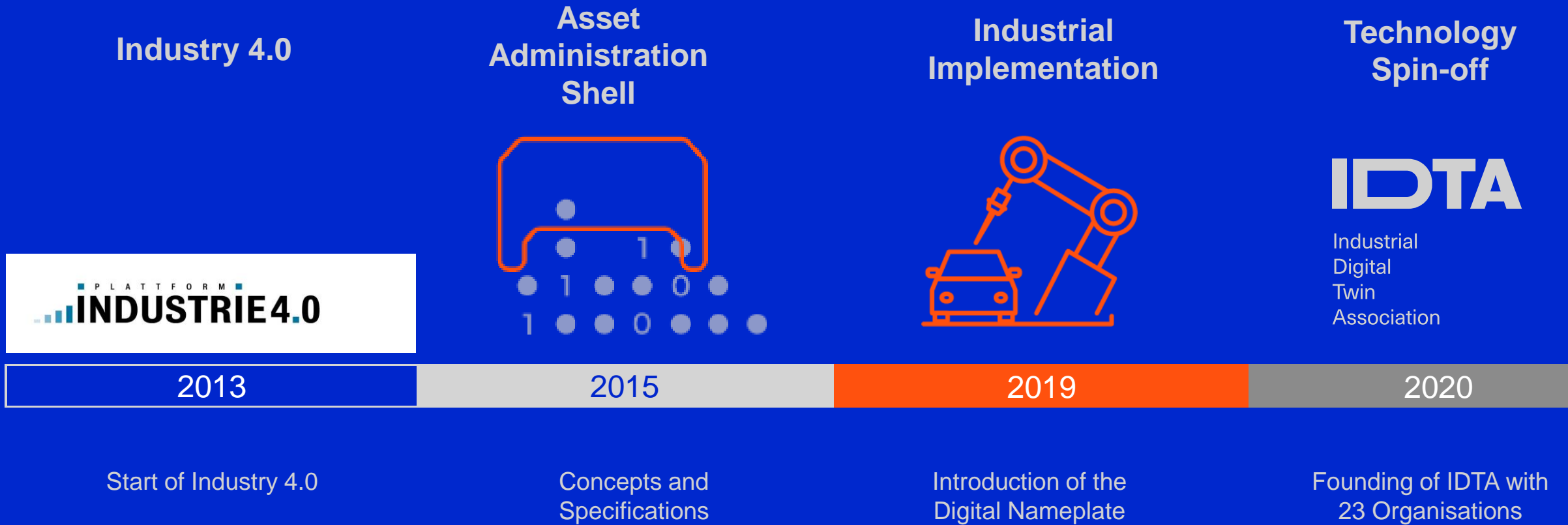


Industrial Digital Twin Association



Standardising the Industrial Digital Twin

Evolution of Industry 4.0



NETWORK



STANDARDISATION

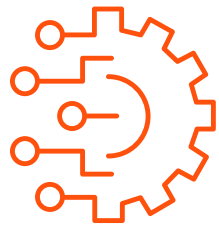


TECHNOLOGY & (RESEARCH-) TRANSFER

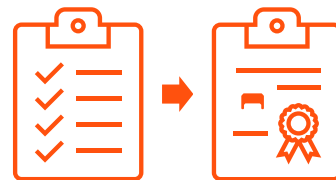


IDTA

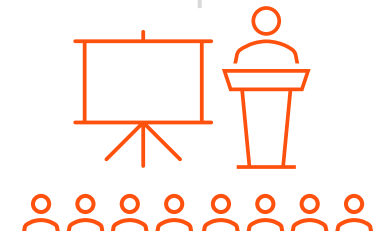
Home of the AAS



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.

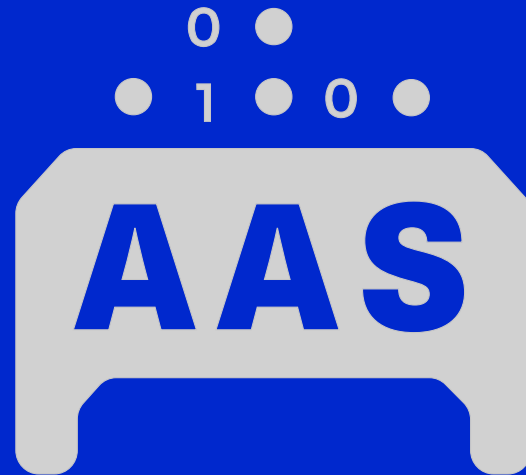
MEMBERS: SUPPLIERS – USERS | OT – IT



123 Members from 19 nations

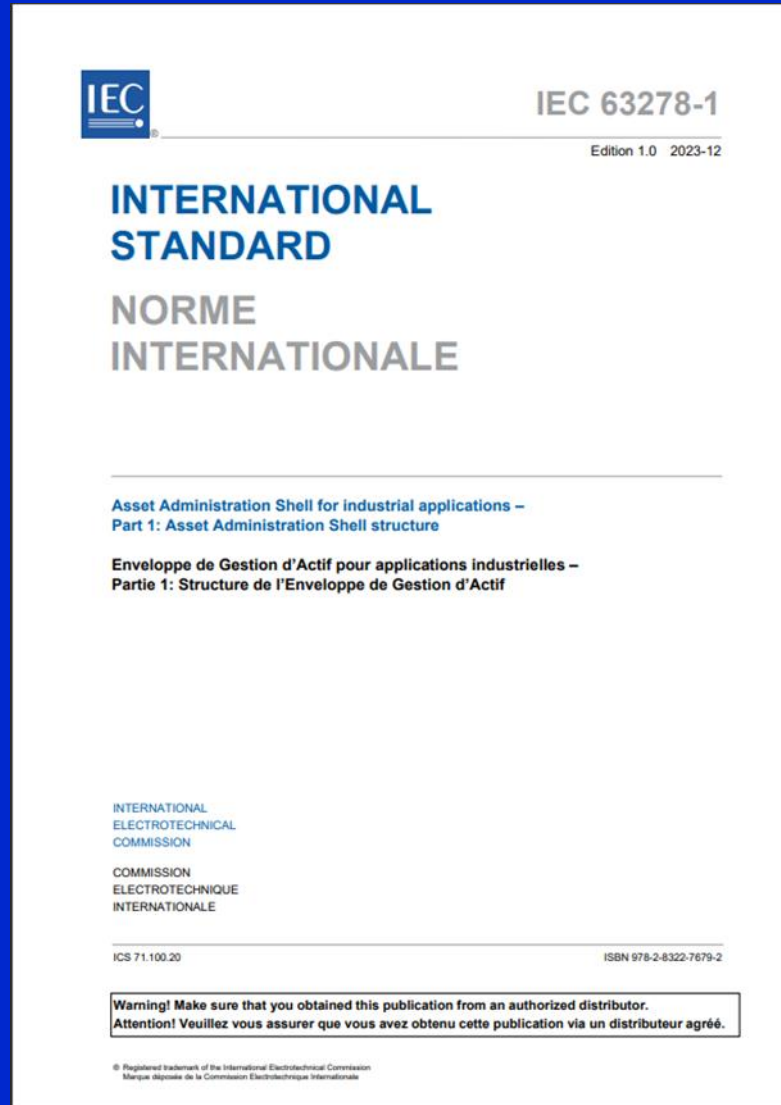
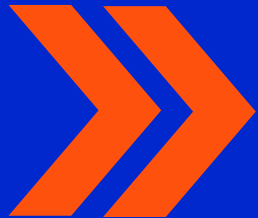
The Vision

