DIGITAL PRODUCT PASSPORT
Austrian Lighthouse Project

PACE-DPP

Promoting and Accelerating Circular Economy
by Digital Product Passports

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Project Coordinator

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PACE-DPP
Digital Product Passport

Funded by

Federal Ministry
Republic of Austria
Climate Action, Environment,
Energy, Mobility,
Innovation and Technology

FFG
Promoting Innovation.

DLR Projektträger

Supported by:

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Ecodesign Sustainable Products Regulation

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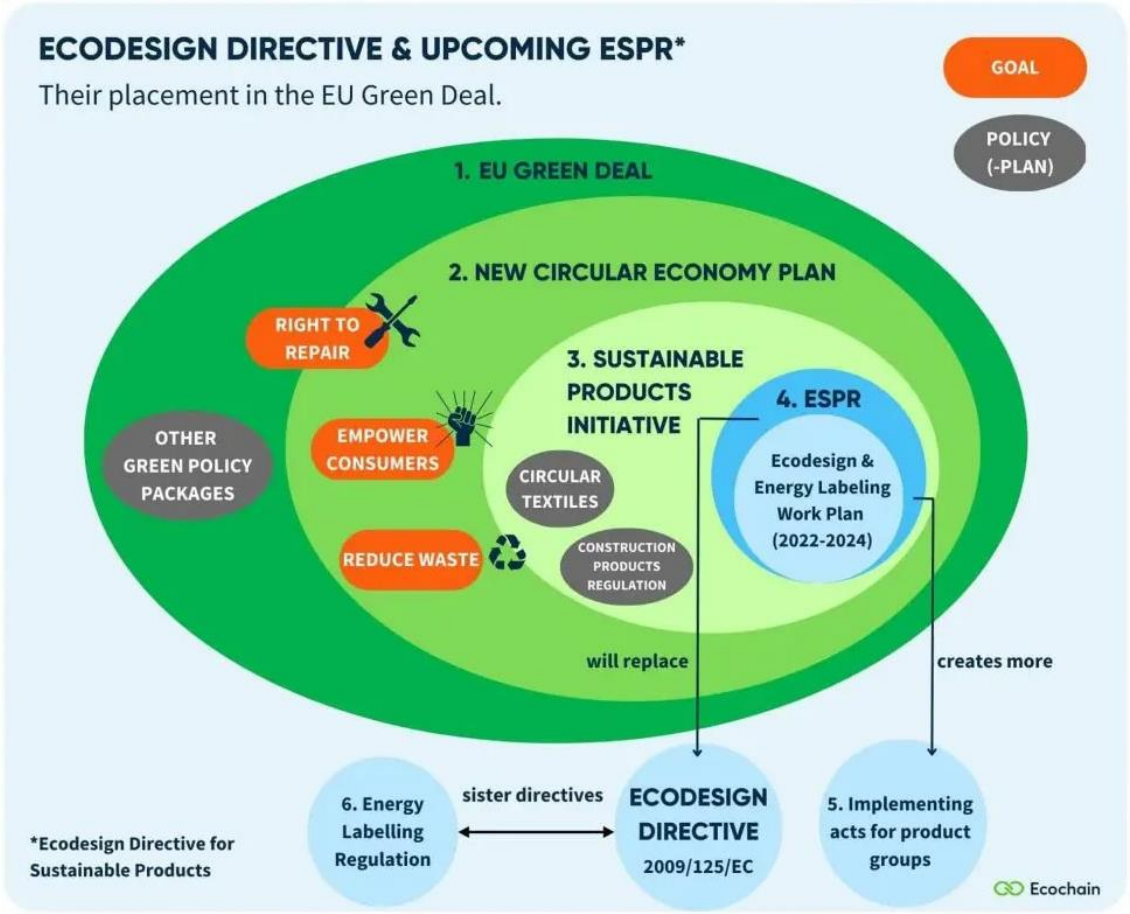

