HEADSTART

Harmonised European Solutions for Testing Automated Road Transport

From Methodology to Procedure

Mid-term Event 22nd of October 2020

Bernhard.Hillbrand@v2c2.at

Event rules and process
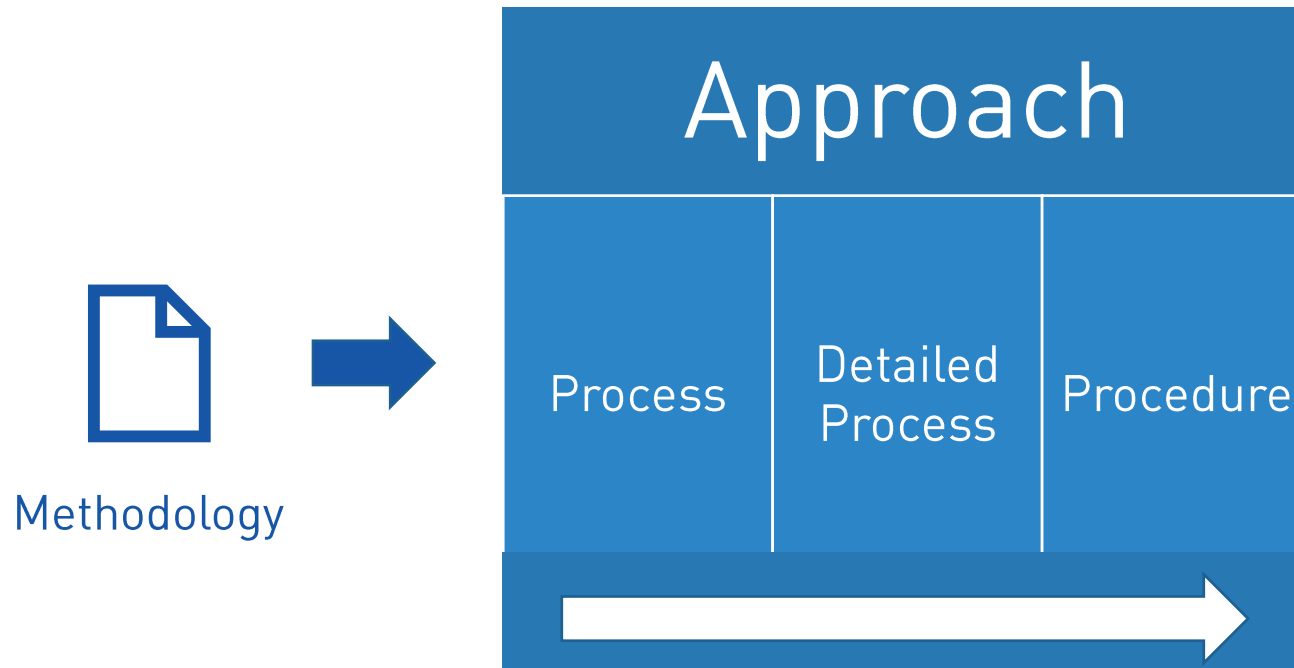
✓ Webinar is being recorded

✓ Slides and recording **will be shared** and published on HEADSTART website

✓ Questions can be raised via www.slido.com with event code: *#HEADSTART*

   The questions are gathered and where possible raised by the webinar moderator at fixed time slots during the webinar to the presenters.

✓ Do not wait until the end of the presentation! If you have questions, just send them to us!

Join at
slido.com
#HEADSTART

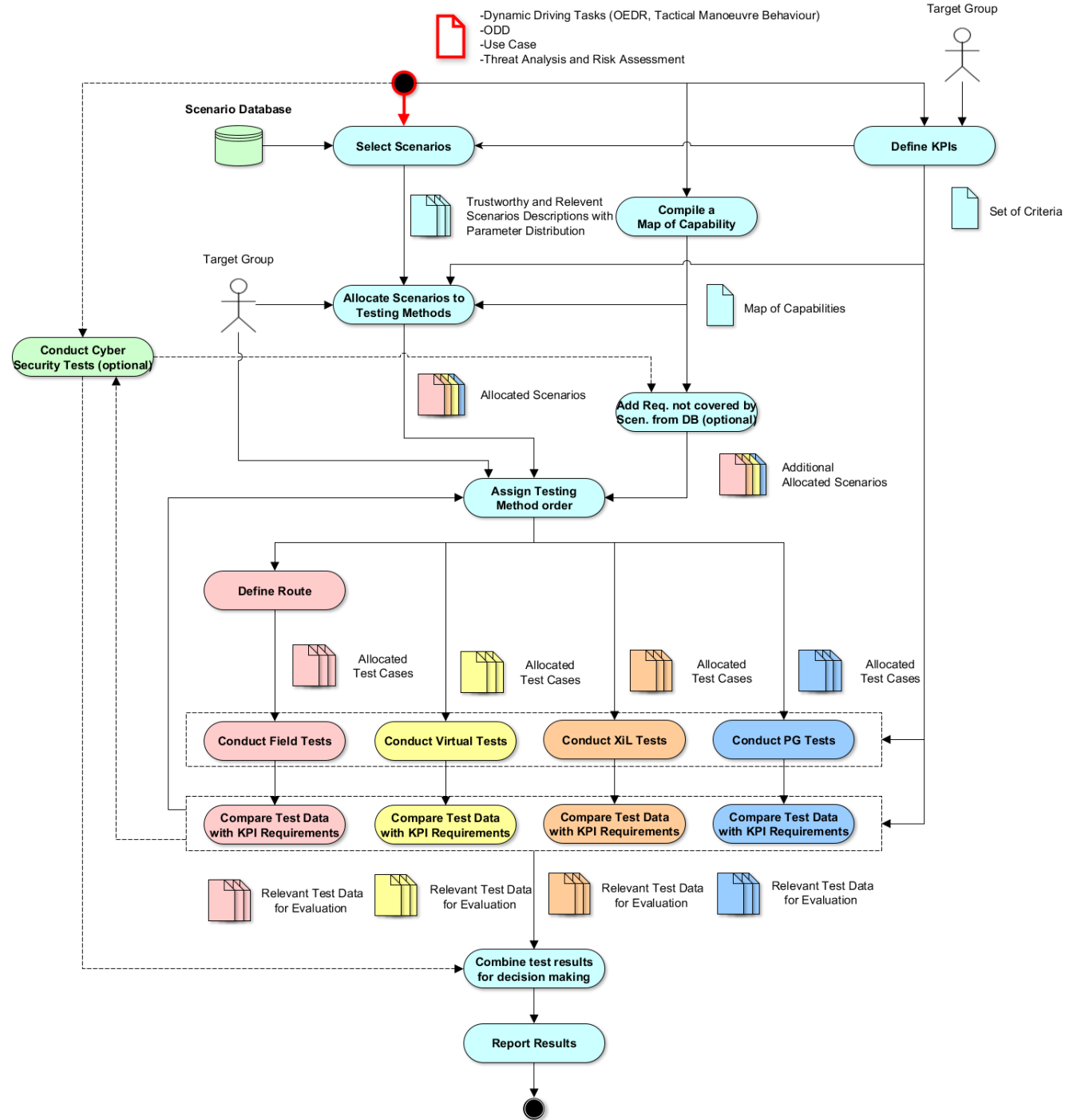✓ Please, avoid using the GoToMeeting chat as your question may not arrive to us

