Batteries

The DPP Project Playbook

Battery Passport and Battery QR Information

From governance and data collection to production activation, rollout, regulatory follow-up and additional business value

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> Practical implementation guidance. This book is not a legal opinion or compliance certification. Check the specific product scope and current legislation before relying on it.

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How to use this book

A Digital Product Passport (DPP) programme is not a website project. It is a controlled operating process that starts with product classification and evidence, crosses procurement, engineering, quality, IT and factory operations, and continues after products leave the factory. Publishing a QR destination is often

the simplest step; keeping every identity connected to correct, approved and accessible information is harder.

This handbook is designed for a manufacturer, importer, brand or supply-chain business preparing a practical project. Use it alongside the GoodsTag industry readiness assessment and checklist. Its implementation recommendations are illustrative engineering and management practices. They are **not** assertions that every practice or data field is currently required by EU law.

Three ways to use the book. If you completed an assessment, start with your lowest-scoring dimensions and map each gap to the evidence and stage gates in the book. If you opened the guide directly from the GoodsTag resources library, complete the scoping worksheet first and follow the generic implementation plan. If you have several product categories, keep separate applicability matrices and production flows even if you use one platform and governance team.

What success looks like. A responsible product owner can identify a marketed product, find the correct evidence and approvals, prove the product-carrier association, show who can access which data, repeat this reliably at industrial scale, and demonstrate a documented way to react when law, products or suppliers change.

1. Executive playbook

The Battery Regulation already establishes a passport requirement from 18 February 2027 for EV batteries, LMT batteries and industrial batteries above 2 kWh. From that date all batteries must carry the Article 13 QR code, but the information destination is not the same for every category. This book therefore separates full passport deployment from the lighter QR-information track. The regulatory dataset must be checked against the Commission’s latest February 2027 data-point guidance; not every Annex XIII item is due on the first day.

A practical situation. A manufacturer sells 20,000 industrial energy-storage packs (>2 kWh) and 100,000 SLI batteries annually. Use one master-data programme, two fulfilment paths: serialised passport activation for energy-storage packs and category-specific QR-information publication for SLI. Publish two scorecards and avoid treating the SLI set as Article 77 passports.

Management decision: Fund the minimum legally applicable baseline, a representative end-to-end pilot, and a maintained process. Hold optional commercial features in a separately prioritised backlog. A readiness score is useful to sequence tasks; it is not a legal compliance determination.

The five decisions to secure first

1. **Scope:** which exact products, roles and dates are covered?
2. **Identity:** what does one digital record represent — a model, batch or physical item?
3. **Evidence:** what data is required, where it comes from, and who approves it?
4. **Industrial execution:** how is the right QR or other permitted carrier associated with the correct product before release?
5. **Continuity:** who owns updates, security, hosting, legal monitoring and supplier responses after go-live?

2. Product scope and regulatory status

Regulatory snapshot — 5 November 2026. Regulation (EU) 2023/1542: Article 13 and Annex VI (labelling/QR), Article 77 and Annex XIII (passport). Article 77 passport group is EV + LMT + industrial batteries >2 kWh. SLI, portable and smaller industrial batteries normally follow the Article 13 QR-

information route, with SLI-specific recovered-material information where required. Review the Commission's official FAQ for phasing, access rules and lifecycle events.

Applicability triage. Classify each battery by legal category before discussing software: EV; LMT; rechargeable industrial above 2 kWh; other industrial; SLI; portable. Confirm capacity, intended use, economic-operator role, placement date and any applicable derogations. An industrial product at exactly 2 kWh is not in the "greater than 2 kWh" passport group merely because its technology is similar.

Classification worksheet

Decision	Ask	Record
Product class	What exactly is placed on the EU market?	Catalogue / technical definition
Market role	Who is manufacturer, importer or distributor?	Entity and obligations
Data level	Model, batch or item?	Enacted legal basis or "open"
Carrier	Product, label, packaging, accompanying document?	Legal basis + proposed design
Release date	Which published application date?	Source + regulatory sign-off
Extra products	Do adjacent categories have different obligations?	Separate compliance track

The scope register should record product exclusions and borderline cases as carefully as included products. Review the matrix on each new product launch or relevant regulatory update. Never derive a mandatory date solely from an EU working-plan year.

3. Make DPP delivery a governed business programme

Start with accountable ownership. Appoint one executive sponsor (budget, cross-functional decisions), one DPP programme owner (scope and milestones), a regulatory product owner (legal interpretation), a product-data owner (fields and evidence), an IT architect (interfaces and security) and an operations owner (factory or labelling procedures). For outsourced production, name a corresponding partner owner. A governance meeting without named decision rights is not governance.

