

SUNRISE project introduction

04 December 2023

John Fredrik Grönvall - Chalmers



Welcome to **SUNRISE Webinar**



Developing a Safety Assurance Framework for Connected and Automated Mobility Systems State-of-the-Art, gaps and requirements

4 December 2023

13:00-14:00 CET

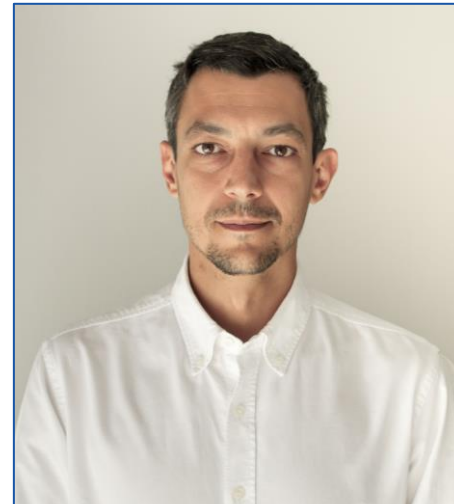


Funded by
the European Union

Developing a Safety Assurance Framework for Connected and Automated Mobility Systems State-of-the-Art, gaps and requirements



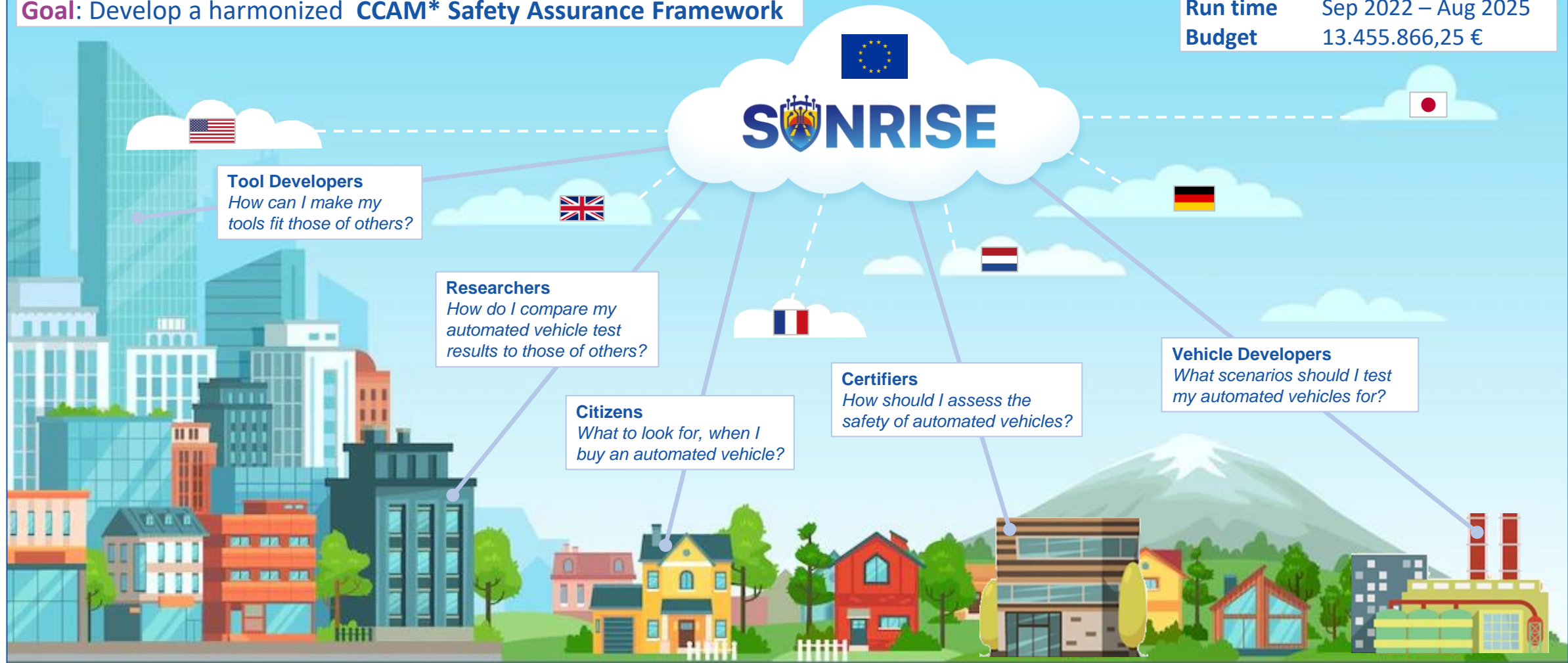
John-Fredrik Grönvall
