



Battery Pass *ready*

Supported by:



Federal Ministry
for Economic Affairs
and Energy

on the basis of a decision
by the German Bundestag

Delivering a test environment to advance
battery passport readiness



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Key Facts on BatteryPass-Ready

Pre-competitive project to **support industry & SMEs** in implementing battery passports **by delivering a test system & guidance, co-funded by the Federal Ministry for Economic Affairs and Energy (BMWE)**

Four **work packages** including:

1. System requirements and stakeholder needs
2. Test system specification and implementation
3. Deployment, application and optimization
4. Project management and stakeholder involvement

Evolved from the [Battery Pass project](#)

2-year timeframe from April 2025 to March 2027

CONSORTIUM LEAD



CONSORTIUM PARTNERS



ASSOCIATED PARTNERS



Kick-off event of the BatteryPass-Ready project in Berlin in May 2025

The BatteryPass-Ready consortium draws upon a network of associated and supporting partners and guidance of its advisory council

Associated Partners

bitkom

VDA

Verband der
Automobilindustrie

VDMA

ZIV
DIE
FAHRRAD-
INDUSTRIE

90+ Supporting Partners

Our supporting partners include:

- **Industry & Value Chain Actors** – suppliers, manufacturers, downstream stakeholders
- **Service & System Providers** – consultancies, technical services
- **Research & Networking Stakeholders** – projects and initiatives, associations, academia, think tanks

Up-to-date supporting partners published on our [website partner section](#)

Advisory Council

Leading experts from associations, research organisations, and politics

Digital Battery Passport

Pioneer of digital product passports (DPPs) in the European Union

Digital Battery Passport

Battery Regulation:

Battery Passport mandatory from **18 Feb 2027** for:

- Electric vehicle (EV) batteries;
- Light means of transport (LMT) batteries;
- Industrial batteries > 2 kWh.

Responsibility:

- Economic operator¹ placing the battery on the market
- Indirectly: suppliers

DPPs in the EU

Ecodesign for Sustainable Products

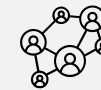
Regulation (ESPR) sets the technical framework + several other legislations include DPPs

Single Market Strategy:

- “The EU needs a paradigm shift from a document-based to a **data-based Single market** [...]”
- **DPP** will become the main tool across **all future product legislation**



Objectives of DPPs



Drive **digitalisation** in B2B, B2C and B2G (incl. burden reduction)



Enable shift from linear to **circular** business models



Support **sustainable** and transparent value chains



Much more than compliance

From BatteryPass to BatteryPass-*ready*

Building on previous work



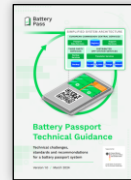
Content Guidance

WHAT data is included?



Technical Guidance

HOW to build it technically?



Demonstrator

HOW can it look in practice?



Value Assessment

WHY is it a value creator?



HOW to TEST my solution?



Test system, optimized with stakeholders



Guidance for industry & policy

BatteryPass *ready* creates a test environment

Responding to key challenges

Challenges in the DPP Ecosystem

High complexity of overall system

- Automated multi-organisation collaboration;
- High system load conditions.

Tight time frame

- Technical standards (JTC 24) by early 2026;
- Delegated acts ongoing for data standards.

Dynamic ecosystem and moving targets

- Changing system specification & data;
- Frequent validation needed.



Purpose of BatteryPass *ready*



Validate data completeness and plausibility



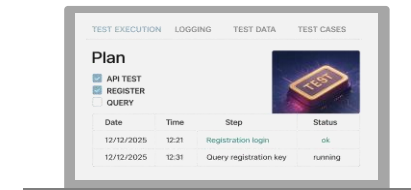
Verify system functions, consistency and interoperability



