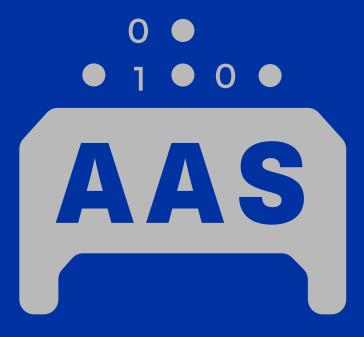
The Asset Administration Shell (AAS) in action



AAS Guide Hannover Messe 2024





AAS exhibits

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Gaia-X - Drone Selection Service

The demonstrator showcases a drone selection service for fire-fighting missions, illustrating the interconnection of participants and the provision of their data and service offerings in a Gaia-X ecosystem based on Gaia-X 4 AMS, a project from Gaia-X 4 Future Mobility. The demonstrator highlights how data-driven business models can be enabled through Gaia-X-based data ecosystems and Digital Twins.



Dataspace4Everybody – Simplify Prototyping & Integration of AAS Dataspaces

The AAS Dataspace4Everybody is a prototyping platform that enables the realization of AAS based Digital Twins and Manufacturing-X conforming data spaces. Together with our partners, we provide hardware and software solutions for the creation, and hosting of digital twins. Receive software images for your digitization and connectivity needs. Add Manufacturing-X conforming connectivity and dataspace protocols if needed. We demonstrate our solutions with the example of a digital battery passport.



eclipse.dev





Fluid 4.0

The BMWK-funded "Fluid 4.0" research project shows the path to digitalized and sustainable fluid power. Project partners explain how the challenges of system architectures, energy consumption, PCF calculation and circular economy will be solved with the project. Software tools from the companies Xitaso and Meta-Level will be demonstrating solutions in which digital twins of physical exhibits can be compared, enabling products to be selected efficiently and tailor-made for specific applications.



fluidtechnik40.de

Imane Najib



AAS Suite – The platform for AAS

AAS Suite makes it very easy to create, modify, review, view, generate, publish and compare AAS. It contains Designer, Marketplace, Viewer and Reader. Using the Feed Application it can generate AAS from external data sources. The flexible Viewer WebComponent can be integrated into WebSites or WebShops. With AAS Compare, different AAS can be compared with each other. Useful API interfaces complete the offering. It's available as a SaaS solution and as an individual OnPremises solution.



aas-suite.com

aas-contact@meta-level.de



Comparison of multiple AAS using the Mnestix Viewer

At VDMA Fluid Power, Mnestix allows you to objectively compare several assets or their AAS with each other. You can easily filter AAS by product group, add the AAS of your choice to a comparison view, or scan QR-coded asset IDs on the displayed components. This demonstration impressively highlights the ease of comparing semantically described assets, introducing new AAS use cases with the Mnestix Viewer.



xitaso.com

info@xitaso.com



AAS in the Customer Journey and Cybertronic Products

All exhibits at the trade fair booth demonstrate the world of cybertronic movement. The AAS is used for this in the product configurator, the digital nameplate (with extended measurement data) and the smart gearboxes with cynapse and smart services to demonstrate added value in the customer journey and the use of the products.



Bernd Vojanec



Digital Product Passport 4.0 within a Matrix Production

Live demonstration of the Digital Product Passport 4.0 (based on ZVEI-concept DPP4.0) in a matrix production presented by CIIT, Stäubli Electrical Connectors, Hilscher, and Fraunhofer IOSB-INA: Scan the assets' identification links (IEC 61406) and connect to the corresponding AASs (IEC 63278) that provide digital nameplates, handover documents, describe technical data and bills of materials, and monitor conditions and carbon footprints.



ciit-owl.de





Digital Engineering and Digital Twin

Festo presents Digital Engineering with Digital Twins enabling simplicity, efficiency and quality in engineering and operation of automation systems. Simple solution finding, efficient engineering in customer specific engineering toolchains and smart operation with value-adding services will be presented. Results of industrial deployment projects like DIAMOND or Factory-X and live demonstrators with industrial partners like msg systems ag and CONTACT Software GmbH will be shown at our booth.



festo.com





Create your Digital Product Passport (DPP 4.0)

Create your own DPP 4.0 and experience how asset information, including the product carbon footprint, becomes available at various stages of the supply chain by scanning your NFC tag.