CHALMERS



Jordi Pont
IDIADA

Goal: Develop a harmonized **CCAM*** Safety Assurance Framework

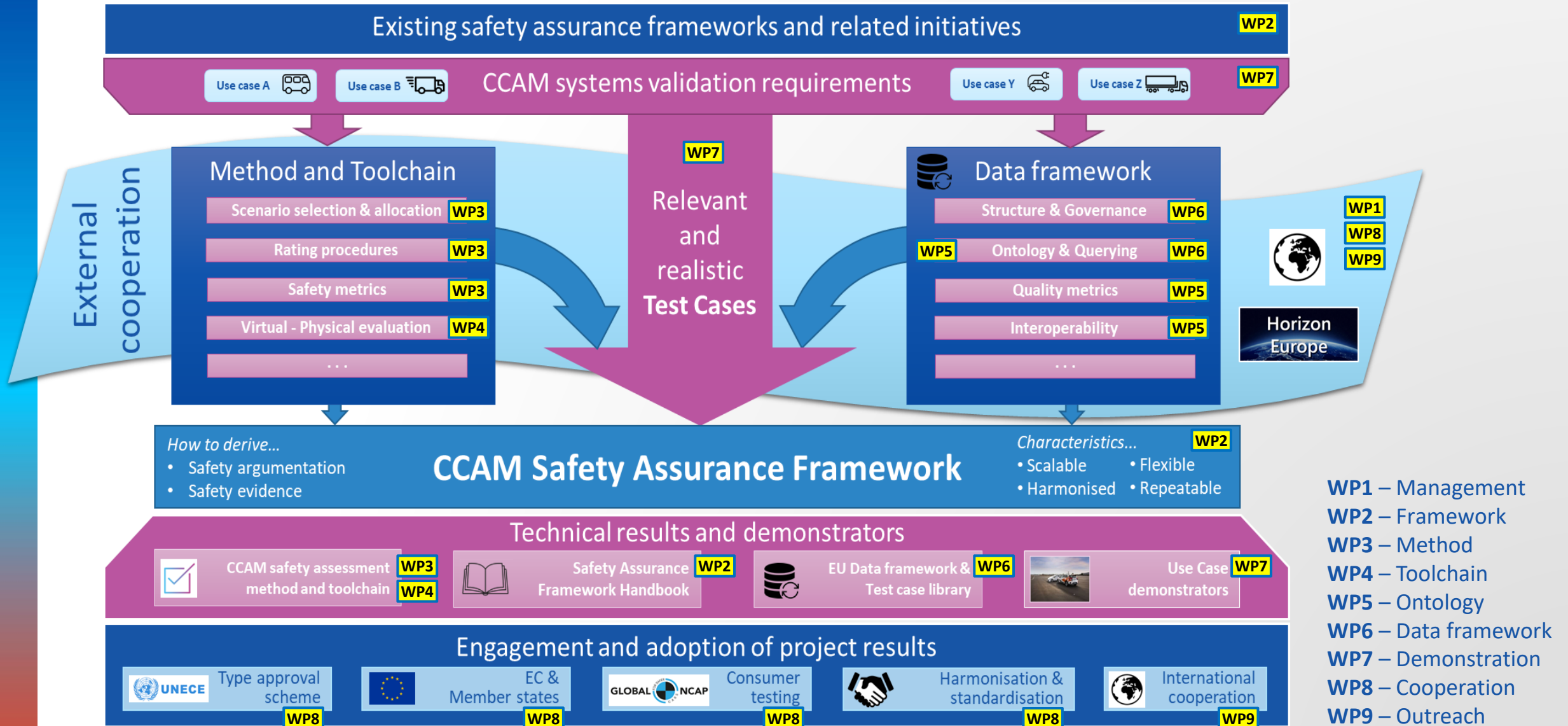
Run time Sep 2022 – Aug 2025
Budget 13.455.866,25 €



Safety Assurance Framework for Connected and Automated Mobility Systems

Funded by the European Union
Project No. 101069573

* CCAM = Cooperative, Connected and Automated Mobility



- WP1 – Management
- WP2 – Framework
- WP3 – Method
- WP4 – Toolchain
- WP5 – Ontology
- WP6 – Data framework
- WP7 – Demonstration
- WP8 – Cooperation
- WP9 – Outreach