Guidance for policy and implementers

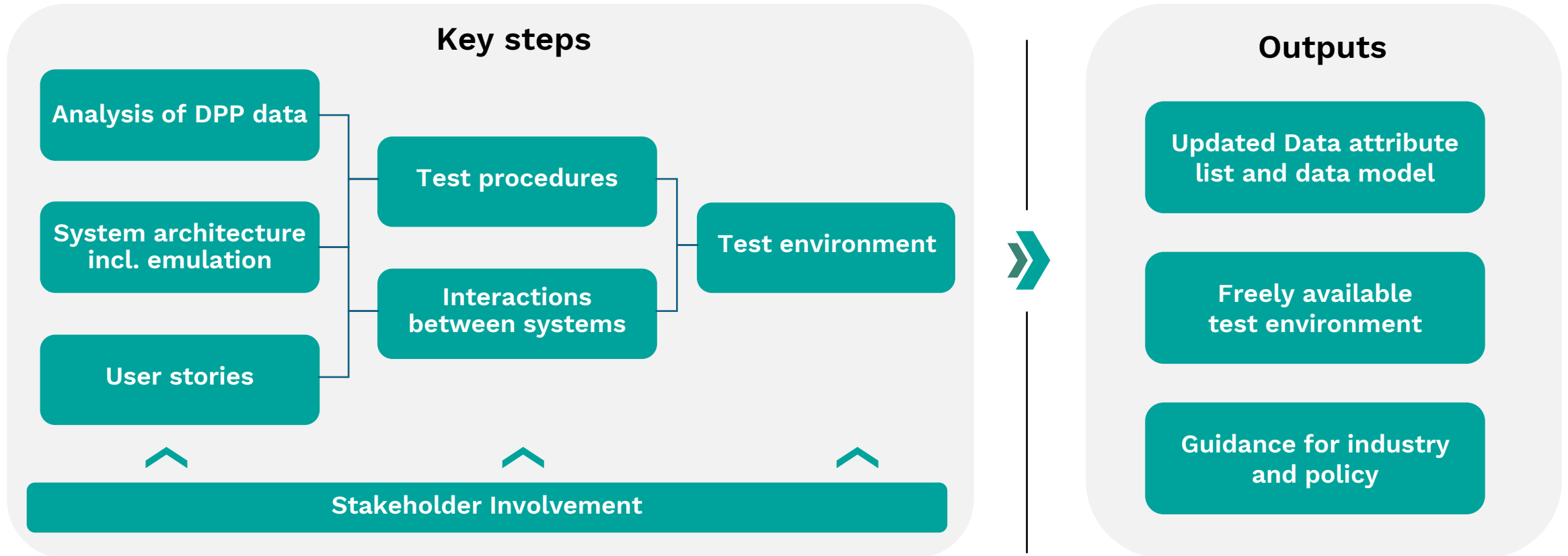


Describe options on operating model for test system



What will BatteryPass *ready* do concretely?

Key steps and outputs



Key Step: Analysis of battery passport data

DIN DKE Spec 99100 as starting point

Data categories for the battery passport¹ (select data attributes shown below)

Various data points are not defined in detail or still being specified through delegated acts and standardization efforts



Battery ID: 0101010
Battery passport ID: 111010
Responsible economic operator

Identifiers & product info

- Manufacturing info (identity, place, date)
- Battery category
- Battery mass
- Battery status

Labels and conformity

- Symbols and labels
- Meaning of labels & symbols
- Declaration of conformity
- Compliance of test results

Carbon footprint

- Carbon footprint (5 metrics)
- Weblink to CF study
- CF performance class

Supply chain due diligence

- Due diligence report

Materials & composition

- Hazardous substances
- Battery chemistry
- Critical raw materials
- Materials used in cathode, anode, electrolyte

Circularity & resource efficiency

- Recycled content shares
- Manuals for removal, disassembly, dismantling
- Component part numbers & spare parts information
- Safety measures/instructions

Performance & durability

- Capacity, energy, power, SoH
- Expected lifetime
- Negative events



Integrated
in test
procedures

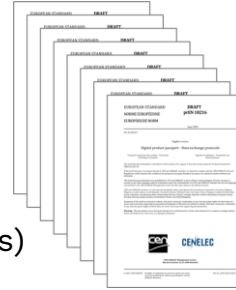


Key Steps: System architecture & interaction between systems

Based on JTC-24 standards

CEN/CENELEC JTC-24 prEN Drafts

- prEN 18216 – Data exchange protocols
- prEN 18219 – Unique Identifiers
- prEN 18220 – Data carriers
- prEN 18221 – Data storage, archiving, data persistence
- prEN 18222 – Application Programming Interfaces (APIs)
- prEN 18223 – System interoperability
- prEN 18239 – Access rights management, information system security, and business confidentiality
- prEN 18246 – Data authentication, reliability and integrity