Process vs. Procedure

✓ **A process** is a set of interrelated or interacting activities which transforms inputs into outputs. It's about **what to do.**

✓ **A procedure** is a specified way to carry out an activity or a process. It's about **how to do it**.

Methodology →

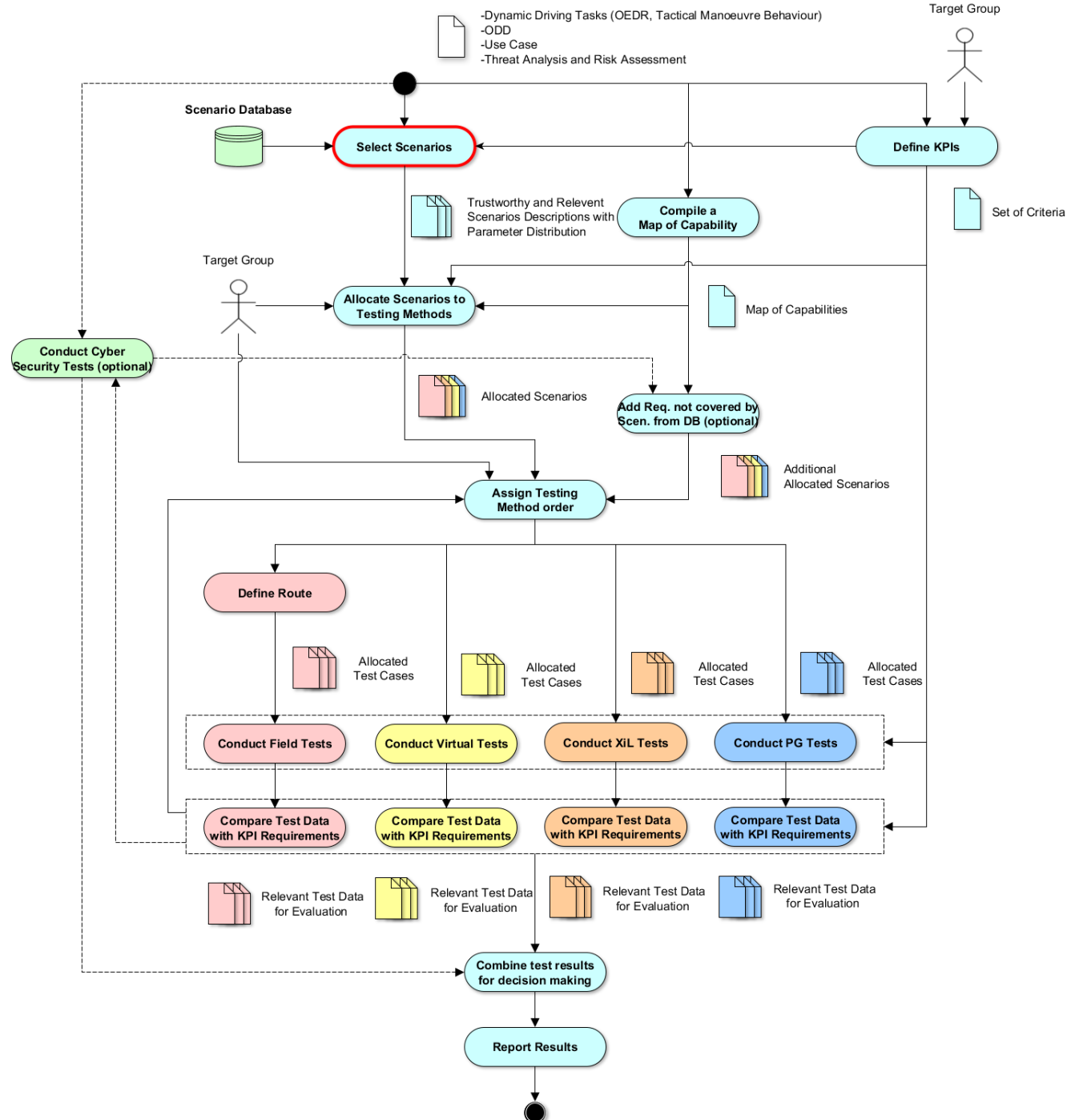| Approach		
Process	Detailed Process	Procedure

