

CIRPASS2 Reference architecture

Proposal for a DPP system reference architecture

Huib van Nieuwenhuijze - TNO

9 October 2025

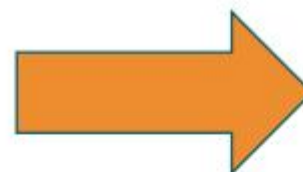
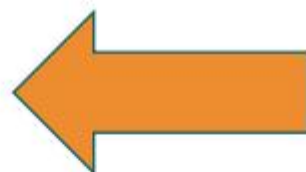
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What will we be doing today

- Context
- Supporting documents
- Building blocks
- Architectural recommendations
- What's happening now?

2. DPP main design features

DPP-system



DPP-data

(the “**HOW**”. To be developed horizontally for all product groups and legislations)

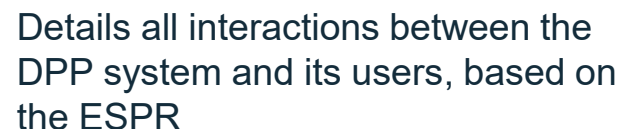
- The DPP registry
- A searchable Web Portal
- All standards and protocols related to IT architecture:
 1. Unique identifiers
 2. Data carriers and links between physical product and digital representation
 3. Access rights management, information security, and business confidentiality
 4. Interoperability (technical, semantic, organisation)
 5. Data processing , data exchange protocols, and data formats
 6. Data storage, archiving, and data persistence
 7. Data authentication, reliability, integrity
 8. APIs for the DPP lifecycle management and searchability

(the “**WHAT**”. To be developed through **product-group specific** dedicated legislation)

Information to be included in the DPP will be **product-group specific** and identified in delegated act process.

It may include information/data on one or more of the following areas:

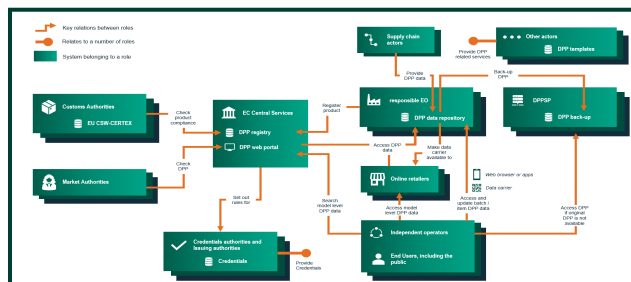
- Technical performance
- Environmental sustainability performance
- Circularity aspects (durability, reparability, etc)
- Legal compliance
- Product-related information (e.g., manuals, other labels)



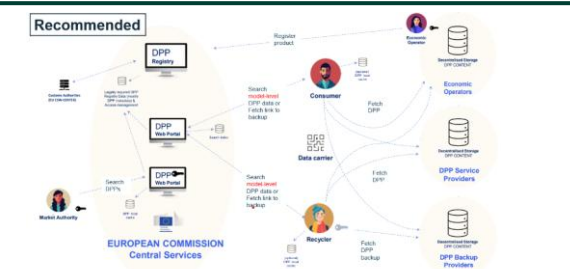
Analyzes technical and non-technical risks for the DPP system and proposes mitigations



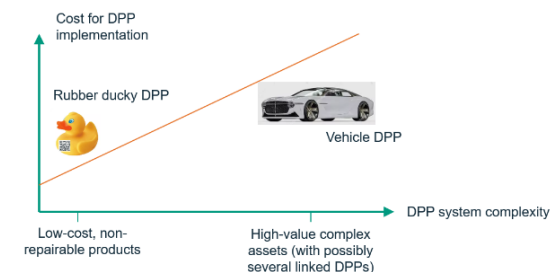
Considerations for ensuring access to mandatory DPP backup



