ASAM OpenSCENARIO V2.0.0
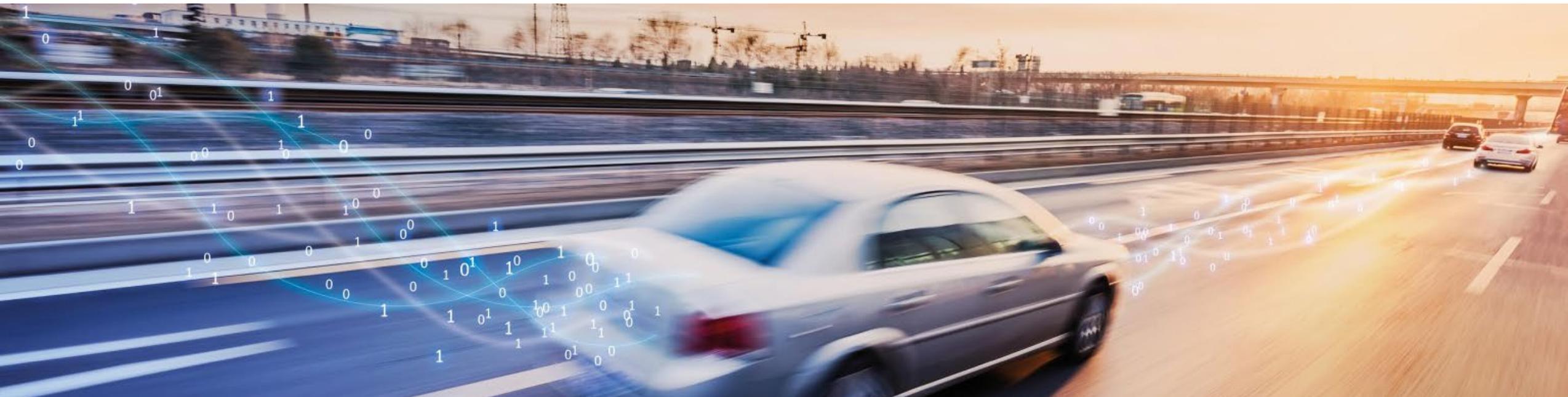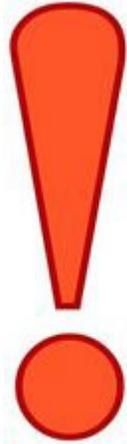## Public Release Candidate (PRC) kickoff webinar

Ben Engel
ASAM e.V.

17th January
14:00 – 17:00 CET

ASAM Association for Standardization of Automation and Measuring Systems

Disclaimer…

This webinar and all content being shared is being recorded, it will be published online and made freely available to the public.

Agenda

Part 1: Intro and Overview	
14:00	Status of ASAM OpenSCENARIO V2.0.0 and the Public Release Candidate (PRC)
14:15	Overview of the standard
15:15	Submitting feedback on the standard
15:30	Mode of work for the PRC phase
15:45	**Coffee Break (10 mins.)**

Part 2: Getting started with the Standard	
15:55	Implementation Q&A "Ask us anything"/ "Beat the expert"
16:25	Introduction to writing scenarios
16:55	**Closing words**

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The ASAM OpenSCENARIO V2.0.0 standard in a nutshell

- An easily extendable, declarative, domain specific programming language designed from the ground up for scenario descriptions

- The language supports abstract, logical and concrete levels of scenario abstraction

- Includes a domain model specifying entities with their properties and actions

- A series of guidelines on using and applying the language for different use cases

Functional
- non-formal, human readable
- behavior-based description of a traffic scenario
- possibly containing a visualization

Abstract
- formalized, machine readable, and declarative description (i.e. constraints on the happenings)
- closely tied to an ontology (or rather family of ontologies)
- efficient description of relations (e.g. cause-effect).

