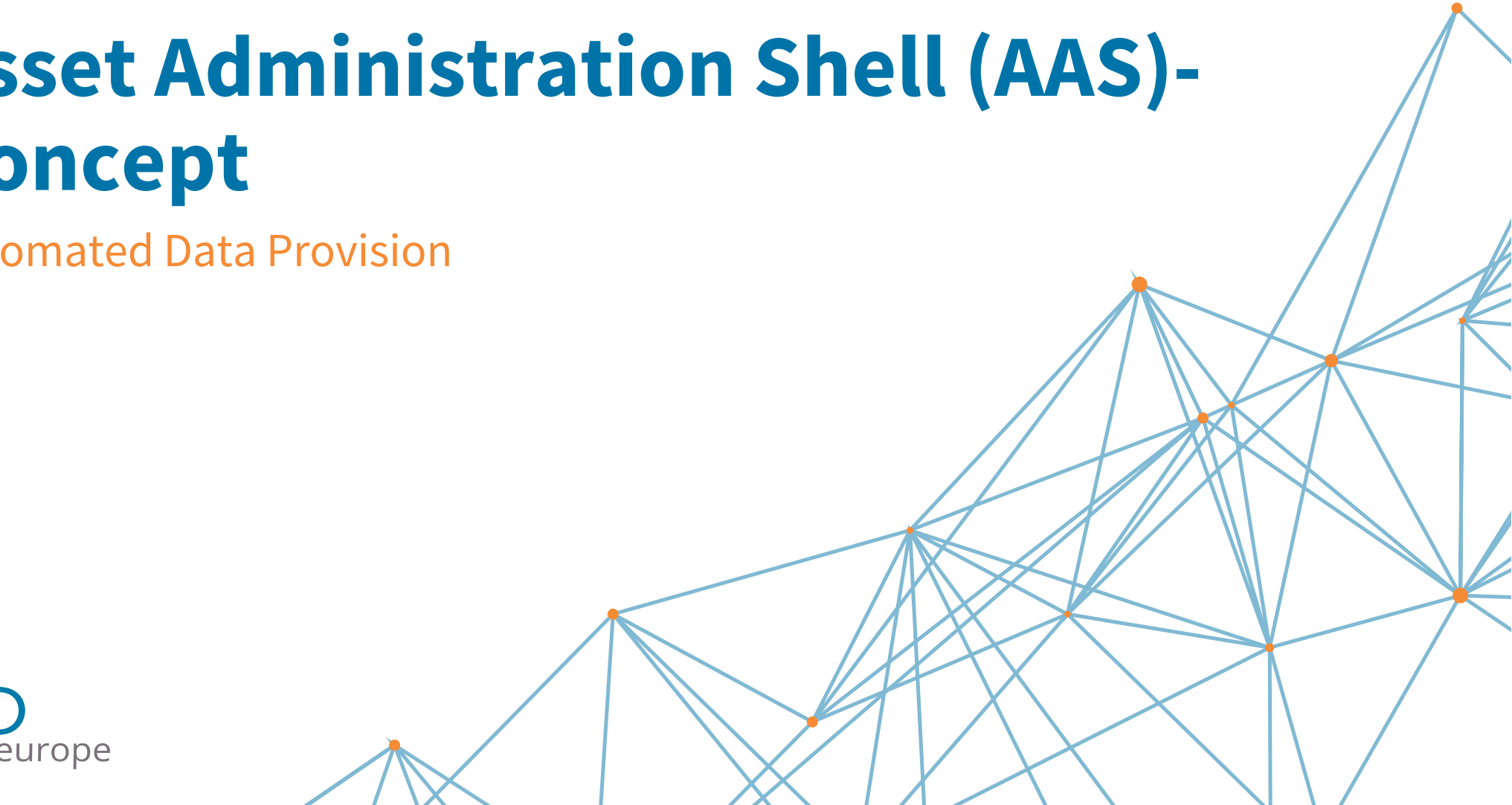
Asset Administration Shell (AAS)-Concept