High-Level Process

- ✓ Scenario Selection
- ✓ Scenario Allocation
- ✓ Testing Method Coordination
- ✓ Field Testing
- ✓ Virtual Testing
- ✓ XiL Testing
- ✓ Proving Ground Testing
- ✓ Cyber Security
- ✓ Evaluation

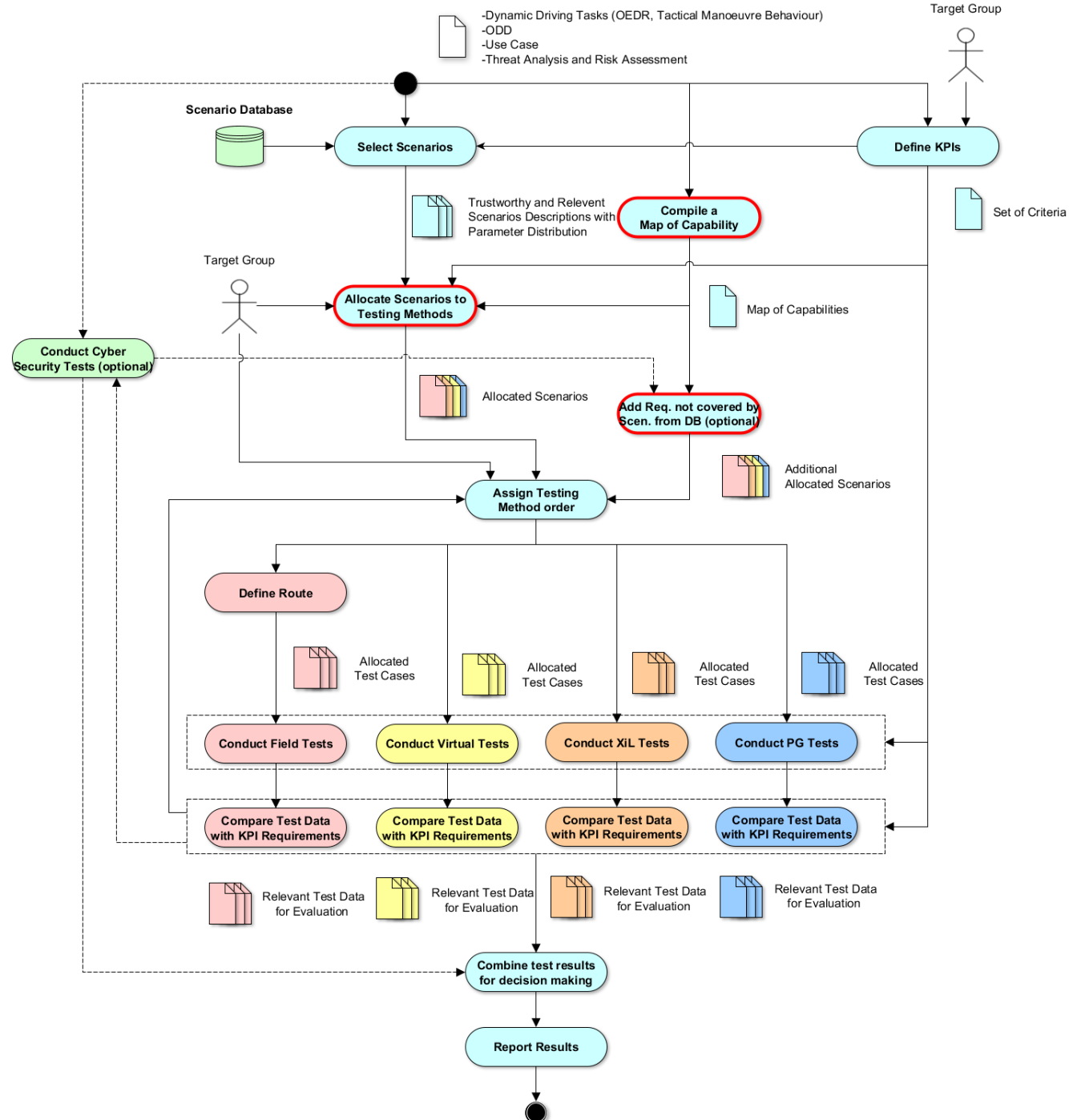22/10/2020

High-Level Process

✓ Scenario Selection
  ▪ Extract scenarios from database
  ▪ Include additional scenarios if ODD/functionalities are not sufficiently covered
  ▪ Assess relevance of parameters and parameter distributions
  ▪ Make feasibility checks

