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A New Era for Batteries Within the EU: Batteries and Waste Batteries Regulation 2023/1542

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01. About The Author

Dila Şen, Senior Regulatory Compliance Specialist, Compliance & Risks

Dila is a Senior Regulatory Specialist and has been at C&R for 5+ years. She is a sworn translator and qualified lawyer in Türkiye who was admitted to the Union of Turkish Bar Association in 2012.

She has been leading and managing several global requirements projects for C&R clients and supports them with their AI, battery and pressure equipment-related compliance challenges globally.

She holds a Bachelor of Law (LL.B.) from Yeditepe University in Istanbul, Türkiye and continued her academic studies with a European Master in Law and Economics, where she studied in three different universities and was awarded triple master's degrees from Bologna University (Italy), Ghent University (Belgium), and Haifa University (Israel), respectively. Additionally, she has a Bachelor of Arts (B.A.) in Communication from Istanbul University, Türkiye.

She is highly interested in artificial intelligence and, after completing Washington, US-based independent non-profit research organization Center for AI and Digital Policy's AI Policy Clinic with distinction last year, she continued her contributions as a research team lead and as a teaching fellow.She is also a member of the Artificial Intelligence Working Group of the Istanbul Bar Association's Information Technology Law Commission.

Dila is a native Turkish speaker and she is fluent in English.

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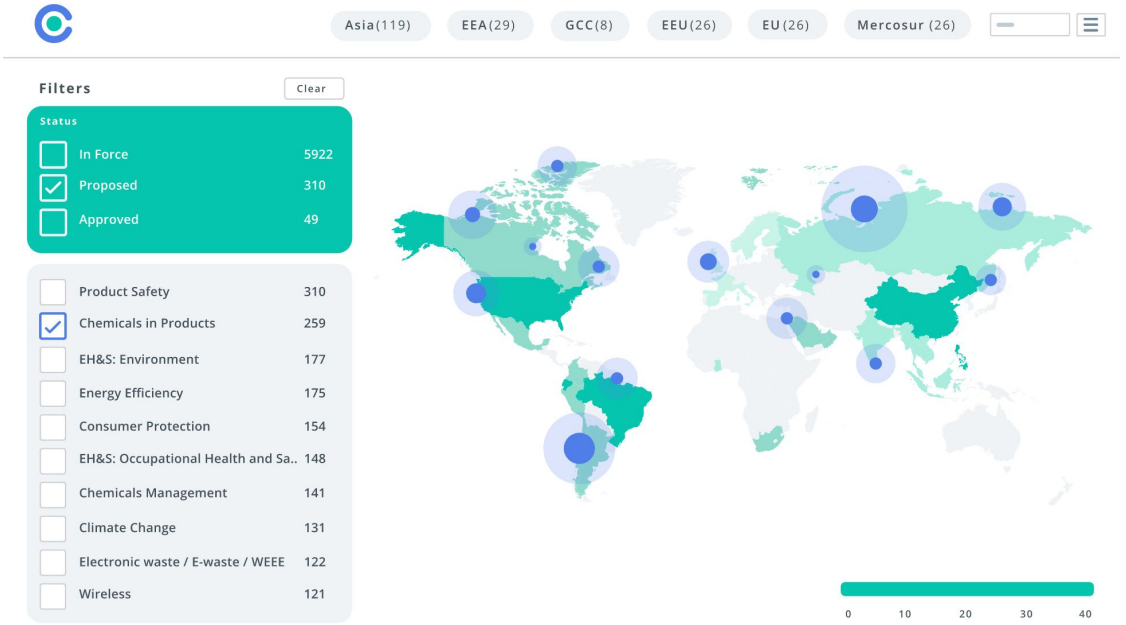

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03. Introduction

On **28 July 2023**, the eagerly anticipated Regulation (EU) 2023/1542 on Batteries and Waste Batteries ("Regulation") was published in the Official Journal of the European Union and entered into force on **17 August 2023** as an integral part of the Strategic Action Plan for Batteries and the EU Green Deal.