Logical
- parameterized representation of a set of scenarios, where
- influencing factors are described by means of parameter ranges and distributions
- enables parameter variation

Concrete
- a single scenario, describing exactly one specific scenery and chain of events with fixed parameters
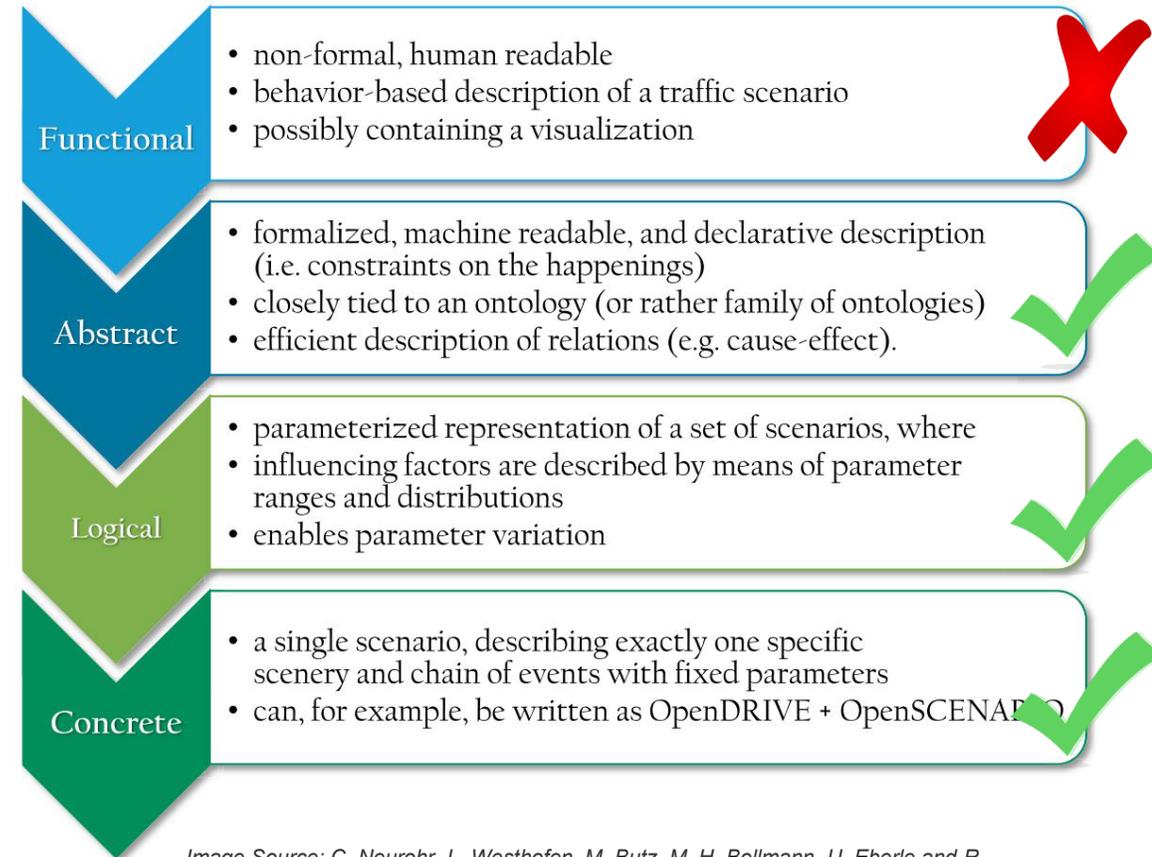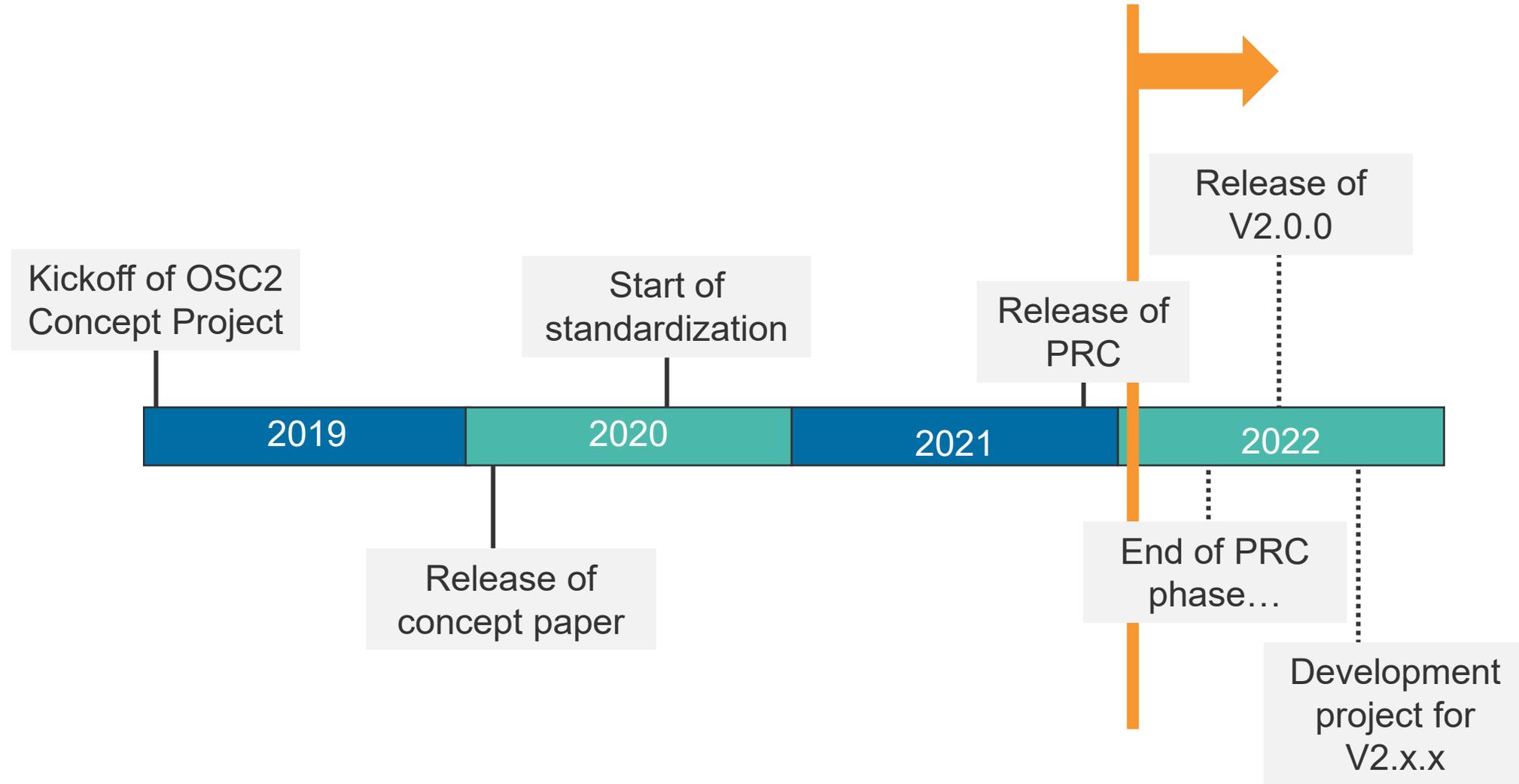- can, for example, be written as OpenDRIVE + OpenSCENARIO