Automated Data Provision



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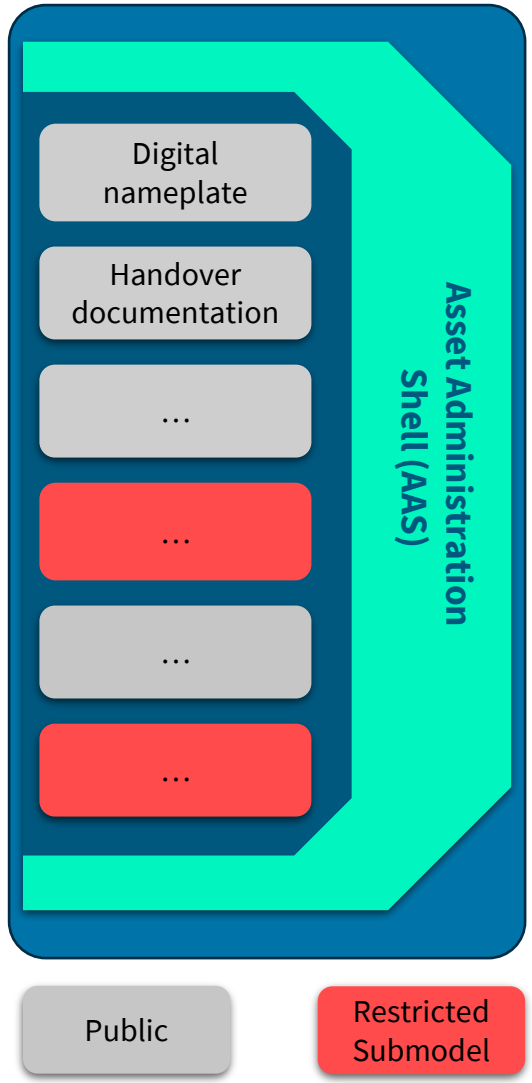
Asset Administration Shell for automated data provision

Challenge: high commissioning complexity due to manual onboarding

- Required controllable unit data depends on (national) market (process)
- Data provision from various data sources (excel sheets to printed documents) can only be realized through manual collection
- High engineering and time resources effort, no cross-vendor knowledge application possible

Technical solution: Automated onboarding with the AAS

- Asset Administration as a **technical concept** (not a legislative framework)
- Provides all needed data: **One source** for all information
- **Open-source** framework for standardized asset and information modelling that is dynamically **expendable**, **technology neutral**, applicable across member states
- Standardized in **IEC 63278-1**
- Enables **seamless interoperability** through asset onboarding and **communication across various protocols**
- As foundation for digital twin applications, it enables the representation of the whole lifecycle of an asset



DPP 4.0 is already advanced

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Legislative Background DPP

- Originates from Ecodesign for Sustainable Products Regulation (ESPR)
- Authorized Ecodesign Forum to provide proposal for value set
- Expected: finalization of value set through delegated act

- while legislative agreement still ongoing, technical dimension of DPP 4.0 is already specified and proven to work

