Informal document **GRVA-19-45**
19th GRVA, 25 June 2024
(For review at the
Troy meeting 20-24 May 2024)
Agenda item 4(i)

Submitted by the expert
from the University of Warwick

SUNRISE Project:
An overview

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UNECE GRVA Meeting, May/June 2024
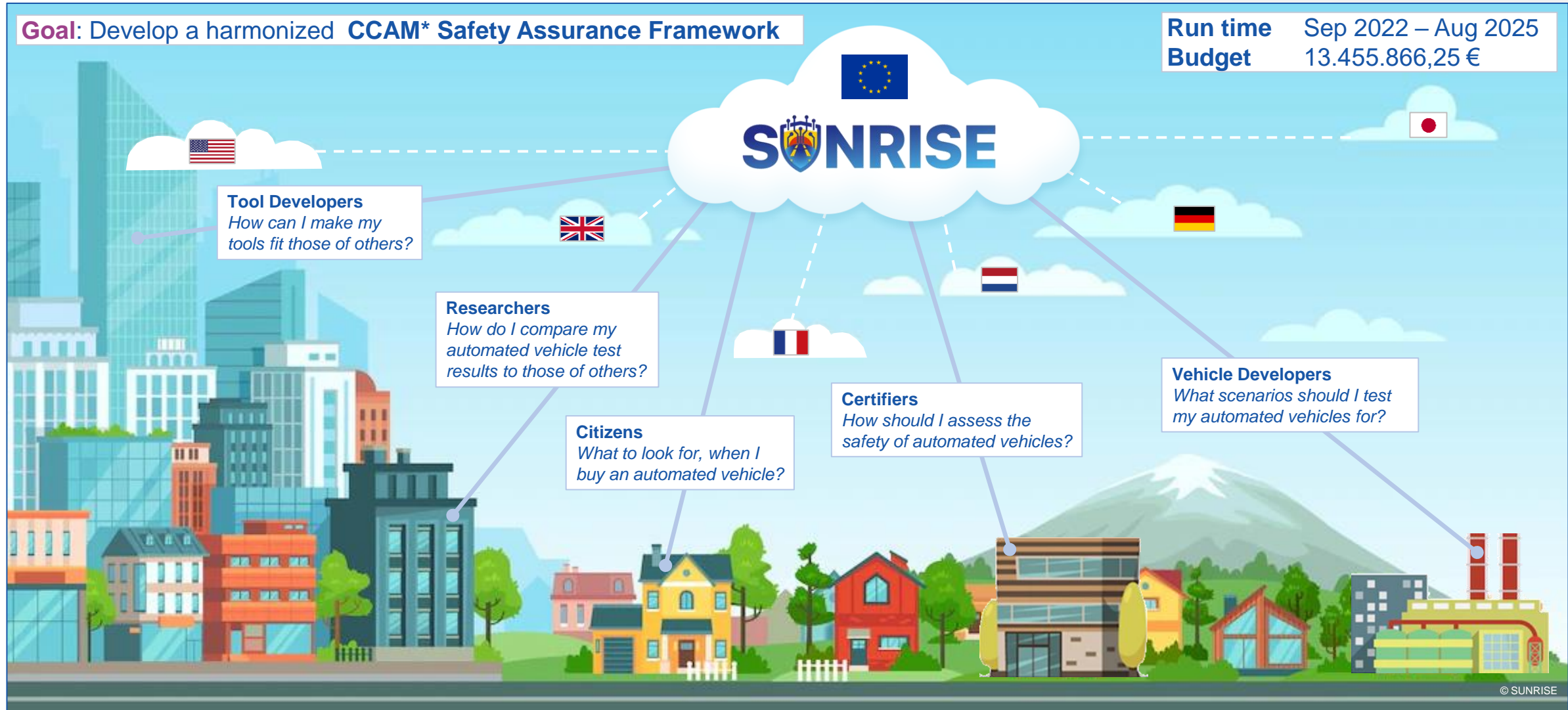
Funded by
the European Union

ccam-sunrise-project.eu

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Disclaimer

The presentation are the views of the SUNRISE project.

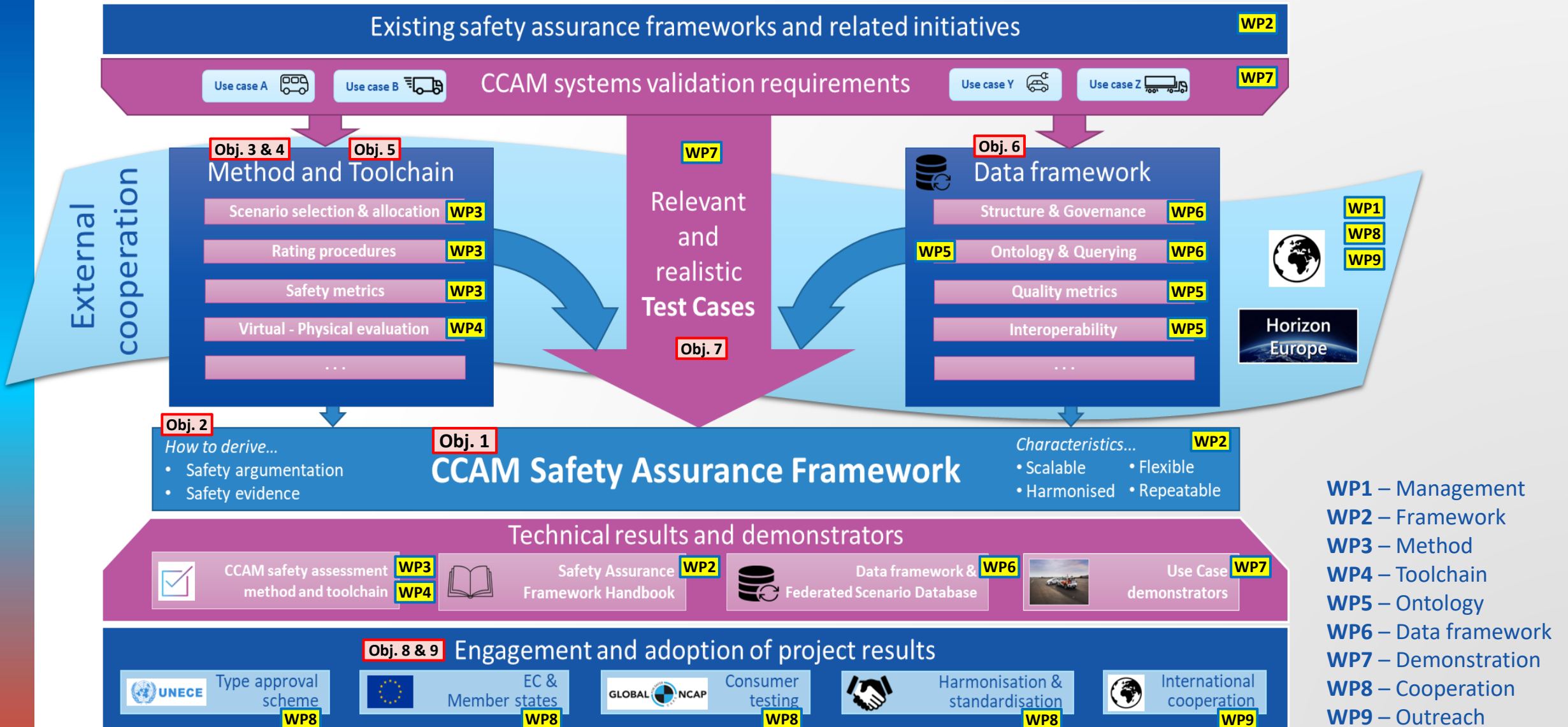**It doesn't reflect the views of any of the contracting parties or the funder.**

Vision

Funded by the European Union — Project No. 101069573

Safety Assurance Framework for Connected and Automated Mobility Systems

3

Workplan and objectives

Existing safety assurance frameworks and related initiatives — WP2

CCAM systems validation requirements — WP7

Use case A | Use case B | Use case Y | Use case Z

External cooperation

Obj. 3 & 4 | **Obj. 5**

Method and Toolchain
- Scenario selection & allocation — WP3
- Rating procedures — WP3
- Safety metrics — WP3
- Virtual - Physical evaluation — WP4
- . . .

