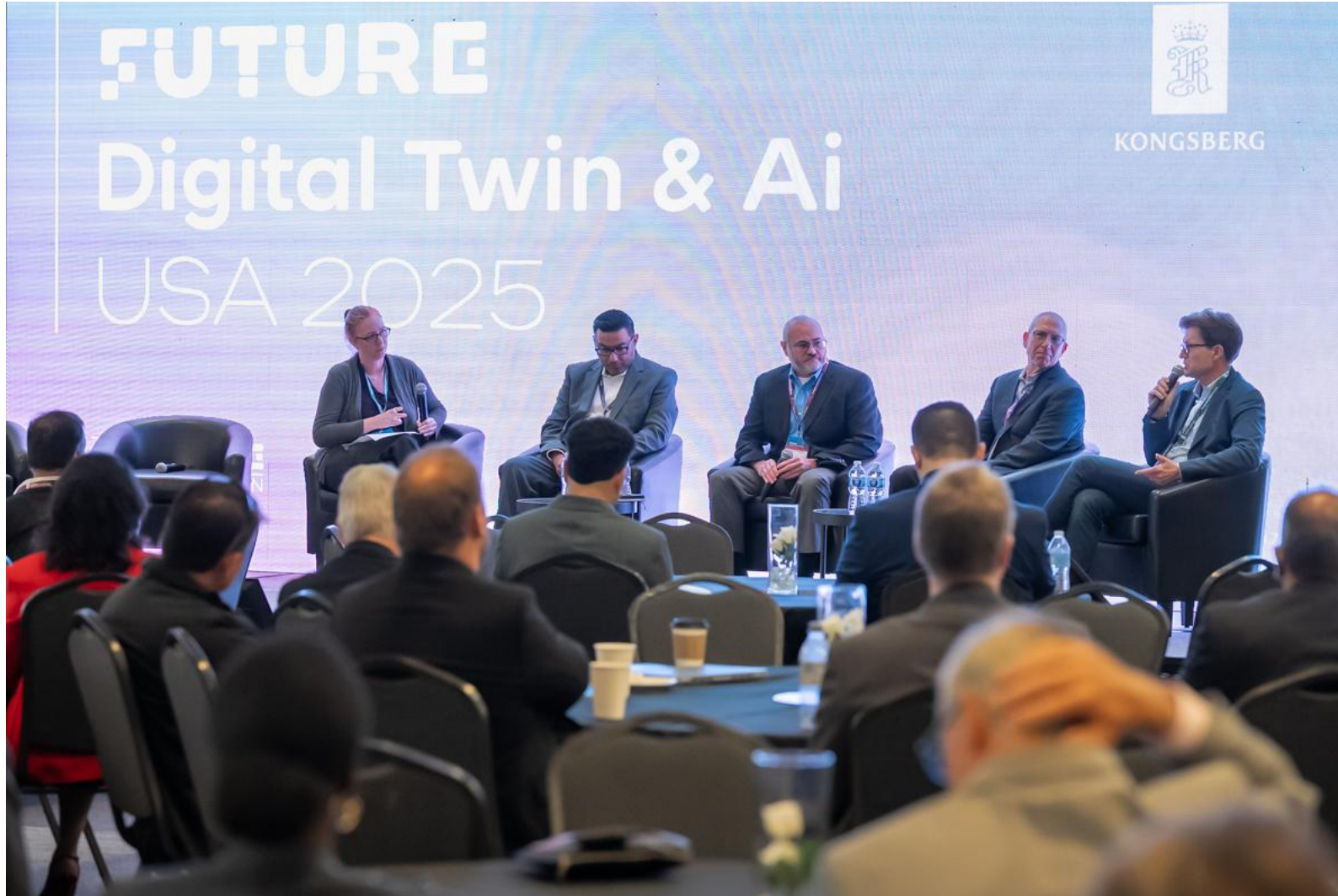


Digital Twin

meets meet data spaces for
competitiveness and green transformation

Dr. Matthias Bölke, VP Strategy Schneider Electric / Chairmen IDTA

