

Embedded Success

dSPACE



What is a Scenario?

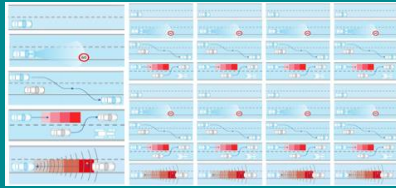
Michael Kluge
March 7, 2019

dSPACE GmbH · Rathenastr. 26 · 33102 Paderborn · Germany

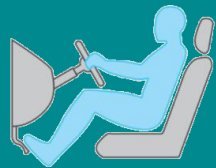
My Understanding of a Scenario

Scenario

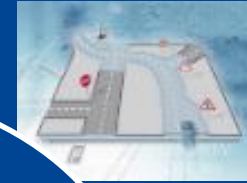
Traffic



Maneuver



Road Network



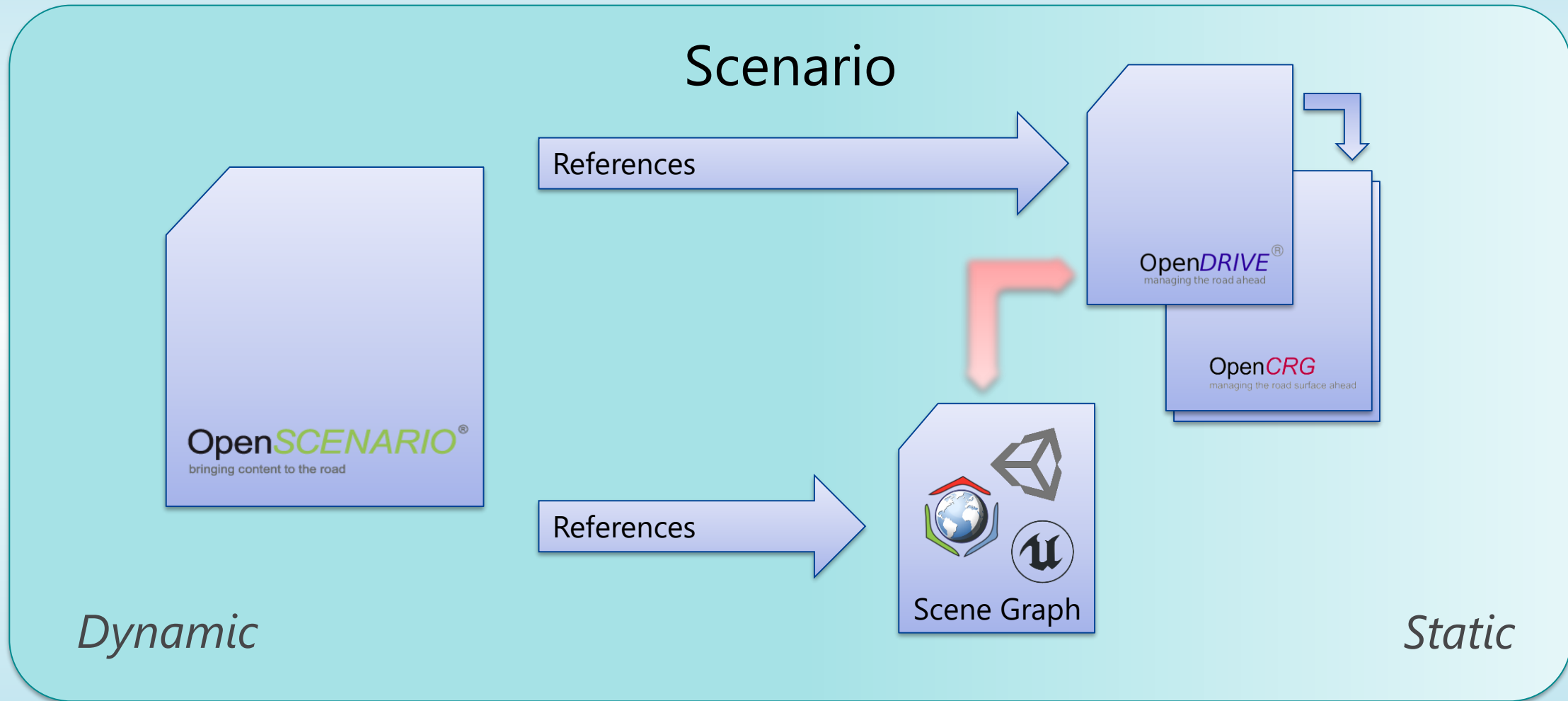
3D Scenery



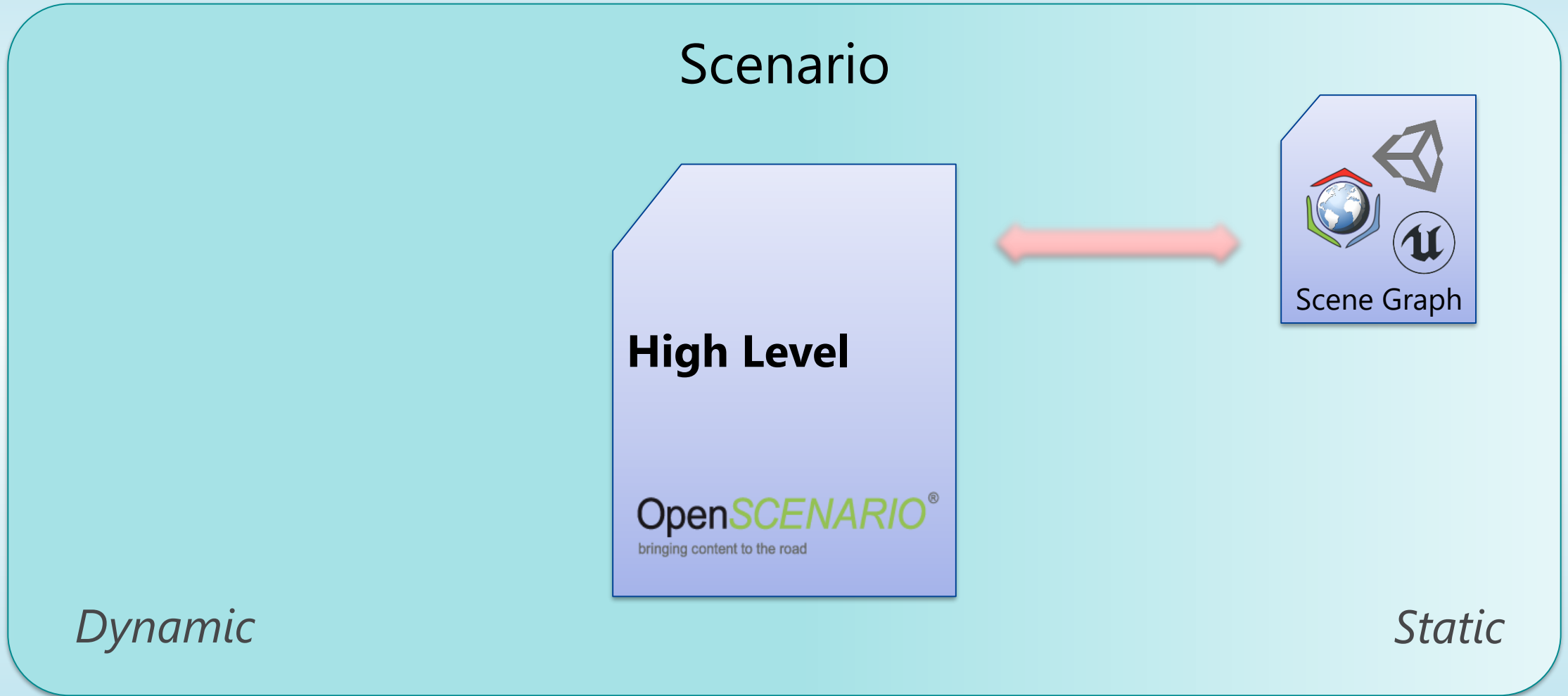
Dynamic

Static

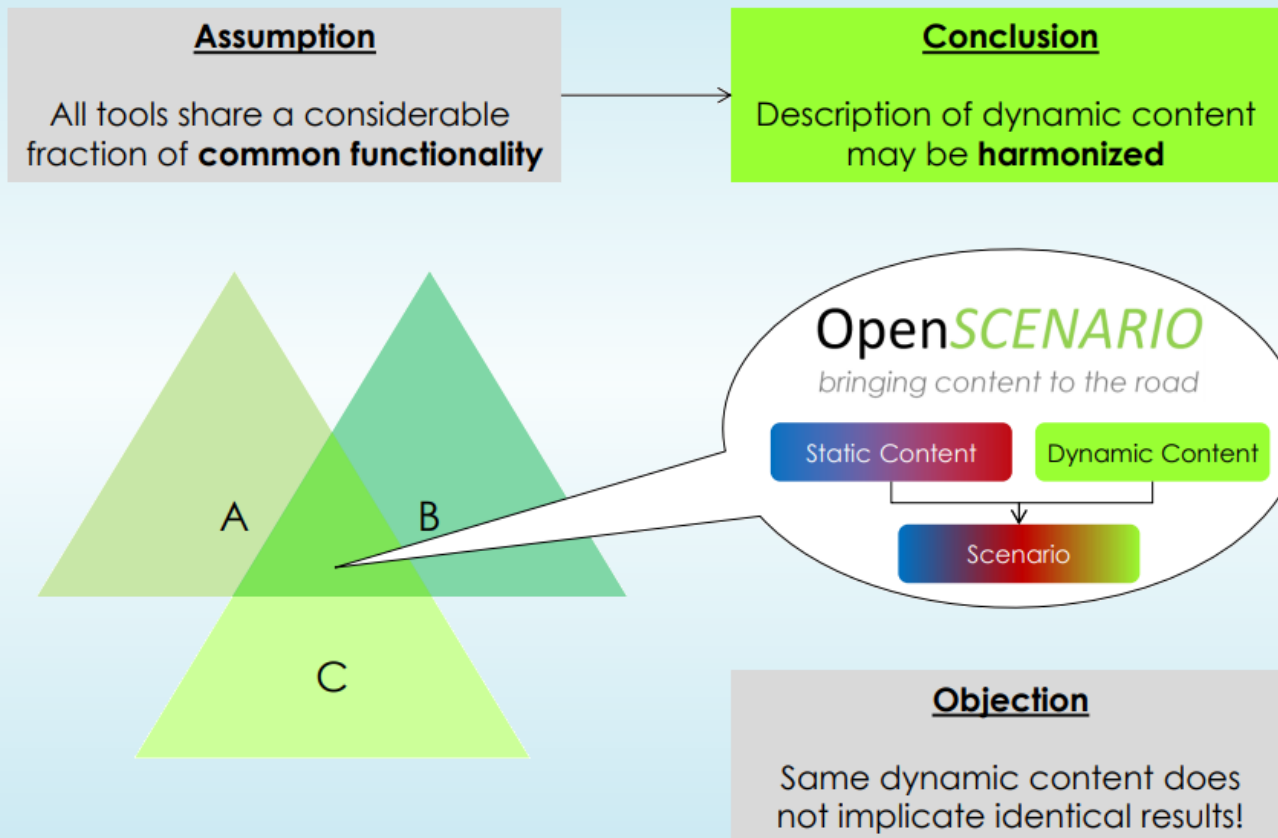
Mapped to today's OpenX Formats



High Level Scenario



