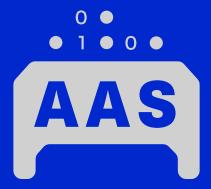
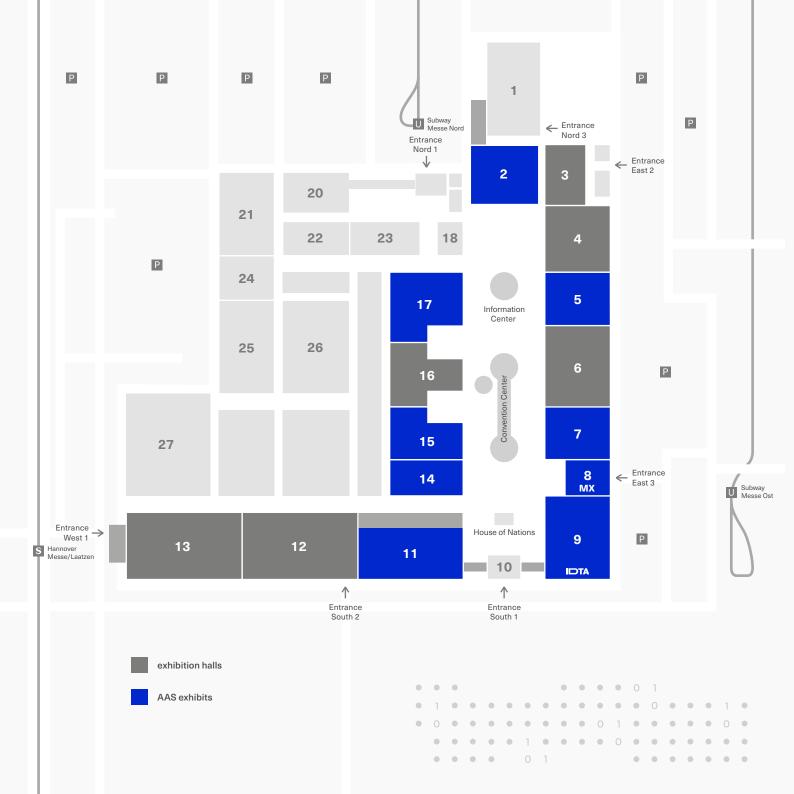
The Asset Administration Shell (AAS) in action



AAS Guide Hannover Messe 2025





AAS exhibits





AAS Dataspace for Everybody

Use cases such as the digital supply chain, the product carbon footprint and the Digital Product Passport all require the interoperable exchange of sensitive information. Industrial dataspaces are essential to share this data in a controlled manner. With the AAS Dataspace for Everbody, we provide an AAS Dataspace as-a-Service with customizable blueprints. The exhibit shows how to get started by demonstrating applications that enable new business models and increase competitiveness.



iese.fraunhofer.de

frank.schnicke@iese.fraunhofer.de



OaaS (Operator as a Service) Based on Digital Twins, AAS and Eclipse Basyx

The OaaS (patent pending) concept from Vicomtech is based on remote operators monitoring manufacturing processes via Digital Twins. In the OaaS vision, a skilled remote operator empowered with extended interaction technologies oversees and controls multiple automated manufacturing lines. Communication between manufacturing processes and the OaaS is managed by the AAS Dataspace for Everybody of Fraunhofer IESE. Both the processes and the OaaS have their own AAS server powered by Eclipse BaSyx.



vicomtech.org

Ander Garcia | agarcia@vicomtech.org



AIQUAMA – AI-based Quality Management for Smart Factories

AIQUAMA investiges the use of Twin AI in the quality management of production processes in the automotive domain aiming at a zero-error production. Relevant measurement data is collected, analysed and stored in the Digital Twin of the emerging car for subsequent quality assurance steps. From this, instructions for correct door adjustment can be derived, which, together with aggregated quality data, are interactively visualised directly on the car body using AR as well as projection mapping.

Hall 2
Booth B32

dfki.de

daniel.porta@dfki.de



Mixed-Reality-based Monitoring and Planning of Heating Systems in Factory Halls based on Digital Twins

Planning is based on 3D models to optimize system configuration. A Digital Twin links data for simulation and optimization, supported by mixed-reality visualizations. Al-driven analyses enable savings in materials, energy, and maintenance, helping to conserve resources and reduce operating costs. Using mixed-reality glasses, different types of heating devices can be virtually installed in the exhibition hall.

