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## CIRPASS-2

Cross-sectoral DPPs for compliance and beyond compliance

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CIRPASS-2 Coordinator

November 14, 2024



CIRPASS 2

# What are CIRPASS and CIRPASS-2 ?



- Funded by the European Commission under the **Digital Europe Programme**
- **Duration:** 18 months (from Oct 2022 to March 2024)
- **Coordination and Support Action**
- **2M euros funding**
- **31 partners**



*Build consensus on a standards-based DPP system*

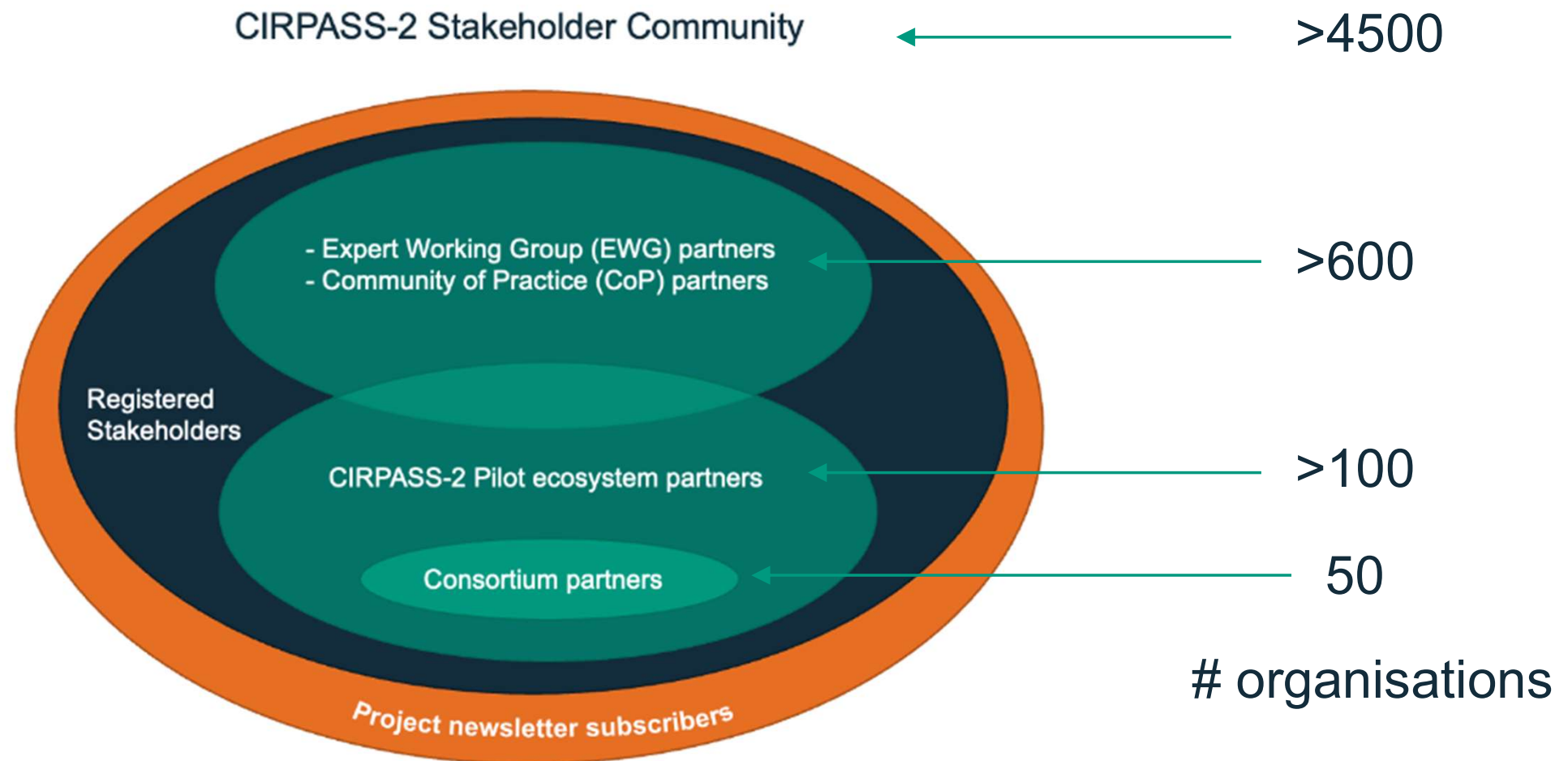
***Proposal for DPP system (March 2024)***