Proposes building blocks and recommendations for a full-fledged DPP system

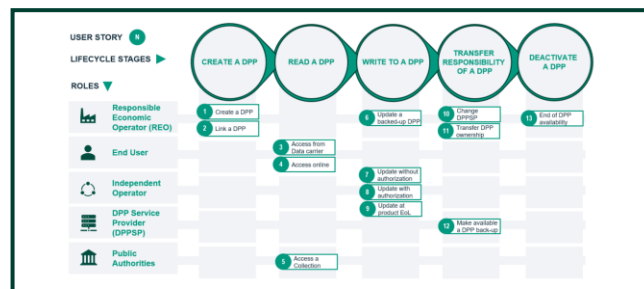


Provides considerations and recommendations for the search portal



Describes a minimal DPP system, as inspiration and starting point for more complex systems

Six supporting documents have been created, each with its own purpose in relation to the architecture proposal



USER STORIES V3

Details all interactions between the DPP system and its users, based on the ESPR



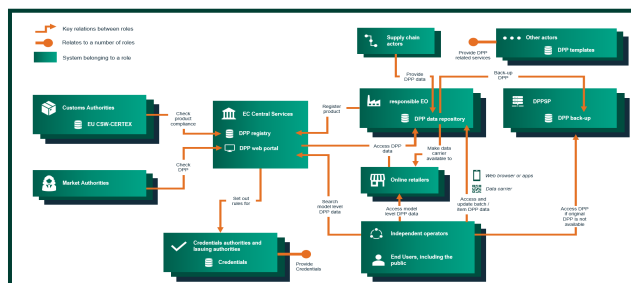
Risks and mitigations

Analyzes technical and non-technical risks for the DPP system and proposes mitigations