Asset Administration Shell



Worldwide Standard for
the Industrial Digital Twin

AAS is an International Standard





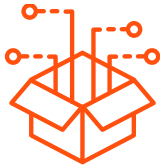
Human



Building a global network

Creating an international standard for the Industrial Digital Twin

Scaling



Open access to standards, implementations and information models

Making the digital twin available for all industries

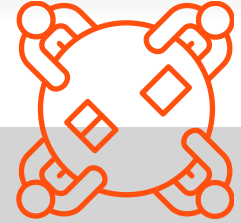
Technology



Collaboration along the value chain

Bringing companies together, creating use cases, developing to consortial standards

Organization and Fields of Work



Members

Board

Office

- Management of the WGs
- Member Management
- Partner Management
- Infrastructure

Technology

WG Open Technology

- Specifications
- Open Source

WG Submodels

- Harmonization
- Sync of Development Teams

WG Quality Management

- Test-Criteria
- Certification

Scaling

WG Training

- Training Curriculum
- Conceptual Support

WG Use Cases

- AAS Applications
- Connecting Implementers

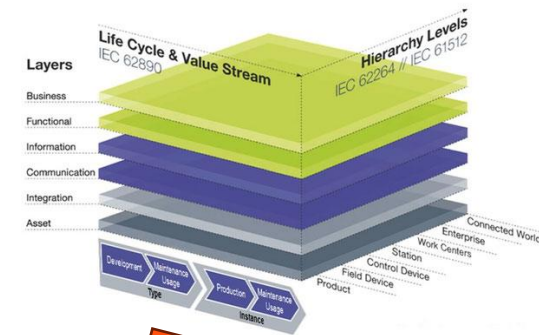
WG Marketing

- Branding
- Visibility

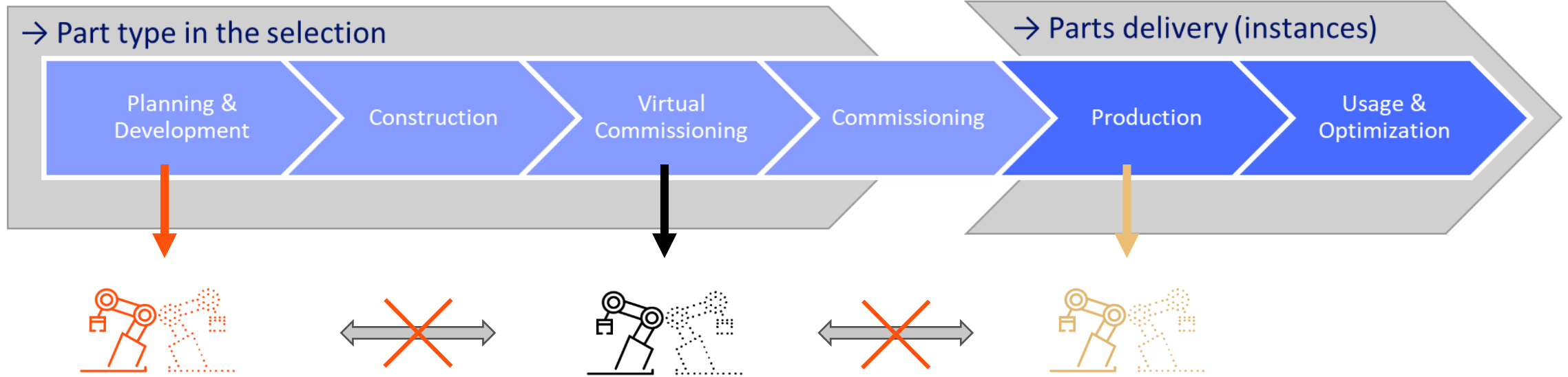
Today's Digital Twins



Specific & efficient
Proprietary
One life cycle element



Supplier part

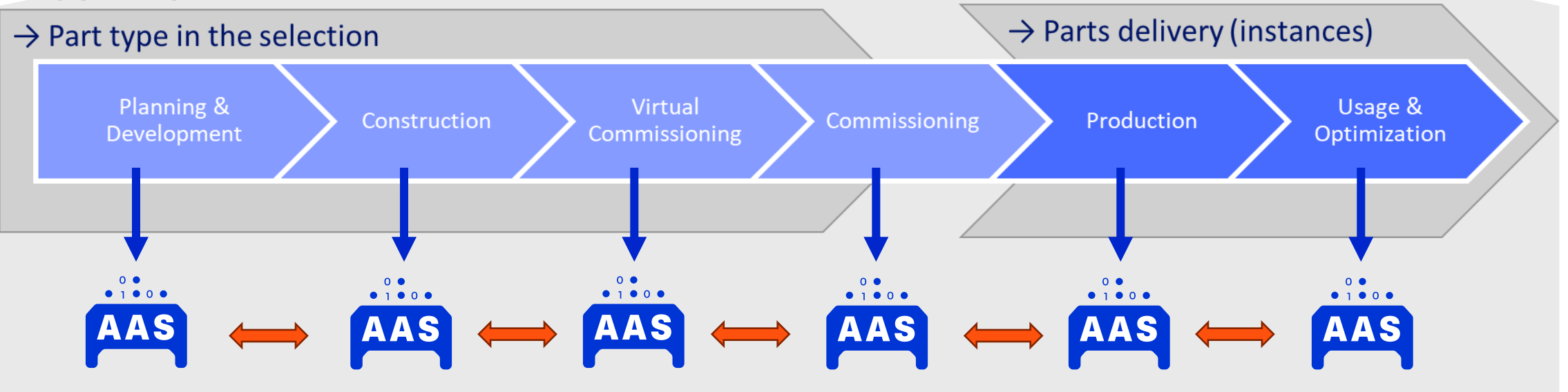


Future Digital Twins with AAS

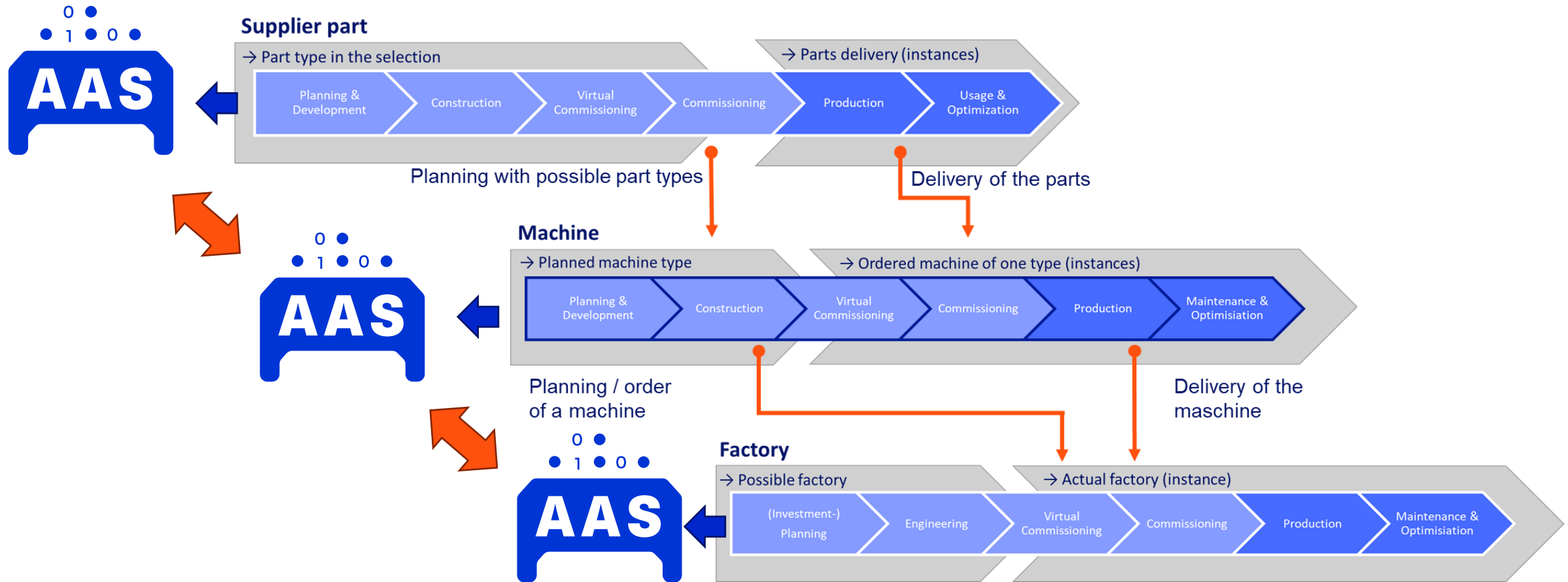


- Standardization & open source
- Efficient scaling
- Complete life cycle

Supplier part



...and the entire Value Chain



AAS is the Register/Container for Submodels



Digital Twin = AAS + Submodel



+

 Submodel Template
IDTA approved

- 100% AAS compliant
- Consistent & interoperable
- Released by the AAS experts

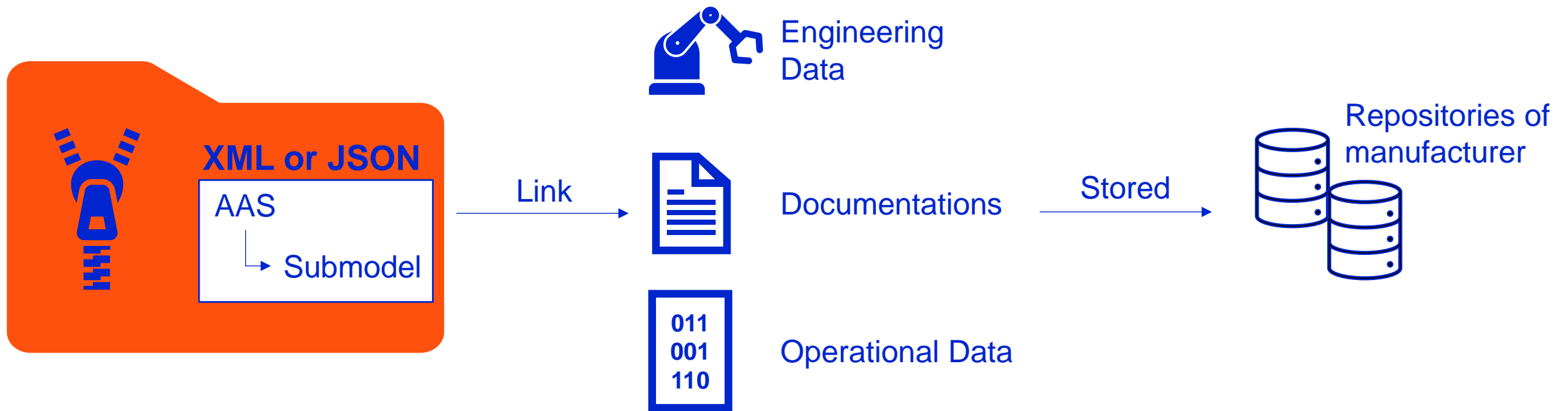


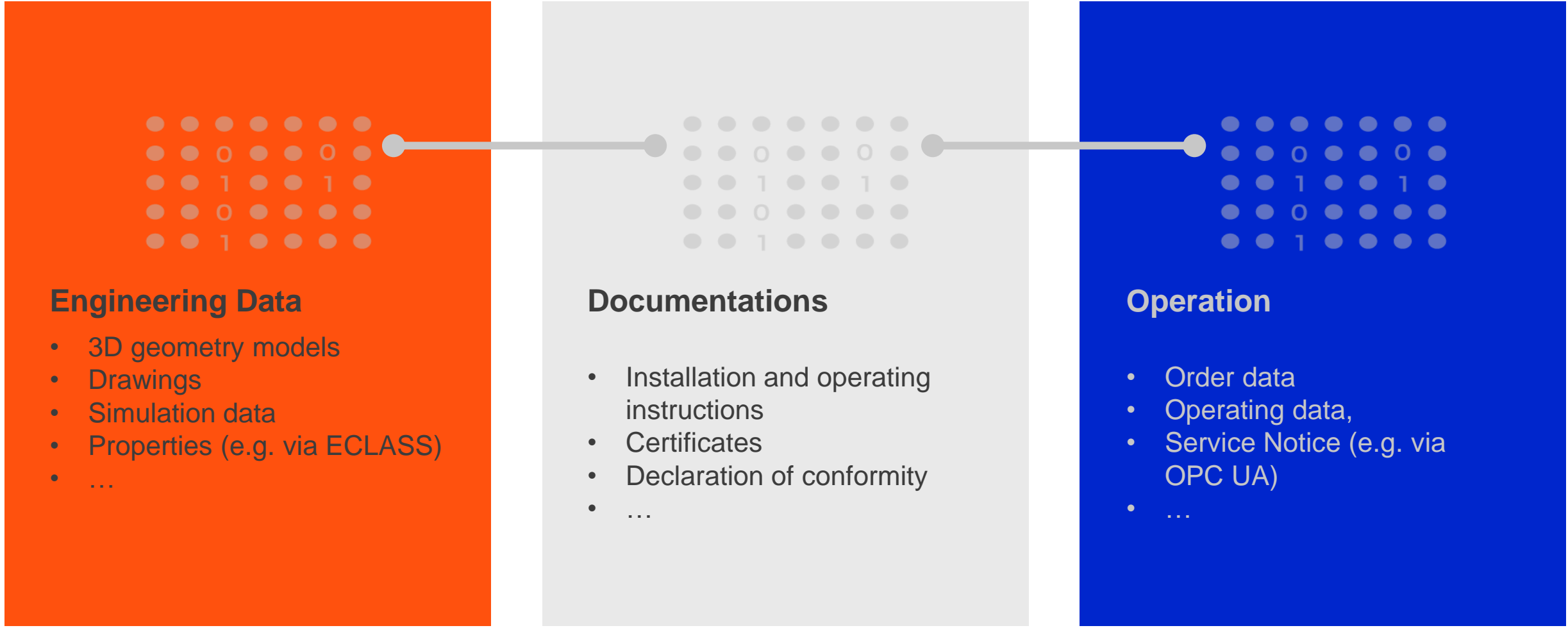
Content of Submodel



Submodels are groups of **properties** about assets for a use case!