- Funded by the European Commission under the **Digital Europe Programme**
- **Duration:** May 2024 – April 2027
- **Innovation Action**
- **6M euros funding**
- **50 partners**



*Deploy at scale Digital Product Passports in four target value chains and demonstrate data-enabled B2B activities that promote circularity*

# CIRPASS-2 in numbers



# CIRPASS-2 Objectives



1. Deploy and validate at scale and in real-life setting Digital Product Passports in four target value chains
  - 13 pilots
  - All pilots focus on B2B activities that promote circularity
  - **Support the ongoing CEN/CENELEC standardisation work (JTC-24)**
2. Demonstrate **cross-pilot** and **cross-sectoral** interoperability
3. Provide support to SMEs in their uptake of DPPs while supporting the deployment of a diverse and vibrant DPP-as-a-Service solution provider community
4. Support the deployment and adoption of DPPs by other sectors targeted by upcoming European regulations and beyond

# Synergies with CEN/CENELEC JTC 24

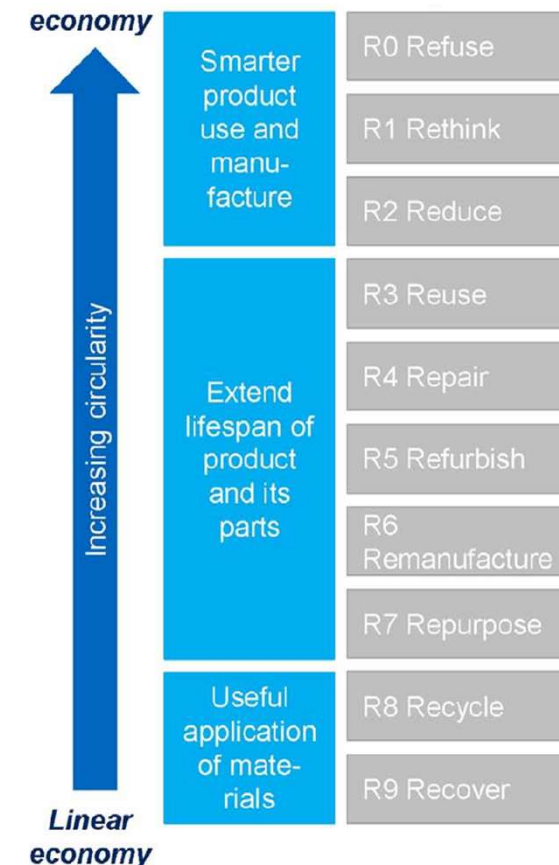


1. CIRPASS-2 has applied for an official liaison role to JTC-24
2. DG CONNECT's main objective in funding CIRPASS-2 is bringing **proof** of DPP value in B2B circular use cases.  
→ They expect that CIRPASS-2 will contribute to JTC-24 with feedback gathered from real-world pilots showing **beyond-regulatory** uses of the DPP.
3. CIRPASS-2 can support the **dozens** of other EU-funded DPP-related projects in bringing their contributions to JTC-24.

# What is a “lighthouse pilot” ?

Each “pilot” comes with its own “**eco-system**” including:

- A pilot leader
- A number of **up-stream** partners who will create DPPs for their products
- A number of **downstream** B2B “R” partners, referring to 9R Framework for Circular Economy
- Circular economy business models and DPP **use cases** (necessarily including B2B data exchanges)



9R Framework for Circular Economy.  
Source: J. Kirchherr et al. (2017, page 5)