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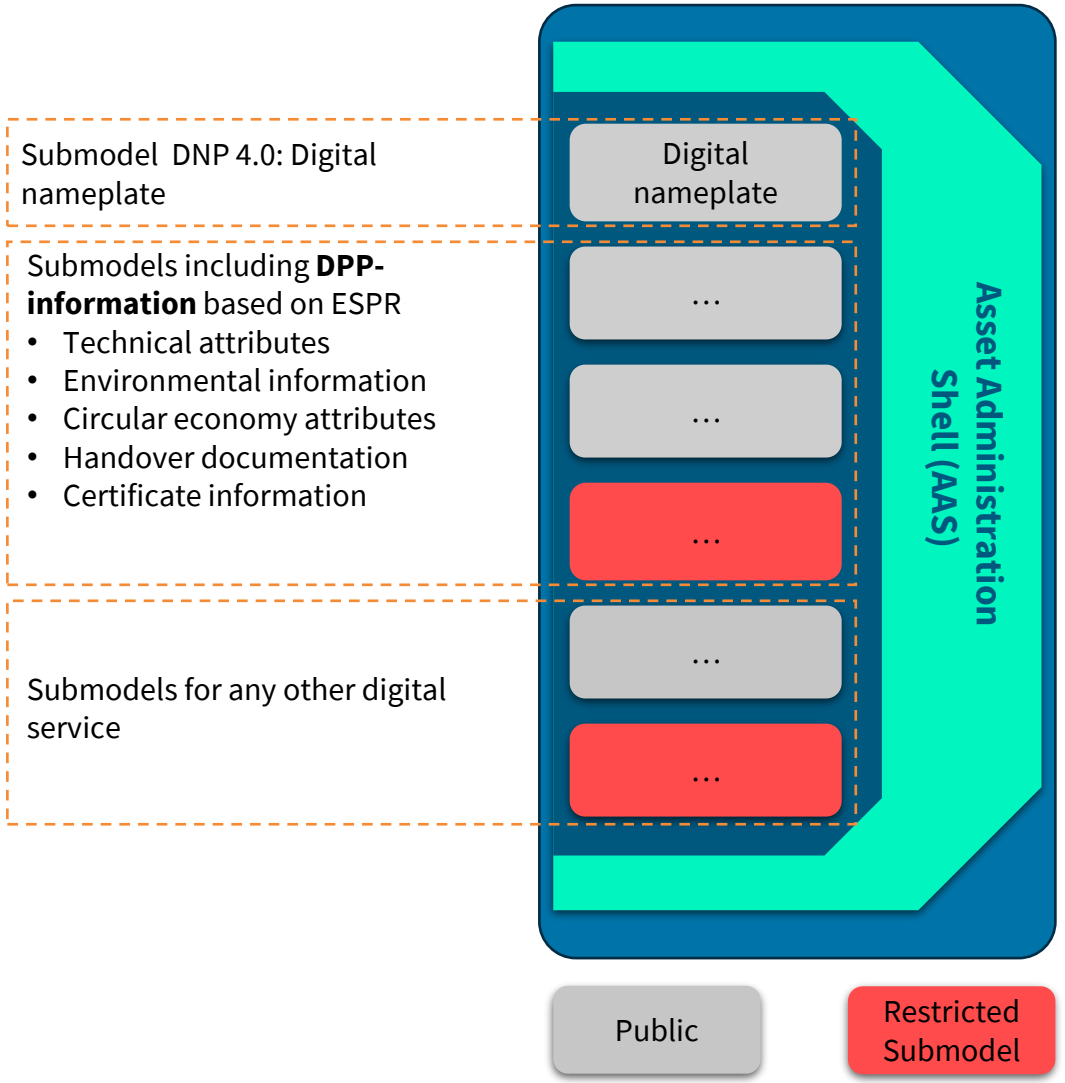
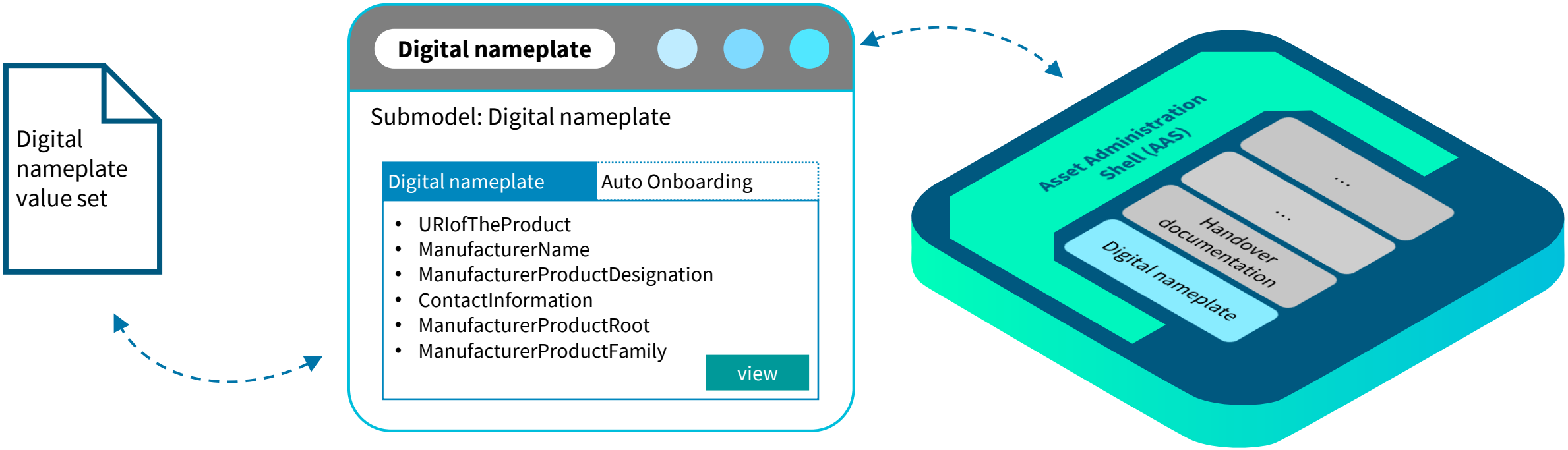
Set up