Pall 2
Booth B32

green-ai-hub.de

soenke.knoch@dfki.de



Transatlantic Exchange of Product Information Using the AAS

Together with LNI4.0, we show the exchange of Digital Product Passports between Canada and Germany using the AAS and Eclipse Mnestix driven by XITASO.

xitaso.com

Booth B42

FLUID POWER 4.0 Hall 5 Booth D44

The "FLUID POWER 4.0" special show, organised by the Fluid 4.0 project consortium, takes place in Hall 5, D44. Visitors can discover the digitalisation solutions and approaches of the AAS of 16 exhibitors.



Industrial IoT Data Acquisition System Connecting Various AAS Use Cases

The data acquisition, processing and monitoring system deployed on Cloud, Panel and IPC hardware is connected to different Industrial IoT protocols (e.g. MQTT/JSON, OPC UA), represented by hydraulic and pneumatic demonstrators. Both locally located and cloud connected use cases showing the system interoperability for acquisition, real time processing and visualization of energy consumption, machine state and on demand product information retrieval using AAS features.







Interoperable Dataexchange via AAS

Discover Parker Hannifin's solution of innovative Digital Twins based on AAS technology. Our solutions encompass all our products and provide unique identifiers for part and serial numbers to improve tracking and management. Access this information effortlessly via QR codes on the products and standardized AAS APIs. Experience seamless digital data exchange and discover how it can transform your operations and prepare you for the Digital Products Passport.





Internal Gear Pump QXEHX

Bucher Hydraulics is aware of the importance of digital information in the machine industry and uses the example of a QXEHX internal gear pump to demonstrate the potential even for non-smart components without their own electronics. In addition to product and test data, other technical information about the component can be easily accessed at any time.



ulies.com info@bucherbyd



Fluid4.0: Control Configuration via AAS for Mini Hydraulic Wheel Loader

The CFLab is part of the Fluid 4.0 joint research project and is responsible for the overall coordination of the project and the "control system development" use case. Together with the "Fluidtronic" chair at TU Dresden, a mini-hydraulic wheel loader demonstrator was set up. It enables visitors to configure the application software of a mini-hydraulic wheel loader and to move the results immediately. The classic way of programming and the future way with AAS submodels and infrastructure can be compared.

Booth D44 | 4

── benjamin.beck@cflab.de



Booth D44 | 4

Fluid 4.0 - Demonstrator

Using various use cases from the fields of engineering, energy monitoring and carbon balancing, we and our co-exhibitors (TUD Dresden Fluidtronics and CFLab) will use demonstrators to bring the current interim results of the Fluid 4.0 joint project to life.

malte.becker@ifas.rwth-aachen.de





Fluid4.0: Pneumatic Handling System with AAS-Based Energy Monitoring

The Chair of Fluid-Mechatronic Systems (Fluid-tronics) at TU Dresden is part of the joint research project Fluid 4.0 and is responsible for the energy monitoring use case. Using an interactive pneumatic handling system, visitors can manually operate the cycle and view their resulting energy consumption in an AAS. These values can then be compared to those of the automatic cycle.

Booth D44 | 4

🗹 thomas.kramer@

PILLID POWER 4.0 Hall 5 Booth D44



Fluidon | Cube

An example demonstrates how the Technical Data submodel is used to parameterize a fluid power system simulation, which calculates key metrics such as a product's carbon footprint and transfers this value to the Carbon Footprint submodel.

By leveraging the Asset Interfaces Description submodel and MQTT, the cloud-based simulation serves as the numerical representation of the machine. The underlying FMU model is fully prepared for integration into the Provision of Simulation Models submodel



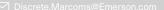
heiko haum@fluidon.com



Fluid Power 4.0

Through two live demonstrations, we aim to illustrate the integration of valuable energy data and product carbon footprint into the AAS for both final products and manufacturing machinery involved in mixed production sets. Our objective is to demonstrate the added value that harmonized data via the AAS can provide, as well as the process of generating and integrating such data.







Showing the Interoperability and Vision of AAS

Learn about the concept, the status quo and the vision for the use of AAS in value creation networks throughout the whole life cycle of an industrial product.



M info@burkert.com



Sustainable Fluid Technologies Thanks to Digitalization

Discover how Digital Twins transform automation systems by enhancing simplicity, efficiency, and quality in engineering and operations. Experience this innovation firsthand in our interactive demonstrator. Additionally, explore three engaging physical demos: learn how the asset administration shell delivers harmonized data on energy consumption and carbon footprint, seamlessly integrating into your system. Plus, see how intelligent control boosts the energy efficiency of pneumatic motion.