∴ Digital Twin: **mandatory** for the next steps ∴

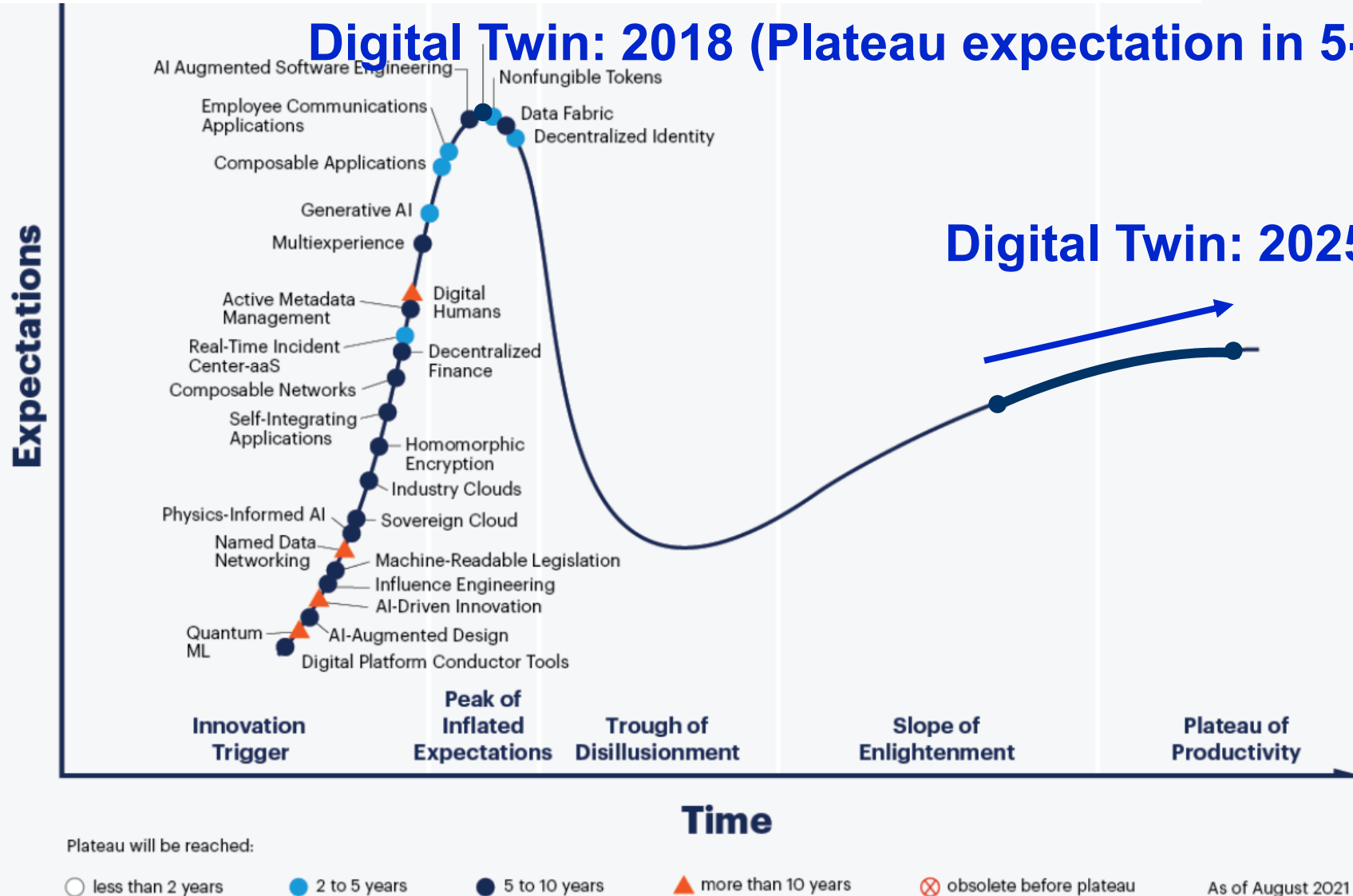


- new opportunities
- new needs
- new solutions

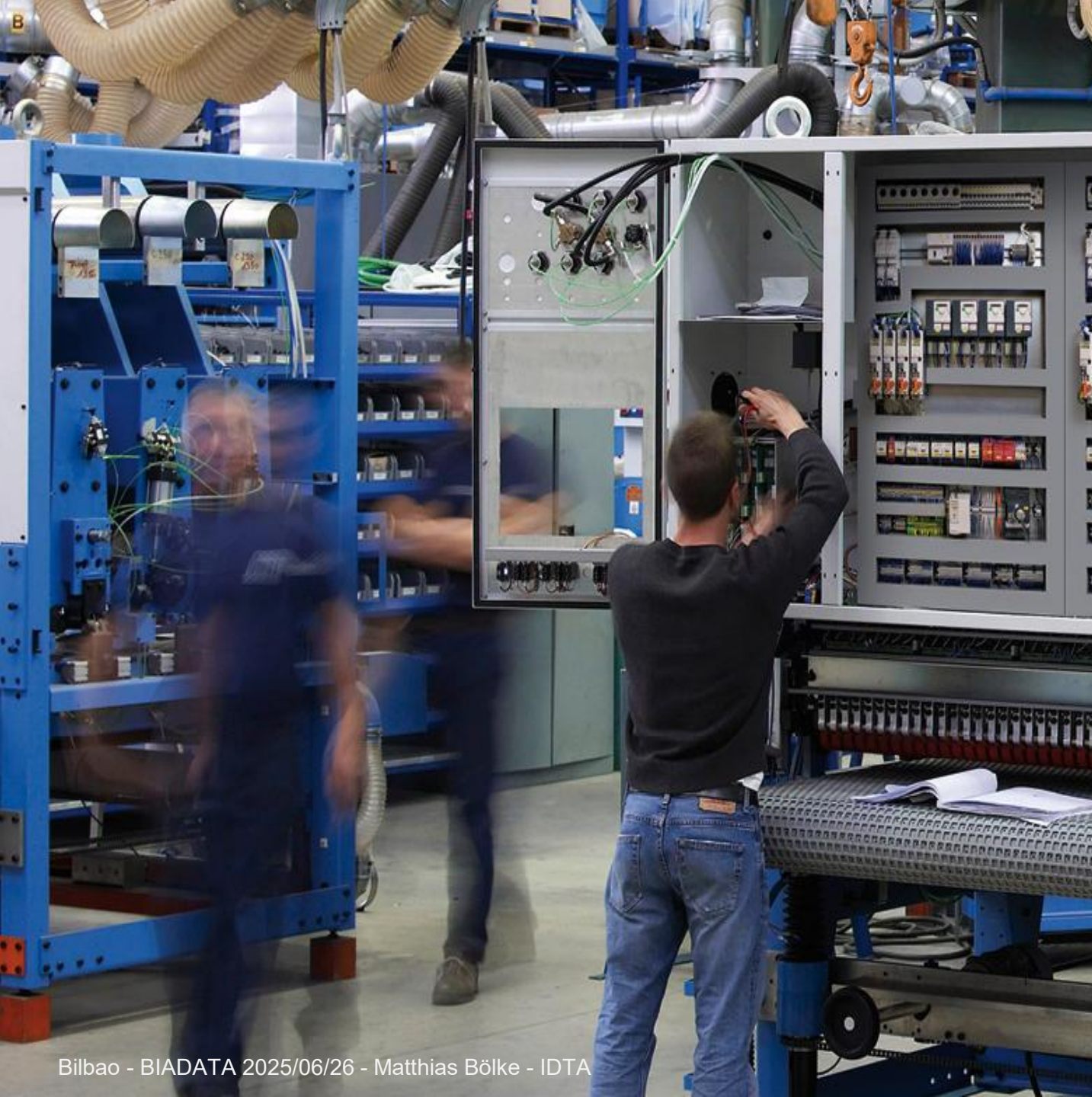
Gartner: Hype Cycle for Emerging Technologies