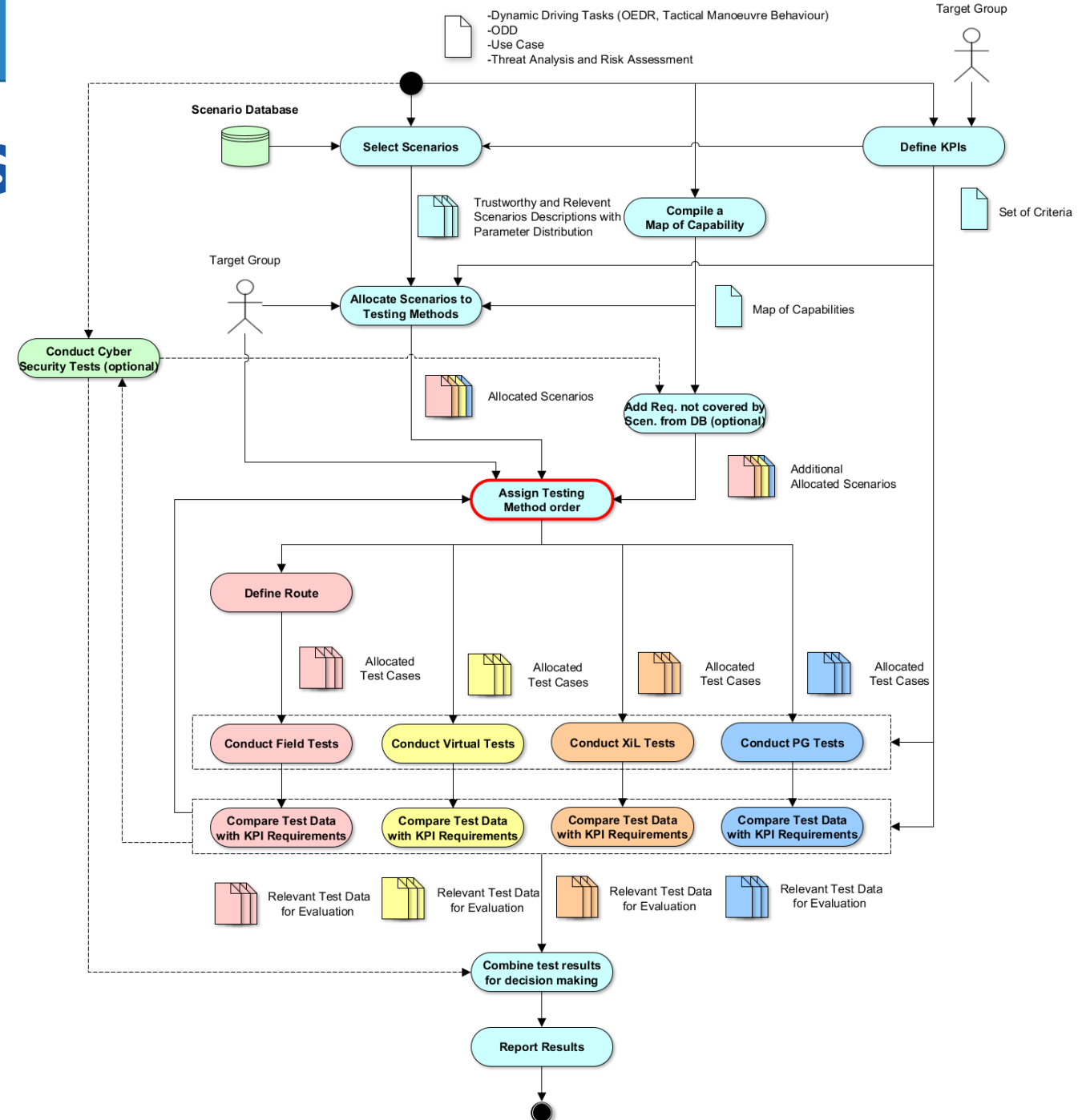22/10/2020

High-Level Process

✓ Scenario Allocation
- Define capabilities of the testing methods
- Compare capabilities of testing methods with requirements of scenarios
- Allocate scenarios to testing methods
- If additional requirements available
  ○ add them to available scenarios if possible
  ○ or create separate scenarios

22/10/2020

High-Level Process
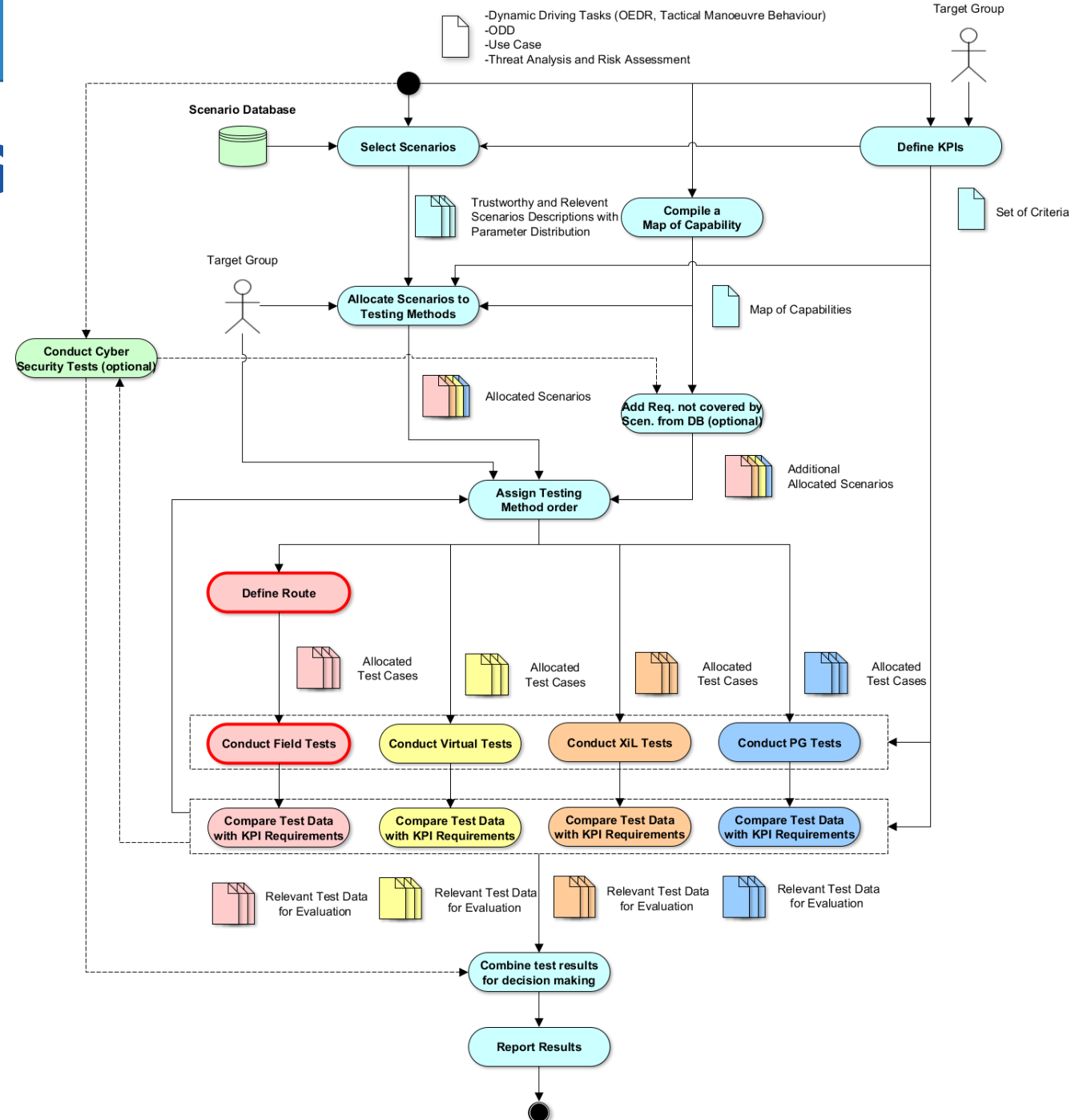
✓ Testing Method Coordination
  ▪ Define order in which the testing methods will be executed