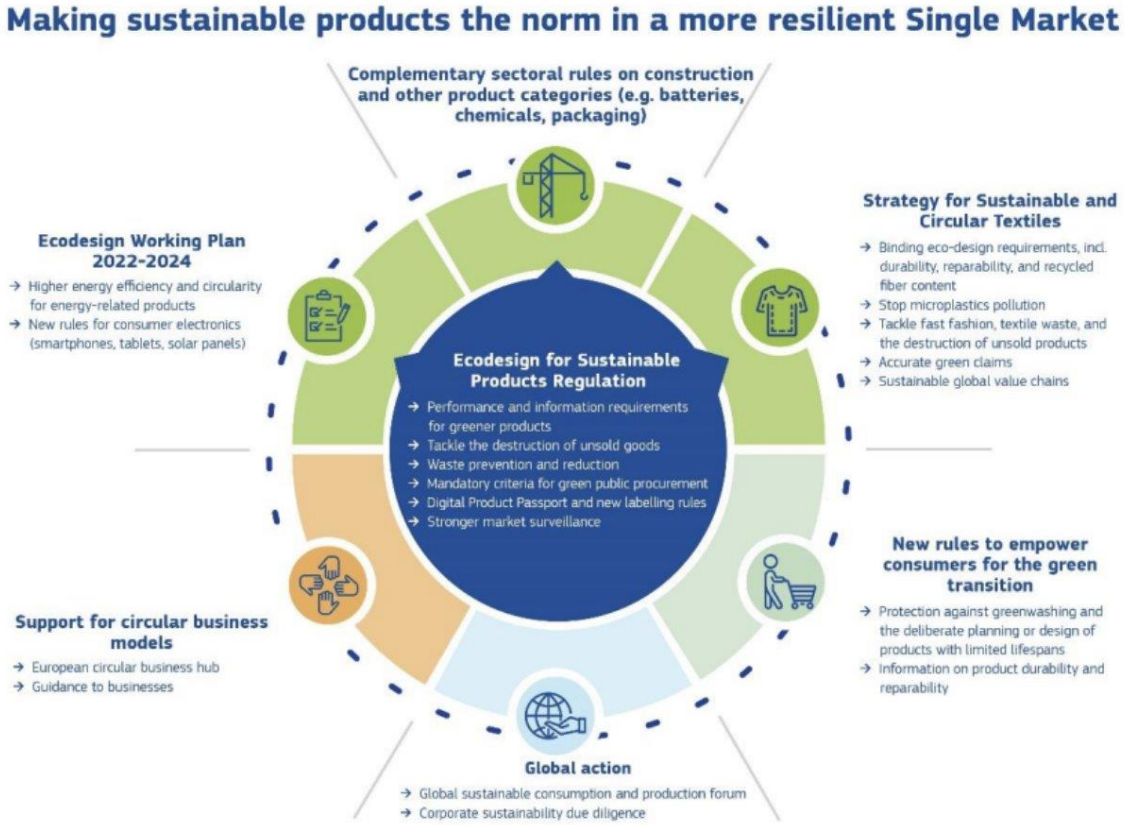

Overview of initiatives in the Circular Economy package

Ecodesign Sustainable Products Regulation

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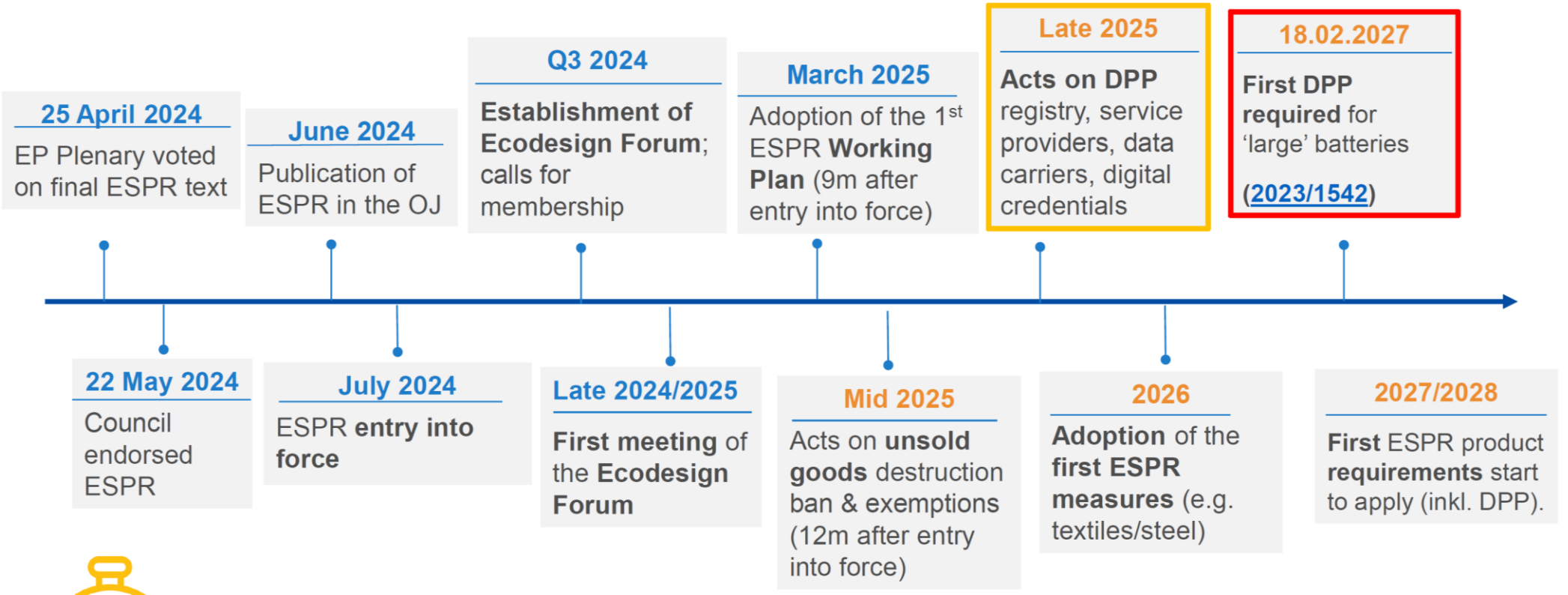
ESPR: tentative timeline & milestones



European Commission

Source: https://www.wko.at/oe/energie/digitaler-produktpass.pdf

Battery Passport

Battery Passport Data Attribute Longlist
December 2023
Version 1.1
See also the notes in the "Instructions" Tab for more information. Changes to this list might occur as the technical working group of the Battery Pass proceeds its work.

Battery Pass

Battery categories:
x = mandatory per Battery Regulation;
(x) = mandatory per other regulation;
(o) = voluntary.