Digital Twin: 2018 (Plateau expectation in 5-10 Years)

Digital Twin: 2025*



* Evaluation IDTA 2025





Github

Collaboration: MOU's

Asset Administration Shell

Digital Twin for Industry 4.0

Planning &
Development

Construction

(Virtual)
Commissioning



Recycling
Maintenance &
Optimisation
Intelligent
Production

Standards: OPC UA , Automation ML, etc.

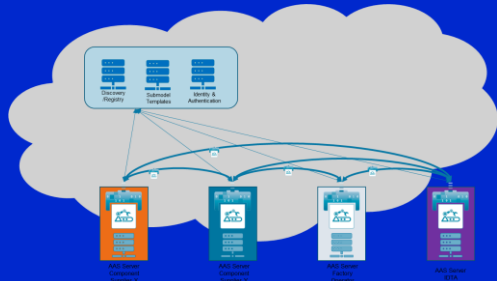
International Standard available



2023

IEC 63278-1
AAS Structure

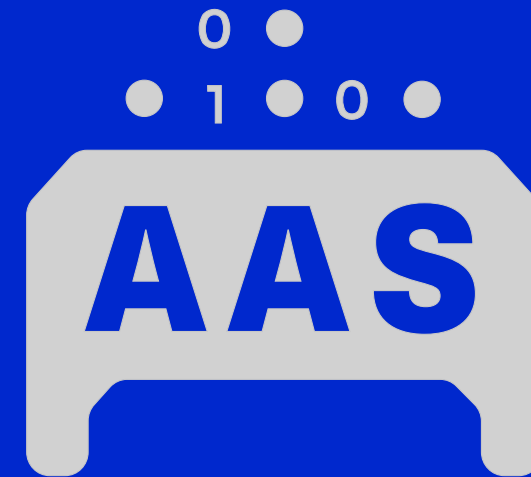
Dataspace Application



2024

Prototype for an AAS based
Manufacturing Dataspace

Asset Administration Shell



Worldwide Standard for
the Industrial Digital Twin

NETWORK



STANDARDISATION

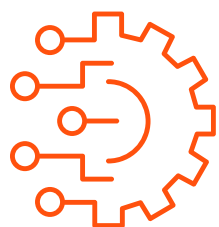
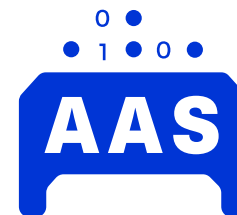


TECHNOLOGY & (RESEARCH-) TRANSFER

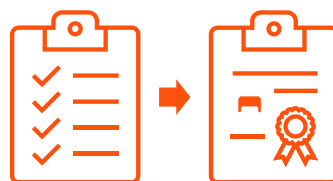


IDTA

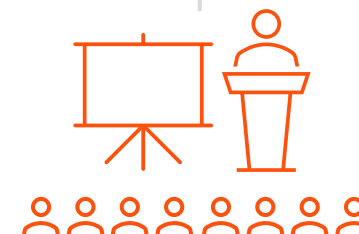
Home of the AAS



INFRASTRUCTURE



TESTING & CERTIFICATION



CONFERENCES & EVENTS

IDTA Industrial Digital Twin Association

AAS Asset Administration Shell (dt. Verwaltungsschale)
the Standard for the Digital Twin.