Booth D44 | 9

☑ digital_twin@festo.com



:em AG Digital Twin Showcase

Using a model railway as an example, engineering artefacts are bidirectionally linked with field data to create Digital Twins in a heterogeneous IT landscape. The backend of the showcase is based on the Bosch Semantic Stack as a platform for managing the twins and the AAS as a standardized transfer format for the data. The use cases shown are transferable to other sectors and industries, e.g. verification and optimization of the CO2 footprint.

Booth D44 | 10

erik.claassen@em.ag



Fluid Power 4.0 - HungerDrive

- hydraulic cylinder with built on components, bluetooth and web-interfaces
- speed controlled hydraulic pump with AC-servomotor
- · integrated position, speed and load controller
- max. pushing force 2.500 kN
- available as compact unit as shown or with separate cylinder and drive unit

F hunger-hydraulik.de

Booth D44 | 11

i.ruehlicke@hunger-hvdraulik.de



Fluid Power 4.0 - Electromagnetic Future Drive

Smart & Efficient for a Sustainable Future: A PCFreduced, compact, and digitized high-performance hydraulic magnet that cuts energy and material by up to 50%.

♥ Booth D44 | 12



AxisPro Proportional Hydraulic Valve

Vickers AxisPro proportional valves with integrated diagnostics and communication protocols (Ethernet/IP, EtherCAT, Profinet, CANopen). Configurable via Pro-FX Configure software. They include built-in motion control and pressure/temperature sensors. IP65/67 rated.

Ch donfood oom

Booth D44 | 13

imcproductsupport@danfoss.com

FLUID POWER 4.0 Hall 5 Booth D44



Smart Circular Economy

The Fraunhofer IIS presents use cases and business opportunities for the implementation of the circular economy in the industry. Key technologies include data spaces, AASs, and the Digital Product Passport (DPP).

Use cases illustrate how circular economy strategies for example in service processes enhance business resilience and sustainability. In this context, Fraunhofer IIS presents insights from the Fluid 4.0 research project.







Digital Product Twins @Rexroth

Unlock the Future of hydraulics with Bosch Rexroth Digital Twins - provided as AASs:

- Digital Engineering: Streamline your design process with technical data and models
- · Carbon Footprint: Identify CO2 reduction opportunities
- · Paperless Documentation: Ensure compliance while minimizing paper waste
- Circular Economy: Use a data-driven approach to identify the optimal R-strategies
- · Plug & Produce: Implement workflows for seamless factory orchestration
- · Energy efficiency: get transparency to optimize





Digital Engineering in Design and Operation

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. With live demonstrators you can discover our Digital Twins and experience them in several use cases from design to operation.









How to Monetize Your Reporting Obligations with Eclipse Mnestix

Together with SmartFactoryKL, we show how to monetize your reporting obligations such as the Digital Product Passport using AAS with Eclipse Mnestix driven by XITASO. Eclipse Mnestix is an open source software to simplify, scale and secure the implementation of standardized Digital Twins using the AAS.



xitaso.com

Manufacturing-X Hall 8 Booth D26



AAS: Standardised Data Provision for Industrial Ecosystems



The AAS offers extensive application support for the development of open data ecosystems in the industry and, as an interoperable standard, enables implementation in almost all sub-projects of the Manufacturing-X initiative for the implementation and adaptation of technological and semantic interoperability. The AAS is used as a basic data structure in the use cases of Factory-X. Prozess-X. Robot-X and Catena-X. This makes cross-company use cases possible in different industries.

industrialdigitaltwin.org info@idtwin.org



Product Carbon Footprint of Sidewall Component in Aerospace-X

Strengthening the resilience of the aviation industry through greater transparency, digital consistency and adaptability

- · More sustainability, circularity and regulatory compliance
- · Providing open and digital solutions for collaborative multi-tier supply chains
- · Common standards for interoperability
- · Development of open data spaces and the underlying infrastructure based on the principle of data sovereignty for cross-company data exchange in the aviation industry

Henning Berg (Fraunhofer) | Karl Richert (Airbus)

SIEMENS

Product Lifecycle Management: Efficient Engineering with AAS & Teamcenter

Discover how utilizing the AAS and Siemens Xcelerator, particularly Siemens Teamcenter, can transform the cross-company search and exchange of Digital Twin data during engineering. You will explore how adopting a universal standard can enhance efficiency and data quality during the engineering phase, addressing challenges related to data interoperability, significantly reducing manual and error-prone tasks.



constantin.liepert@siemens.com



Real-time Plug & Work with the umati Demonstrator

The demonstrator showcases high-level interoperability with hot-swappable scales that communicate via OPC UA companion specifications for industrial automation, machinery and weighing. At startup, static device data is loaded. When an item is placed on the scale, it is weighed and sorted according to preset criteria. A dashboard displays real-time process states and values via OPC UA, while an AAS digital nameplate provides detailed information on device connectivity and performance.



