

# **Industrie 4.0 als technologische Basis für QI-Digital**

**Konferenz „Globale Perspektiven der Qualitätsinfrastruktur:  
Erfolgsfaktor für eine wettbewerbsfähige deutsche Wirtschaft“**

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**SCI 4.0 – Standardization Council Industrie 4.0**

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Upstream traceability is not the primary focus of the DPP

DPP as per ESPR –  
required by EU regulation



The DPP...

...is not a „Digital Twin“ but a digital twin supports the DPP,

...does not require a data space by law but de facto a data space is required,

...can be used for several application but it does not solve all problems.



Upstream traceability is not the primary focus of the DPP

DPP as per ESR –  
required by EU regulation



Raw  
Materials

Processed  
Materials

Sub-  
component  
Production

Component  
Production

Assembly

Market  
placement

Use

Repair  
Remanufacture  
Recycle

# It's all about semantics – „Ich bin ein Berliner!“



Code:

0123/4///46789\_1#ABC001

for machines

Version:

001

Revision:

04

Preferred name:

Berliner

for humans

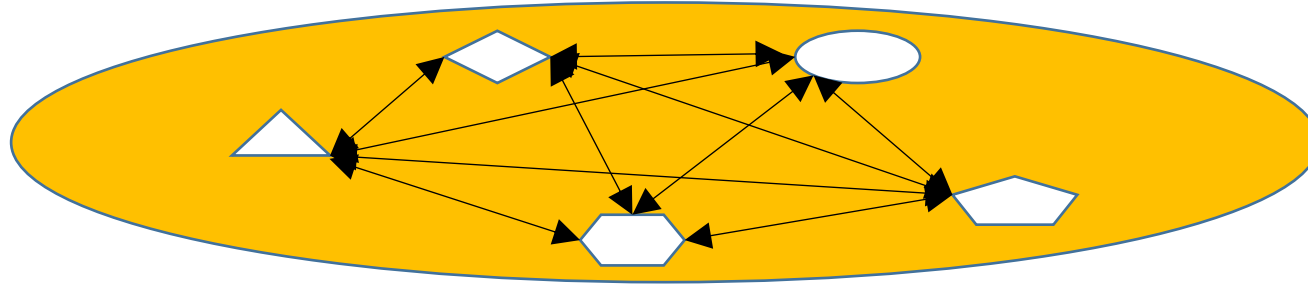
Synonymous name:

Pfannkuchen, Kreppel

Definition:

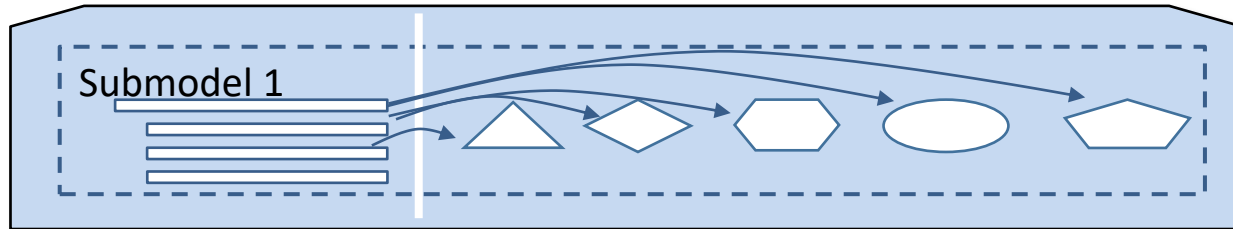
Traditional German pastry similar to a doughnut with no central hole, made from sweet yeast dough fried in vegetable oil, with a marmalade or jam filling.