Carbon Craft Chronicles: A DPP Journey

Get your personal AAS and gain understanding of the Digital Product Passport (DPP). In the showcase optimize the Product Carbon Footprint (PCF) of an individual industrial asset by choosing raw materials, the location of mining and assembly, the type of transportation as well as the energy source of a production plant amongst others. Become an operator, component manufacturer or mac Learn how your choices effect the footprint and what this means in terms of the forthcoming EU directive ESPR.



info@inspares.de



Get your own AAS

With our Cobot's assistance, you will gain a step-by-step understanding of the Digital Product Passport (DPP) and learn how to employ the Mnestix Viewer by attaining your individual AAS. This showcase will comprehensively detail the systematic capture and utilization of data, ranging from the properties of materials to recycling, CO2, and raw materials. As an operator, component manufacturer, or machine and plant builder, this becomes crucial in facing the forthcoming EU Directive ESPR.



Hall 8

xitaso.com





LNI4.0 LNI 4.0 Edge Management Demonstrator

The management of Edge Devices across multiple vendors is not standardized. The LNI 4.0 demonstrator uses AAS V3 DNP & Health submodels to solve this challenge.



Germany-USA Supply Chain DPP using AAS

Supply chains with several machines at different global locations (Germany, United States) producing a pen and reporting PCF and DPP using AAS.





Hall 8

Booth D26

AAS networked

The demonstrator shows how the AAS model and concepts like the Capability-Skill-Service model can be used to equip automation components with digital twins and enable cross-enterprise data spaces. Focus areas include: AAS creation, enhancing digital twins with autonomous agents for shared production, encapsulation of production resources as their capabilities and AAS interaction with infrastructure components. A highlight is the decentralized Registry, promoting collaboration between data spaces



vwsvernetzt.de





EV Battery Lifecycle Management using AAS & EDC

EV battery pack lifecycle management solution provided by Nestfield combines cross-company data from different manufacturers through Quantum-X, a trusted data-sharing platform developed by QuantumSurf that implements EDC (Eclipse Dataspace Connector). This use case demonstrates a scenario integrating operating data from an EV bus manufacturer, production data from a battery pack manufacturer, and inspection data from a BMS manufacturer. Data is standardized using Asset Administration Shell.



nest@nestfield.co.kr



Multi Vendor Condition Monitoring and Calibration Certificates

We present a multi vendor IIoT scenario in the food and beverages and condition monitoring domains. Vertically, an integration of a multi vendor mix of field devices is enabled by the use of OI4 based connectivity. Horizontally, an AAS infrastructure allows for open exchange of device identification, health and calibration data between multiple cloud services. Benefits are: Improved process transparency, Reduced complexity and integration effort and no vendor lock-in.





SIEMENS

Data Management with the Industrial Information Hub

The Industrial Information Hub brings together all information via standardized interfaces. This improves your data management and facilitates the integration of future machines into existing structures. IIH as an AAS repository can serve use cases like asset management, data connectivity to the PLC and consolidation via OPC UA, use of automatically generated semantic data model, creation of an asset model and its synchronization with other systems to generate information out of process data.

Manufacturing-X - Digitalize the Entire Manufacturing and Supply Chains

Learn more about Manufacturing-X and Siemens involvement in this German initiative to digitize the entire manufacturing and supply chains in industry. It aims at implementing the data space for Industry 4.0 across industries on a global scale. The goal is to enable digital innovations for greater resilience, sustainability and competitiveness.





Interoperable Digital Twins across Data Spaces within Engineering via AAS

Explore how Siemens Xcelerator, particularly Teamcenter (PLM) and Mendix (Low Code), address the challenge of seamless digital twin data exchange. By adhering to the AAS, Siemens Xcelerator enables seamless cross-company data exchange across various AAS data spaces. Experience increased efficiency in the engineering phase with up-to-date digital twins, streamlined data exchange, and improved quality, leading to enhanced traceability and reduced errors.









Neoception® Digital Twin Infrastructure

Automate the generation of hundreds of digital information twins by rule-based mapping of your proprietary data to standardized Asset Administration shells. With our demonstrator you can use an installation of our product and take the role of "content admin" in order to automate the creation of your first digital information twins. All this with just a few of your own rules. Add something? Change something? No problem! As the digital twins are created on-demand, changes are directly visible.



neoception.com

Andreas Wick

— Hall 9, Booth F27



Hall 9

Home of the AAS

Get ready for the industrial implementation of the AAS. Get all the information and updates on the AAS information model, use cases, submodels and all developments from this one-stop shop for the AAS.



Booth F27

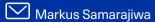
info@idtwin.org



Simplified System Design based on AAS

You are creating offerings under extreme time pressure? You are in a highly competitive environment? This demonstrator uses Digital Twins based on the AAS of FESTO components to create a solution efficiently and efficiently in a CONTACT-Software collaborative data space. You are supported by msg provided Al knowledge management utilizing the AAS to propose the ideal component regarding your functional requirements.