#	EV	LMT	Other Industrial >2kWh	Stationary >2kWh	Attribute category	Attribute sub-category	Attribute	Definition/Understanding by Battery Pass consortium	Requirements/Definition per Regulation(s)		
1	x	x	x	x	General battery and manufacturer Information	Identification	**Battery passport identification**	Unique identifier allowing for the unambiguous identification of each individual battery and hence each corresponding battery passport (exploration of a potential additional battery passport identifier (not requried per Battery Regulation) ongoing).	A unique identifier is defined as "a unique string of characters for the identification of batteries enables a web link to the battery passport" (Art. 3(66)), to be attributed by the economic opera battery on the market (Art. 77(3)). The unique identifier shall comply with the standard (ISO/IEC or equivalent (Art. 77(3)). A QR code shall provide access to the battery passport and be linke identifier (Art. 77(3)). Batteries shall "bear a model identification and batch or serial number, o number or another element allowing their identification" (Art. 38(6)).		
2	x	x	x	x	General battery and manufacturer Information	Identification	**Battery identification**	Model identification and batch or serial number, or product number or another element allowing their identification	Unambiguous identification of an individual battery. Batteries shall "bear a model identification serial number, or product number or another element allowing their identification" (Art. 38(6)).		
3	(o)	(o)	(o)	(o)	General battery and manufacturer Information	Identification	**Responsible economic operator identification**	State the name, trade name or mark, postal address, web ad-dress, e-mail address. Suggested reporting via a unique operator identifier (see requirements of unique battery identifier).	Identifier of the responsible economic operator		
4	x	x	x	x	General battery and manufacturer Information	Identification	**Manufacturer's identification**	Unambiguous identification of the manufacturer of the battery, suggested via a unique operator identifier (as "unique string of characters for the identification of actors involved in the value chain of products", ESPR Art. 2(32)).	Manufacturer's identification by stating the name; registered trade name or registered tradema address, indicating a single contact point; a web address, where one exists; an e-mail address exists (Art. 38(7)). Manufacturer as "any natural or legal person who manufactures a battery or designed or manufactured, and markets that battery under its own name or trademark or puts its own purposes" (Art. 3(33)).		
5	x	x	x	x	General battery and manufacturer Information	Identification	**Manufacturing date**	Manufacturing date (month and year), suggested in form of manufacturing date codes.	Manufacturing date (month and year)		
6	x	x	x	x	General battery and manufacturer Information	Identification	**Manufacturing place**	Unambiguous identification of the manufacturing facility (e.g. country, city, street, building (if needed)), suggested via a unique facility identifier (as "unique string of characters for the identification of locations or buildings involved in the value chain of a product or used by actors involved in the value chain of a product", ESPR Art. 2(33)).	"Geographical location of a battery manufacturing facility"		
7	x	x	x	x	General battery and manufacturer Information	General characteristics	**Battery category**	Intended use of the battery.	Categories relevant for the battery passport: 'LMT battery', 'electric vehicle battery' or 'industri latter includes the subcategory 'stationary battery energy storage system' complemented by " batteries" (Art. 2).		
8	x	x	x	x	General battery and manufacturer Information	General characteristics	**Battery weight**	Mass of the entire battery in kilograms. Voluntary: if the battery is defined on pack or module level: also weight of the modules and/or cells.	Weight of the battery	Annex XIII (1a) → Annex VI Part A (5)	kg
9	x	x	x	x	General battery and manufacturer Information	General characteristics	**Battery status**	Lifecycle status of the battery. Status defined from a list, with the options suggested as follows: 'original', 'repurposed', 'reused', 'remanufactured', 'waste'.	Information on the status of the battery, defined as 'original', 'repurposed', 'reused', 'remanufactured' , or 'waste'.	Annex XIII (4c)	-
10	x	x	x	x	Compliance, labels & certifications	Conformity	**EU declaration of conformity**	EU declaration of conformity signed by responsible economic operators to declare compliance with the regulatory requirements in the context of the market conformity	The EU declaration of conformity shall state that the fulfilment of the requirements set out in Articles 6 to 10 and 12 to 14 [of the Battery Regulation] has been demonstrated. Annex IX gives details about necessary	Annex XIII (1r) → Art. 18; Annex IX	-

Source: https://thebatterypass.eu

Battery Passport

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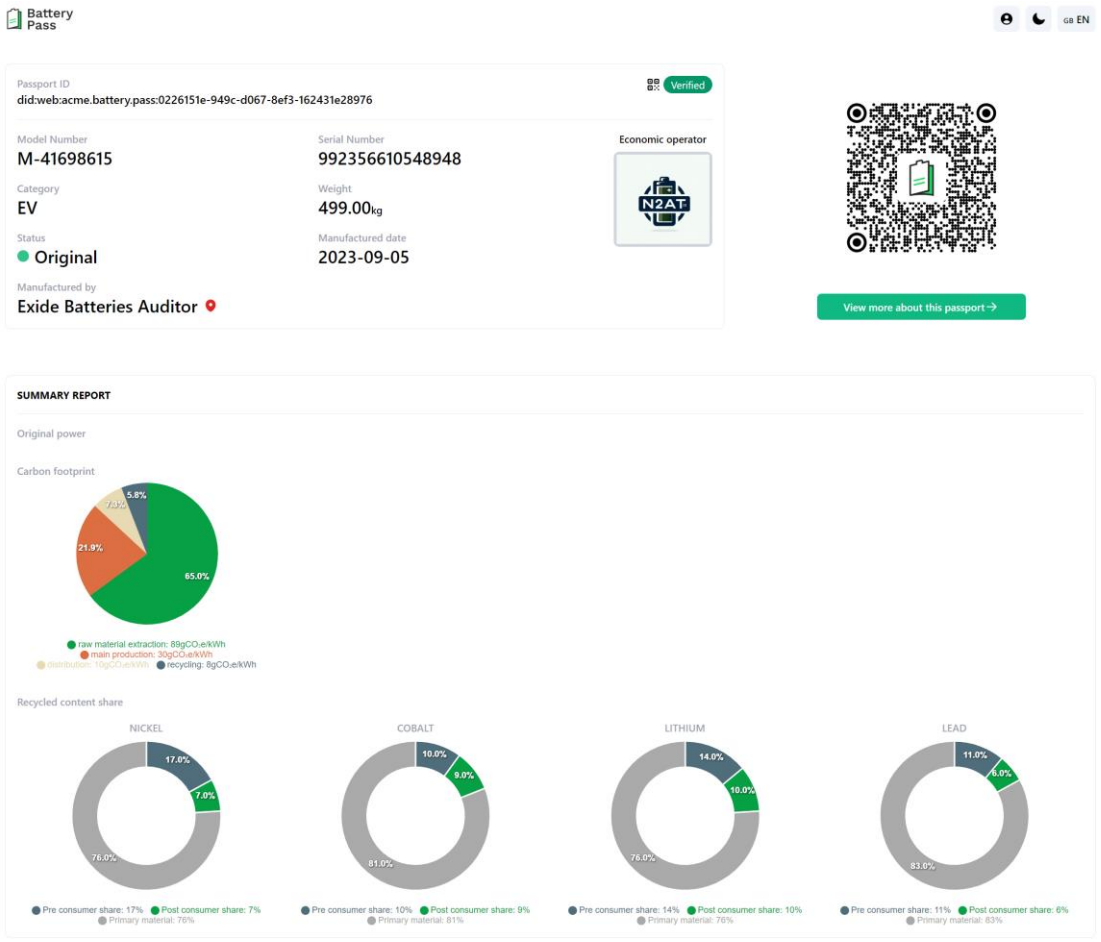