WP7 — Relevant and realistic **Test Cases** — **Obj. 7**

Obj. 6

Data framework
- Structure & Governance — WP6
- Ontology & Querying — WP5 WP6
- Quality metrics — WP5
- Interoperability — WP5
- . . .

WP1 | WP8 | WP9

Horizon Europe

Obj. 2

How to derive…
- Safety argumentation
- Safety evidence

Obj. 1

CCAM Safety Assurance Framework

Characteristics… — WP2
- Scalable
- Harmonised
- Flexible
- Repeatable

Technical results and demonstrators
- CCAM safety assessment method and toolchain — WP3 WP4
- Safety Assurance Framework Handbook — WP2
- Data framework & Federated Scenario Database — WP6
- Use Case demonstrators — WP7

Obj. 8 & 9 — ### Engagement and adoption of project results
- UNECE Type approval scheme — WP8
- EC & Member states — WP8
- GLOBAL NCAP Consumer testing — WP8
- Harmonisation & standardisation — WP8
- International cooperation — WP9

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

* Obj. = Project Objective

4

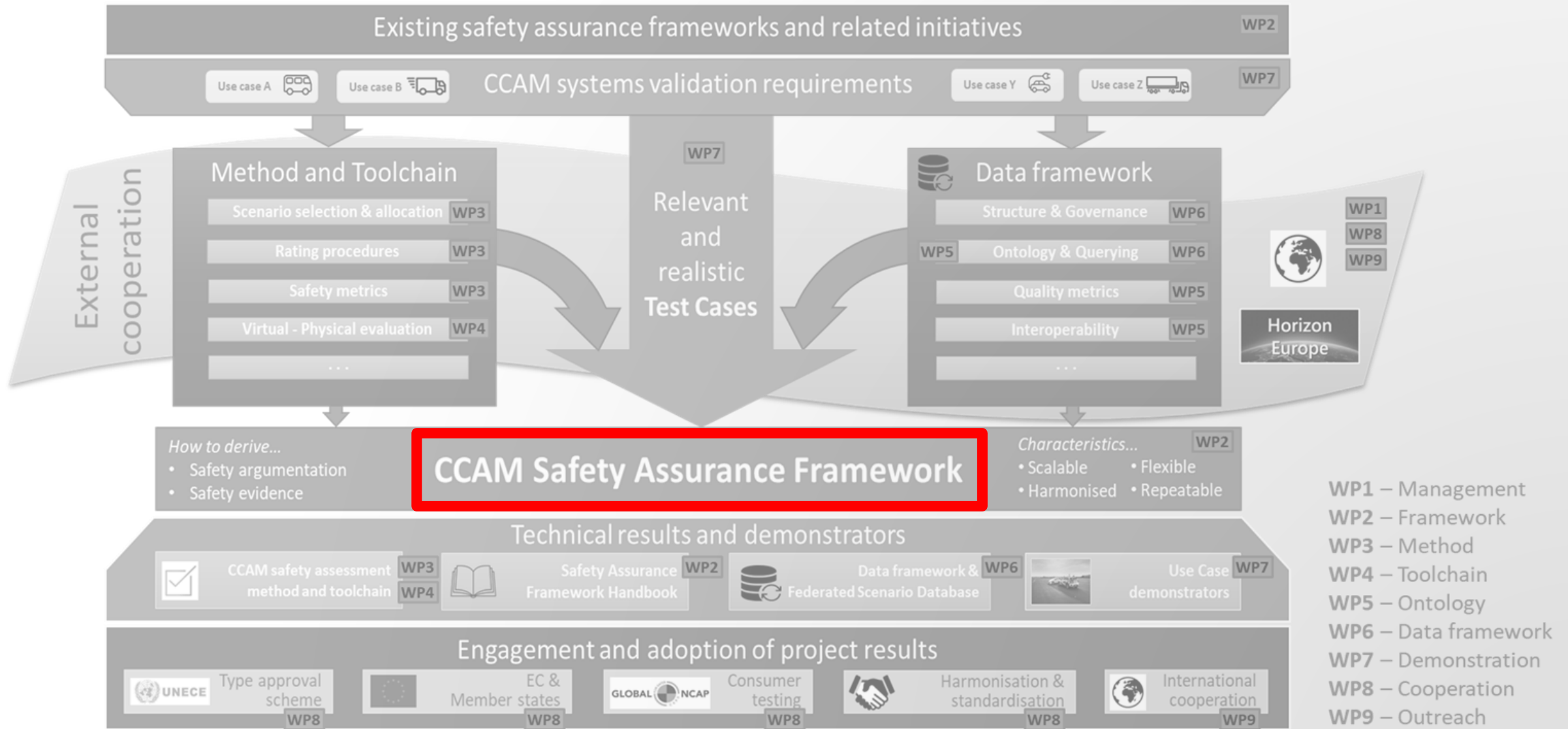# Partners

Team

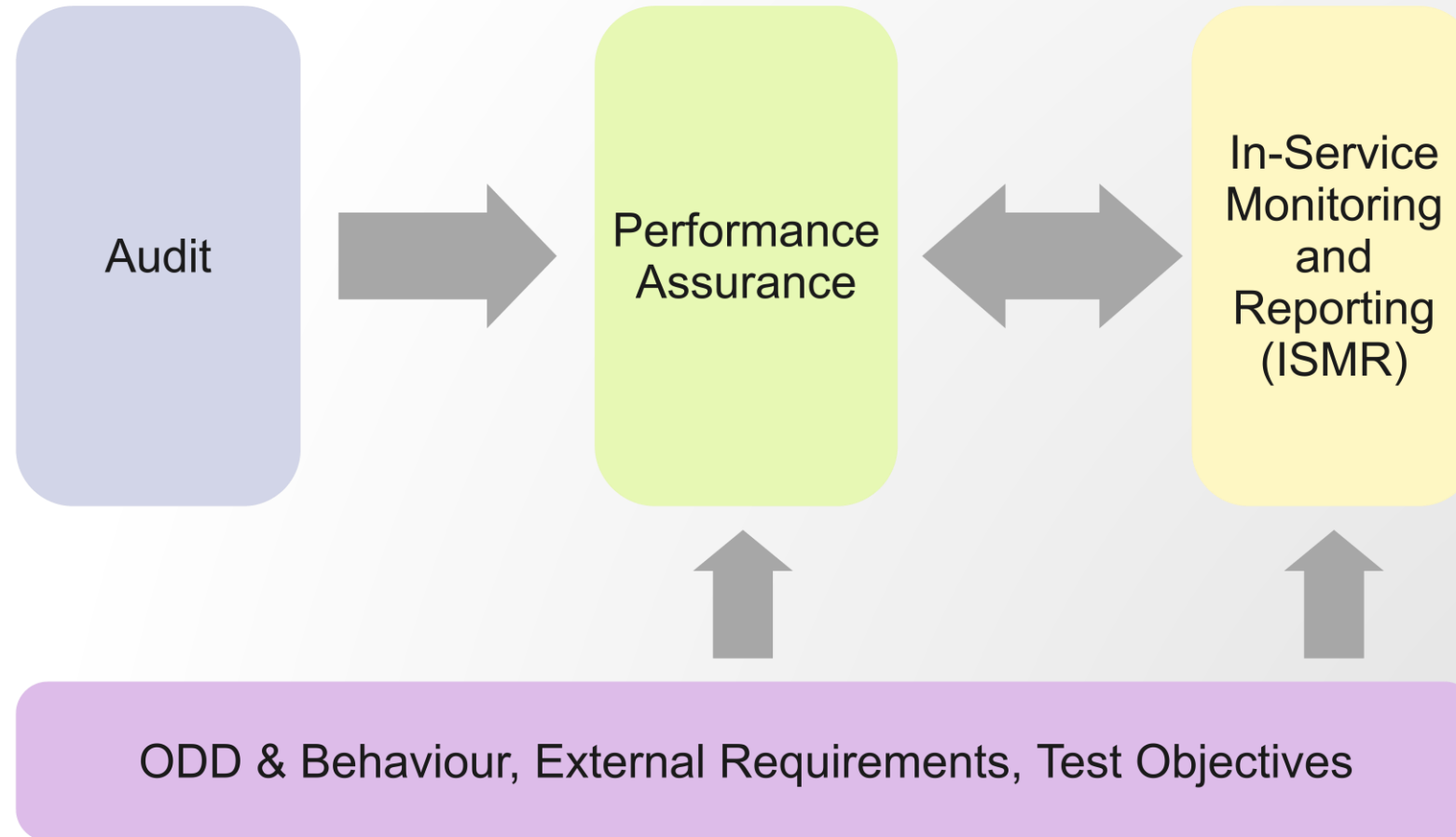Representative of twin initiative
AVSC from USA

