The Asset Administration Shell (AAS) in action

AAS Guide
Hannover Messe 2022

AAS @ Industrie 4.0 Conference Stage
(Hall 8, Booth D17)

MON 30.05.	
10:15 – 10:35	**Asset Administration Shell Based Digital Twins for Products and Production Plants** Christian Weißenbacher, Fraunhofer IOSB
10:35 – 10:55	**The Asset Administration Shell as shared Digital Twin** Georg Schnauffer, ARENA2036
10:55 – 11:15	**Target Image for Multilateral Data Sharing based on ‚Collaborative Condition Monitoring'** Michael Jochem, Robert Bosch GmbH
13:00 – 13:50	**Industry-ready DPP Concept based on ‚DNP4.0' and ‚AAS'** Prof. Dr. Dieter Wegener, Siemens AG
TUE 31.05.	
14:30 – 14:50	**Digital Fluid Twin** Martin Hankel, Bosch Rexroth AG
14:50 – 15:10	**News from the Asset Administration Shell of Industrie 4.0** Dr. Michael Hoffmeister, Festo SE & Co. KG
WEN 01.06.	
09:15 – 09:50	**With the Asset Administration Shell and digital Applications on the Way to the Product Carbon Footprint** Dr. Michael Hoffmeister, Festo SE & Co. KG; Niels Angels, Catena-X; Dr. Stefan Schork, ZVEI; Janina Henning (Moderation)
10:10 – 10:30	**Interoperable Digital Twins in Supply Chains — A Game Changer** Dr. Birgit Boss, Robert Bosch GmbH
17:10 – 17:50	**Digital Twin – The Asset Admin Shell becomes World Standard** Dr. Christian Mosch, Industrial Digital Twin Association; Dr. Horst Heinol-Heikkinen, Asentics GmbH & Co. KG; Dr. Michael Hoffmeister, Festo SE & Co. KG; Dr. Markus Schoisswohl, Hegla New Technology GmbH & Co. KG; Markus Kiele-Dunsche, Lenze SE
THU 02.06.	
11:40 – 12:00	**An Approach to Realize a Simulation Element in the Asset Administration Shell** Nils Menager, Bosch Rexroth AG

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AAS exhibits

Implementation of AAS into SAP's Business Processes

SAP demonstrates how an integration of AAS into S/4HANA, based on OI4 Reference Architecture, can work. You can experience a service process powered by AAS integrated in the S/4HANA process flow.

Hall 4
Booth D04

WITTENSTEIN Service Portal & Smart Products

Product-specific information and customized services can be accessed via the WITTENSTEIN Service Portal. WITTENSTEIN with XITASO were announced as the winner of "Microsoft Intelligent Manufacturing Award" in the "Scale!" category with the implementation of the AAS.

Hall 4
Booth E34

IndustryApps EcoSystem

IndustryApps brings the ease and flexibility of the consumer app experience to the manufacturing space. Connect existing systems and assets (ERP, database, PLC...) to the operating system and subscribe to solutions for rapid enterprise digitalisation, shop floor automation, and supply chain integration.

Hall 4
Booth F64

FA³ST for AAS-compliant and Data-Sovereign Digital Twins

This demonstrator shows both the engineering, operation, and collaboration of AAS compliant DTs in a cross-enterprise scenario. Several FA³ST tools will be presented to show how developers, domain experts, and end users can benefit from AAS and IDS technologies.

Hall 5
Booth A17

Bill-X ActiveDB

The digital ecosystem ActiveDB allows partners to easily and meaningfully use the AAS to create own software solutions. ActiveDB provides the tools for generic reusability and the convenient use of digital twins - from edge devices to multi-cloud solutions.

Hall 5
Booth D16

FabOS – Open, Distributed, Real-Time & Secure OS for Production

In FabOS, AAS Infrastructure and AAS Submodels are developed to support IT and OT hardware resource management in heterogeneous system landscapes to enable dynamic and interoperable service deployment.

Hall 5
Booth F54

Fluidpower 4.0

Live demonstration of AAS for hydraulic and pneumatic products. In addition to digital name plate and documentation, also new sub-models for CAD data, change notification and parameterization data files.

Hall 6
Booth A48

Lenze Digital Twin – the Future Central Hub of a Machine

With the generic architecture, information from machines and components for a wide variety of applications is available to OEMs and operators. This cross-manufacturer information/models are integrated automatically into various systems. One example here is asset management.

