

# Scenario analysis and quality measures



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Gefördert durch:



aufgrund eines Beschlusses  
des Deutschen Bundestages

# Central Goals of PEGASUS

**What level of performance is expected of an automated vehicle?  
How can we verify that it achieves the desired performance consistently?**



## Scenario Analysis & Quality Measures

- What human capacity does the application require?
- What about technical capacity?
- Is it sufficiently accepted?
- Which criteria and measures can be deducted from it?



## Implementation Process

- Which tools, methods and processes are necessary?



## Testing

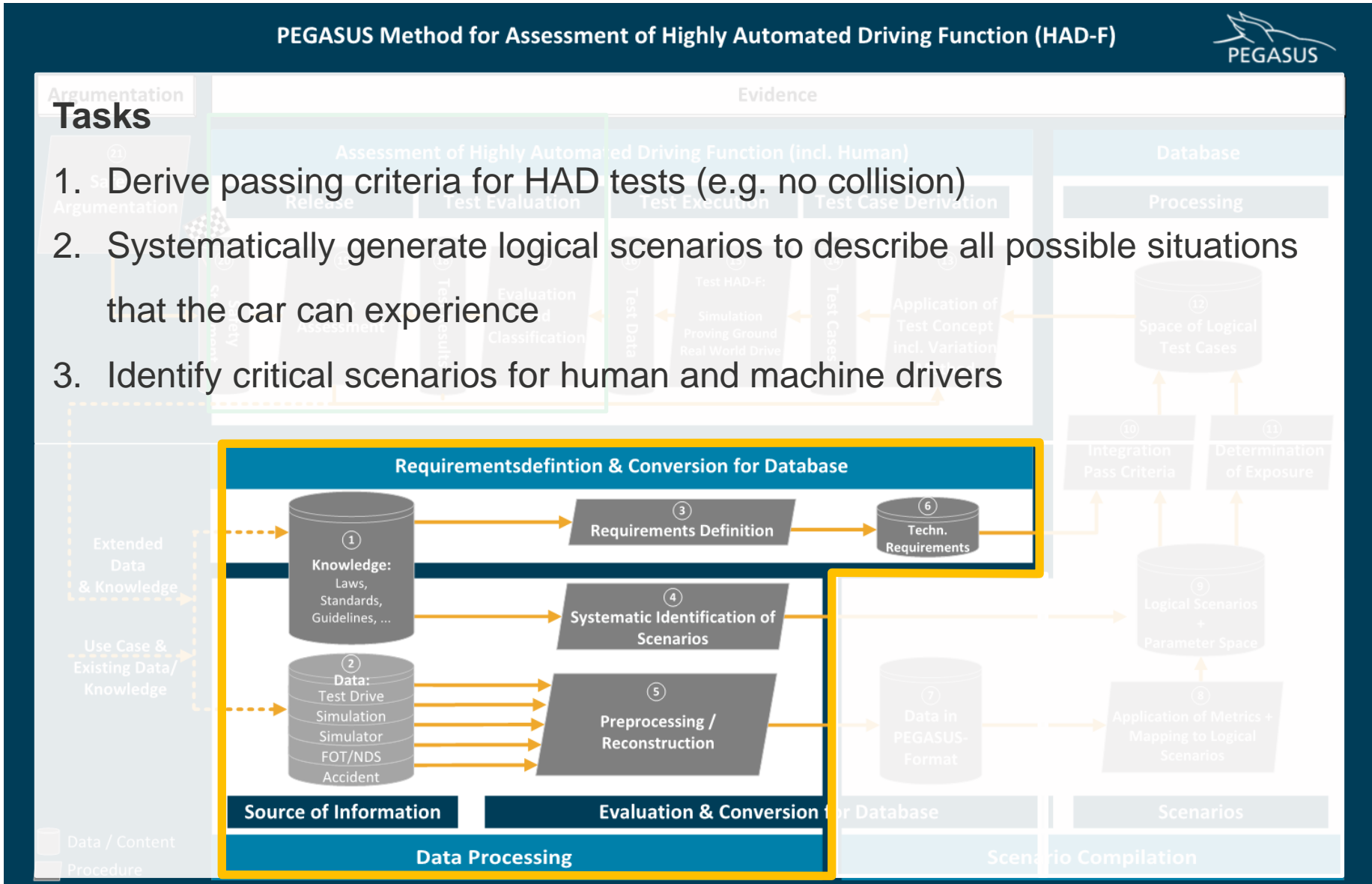
- How can completeness of relevant test runs be ensured?
- What do the criteria and measures for these test runs look like?
- What can be tested in labs or in simulation? What must be tested on proving grounds, what must be tested on the road?