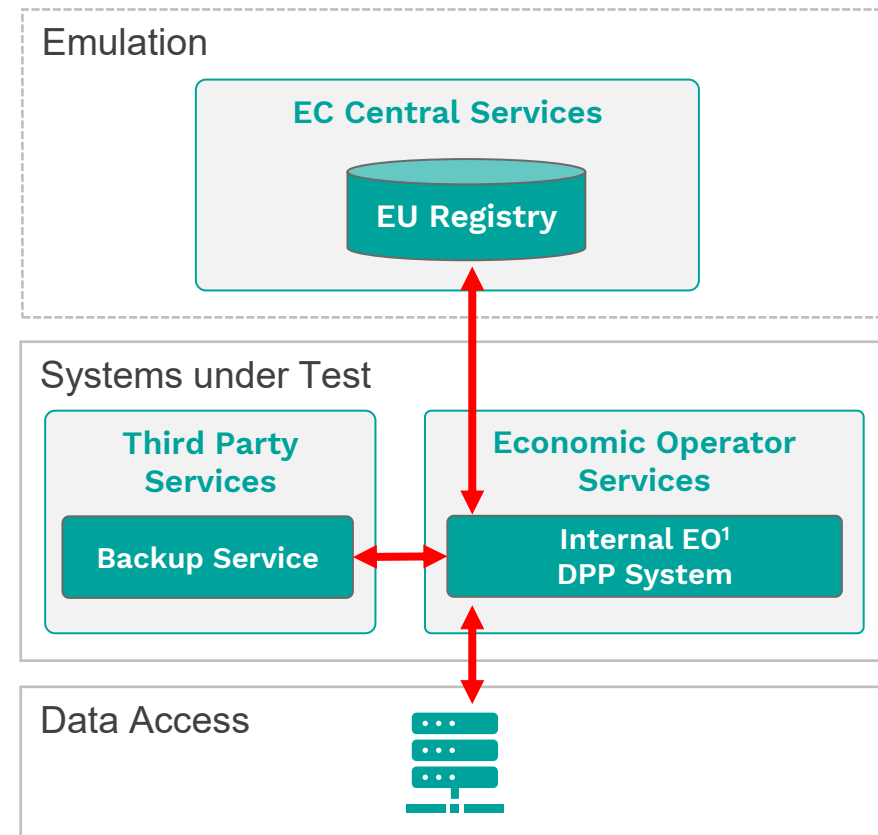
75 Comments
Submitted and presented to NSB Mirror Committee

Requirements derived
User stories, test scenarios, roles, technical specifications

First prototype developed
Initial tests of the test environment implemented

BatteryPass-Ready strives to fully implement JTC-24 standards

Interaction between systems



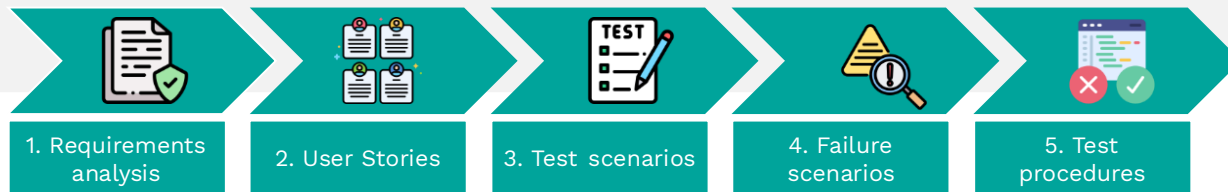
Focus: API Interaction

Key Steps: User stories & test procedures

Deriving the test environment's functions

Five Steps from requirements to concrete test procedures:

- 1) **Legal and technical requirements** are analysed to identify potential challenges in developing the IT infrastructure / battery passport.
- 2) **User stories structure the required processes** in the IT infrastructure / battery passport to be covered by the test environment (**see on the right**).
- 3) **Test scenarios extend user stories with user roles**, which are tested separately and cover possible scenarios along the DPP lifecycle.
- 4) **Failure scenarios** describe **specific test conditions** (e.g. failed/ passed), covering challenges in the implementation of battery passports.
- 5) **Test procedures** combine insights from the previous steps and represent the **testing options provided to the user in the test environment**.