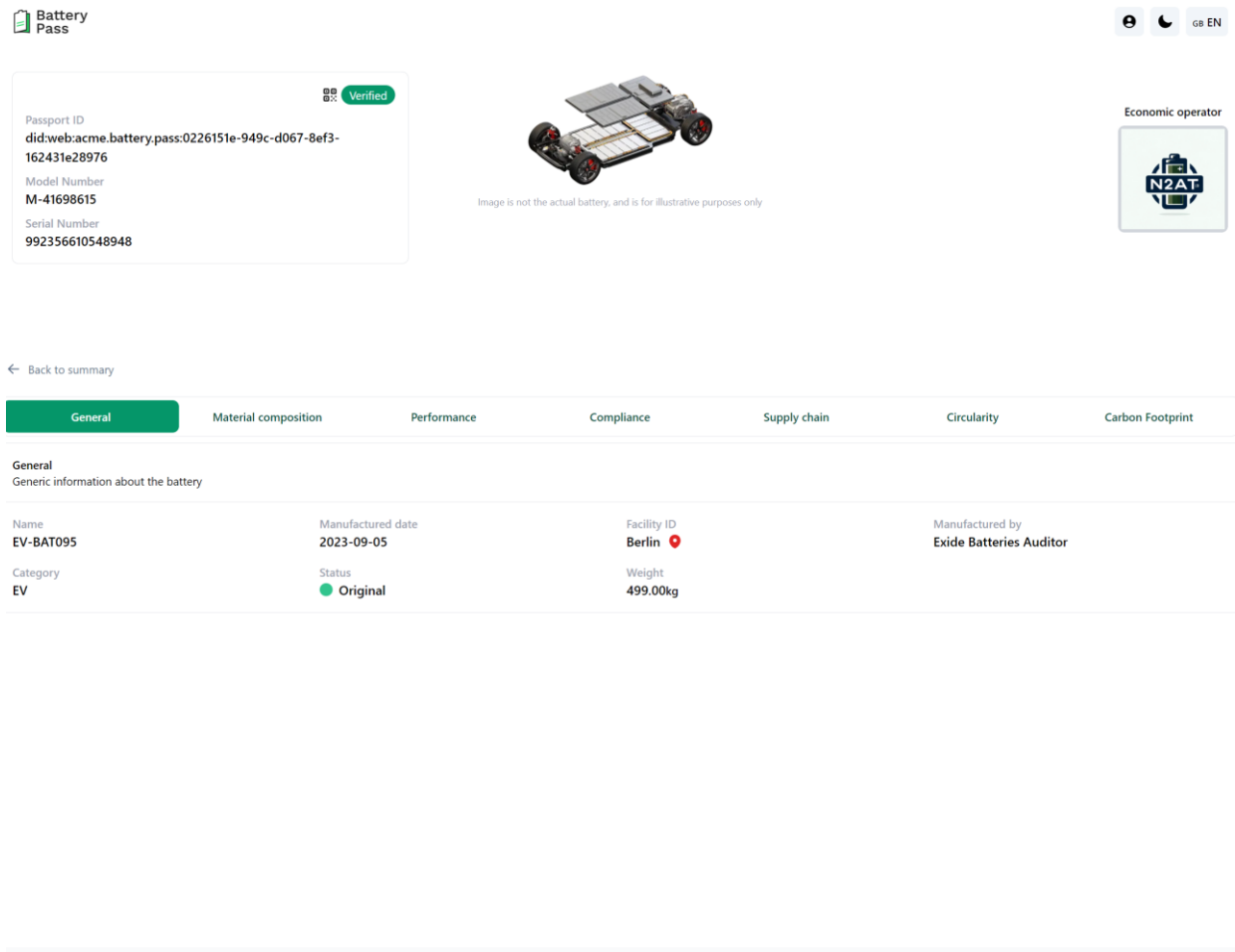

Source: https://thebatterypass.io/en/did:web:acme.battery.pass:0226151e-949c-d067-8ef3-162431e28976

Objectives

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Digital Product Passport

- **O1**: Evidence-based elaboration of highly relevant framework conditions and requirements for supporting an accelerated Digital Product Passport market-uptake.
- **O2**: Future-proof demonstration of technological breakthroughs for enabling Digital Product Passport based Data-Service Ecosystems.
- **O3**: Multi-dimensional improvement of Circular Economy based on intensive Digital Product Passport utilization.
- **O4**: Value-chain engagement by a Digital Product Passport based Data-Service Ecosystem for ensuring a sustainable implementation of projects outcomes.

