyota R&D center**



## 2) EU direction for AD safety evaluation requirements



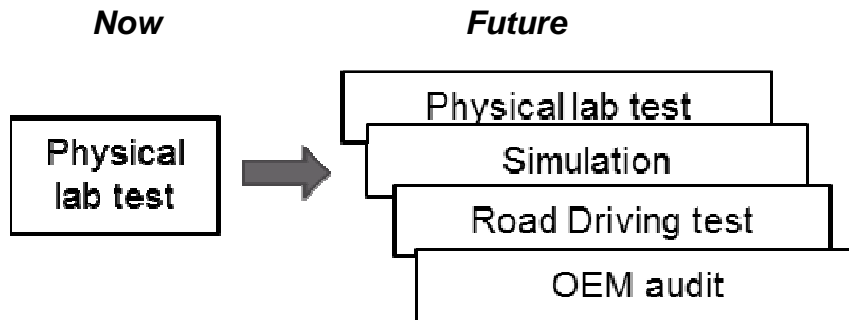
### UNECE Regulations

*Focus on Safety Reassurance ?*

#### Status of UNECE legislative activities:

1. UNECE WP29 ITS/AD: current Type Approval process not enough
2. New UNECE AV certification working group starts in spring 2018
3. OICA Cluster III (Certification of ADV) already started draft proposal

#### Direction of discussion:



### Consumers Assessment

*Focus on Safety Effectiveness ?  
(on top of Safety Reassurance)*

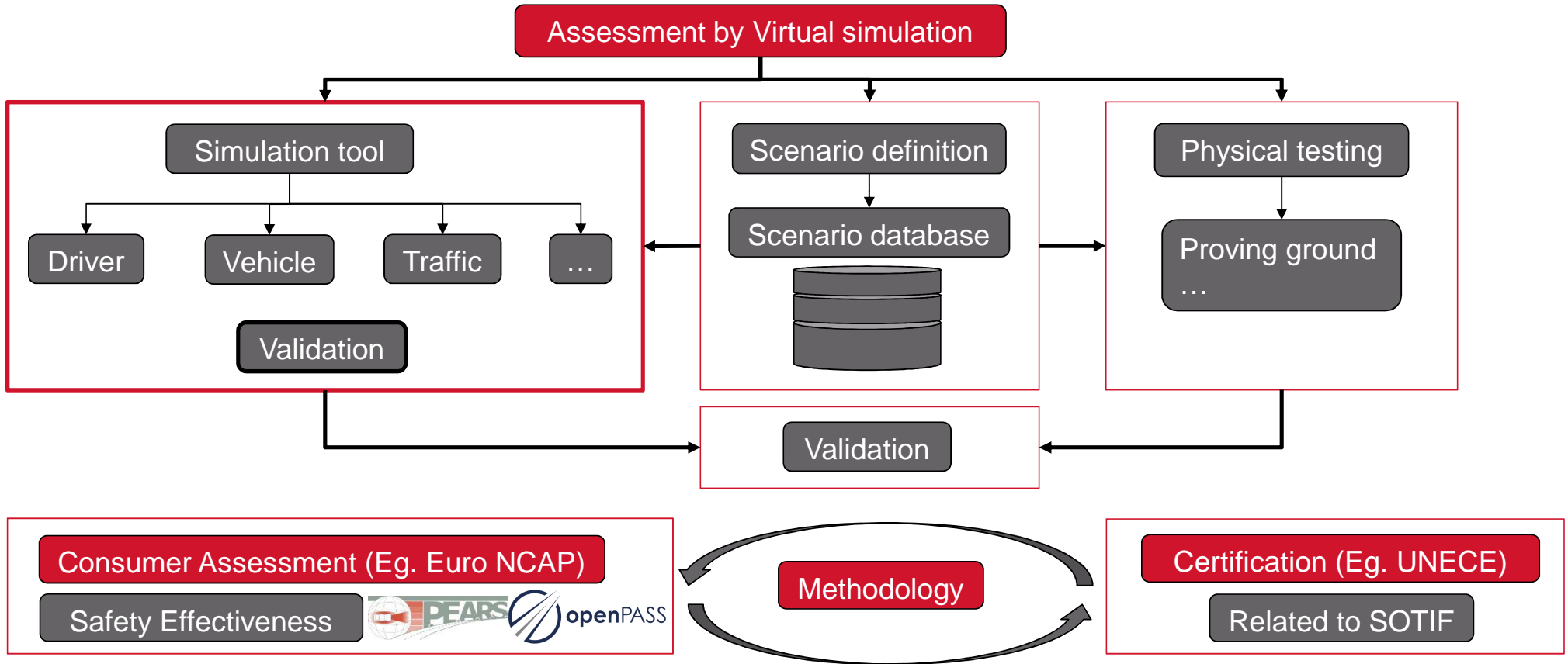
The focus of the roadmap is on the use of advanced technology to deliver improved passenger car safety but also on how it might assist other road users. The continued use of the overall rating scheme is envisaged, with its separation of assessment into one of four areas, but **a move is proposed to a more scenario-based scheme in the future and to greater use of simulation to provide a broader and more robust assessment.** An assessment of automated driving is proposed, outside of the main star rating scheme. For primary safety, driver monitoring [start date 2020]