# It's all about reduction of complexity



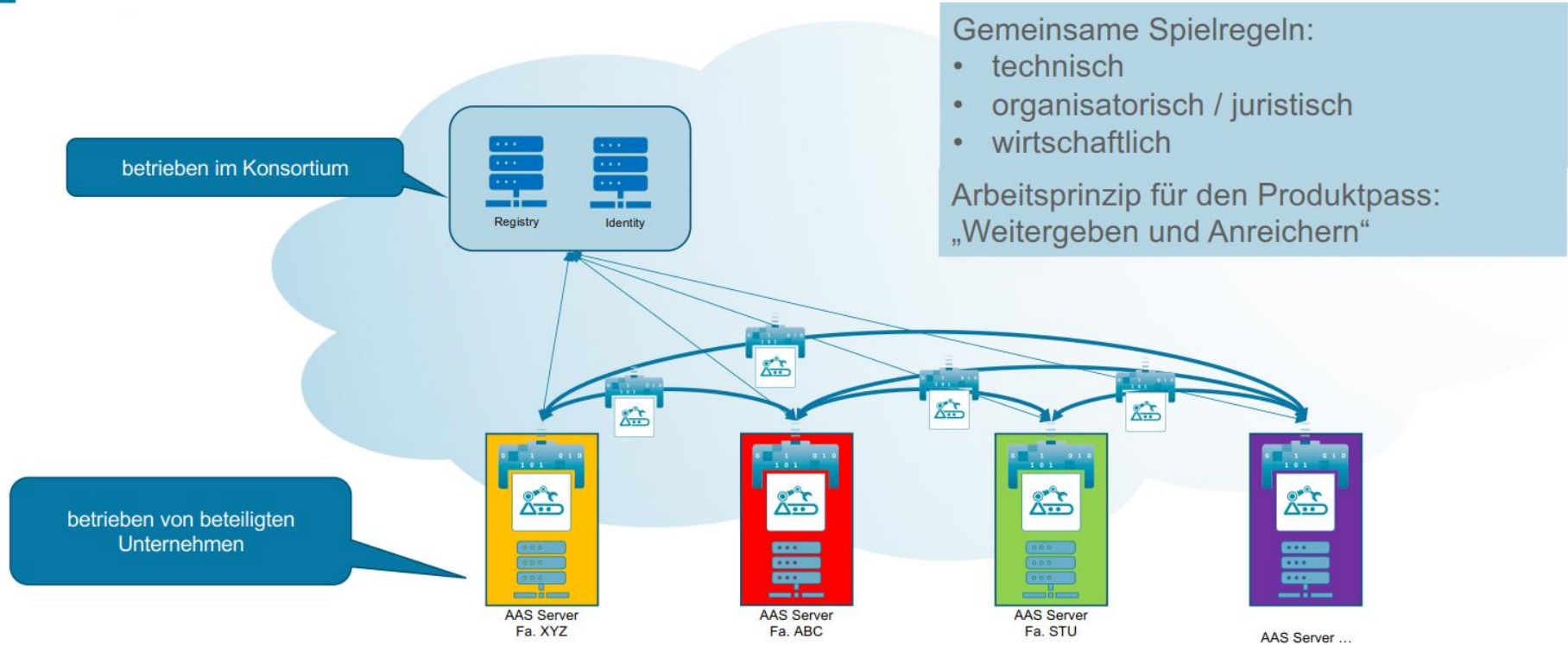
Quadratic

Versus

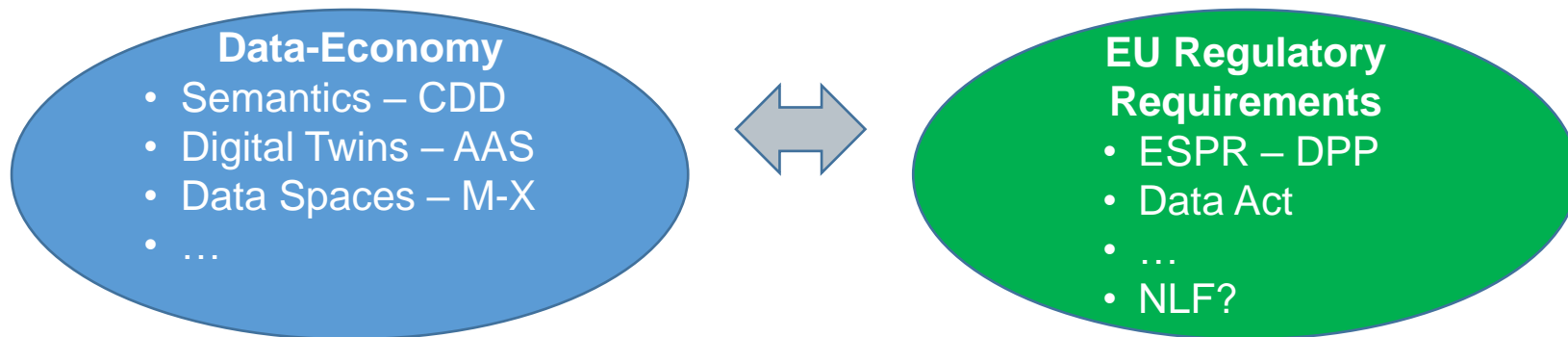


linear

## It's all about trust



- The DPP is a political concept – in Europe and other regions worldwide
- The EU DPP-system will be defined in standards according to SReq M/604
- In general: due to EU regulation, there will be a connection of



- De facto a data space is required to fulfil the regulatory requirements for DPP – but not from a legal point of view.
- **Industry 4.0 concepts will support the introduction of a digital quality infrastructure**

# Thank you

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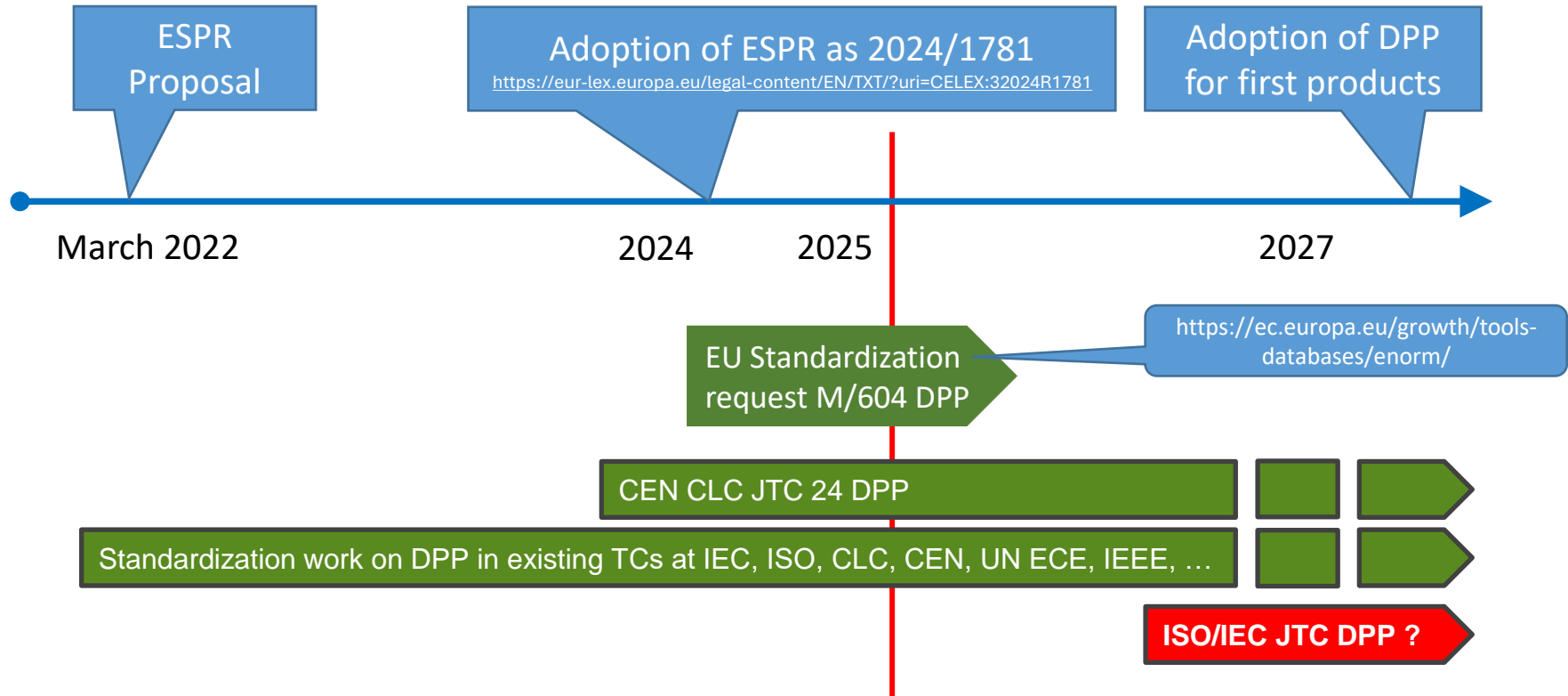
1. The EU Digital Product Passport (DPP) is a political concept.
2. The DPP should be standardized internationally to meet the requirements of global supply chains. An ISO/IEC JTC DPP is under preparation.
3. The DPP-System can be implemented with the Industrie 4.0 Concept– “DPP4.0” using the Asset Administration Shell (AAS) according to IEC 63278-series.
4. By using Industrie 4.0 concepts the DPP could be a first use case for the digital transformation of further processes in a company.
5. From a legal point of view the DPP can be implemented without a data space – but de facto a data space is required.
  - IEC System Committee Smart Manufacturing