… going beyond → WP3 DPP Security Node

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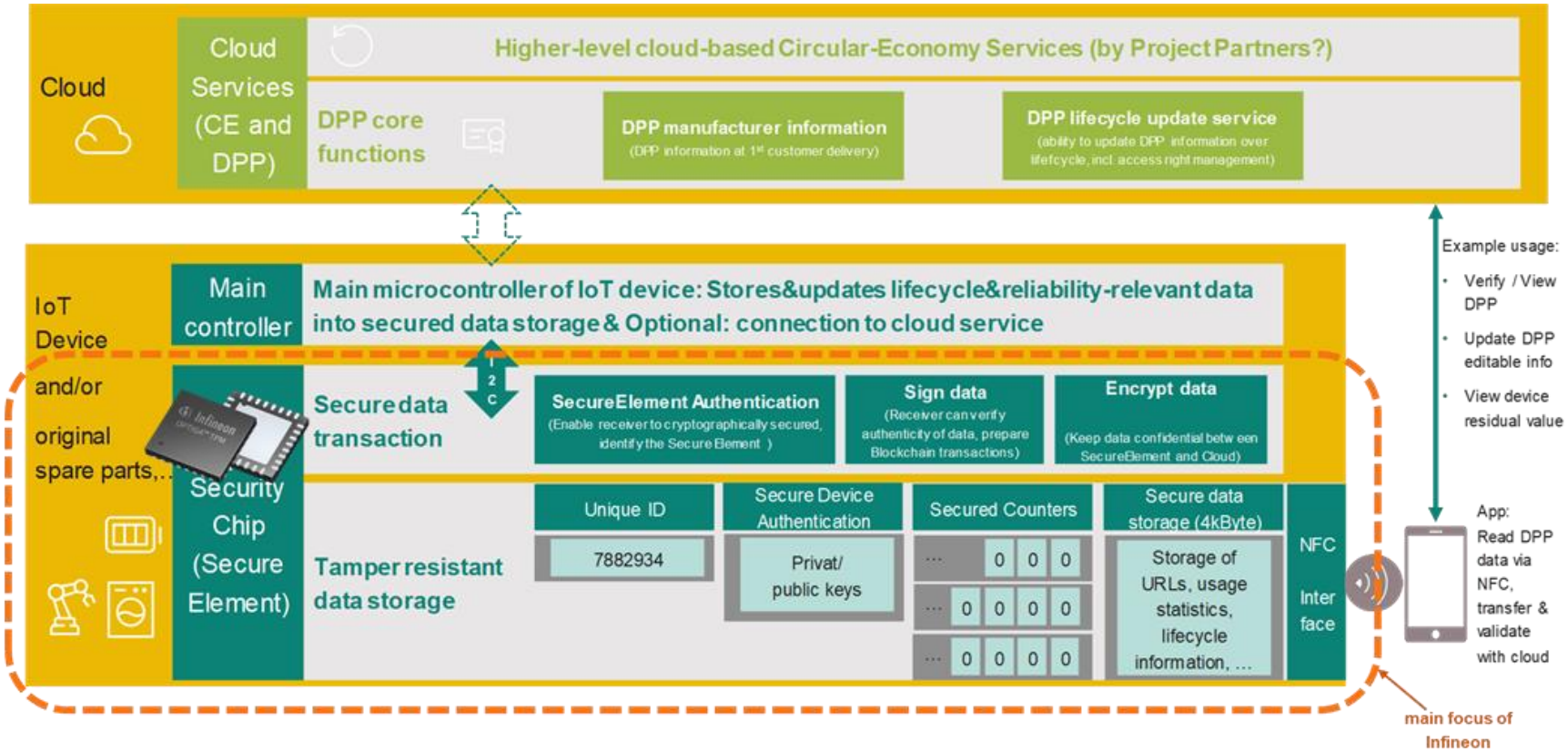
- Challenges*: Security Chip FW; DPP Node FW & multi-interface (NFC, 5G, …); energy optimization
- Innovations: DPP Security Chip, DPP Node, HW / SW and Cloud Applications integration



*ECS SRIA 2024 – Foundational Technology Layers: 1.4 System of Systems → Main Challenges; https://ecssria.eu/2024_1.4

… going beyond → WP4 DPP Data Spaces

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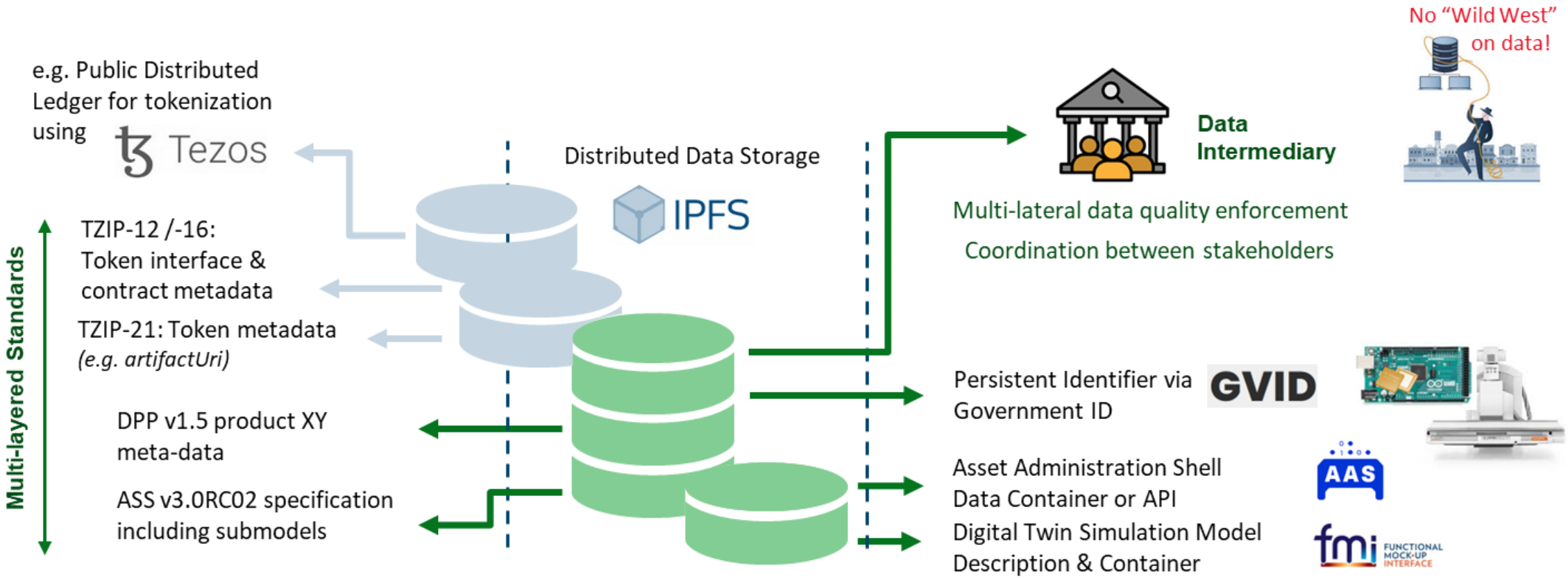
- Challenges*: multiple meta-data (versions, products); conflicting interests of stakeholders
- Innovations: multi-layered DPP meta-data specification; coordination by data intermediaries