Hall 6
Booth F21

IIoT Solutions for Integrated Servo Motors

Dunkermotoren presents an IIoT showcase, in which a cloud-based dashboard displays the device and live data from a BG 95 dPro PN motor.

Hall 6
Booth F47

OI4 AAS Demonstrator and Reference Implementation

"AAS powered by OI4" is an easy-to-use integration approach that is developed based on the Plattform Industrie 4.0 API description for the Asset Administration Shell. The OI4 Alliance will show practical use cases of OI4 members based on AAS reference implementation.

Hall 8
Booth C08

Carbon Reporting Demonstrator

Plattform I4.0 and CESMII together with LNI4.0 developed a joint demonstrator to test the interoperability of the AAS and the Smart Manufacturing Profile. Emission data generated during production can be collected digitally and made available via open standardized interfaces.

Hall 8
Booth D24

OPC Foundation

Hall 8
Booth F07

AAS Energy Monitoring

The demonstrator shows how Digital Twins record live energy data from a motor and enable a device change without complicated engineering by using standardized and semantically enriched AAS. The connection between the meter and the motor is represented by references within the AAS submodels.

Hall 8
Booth D24

AAS Service Order

The AAS Service Order demonstrator from VDMA and IDTA shows how standardised service tickets are generated from operating data of components in the manufacturing cell. This is made possible by the seamless interaction of VDMA OPC UA Companion Specs and IDTA Submodels of the AAS.

Hall 8
Booth D24

AAS Networked

The project „AAS networked" within the activity interoperability tests AAS in various use cases: In addition to a testbed, a demonstrator is being created that shows „production as a service" in a cross-company scenario.

Hall 8
Booth D24

Catena-X: The Automotive Value Chain

The Asset Administration Shell as an enabler for the continuous data exchange of the automotive value chain.

Hall 8
Booth D24

Joint Demonstrator Use Case „Tendering"

LNI 4.0, Nestfield (Korea) together with the Mittelstand-Digital Zentrum Hannover demonstrate how a product – here a ballpoint pen – independently tenders its next production step via its AAS.
Visitors can configure ballpoint pens and apply an individual engraving – in German, English or in Korean.

Hall 8
Booth D24

Hall 8
Booth E08

Plug-and-Produce (PnP) Testbed for Smart Manufacturing

Nestfield has developed an AAS-based PnP testbed (with three robots and one turntable) to implement an I4.0 scenario of Plug-and-Produce with realization of interoperability between different assets.

Hall 8
Booth E08

AAS Repository in Korea

Nestfield has developed the 1st AAS repository server in Korea which supports searching and downloading common equipment reference AAS models via an AAS API. The AAS reference models and related information have been shared via an open GitHub site created by Nestfield & KOSMO.

Hall 8
Booth E08

Multi Vendor Condition Monitoring via AAS

ifm presents a multi-vendor IIoT use case in the food and beverages domain: By continuously tracking temperature, conductivity and volume, a clean-in-place process is enabled, ensuring product quality while minimizing downtime and maintenance cost.

Hall 9
Booth D36

Digital Twins of Components in Mechatronic Designs

Integration of the AAS Explorer and the AAS Repository in NX for easy cross-manufacturer exchange of digital twins in mechatronics development.

Hall 9
Booth D49

From Acquisition to Cloud-based Data Management

Applying the AAS to use sensor data from the shop floor for cloud-based performance analysis with the help of the Industrial Edge and the Industrial Information Hub.

Hall 9
Booth D49

Smart Electrical Connector (SmEC)

A self-locking industrial connector that relies on locking conditions to prevent unplanned disconnections such as unplugging under load. Its AAS ensures communication with external systems and allows the configuration of plug/socket-pairings and locking conditions, as well as monitoring of other internal sensor data.

Hall 11
Booth C15

Product Carbon Footprint @ControlCabinet

Demonstrating the automated calculation of the product carbon footprint of a control cabinet across the supply chain using the AAS.

Power Drive System 4.0

Large demonstrator with 8 electrical power drive systems, which are coupled via AAS and exchange information. The digital name plate with additional data for electric drives is implemented, as well as a submodel „oscilloscope" and „reference point" for condition monitoring.

Hall 11
Booth E35