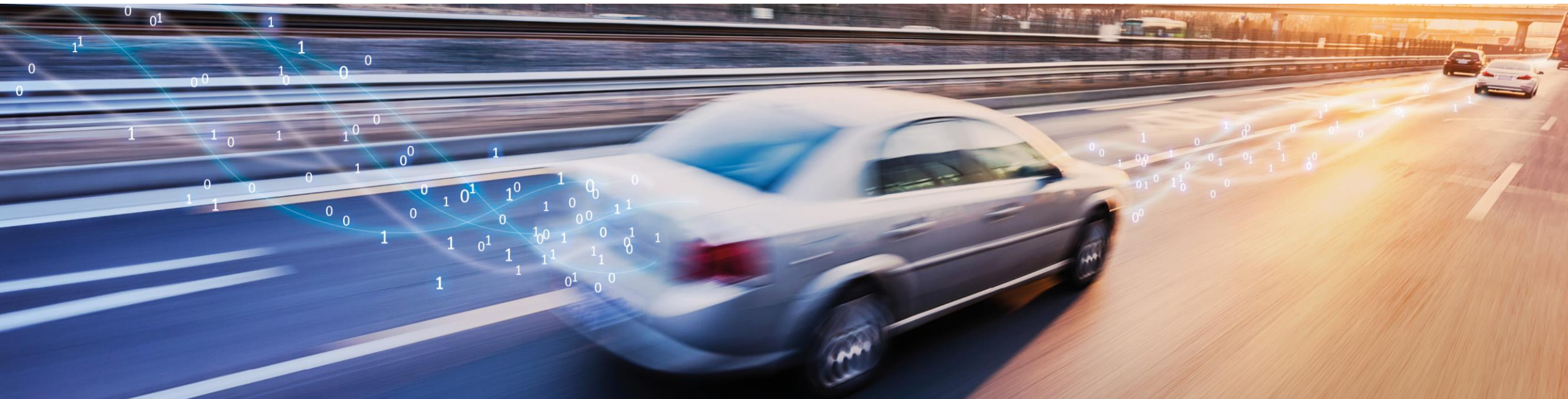# Transfer Project for OpenDRIVE

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15.01.2019
Höhenkirchen, Germany

ASAM
Association for Standardization of
Automation and Measuring Systems

Current Status of OpenDRIVE

- Current version
  - Released: 1.4 rev.H
  - In development: 1.5 rev.M

- Delivery content: Standard, Style Guide, Schema.

- Standard:
  - Some introductory text.
  - Data model description via text, tables and illustrations.
  - Many XML examples.

- IP ownership: transferred from VIRES to ASAM in 2018.

- Purpose of transfer:
  - OpenDRIVE to become a standard of the public domain.
  - All future versions developed and distributed by ASAM.

Next Step: Transfer Project

Includes:
- Mandatory work.
- Highly recommended work.

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Transfer Project - Mandatory Work

1. Transfer of the document to the ASAM standards template, including adjustment of document styles.

2. Revision and extension of the introductory chapter in accordance with the ASAM standard template.

3. Addition of the mandatory chapters:
   - Relation to Other Standards
   - Terms and Definitions
   - Symbols and Abbreviated Terms
   - Bibliography
   - Appendix with at least figure and table directories

4. Clarification of specification items, which refer to files or projects on the Internet.

5. Validation of specification document against the schema.
   (see also 'Highly Recommended Work', item 6 on the next page)