Use a single decision log. When stakeholders disagree about identifier granularity, whether a field is public, or when to print a label, write down the options, evidence, approver, date and re-review trigger. The legal decision must be approved by competent counsel or compliance leadership; a software vendor should implement it, not silently decide it.

Suggested working rhythm: a weekly 30-minute delivery review; a biweekly supplier-data and exception review; a monthly steering meeting for budget and risk decisions; a quarterly legal and business-value review after go-live. Set escalation thresholds (e.g. failed factory reconciliation or critical evidence missing) in advance, rather than improvising under launch pressure.

Minimum RACI

Workstream	Accountable	Responsible contributors	Evidence of completion
Regulatory scope	Regulatory leader	Product, legal, sales	Signed applicability matrix
Dataset and provenance	Product-data owner	R&D, procurement, quality	Versioned data dictionary

Workstream	Accountable	Responsible contributors	Evidence of completion
Identifiers and carriers	Operations owner	Master data, packaging, IT	Approved ID and label specification
System integration	IT owner	ERP/MES/PLM partners	Test and exception report
Supplier onboarding	Procurement leader	Regulatory, suppliers	Supplier evidence tracker
Release and audit	Quality leader	Regulatory, production	Signed go-live gate
Regulation monitoring	Regulatory leader	Legal, product owner	Change register and impact decisions

Programme charter — fill this before choosing a platform

- **Products and markets:** [which product families, EU operators, countries and release dates]
- **Mandatory baseline:** [which enacted provisions apply now and from what dates]
- **Preparedness backlog:** [anticipated sector rules and optional business-value extensions]
- **Delivery boundary:** [one pilot site/line, one product family, integrations and suppliers]
- **Success condition:** [measurable product-data, carrier, activation and availability gates]
- **Budget envelope and owner:** [approved figure, contingency, who can change it]
- **Excluded scope:** [what this pilot deliberately will not deliver]
- **Decision to proceed:** [names, date, open conditions]

The charter should explicitly state how to handle ambiguous categories, outsourced operations, new product introductions and markets outside the EU. Otherwise the scope expands until the pilot becomes untestable.

4. Build the evidence and supplier-data foundation

Begin with a data dictionary, not a collection campaign

Take a representative product and list the actual information objects that engineering, procurement, quality, production and customers already use. Label every data item **binding requirement**, **conditional requirement**, **future candidate** or **optional business enhancement**. Ask the regulatory owner to validate the labels; they are not interchangeable.

Sector evidence priorities for a first pilot:

Data/evidence object	Proposed system or owner	Validation to plan
Legal battery category and battery model	ERP / PLM / MES / QMS / supplier	Correct model, batch or item applicability
Unique item identifier and serial-to-product mapping for passport batteries	Regulatory / engineering / procurement	Approved source, unit, version and access class
Manufacturing plant and production month/year where applicable	Regulatory / engineering / procurement	Approved source, unit, version and access class
Battery chemistry and nominal performance parameters	ERP / PLM / MES / QMS / supplier	Correct model, batch or item applicability

Data/evidence object	Proposed system or owner	Validation to plan
Conformity documentation and applicable safety evidence	Regulatory / engineering / procurement	Approved source, unit, version and access class
Supplier component/BOM and regulated-substance data	Regulatory / engineering / procurement	Approved source, unit, version and access class
Battery status/health/lifecycle updates when applicable	ERP / PLM / MES / QMS / supplier	Correct model, batch or item applicability
Access-right classification for public, authority and legitimate-interest data	Regulatory / engineering / procurement	Approved source, unit, version and access class
QR destination for Article 13-only categories	Regulatory / engineering / procurement	Approved source, unit, version and access class
SLI recovered cobalt, lead, lithium and nickel content information as applicable	ERP / PLM / MES / QMS / supplier	Correct model, batch or item applicability

Supplier onboarding playbook

Start upstream with cell, module, BMS and pack suppliers. Define what is required at pack-model level versus individual-battery level, provenance of tests, production-site attribution, and the rules for supplier updates. Do not assume that a supplier's carbon footprint or due-diligence figure is mandatory on the February 2027 passport; maintain it in a phased data backlog when the underlying legal obligation is later.

Send suppliers a controlled template, an example filled record and a two-way clarification channel. Request documents with a version, product scope, test method and responsible issuer. Set an SLA and fallback for smaller suppliers. Record "not available" and "not applicable" separately; neither should silently become zero. After approval, changes to materials, sites, process or methodology should trigger a refresh of affected records.