The initial Idea for OpenSCENARIO



From initial
[OpenSCENARIO presentations](#) in 2015

Different Levels of Scenarios

Functional scenarios	Logical scenarios	Concrete scenarios
<u>Base road network:</u> three-lane motorway in a curve, 100 km/h speed limit indicated by traffic signs	<u>Base road network:</u> Lane width [2.3..3.5] m Curve radius [0.6..0.9] km Position traffic sign [0..200] m	<u>Base road network:</u> Lane width [3.2] m Curve radius [0.7] km Position traffic sign [150] m
<u>Stationary objects:</u> -	<u>Stationary objects:</u> -	<u>Stationary objects:</u> -
<u>Moveable objects:</u> Ego vehicle, traffic jam; Interaction: Ego in maneuver „approaching“ on the middle lane, traffic jam moves slowly	<u>Moveable objects:</u> End of traffic jam [10..200] m Traffic jam speed [0..30] km/h Ego distance [50..300] m Ego speed [80..130] km/h	<u>Moveable objects:</u> End of traffic jam 40 m Traffic jam speed 30 km/h Ego distance 200 m Ego speed 100 km/h
<u>Environment:</u> Summer, rain	<u>Environment:</u> Temperature [10..40] °C Droplet size [20..100] µm	<u>Environment:</u> Temperature 20 °C Droplet size 30 µm