Scaling interoperable Digital Twins powered by Bosch **Semantic Stack**

Bosch Semantic Stack enables data-driven software solutions for a product-centric digital transformation that converts data and domain knowledge into insights. As representatives of real products, digital twins make all useful information from the entire life cycle universally understandable and easily accessible. Bosch Semantic Stack makes your data more valuable with less effort for data integration and interpretation.



bosch-semantic-stack.com



AASX Files for Manufacturer Products

Class.Ing offers a solution that allows product manufacturers easily to create Asset Administration Shells AAS. Existing data from various systems is merged and transformed. Technical data is transmitted using the ECLASS classification standard, whereby mappings of company specific data are easily possible. The creation takes place in the first step on type level and can be extended. In this way, data can also be prepared for the Digital Product Passport DPP.



classing.de





Master Data Creation and Classification with AI for ERP, PDM/PLM and PIM

The innovative Al-driven method generates ECLASS and SAPcompliant data from product data sheets. The Al analyses the information and then automatically assigns an ECLASS class, categorizes technical and commercial properties. It can also fill in basic data fields in SAP. The results are visualized in a cloudbased web database. The automatically generated AAS can be used for material creation and classification in ERP, PIM and PDM/PLM systems.

Hall 9 **Booth F27**

dundts.com Pierre Häcker



AAS Starter Kit – the Solution for the Standardized **Digital Twin**

The AAS starter kit – the fast and easy way to digitization. You can create your own digital twin within minutes and use it for your first applications. The AAS starter kit is based on the asset administration shell and fully complies with IEC 63278-1:2023 standards. Using the already established BaSyx open source framework the AAS starter kit guarantees openness and interoperability. This makes the AAS starter kit future-proof on your way to the digital factory.



aas-expert.com





Hall 9

Manufacturing Dataspace Platform

INTERX presents the Manufacturing Dataspace Platform. INTERX will demonstrate how the machine, factory and company AAS data is stored, gathered and connected.



interxlab.com





DPP-based Supply Chain Information Management

Suppliers can describe their products in detail by creating a DPP based on AAS technology. These details can include static properties such as product dimensions as well as dynamic data acquired in the production phase. In this demonstration, DPPs of the delta robot are applied for supply chain information management. This is demonstrated by enabling SupplyWize (part of the DiSC-Ecosystem) to consume the DPPs from AAS servers and embed AAS-based DPPs into the user journey of SupplyWize.



Hall 9





Hall 9

AAS.TwinEngine

AAS.TwinEngine enables the seamless integration of the physical into the digital world. The integration of an AAS platform with a modern Data Fabric architecture is revolutionising the way data is organised and analysed in the company. Data Fabric forms the fundamental backbone of AAS. Twin Engine and enables the seamless integration of a wide variety of data sources. Whether it's structured or unstructured data, our solution can capture it, combine it and provide you with a consolidated view.



Booth F27



OBJECTIVE PARTNER

BaSyx Enterprise – AAS Management

With BaSyx Enterprise, you can create and edit AAS and instances, use and create standardised and proprietary submodels. BaSyx Enterprise makes your AAS active by writing data from the lifecycle automatically to the AAS and offering operations. We support AAS of types 1, 2 and 3 and thus form the basis for smart networked production, on which, for example, LLM (AAS-GPT) can be built and queries can be executed using natural language.



objective-partner.de





AAS Service

Phoenix Contact show products which have an Identification Link (IEC61406-01). Scanning these products shows the web page of the Digital Twin which is based on the AAS of the particular product. Understand also, how this AAS can be accessed directly for automatic processing. Furthermore, experience how you can perform an automatic proof of intrinsic safety products based on the AAS Nameplate.







phoenixcontact.com

twinsphere Suite for Digital Twins

twinsphere is a powerful SaaS platform for digital twins based on the standardized and interoperable Asset Administration Shell. twinsphere offers flexible, scalable solutions for companies to simplify their digital transformation, increase process efficiency and securely manage digital assets. Ideal for medium-sized companies, it supports a wide range of use cases along the value chain.









DPP4.0 – The Digital Product Passport for Industry 4.0

With DPP4.0, the ZVEI presents a flexible, efficient and future-proof concept for the technical implementation of a digital product passport and demonstrates its feasibility using a demonstrator. DPP4.0 enables companies to document and provide required product information. The demonstrator uses DPP4.0 to aggregate product infromation, such as the Product Carbon Footprint, across the supply chain.



zvei.org

Stefan Schork



Pushing Performance Since 1945

Hall 11

Booth C43

Digital Product Passport for Connectors

How it can be looked like: Digital Product Passport for connector components and configurations. Based on the ideas of the EU including Product Carbon Footprints using Asset Administration Shell as data source





Control Cabinet Panel – Digital Product Passport 4.0

Get informed about Digital Product Passport 4.0 application and active products onboarding DPP4.0.