Evidence maturity ladder

Maturity	What it means	Next action
0 — unknown	No owner and no source	Identify product family and owner
1 — manual	Data held in email/PDF/spreadsheet	Version and link to product identity
2 — controlled	Named owner, checks, approval	Standardise taxonomy and updates
3 — integrated	Repeatable imports and validation	Monitor exceptions and supplier SLA
4 — industrialised	Controlled, observable, versioned production	Scale, test recovery and optimise

5. Evidence, approval and publication quality

A record can be complete but wrong. Distinguish **existence**, **validity**, **recency**, **applicability** and **provenance** for every critical field. A declaration dated yesterday is not suitable when it refers to a different formulation, production plant or model. Attach the field to the specific product entity to which the source applies: model, formula revision, material, batch, serial number or facility.

Run an approval workflow with clear states: *draft → supplier or owner review → validated → released → superseded/withdrawn*. The DPP should be published only from released information. Updates should

never overwrite the historical basis needed to explain what was presented for a product on a given date. Define who can correct a production incident, what changes require re-approval, and which downstream viewers require notifications.

Data acceptance tests, not just a spreadsheet review:

1. Import data with an incorrect unit and confirm it is rejected or normalised explicitly.
2. Change a product formulation, component or relevant supplier and verify that dependent approvals are invalidated.
3. Withdraw supporting evidence and confirm affected product records enter a review queue.
4. Attempt to publish a record without a mandatory applicable field and observe a blocked release.
5. Retrieve a historical product record with its original approval timestamp and evidence.
6. Test that public, authority, supplier and repairer roles see only the information permitted for them.

A **data contract** should declare field names and types, permissible units, data owner, granularity, validation checks, allowed access class, refresh trigger and evidence location. Where legal acts leave details unsettled, classify the field as proposed rather than mandatory; change the label only after regulatory sign-off.

6. Design identifiers, physical carriers and production activation

From approved information to a physical product

For serial-level packs, obtain or generate each identifier, pair it with the pack serial number, apply/verify the carrier and create an event that records the correct physical pack, line, lot, model and activation state. Reject duplicate or orphan identities. Test rework, label replacement, scrap, offline lines and commissioning after pack end-of-line test. SLI or portable-battery QR deployments may use a model-level destination, but must still verify correct artwork, battery category and required information.

Minimum operational sequence: `approve product data → reserve/derive identifier → prepare carrier artwork or print job → bind identifier to intended product identity → verify scan and physical association → publish/activate as legally appropriate → reconcile released output → monitor and update`. The precise order of registry submission, publication and physical commissioning must follow the applicable product law and factory design.

Do not define “activation” as automatically required unit-by-unit in a sector where legal passports are model-based. Where each product bears the same lawful model-level identifier, activation may mean an approved product-to-carrier release and line-level artwork/changeover verification rather than serial commissioning. Conversely, an individual battery passport needs reliable item identity and pairing. This distinction changes the cost model, IT interfaces and factory acceptance plan.

Design for failure — six scenarios

1. **Wrong product:** operator scans a QR belonging to a different model/lot/serial. Hold and correct the unit or batch.
2. **Duplicate ID:** retry or reprint creates a second record or ambiguous pairing. Require uniqueness and idempotent processing.
3. **Supplier change:** source evidence becomes invalid while labels remain available. Invalidate affected release approvals.
4. **Network failure:** MES or publishing service temporarily unavailable. Use an approved store-and-forward and release policy.

5. **Scrap/rework:** a printed carrier is unused, destroyed or moved. Preserve traceable cancellation and authorised reprint.
6. **Later correction:** a post-market fact changes. Apply versioned publication and stakeholder notifications as appropriate.

Commissioning sign-off

Before production release, the operations, IT, quality and regulatory owners must each sign evidence that the proposed identity, carrier location, durability, readability, system access, exception handling and output counts are acceptable for the actual product and law. Supplier print proofs and a browser-based demonstration are not adequate substitutes for line trials.

7. Build a dependable information and integration architecture

Design around a *digital product identity*, not a web page. The identity links the physical product or model to a current, controlled data record. The architecture should separate: (1) source systems and evidence; (2) data standardisation and validation; (3) product identity and genealogy; (4) passport generation and access control; (5) QR/data carrier production and activation; and (6) reporting, monitoring and external interfaces.

Typical sources include ERP for commercial SKUs, PLM/PIM for designs and variants, QMS/LIMS for test evidence, MES/OT for production events, procurement systems for suppliers and manual forms for smaller upstream partners. Avoid assuming that every supplier can implement an API. An authenticated upload and human approval path may be the right initial control, provided it is traceable and scalable.