 The standard for the provision and exchange of information is the technical solution for the digital twin.

MEMBERS: SUPPLIERS – USERS | OT – IT



125 Members from 20 nations

IDTA

EMERSON
Booth #44418

PowerFlex 4.0
Generating A&E interfaces with the energy monitoring and control built-in functionality from A4E. Command by a soft start assembly.

EMERSON
Booth #44418

Boeing the Interoperability and Value of A&E
Learn about the concept, the status quo and the vision for the use of A&E in value creation throughout the whole life cycle of an industrial product.

FESTO
Booth #44419

Sustainable Digital Technologies Thanks to Digitalization
Unlock the power of digitalization and Digital Twins to enhance efficiency, boost efficiency, and elevate quality in automation systems.

iem
Booth #44419

Join All Digital Twins Showcase
The Digital Twin Showcase uses an example of a refinery to demonstrate the implementation of Digital Twins based on the Booth SemanticEco and the AAS.

HUNGER Hydrosilic
Booth #44411

PowerFlex 4.0 – Hunger Drive
Electric-hydraulic compact drive "HungerDrive" with 2000 bar fluid capacity and tells water, heat according industry 4.0 standard.

ABB
Booth #44413

PowerFlex 4.0 – Electromagnetic Drive Drive Smart & Efficient or Sustainable Drive
ABB's new PowerFlex 4.0 drives offer a PFC-reduced, compact, and digitized high-performance hydraulic compact drive that cuts energy and material by up to 50%.

WACKER
Booth #44413

Adaptive Proportional Hydraulic Valve
Wacker's valves have on-board diagnostics, communication protocols, save performance consumption. Pro-P software for set-up and diagnostics.

Fraunhofer
Booth #44414

Smart Cleaner Economy
Data usability is key for the decarbon economy. We show how the A&E is key enabler for a more sustainable Industry and a Digital Product Platform.

HOME OF THE A&BS
No.9 | Booth F27

ICOTA

Home of the A&BS
 Get ready for the Industrial Innovation Event of the A&BS. Get all the information and updates on the A&BS Information Day, case studies, submodules and all developments from this one-stop shop for the A&BS.

Collaborative Engineering

 Epton will be demonstrating how the A&BS is used for data containing throughout the whole value chain of component manufacturers to companies.

CADENAS

On-demand Generation of Type A&BS V9 for Component Manufacturers
 Providing manufacturers with complete type A&BS V9 and M&B CAD on the basis of electrical engineering, electronics and mechanics for industrial companies.

Class.Ing

Beamsite Automations From Quality Master Data via ECLASS (Advanced)
 High quality master data in the form of PC/M, PC/M - based on or mapped to ECLASS Basic/Advanced, Streamline A&B creation and application for the supply chain.

complement

Digital Text Portal Platforms
 Productive Digital Text Portal platforms based on Inghemore Basic/ Platform with real value bringing case like ECLASS system in technical data.

D&TS

ECLASS and A&BS for Efficient Master Data Management
 With all the A&BS, D&TS optimizes material creation and classification in ERP, PC/M and PC/M systems for master data.

Fraunhofer

Automated A&BS/Submodule Generation
 We present a solution for the automated generation of valid A&BS (Structural data). Within seconds the content from an input source is written into the submodule.

- 
INTERX
AA8-based Data Standardization & DataSpace Platforms
 INTERX standardization with IOTA & AA8-based data standardization and DataSpace platforms for all devices smart manufacturing.
- 
MetaLevel
Get Data from Old Machines the Standardized Way
 Meta-Level Software AAS and MMC documents how to get old machines to be extracted, standardized, and made usable using Twin2Soft's AAS and the AAS-Bus.
- 
MIM C
AA8 Twinning
 AA8 Twinning is a framework for AAS based Industrial IoT solutions.
 It provides a plug architecture that integrates customer ETL / Data Fabric platforms.
- 
MESA
AA8 Twinning
 AA8 Twinning is a framework for AAS based Industrial IoT solutions.
 It provides a plug architecture that integrates customer ETL / Data Fabric platforms.
- 
NCEPTION
Nextception's Digital Twin Infrastructure
 Our turnkeys allow you to configure a solution for dozens of AAS use cases, enabling you to prepare for the CPP.
- 
OBJECTIVE PARTNER
Battery Passport
 The Battery Passport is a standardized, interoperable format and accompanies the battery along its value chain.
- 
P7C
Collaboration & Change Mobilization in the Supply Chain
 P7C grows for collaboration between all stakeholders in the supply chain to establish COB, PAM and design tools to collaborate leveraging the power of the AAS.
- 
XITASO
Eclipse AAS™ - The Industry growth Booster for AAS and APP Project
 Eclipse AAS™ is an open source software to simplify, scale & secure the implementation and integration of AAS solutions with professional support by XITASO.



