Intro & OpenLABEL Structure

OpenLABEL V1.0.0 Release Webinar

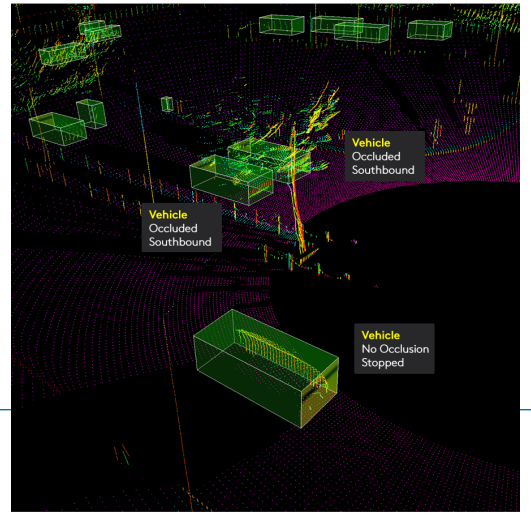
ASAM

Scope: The 2 Facets of OpenLABEL V1.0.0.

ASAM OpenLABEL establishes the basic principles and methods for annotating multi-sensor data streams and for tagging test scenarios for automated driving development, validation, and verification.

Multi-Sensor Data Labeling

- Defines and organizes the annotation data structures, including geometries, coordinate systems and transforms, and other concepts relevant to spatiotemporal annotations for multi-sensor data labeling.
- Does not provide a taxonomy/ontology of physical/abstract entities relevant to the road traffic domain. Instead, it specifies mechanisms to include external knowledge repositories/ontologies and recommends the use of ASAM OpenXOntology as the ontology of reference.
- Does not provide rules, specifications, or guidelines on how to annotate entities for multi-sensor data labeling. Nor does it provide any recommendations as to what elements of a physical entity should be included or not included in a geometry.



Scenario Tagging

- Defines and organizes the annotation data structure for test scenario tagging.
- Defines the set of ASAM OpenLABEL tags, their relationships, and the mechanisms to include the ASAM OpenLABEL set of scenario tags in valid annotation instances of test scenarios.
- Does not define a language or format to describe test scenarios.

Scenery

- Broken line
- Divided road
- Drive on right
- Lane dimensions [Width (m): 3.4 to 3.7]
- Level plane

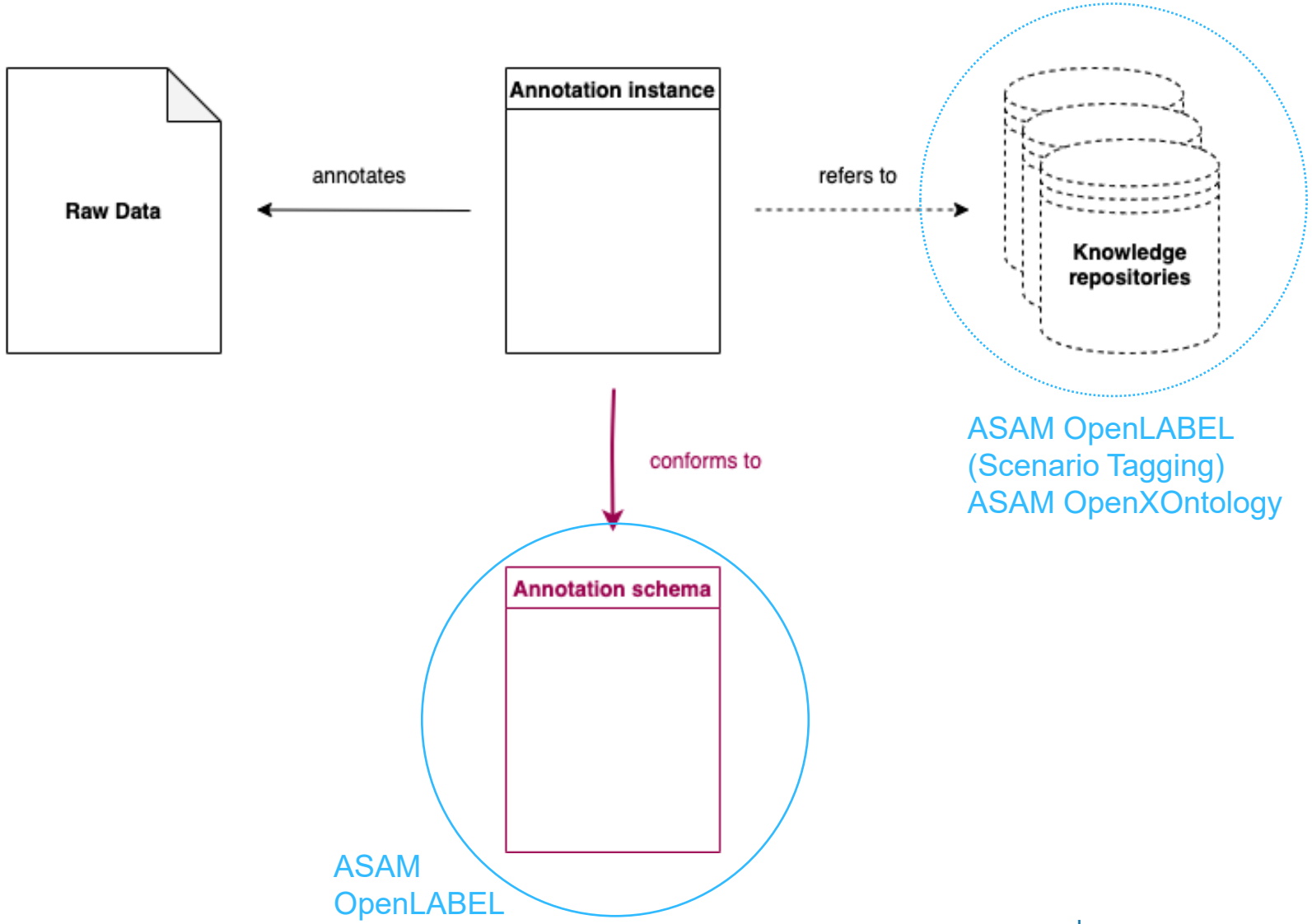
Environmental Conditions

- Cloudiness [Cloud cover (okta): 0 to 1]
- Day
- Sun elevation [Angle (degree): 10 to 30]