Key integration decisions. Use stable identifiers and versions so repeated import messages do not create duplicates. Make events idempotent: retrying an activation event must not activate a second identifier. Queue and reconcile events during network outages. Maintain an exception inbox and alert ownership. Design bulk export of passport records, identifiers and evidence mappings in a documented format; this reduces operational lock-in risk. Verify retention, data sovereignty, backup, confidentiality and role-based access against applicable law and contract rather than relying on generic vendor marketing.

Access and integrity. Not every stakeholder should see every field. Implement a field-level audience map, audit who changed material facts, protect credentials used to write records and ensure published data is attributable to the approved source. Plan for QR redirection and URL continuity if branding, product ownership or service provider changes. The relationship between a data carrier, unique identifier, registry entry and DPP content depends on the applicable sector rules; record those dependencies explicitly.

Fallbacks. If the host platform or a factory API is unavailable, the plant needs a documented stop/hold/continue policy. Do not print unregistered identifiers or release products with broken public destinations simply because the line can still run. An approved fallback can include a durable local queue and later reconciliation, but the release criteria must be validated for the legal regime and operation.

8. Run the programme with performance indicators

Separate **leading indicators** (predict a failure) from **release indicators** (prove a gate) and **outcome indicators** (measure lasting value). One dashboard with only “number of passports published” rewards quantity even when data and physical product pairing are unreliable.

Core cross-industry metrics

Measure	Definition / calculation	Example first-pilot target*
Scope classified	In-scope reviewed products / total candidate products	100% before architecture freeze
Critical data completeness	Approved applicable critical fields / applicable critical fields	100% for released pilot scope
Evidence validity	Current validated evidence objects / required evidence objects	100% for release-blocking evidence
Carrier-pairing correctness	Correct scanned pairings / scanned production pairings	100% in qualification sample
Activation reconciliation	Successfully reconciled activation events / required activation events	100% prior to product release where activation is required
Public access uptime	Successful checks / scheduled availability checks	Service-level target set contractually
Exception resolution	Time between critical issue creation and closure	Define by risk severity
Change implementation lead time	Decision-to-production implementation elapsed time	Baseline then improve

*The figures above are proposed project acceptance criteria, **not legal thresholds**. Confirm statistical sampling, contractual service levels and exact hard-stop rules with the quality, IT and regulatory owners. Track numerators and denominators; avoid percentages that cannot be independently reconstructed.

Dashboard review practice

At every review, show the current value, trend, owner, source-system timestamp, open exception and next corrective action. Slice metrics by plant, supplier, product category and manufacturing line. If a category has not yet launched, display “not measured”, not a fictitious zero or green status. The first reporting period establishes a baseline; only then should management set efficiency-improvement promises.

Additional metrics for Batteries

Sector metric	Baseline	Owner / improvement action
Passport activation success by released serial (%)	Measure in pilot	Assign to process owner; investigate trend and exceptions
Orphan or duplicate serial identifiers per 10,000 packs	Measure in pilot	Assign to process owner; investigate trend and exceptions
End-of-line scanner verification coverage (%)	Measure in pilot	Assign to process owner; investigate trend and exceptions
Article 13 QR destination accuracy by battery category (%)	Measure in pilot	Assign to process owner; investigate trend and exceptions
Share of in-scope data fields with current evidence (%)	Measure in pilot	Assign to process owner; investigate trend and exceptions

Sector metric	Baseline	Owner / improvement action
Lifecycle-event reconciliation time (hours)	Measure in pilot	Assign to process owner; investigate trend and exceptions

9. Onboarding, training and change management

DPP adoption fails when the project team implements a portal but the people who create the evidence, prepare labels or approve substitutions continue working as before. Treat adoption as a controlled operational change across roles, not a one-off webinar.

Start with process observation. Walk one real product through specification, supplier approval, incoming inspection, production, dispatch and after-sales. Record who uses a spreadsheet, who copies a certificate into an email, who changes QR artwork and how production reprints are approved. Design the new SOP around those real tasks before publishing training slides.