Partners

TNO innovation
for life

SIEMENS

WMG
THE UNIVERSITY OF WARWICK

ERTICO
ITS EUROPE

TOYOTA

TOYOTA MOTOR EUROPE

INSTITUT
VEDECOM
DU VÉHICULE DÉCARBONÉ ET
COMMUNICANT ET DE SA MOBILITÉ

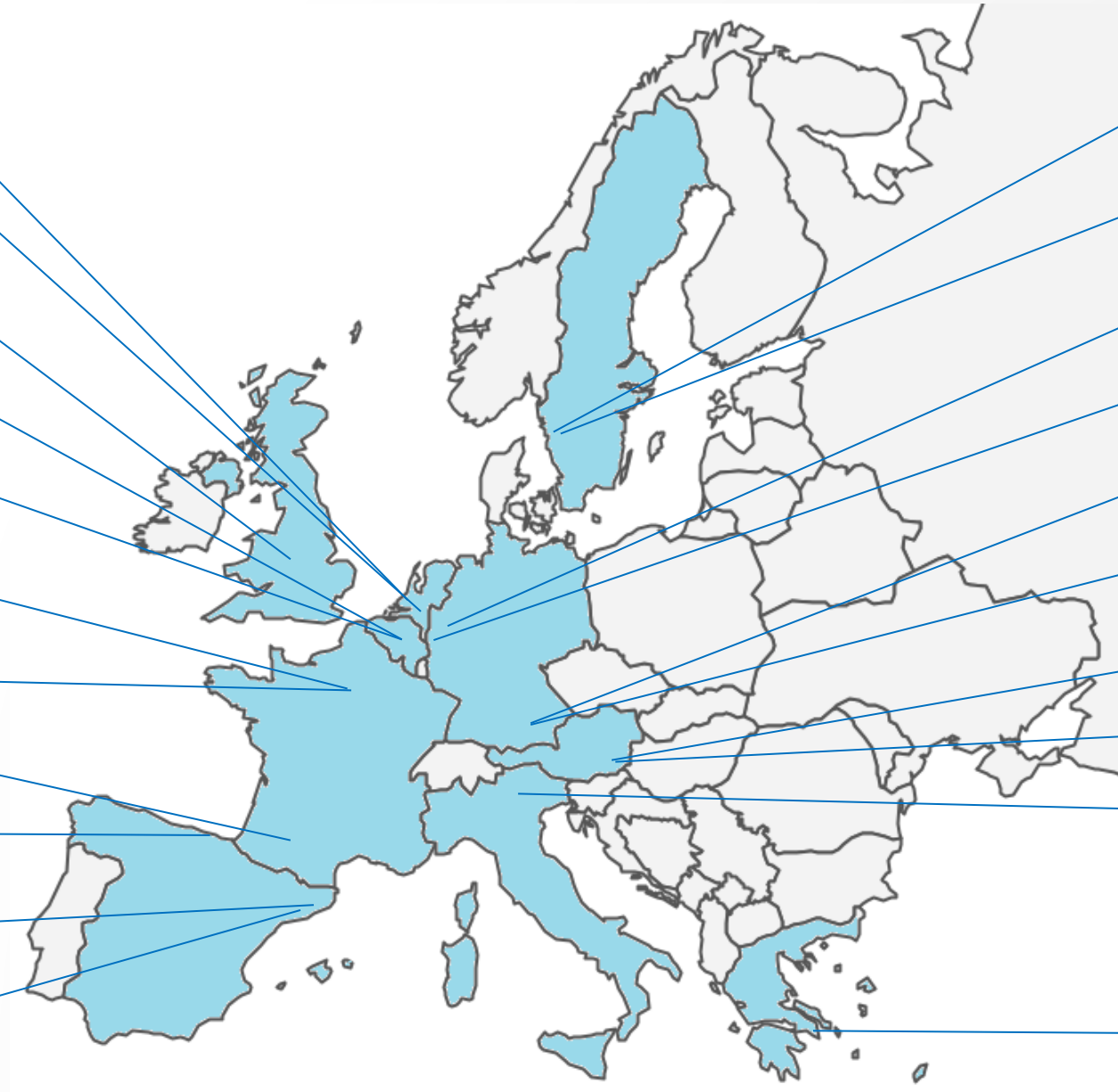
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SUNRISE