VISIT US: Hall 9, Stand F27



- 
Fraunhofer
 39797 Environmental Management
 The Fraunhofer Environmental Management (EM) program is a leading provider of digital tools, assessing IT/AI compliance and supporting CISOs.
- 
HMI 157
 HMI CTO
- 
SAP
 SAP is a leading provider of digital tools, assessing IT/AI compliance and supporting CISOs.
- 
HMI 119
 HMI CTO
- 
EY
 EY is a leading provider of digital tools, assessing IT/AI compliance and supporting CISOs.
- 
HMI 155
 HMI CTO
- 
ptc
 PTC is a leading provider of digital tools, assessing IT/AI compliance and supporting CISOs.
- 
HMI 170
 HMI CTO
- 
CONTRACT
 CONTRACT Elements Integration of External AI Register
 We show how External AI, connectivity with suppliers in CONTRACT Elements Integration and operation processes, from requirements to the
- 
HMI 177
 HMI CTO

MON 31.03.	
10:00–10:40	Real-time based solutions for a competitive and sustainable Russia / Prof. Dr. Oleg Stepanov (Leningrad University) / (Tatyana Ivanova, Olga Krasovskaya, Olga Krasovskaya, Olga Krasovskaya)
11:10–11:50	The benefits of the digital age for industrial production development in Russia / Yulia V. Yama
	International Manufacturing 2.0 – Create Impact with Real-time Data / Thomas Hahn (Siemens, Daimler AG)
14:40–15:20	Smart Factories: From Industry 4.0 to Industry 5.0 / Alexander K. Ponomarev (Leningrad State University), Dr. Oleg Stepanov (Leningrad State University), Dr. Oleg Stepanov (Leningrad State University), Dr. Oleg Stepanov (Leningrad State University)
15:50–16:30	Smart Factories: From Industry 4.0 to Industry 5.0 / Alexander K. Ponomarev (Leningrad State University), Dr. Oleg Stepanov (Leningrad State University), Dr. Oleg Stepanov (Leningrad State University), Dr. Oleg Stepanov (Leningrad State University)
16:50–17:30	Combined energy and material flows in a smart factory / Dr. Oleg Stepanov (Leningrad State University), Dr. Oleg Stepanov (Leningrad State University), Dr. Oleg Stepanov (Leningrad State University), Dr. Oleg Stepanov (Leningrad State University)
TUE 01.04.	
09:40–10:20	Plans for a Digital Production Control: Experience from Siemens and SAP / Dr. Oleg Stepanov (Leningrad State University), Dr. Oleg Stepanov (Leningrad State University), Dr. Oleg Stepanov (Leningrad State University), Dr. Oleg Stepanov (Leningrad State University)
14:40–15:20	Transforming Manufacturing with Industry 4.0: The Role of Digital Technology / Dr. Oleg Stepanov (Leningrad State University), Dr. Oleg Stepanov (Leningrad State University), Dr. Oleg Stepanov (Leningrad State University), Dr. Oleg Stepanov (Leningrad State University)
16:50–17:30	Future of Manufacturing: The Role of Digital Technology / Dr. Oleg Stepanov (Leningrad State University), Dr. Oleg Stepanov (Leningrad State University), Dr. Oleg Stepanov (Leningrad State University), Dr. Oleg Stepanov (Leningrad State University)
WED 02.04.	
10:00–10:20	Digital Production Control and its role in the future of manufacturing / Dr. Oleg Stepanov (Leningrad State University), Dr. Oleg Stepanov (Leningrad State University), Dr. Oleg Stepanov (Leningrad State University), Dr. Oleg Stepanov (Leningrad State University)
10:40–11:20	Manufacturing 2.0: The Role of Digital Technology / Dr. Oleg Stepanov (Leningrad State University), Dr. Oleg Stepanov (Leningrad State University), Dr. Oleg Stepanov (Leningrad State University), Dr. Oleg Stepanov (Leningrad State University)
THU 03.04.	
11:40–12:20	Smart Factories: From Industry 4.0 to Industry 5.0 / Alexander K. Ponomarev (Leningrad State University), Dr. Oleg Stepanov (Leningrad State University), Dr. Oleg Stepanov (Leningrad State University), Dr. Oleg Stepanov (Leningrad State University)

10:20 – 10:40	AAE Submodels Technical Data, Handover Documentation – New Versions – ECLASS Reformation Col. Ing. Frank Birkmeierbach Chem. Ing.			
10:40 – 10:55	FFG 04.04.			
12:00 – 12:25	Efficient master data integration: The AAE as a bridge between BPLAN and SAP Paula Ferreira GATF			
12:30 – 12:40	Setting the digital product passport for effective after sales services Dr. Jochen Hoffmann DTM&D			
	1	2	3	4
			21	20
				22
	1		24	
			25	26
		27		
Exercises Work 1 → Master Course	13		12	