- DPP4.0@Grid showcase demonstrates the opportunity for digitalisation in the energy industry
- A solid foundation for the DPP is important to avoid the operation of various interfaces
- The AAS serves as a central element for data exchange while maintaining **data sovereignty**
- Access control via **authorization for each submodel**
- Submodels handle **various ontologies** as **one single source**

- **One data source for numerous value sets**: Digital nameplate, Digital Product Passport, base for digital twins in various formats (CIM, BIM/IFC, ECLASS,…)



Digital nameplate 4.0:
Virtual technical data sheet available on site



Value set

Implementation of value set into a submodel

Application in Asset Administration Shell

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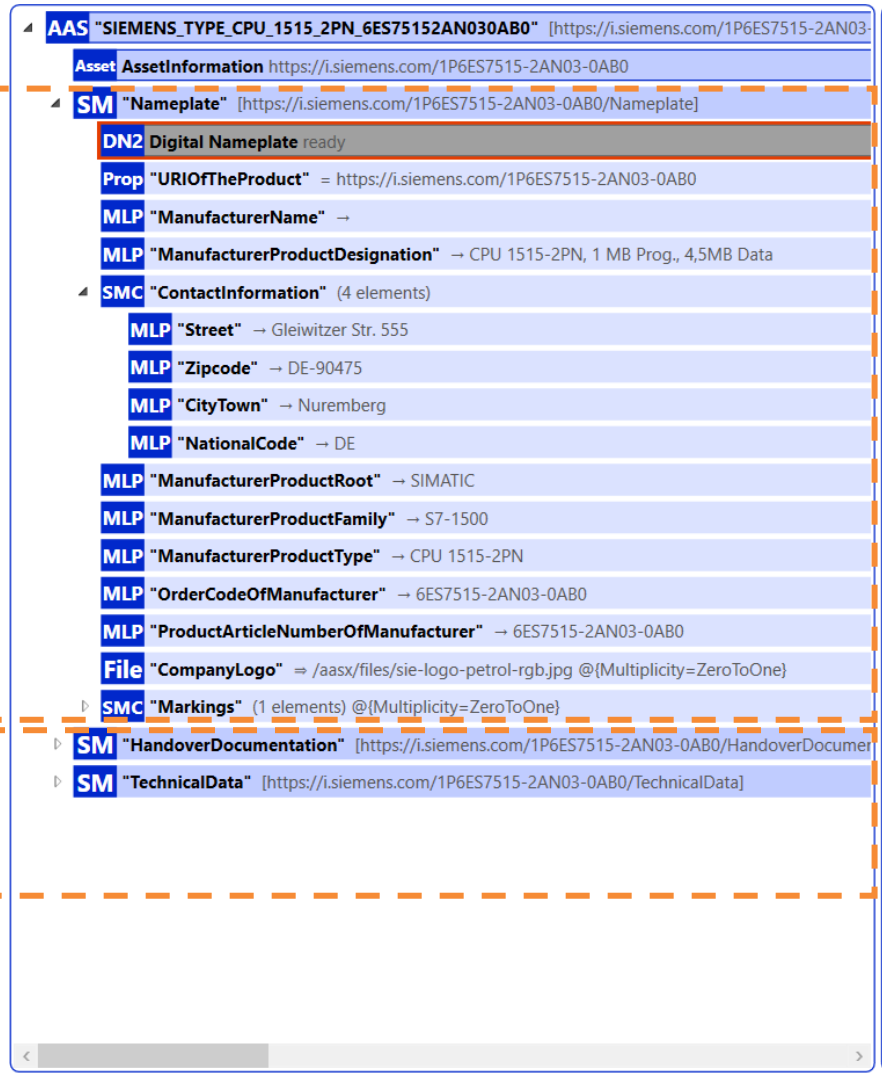
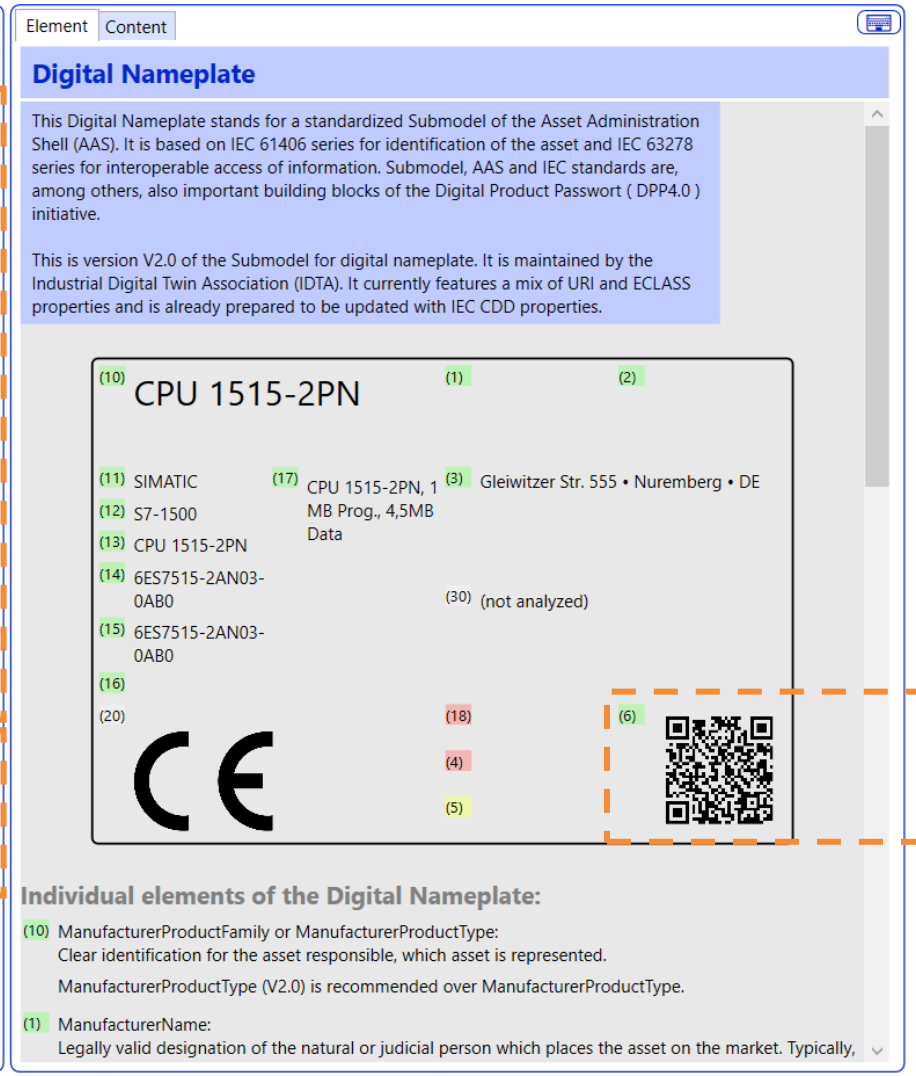
Insight into the AAS:
Implementation of the Digital Nameplate 4.0