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UNIVERSITY OF TECHNOLOGY

RISE

bast

ika | **RWTHAACHEN**
UNIVERSITY

deapen

infineon

AVL

virtual vehicle

**UNIVERSITÀ
DI TRENTO**

**ETIEX
IGCS**

Team



*SUNRISE team members
General Assembly Athens Sep 2023*

SUNRISE Safety Assurance Framework development

Work Package 2

04 December 2023

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Work Package descriptions

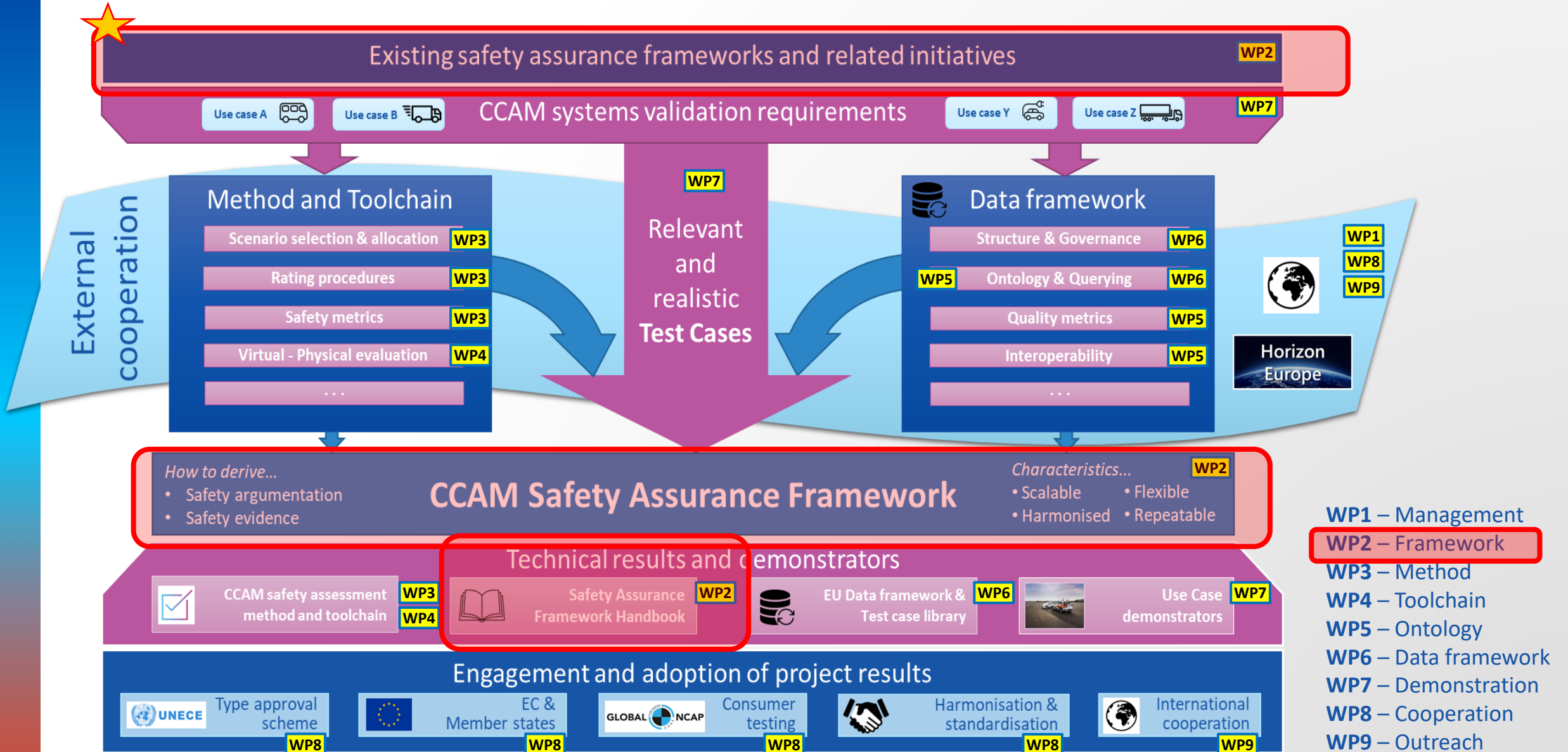
WP2 – Framework

Full title: CCAM safety assurance framework



Objectives and deliverables

1. **Develop** Safety Assurance Framework (**SAF**)
2. **Define** safety argumentation **principles**
3. Define **how to derive safety evidence and arguments**
4. Provide **guidance on safety metrics** for safety certification
5. **Produce** online interactive SAF handbook



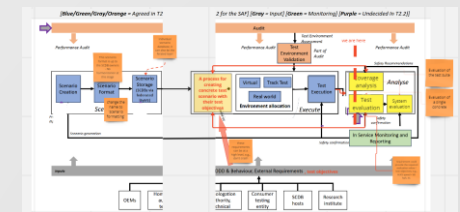
WP2 – Framework

T2.1 Assessment of existing global safety assurance frameworks and development roadmap definition

Benchmark of existing and new **initiatives** on safety assurance frameworks (**SAFs**), and their main stakeholders. This task delivers **requirements, targets and gaps** for the SUNRISE SAF.

T2.2 Definition of a scalable, comprehensive, harmonized safety assurance framework

Based on the benchmark results of T2.1, the **SUNRISE Safety Assurance Framework** will be **defined**. This framework is the *main* project result. It will be scalable, flexible, harmonized, comprehensive, robust and allow for repeatability. To ensure real-world feasibility, this task includes a review-and-feedback loop with external stakeholders.