**This review of the overall rating methodology will also address opportunities to exploit virtual testing to add more robustness to the assessment. This transition process will phase in from 2022 and is expected to be completed by the end of the roadmap term in 2025.**

**Source: Euro NCAP 2025 Roadmap**

→ Both Certification & Assessment are aiming for similar process & methods to evaluate safety of AD

### 3) Simulation for Assessment / Certification



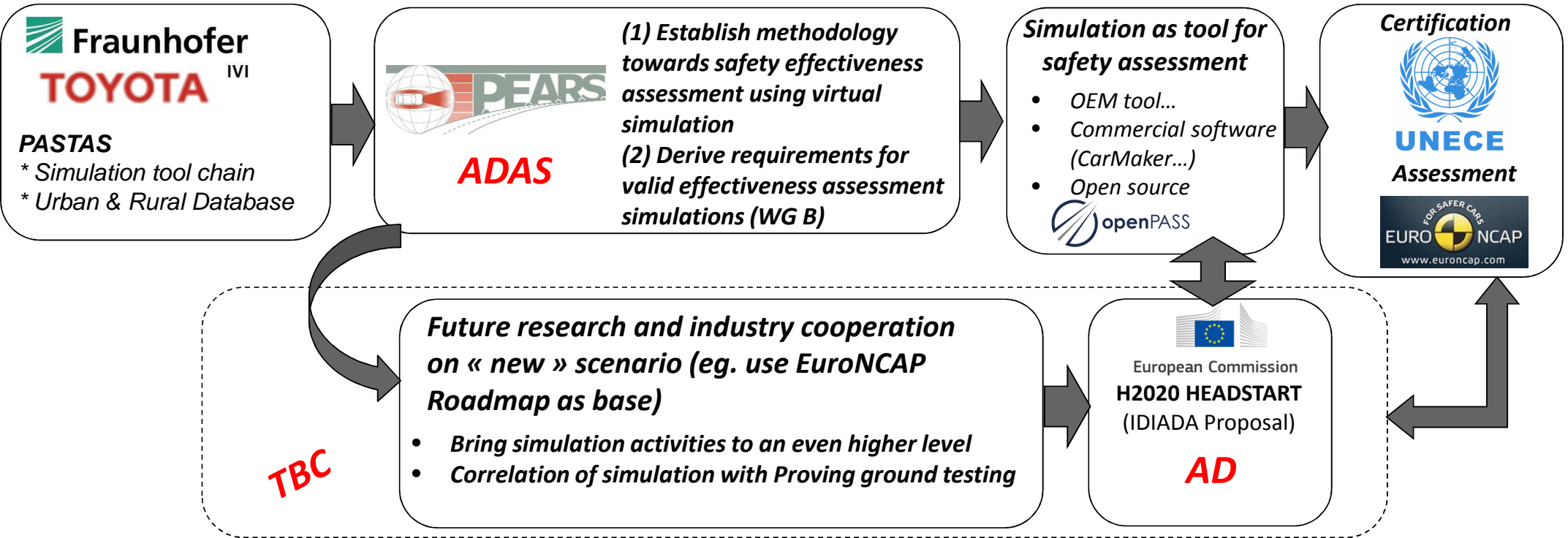
→ (1) Harmonised process is needed to cope with both scenarios

→ (2) Which level of details is needed for each case?

# 4) TME Expectation from OpenPASS

From Research...

...to Requirement setting



→ TME expectation is that

- OpenPASS is following the methodology set in P.E.A.R.S.
- OpenPASS has a key role towards future assessment using virtual simulation

## 5) P.E.A.R.S. & OpenPASS

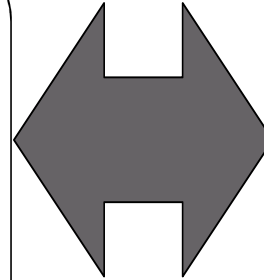
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### Methodology



- Establish process from RQ to validation
- Define minimum requirements
- Round robin of existing tools

**Initial scope is ADAS. How to adapt it towards AD?**



### Tool



- Apply process up to validation
- Apply minimum requirements
- Add tool to Round robin test