22/10/2020

High-Level Process
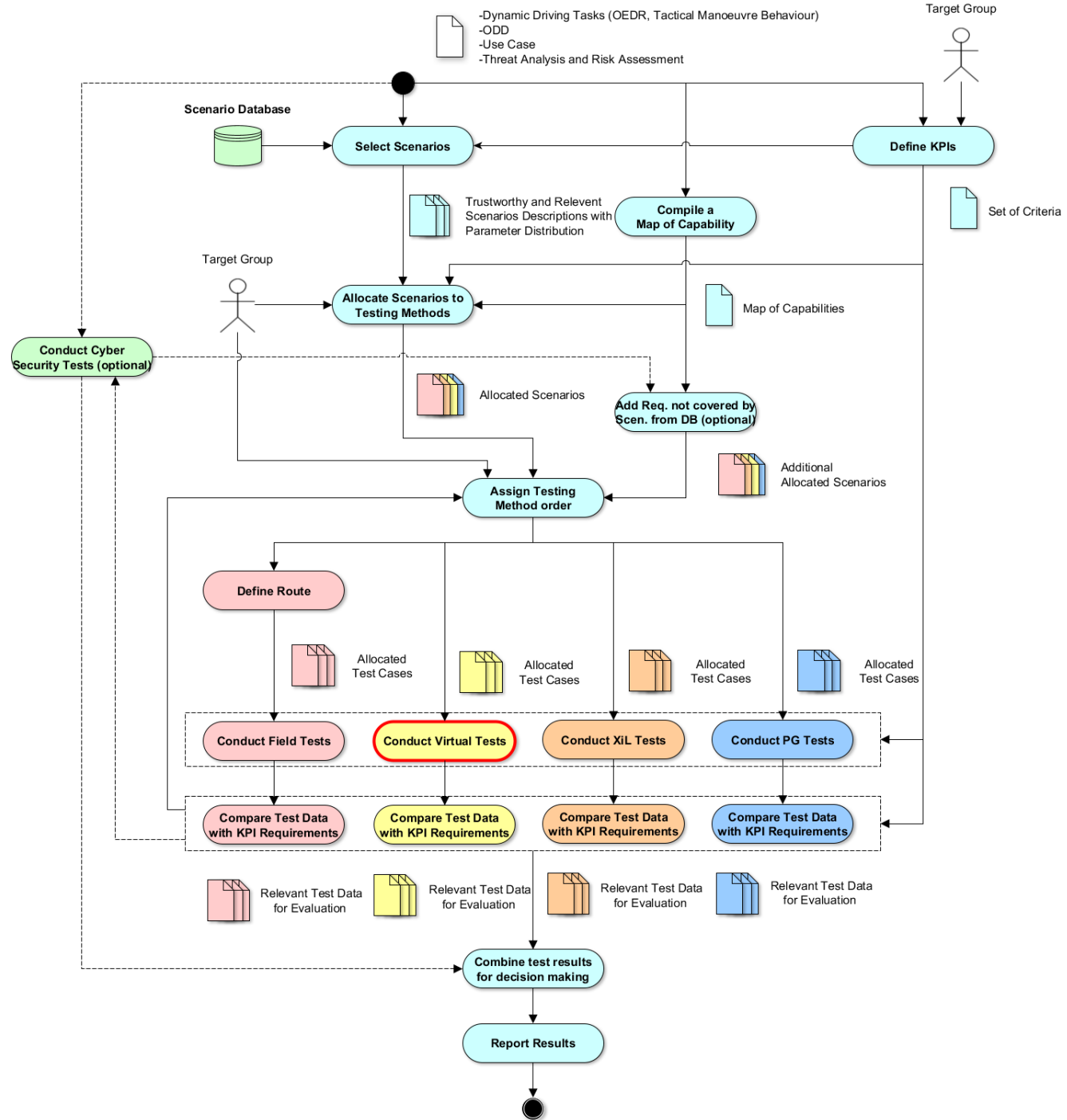
✓ Field Testing
  ▪ Define route
  ▪ Prepare testing strategy, equipment and infrastructure
  ▪ Conduct field tests