AAS is the Register/Container for Submodels

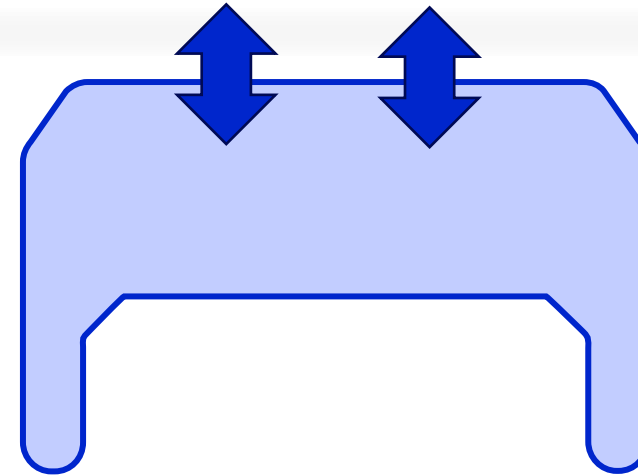




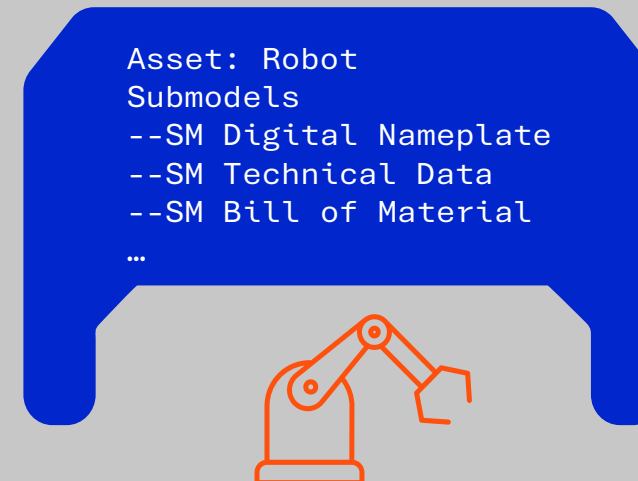
IDTA conducts two Standardisation Tracks



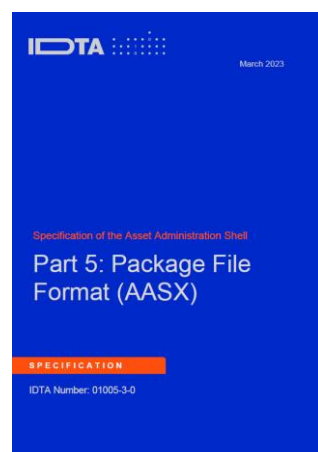
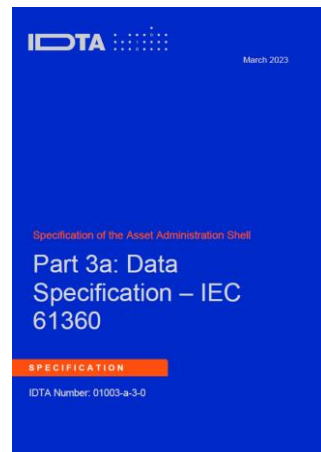
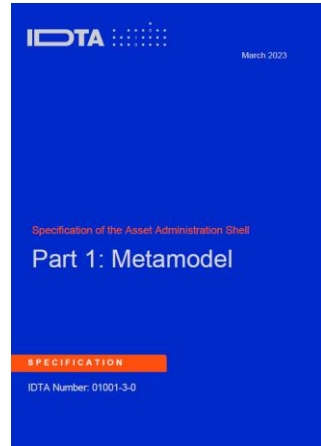
1. AAS Specification Standardised
 - Software Structure
 - Interface



2. Submodels Standardised information models



1.



AAS Specification in Version 3.0

- Part 1: Metamodel
- Part 2: Application Programming Interfaces
- Part 3: Data Specification
- Part 4: Security
- Part 5: Package File Format (AASX)