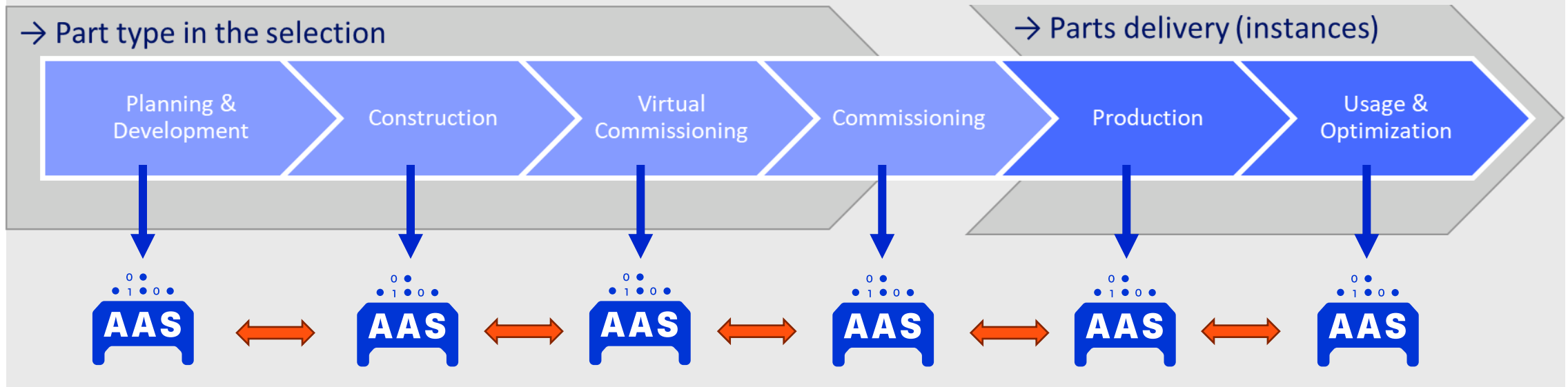
AAS Guide

Hannover Messe 2025

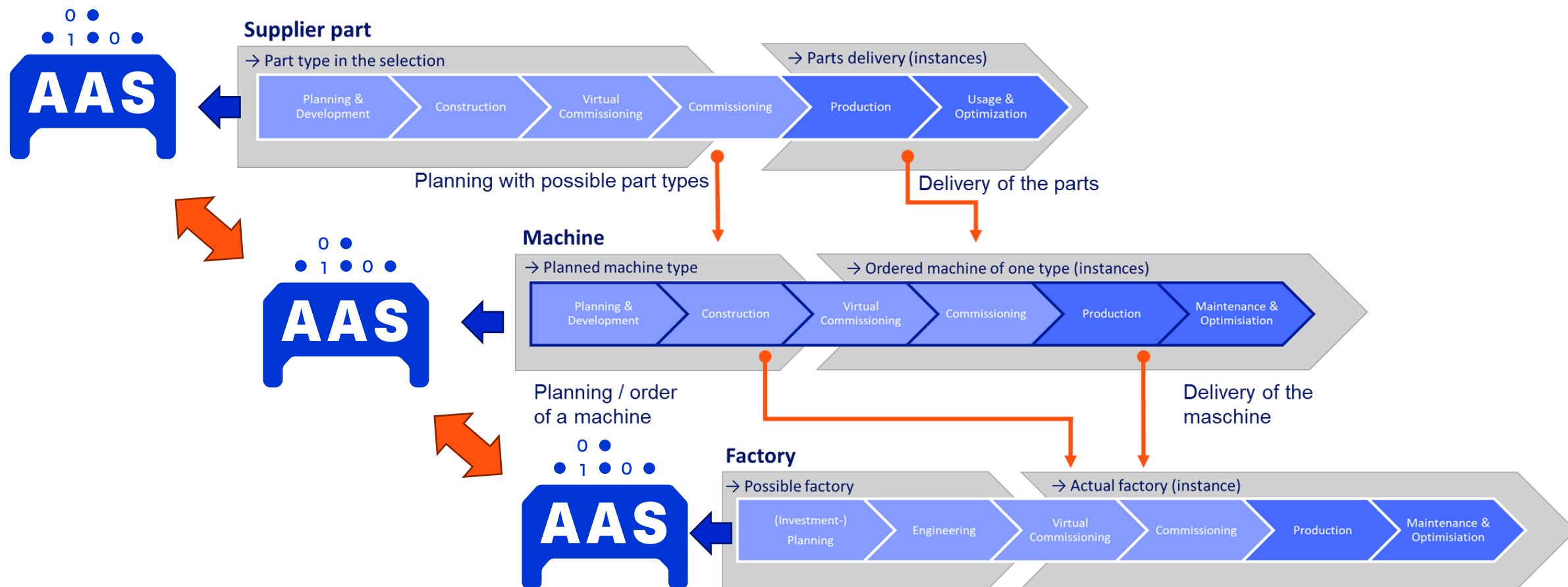


- Standardization & open source
- Efficient scaling
- Complete life cycle

AAS for Asset-driven Data Management



...and the entire Value Chain



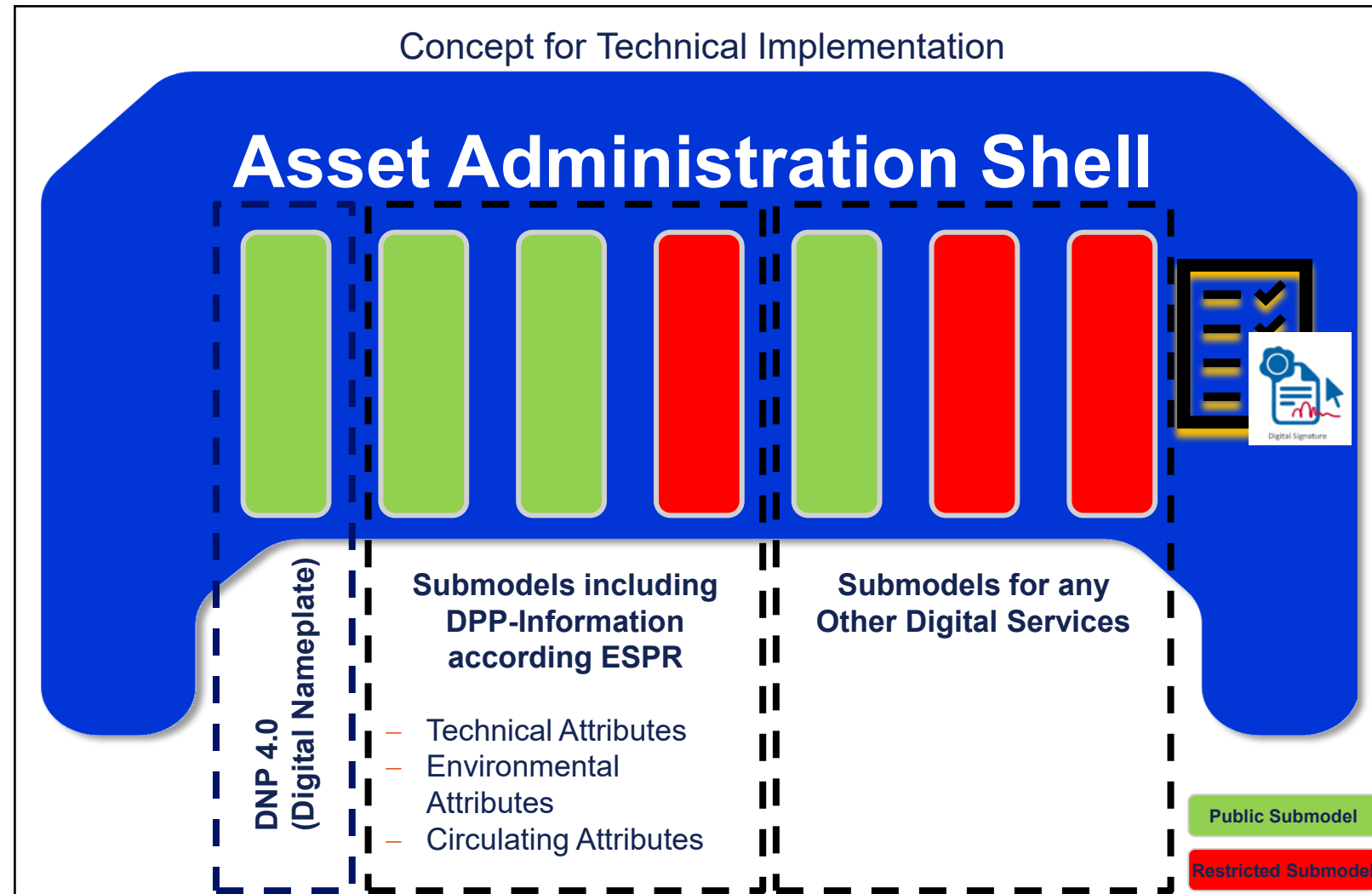