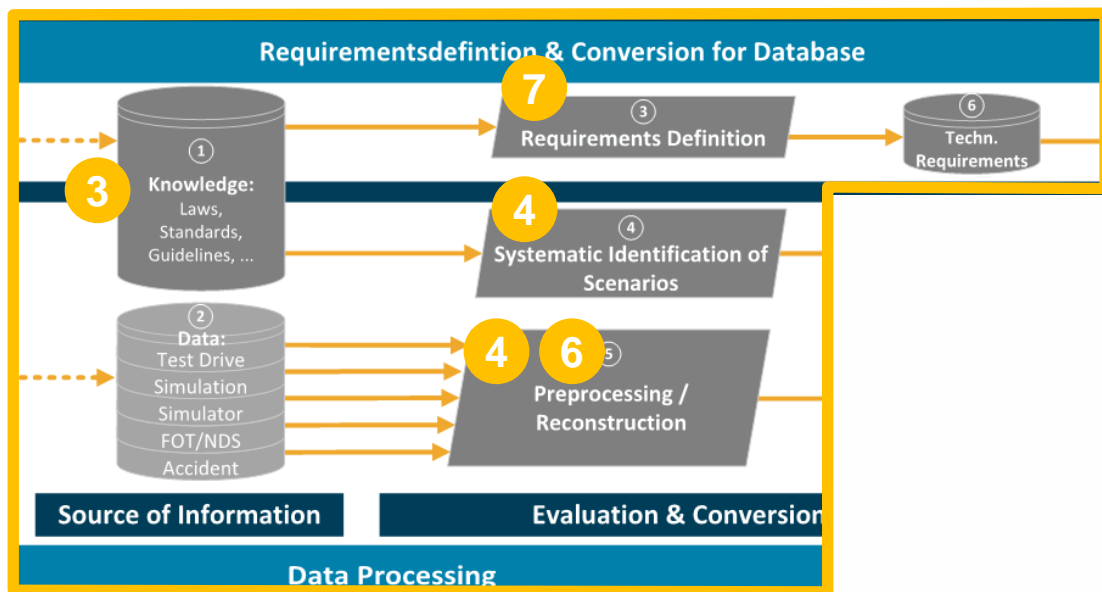
## Reflection of Results & Embedding

- Is the concept sustainable?
- How does the process of embedding work?