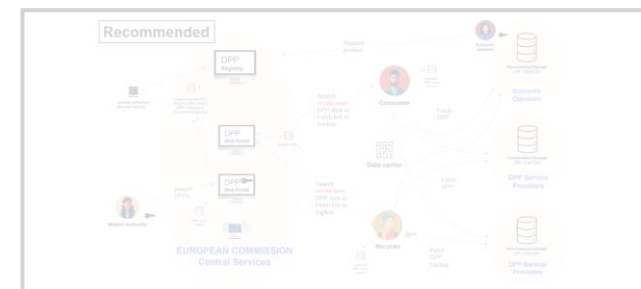
Options for redirection to the backup

Considerations for ensuring access to mandatory DPP backup



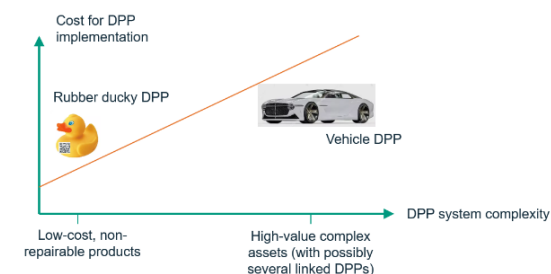
Reference architecture proposal

Proposes building blocks and recommendations for a full-fledged DPP system



Options for EU Web Portal search

Provides considerations and recommendations for the search portal



The simplest DPP system

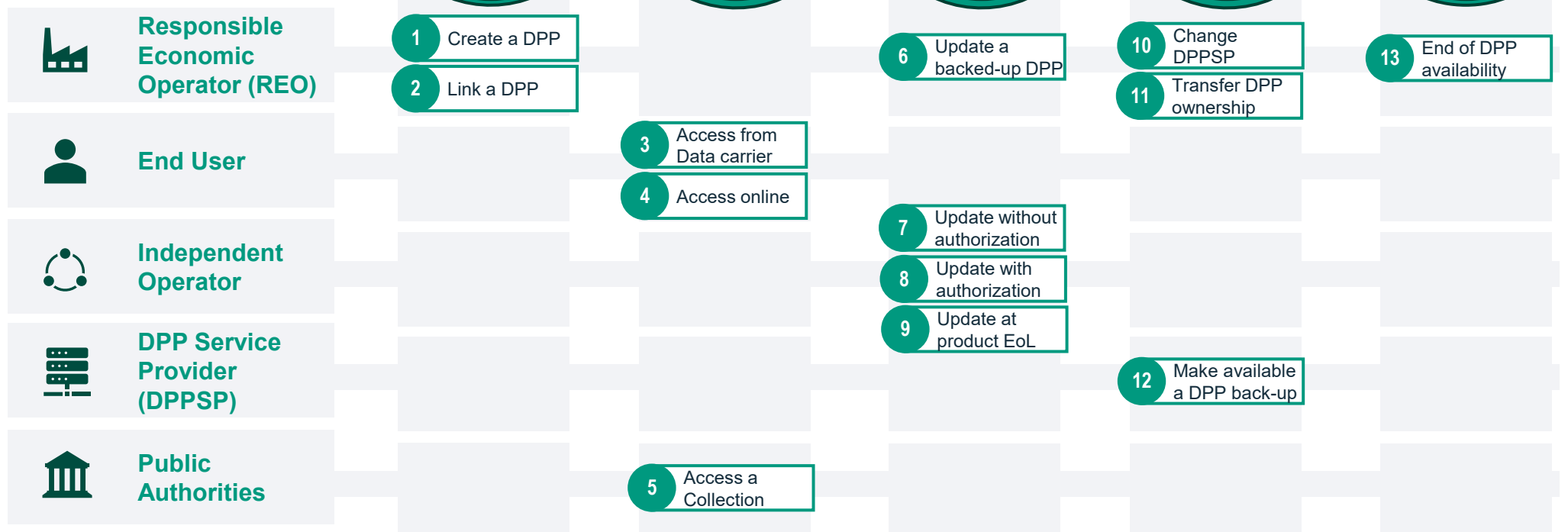
Describes a minimal DPP system, as inspiration and starting point for more complex systems

User stories are based on the DPP lifecycle

USER STORY **N**

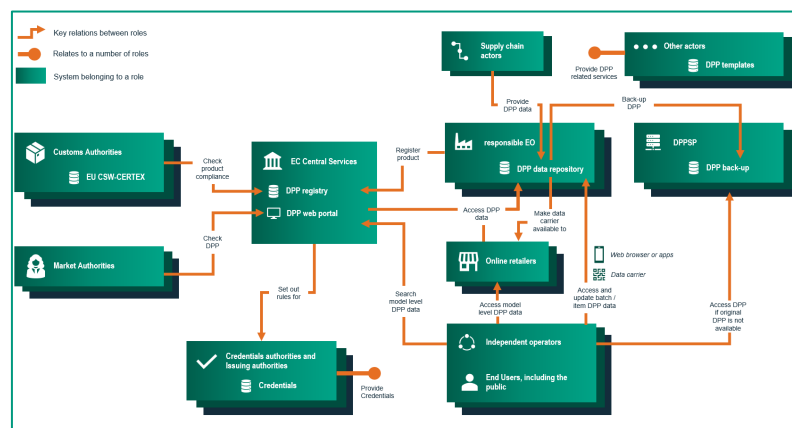
LIFECYCLE STAGES 

ROLES 



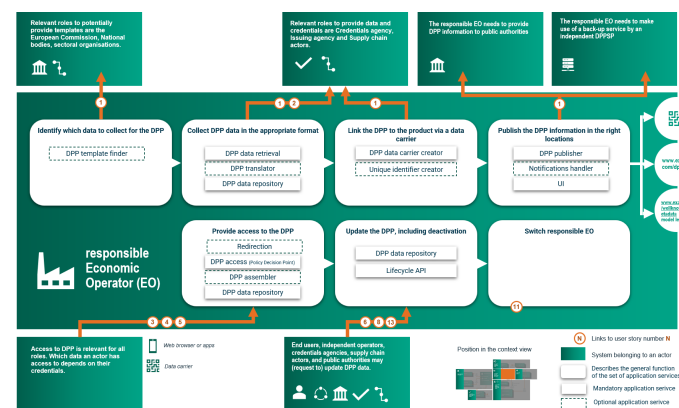
The architecture proposal provides guidance on actor level via 'building blocks' and ecosystem level via 'recommendations'.