Representatives of twin project
SAKURA from Japan

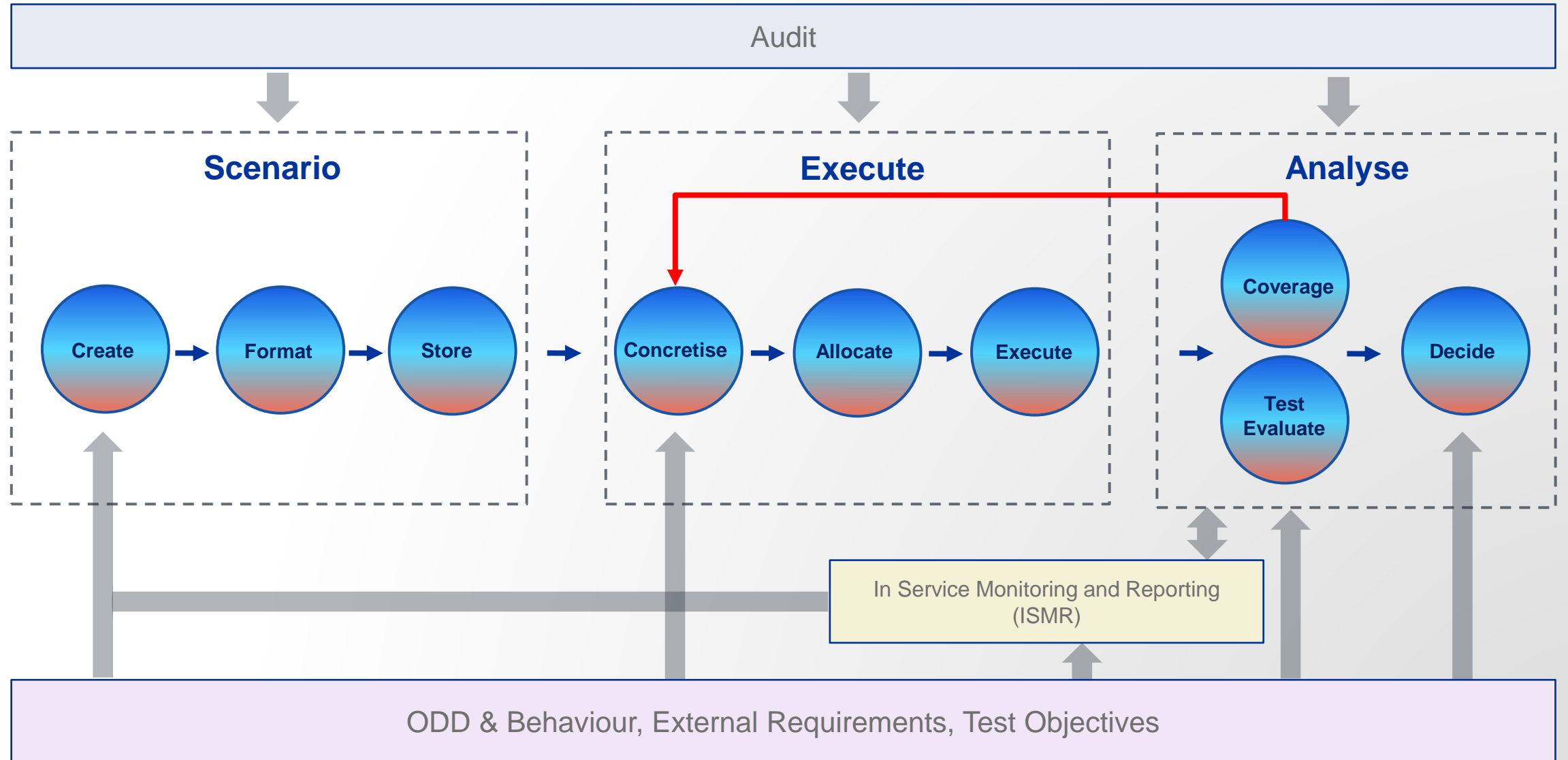Representative of twin project
VVM from Germany