The Regulation constitutes a pioneering reform within the European Union's internal market, as it comprehensively addresses the entire life cycle of batteries and introduces a novel mandate for the implementation of digital product passports.

The objectives of the Regulation include:

- Promoting sustainability in battery production and minimizing environmental impact across their lifecycle,
- Encouraging circularity by providing data for second-life usage and enhancing recycling in terms of both quality and quantity,
- Ensuring safety by protecting human health and the environment,
- Improving transparency and providing consumers with information on the environmental and safety performance of batteries.

This Regulation is poised to replace the prevailing Battery Directive (2006/66/EC), the existing framework governing battery sustainability within the European Union.

It is noteworthy that upon its date of application on **18 February 2024**, no immediate deviations from the extant battery directive are anticipated.

Nevertheless, stakeholders should anticipate the gradual introduction of novel obligations and requirements as the regulation takes effect.

04. Scope

According to Article 1(3), the Regulation applies to all categories of batteries placed on the market or put into service within the EU, regardless of whether they were produced in the Union or imported and regardless of their shape, volume, weight, design, material composition, chemistry, use or purpose.

The following categories of batteries are explicitly listed:

- **Portable batteries** (*a battery that is sealed, weighs 5 kg or less, is not designed specifically for industrial use and is neither an electric vehicle battery, an LMT battery, nor an SLI battery, Article 3(1)(9)*);
- **Starting, lighting and ignition batteries (SLI batteries)** used mostly for vehicles and machinery (*a battery that is specifically designed to supply electric power for starting, lighting, or ignition and that can also be used for auxiliary or backup purposes in vehicles, other means of transport or machinery, Article 3(1)(12)*);
- **Light means of transport batteries (LMT batteries)** e.g. electric bikes, e-mopeds, e-scooters (*a battery that is sealed, weighs 25 kg or less and is specifically designed to provide electric power for the traction of wheeled vehicles that can be powered by an electric motor alone or by a combination of motor and human power, including type-approved vehicles of category L within the meaning of Regulation (EU) No 168/2013 and that is not an electric vehicle battery, Article 3(1)(11)*);
- **Electric vehicle batteries** (*a battery that is specifically designed to provide electric power for traction in hybrid or electric vehicles of category L as provided for in Regulation (EU) No 168/2013 and weighs more than 25 kg, or a battery that is specifically designed to provide electric power for traction in hybrid or electric vehicles of categories M, N or O as provided for in Regulation (EU) 2018/858*), *Article 3(1)(14)*);
- **Industrial batteries** (*a battery that is specifically designed or intended for industrial use after being subject to preparation for repurposing or repurposing, or any other battery that weighs more than 5 kg and that is neither an electric vehicle battery, an LMT battery, nor an SLI battery, Article 3(1)(13)*). Industrial uses include; industrial activities , communication infrastructure, agricultural activities, energy storage in private or domestic environments, generation and distribution of electric energy, traction in other transport vehicles incl. rail, waterborne, aviation or off-road machinery.

In addition, **battery packs** are also in scope as per Recital 13 which states that: *"Products placed on the market as **battery packs**, which are batteries or groups of cells that are connected or encapsulated within an outer casing to form a complete unit ready for use by end-users or in applications that the end-user is not intended to split up or open and which conform to the definition of batteries, or battery cells that conform to the definition of batteries, should be subject to requirements applicable to batteries."*

It also applies to batteries that are **incorporated into or added to products or that are specifically designed to be incorporated into or added to products.**

The following are, however, excluded from scope:

- Batteries placed in stock in the Union by distributors, including retailers, wholesalers and sales divisions of manufacturers before the date of application of relevant requirements of this Regulation (Recital 11).
- Batteries incorporated into or specifically designed to be incorporated into:
  - Equipment connected with the protection of Member States' essential security interests, arms, munitions and war material, with the exclusion of products that are not intended for specifically military purposes; and
  - Equipment designed to be sent into space (Article 1(5)).