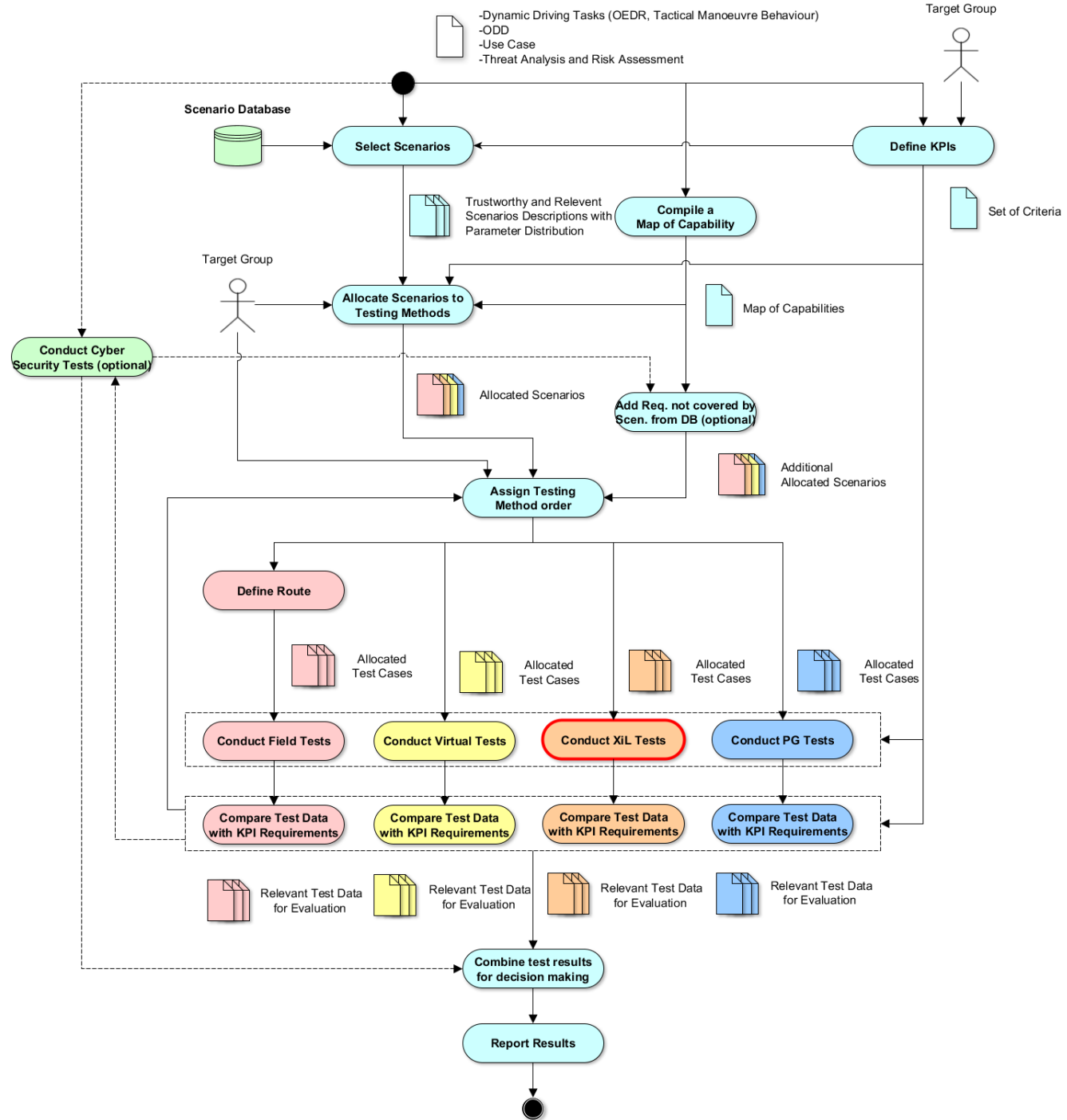# High-Level Process

✓ Virtual Testing
- Prepare testing strategy, simulation models and simulation environment
- Conduct virtual tests