** Ducuing C., Reich R.H.: Data Governance: Digital Product Passport as a Case Study, Competition and Regulation in Network Industries 24(4), 2023*

… going beyond → WP7 DPP Service EcoSystem

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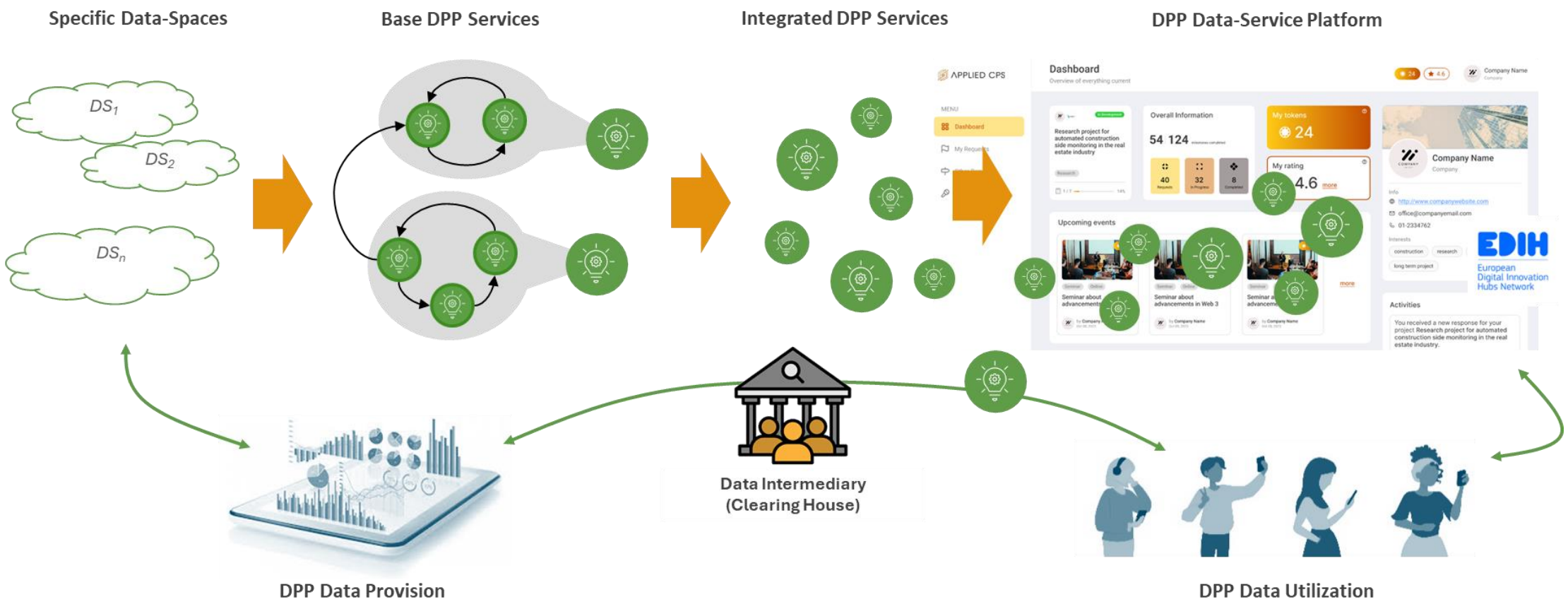
- Challenges: availability of data, access management, lightweight & rapid DPP usage & uptake
- Innovations: Semantic Match-Making; Decentral DPP-Service Platform; Innovative Business Solutions