A four-role training model

Audience	Must be able to do	Demonstration / proof
Executive / programme owners	Read scores, make gate decisions, own risk	Approve a mock blocked go-live
Regulatory / quality / product owners	Classify, validate, approve and update records	Correct a wrong applicable field
Suppliers / procurement / engineering	Provide evidence with valid scope and version	Complete one full evidence submission
Factory, packaging, service and IT	Print, verify, activate, reconcile and recover	Pass an exception and rework simulation

Onboarding sequence. Nominate one champion per site and function; provide a role-specific quick reference and sandbox; run task-based demonstrations; check knowledge with an observed exercise; allow supervised live use; and audit early records. For suppliers, support both a structured portal and a simple upload path with clear response deadlines. For internal teams, show the *reason* behind each new control: preventing mislabelled products, unapproved claims, shipment holds or untraceable changes.

Change communications. A useful manager message is concrete: “From [date], no new product artwork is released unless the DPP destination and model/lot mapping have passed the checklist. Exceptions go to [owner] within [hours].” An abstract announcement that the company “is digitalising” creates no behavioural change.

Measure adoption by proportion of trained roles passing the observed test, number of supplier responses accepted without rework, share of production changes following the new SOP, and unresolved field-level evidence issues. Schedule refreshers after legal amendments, product redesigns or repeat incidents—not merely every calendar year.

Role-specific coaching for Batteries

Train pack engineering on model-versus-serial identity, OT teams on commissioning and scan events, regulatory owners on Annex XIII access groups, and service/second-life staff on when repair does or does not create a new passport.

10. Rollout from pilot to full portfolio

Use the following as a **sequencing pattern**, not a promise that all manufacturers can complete a compliant programme within a fixed number of weeks. Multi-plant, high-volume or heavily regulated portfolios may require longer qualification, validation and procurement.

Phase	Illustrative timebox	Output	Exit gate
0. Frame	Weeks 1–2	Scope, charter, owner, legal tracker	Signed applicability and budget
1. Build evidence	Weeks 3–6	Sources, supplier pilot, dictionary	Critical test records verified
2. Integrate	Weeks 7–10	Identity, carrier, APIs, validation	End-to-end non-production test
3. Qualify	Weeks 11–14	Factory/packaging trial, QA, training	Documented release gate passed
4. Controlled launch	Weeks 15–18	One line/product family, real exceptions	Reconciliation and availability proven
5. Scale	Weeks 19+	Additional products/sites, operating dashboards	Repeatable site rollout playbook

A staged release is safer than a big bang. Choose one product family that exposes meaningful complexity but has engaged owners and accessible evidence. Run parallel operations briefly if needed, compare old and new outputs and document any planned decommissioning. Stop and fix systemic errors before moving to additional sites; do not conceal failures by excluding bad records from the dashboard.

Factory or publication acceptance protocol

- **Identity test:** new, repeated, duplicate, missing and retired IDs behave predictably.
- **Wrong-product test:** the scanner detects the incorrect SKU/model/serial association.
- **Carrier test:** labels remain legible in intended use conditions, with valid, persistent destinations.
- **Data test:** unapproved and expired evidence cannot appear as released facts.
- **Exception test:** scrap, reprint, rework, offline production and recall scenarios are handled.
- **Access test:** public, restricted and authority views respect the approved access matrix.
- **Recovery test:** backup, restoration and export work and are auditable.
- **Operational test:** trained people can run the process without the project team present.

Scale only when the gate is green. Approve the next site after the first has reached sustained stability, named support owners are available, and control performance is recorded. Copy the *process template* across sites, then adapt local equipment, supplier mix, workforce and systems; do not blindly clone a factory integration.

The top five risks to rehearse in this sector

1. **Misclassifying industrial capacity or LMT status.** Assign an owner; write one preventive check, one detection method, one containment action and one decision to resume normal operations. Include it in the qualification scenario register.
2. **Printing a serialised QR without physically pairing it to its pack.** Assign an owner; write one preventive check, one detection method, one containment action and one decision to resume normal operations. Include it in the qualification scenario register.

3. **Treating future carbon/recycled-content rules as immediately mandatory.** Assign an owner; write one preventive check, one detection method, one containment action and one decision to resume normal operations. Include it in the qualification scenario register.
4. **Failing to reassign passport responsibility after remanufacture.** Assign an owner; write one preventive check, one detection method, one containment action and one decision to resume normal operations. Include it in the qualification scenario register.
5. **Permitting uncontrolled BMS or health-data overwrite.** Assign an owner; write one preventive check, one detection method, one containment action and one decision to resume normal operations. Include it in the qualification scenario register.

11. Follow-up and EU regulatory evolution

Regulatory monitoring must be an operating control. Once a DPP is live, a new delegated act, amended product rule, Commission guideline, standard, market-surveillance interpretation or customer procurement specification can affect the recorded data, access classes, retention, QR carrier or product scope. An unlabeled link to an EU website is not a monitoring process.

