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OpenSCENARIO at dSPACE
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Automotive Simulation Models (ASM) for ADAS

ASM

- **Vehicle Simulation**
  - Engine, Drivetrain, Vehicle Dynamics
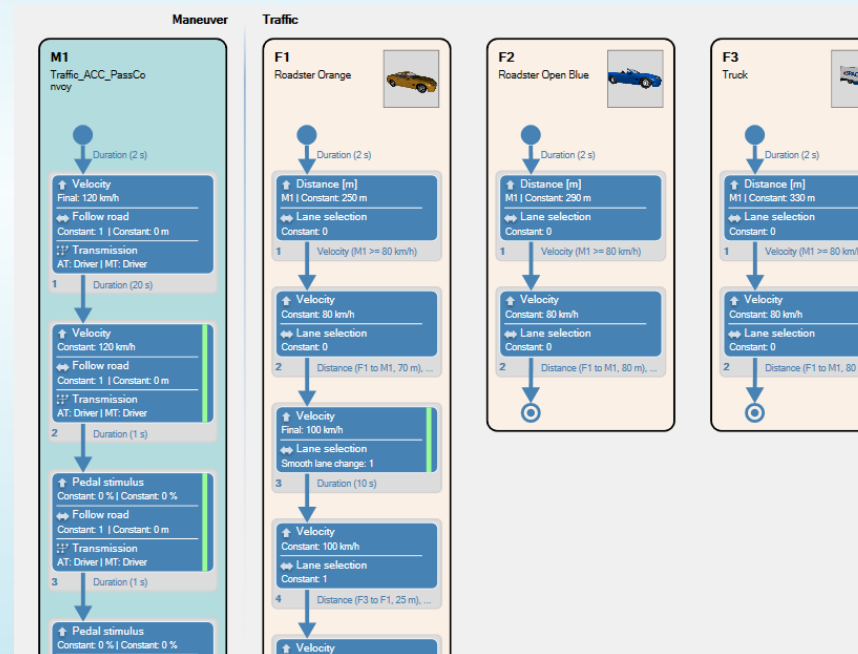
- **Environment**
  - Road network, Driver

- **Scenario Definition**
  - Ego vehicle behavior
  - Additional traffic objects behavior

- **Traffic Sensors**
  - Object detection

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OpenSCENARIO – Application

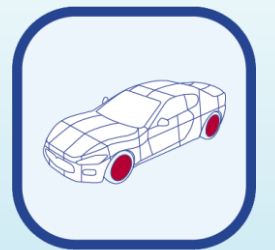- **Different use cases in the PEGASUS Project**
  - Example scenarios (e.g. Cut In)
  - Replay2Sim
  - Definition of mandatory OpenSCENARIO content

- **Customer requests**
  - Converter from OpenSCENARIO to ASM scenario
  - Currently used in project specific contexts

PEGASUS

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bringing content to the road

ASM

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OpenSCENARIO – Lessons Learned

Flexible
- Different approaches to define even simple scenarios
- Every possible scenario should be supported

Complex
- Unexpected selection of mandatory content (e.g. eye distance of driver)
- Partially not relevant for the simulation

User Expectation | Comparability
- Comparability of scenario behavior is expected by customers
- Identical results for different simulation frameworks cannot be guarantied

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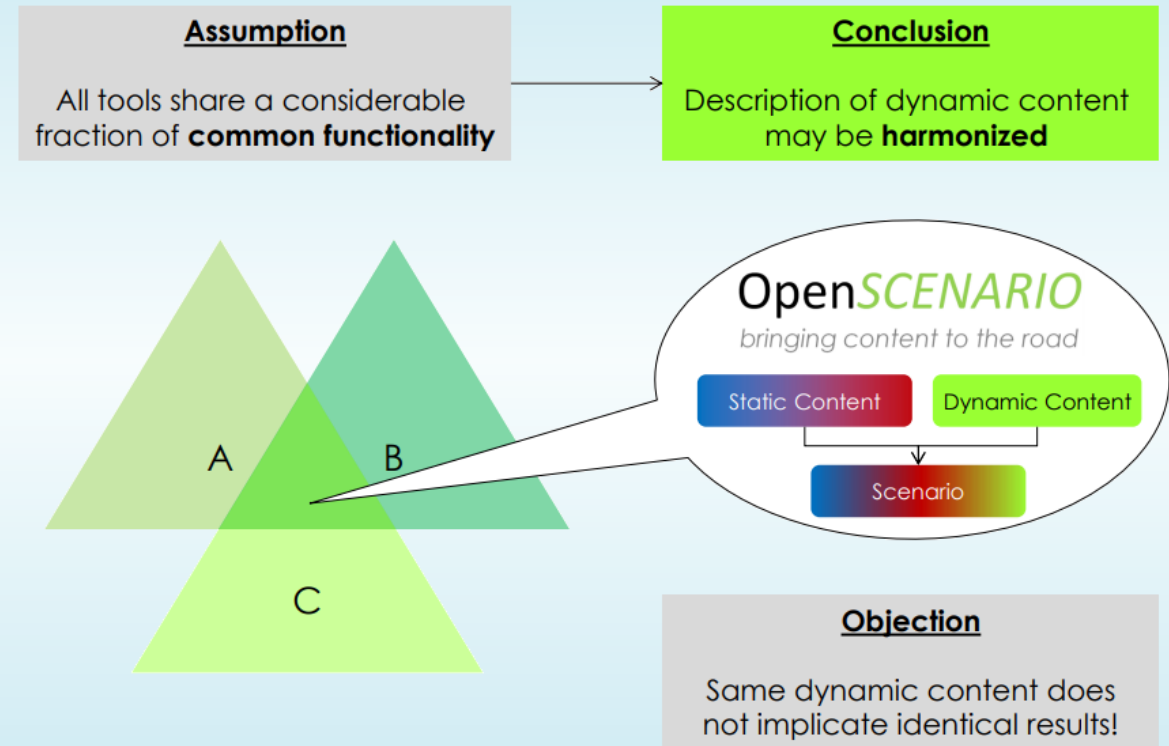
OpenSCENARIO – Expectations

OpenSCENARIO at ASAM

- Active collaboration and contribution of dSPACE

Future Ideas

- OpenSCENARIO as intersection, not union
  - Tool specific subsets as an additional option
- Focus on behavior definition
- Update mandatory content
- Definition of *best practise* scenarios

Assumption

All tools share a considerable fraction of **common functionality**

Conclusion

Description of dynamic content may be **harmonized**

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Static Content   Dynamic Content

Scenario

Objection

Same dynamic content does not implicate identical results!

Motivation from initial presenation in 2015

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Thank you for listening!

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