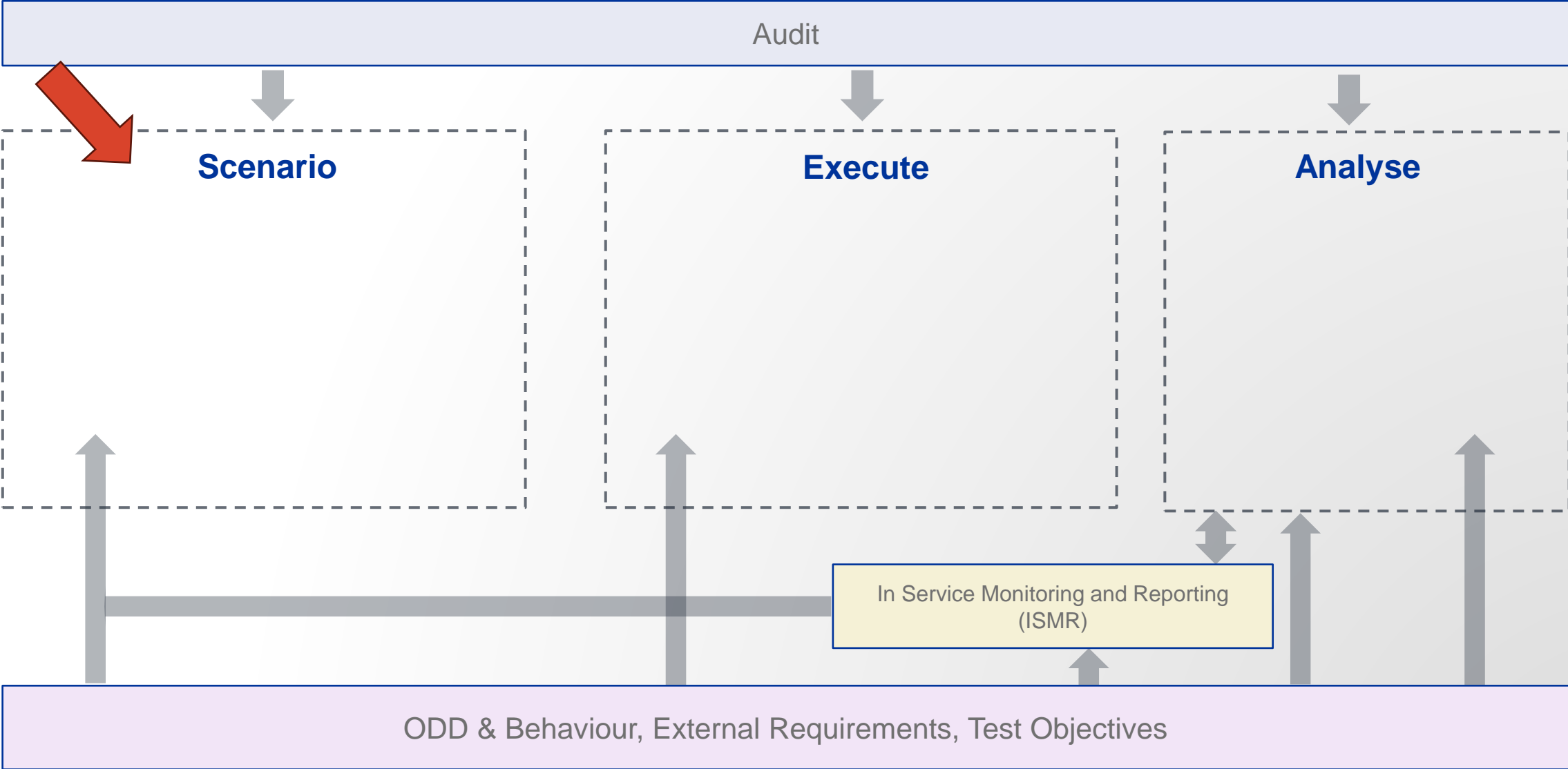*SUNRISE team members and twin representatives*
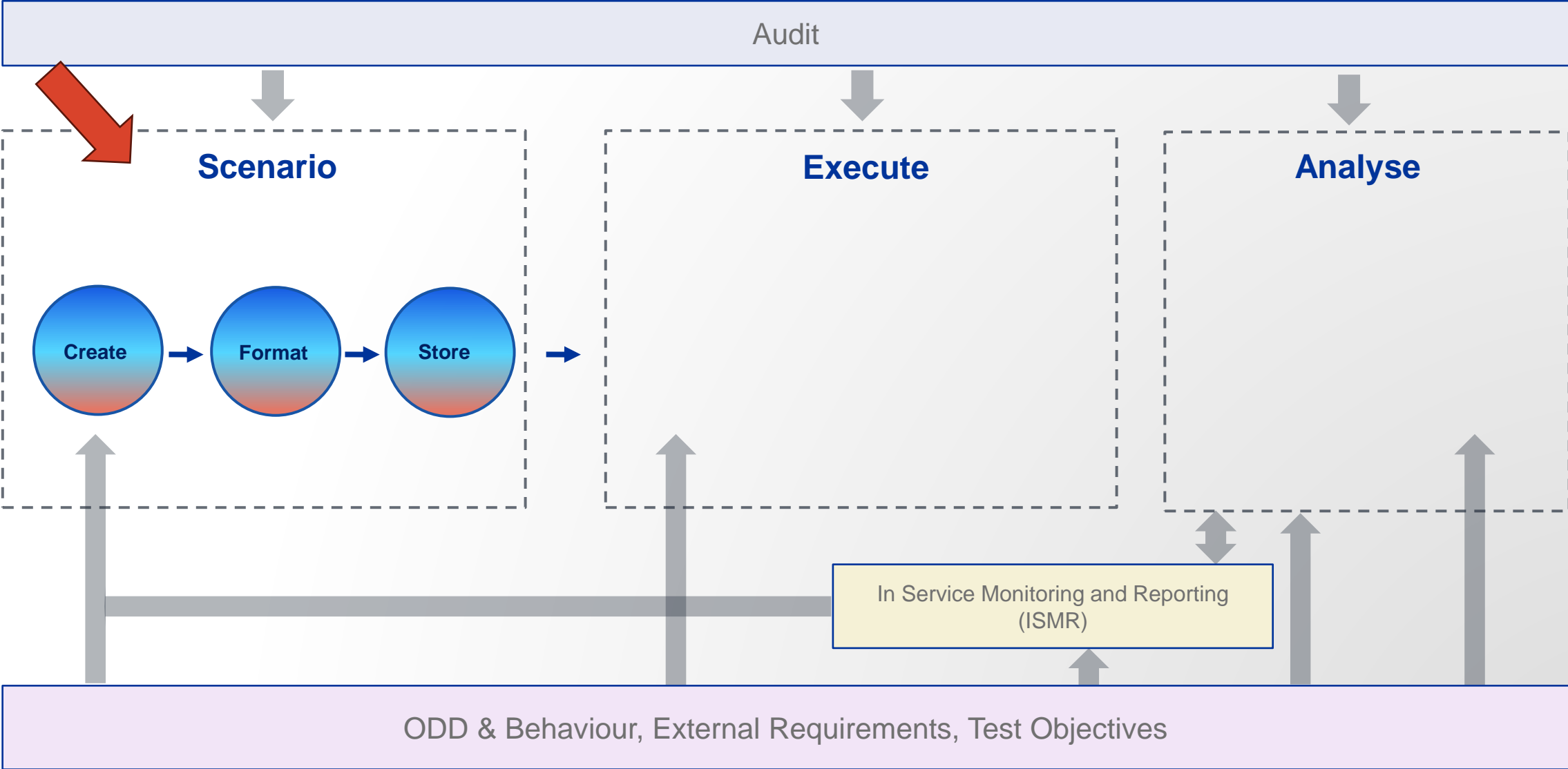