# Scenario Analysis and Quality Measures – Work Packages 1/2

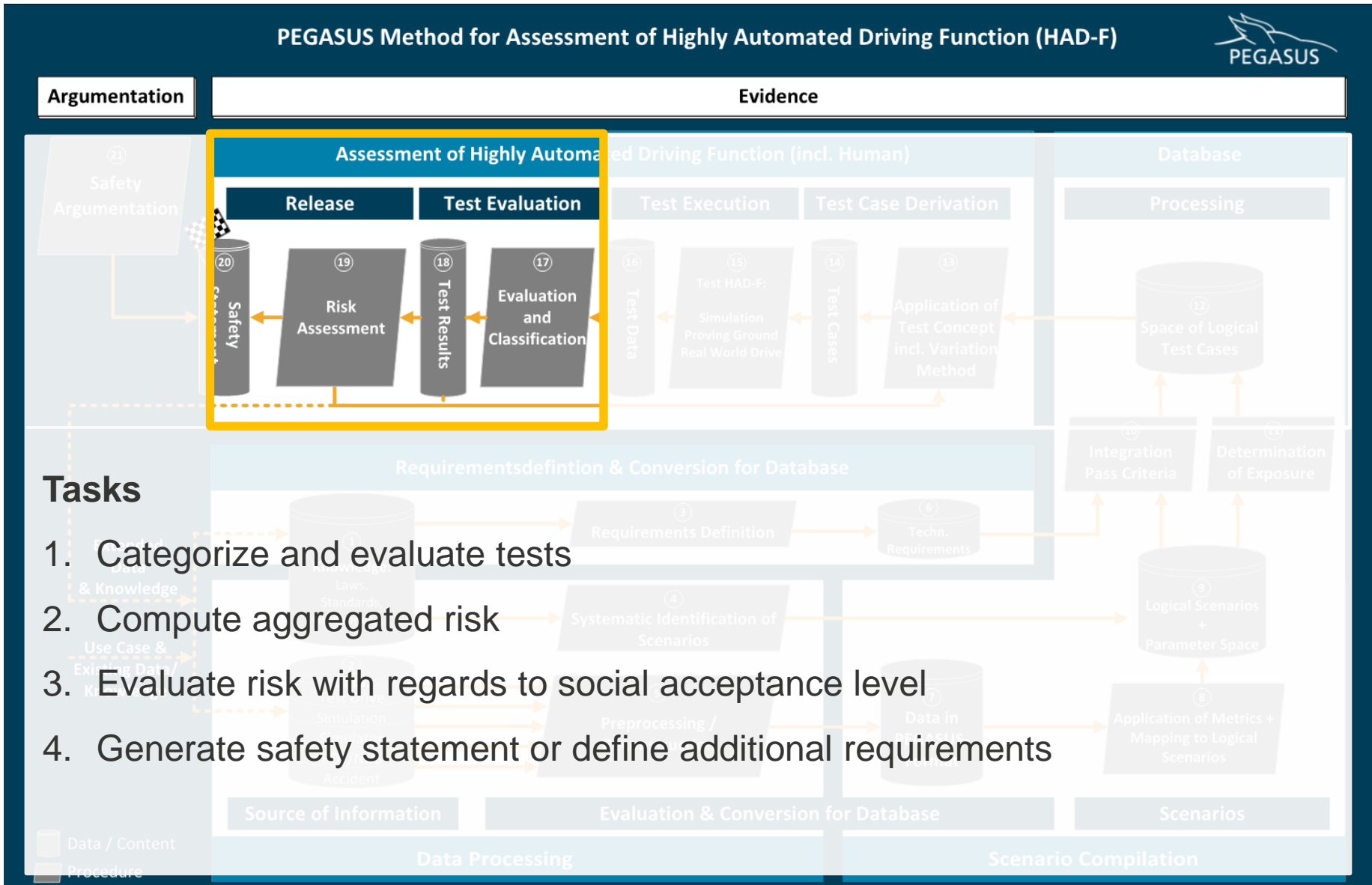


# Scenario Analysis and Quality Measures – Exhibits



#	exhibits	Content
3	Highway Pilot	<ul style="list-style-type: none"> <li>System description</li> <li>System limitation</li> </ul>
4	Scenario description and – formats	<ul style="list-style-type: none"> <li>Requirements</li> <li>Proposal for scenario description format (funktional, logisch, konkret)</li> </ul>
5	Critical scenarios for a human driver	<ul style="list-style-type: none"> <li>Method portfolio (Accident Data, NDS, Driving Simulator)</li> <li>Accident reconstruction from NDS/FOT</li> <li>Driving simulator for 1st user study</li> </ul>
6	Critical scenarios for a HAD	<ul style="list-style-type: none"> <li>Re-simulation of a scenario with and without HAD function</li> <li>Re-simulation of critical functions for HAD</li> <li>Derivation of Automation risks</li> </ul>
7	Social acceptance for HAD	<ul style="list-style-type: none"> <li>social acceptance criteria</li> <li>Requirements for HAD</li> <li>Special aspects with regards to introduction of new technologies</li> </ul>