Matthias Bölke • Jean Pascal



Showing the Interoperability with the AAS

Basic product information and documentation is provided through the AAS for a Bürkert 2 way process valve (DMC) with the concept Open Industry 4.0 Alliance.









UB-EDGE: All-in-one Edge with Integrated Private 5G Network

Discover UB-EDGE, our all-in-one Edge with integrated Private 5G Network developed in collaboration with our partner Lanner. The local edge computing platform is ready to seamlessly run your mission-critical applications, such as real-time video analytics. Enjoy high-performance and secure wireless network access with private 5G. Benefit from Al acceleration, enabling enhanced automation across various sectors such as industrial productions, logistic centers and construction sites.





Andreas Scheipers



FA³ST for Interactive Digital Twins

Our exhibit shows event-driven and goal-oriented interactions of assets represented by their digital twins (DTs) implemented with the Industrie 4.0 Asset Administration Shell. The FA³ST service is used to create and manage AAS-compliant DTs and to support real-time communication and synchronization of DTs with their physical assets. Furthermore the FA³ST service extends DTs with application logic to form a decentralized production and to network the application logics of the DTs with each other.

iosb.fraunhofer.de

Ljiljana Stojanovic

Digital Sustainable Supply Chain Ecosystem (DiSC Ecosystem)

DiSC makes it possible to design more efficient, sustainable and resilient supply chains. DiSC meets the need for tools and infrastructure for the management of DPPs in supply chains by applying AAS technology for interoperability. Using DiSC, production processes can be optimized, product quality improved and delivery times and costs reduced. DiSC is particularly suitable for the manufacturing industry and additionally offers the optimization of supply chains through Al.



Boris Schnebel • Felix Schöppenthau





Generation and Provision of AAS

Inevvo is a service provider for AAS and digital product passports (DPP). We demonstrate digital product passports according to IEC 61406. Our platform is used for the clear identification and paperless maintenance of technical devices. It assigns traceable serial numbers to components, links certificates and facilitates internal access. We now support export/import of AASX files in serial process. We currently have more than 3 million components equipped with our technology.



inevvo-solutions.com Marcus Ripsam



Digital Twin Ecosystem

AAS is a key-enabler for digital transformation throughout the value chain. We showcase how AAS as a building block of business processes (for example, material flow between suppliers and manufacturers) can help create value within industry ecosystems. By unleashing a new dimension of interoperability, AAS sets the technological basis for better efficiency in many collaboration scenarios and for meeting future demands related to the Digital Product Passport (DPP).



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Rüdiger Fritz • Thiago Weber • Adrian Langlouis



events.sap.com

The Digital Twin of a Greenhouse

Our greenhouse is a growing platform for the application of AAS submodels, enabling interoperation with the "Digital Nameplate" and "Handover Documentation", with more to come such as the "Digital Product Passport" and "Time Series Data". Best of all, at our booth you can immerse yourself in the virtual world with our AR headset and explore the dashboards in a new way. How can we help you as Novatec? We are your consulting and software development partner for AAS landscapes and beyond.







OI4 "Next Bike"

Discover the interoperability of standardized digital twins and make this experience tangible. For the first time, you can access all product data, across companies, in a standardized form on-the-go/on-demand. We are addressing the fact that the industry is utterly fragmented- and remains fragmented. That's why it is important to work on interoperability: All challenge participants will discover that there can be a smooth journey even though two independent AAS Repositories are involved.



openindustry4.com

dunkermotoren

Digital Twin of a Smart Motor Solution

Via scanning the 2D-Code on our physical motor you can get all the needed information for design or service purposes (e.g. nameplate, handover documentation, technical data or contact data) directly as a digital twin via an AAS. The digital twin also can be collected as a part of the digital twin challenge on the Hannover fair



Booth E40

Hall 15





Hall 15
Booth E40

IO-Link System with ASX-Server Integration

Discover the interoperability of standardized digital twins and see, how a container-based application running on an edge gateway can help you to specify a dynamic IO-Link system according to AAS standards. The IO-Link system consists of an standard IO-Link master and various IO-Link sensors attached to it. The systems identifys connected sensors and actors automaticly, creates a standardized AASx file of the system and sends it to an ASX-Server.