Use Case – E-Devices

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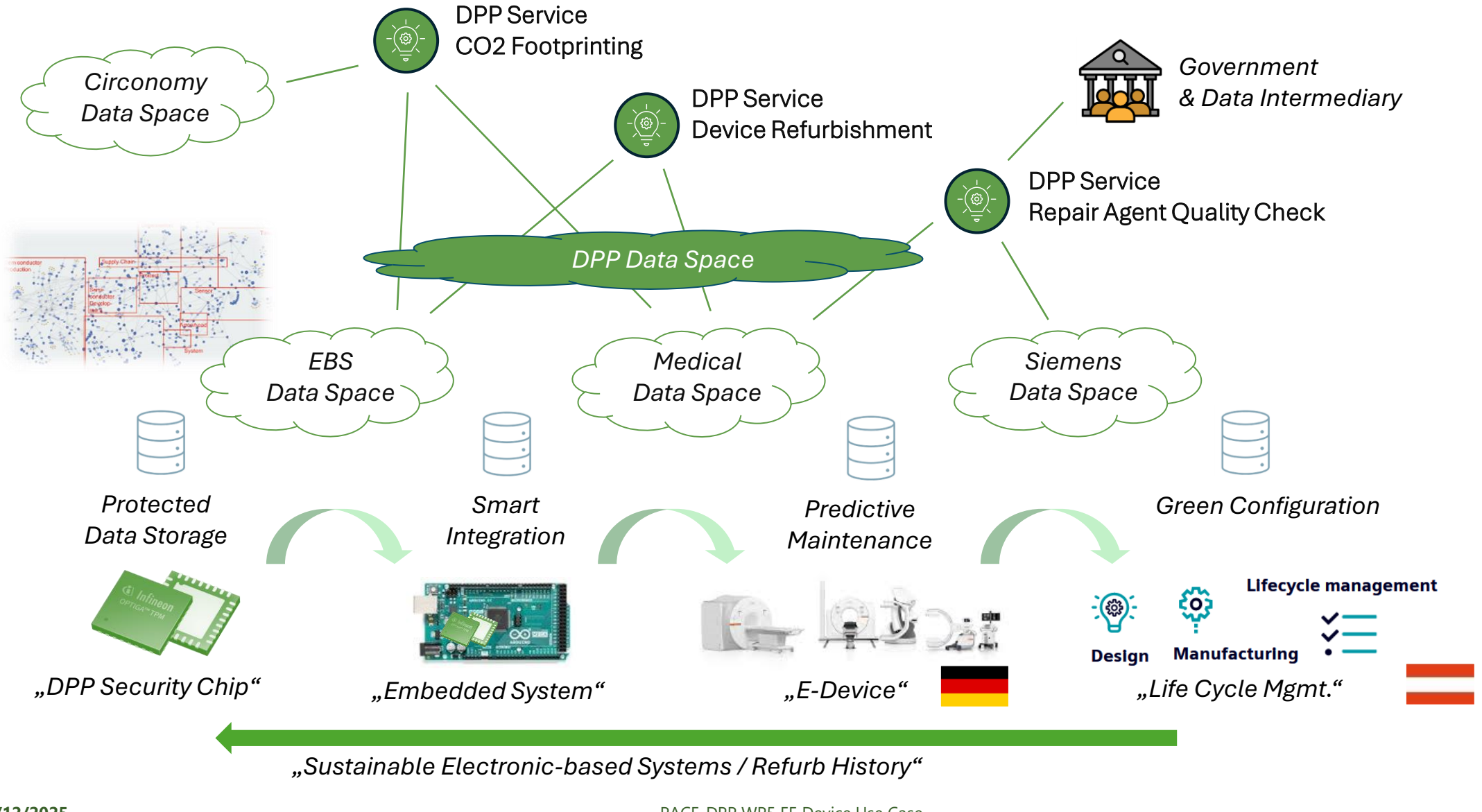

Use Case – Wood, Pulp, Paper

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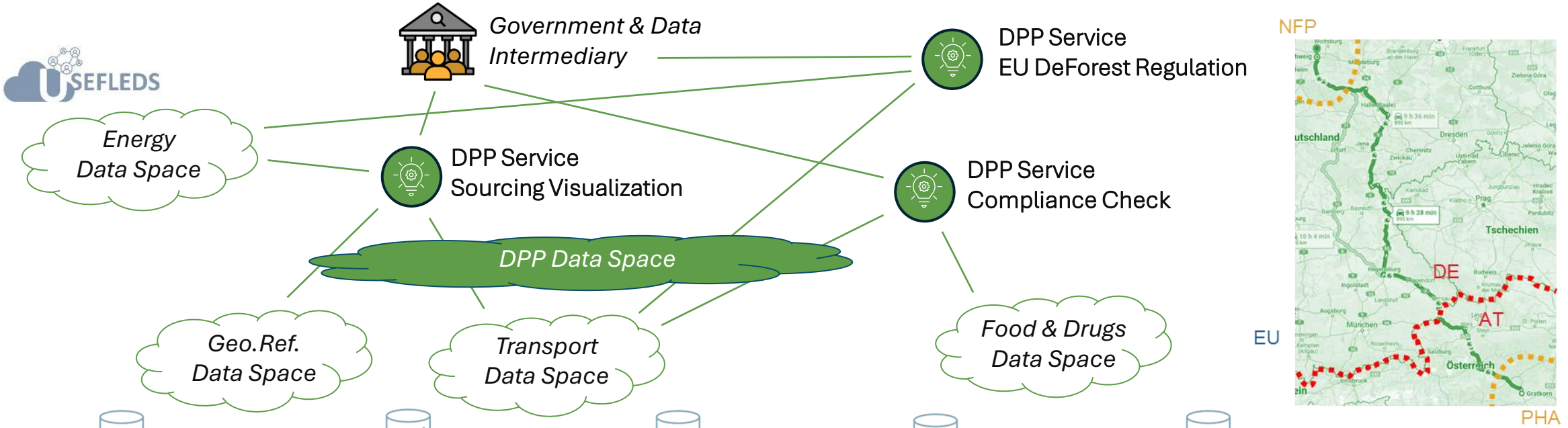