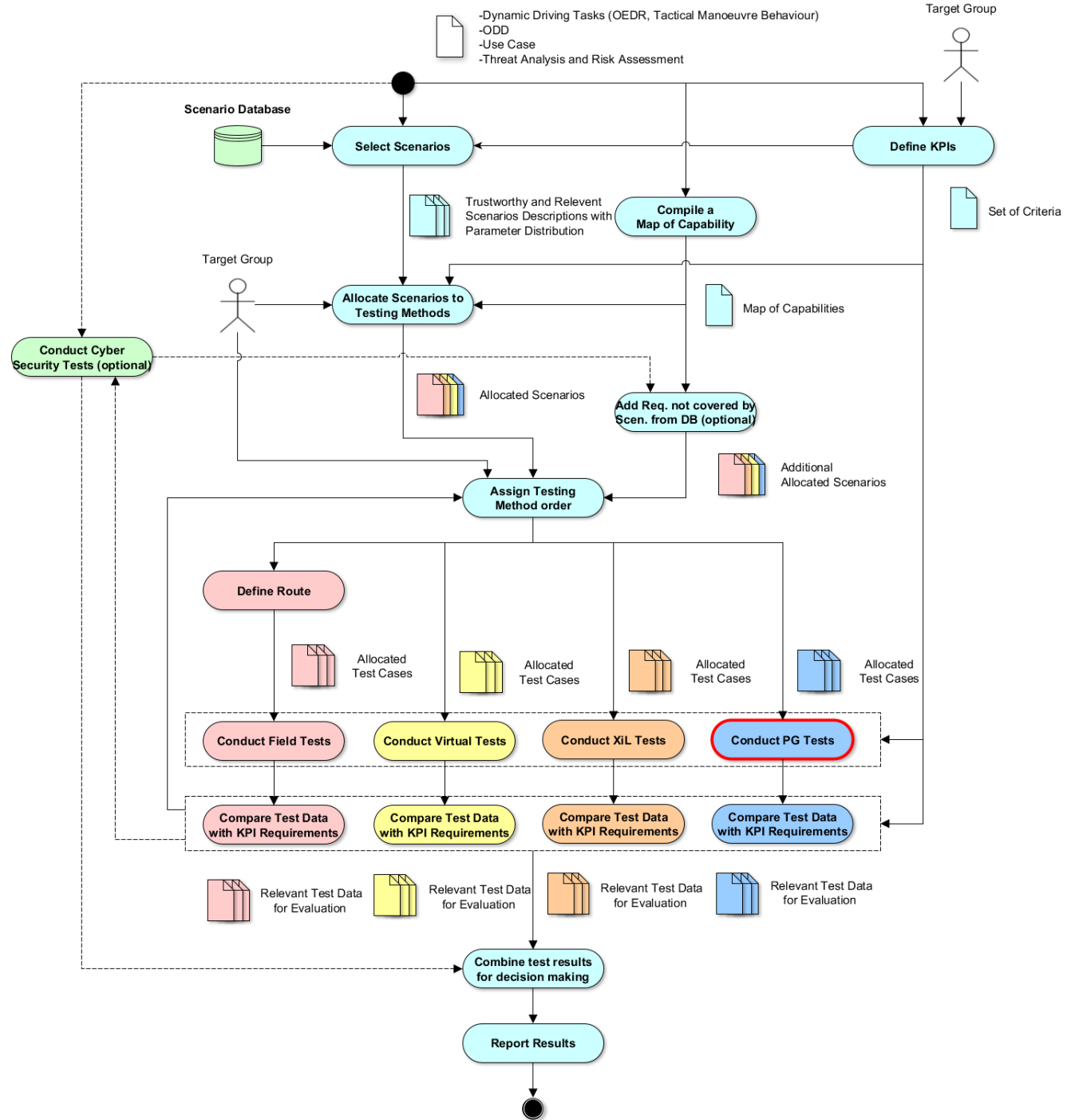22/10/2020

High-Level Process

✓ XiL Testing
- Prepare testing strategy, simulation models, simulation environment and XiL infrastructure
- Conduct XiL tests
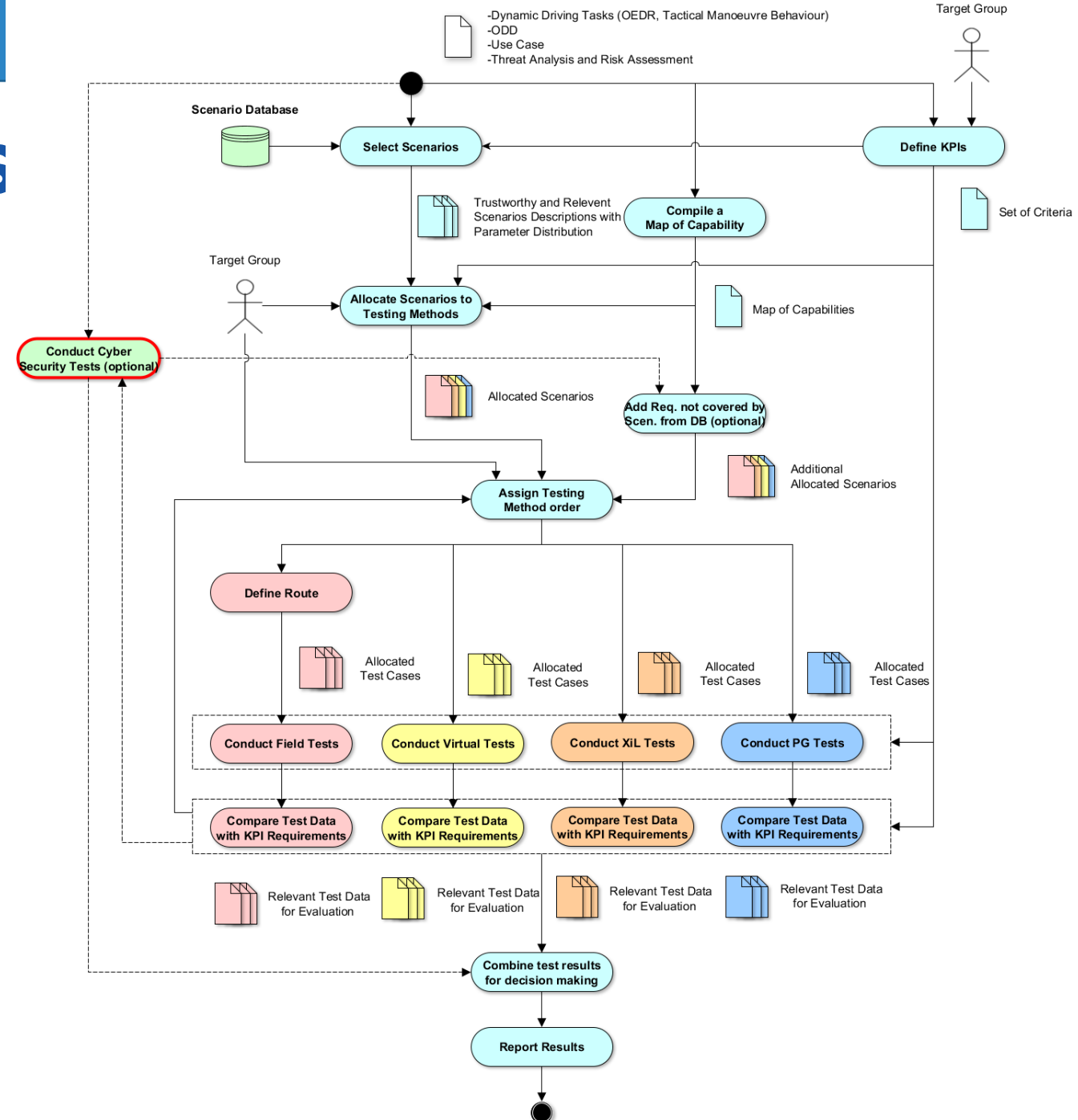
High-Level Process