T2.3 Interactive Handbook of the CCAM safety assurance framework

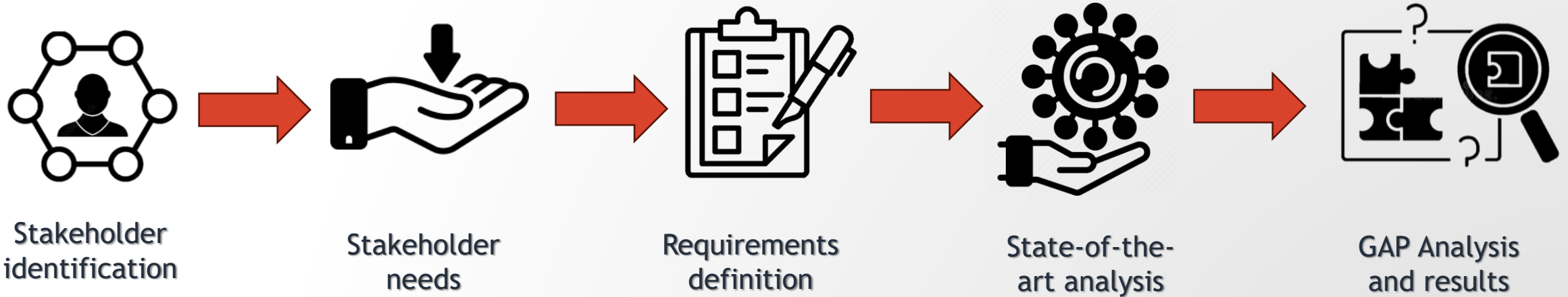
Creation of **interactive web-based SAF handbook**. This intuitive handbook will guide users to identify relevant scenarios in the European Federated Scenario Database (to be established in WP6).

Overview and gaps of existing safety assurance frameworks

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Jordi Pont - Applus IDIADA







**Homologation
Technical Service**



**Consumer
Testing
(Euro NCAP)**



OEM

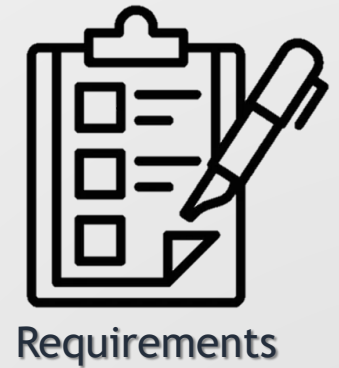
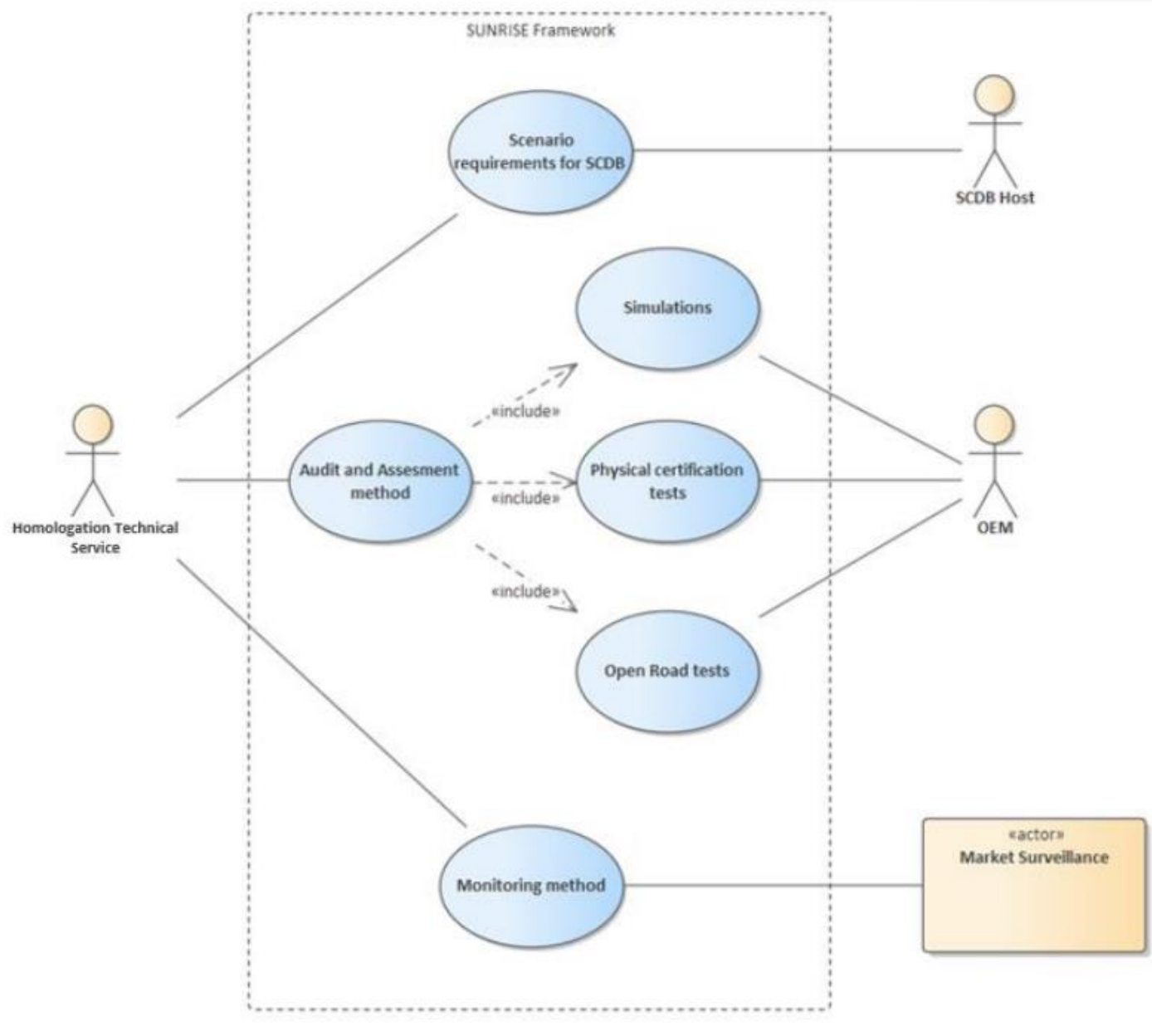