DPP-enriched Circular Economy

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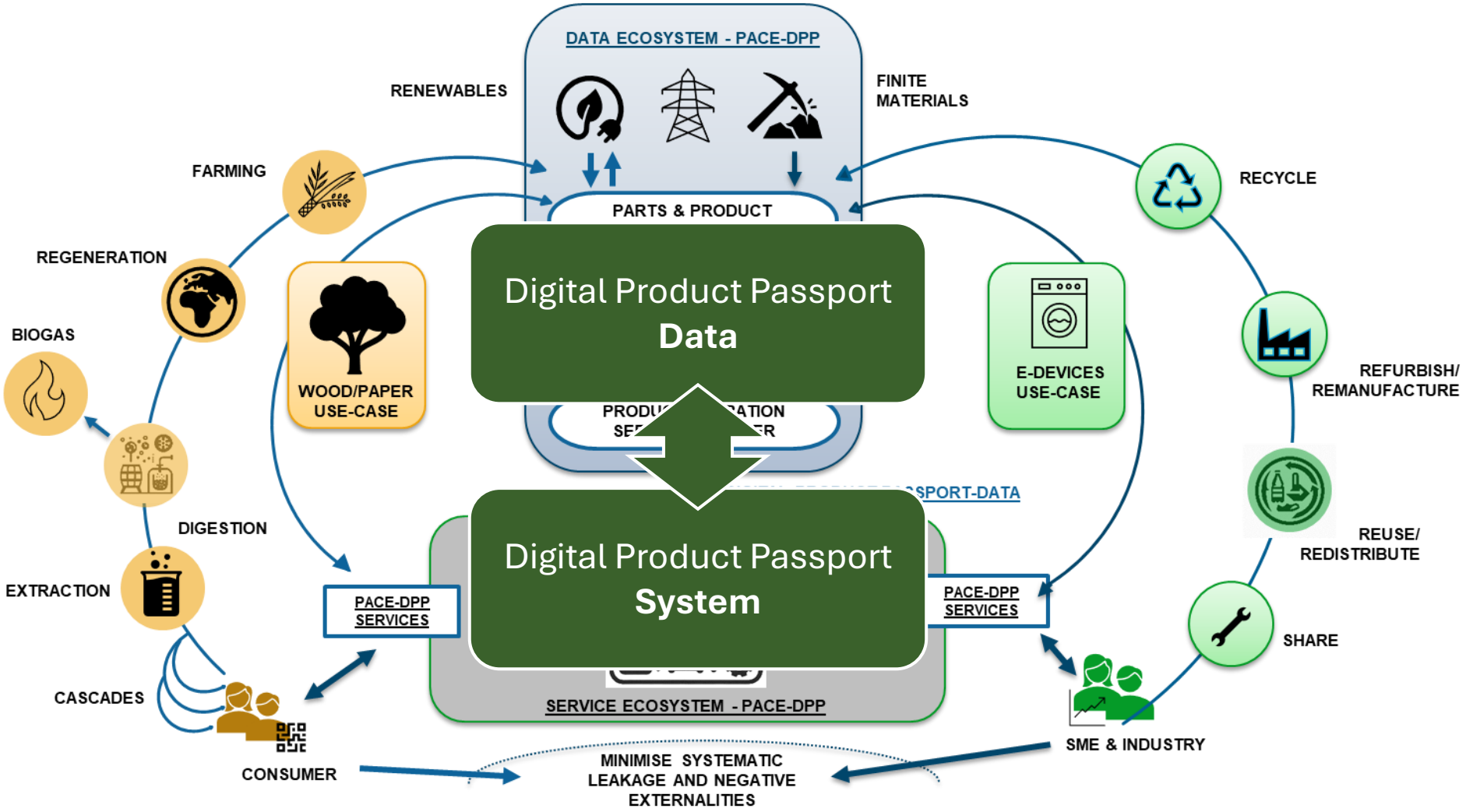

Background: Ellen MacArthur Foundation Circular economy systems diagram, 2019; Drawing based on Braungart & McDonough, Cradle to Cradle (C2C)

www.dpp-austria.at

PACE-DPP
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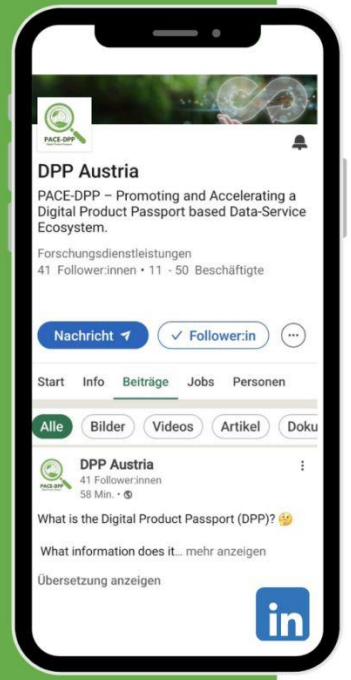
PACE-DPP – Promoting and Accelerating a Digital Product Passport based data-service ecosystems – is motivated by providing guardrails and solution bricks for tackling the basic technological and regulatory challenges for a smooth instantiation of DPP-based Ecosystems.

Industrial relevant applications from supply-chains in electronics and wood/pulp/paper industries provide a solid basis for use-case driven experimentation with key enabling digital technologies like Data Spaces and Digital Twins.

The essential result will represent the provision of lightweight accessible DPP services for unleashing the hidden potential of innovative circular economy business models, within the context of the European Green Deal.



FOLLOW
@DPP AUSTRIA

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Digital Product Passport Austria is initiated by the project PACE-DPP and supported by the following partners.

virtual vehicle
infineon
hochschule burgenland Forschung
KRONE
PAPIERHOLZ AUSTRIA
MEDS
OYD OwnYourData
RSAFG Research Studios Austria Forschungsgesellschaft
SAL SILICON AUSTRIA LABS
SETLabs software enabled technologies
SIEMENS
sustainista
Technische Universität Berlin
TU WIEN
as automation systems

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DLR Projektträger

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DLR Projektträger Luftfahrtforschung

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