Agents

- Stop

About OpenLABEL



Data annotation is the process of enriching raw data, for example, data streams from multiple sensors, such as cameras, LiDAR, radar, or test scenario artifacts with additional metadata. These metadata are related to the content of the raw data, for example, static or dynamic objects populating a video, actions they are performing, or environmental conditions. Additional information regarding the data may also be included.

Deliverables OpenLABEL V1.0.0.

What Is Being Released

Multi-Sensor Data Labeling

- Documentation
- Data Labeling JSON Schema
- Examples

Scenario Tagging

- Documentation
- Scenario Tagging JSON Schema
- Examples
- Standardized set of Tags and their hierarchy
  - RDF Turtle Syntax

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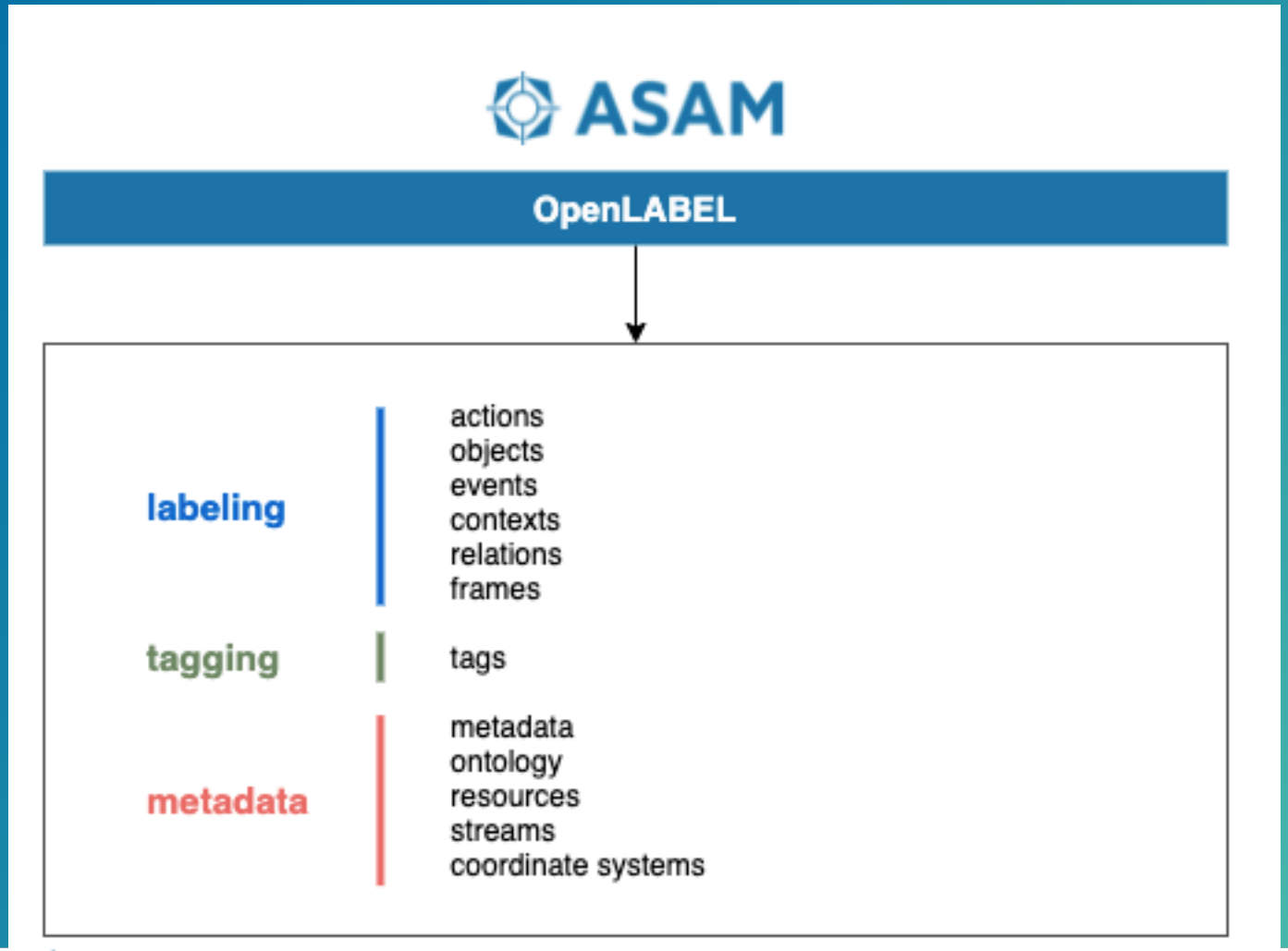
JSON Schema Structure

OpenLABEL V1.0.0



Reference to Other Standards

OpenLABEL interfaces or refer to the following standards

- JSON Schema Draft 7 Specification
- TURTLE
- BSI PAS 1883
- SAE J3016 (2021)
- ASAM OpenXOntology V1.0.0
- ASAM OpenDRIVE 1.7.0
- ASAM OpenSCENARIO 1.1.0
- ASAM OpenSCENARIO 2.0.0
- ISO 8601
- ISO 8855
- ISO/AWI 34504