□ umati.org
 □



Q Home of the AAS Hall 9 Booth F27

IDTA offers the primary point of contact for comprehensive information on the AAS with the latest specialist information, market-ready solutions, and an interactive demonstrator.



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 onestop shop for the AAS.

🔯 industrialdigitaltwin.org 🔽 info@idtwin.org



Collaborative Engineering

Eplan demonstrates how the AAS is used to integrate data of component manufacturers to engineering projects and collaboration between software tools. Component manufacturers provide type and instance data in the form of AAS in the Cloud. Further, the AAS is used to harmonize digital workflows between software tools throughout the lifecycle of a machine and beyond the boundaries of the participating companies involved in engineering, operating and servicing the asset.



Hall 9 **Booth F27**

☐ Use Cases





CADENAS

On-demand Generation of Type AASX V3 for **Component Manufacturers**

Providing manufacturer components type AASX V3 and Multi CAD Digital Twins in the fields of electrical engineering, electronics and mechanics for industrial customers for engineering and simulation.

marketing@cadenas.de



Seamless Automation: From Quality Master Data via ECLASS (Advanced) to AAS

Establish high-quality product data in source systems like ERP, PLM/PDM, and PIM with ECLASS Basic/Advanced classification - or map existing data to ECLASS and other standards. Seamlessly create flawless AAS for the supply chain or integrate (AAS-based) supplier data into your own data management. All while meeting the DPP 4.0 requirements.

vertrieb@classing.de

Q Home of the AAS Hall 9 Booth F27



Digital Twin Portal Plattform

The Digital Twin Portal Platform based on twinsphere, demonstrates six real-world use cases. It showcases how industrial companies can leverage Digital Twins to take the next step into the future. It illustrates how companies are already preparing their data infrastructure for the upcoming Digital Product Passport (DPP) requirements, optimizing spare part and successor product processes, and simultaneously enhancing efficiency in production, maintenance, and sustainability.



ECLASS and AAS for Efficient Master Data Management

With Al and the AAS, D&TS optimizes material creation and classification in ERP, PIM and PDM/ PLM systems for clean master data.

dundts.com

Booth F27

Hall 9



Automated AAS Submodel Generation

We present a solution for the automated generation of valid AAS Submodel instances. Within seconds the content from an input source (image, pdf or web content) is processed and a valid submodel instance is created. At the moment we support the creation of the SM DigitalNameplate by making a photo of the physical nameplate, inserting the product datasheet or providing the link to the webshop of the physical asset.

Hall 9 **Booth F27**

Dennis Heitkamp | Gesa Benndorf



iosb-ina.fraunhofer.de

AAS-based Data Standardization & DataSpace Platforms

with IDTA on AAS-based data standardization and DataSpace platforms, enabling Al-driven smart manufacturing. It demonstrates how Digital Twins and standardized industrial data improve autonomous factory operations, ensuring efficiency and scalability. The partnership contributes to the global

Hall 9 **Booth F27**

hannovermesse.de

Dongseok Lee | bruce@interxlab.com

This exhibit highlights INTERX's collaboration

advancement of Industry 4.0, fostering innovation in digital manufacturing ecosystems.



Get Data from Old Machines the Standardized Way



Meta·Level

Hall 9 **Booth F27** From Old Industry to Industry 4.0 – To successfully address forward-looking topics such as the Product Carbon Footprint or the Digital Product Passport, data from older machines is also essential. MMC and Meta-Level Software AG impressively demonstrate in their use case how data from old machines can be obtained and made interoperable via the AAS using TwinEdge® and the AAS Suite.

twinedge.aas-suite.de stefan.huffer@meta-level.de



AAS.TwinEngine

With AAS.TwinEngine we have developed a framework with a plugin architecture that enables integration with customer-specific ETL/Data Fabric solutions. This allows us to easily connect to existing system landscapes.

In addition to a range of generic plugins, e.g. GraphQL, any custom plugin can be developed if required.

This approach perfectly supports modern data driven architectures and leverages advanced Digital Services across diverse data sources in your enterprise.