# Scenario Analysis and Quality Measures – Work Packages 2/2

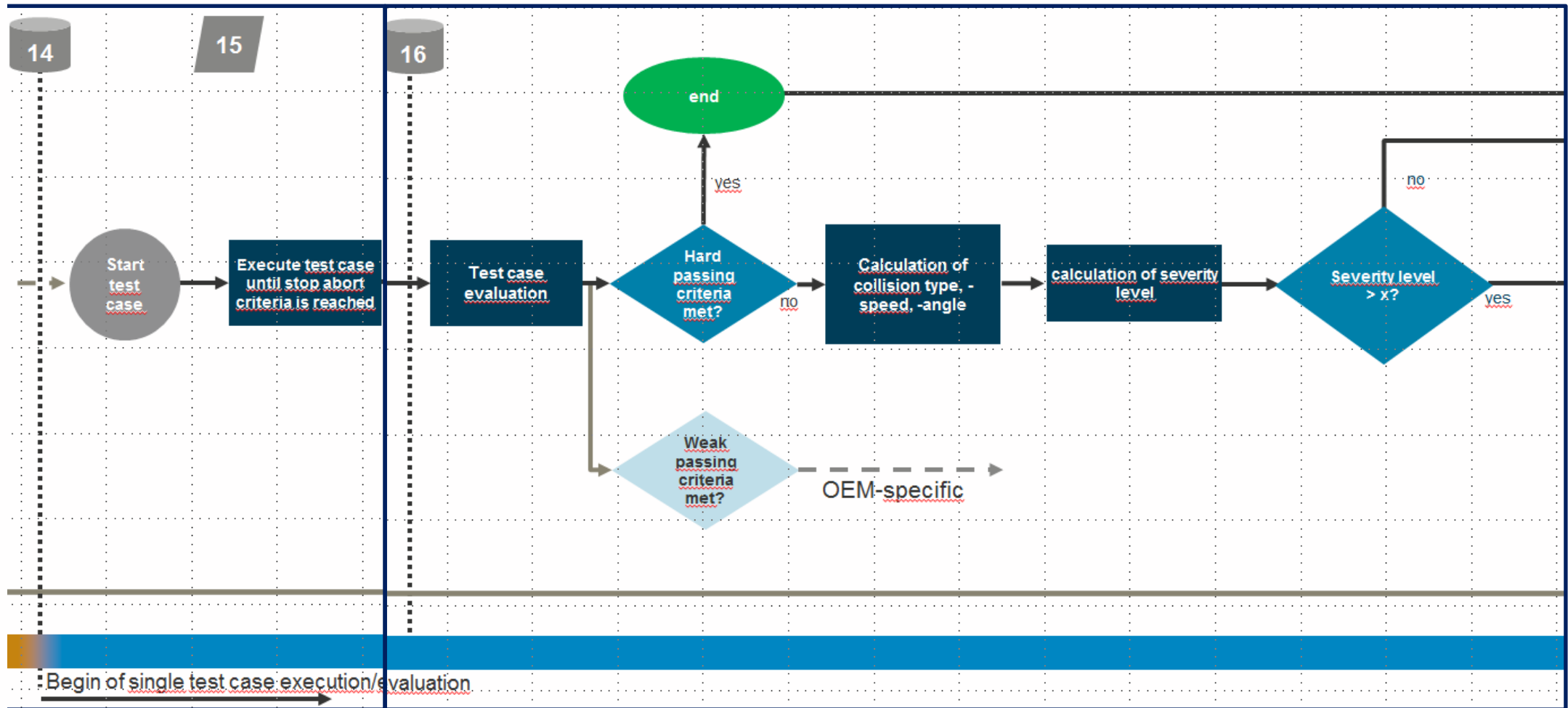


# From Test to Safety Argument

current draft

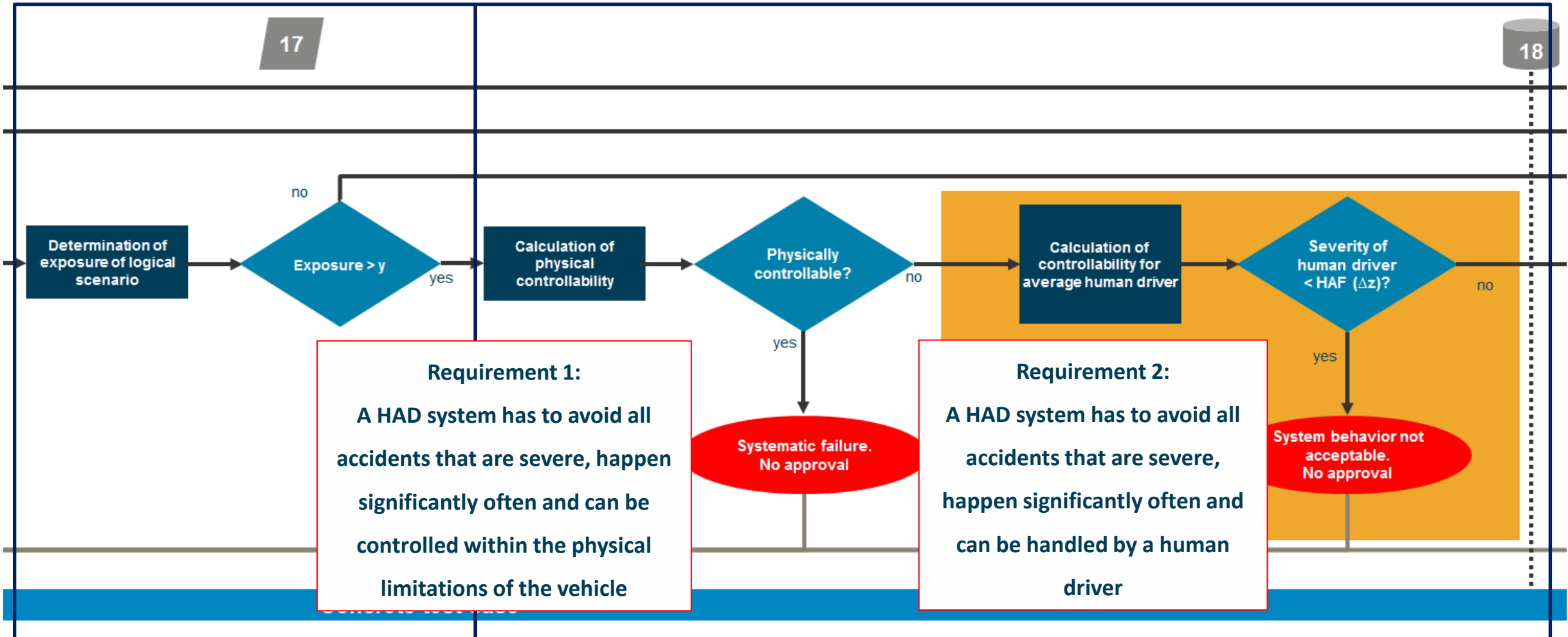
## Test case execution

## Severity check



## Exposure check

## Controllability check

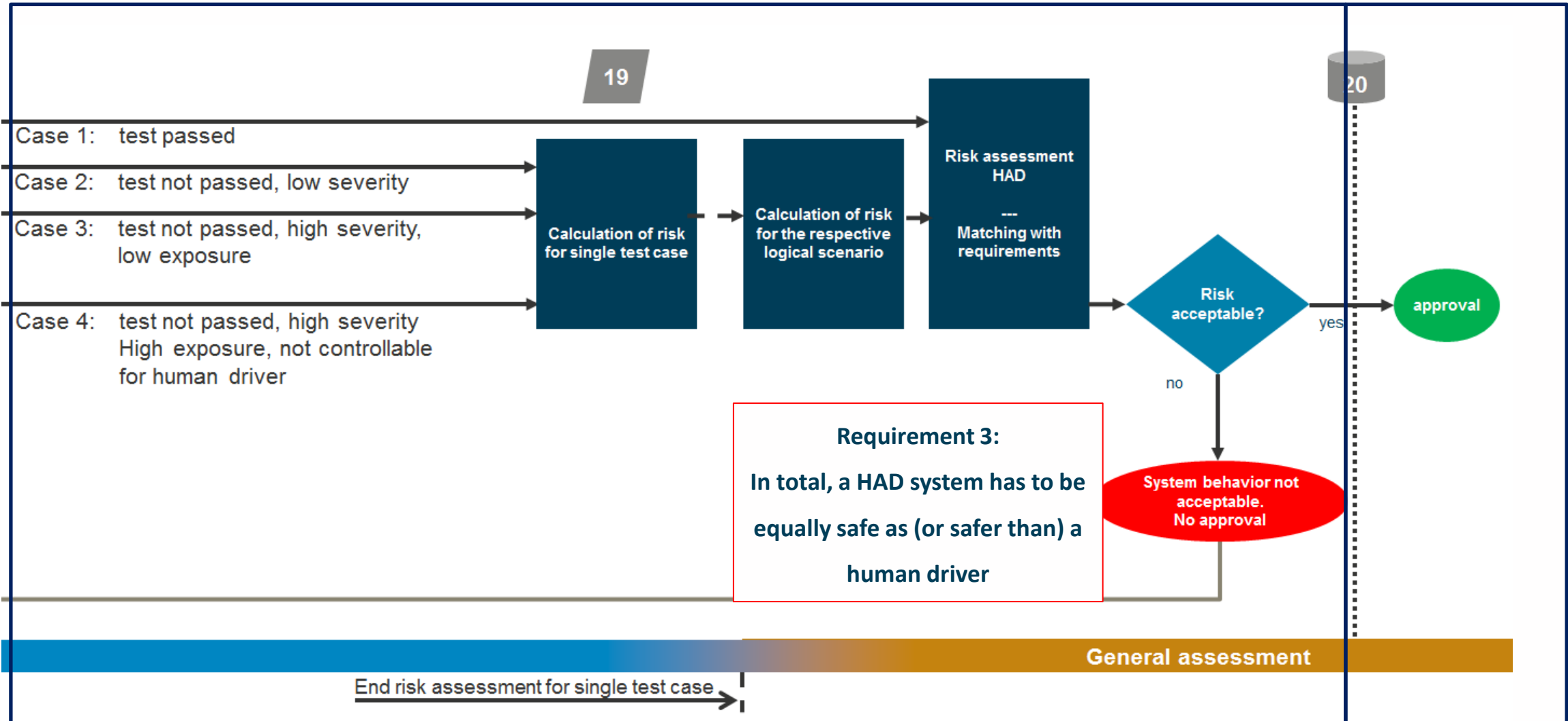