Identified relevant roles participating in the DPP ecosystem



Role-based view of the DPP system

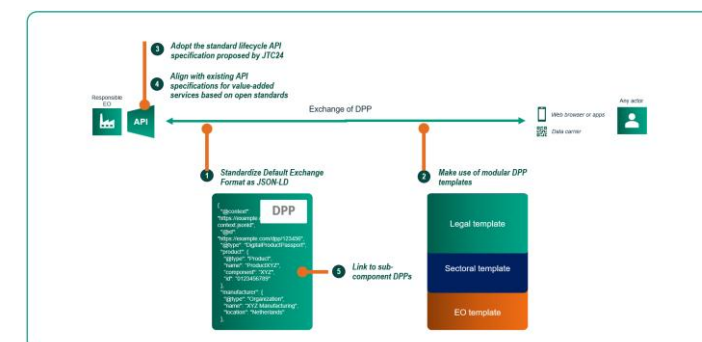
Defined 26 Building blocks covering mandatory and salient optional functionality



e.g. building blocks for economic operators

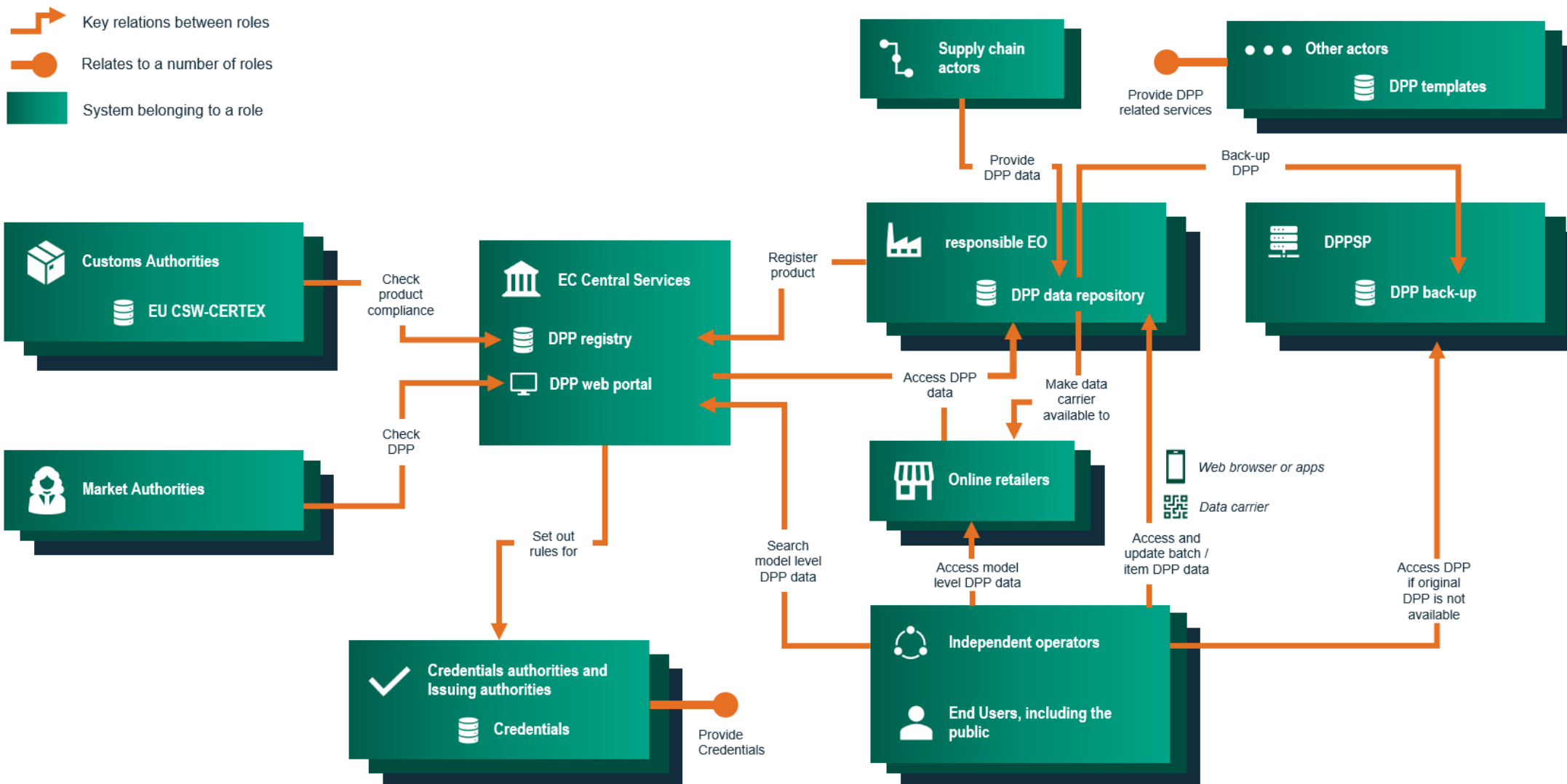
Provided 25 Architectural recommendations

