

Building trust in the Battery value chain

From raw material to end-of-life: Making trust travel with the battery

Marie-Elisabeth d'Ornano

Global Technical Services Director, Bureau Veritas

BUREAU VERITAS

ONE BATTERY, MANY STAKEHOLDERS

Can you trust the data?

Every handoff puts the evidence trail at risk



01	02	03	04	05	06	07
Raw materials	**Precursor / electrode**	**Cell production**	**EV / pack assembly**	**Use phase**	**Collection**	**Recycling**
Miners / refiners	Material suppliers	Cell makers	OEMs	Operators	Collectors	Recyclers

→ Data handoffs: data can be lost, duplicated or disputed

Every handoff is a claim until it is verified, and not every link carries the same risk

UPSTREAM SOURCING AND DUE DILIGENCE

Trust starts before the battery exists

Mining / refining



Cobalt, lithium and nickel

EU regulatory context

CRMA

Critical Raw Materials Act

CS3D

Corporate Sustainability Due Diligence Directive

Evidence trail



Supplier contracts beyond Tier 1
Verified origin and chain of custody

Unverifiable origin claims can become a market-access liability

Upstream, verify deepest where the risk is highest: evidence, not declarations



MANUFACTURING STANDARDS

Standards provide a shared technical toolkit

Standards and data frameworks

IEC ISO CEN CENELEC UNECE

Safety
Shared safety definitions

Performance
Comparable testing and measurement

Data formats
Interoperable product data

Standards make regulatory and voluntary claims measurable the same way

MARKET ENTRY AND PRODUCT PASSPORTS

Battery rules lead a wider product-data shift

EU regulatory timeline

2026 — PPWR, 12 August

2027 — Battery DPP, 18 February

2028* — Construction / ESPR phased*

2029

2030 — Toy-safety DPP, 1 August

Global counterparts

China
NEV battery traceability

Vietnam
Product and goods quality law

UAE
Construction steel DPP

*2028 is a planning marker. Construction / ESPR dates depend on product-specific rules.

Digital Product Passport



QR code provides access

Conformity assessment substantiates the claims

Baseline = Regulation. Advantage = Scalable, verified data



END-OF-LIFE CIRCULARITY

Circularity needs proof, not promises

Evidence through the loop

Lifecycle data

Carry origin, composition, usage history and degradation data all the way to the recycler.

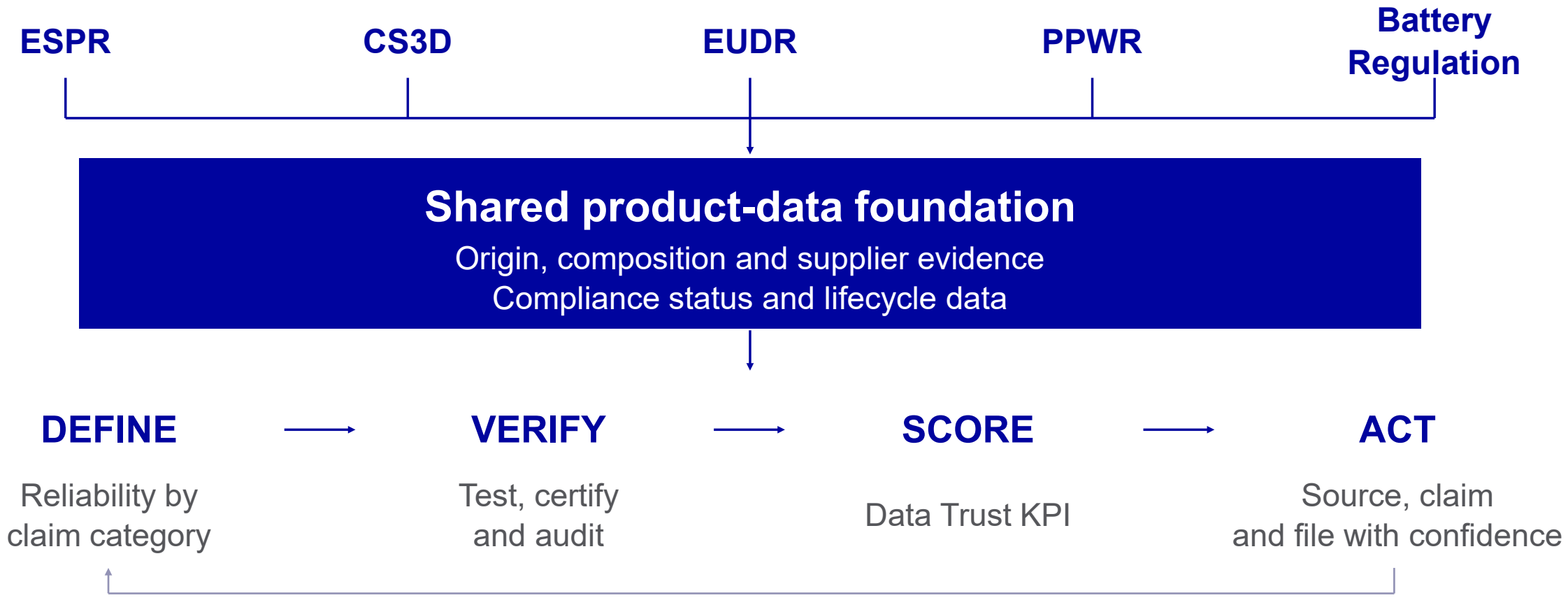
Verified circularity claims

Check recycled content, second-life readiness and recyclability claims against evidence.

Circularity claims need verified records, not promises

A SHARED, GOVERNED DATA FOUNDATION

One evidence base across regulations



Structure from a platform. Confidence from proportionate verification.
You need both.

TRUST AS A COMPETITIVE ADVANTAGE

Evidence across the battery's whole story



- Faster market access
- Stronger investor confidence
- Verified circularity
- Defensible claims

Start with one product line: **Diagnostic** (scope + gaps) → **Roadmap** → **Implement**

The battery that can prove its story is the one the market will trust first