05. Economic Operators

This Regulation imposes obligations on economic operators placing batteries on the market or putting them into service.

Economic operator refers to the manufacturer, authorized representative, importer, distributor, fulfillment service provider, or any other natural or legal person with responsibilities related to the manufacture, preparation for re-use, preparation for repurposing, repurposing, or remanufacturing of batteries. This includes obligations regarding the introduction, distribution, or online availability, as well as the initiation of batteries into service.

Placing on the market is deemed to occur when a battery is initially made accessible on the Union market, supplied by the manufacturer or importer for distribution, consumption, or use in a commercial activity, whether through payment or free of charge.

Putting into service means the first use, for its intended purpose, in the Union, of a battery, without having been previously placed on the market.

The regulation comprises six sections impacting various actors within the battery value chain. These are:

- **Manufacturer** *(any natural or legal person who manufactures a battery or has a battery designed or manufactured, and markets that battery under its own name or trademark or puts it into service for its own purposes, Article 3(1)(33))*;
- **Supplier of battery cells and battery modules** *(supplier of the basic functional unit in a battery, composed of electrodes, electrolyte, container, terminals and, if applicable, separators, and containing the active materials the reaction of which generates electrical energy (Article 3(1)(4) and any set of battery cells that are connected together or encapsulated within an outer casing to protect the cells against external impact, and which is meant to be used either alone or in combination with other modules, Article 3(1)(3))*;
- **Authorized representative** *(any natural or legal person established in the Union who has received a written mandate from a manufacturer to act on its behalf in relation to specified tasks with regard to the manufacturer's obligations under Chapters IV and VI, Article 3(1)(63))*;
- **Importer** *(any natural or legal person established within the Union who places on the market a battery from a third country, Article 3(1)(64))*;
- **Distributor** *(any natural or legal person in the supply chain, other than the manufacturer or the importer, who makes a battery available on the market, Article 3(1)(65))*;
- **Fulfilment service provider** *(any natural or legal person offering, in the course of commercial activity, at least two of the following services: warehousing, packaging, addressing and dispatching, without having ownership of the products involved, excluding postal services as defined in point 1 of Article 2 of Directive 97/67/EC, parcel delivery services as defined in point 2 of Article 2 of Regulation (EU) 2018/644 and any other postal services or freight transport services)*.

06. Supply Chain Due Diligence Obligations

The production of batteries heavily relies on the import of critical raw materials, including cobalt, lithium, nickel, and manganese, which exert a substantial impact on the environment and society.

The objective of the Regulation is to minimize environmental and social impacts across the entire life cycle of batteries. In pursuit of this goal, the Regulation imposes stringent due diligence rules on operators, mandating the verification of the source of raw materials used in batteries introduced to the market.

The Regulation imposes a due diligence obligation on battery manufacturers who must comply with requirements that address social and environmental risks related to the sourcing, processing, and trading of both primary and secondary raw materials. All economic operators introducing batteries to the EU market, **excluding small and medium-sized enterprises (SMEs) with a net turnover of less than €40 million (has been proposed to be raised to €150 million) in the financial year preceding the last financial year**, must establish and implement this due diligence policy. Compliance may be audited by notified bodies.

According to Article 3(1)(42); "***'battery due diligence'*** *means the obligations of an economic operator in relation to its management system, risk management, third-party verifications and surveillance by notified bodies and disclosure of information, for the purpose of identifying, preventing and addressing actual and potential social and environmental risks linked to the sourcing, processing and trading of the raw materials and secondary raw materials required for battery manufacturing, including by suppliers in the chain and their subsidiaries or subcontractors*".

These obligations follow a risk-based approach outlined in OECD Guidelines, such as the Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas. The Regulation requires the adoption of supply chain due diligence policies specifically for critical raw minerals listed in Annex X namely **cobalt, natural graphite, lithium, nickel, and their chemical compounds**. Environmental and social risks associated with these materials must be identified and meticulously assessed as part of a comprehensive risk management plan. Economic operators are also required to establish and maintain a system of controls and transparency throughout their supply chains.