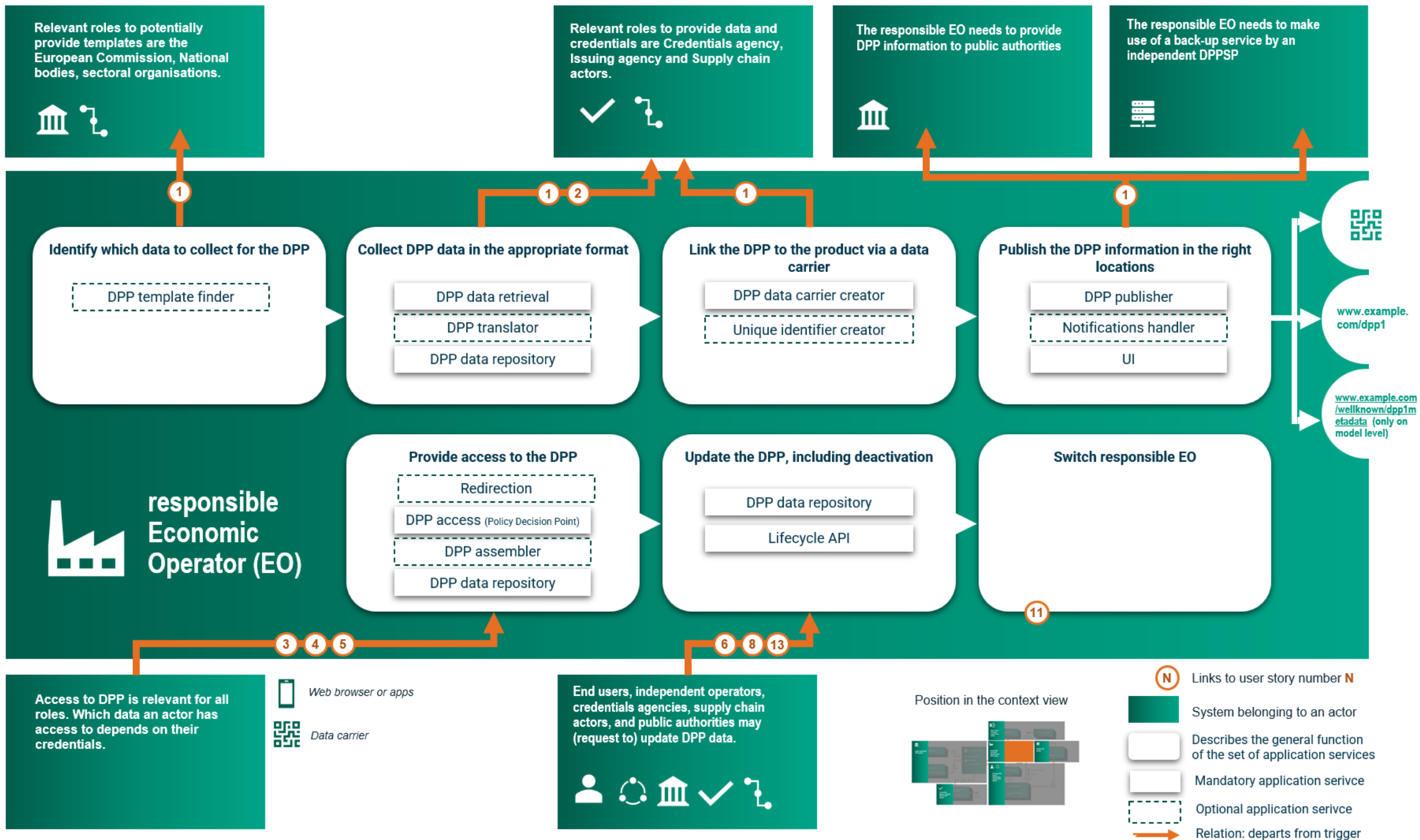
- Interoperability
- Identity and Access management
- DPP integrity
- DPP access
- Data management
- Display