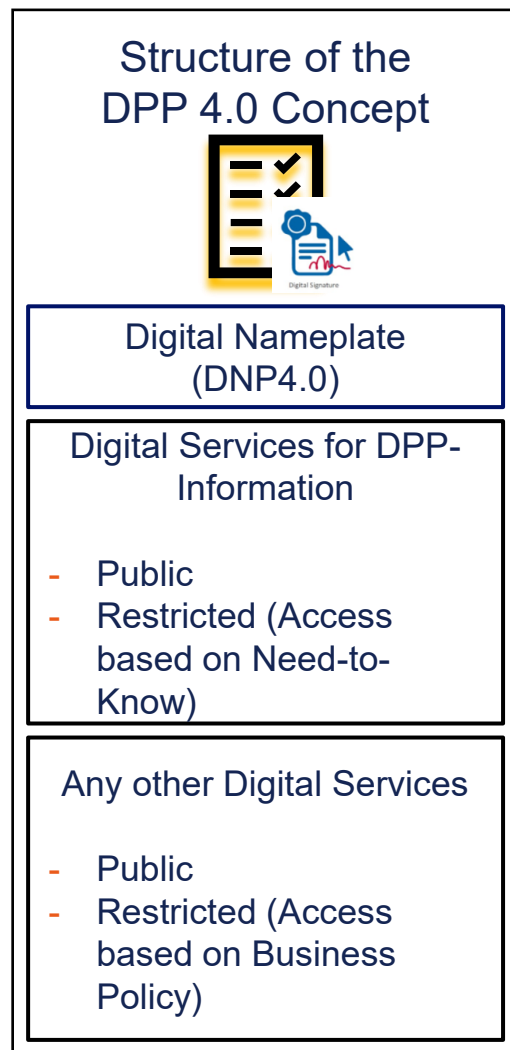
The Digital Product Passport for Industrie 4.0

The DPP4.0 is an industry-ready tool for capturing and providing product information in a human- and machine-readable format for various parties, such as companies, authorities and users.