Establish a regulatory change register with the following fields: source URL, publication date, legal instrument, proposed/adopted/status, products affected, effective date, expected impact, owner, legal opinion if needed, required product-data change, software change, factory/SOP change, supplier notice, verification evidence and completion date. Assign a regulatory lead who decides whether a notice is informational or triggers a controlled change request.

Review official EU sources at least monthly, and immediately after a relevant adoption or application notice. Re-check regulations before each new market/product launch, then run a quarterly compliance architecture meeting that includes legal, operations and IT. Track delegated acts separately from public consultation documents and industry association forecasts. A consultation is not an enacted obligation; a delegated act’s adoption year is not necessarily its application year.

Change-control protocol: detect → triage for product categories → legal interpretation → impact map → budget/priority decision → dataset/version change → technical regression and factory testing → training → controlled release → evidence of completion. Assign a regulatory-version tag to every published passport data profile so a future auditor can reconstruct which rules were applied at launch.

Continuous operations must also cover expiring supplier documents, product redesign, factory changes, access security, service uptime, URL persistence, incident handling, backup restore tests and data export. Define a clear owner and service commitment for each. A production-level failure is a business continuity issue, not simply a missing marketing web page.

Specific change watch for Batteries

Track access-right implementing rules, Commission battery data-point guidance, national market-surveillance practice, and later-phase battery performance, recycled content, carbon and due-diligence obligations. Review every change against the actual product categories and placing-on-market date.

12. Create value beyond minimum compliance

Use the DPP foundation as a governed product information layer, not a dumping ground for every data set the company owns. Start with a clear legal baseline and add optional customer or operational services in separately governed modules. The same QR or identifier can route users to differentiated content when lawful and appropriate, but mandatory information must remain accessible under the applicable rules.

Prioritise expansion with a benefit case. Estimate the current cost of retrieving compliance evidence, resolving warranty claims, answering customer product questionnaires, replacing paper manuals, handling returns, administering supplier changes or providing recycling instructions. Select one extension with a measurable baseline and a named commercial or operational owner. Do not assume scans equal incremental revenue.

Data-use safeguards. Keep commercial analytics separate from regulatory duties. Be transparent about consumer data collection, obtain valid legal bases for marketing communications and ensure access is not conditional on providing personal data where mandatory information must be free. Avoid unsupported sustainability claims; evidence should be tied to the exact model/batch/item and methodology.

Extension project scorecard

Candidate initiative	Benefit hypothesis	Test before scaling
Digital manuals and service	Less support effort / faster self-service	Compare qualified support requests
Supplier evidence exchange	Fewer chasing emails and errors	Track turnaround and first-pass acceptance
Product authenticity	Fewer disputed products	Measure verified authentication cases
Circular after-sales	More repair/reuse and traceable handoffs	Track completed service transactions
Customer product data API	Faster procurement/specification and retailer data exchange	Time saved by target customers

Expand only after the regulated passport backbone is stable. A poorly controlled extended portal creates fresh cybersecurity, privacy and claims risk on top of the compliance project.

The strongest adjacent-value opportunities for Batteries

1. **Warranty claim triage linked to production genealogy.** Build a small measured pilot only after the mandatory baseline and data entitlements are stable; define the responsible business function and how impact will be measured.
2. **Battery service and state-of-health history for approved actors.** Build a small measured pilot only after the mandatory baseline and data entitlements are stable; define the responsible business function and how impact will be measured.
3. **Second-life/remanufacturing handover workflows.** Build a small measured pilot only after the mandatory baseline and data entitlements are stable; define the responsible business function and how impact will be measured.
4. **Recycling partner information exchange.** Build a small measured pilot only after the mandatory baseline and data entitlements are stable; define the responsible business function and how impact will be measured.
5. **Authenticity and anti-counterfeit checks across distribution.** Build a small measured pilot only after the mandatory baseline and data entitlements are stable; define the responsible business function and how impact will be measured.

Portfolio expansion decision rule: An extension is worth funding when it reuses verified product identity, has a direct measurable outcome, does not degrade mandatory access, and has a sustainable

owner and cost model. An attractive scan experience without an operational benefit is not a business case.

13. Working templates — copy these into your project workspace

Template A — applicability decision sheet

Field	Fill in for your company
Product/category / product family	[name and defining technical criteria]
EU economic operator / markets	[manufacturer/importer/distributor, countries]
Current binding rule	[instrument and relevant articles]
Future/indicative rule	[draft/working plan; clearly labelled]
Required granularity	[model / batch / item / to be determined]
Carrier/registry/legal start	[what applies; evidence link]
Review/approval	[legal approver, date, next review trigger]

Template B — product data dictionary

For each field document: `field_id | display_name | product_type | granularity | datatype/unit | mandatory_now? | future_candidate? | source_system | supplier_owner | validation_rule | evidence_id | approved_by | valid_from | valid_until | access_class | change_trigger`.

