



HEADSTART

HARMONISED EUROPEAN SOLUTIONS
FOR TESTING AUTOMATED ROAD TRANSPORT

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Virtual Vehicle Research GmbH



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 824309.

HEADSTART project facts

✓ **Duration:** 01.2019 – 12.2021 (36 months)

✓ **Budget:** 6M€

✓ **Consortium:** 17 partners

- Research centers
- Technical services
- Euro NCAP laboratories
- OEMs
- Tier-1s

✓ **Website:** <https://www.headstart-project.eu>

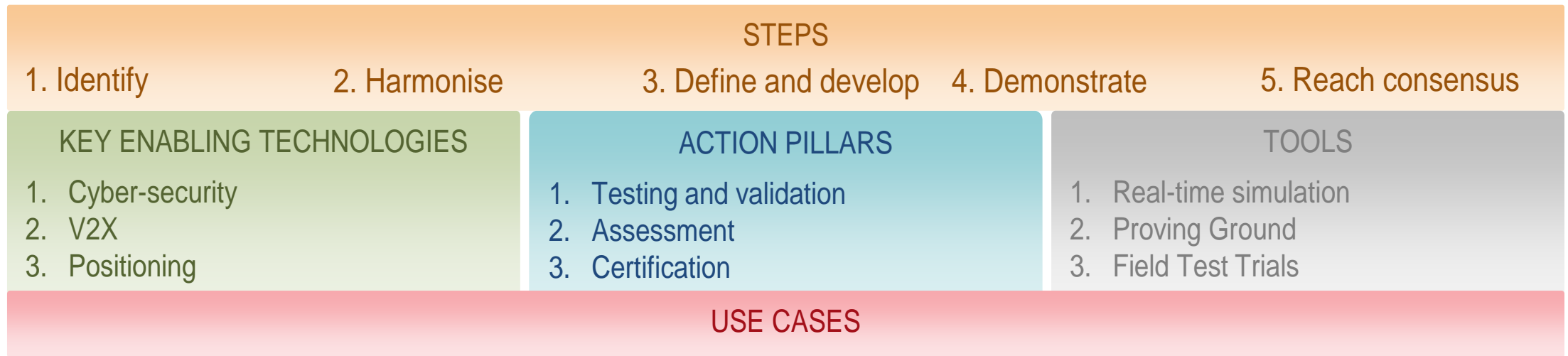




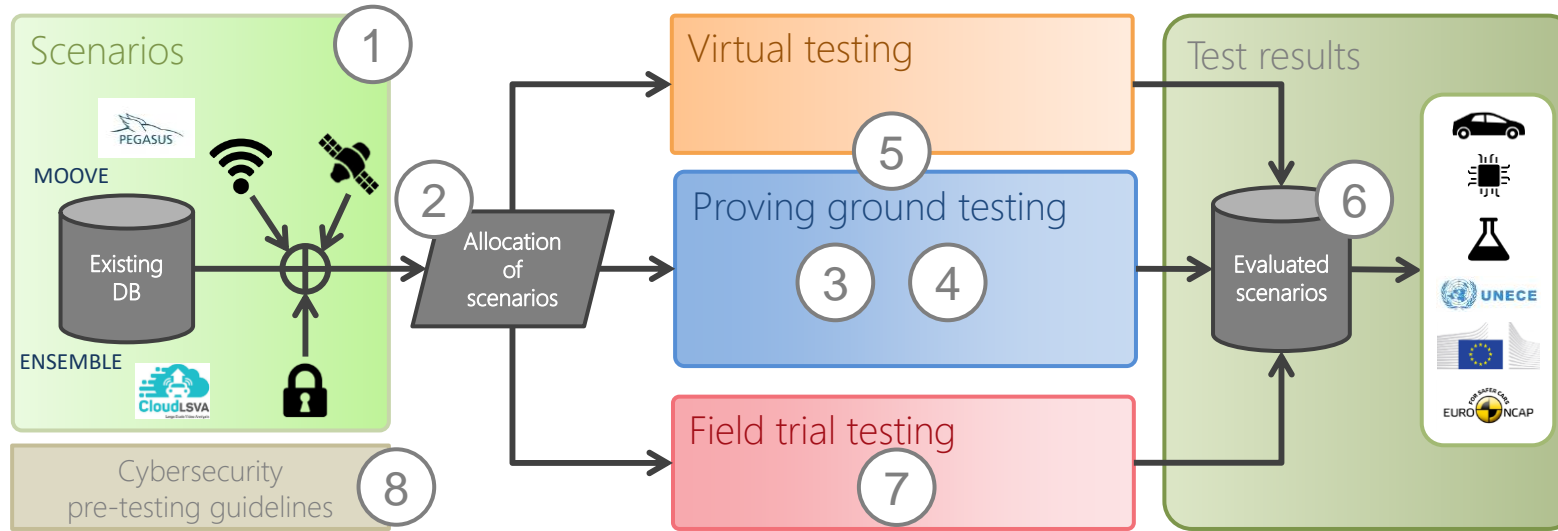
Project's Objectives

HEADSTART will define testing and validation procedures of CAD functions including:

- its key enabling technologies (i.e. communication, cyber-security, positioning)
- by cross-linking of all test instances such as simulation, proving ground and real-world field tests
- to validate safety and security performance according to the needs of key user groups (technology developers, consumer testing and type approval)

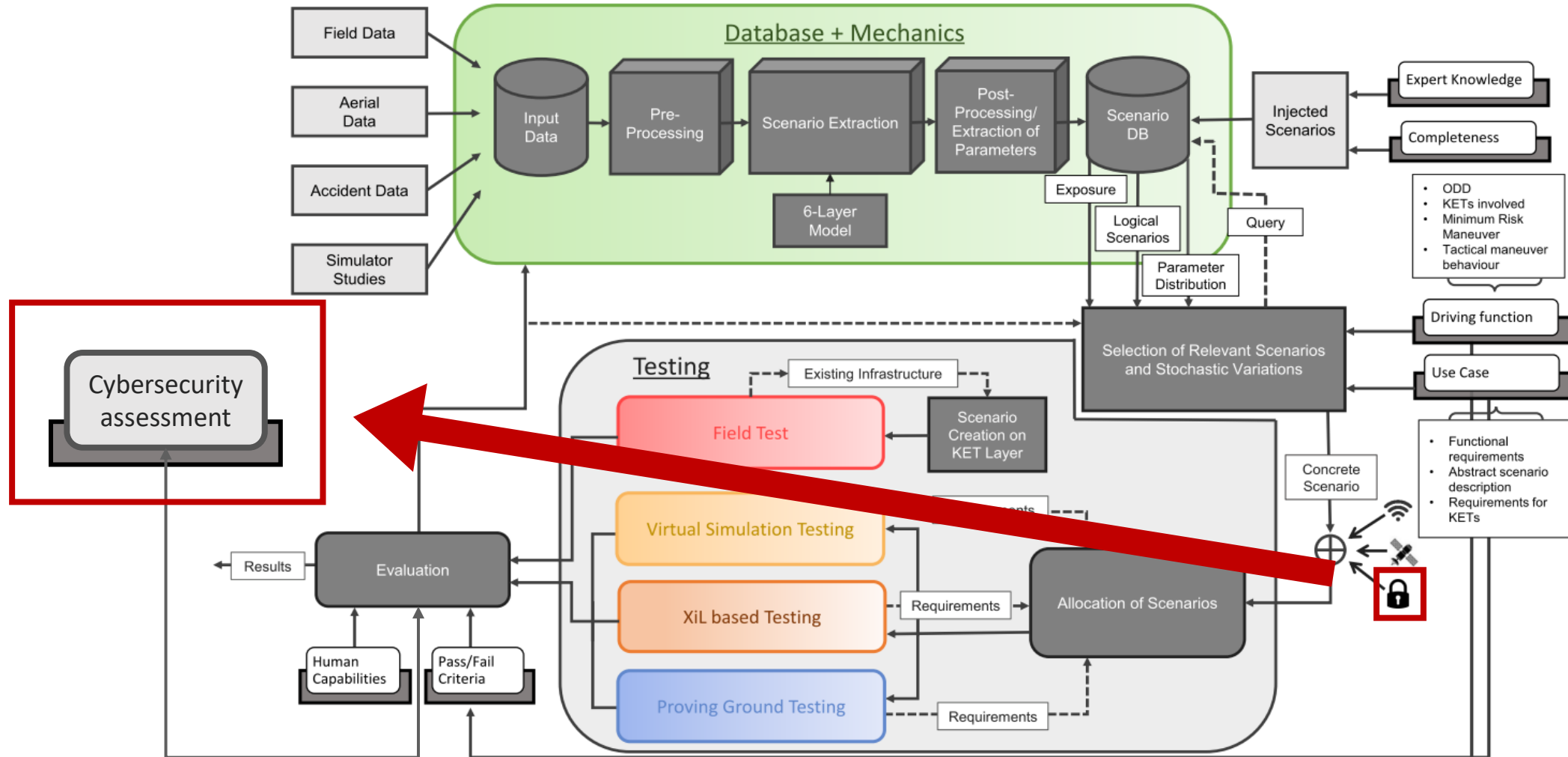


Project's Concept

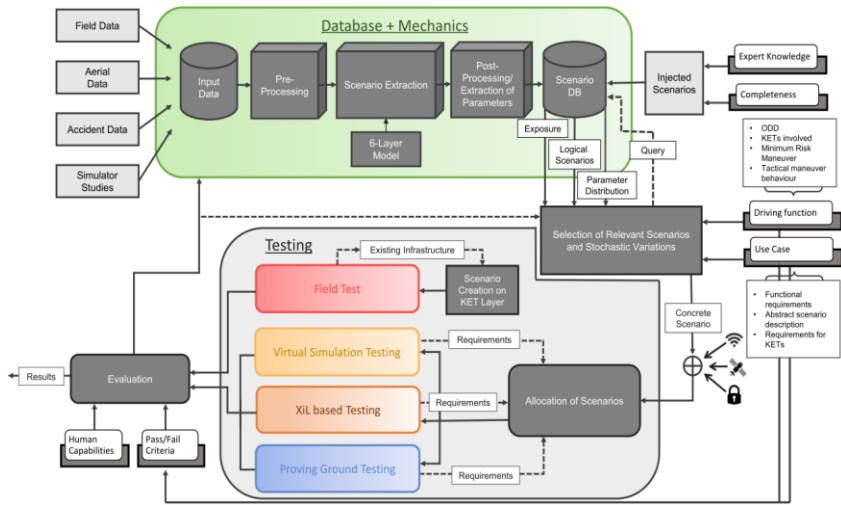


- | | |
|---|--|
| <ul style="list-style-type: none"> ① Integration of positioning, communications and cyber-security in CAD test scenarios ② Comprehensive procedure for the allocation of test cases per testing platform ③ Selection criteria and specification for proving ground test scenarios taking into account criticality ④ Proving ground testing and evaluation | <ul style="list-style-type: none"> ⑤ Correlation between simulation and proving ground results ⑥ Harmonised, open result compilation and sharing ⑦ Field trial test methodology description ⑧ Cyber-security principles and integration in the testing methodology |
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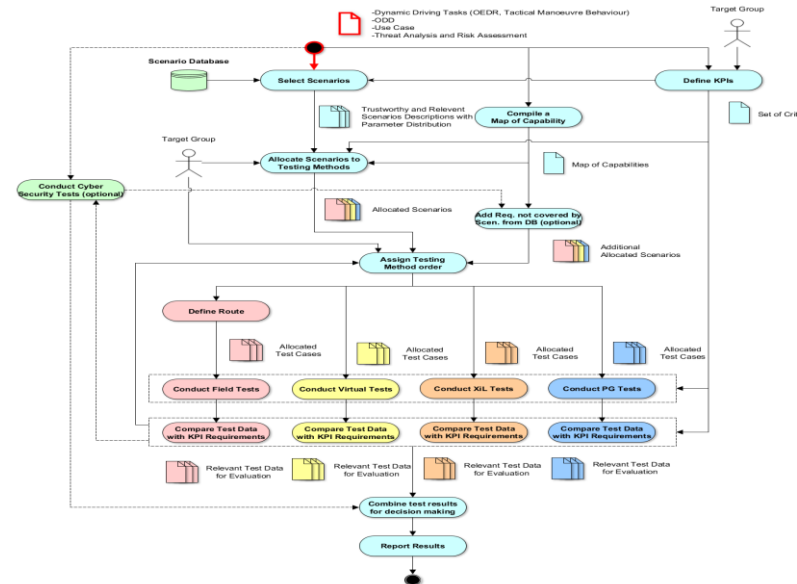
KETs within the methodology



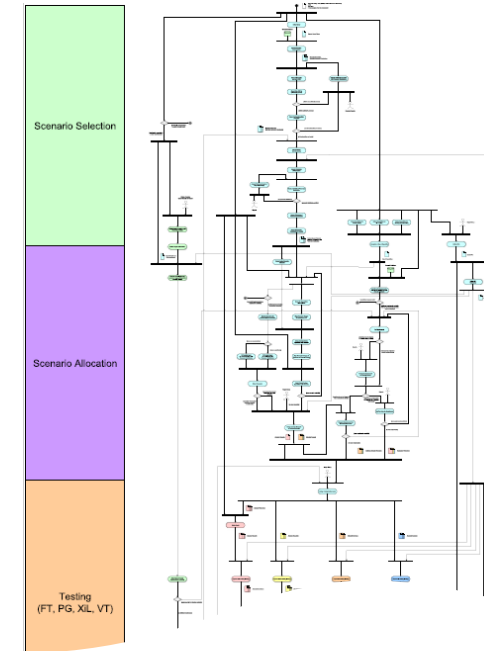
From Methodology to Procedure



Methodology



Process



Procedure

Conclusions

- ✓ State-of-the-art assessment is publicly available
 - Information from worldwide projects
 - Functional requirements for AD but also KETs

- ✓ The HEADSTART Methodology is a living process
 - Need for expert input to refine the methodology is welcomed
 - KETs have been considered in the whole process
 - Keep the Methodology harmonized and applicable for different databases

- ✓ The procedure allows us to continue with the actual implementation of the whole validation process
 - Some KETS are naturally integrated (V2X + positioning)
 - Some require specific paths (cybersecurity)
 - Cooperation on Open Scenario extension/enhancement is ongoing

Next Steps

- ✓ Current development of a testing tool chain
 - Including simulation / virtual testing / test track testing / Field tests
 - Harmonization of queries to external DBs

- ✓ This will be demonstrated next year for the chosen Use Cases:
 - Highway Pilot
 - Traffic Jam Chauffeur
 - Truck platooning

- ✓ Demonstations planned in second semester of 2021

EXPERT GROUP PARTICIPATION

- Join the discussion group of your interest:
 - Cyber-security
 - Communications (V2X)
 - Positioning
 - Scenario selection
 - Consumer testing (NCAP)
 - Type approval

Join our distribution list

Website: www.headstart-project.eu

Contact: info@headstart-project.eu

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HEADSTART

Thank you!

Any questions?

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