Booth F27

Hall 9

✓ Jens Achenbach | jah@mm-software.com



mm-software.com

Neoception® Digital Twin Infrastructure

Turn data into a competitive advantage. Our enterprise software lets you configure & automate for dozens of AAS use cases, ensuring you're prepared for the DPP.

Automated process: Create, update, provide directly out of your data sources - on demand! Enterprise Software: Benefit from robust product lifecycle management, security updates & onpremise deployment.

Configuration instead of programming: Customize templates & data rules through intuitive interfaces, avoiding costly development cycles.

neoception.com

contact@neoception.com

Q Home of the AAS Hall 9 Booth F27

OBJECTIVE PARTNER

Battery Passport

The BaSyx Enterprise Battery Passport is a new product that will be presented for the first time at the IDTA stand. Among other things, it contains comprehensive information on the material composition, origin, CO2 balance, performance and life cycle of batteries. The BaSyx Enterprise Battery Passport is the first solution that fulfils the legal requirements for the future digital battery passport and thus enables a cycle-oriented and sustainable handling of an increasing number of batteries.

⇔ objective-partner.com





Collaboration & Change Notification in the Supply Chain

Product Change Notifications (PCN) need to be exchanged between compontent suppliers, product design teams and end users. PTC shows how collaboration between all stakeholders in the supply chain is enabled. CAD, PLM and design tools collaborate leveraging the power of the Asset Administation Shell.

Hall 9 **Booth F27**

r ptc.com



Eclipse Mnestix - The Industry-proven Booster for Your AAS & DPP Project

Eclipse Mnestix, driven by XITASO, is an open source software to simplify, scale & secure the implementation and integration of AAS solutions. By providing an Enterprise Edition for Mnestix, XITASO offers professional support, consulting and customization for your individual requirements. With its components, Mnestix is the industry-proven booster to realize a rich set of AAS use cases such as the Digital Product Passport.

Hall 9 **Booth F27**



DPP4.0@Grid - The Digital Product Passport 4.0 for Grid

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 of a grid distribution station. DPP4.0 enables companies to document and provide required product information. The demonstrator uses DPP4.0 to aggregate product infromation across the supply chain.

Hall 11 **Booth B54**



Paperless Machine Documentation Enabled by Digital Product Passport 4.0

In the pilot project, in which Siemens, Bosch Rexroth and Engel are involved, product information from the manufacturing companies is provided digitally using DPP4.0 and can therefore be transferred directly into the machine builder's own systems. This eliminates the need for paper documents and reduces the time and effort required to transfer the information. DPP4.0 thus contributes to both sustainability and increased efficiency.

Hall 11 **Booth B54** dpp40.eu

stefan.schork@zvei.org



Hall 11 Booth C43

Digital Product Passport for Connectors

How it can be looked like: Digital Product Passport with Product Carbon Footprint using Asset Administration Sell for connector components and assemblies.

harting.com

sebastian.eicke@harting.com



Collaborative Engineering - Data Driven Innovation

Eplan shows how the AAS is used to integrate data of component manufacturers to engineering projects and collaboration between software tools. Data that component manufacturers already use can also be integrated in the Eplan software via AAS. Further, the AAS is used for automated product change notifications integrated in the project. The necessary information on change notifications can also be retrieved via AAS.

Booth E06

eplan.com

geyrhalter.j@eplan.de

Hall 11



Al Transformation for Manufacturing

INTERX presents cutting-edge AX (AI Transformation) solutions, including Al-driven autonomous manufacturing, Digital Twins (DT), and Generative Al's. Through an immersive showcase of our Al Kit lineup, visitors can explore real-world applications and collaborations with global R&D leaders such as the Fraunhofer Institute and SONY AITRIOS.

Additionally, specialized seminars will cover digital transformation, automation, and global collaboration, providing key insights into the future of manufacturing.

☆ hannovermesse.de

Hall 14

Booth H60

bruce@interxlab.com | tk.lee@interxlab.com



FA3ST Ecosystem: Al-empowered AAS / DPP Management

Implementing AASs can be complex, errorprone, and labor-intensive challenges that often overwhelm non-experts. The FA3ST ecosystem addresses these issues by leveraging Al-driven methodologies for the creation, seamless integration, and efficient and user-friendly use of AASs. Now enhanced with support for DPPs, this innovative approach accelerates the development of standardized DPP sharable via data spaces, thereby driving the transition toward a circular economy.