# From Test to Safety Argument

current draft

## Overall Risk assessment

## Safety argument





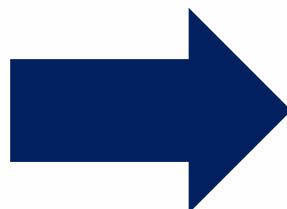
# Summary

## Key Questions



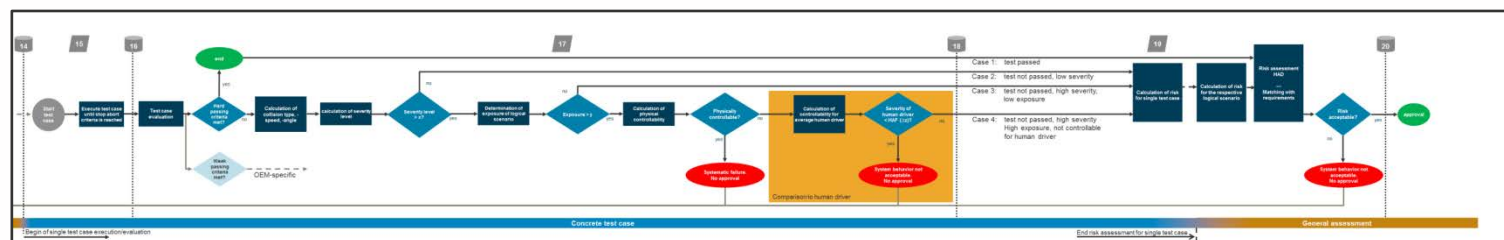
### Scenario Analysis & Quality Measures

- What human capacity does the application require?
- What about technical capacity?
- Is it sufficiently accepted?
- Which criteria and measures can be deducted from it?



## First Results

#	exhibits
2	Highway Pilot
3	Scenario description and –formats
4	Critical scenarios for a human driver
5	Critical scenarios for a HAD
6	Social acceptance for HAD





**Thank You**

