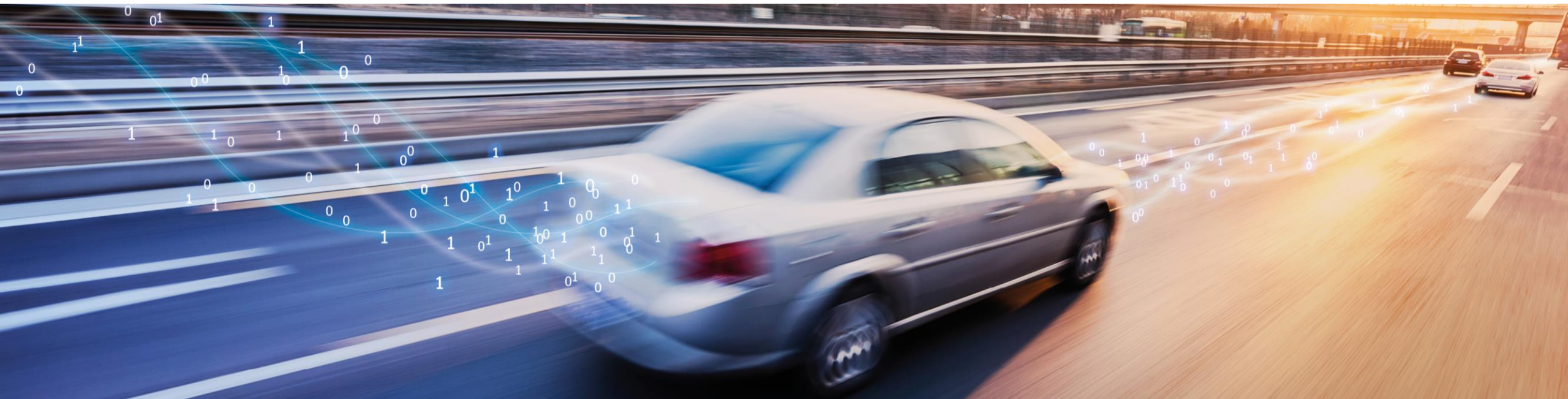


# ASAM ARTI v 1.0.0

## Release Presentation

Sebastian Ziegler  
Product Engineer, Vector Informatik GmbH

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Munich



# Agenda

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# Introduction

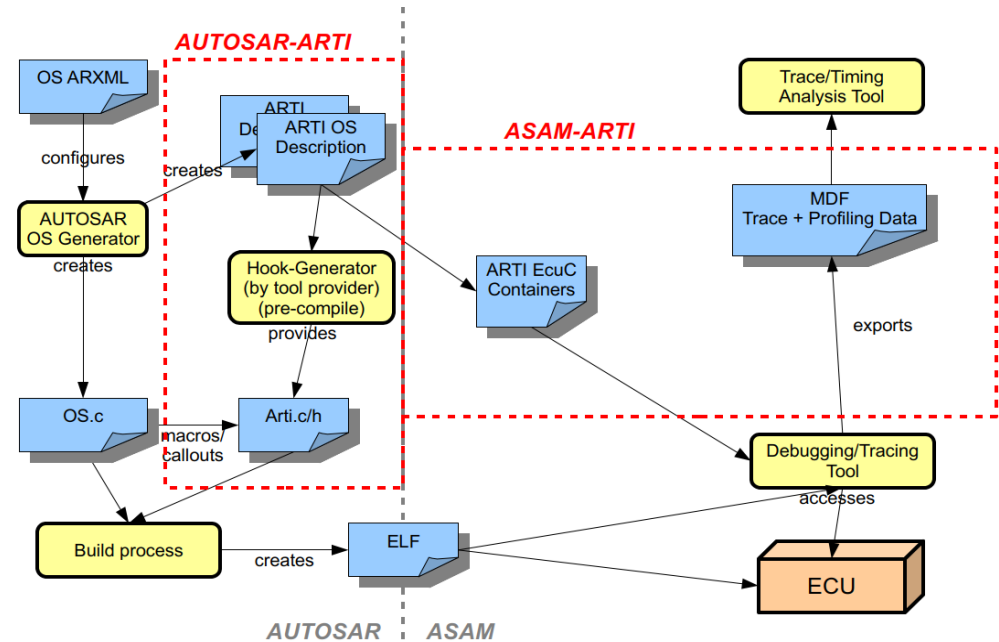
The “ASAM Run-Time Interface” shall provide a standardized exchange format for scheduling trace measurements and their evaluation results on AUTOSAR Run-Time Interface compliant ECUs.

## AUTOSAR

- Enable scheduling measurement
- Measurement configuration read by the measurement tool

## ASAM

- Measurement tool exports the trace in MDF
- Each tool in the chain has an standardized understanding of the handled data



# Motivation

Automotive ECUs need to handle more and more features these days while the hardware resources should be used efficiently. Verifying the “real-time” behavior is a necessary development step. However, setting up a timing analysis toolchain is not standardized and challenging.

Such scheduling measurements and evaluations are often setup dependent. The configuration varies throughout the used OSeS, measurement tools and timing analysis tools. ARTI shall standardized the scheduling measurement points, as well as the measurement configuration (AUTOSAR) and the measurement data exchange with the data description (ASAM).

# Project Retrospective

- Initially the ARTI ASAM project was intended to standardize also an “AUTOSAR Independent” model. In order to not introduce duplicate model descriptions and files, this approach has been dropped by the working group.
- The measurement configuration model was decided to use the AUTOSAR ARTI ECUC.
- As measurement data description the existing MDF features have been used.

# New Features

## **Scheduling Trace Measurements stored in MDF**

- Efficient storage of timing and scheduling data with description
- ARTI data can be related to other measurement data and tools

## **Standardized Scheduling Trace**

- Specification of a common scheduling trace format
- Specification of standardized scheduling state machines

## **Standardized Timing Metrics Exchange**

- Storage of timing metric sample values (Time Series Data)
- Storage of overall timing statistics

# Relation to Other Standards

## ASAM

- ASAM MDF Base Standard 4-1-1
- ASAM MDF Bus Logging AS V1-0-1

## AUTOSAR

- AUTOSAR SWS ClassicPlatformARTI R19-11
- AUTOSAR SWS OS R19-11
- AUTOSAR TR TimingAnalysis R19-11

# Deliverables

## Documents

- Specification of ASAM ARTI (ASAM\_ARTI\_BS\_V1-0-0.docx)

## Supplementary Files

- Example ARTI MDF File



# Outlook

The ARTI currently focuses on AUTOSAR Classic Platform ECU architecture.

With the ongoing engagement in AUTOSAR towards Adaptive Platform ECUs, the ASAM ARTI measurement data exchange will follow.