# CIRPASS-2 Lighthouse Pilot Ecosystems (13)



Pilot	Pilot Leader(s)	DPPaaS?	Upstream Ecosystem Typology	Targeted Products	Targeted "R" Strategies	Downstream Ecosystem typology
PA1	IOXIO	yes	STJM (Finnish Textile and Fashion Industry association), VTT (Research Institute), SITRA (Finnish Innovation Fund), 1 entreprise brand, several SME brands	Textiles - Workwear (PaaS)	Reuse, Repair, Maintenance, Remanufacturing and, eventually Recycling	Coordinated by STJM: Reuse/repair: 1 SME, 1 entreprise, Reman : 1 SME, Waste Collection : 1 SME, Recycling : 1 SME
PA2	Kezzler	yes	Global top 10 brand, SME brand, Upstream traceability solution provider, ERP & CRM system provider, GS1	Textiles - Fashion	Reduce, Reuse, Repair	Retailer, Inventory management system provider, Refurbish : Supply-chain management operator, Repair : SME repair service, Reuse : Resale Service Platform Recycler : Sorting and recycling operator
PA3	EON	yes	Entreprise brand, SME fashion brand	Textiles - Fashion	Resell, Collection, Sorting and Recycling	Collecting, sorting, re-selling, and recycling : 1 SME
PA4	atma.io & circular.fashion	yes	2 entreprise brands/retail, B2G data model consultant	Textiles - Fashion & Sportswear	Resell, Repair, Sorting, Recycle, Circularity validation	Sorting technology provider : SME Sorting : 1 entreprise, 1 SME Repair, upcycle : 1 SME
PA5	TripleR	yes	6 mattress manufacturers, DPP platform provider	Textiles - Mattresses	Collectors, Remanufacturers/Refurbishers /Dismantlers and Recycling	Refurbish : 2 SME
PA6	Scantrust	yes	label provider, interoperability partner, 6 SME producers, 1 mid-size producer, 1 industry association	Textiles - Bedding, shoes (Electronics)	Reuse, Recycle	Recycling : 1 SME
PB1	Arcelik	no	Arçelik A.Ş	Electronics - Vacuum Cleaners	Reuse, Re-sell, Repair, Refurbish	Arçelik A.Ş
PB2	DDCC, ZVEI	yes	DDCC consortium partners (>50 OEMs & owner/operators)	Electronic & electrical equipment	Reuse, Repair, Refurbish, Remanufacture, Repurpose	DDCC owner/operator partners and ZVEI member companies
PB3	Whatt.io	yes	2 brands, Importer	Electronics - Audio and Emergency Lighting Equipment	Repair, Maintenance, 3D parts manufacturing	Maintenance : commercial building staff Repair : 2 additive manufacturing labs
PB4	OBADA/TBS	yes	ASCDI (trade association and marketplace, trust anchor for its members)	Electronics - IT equipment	Repair, Recycle	2 B2B marketplace
PB5	EcoWise	yes	Gorenje (manufacturer)	Electronics - Tumble Dryers	Repair, Refurbishment, and Recycling	1 end of use collector
PC1	Michelin	no	Industry governance body, 2 ecoorganisms	Tyres	Remanufacturing, Recycling	2 retreaders, 2 collectors, 1 recycler, 1 sorting technology provider,
PC2	Cobuilder	yes	2 manufacturers, eco-organism, legal expert	Construction products	Reuse, Repair, Refurbishing, Repurposing, Recycling	Contractors, quality control

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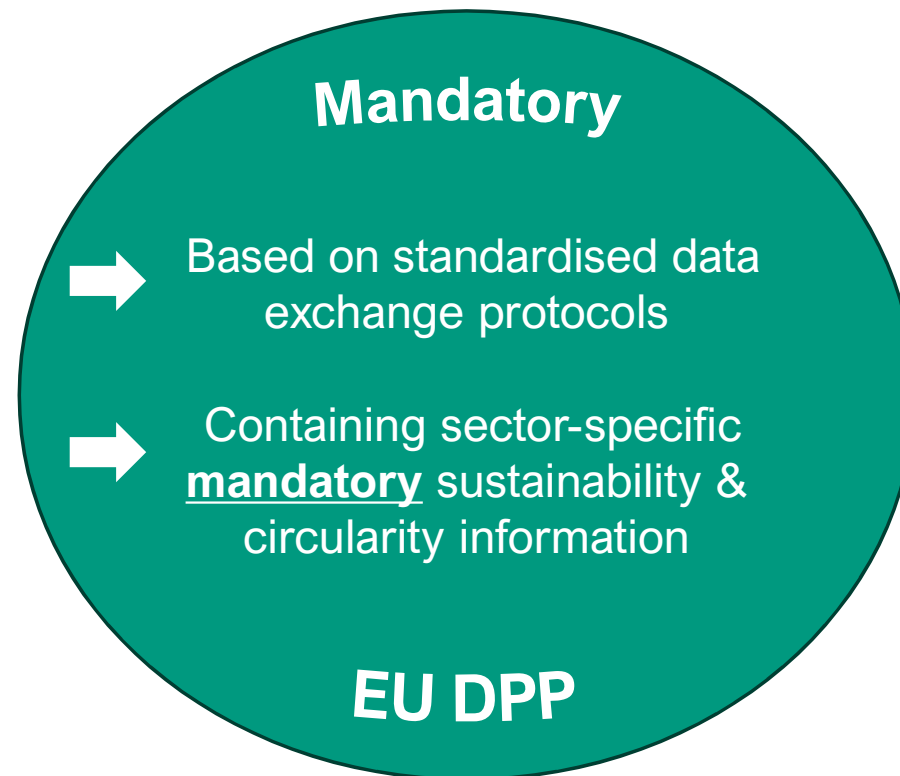
For more information please visit:

<https://cirpass2.eu/lighthouse-pilots/>



# Why is the DPP System an incredible opportunity?

- **Vision:** The DPP links the EU internal market to the data economy.

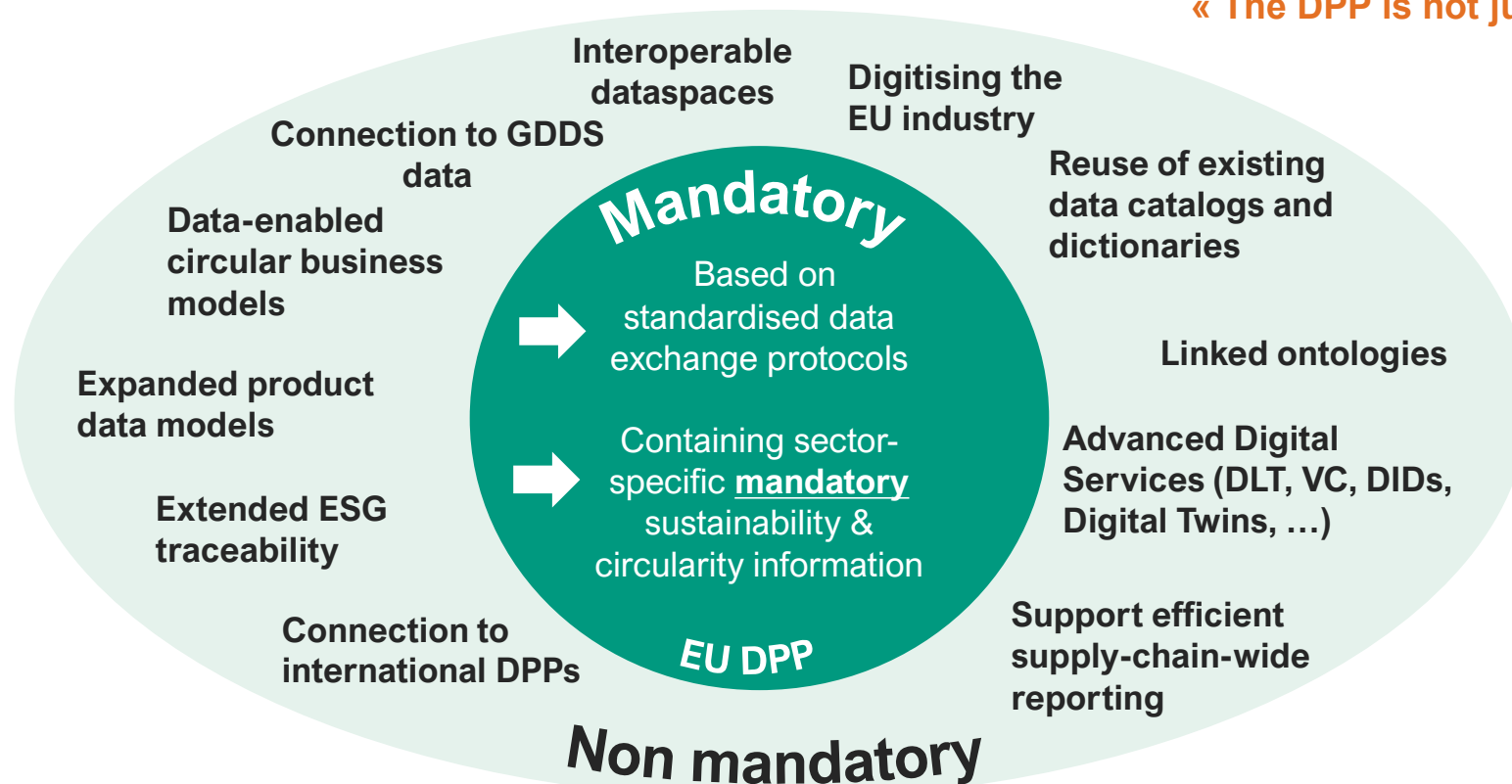


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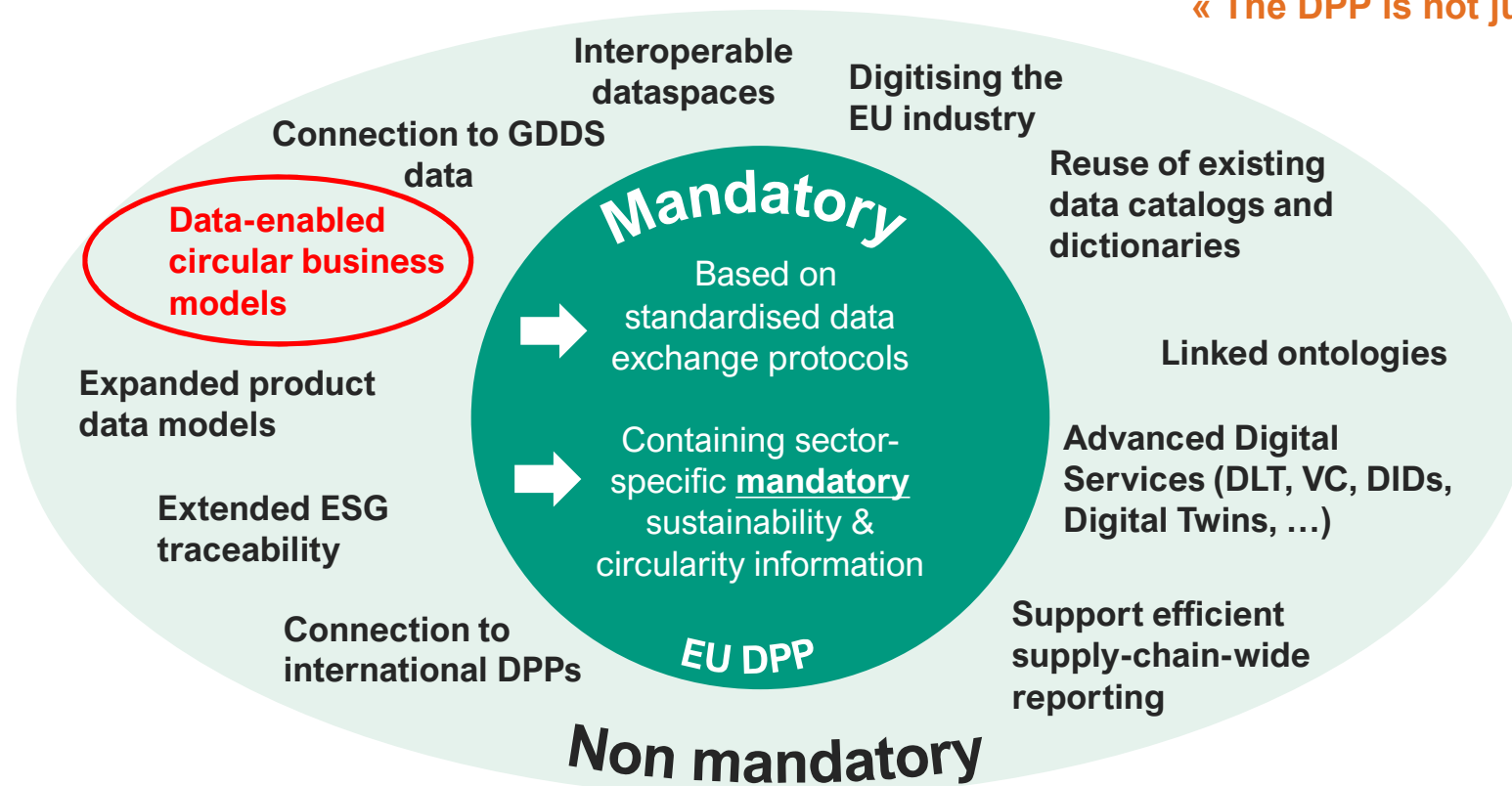
**CIRPASS-2 addresses both mandatory and non-mandatory DPPs**