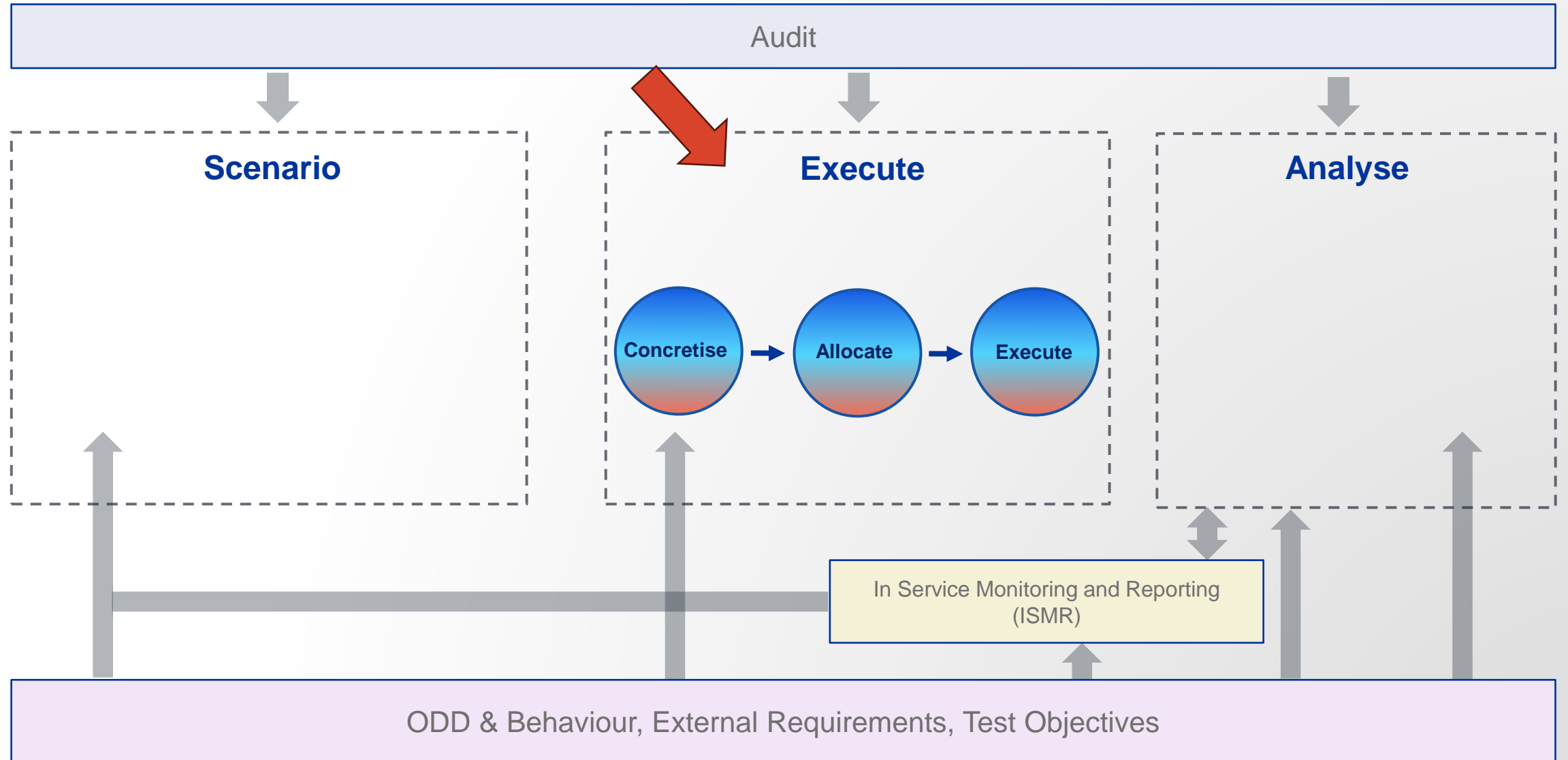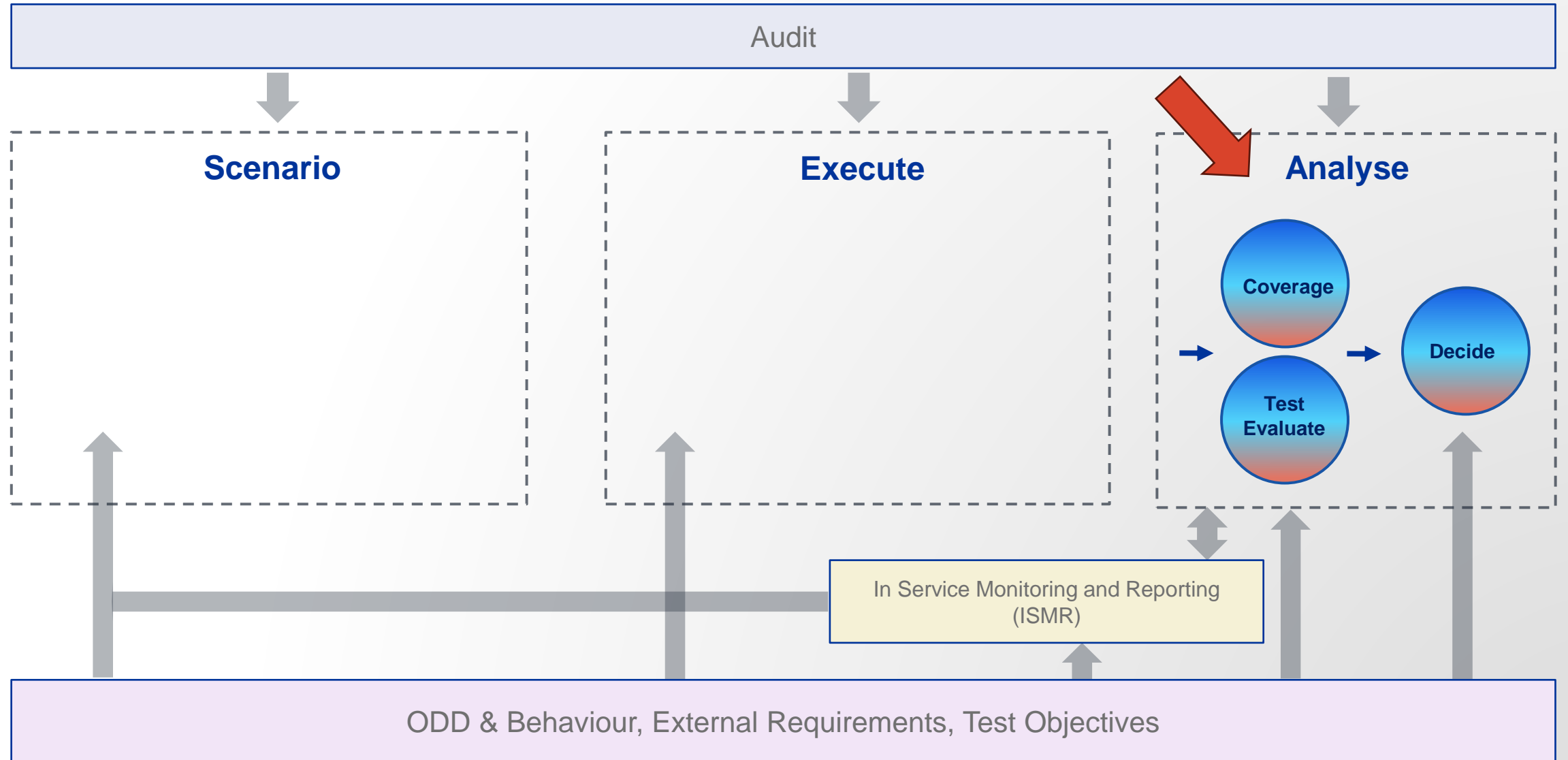*General Assembly Brussels Apr 2024*