# The Digital Product Passport (DPP) as a new Tool from Regulators

- Regulators worldwide started initiatives for
  - Digital Produkt Passports
  - Digital Product Information Systems
  - ...
- The focus of these initiatives differ but there are overlaps
  - Circular economy
  - Product carbon footprint
  - Ecological sustainability
  - Social sustainability
  - Supply chain transparency
  - ...

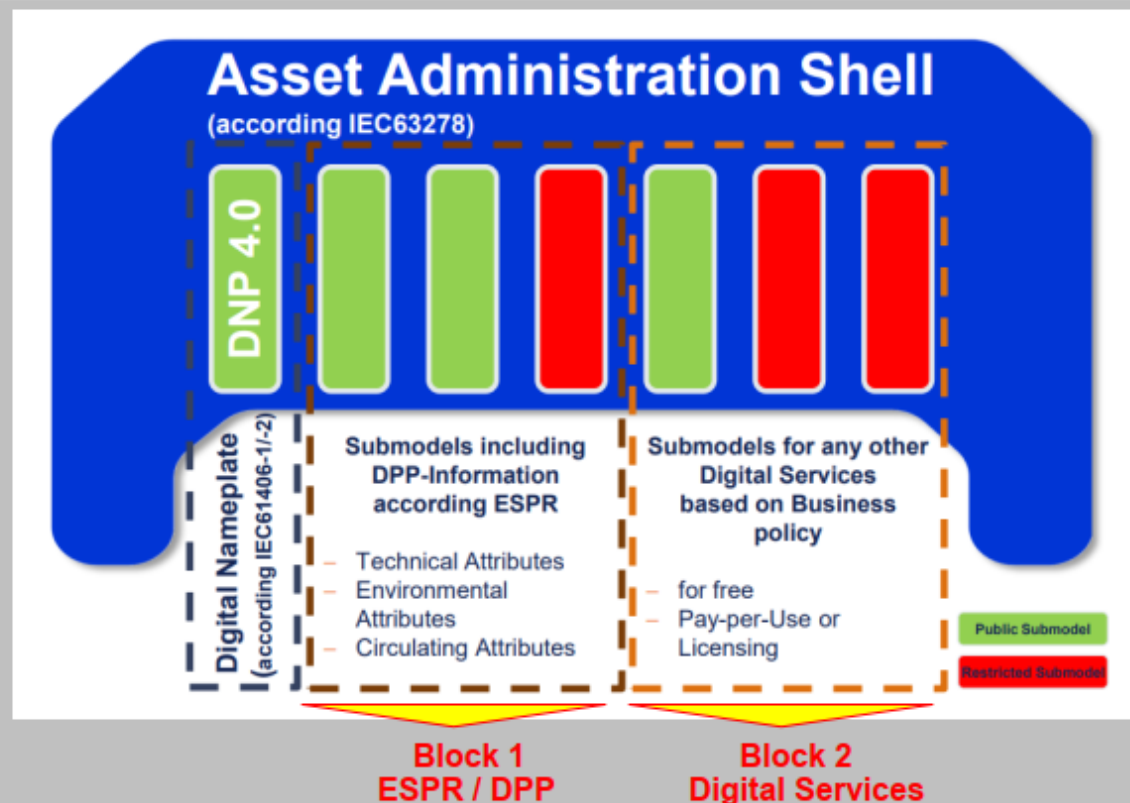


# Relation to Standardization

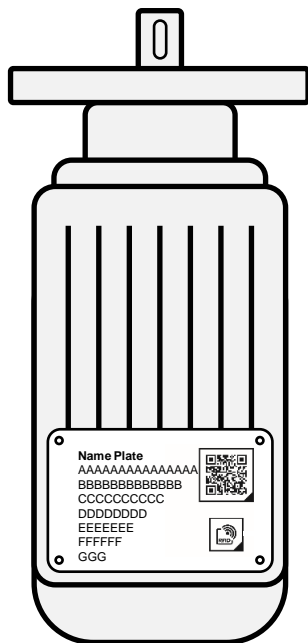