# Why is the DPP System an incredible opportunity?



- **Vision:** The DPP links the EU internal market to the data economy.

« The DPP is not just a regulatory tool. »



**CIRPASS-2 addresses both mandatory and non-mandatory uses of the DPP**

# CIRPASS proposal for the DPP IT system



- 1/ The DPP is an information system for the Circular Economy.
  - It is NOT a platform!!!
- 2/ Flexibility should be maximized:
  - Choice of product identification scheme, data carrier, granularity
  - Choice of data hosting solutions (Do-It-Yourself, DPP service providers, direct integration with existing company systems, etc.)
- 3/ Two parallel architectures (different paths to the same information):
  - Based on HTTP URIs
  - Based on DIDs (Distributed Identifiers)
- 4/ Transport the data with the meta data : Use a semantic interoperability layer based on linked data concepts
  - The **Semantic Web** stack already comes with most of the necessary (and mature) access control, usage control, verification, data ingestion, data manipulation, data exploitation tools **to link data and meta data**.

« As inclusive as possible »  
definition of identifier  
interoperability

# CIRPASS proposal for the DPP system: One system, two ways to access



DPP-enabled  
product



Unique Product Identifier



Enabling online access to data



Finding the data

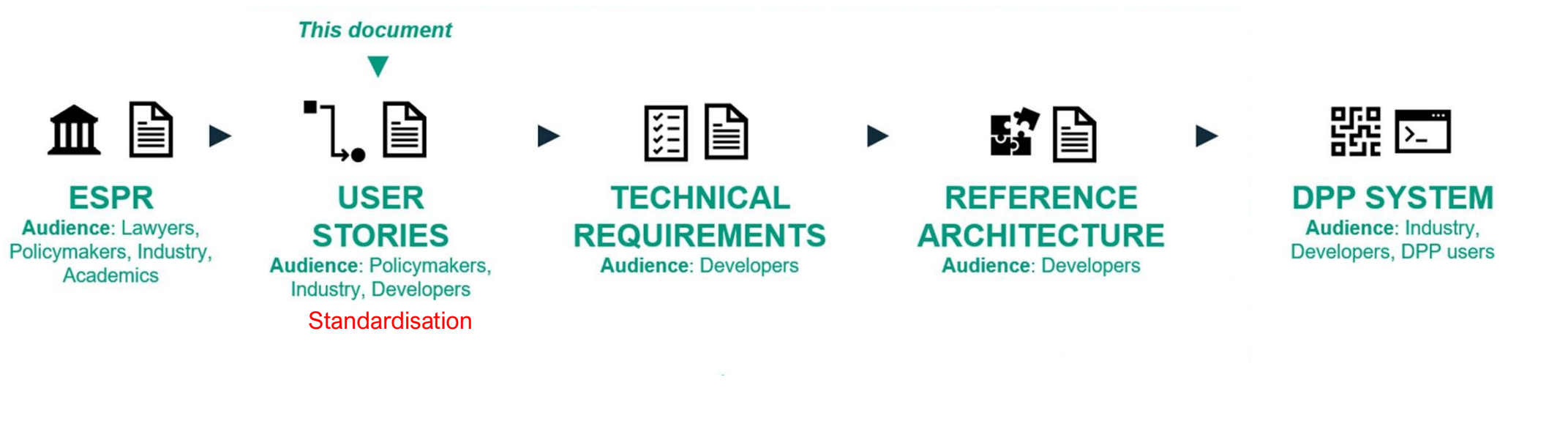


Exposing the data  
(with appropriate  
access control)