Example: `mass_kg | Net mass | Product model | model | decimal kg | check law | optional | PLM | engineering | >= 0 and unit normalised | TEST-22 | quality | [date] | [date] | defined audience | model revision`.

Template C — supplier evidence request

> Subject: Product evidence for [product family] — [deadline] We are establishing a structured product-information process for [market/product]. Please provide the attached field template and supporting evidence for the specified models/material lots, including the document version, relevant plant or model, test method where relevant, validity date and technical contact. Please identify missing or confidential fields explicitly rather than substituting estimates. We will validate the submission with you and communicate any change requests before approval.

Template D — project risk and exception log

ID / risk	Likelihood / impact	Owner	Preventive control	Contingency / due date
R-01 Mis-scoped product	[L/M/H]	[Regulatory]	Signed scope matrix	Hold launch and review rule
R-02 Missing critical evidence	[L/M/H]	[Procurement]	Supplier SLA and validation	Escalate / alternate evidence

ID / risk	Likelihood / impact	Owner	Preventive control	Contingency / due date
R-03 Wrong label/ product pairing	[L/M/H]	[Production]	Scanner and changeover gate	Quarantine/rework shipment
R-04 Data access breach	[L/M/H]	[Security]	Field-level access policy	Revoke key, investigate, notify if required
R-05 Regulatory rule changes	[L/M/H]	[Regulatory]	Monthly change watch	Impact assessment and requalification

Template E — factory release test record

Record: `test ID | product/model | line | printer | scanner | source record version | identifier | expected response | observed response | evidence screenshot/log | tester | QA approval | issue | retest date`. Include wrong-SKU, duplicate, off-network, rework, reprint, scrap, public URL, restricted access and export/restore tests.

Template F — monthly programme scorecard

Record each KPI with `period | product/site | numerator | denominator | current value | prior value | target | trend | accountable owner | exception tickets | next corrective action`. Keep a commentary column to explain why measured scope changed.

Template G — legal change register

`Source URL | Instrument | Status (proposal/adopted/applicable) | Publication date | Application date | Product family | Relevant articles | Gap vs current data model | IT/line impact | Owner | Decision date | Test evidence | Closure`.

Template H — training and adoption log

`Role | Required SOP | Training version | Learner/group | Date | Practical demonstration | Pass/fail | Remediation | Supervisor sign-off | Refresh trigger`.

Template I — 1-page business case

`Problem measured | Current annual effort/cost | Proposed controlled workflow | One-time project cost | Ongoing cost | Regulatory dependency | Avoided risk | Measurable upside | Owner | Pilot measurement date | Decision gate`.

Template J — handover-to-operations checklist

- [ ] Legal scope and ownership confirmed; open interpretations recorded.
- [ ] Data contract, owners, evidence and access classes versioned.
- [ ] Supplier process, escalation and maintenance SLA operating.
- [ ] Identity, carrier and physical association tests signed off.
- [ ] Monitoring, uptime, export, backups, incident runbook and responsibilities proven.
- [ ] Factory/packaging SOPs trained and practical competency checked.
- [ ] Rollout metrics, exception thresholds and monthly review agreed.
- [ ] Regulatory monitoring cadence active and next legal review scheduled.

14. Your first 30 days — an executable start

Days 1–5: nominate the programme owner and regulatory lead; classify the top revenue/product categories; separate enacted duties from future candidates; gather three representative real products and their data/evidence packages.

Days 6–10: draw the actual product-data flow, identify hidden spreadsheets and document sources, map identifiers used by ERP and factory, and select a pilot plant or outsourced packer. Request representative evidence from two suppliers, including one likely to struggle.

Days 11–20: define the minimum data dictionary, audience/access map, identity scheme, approval chain and printing/activation design. Resolve the biggest risk about product granularity, line integration or missing evidence before buying equipment or redesigning packaging.

Days 21–30: perform a tabletop process simulation using a real SKU/model. Validate a digital destination, test a wrong-product/label incident, draft the rollout scorecard, build the legal change register and submit a signed pilot go/no-go plan.

Decision after day 30: do not ask only “Can we generate a DPP?” Ask “Can we repeatedly deliver the *correct approved product information to the correct physical product*, prove it, and operate the process as law and products change?”