Image Source: C. Neurohr, L. Westhofen, M. Butz, M. H. Bollmann, U. Eberle and R. Galbas, "Criticality Analysis for the Verification and Validation of Automated Vehicles," in IEEE Access, vol. 9, pp. 18016-18041, 2021, doi: 10.1109/ACCESS.2021.3053159.

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ASAM OpenSCENARIO 2.0.0 so far…

What next?

- Release of the standard as a Public Release Candidate (PRC)

- Timeframe for now: 3 months (end of Q1 2022)

- ASAM OpenSCENARIO has reached a state where it is ready to enable useful implementations. *[As every technology, it will require future improvements and releases]*

- BUT, due to the scale of the standard and the groundbreaking feature set, together with considerations of the existing landscape, we might have missed something in the design. Some examples…
  - The language grammar allows combinations of constructs where no clear semantics are defined
  - Combinations of various actions and modifiers may not be clear enough

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What next?

- This is a phase that allows users/implementers to start applying the standard while still being able to submit feedback

- Core goal of the phase: proactively focus on implementations – in order to uncover issues and inconsistencies.

- No major changes are planned

- Minor changes will take place : documentation improvement, clarification, minor fixes

- We do intend to improve the wording on the standard documents during this phase, better alignment and consistency between sections.

- Should major problems be uncovered, the project will attempt to address them in a non-breaking way, but if this is unfeasible the project reserves the right to make breaking changes

- Bottom line: Consistency/coherency of the standard is a major goal for the phase.

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What next?

- Goal of the PRC: Make the standard available to the public and collect feedback from 'fresh' eyes, possibly identifying hidden issues that are only visible from the perspective of an implementer or user

- We need your feedback!

- We want to support the feedback generation as much as possible

- More on how we plan to do this shortly…

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