<https://dpp40.eu/>

DPP4.0: Structure and Technical Implementation







Industry Foundation Classes (IFC)

[Home](#) » [Standards](#) » [bSI Standards](#) » [Industry Foundation Classes \(IFC\)](#)

At its core, buildingSMART enables the entire built asset industry to improve the sharing of information throughout the lifecycle of project or asset. By breaking down the silos of information, end users can better collaborate and cooperate regardless of which software application they are using. buildingSMART's technical core is based around Industry Foundation Classes (IFC) which was ISO certified in 2013.

IFC is a standardized, digital description of the built asset industry. It is an open, international standard (ISO 16739-1:2024) and promotes vendor-neutral, or agnostic, and usable capabilities across a wide range of hardware devices, software platforms, and interfaces for many different use cases. More about IFC, its uses and adoption may be found [here](#).

Strategic Advisory Council












The digital twin in practice:

Presentation & Demo of the Showcases Polipol & Nolte

 **POLIPOL**

nolte
KÜCHEN



morphe*
Customer · Data · Business



Daten
Competence
Center e.V.



Integrated Worlds

 **furnFUSION**



Rules

European Union

ESPR – European Sustainable Product Regulation / EUDR – European Deforestation Regulation



CIRPASS & other EU projects

Furniture-X

Governance for „Furniture“ Data Space

Content

Norms

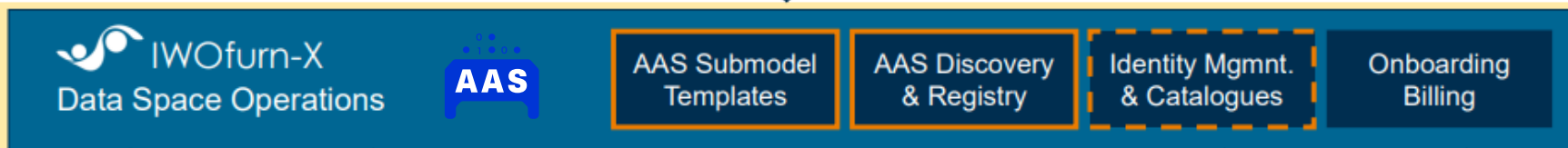
Standards

Compliance

IDTA

CLASS

Infrastructure



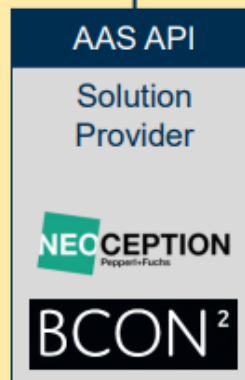
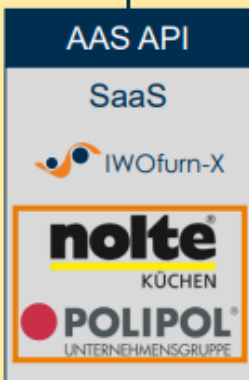
Other Data Spaces



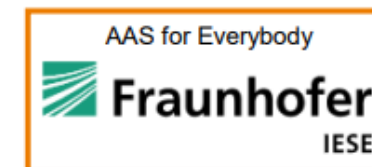
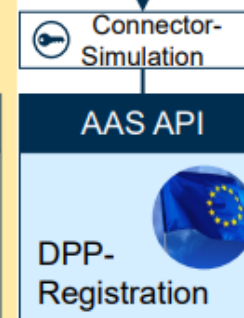
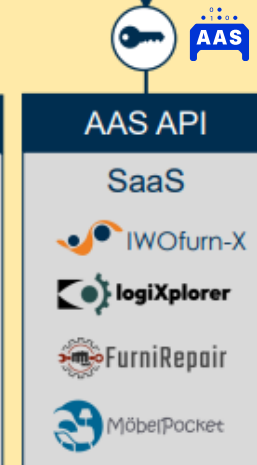
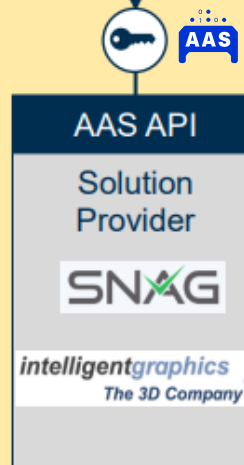
Connector

AAS

Data Providers



Data Users,
Data Services
& Applications



International IDTA HUB (Industry / Research)



— Research Hub



— Industry Hub



— Partnership



— Industry Hub



— Industry Hub

— Research Hub



— Coming soon



— Coming soon



— Coming soon



IDTA

Interoperability



Thank You!

www.idtwin.org