Endress+Hauser 🖽

Hall 15

Booth E52

Interoperable Digital Twins for the Process Industry

Demonstrator how "Automated as built" and master data exchange are enabled by using standardized digital twins based on the AAS in cross-vendor and cross-company scenarios and to improve efficiency by AAS-based automated services. Key is the interoperability for all workflows and systems by use of the AAS.



Smart City and Smart Factory

Discover our bill-X demonstrators for real-world applications: Dive into a virtual SmartCity, where services are efficiently billed through a smart data foundation. With ActiveDB, our operating system for living digital twins, and OpenInformer, the comprehensive 360° billing system, we showcase data management according to AAS standard, process optimization, and production control. Experience innovative billing options, digital product passports, and effective carbon footprint management.



bill-x.de







AAS in the Context of Engineering Data Management

The Demonstrator Scenario shows various AAS-driven Use Cases in the context of CONTACT Elements as a Engineering Data Management Platform.



Automated Asset deployment via AAS

The Demonstrator shows the data exchange between the Mitsubshi Electric Asset Portal and CONTACT Software (CONTACT Elements for IoT) using the AAS-Metamodel.





The Power of Virtual Twins for Industry Transfomation

Dassault Systèmes, in collaboration with OMRON, highlights the importance of virtual twin experiences in meeting the demands of the industrial landscape. We showcase how virtual environments and AAS are used to simulate production lines, drive innovation, reduce commissioning time and relate back operational data for continuous improvements.





AAS @ Industrie 4.0 Conference Stage

(Hall 8, booth D17)

MON 22.04.	
15:05 – 15:25	Asset Administration Shell Security Andreas Orzelski, PHOENIX CONTACT GmbH & Co. KG
17:10 – 17:30	#FuturizingProduction: AAS & Digital Product Passport as trailblazer for a digital future Markus Benndorff, soffico GmbH
TUE 23.04.	
09:40 - 10:00	Easy integration, significant impact: Mastering the data spaces with the Asset Administration Shell! Jörg Nagel, Neoception
10:00 - 10:20	Drive 4.0 – futureproof drive solutions for the industry Bernd Wacker, Siemens; Martin Hankel, Bosch Rexroth AG
16:00 - 16:25	News from the Asset Administration Shell – the Digital Twin for all partners in the life cycle Michael Hoffmeister, Festo SE & Co. KG
17:35 – 18:00	Implementing the EU Digital Product Passport with Digital Data Chain and Asset Administration Shell Christoph Attila Kun, BASF SE & Digital Data Chain Consortium GbR
WEN 24.04.	
14:40 – 15:00	Implementation of Asset Administration Shell in the 'wiring harness' value chain of the automobile Christian Kosel, ARENA2036 e.V.
THU 25.04.	
15:00 - 15:25	Digital Twins: What nobody is talking about Dr. Birgit Boss, Robert Bosch GmbH

AAS @ Siemens Stage

(Hall 9, booth D53)

FRI 26.04.	
11:20 - 11:35	Digital Data Chain, Asset Administration Shell and the Digital Product Passport Karsten Schneider, Siemens; Jörg Neidig, Siemens

AAS @ Embedded Park & Speakers Corner

(Hall 9, booth F76)

WEN 24.04.		
12:40 - 12:55	Umsetzung des Cyber Resiliance Acts / NIS2 mit der Verwaltungsschale Christian Günther, conplement AG	
14:40 - 14:55	Standardisierte Produktdaten als wichtiges Wirtschaftsgut in digitalen Geschäftsmodellen DiplIng. Frank Scherenschlich, Class.Ing	
THU 25.04.		
14:20 – 14:35	ECLASS & AAS – ein starkes Duo in Industrie 4.0 Dr. Christian Block, ECLASS; DiplIng. Frank Scherenschlich, Class.Ing	
FRI 26.04.		
11:20 - 11:35	Standardisierte Produktdaten als wichtiges Wirtschaftsgut in digitalen Geschäftsmodellen DiplIng. Frank Scherenschlich, Class.Ing	

AAS @ Tech Transfer Conference Stage

(Hall 2, booth B02)

WEN 24.04.	
12:05 – 12:25	Simplify the prototyping of commercially used data spaces, also for SME Thomas Kuhn, Fraunhofer IESE

AAS @ Capgemini Stage

(Hall 15, booth F52)

WEN 24.04.	
15:30	How do OEMs and Supplier collaborate in the Metaverse? Dr. Birgit Boss, IDTA, Robert Bosch GmbH; Uwe Rechkemmer, Nvidia; Sven Dahlmeier, Capgemini; tba, Catena-X



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