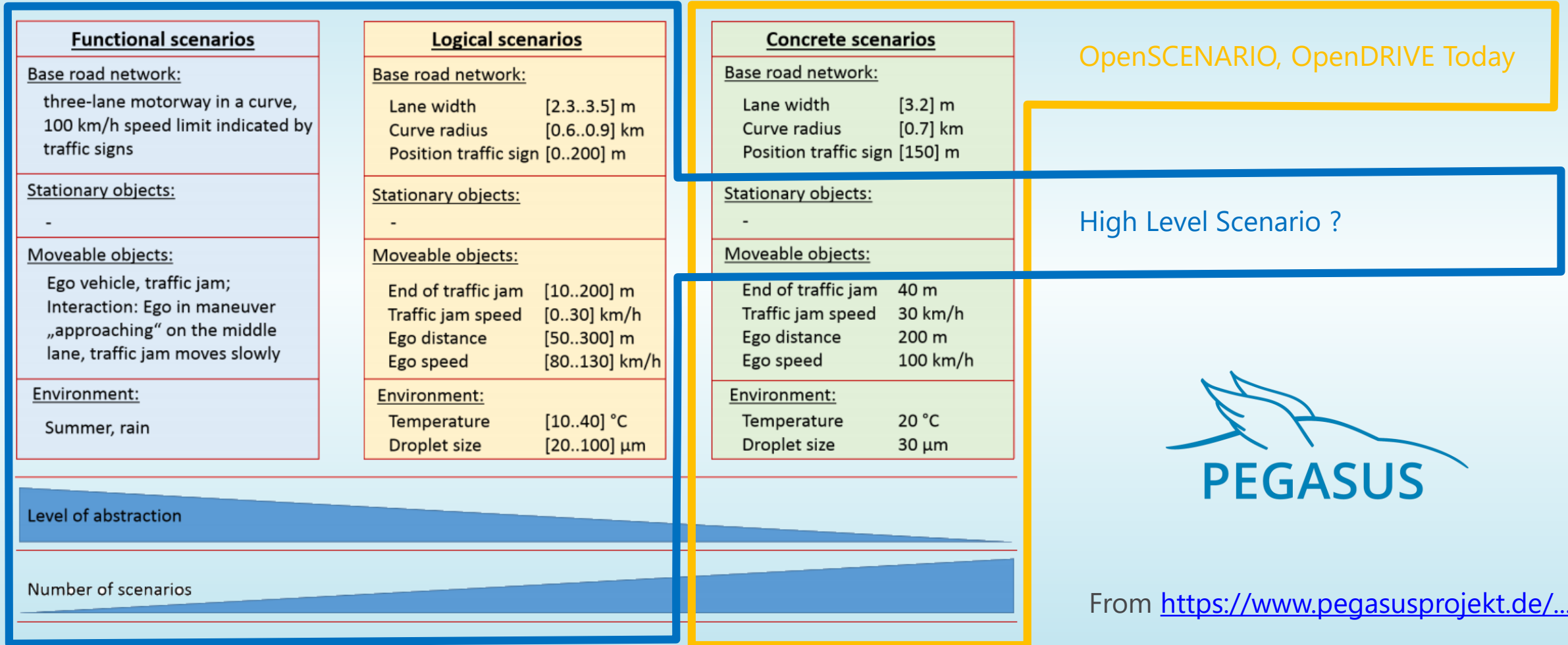
Level of abstraction

Number of scenarios



From <https://www.pegasusprojekt.de/...>

Different Levels of Scenarios



From <https://www.pegasusprojekt.de/...>



Thank you for listening!

Embedded Success

dSPACE