Overview of user stories

-
- Place battery on the market (registration)
 - Reading of public battery passport data
 - Reading of controlled battery passport data
 - Updating of battery passport data
 - Deletion of battery passport
 - Searching for battery passport
 - Transfer of responsibility of battery
 - Import of battery
 - Export of battery
 - Repair of battery
 - Recycling of battery
 - Validation of Battery Passport data

Key Step: Building the test environment

Objectives and features to support the battery ecosystem

Objectives

Support compliance

The digital product passport requires transparent and verifiable data exchange between all actors.

Safeguard interoperability

Different systems (Economic Operator, registry, Backup Provider) must interact reliably.

Enable early testing

A dedicated test environment allows early validation before large-scale implementation.

Features



Provide a modular test system

to simulate real DPP interactions end-to-end.



Integrate standardized tests step by step

as they are defined in the project.



Foster continuous collaboration

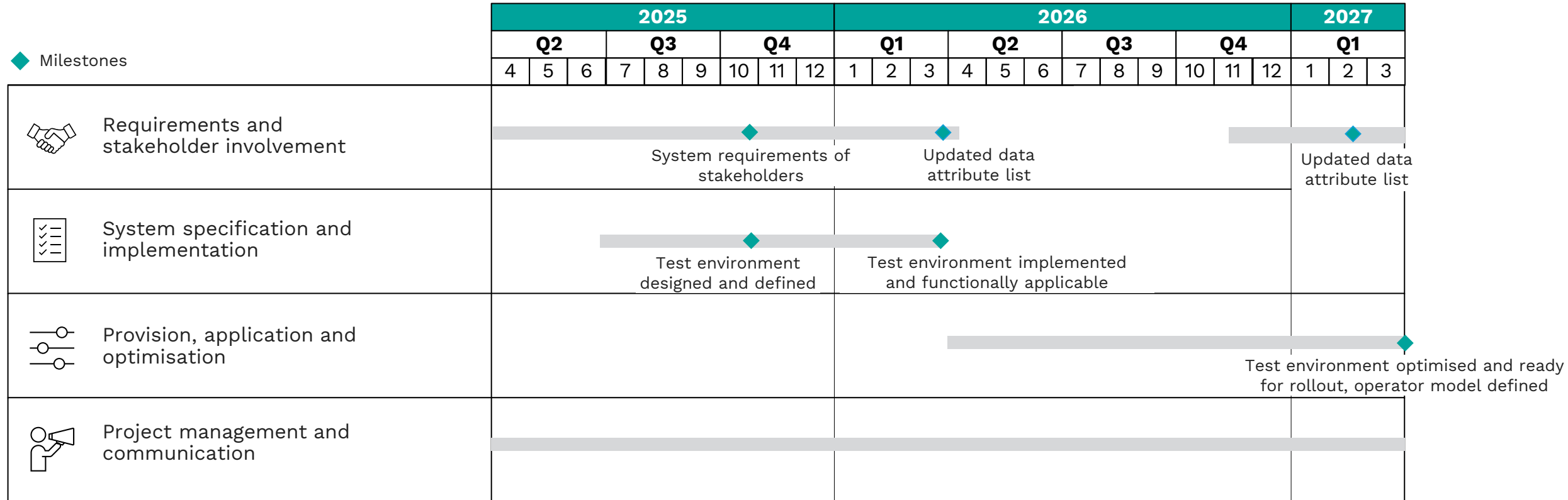
through iterative improvements and shared validation results.



Refine user interface and workflow

based on feedback from stakeholders and test users.

Project Timeline



Want to keep informed or get involved?

We appreciate your interest in „BatteryPass-Ready“ and welcome contributions. If you would like to learn more, follow us on [LinkedIn](#), subscribe to our [newsletter](#) or [contact us](#).



This project receives funding from the [German Federal Ministry for Economic Affairs and Energy](#) by resolution of the German Bundestag under grant agreement No 16BZF363C.