Hall 15 **Booth A06**

iosb.fraunhofer.de

Ijiljana.stojanovic@iosb.fraunhofer.de



Digital Twin Ecosystem

Be more efficient by collaborating effortlessly with Digital Twins - create value by collaborating with Digital Twins based on AAS while getting ready for EU Digital Product Passport (DPP). Experience how SAP Business Network Asset Collaboration realizes a seamless integration of asset data from suppliers and OEMs, enabling Digital Twins for efficient and standardized data exchange and integration to business processes by utilizing the AAS.



events.sap.com

thiago.weber.martins@sap.com



Hall 15 **Booth G42**

ey.com



The AAS is a future oriented way to realize Digital Twins which support industrial collaboration across geographies, functional areas and heterogeneous business environments in general. For EY it is an opener in the world of Al-empowered collaboration based on Digital Twins.

axel.hammer@de.ev.com



Collaboration & Change Notification in the **Supply Chain**

Product Change Notifications (PCN) need to be exchanged between compontent suppliers. product design teams and end users. PTC shows how collaboration between all stakeholders in the supply chain is enabled. CAD, PLM and design tools collaborate leveraging the power of the Asset Administation Shell.

Hall 17

Booth D40

ptc.com



CONTACT Elements Integration of External AAS Supplier

CONTACT Elements simplifies data integration in today's connected world. Leveraging the AAS data exchange format, we facilitate seamless integration of supplier data into AAS-compatible software. Our solution also provides easy export of customerrelevant AAS data, boosting integration speed for your own solutions and enabling customers to directly access data from external configuration tools, CONTACT Elements' AAS support facilitates seamless data exchange, for developers and their customers.

Hall 17 **Booth H24**

contact-software.com

17:00

IDTA Community Get-together Hall 9 | Booth F27





MON 31.03.		
10:00-10:45	RoX - Al-based robotics for a competitive and sustainable future Prof. Dr. Christoph Schlueter-Langdon T-Systems International, Dr. Horst Heinol-Heikkinen IDTA	
11:15-11:35	The benefits of the data space for industrial production Christoph Herr VDMA	
14:45 - 15:30	International Manufacturing-X - Create Impact with Real Use Cases Thomas Hahn Siemens, Dyck John CESMII, Jean-Pascal Riss Schneider Electric, Dr. Oscar Lázaro Inno- valia, Kazuo Nakashima RRI (Robot Revolution & Industrial IoT Initiative), KwangHyun An KOSMO, Peter van Harten Field Labs Netherlands, Sujatha Mukunthan Siemens India	
15:35-15:55	Antrieb 4.0: Digitalized asset management ensures transparency on the factory floor Michael Klipphahn ABB	
17:35-17:55	Combined usage of AutomationML, AAS, FMI and OPC UA in the research project DIAMOND DrIng. Miriam Schleipen EKS InTec	
TUE 01.04.		
09:40 - 10:20	Pilots for the Digital Product Passport: Experiences from European project CIRPASS-2 Michael Fälbl Verein Industrie 4.0 Österreich, Christoph Attila Kun BASF, Nikolaos Saklampankis Fujitsu, Dr. Jens Gayko VDE	
14:45 - 15:05	Transforming Manufacturing with Generative AI: Unlocking Efficiency and Innovation Hail Jung INTERX	
16:00 - 16:20	Paperless Machince Documentation enables by DPP4.0 Prof. Dr. Dieter Wegener Siemens Technology, Dr. Stefan Saatmann Siemens	
WED 02.04.		
10:00-10:20	Digital Product Passport and circular economy – an example from the electronics sector Stefan Schork ZVEI	
16:00-16:45	Manufacturing-X in practice: Added value with data Angelina Marko ZVEI	



THU 03.04.		
11:40-12:20	Antrieb 4.0: Opportunities in drive technology due to digitalization and sustainability Martin Hankel Bosch Rexroth, Lara Schmidt Fraunhofer-Institut IIS, Falk Eckert ZVEI, Stefan Pollmeier ESR Pollmeier GmbH Servo-Antriebstechnik, Bernd Wacker Siemens	
16:20-16:40	AAS Submodelle Technical Data, Handover Documentation – New Versions – ECLASS Semantics DiplIng Frank Scherenschlich Class.Ing	
FRI 04.04.		
12:05-12:25	Efficient master data integration: The AAS as a bridge between EPLAN and SAP Paulo Ferreira D&TS	
13:20-13:40	Using the digital produkt passport for effective after sales services Dr. Alwin Hoffmann XITASO	



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