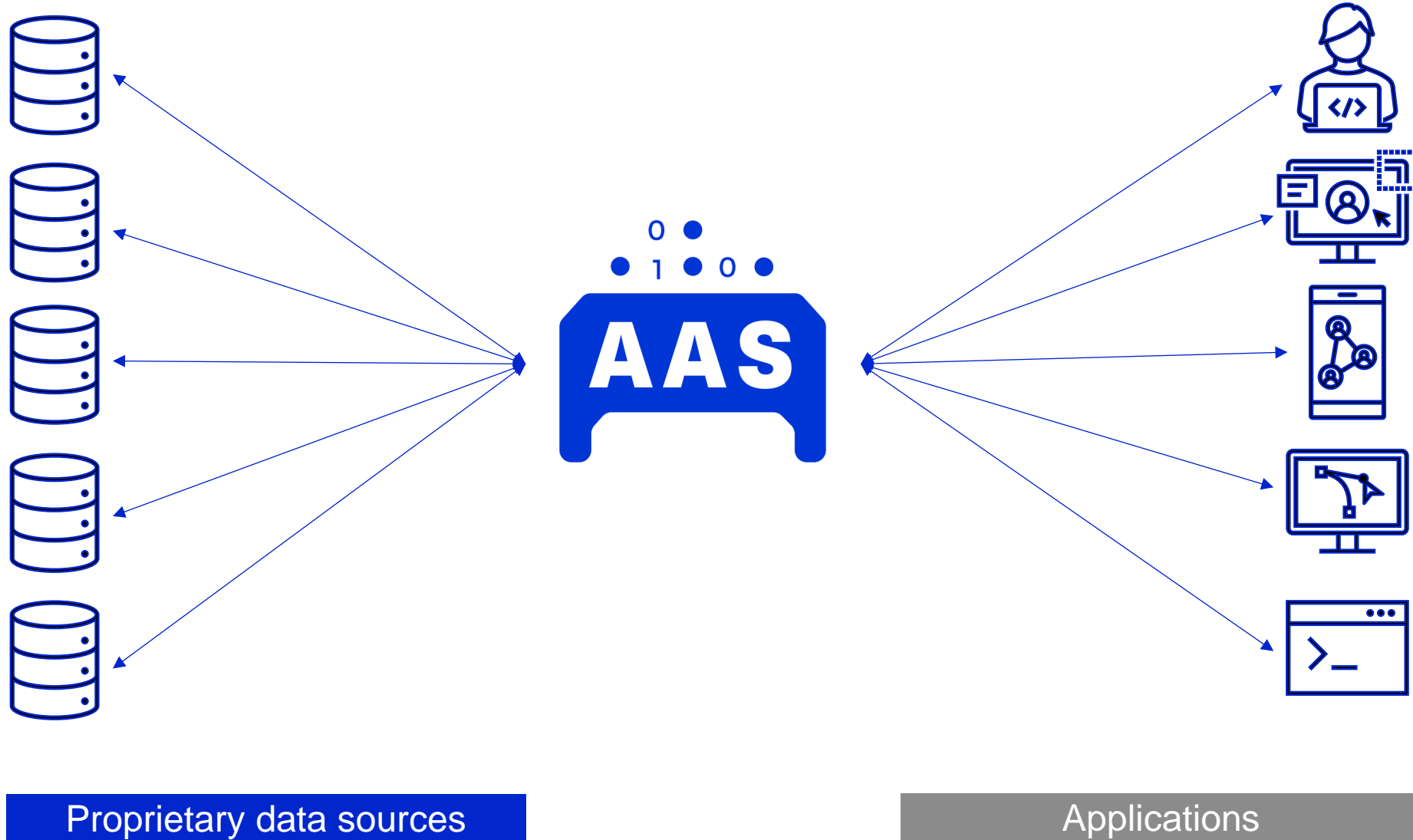


IEC 63278-x

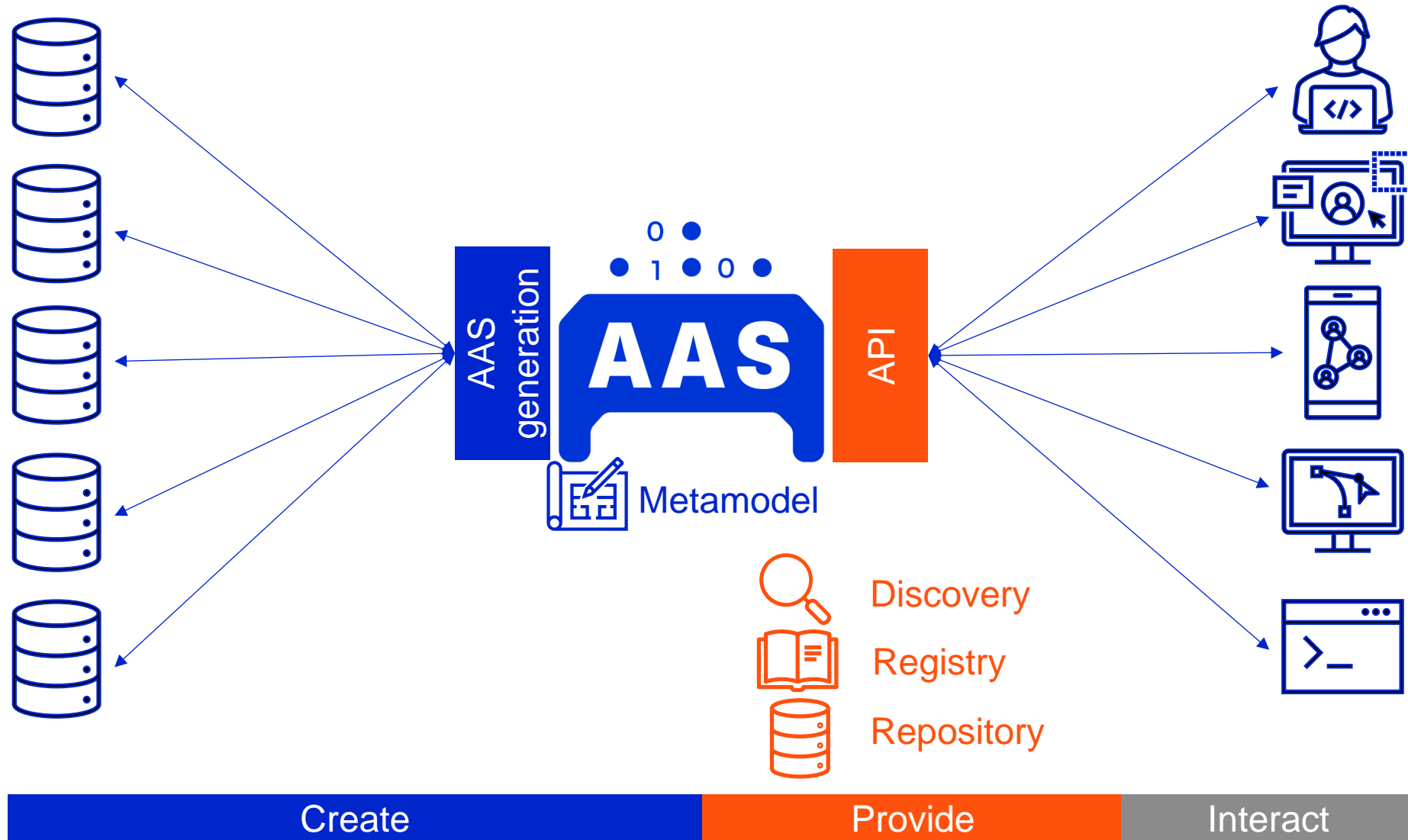
IEC 63278-1
published in
December 2023



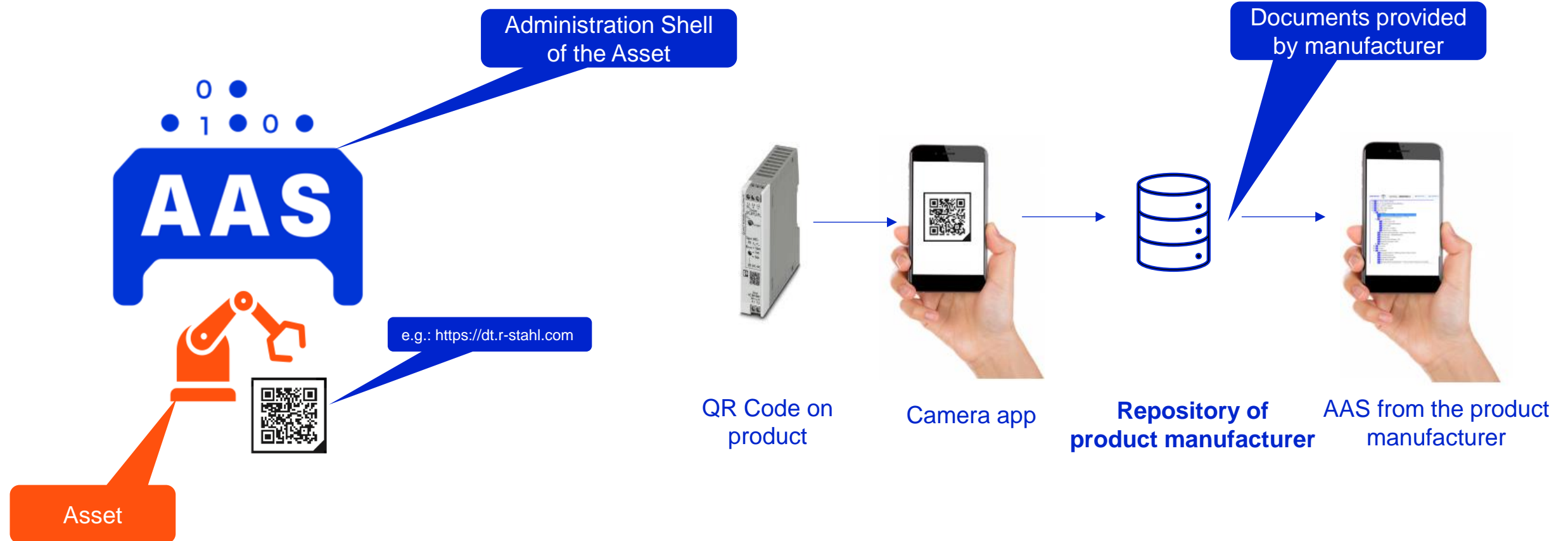
∴ Aim of the specifications - Two perspectives