ASAM
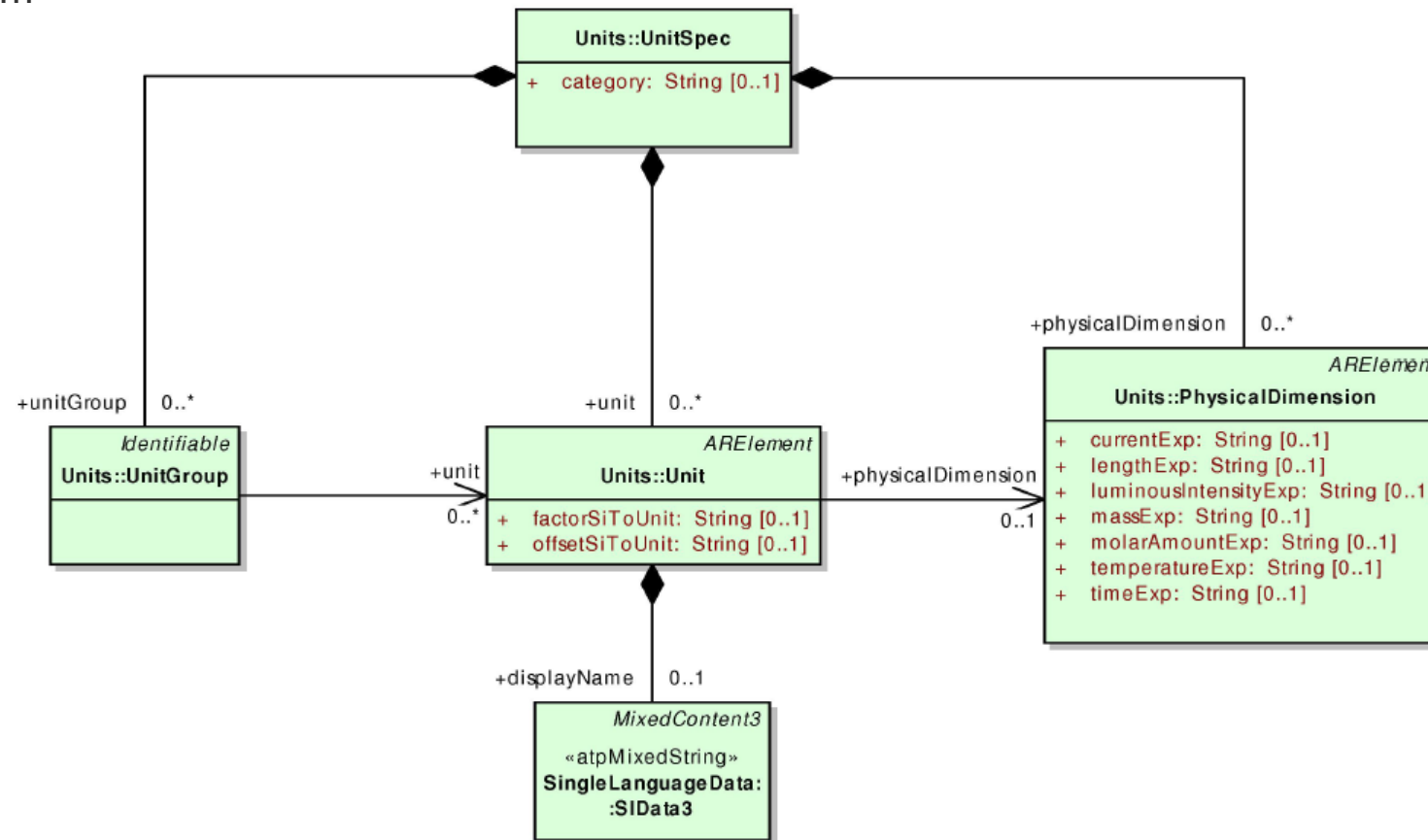
Transfer Project - Highly Recommended Work

6. Create UML model:
    - transfer current text- & table-based descriptions into an UML model
    - generate UML diagrams and semantics descriptions for the standard document
    - generate schema (XSD) from the UML model

ASAM

Do You Recognize This Data Model?

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```

ASAM

Do You Recognize This Data Model?

Answer: It is the definition of Units.

UML Diagram *)

*) from ASAM MDX v1.3

Transfer Project - Highly Recommended Work

6. Create UML models for the data model:
   - transfer current text/table descriptions into an UML model
   - generate UML diagrams and semantics descriptions for the standard document
   - generate schema (XSD) from the UML model

7. Validation of the UML model against the data model description of the last version.

8. Clarifications on semantics and syntax, e.g. ambiguities and errors.

9. Extend the introductory chapters with:
   - description of areas of application
   - use-case definitions
   - list of limitations and open issues

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Discussion

Questions, comments or changes to the proposed transfer project?

- Project goal: Basis for further development. Also prove that ASAM works for the Open-Standards.
- Requirement: Transfer to UML modelling and schema generation should be backward-compatible to version 1.5 of OpenDRIVE.
- Statements:
    - Backward-compatible transformation shall be possible without problem.
    - Can also support other formats like JSON.
- What is the "source of truth": Model or schema?
- Time aspect:
    - UML-conversion shall not delay the next release.
    - Should become part of a separate project, which starts now.

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Discussion

Do you agree to the highly recommended work items?

- 26 participants voted in favor to use UML for data modelling in OpenDRIVE with the requirement of backward-compatibility to version 1.5.

- Create UML models for the data model
- Validation of the UML model against the data model description of the last version.
- Clarifications on semantics and syntax.
- Extend the introductory chapters

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Discussion

Proposals for any new or changed content?

- none

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Key Points for Project Planning

Is there a heightened likelihood that your company would send an expert to this project?

- 8 companies would potentially participate in the project.

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Key Points for Project Planning

Preferences for meeting frequency and duration?

- About every 4 weeks for 2 days.
- Some topics are handled via remote meetings. Most discussion and work should be done at on-site meetings.

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Key Points for Project Planning

Expectation for the end of project and release date?

- September 2019.
- Members can recommend suitable service providers.

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Key Points for Project Planning

Volunteer for document ownership?

- None

Key Points for Project Planning

Volunteer for UML model creation, XSD code-generation and validation?

- None

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Key Points for Project Planning

Volunteer for writing the project proposal?

- BMW

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Thank you!

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For more information
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