Submodel Digital nameplate (tab unfolded)

Additional submodels





ID- Link initiated by QR-Code on the physical asset

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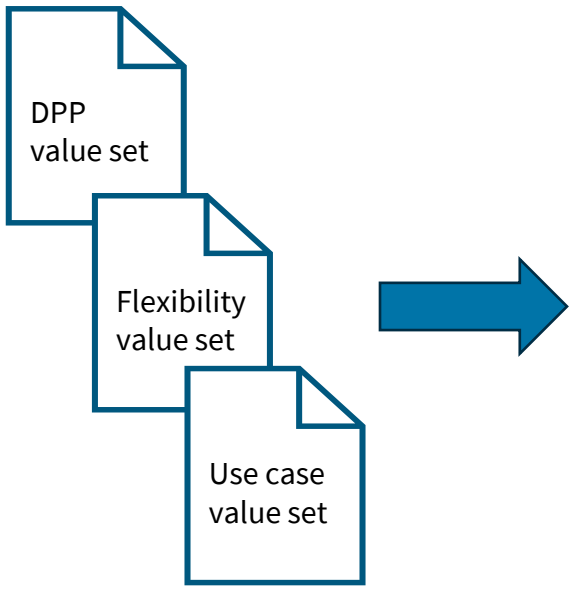
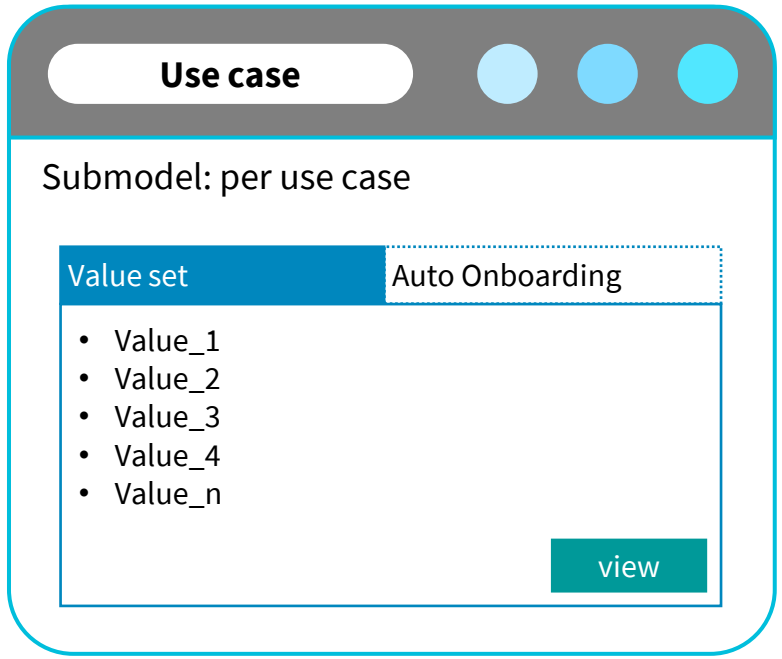
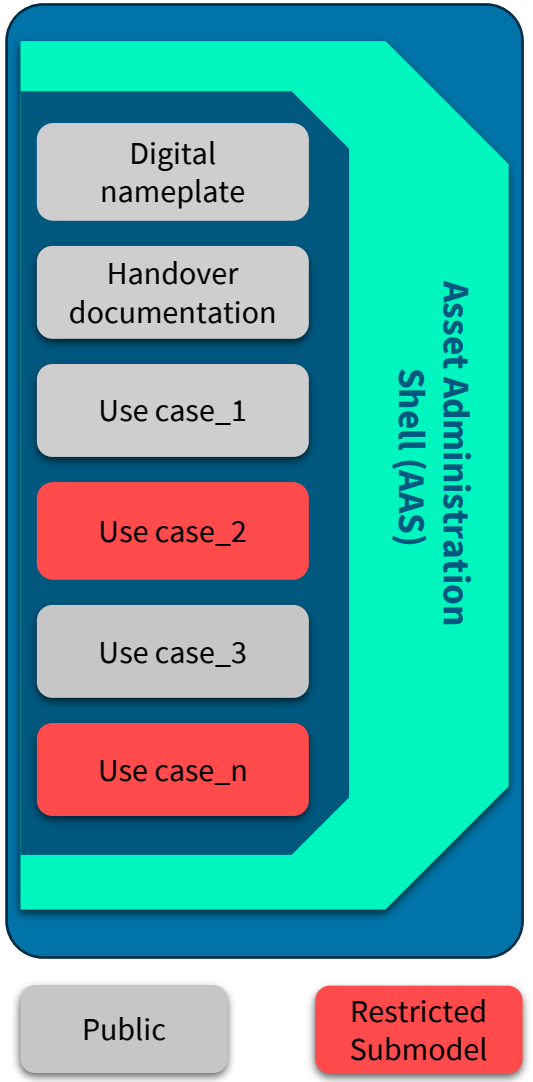
AAS as one scalable technical concept:
Combining various value sets across use cases







AAS as one source for all asset related information

- Combining sector specific and general value sets through various submodels
- Adaptive for various use cases due to holistic submodel approach
- No lock in effects due to technology and vendor neutrality
- Access control for data security fulfilled by restricted submodels

T&D europe

Contact

Max Helmig
Portofolio Consultant,
Siemens AG

Speaker
T&D Europe Representative

max.helmig@siemens.com

Federica Bottacin
Policy Advisor,
T&D Europe

policy@tdeurope.eu

T&D europe