∴ Aim of the specifications - Two perspectives



Access to the Digital Product Data of Assets



Submodels provide content of the AAS




2. Standardised Information Models

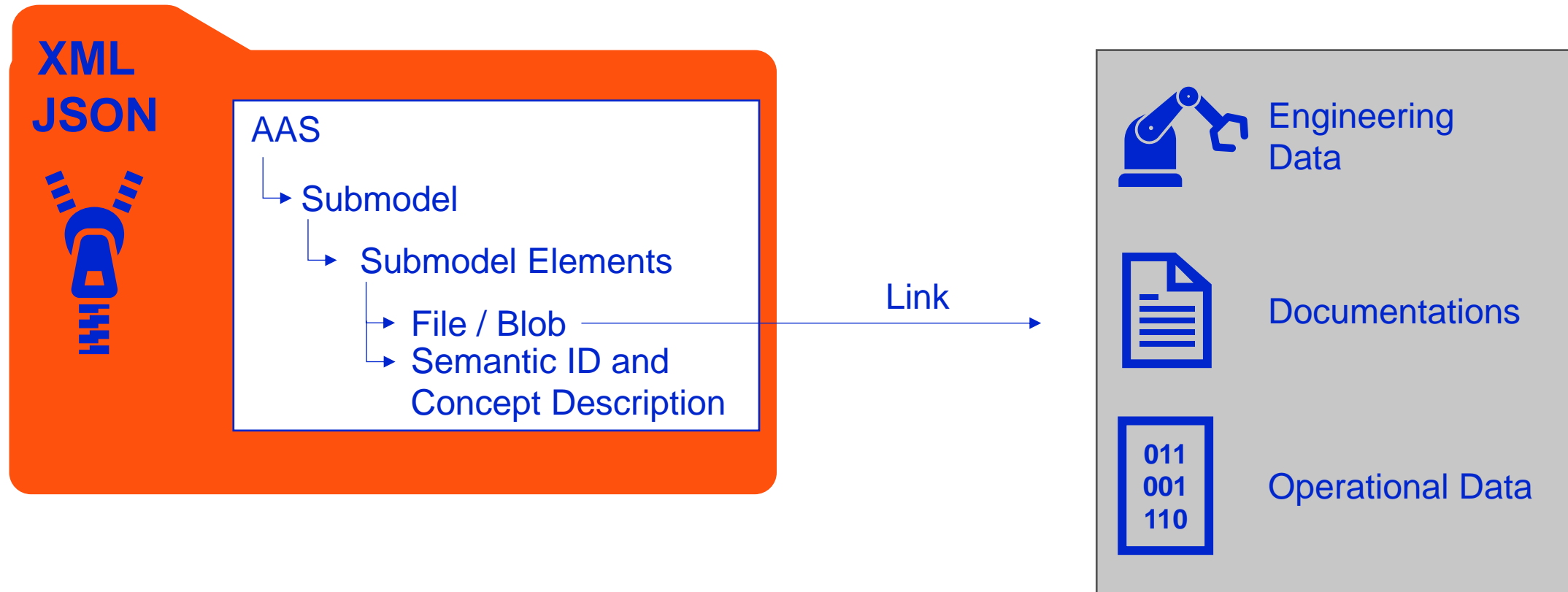
Digital Nameplate	Contact Information	Handover Documentation	Module Type Package (MTP)	OPC UA Server Data Sheet	Wireless Communication	Sensor 4.0	Handover information for engineering	Production of the wiring harness
Software Nameplate	Technical Data	Product Carbon Footprint	Energy Monitoring	Time Series Data	Carbon Footprint	Battery Data	Product Carbon Footprint	Inspection of Steel Products
Engineering of Power Drives Trains	Bill of Material (BOM)	MCAD / ECAD	Plant Asset Management	Simulation	Manufacturing Interactions	Production of the wiring harness	Replacement and successor product	Vulnerability Management
Reliability	Functional Safety	Control Component Type/Instance	Service Notification	Sizing of power drive trains	Provision of 3D Models	Automation Engineering	Replacement and successor product	Technical Data for Injection Molding
Asset Interface Description	Maintenance	Plant Asset Management	Capability Description	DEXPI	Asset Interfaces Mapping Configuration	Plastics & Rubber Moulds	Software Bill of Materials	Data Model for Asset Location

85+ Submodels in the IDTA repository published or in development
[Submodels \(industrialdigitaltwin.org\)](https://industrialdigitaltwin.org)

IDTA the platform for agile information models development

AAS the industry solution for the  Digital Product Passport

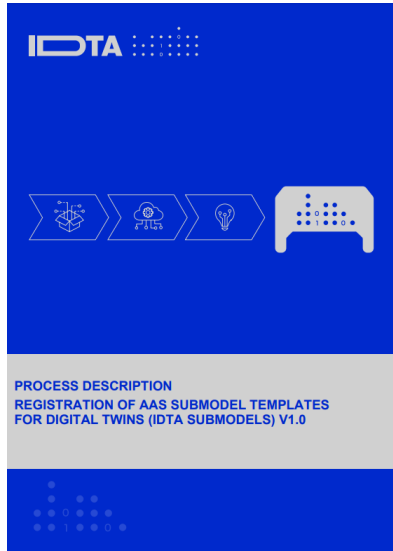
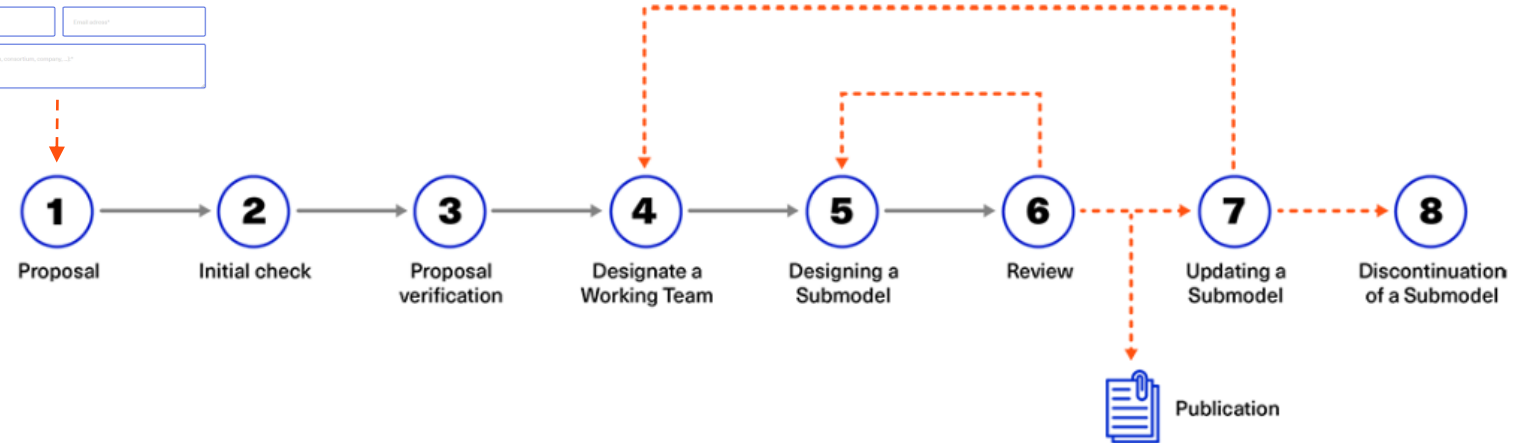
AAS is the Register/Container for Submodels