✓ Proving Ground Testing
  ▪ Prepare testing strategy, equipment and infrastructure
  ▪ Conduct proving ground tests
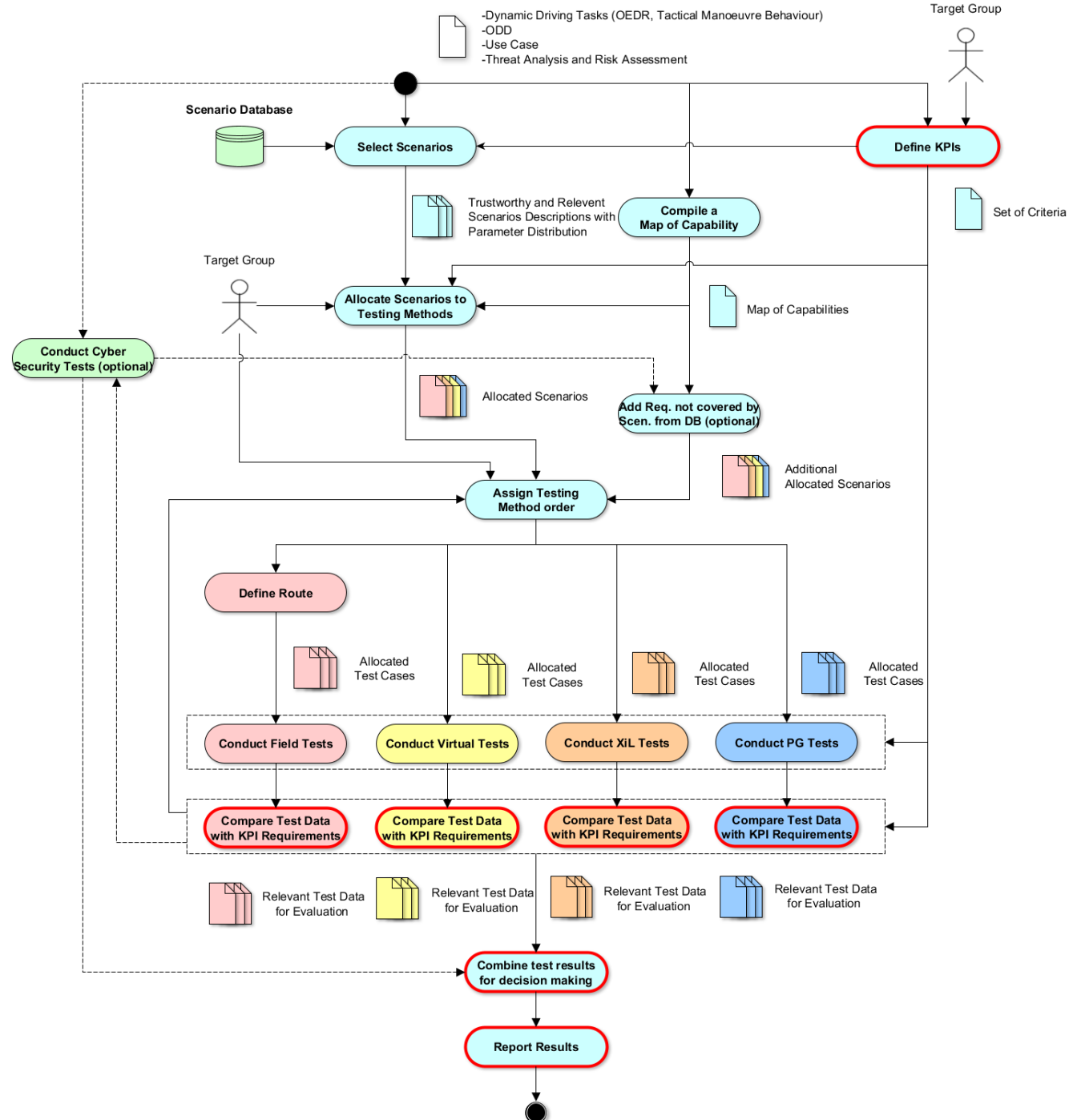
High-Level Process

✓ Cyber Security
- ▪ Optional side branch
- ▪ Based on common criteria
- ▪ Linked to the scenario allocation phase for additional requirements that can be allocated to testing methods

22/10/2020

High-Level Process

✓ Evaluation

- ▪ Define key performance indicators (KPIs)
- ▪ Define KPI verification
- ▪ Compare test data with KPI requirements (for each testing method)
- ▪ Combine test results for evaluation

22/10/2020

Thank you!

Any questions?