**DPP4.0 will be enabling any Producer / Manufacturer worldwide**  
**(1) to fulfill ESPR/DPP-requirements and (2) to deliver Digital Services**  
**to any Stakeholder in the Market**

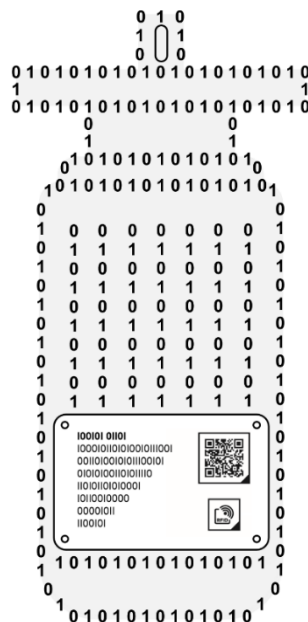
## Digital Product Passport 4.0



# Simplified Data Model of a Digital Twin

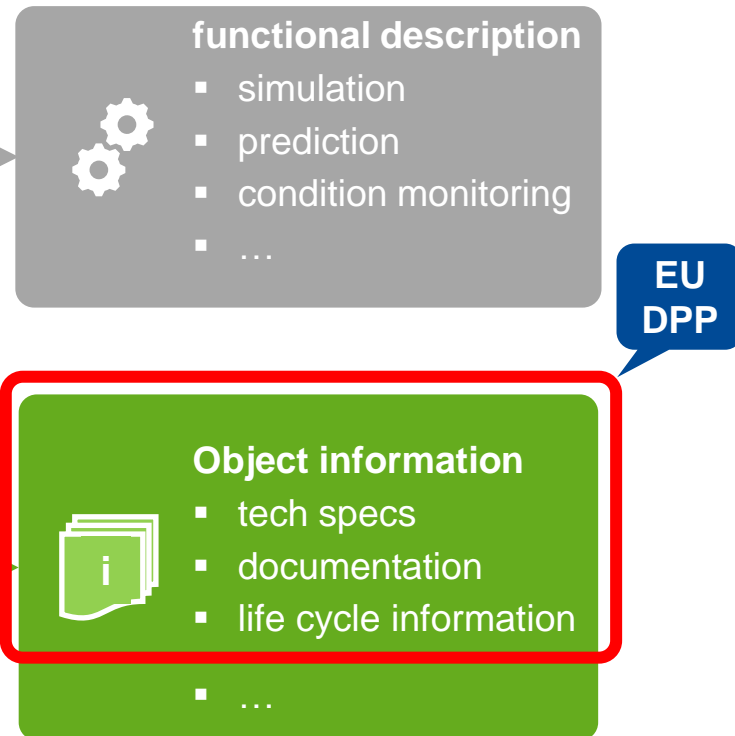


**physical object**



**digital twin**

*digital representation of the physical object*



[Source: Digital Data Chain Consortium]