e.g. recommendations with regards to interoperability

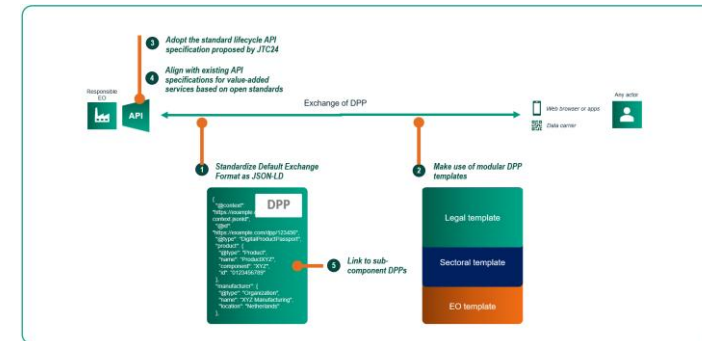
Roles and their relationships



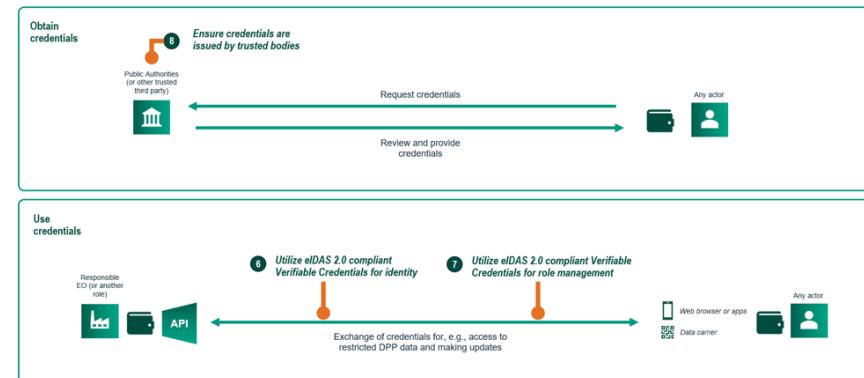


The architecture proposal provides guidance on ecosystem level via 25 'recommendations'

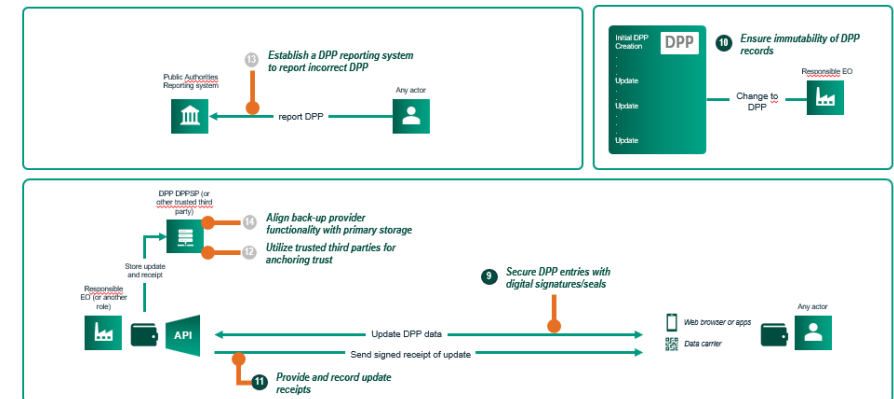
- Interoperability
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interoperability