GTIN, s-GTIN, URL (e.g., RFC3986, IEC61406-x), etc.	did:method:UID
DNS, DigitalLink, IEC61406-x, etc.	DID method (e.g. EBSI, web method)
Redirection service	DID document
Decentralized DPP data repositories → <b>Semantic Interoperability layer</b>	

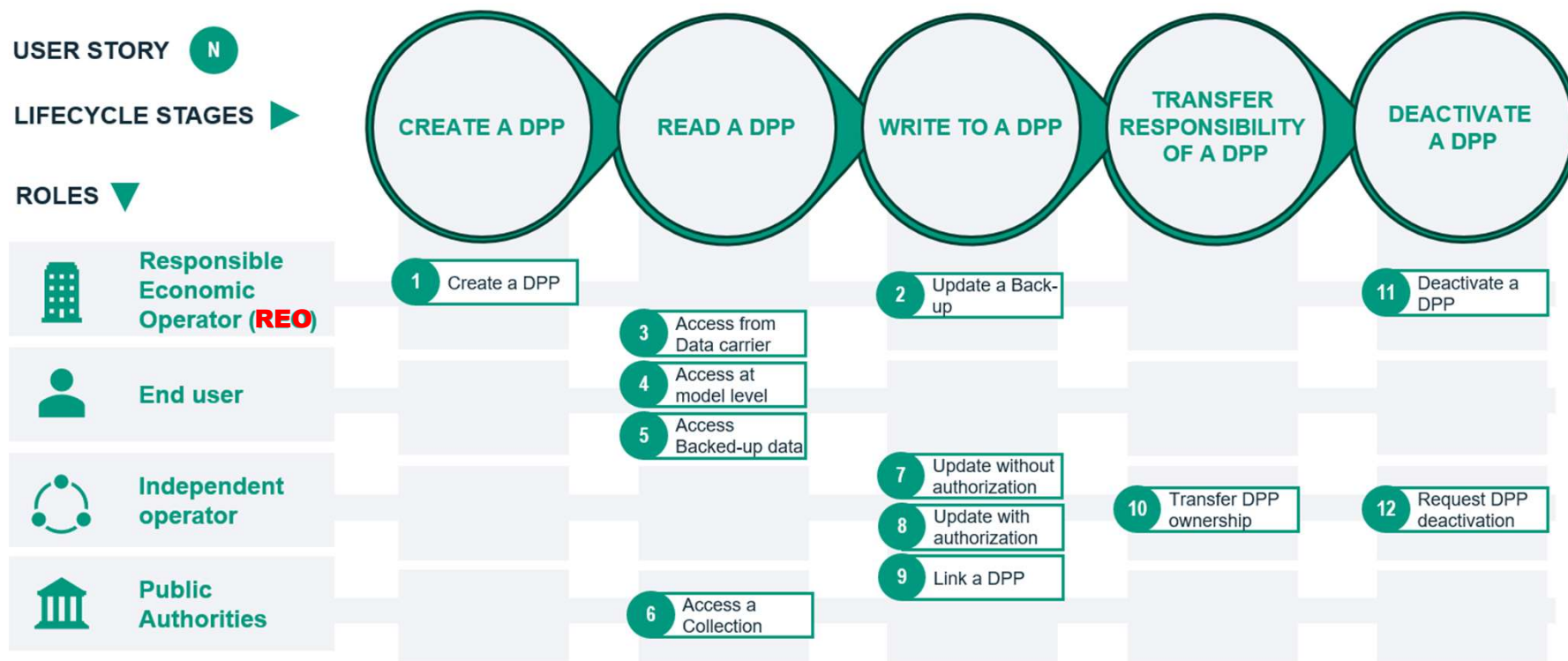


# Requirements for the DPP IT system – User stories



Monthly meetings with European Commission DPP team from DG CONNECT, GROW, DIGIT, ENV, etc.