**Scenario
database host**

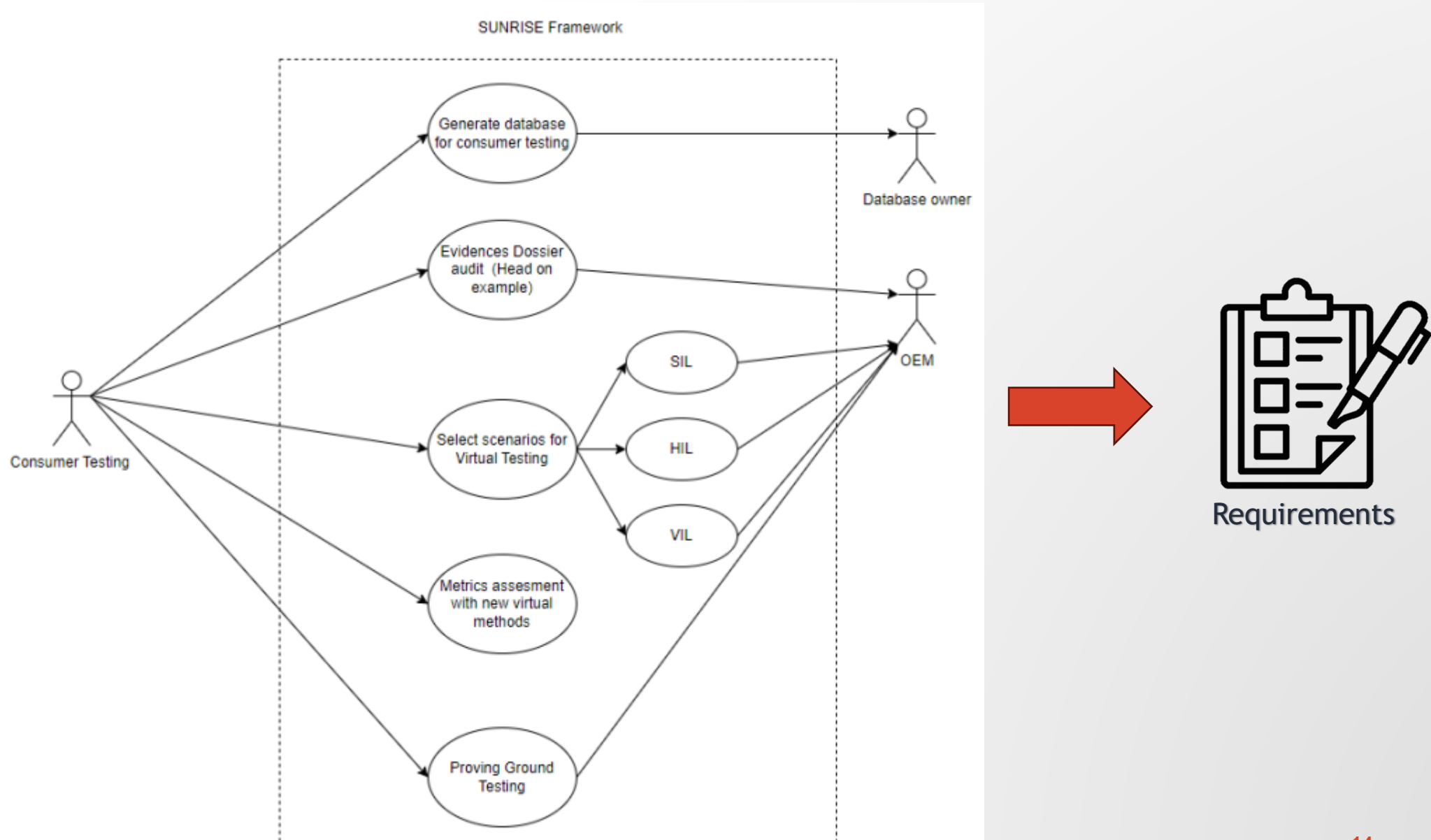


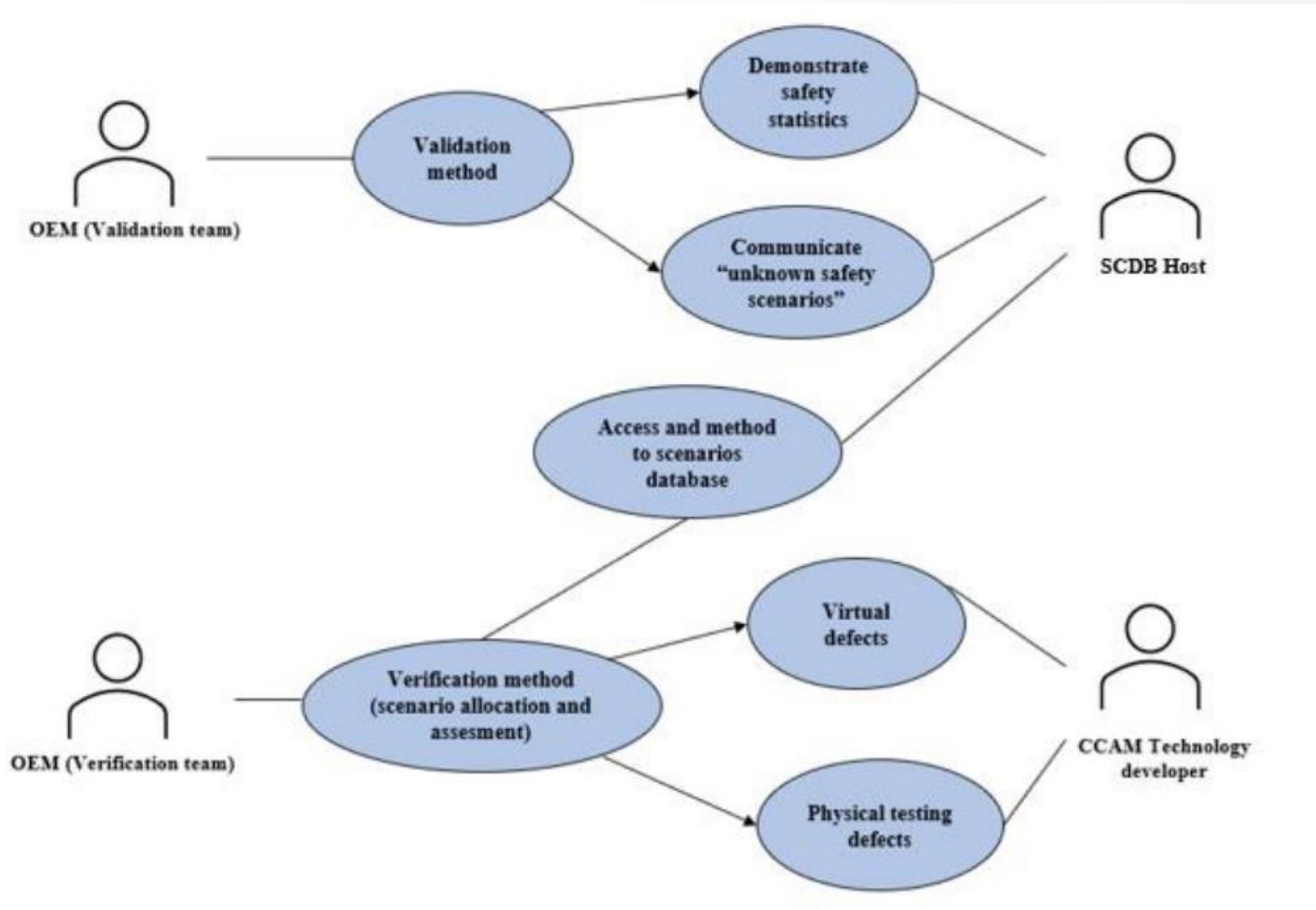
**Research
Institutes**

Homologation Technical Service requirements

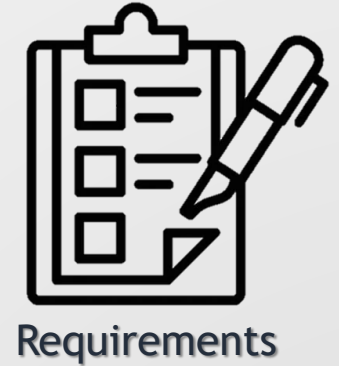
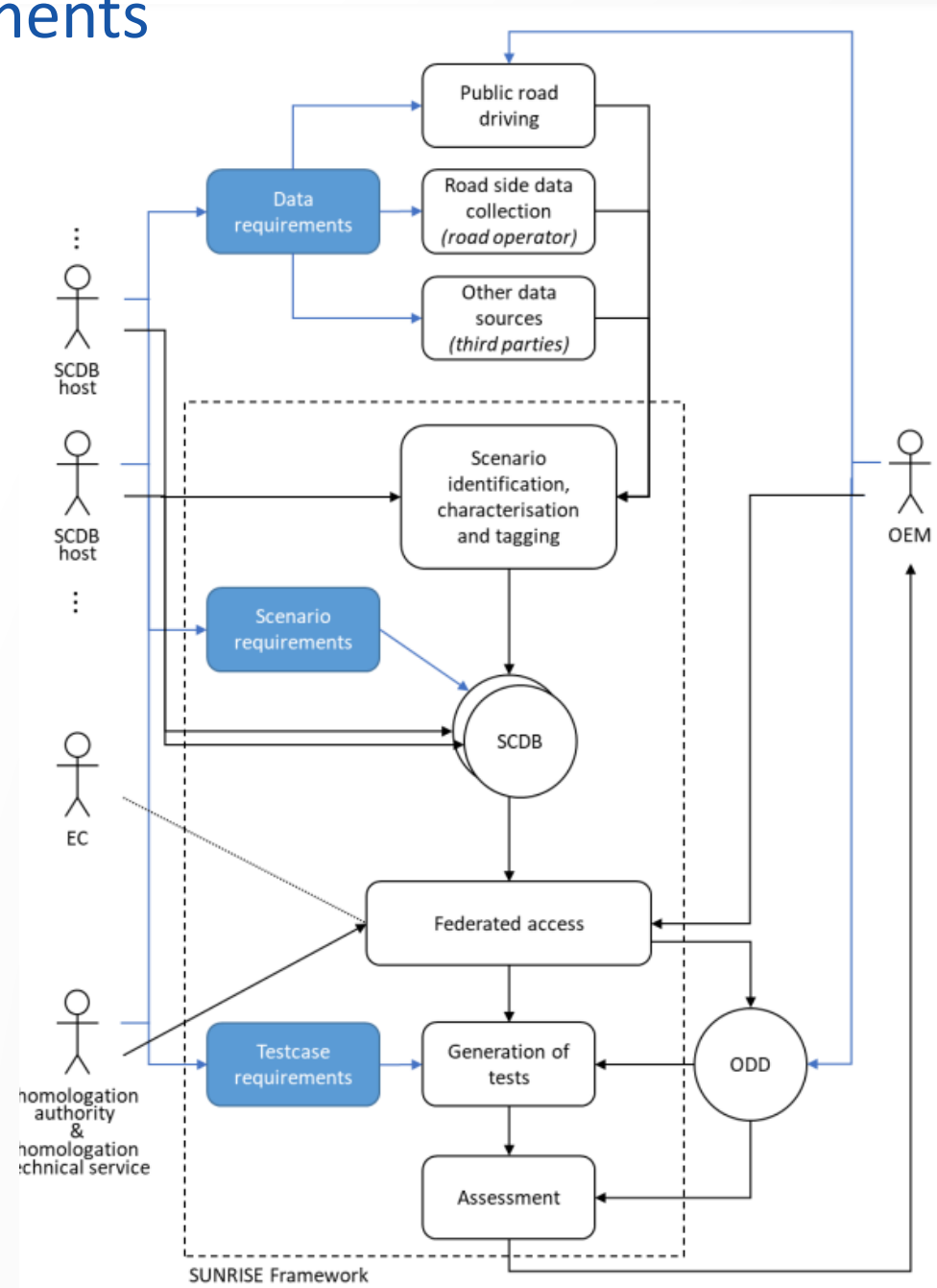


Consumer Testing (Euro NCAP) requirements





SCDB Host requirements



State-of-the-Art initiatives



Stakeholder	GAP to cover by SUNRISE SAF
Homologation Tech. Serv.	<ol style="list-style-type: none">1. In-service monitoring for CCAM (not covered by other initiatives)2. Lack of focus on querying procedure for SCDB
Consumer Testing (Euro NCAP)	<ol style="list-style-type: none">1. Scenarios for higher levels of automation2. Complement physical testing with virtual testing
OEM	<ol style="list-style-type: none">1. Common safety approach2. Standardized way to gather and integrate data from different sources3. Standardized European Federated Scenario Database
SCDB Host	<ol style="list-style-type: none">1. Harmonization of scenario descriptions2. Federation layer



Thank you for your attention!

Next webinar:

13 December 2023

13:00-14:00 CET

Scenario-based testing methodologies for safety assurance of Connected and Automated Mobility Systems