Process for development of Submodel templates (SMT)

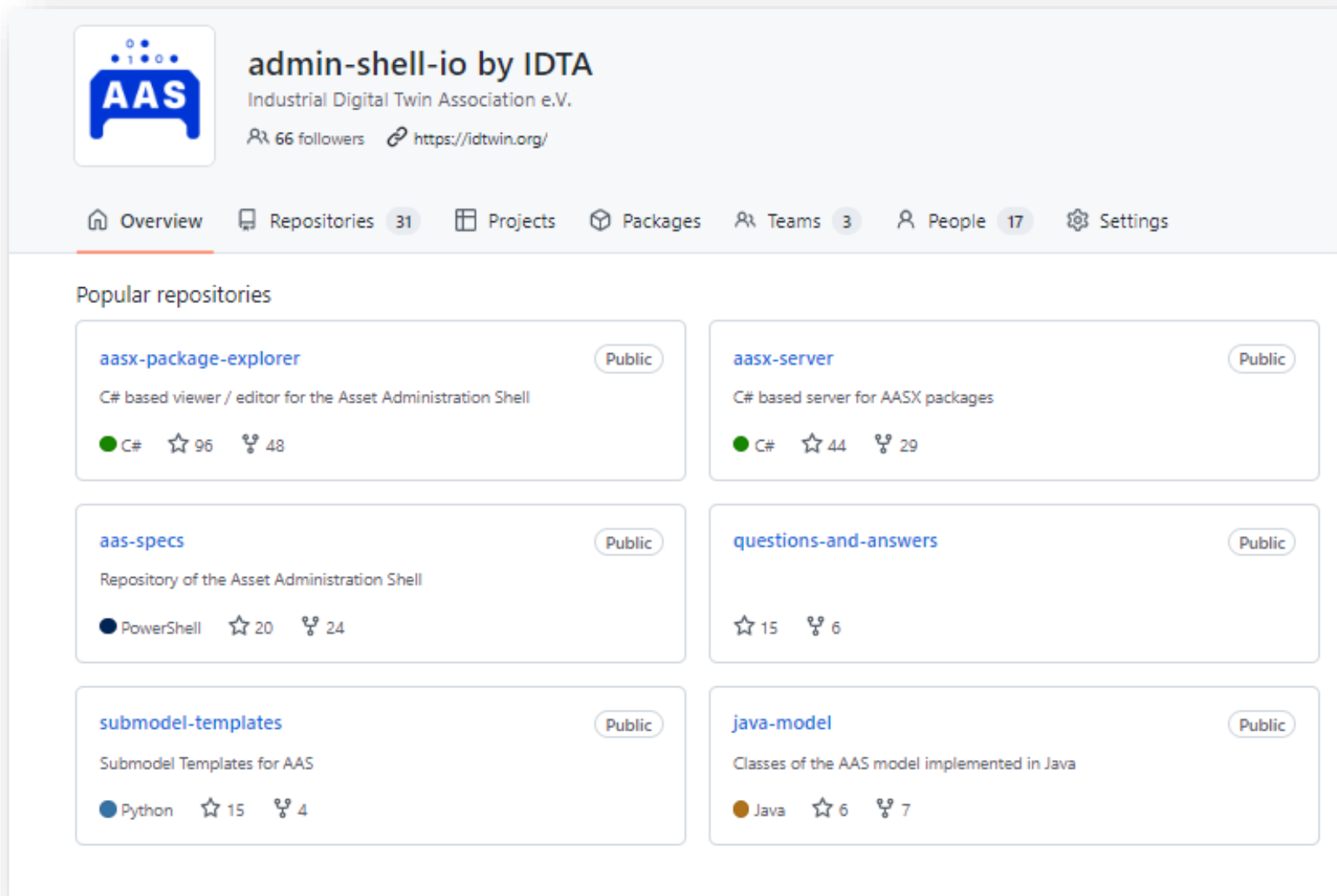


WEB Form – create your IDTA Submodel Template



Registration of AAS Submodel Templates for Digital Twins (IDTA Submodels) V1.0

Tools and Apps: Open Source at GitHub



The screenshot shows the GitHub profile for 'admin-shell-io by IDTA', an organization with 66 followers and a website at https://idtw.in.org/. The profile includes navigation tabs for Overview, Repositories (31), Projects, Packages, Teams (3), People (17), and Settings. The 'Popular repositories' section lists six public repositories:

Repository Name	Language	Stars	Forks
aasx-package-explorer	C#	96	48
aasx-server	C#	44	29
aas-specs	PowerShell	20	24
questions-and-answers	-	15	6
submodel-templates	Python	15	4
java-model	Java	6	7

[admin-shell-io by IDTA \(github.com\)](https://github.com/admin-shell-io)

Open Source Activities at Eclipse Foundation



Top Level Project **Eclipse Digital Twin**

Related projects:

- Eclipse AAS Model for Java
- Eclipse AAS Web Client
- Eclipse AASX Package Explorer and Server
- Eclipse BaSyx
- Eclipse FA³ST
- Eclipse Mnestix AAS Browser
- Eclipse Semantic Modeling Framework (ESMF)
- Eclipse Service Lifecycle Management

<https://projects.eclipse.org/projects/dt>

The screenshot shows the Eclipse Foundation website page for the Eclipse Digital Twin project. The page header includes the Eclipse Foundation logo and a breadcrumb trail: Home / Projects / Eclipse Digital Twin. The main heading is 'Eclipse Digital Twin'. Below the heading is a navigation menu with tabs for Overview, Downloads, Who's Involved, Developer Resources, and Governance. The 'Overview' tab is selected. The main content area contains a paragraph describing the project as a collaborative, open source initiative at the Eclipse Foundation, aimed at providing reference implementations for activities driven by the Industrial Digital Twin Association (IDTA). It also mentions that the project provides a space for open source projects, adoption of solutions, prototypes, and supporting software to build and consume industrial metamodels, data models with homogenized semantics, and standardized APIs. The page also includes a 'Licenses' section listing the Apache License, Version 2.0 and The MIT License (MIT).