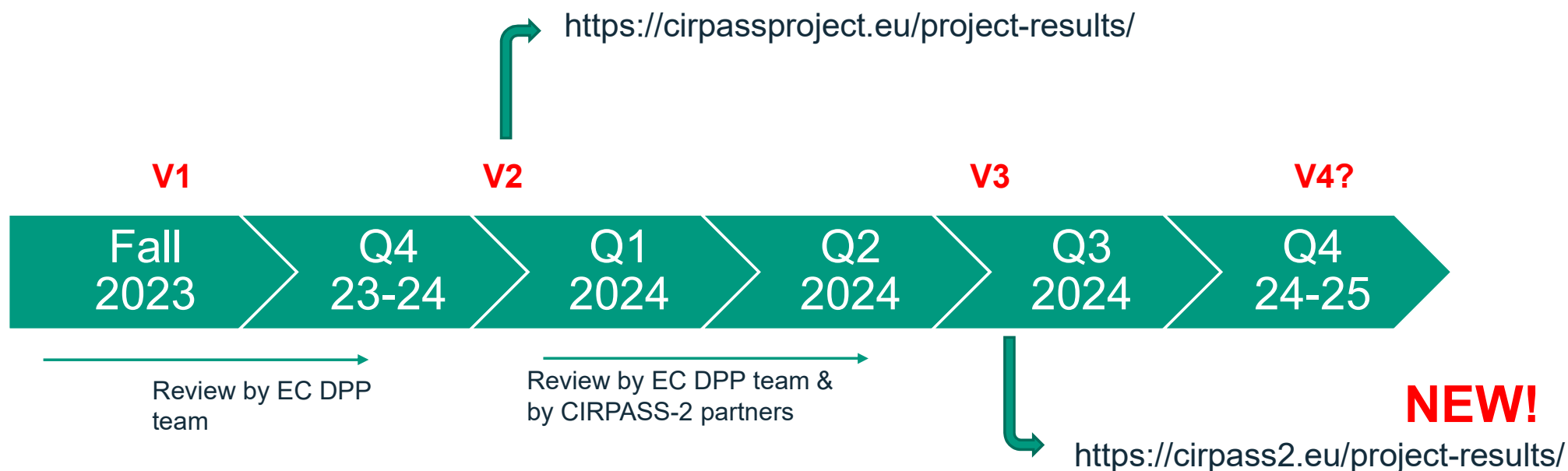
# Requirements for the DPP IT system – User stories



# Requirements for the DPP IT system – User stories



## ■ Publication history



# CIRPASS proposal for the DPP IT system (references)



<https://cirpassproject.eu/project-results/>

- 1/ The DPP is an information system for the Circular Economy.
  - “D3.2 DPP System Architecture” <https://cirpassproject.eu/wp-content/uploads/2024/06/D3.2v1.9.pdf> (Chapter 2.1)
- 2/ Flexibility should be maximized:
  - Choice of product identification scheme : “D3.3 Identification Schemes” [https://cirpassproject.eu/wp-content/uploads/2024/02/D3.3\\_IdentificationSchemes-v1.3.pdf](https://cirpassproject.eu/wp-content/uploads/2024/02/D3.3_IdentificationSchemes-v1.3.pdf) (Chapter 3 - Interoperability)
  - Choice of data hosting solutions : “D3.2 DPP System Architecture” <https://cirpassproject.eu/wp-content/uploads/2024/06/D3.2v1.9.pdf> (Chapter 2.2)
- 3/ Two parallel architectures allowing both a short-term roll-out and a longer-term innovation cycle (different paths to the same information):
  - “D3.2 DPP System Architecture” <https://cirpassproject.eu/wp-content/uploads/2024/06/D3.2v1.9.pdf> (Chapter 2.2.5)
  - <https://www.youtube.com/watch?feature=shared&v=qRhmnPCHmw8>
- 4/ Transport the data with the meta data : Use a semantic interoperability layer based on linked data concepts
  - “D3.2 DPP System Architecture” <https://cirpassproject.eu/wp-content/uploads/2024/06/D3.2v1.9.pdf> (Chapter 2.2.4)
  - “D5.1 DPP Prototypes” <https://cirpassproject.eu/wp-content/uploads/2024/05/D5.1-DPP-Prototypes.pdf> (Chapter 2)
  - <https://www.youtube.com/watch?feature=shared&v=5ZK-2JSLcQo>



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# Thank you!

[www.cirpass2.eu](http://www.cirpass2.eu)

Contact us : [info@cirpass2.eu](mailto:info@cirpass2.eu)



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