Draft Safety Assurance Framework

Content

Safety Assurance Framework - Draft

Safety Assurance Framework - Draft

Safety Assurance Framework - Handbook

Safety Assurance Framework - Handbook

Safety Assurance Framework - Handbook

Audit

Scenario

Execute

Analyse

Concretise → Allocate → Execute

In Service Monitoring and Reporting (ISMR)

ODD & Behaviour, External Requirements, Test Objectives

Safety Assurance Framework - Handbook

Safety Assurance Framework - Handbook

Safety Assurance Framework - Handbook
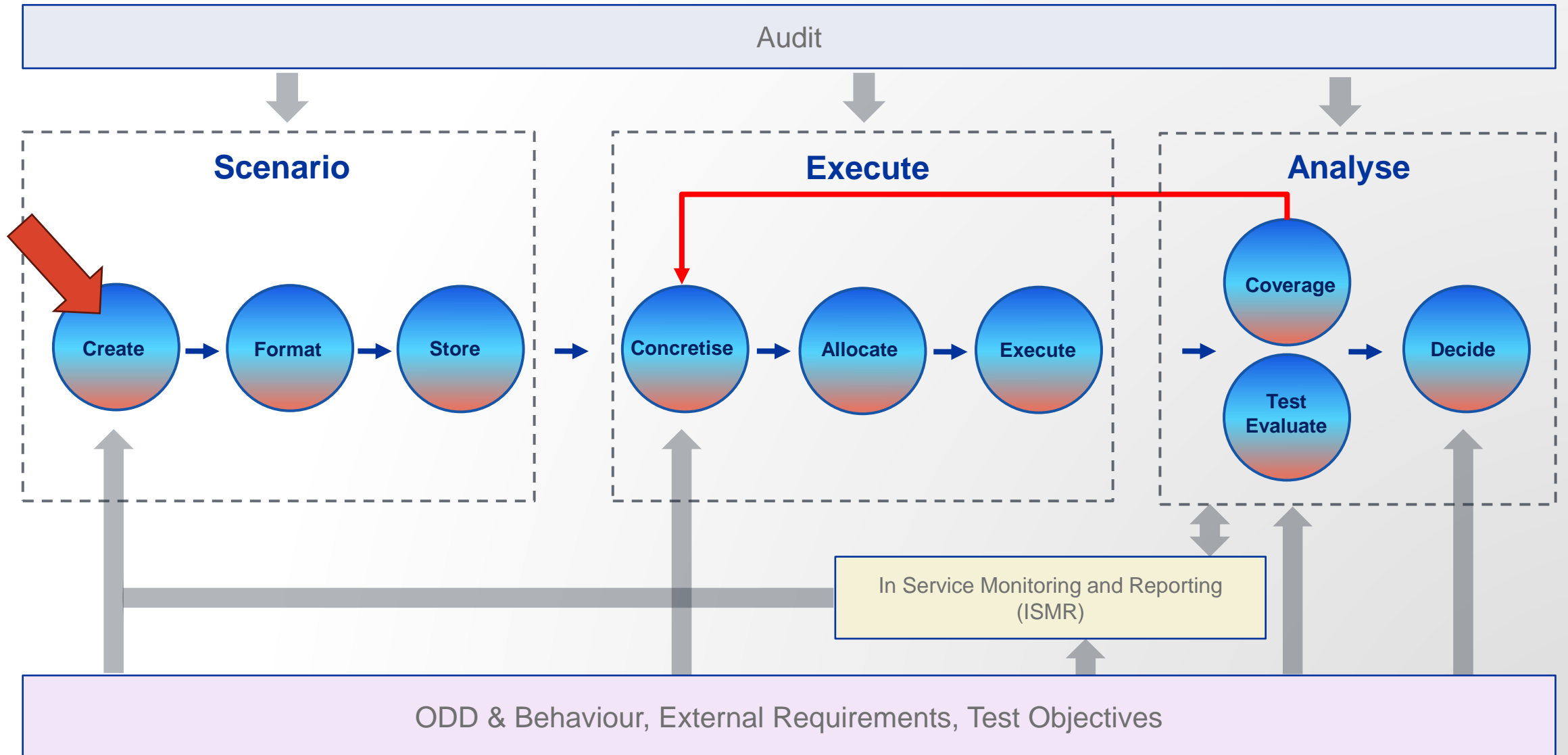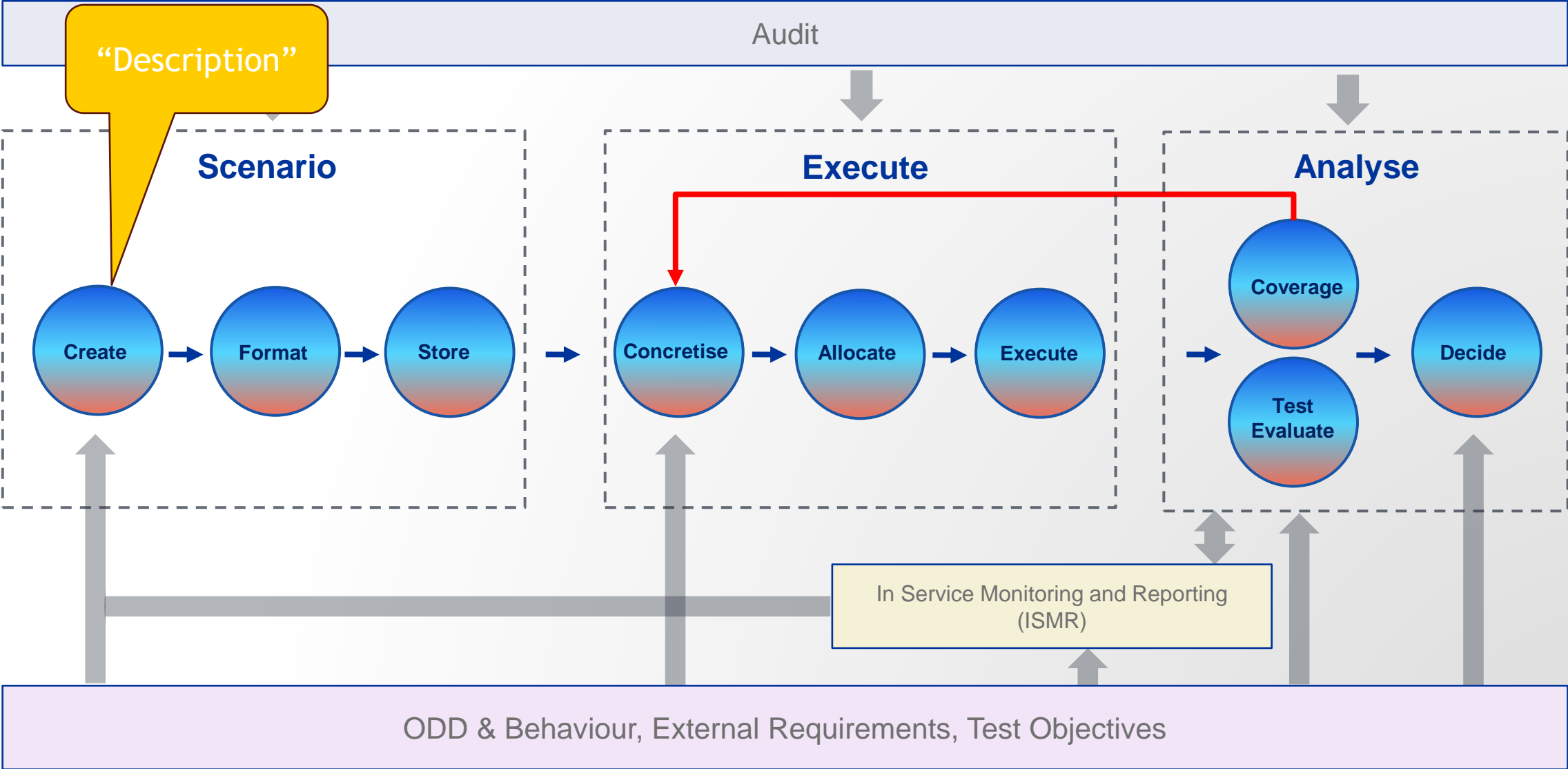
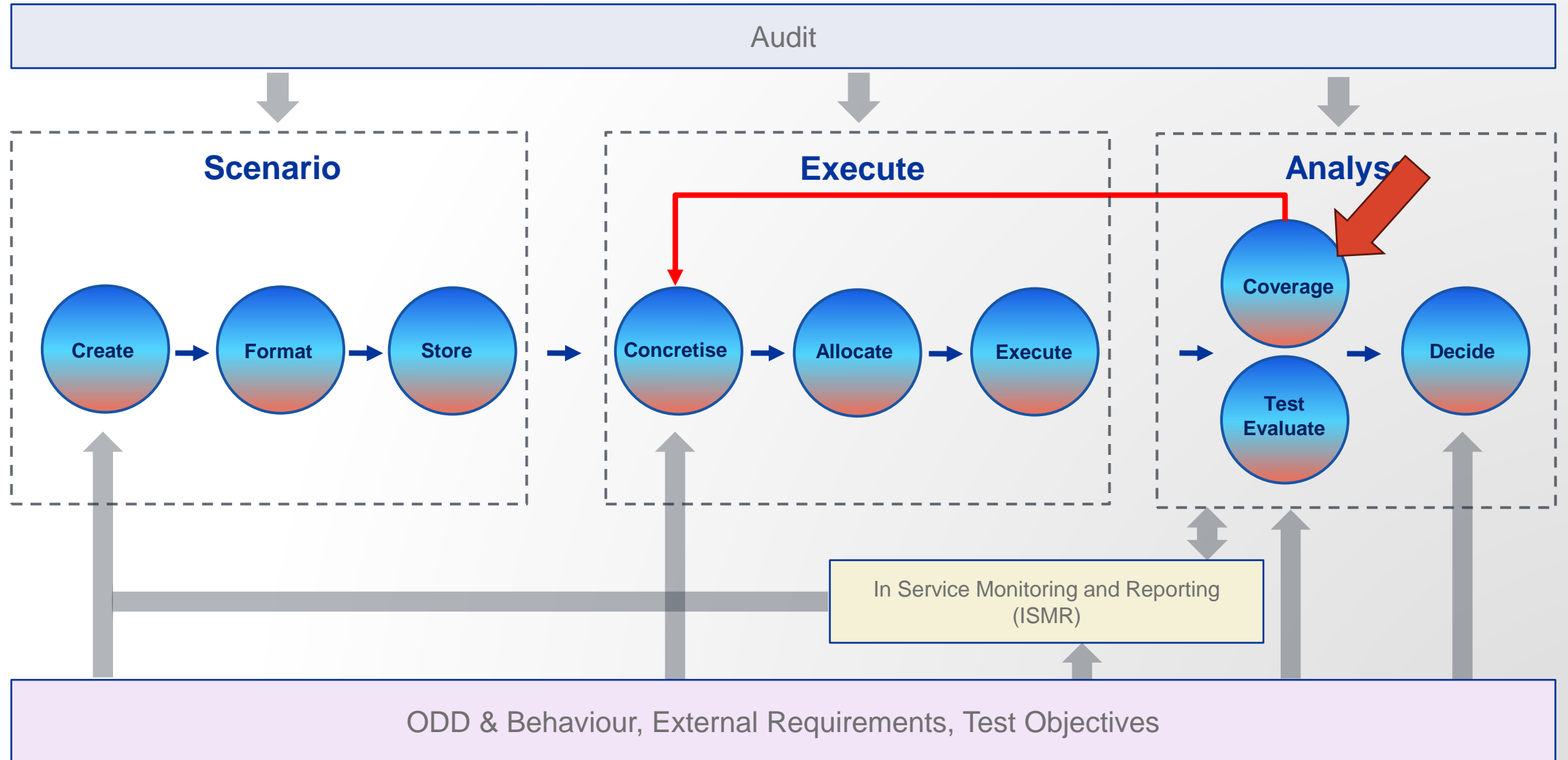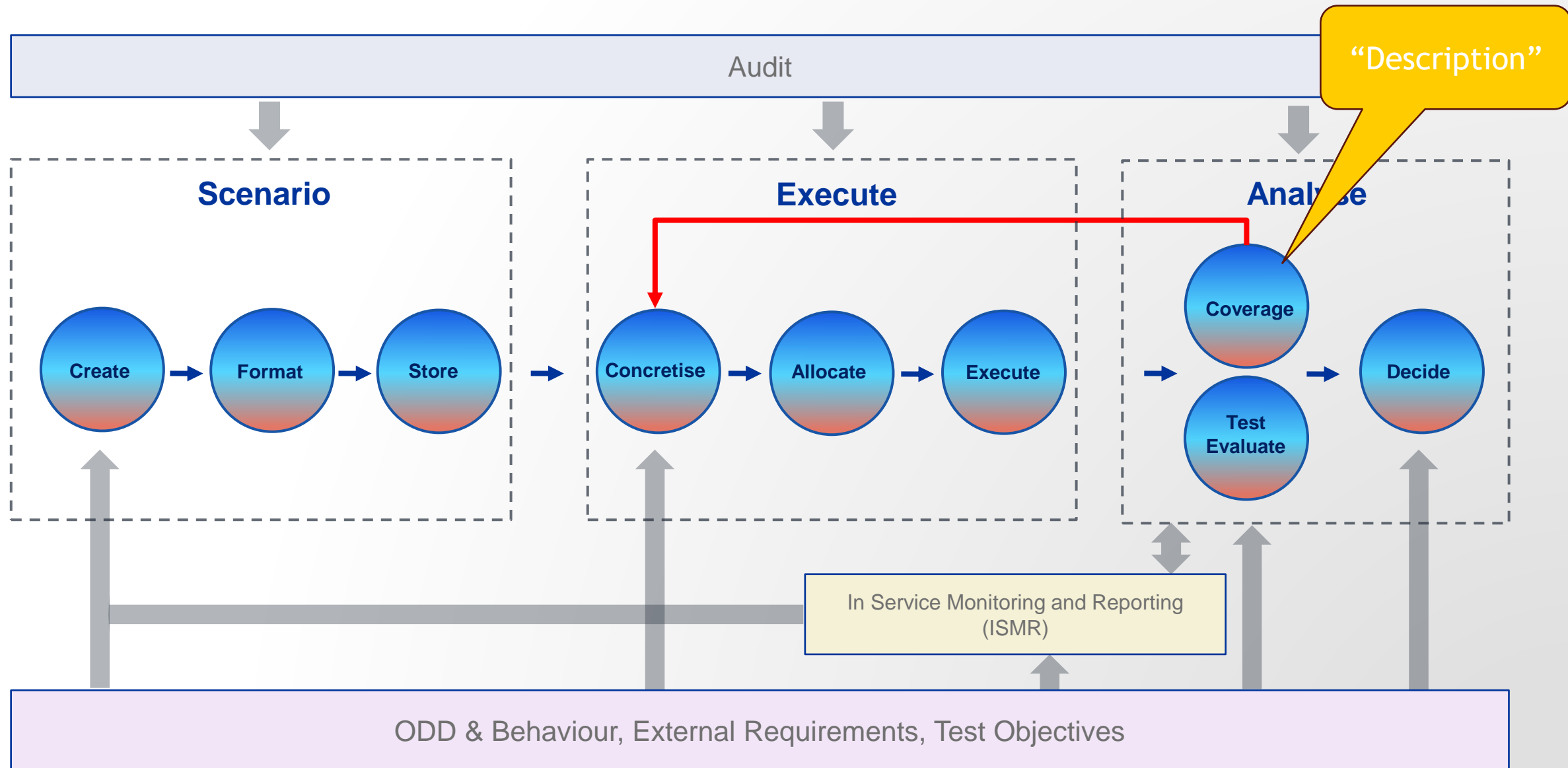# Safety Assurance Framework - Handbook