41 Solutions available in the IDTA Solutions Hub



Startseite / Solutions Hub

AAS Solutions Hub

Number of solutions: **41**

Get an overview of AAS-related software, products, services, demo factories and more with a coarse mapping into the solution landscape. Submitting an entry for an AAS solution is already possible starting from the concept phase. Please complete the following form.

[Submit your entry](#)

	Vendor Name Accenture GmbH	Solution Name Line Configuration	Solution Type Software	Maturity Level PoC / Demo	🔗 ▼
	Vendor Name Codewerk GmbH	Solution Name Unibeam AAS & DPP creator	Solution Type Software	Maturity Level Industry ready	🔗 ▼
	Vendor Name ABB	Solution Name My Measurement Assistant	Solution Type Service	Maturity Level Industry ready	🔗 ▼
	Vendor Name Lenze	Solution Name web-aas-client	Solution Type Software	Maturity Level PoC / Demo	🔗 ▼
	Vendor Name XITASO GmbH	Solution Name Innestix	Solution Type Software	Maturity Level Industry ready	🔗 ▼
	Vendor Name NetApp Deutschland GmbH	Solution Name Digital Twin Solution	Solution Type Solution for Digital Twins	Maturity Level Industry ready	🔗 ▼
	Vendor Name SAP SE	Solution Name Digital Twin Administration	Solution Type Software	Maturity Level Industry ready	🔗 ▼

	Vendor Name msg systems ag	Solution Name MeterVerse IoT Framework	Solution Type Software	Maturity Level Industry ready	🔗 ▼
	Vendor Name R. STAHL Schaltgeräte GmbH	Solution Name Digital Nameplate	Solution Type Service	Maturity Level PoC / Demo	🔗 ▼
	Vendor Name Neoeption GmbH	Solution Name Neoeption ® Digital Twin I...	Solution Type Software	Maturity Level Industry ready	🔗 ▼
	Vendor Name CEA	Solution Name Papyrus4Manufacturing	Solution Type Software	Maturity Level Prototype	🔗 ▼
	Vendor Name Nestfield Co., Ltd.	Solution Name EV Battery Lifecycle Manag...	Solution Type Service	Maturity Level PoC / Demo	🔗 ▼
	Vendor Name Bosch Connected Industry	Solution Name Bosch Semantic Stack	Solution Type Software	Maturity Level Industry ready	🔗 ▼
	Vendor Name objective partner AG	Solution Name BaSys Enterprise – AAS Ma...	Solution Type Consulting, Software	Maturity Level Industry ready	🔗 ▼
	Vendor Name Fraunhofer IESE	Solution Name AAS Potential Analysis Wor...	Solution Type Consulting	Maturity Level Industry ready	🔗 ▼
	Vendor Name CADENAS GmbH	Solution Name 3Dfindit	Solution Type Software	Maturity Level Industry ready	🔗 ▼
	Vendor Name CONTACT Software GmbH	Solution Name CONTACT Elements for IoT	Solution Type Software	Maturity Level Industry ready	🔗 ▼
	Vendor Name Siemens AG	Solution Name Asset Administration Shell ...	Solution Type Product	Maturity Level Prototype	🔗 ▼
	Vendor Name HARTING Stiftung & Co. KG	Solution Name DPP4.0 @ HARTING	Solution Type Service	Maturity Level PoC / Demo	🔗 ▼

Find solutions to create, view, provide, manage, operate your AAS here: [Solutions Hub](#)

AAS in the industrial implementation...

Product type AAS available



Toolchain integration (in process)



many more to come...

Industry Voices committed to AAS



SIEMENS

Siemens Xcelerator is part of Siemens' strategy to accelerate the digital transformation of our customers...

” Rainer Brehm
CEO Factory Automation at Siemens

IDTA [READ MORE →](#)



WAGO

At WAGO, we consider the Asset Administration Shell (AAS) a central tool for the technical implementation of our digital twin...

” Dr. Heiner Lang
CEO WAGO

IDTA [READ MORE →](#)



HARTING

For HARTING, the 'Digital Twin' in its form as an Asset Administration Shell is at the centre of our activities...

” Norbert Gemmeke
Managing Director Harting Electric

IDTA [READ MORE →](#)



CADENAS

CADENAS 3Dfindit.com currently provides over 8 million AASX models on a TYPE basis for download...

” Jürgen Heimbach
CEO CADENAS

IDTA [READ MORE →](#)



PHENIX CONTACT

As an industrial company, we need to be able to implement data flows between multiple companies easily and cost-effectively...

” Dr. Frank Possel-Dölken
Chief Digital Officer

IDTA [READ MORE →](#)



FESTO

Festo will make digital twins available as Asset Administration Shells in various development phases for machine manufacturers and operators...

” Gerhard Borho
Member of the Management Board Information Technology & Digitalization

IDTA [READ MORE →](#)



SICK
Sensor Intelligence.

In the past years we jointly made great progress in how the numerous advantages of the Asset Administration Shell...

” Dr. Niels Syassen
Member of the Executive Board at SICK AG responsible for Technology and Digitization

IDTA [READ MORE →](#)



rexroth
A Bosch Company

The fast and cross-manufacturer exchange of data is the basis for the long-term competitiveness of industrial companies...

” Dr. Mark Krieg
CTO Industrial Hydraulics

IDTA [READ MORE →](#)

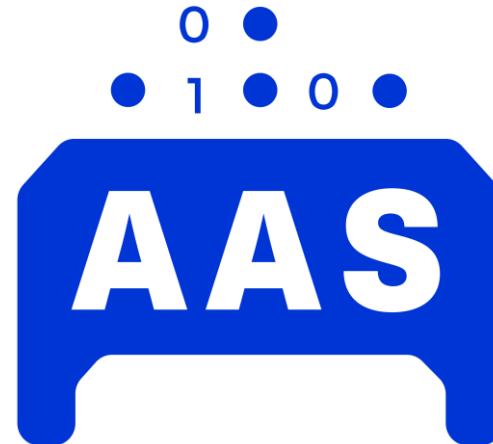
The Benefit of IDTA - Standardising the Industrial Digital Twin

➤ Find the full statements here: [Press release](#)



ID Link
(IEC 61406)

+



AAS
(IEC 63278)

=



With open standards
free to use

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/>



<https://industrialdigitaltwin.org/>



<https://dpp40.eu>



Newsletter:

Internal around 10 x year

External around 4 x year



<https://github.com/admin-shell-io>



<https://projects.eclipse.org/projects/dt/>



Regular column „Inside IDTA“ in every issue of ATP magazine

<https://atpinfo.de/thema/idta-news>



<https://www.linkedin.com/company/industrial-digital-twin-association/>



<https://www.youtube.com/channel/UCvYk-bRkF9-x0HdpJfEcV7g>

Shaping the Digital Twin Ecosystem

Founding Associations



SDO Liaison



JTC1/SC41/WG6
„Digital Twin“



JTC 24 „Digital Product Passport“

Excerpt of Consortial Liaisons



Contact

Dr. Christian Mosch
Mobile: +49 151 14385025
Email: christian.mosch@idtwindtwin.org