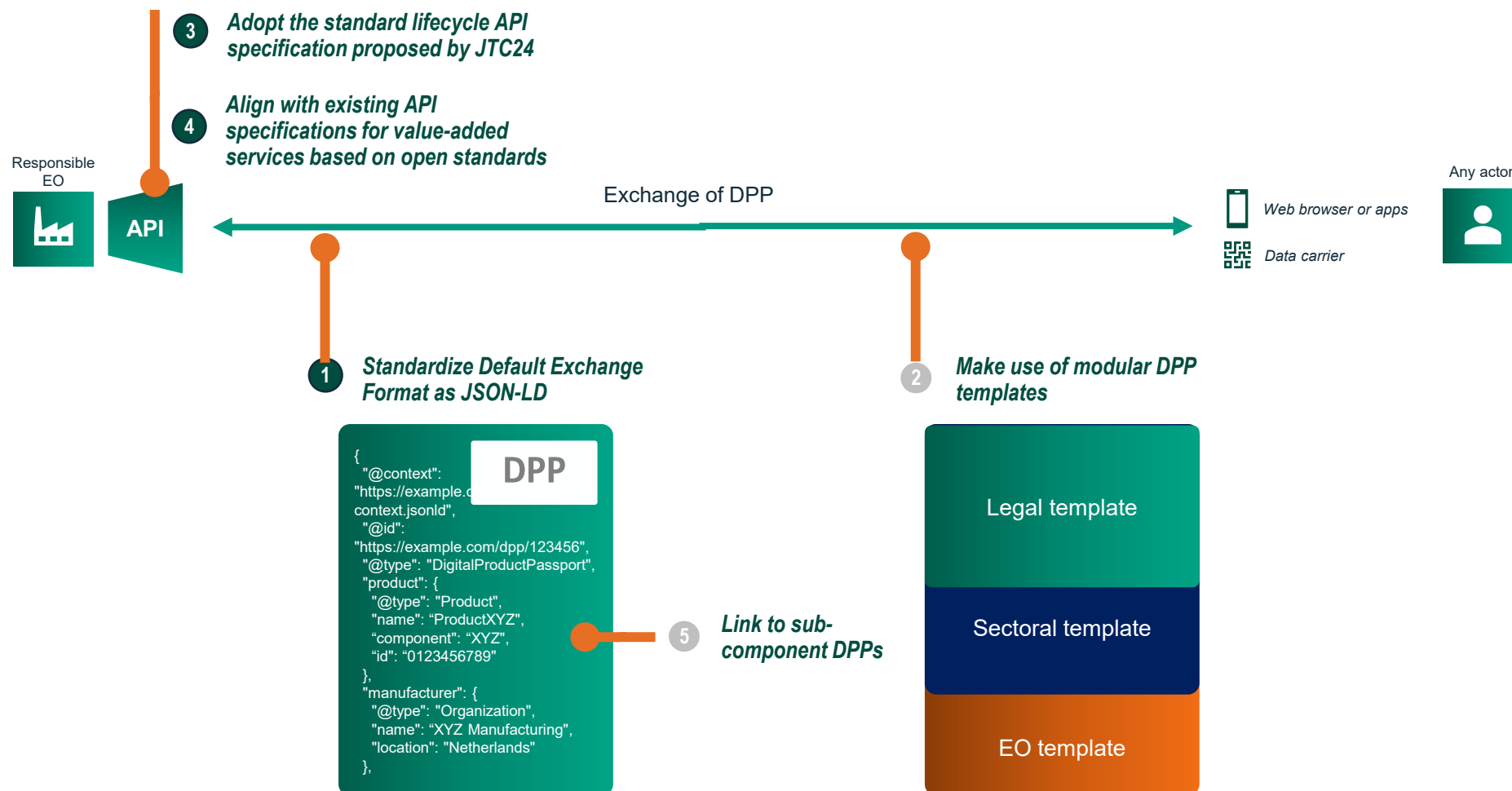


Identity and access management



Integrity

Recommendations for interoperability (technical, semantic, syntactic)



What's happening now?

User stories

- Update with the latest insights from:
 - architecture discussions
 - pilot project talks
 - international developments
 - ...
- Consider new interactions, for instance for Customs authorities

Architecture Proposal

- Comments / recommendations will be processed
- ... and are still very welcome

Reading material

The most recent version of all project results mentioned may be found here:

[Project results – Cirpass2](#)



Thank you!

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