Safety Assurance Framework - Handbook

Coverage Analysis

A placeholder for determining the coverage of the test result, it will receive any relevant requirements from the input layer. One example of such coverage could be the coverage of the logical parameter ranges by the individual concrete parameter values. The outcome of the coverage analysis will become one of the inputs into the system evaluation block.

Twin projects and initiatives - Germany

VVM is a German initiative worked on the development of a framework and methods for the safety assessment of automated vehicles in urban environments.

During 2023 several joint conferences and panels were done together with SAKURA project.

SUNRISE participated in VVM Final Event in November 2023.

Feedback on SUNRISE SAF provided during in-person attendance to SUNRISE General Assembly 4 in Brussels on the 24th of April.
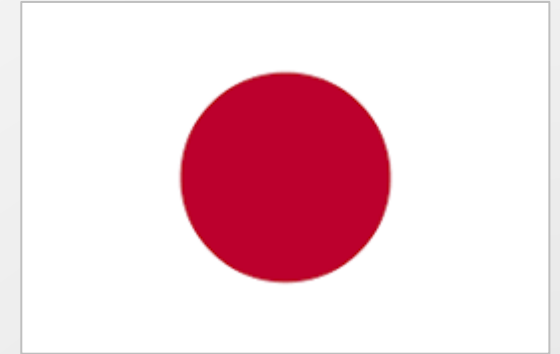
Twin projects and initiatives - Japan

SAKURA project aims to address safety assurance in autonomous vehicles focusing on the potential safety-relevant scenarios in real-world traffic.

During 2023 and expected to continue in 2024 several joint conferences and panels were done together with VVM project.

The topics for collaboration are **Virtual Validation**, **Data Framework** and **SAKURA DB**, **Scenarios** and **Glossary**.

Feedback on SUNRISE SAF provided during in-person attendance to SUNRISE General Assembly 4 in Brussels on the 24th of April.

Twin projects and initiatives - US

AVSC is an industry program of SAE ITC for the safe deployment of Automated Driving Systems. Some of the members of AVSC consortium include Aurora, GM/Cruise, Motional, Uber, Volkswagen, Daimler/Torc, Waymo, Zoox.

Alignment and feedback between **AVSC Best Practices** and SUNRISE SAF.

VTTI is a research institute of transportation systems.

The topics for collaboration are **Data Framework, Method** and **Toolchain.**

Feedback on SUNRISE SAF provided during in-person attendance to SUNRISE General Assembly 4 in Brussels on the 24th of April.

Twin projects and initiatives - Canada

Transport Canada is a federal institution in Canada responsible for transportation policies and programs.

During 2023 several online meetings happened with the main objective to identify topics for collaboration.

The topics for collaboration are **Virtual Validation** and **Scenario allocation**.

Feedback on SUNRISE SAF provided during in-person attendance to SUNRISE General Assembly 4 in Brussels on the 24th of April.
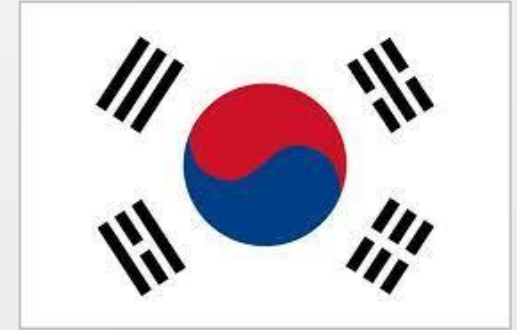
Twin projects and initiatives – South Korea

KATRI is an automobile safety research institute which focuses on performance tests, research, policy and technical support for Automobile safety.

ASSESS project, launched in April 2021, aims to evaluate safety through simulation, establishing standards including procedures and methods for safety assessment.

A **Joint White Paper** expected to be published before the end of the project showing the differences and commonalities of SUNRISE and ASSESS project.

Feedback on SUNRISE SAF provided during in-person attendance to SUNRISE General Assembly 4 in Brussels on the 24th of April.

Twin projects and initiatives – Australia

CARRS-Q is an institution dedicated to advancing research and education aimed at mitigation road trauma.
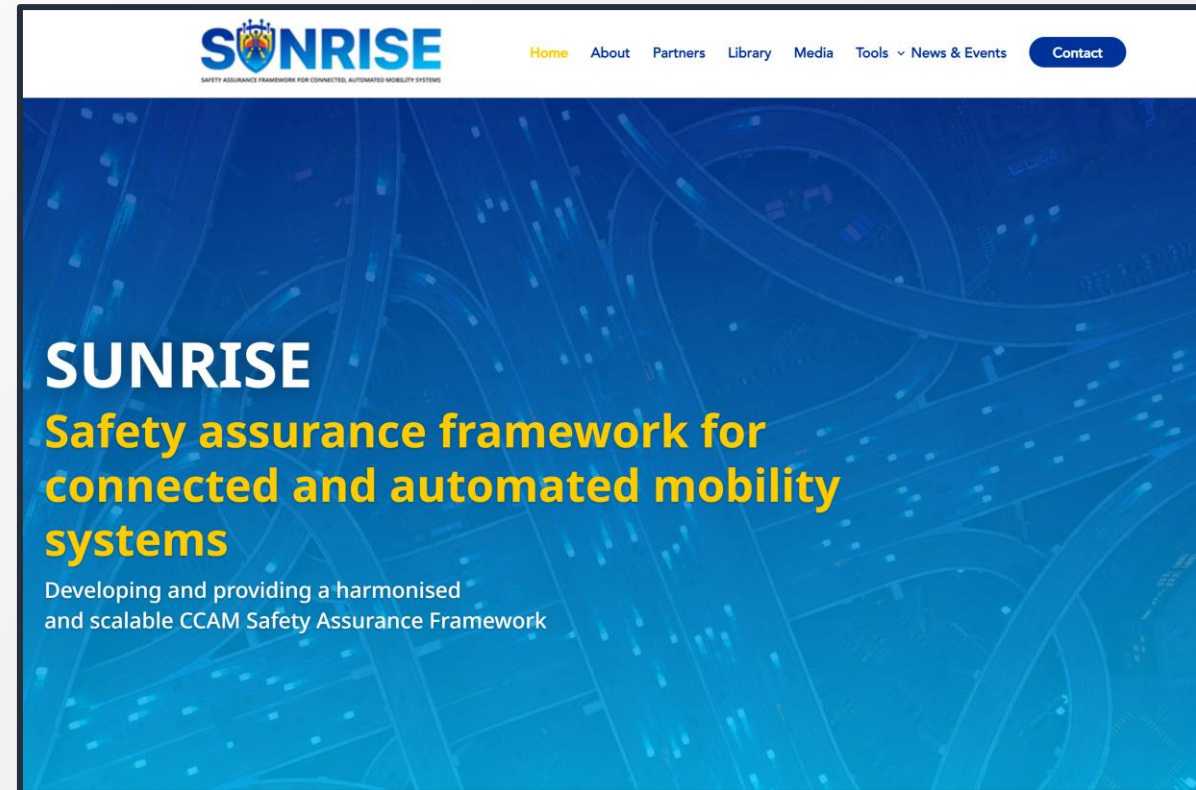
Initial collaboration stablished in January 2024.

The topics for collaboration are **Scenario DB** and **Method and Toolchain**.

Public Deliverables

**D2.3:
SUNRISE Draft Safety Assurance Framework**

D5.1: Requirements for CCAM safety assessment data framework content

https://ccam-sunrise-project.eu/

Thank you…
Discussion…

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Horizon Research and Innovation Actions | Project No. 101069573

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