Sector-specific readiness actions from the GoodsTag questionnaire

These six practical checks are aligned with the vertical readiness questionnaire and should be completed with records from an actual product—not answered merely “yes” in a meeting.

Check 1 — Sector control

Diagnostic question: Is each product correctly classified as EV, LMT, industrial >2 kWh or another battery category?

Action: Document battery categories, capacities, market roles, scope and the obligations per category.

Accountable function: Compliance / Product
Evidence to retain: Signed applicability decision.

Acceptance: the named owner has demonstrated the control with a representative live model, lot or physical item; exceptions and a retest date are recorded.

Check 2 — Sector control

Diagnostic question: Have you mapped the latest Commission battery passport data points to your battery categories and applicability dates?

Action: Map the Commission data points by category, due date, mandatory/conditional status and source owner.

Accountable function: Compliance / Data
Evidence to retain: Category-specific gap matrix with guidance version.

Acceptance: the named owner has demonstrated the control with a representative live model, lot or physical item; exceptions and a retest date are recorded.

Check 3 — Sector control

Diagnostic question: Can you distinguish model-level information from information specific to each individual battery?

Action: Define battery models, unique serial-level identities, plant/date information and model-to-instance relationships.

Accountable function: Engineering / Production
Evidence to retain: Model/item schema and traceability examples.

Acceptance: the named owner has demonstrated the control with a representative live model, lot or physical item; exceptions and a retest date are recorded.

Check 4 — Sector control

Diagnostic question: Can you obtain trustworthy chemistry, performance, composition and other applicable evidence from suppliers?

Action: Create a supplier data-request and evidence validation workflow, including escalation and missing-field ownership.

Accountable function: Procurement / Quality
Evidence to retain: Supplier data collection pack.

Acceptance: the named owner has demonstrated the control with a representative live model, lot or physical item; exceptions and a retest date are recorded.

Check 5 — Sector control

Diagnostic question: Can production activate an individual QR-linked battery identity using the actual line or a practical preprint-and-scan process?

Action: Pilot QR generation/preprinting, serial assignment, scan activation and reconciliation to MES/ERP.

Accountable function: Production / IT
Evidence to retain: Factory pilot with scan/reconciliation results.

Acceptance: the named owner has demonstrated the control with a representative live model, lot or physical item; exceptions and a retest date are recorded.

Check 6 — Sector control

Diagnostic question: Have you tested registry preparation, authorised access and the updating of SoH and second-life events where relevant?

Action: Test a sample passport lifecycle: issue, register when supported, disclose by role, update, and link a replacement passport after remanufacturing.

Accountable function: IT / After-sales
Evidence to retain: End-to-end sample and lifecycle test report.

Acceptance: the named owner has demonstrated the control with a representative live model, lot or physical item; exceptions and a retest date are recorded.

15. References and document maintenance

Information date: 5 November 2026. Official legislation takes precedence over this practical guide. Verify current consolidated texts, product-family exclusions, applicable dates and any newly enacted measures before taking binding regulatory decisions. Maintain a named internal regulatory owner and record subsequent updates.

Primary sources

- **Commission DPP overview:** https://single-market-economy.ec.europa.eu/single-market/digital-product-passport_en
- **Commission DPP FAQs:** https://single-market-economy.ec.europa.eu/single-market/digital-product-passport/explore-our-faqs_en
- **ESPR Regulation (EU) 2024/1781:** https://eur-lex.europa.eu/eli/reg/2024/1781/oj/eng
- **ESPR Working Plan 2025–2030:** https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52025DC0187
- **DPP Registry announcement:** https://single-market-economy.ec.europa.eu/news/digital-product-passport-registry-now-live-2026-07-20_en
- **Battery Regulation (EU) 2023/1542:** https://eur-lex.europa.eu/eli/reg/2023/1542/oj/eng
- **Commission battery passport FAQ:** https://single-market-economy.ec.europa.eu/single-market/digital-product-passport/eu-digital-product-passport-faq-batteries_en

Version history

Version	Date	Change / owner
1.0	5 Nov 2026	Initial customer-facing edition; legal information subject to subsequent updates
1.x	As required	Record regulatory and operational changes and affected chapters

Next step

Use the Batteries Readiness Assessment to prioritise work, or adopt the generic Batteries checklist to organise owners, evidence and progress. For complex multi-site or mixed-category portfolios, schedule a design review covering identity, data interfaces, line commissioning and ongoing governance.

GoodsTag · https://www.goodstag.com/ · A practical implementation guide, not a legal compliance certification.