07. Proposal to Change Threshold & Reporting Frequency

The production of batteries heavily relies on the import of critical raw materials, including cobalt, lithium, nickel, and manganese, which exert a substantial impact on the environment and society.

On 21 May 2025, the European Commission published a proposal, so-called "Omnibus IV Simplification Package". Omnibus packages are part of the EU's broader effort to support industrial competitiveness by reducing regulatory complexity.

This proposal aims to amend several EU Regulations, including the Batteries Regulation (EU) 2023/1542, as regards the extension of certain mitigating measures available for small and medium sized enterprises to small mid-cap enterprises and further simplification measures.

Article 5 of the proposal relates to Batteries Regulation (EU) 2023/1542. Article 5(1) proposes raising the turnover threshold for companies subject to these rules from €40 million to €150 million. This change would reduce the administrative burden on a large number of companies, particularly SMEs, by replacing Article 47 of the Batteries Regulation (EU) 2023/1542.

Article 5(2) proposes changing the reporting frequency from an annual basis to once every three years, by replacing Article 52(3) of the Batteries Regulation (EU) 2023/1542.

Both of these proposals are still awaiting a committee decision.

According to the Explanatory Memorandum of the proposal, it aims to extend to SMCs (small mid-cap enterprises) certain provisions currently applied to SMEs (small and medium-sized enterprises) and propose simplification measures to the benefit of SMEs and SMCs.

"Regulation (EU) 2023/1542 lays down provisions on batteries. Article 47 of Regulation (EU) 2023/1542 exempts SMEs from certain obligations on battery due diligence policies. The scope of this provision should be extended to SMCs, so that they are also exempted from these obligations. Further to Article 52, the economic operators referred to in Article 48(1) are required - on an annual basis – to review and make publicly available, including on the Internet, a report on their battery due diligence policy. With a view to reducing the administrative burden on economic operators, this requirement to review and make publicly available their due diligence policy should be amended so that it applies every three years instead of annually. This burden reduction measure should apply to all economic operators, including SMCs."

Based on the Q&A Document about the simplification omnibus IV, key takeaways are: *"The proposal exempts SMCs, in the same way as SMEs, from the rules on due diligence and tracing back supply chains of battery raw materials. It also reduces the frequency of public reporting for all companies involved from yearly to once every three years.*

The number of companies affected by the extension of the exemption is estimated to be small, but the annual savings for those SMCs are estimated at around € 40,000 per company.

At the same time, the ambition level will remain: the vast majority of batteries, small and large, are placed on the EU market by large companies."

7.1. Postponement of Battery Due Diligence Obligations

The due diligence obligations were originally scheduled to take effect on 18 August 2025. However, the date of application for the battery due diligence obligations is postponed by two years by Regulation (EU) 2025/1561, which was entered into force on 31 July 2025.

The due diligence obligations were originally scheduled to take effect on 18 August 2025. However, the date of application for the battery due diligence obligations is postponed by two years by Regulation (EU) 2025/1561, which was entered into force on 31 July 2025.

This new regulation is part of the so-called "Omnibus IV Simplification Package". EU Commission also published a Q&A Document about the simplification omnibus IV.

The Regulation (EU) 2025/1561 amends the Batteries Regulation (EU) 2023/1542 regarding obligations of economic operators concerning battery due diligence policies.

Firstly, it amends Article 48(1) of Regulation (EU) 2023/1542, replacing the date '18 August 2025' with '18 August 2027'. The rationale for this extension is twofold:

To grant battery producers and exporters additional time to establish, operationalize, and audit robust due diligence frameworks.

To enable the authorisation and readiness of third-party verification bodies, whose role is essential for conducting independent audits and ensuring compliance credibility.

Secondly, it amends Article 48(5) of Regulation (EU) 2023/1542, replacing the date '18 February 2025' with '26 July 2026'. This means the European Commission will now be required to publish detailed due diligence guidelines at least one year prior to the new application date. These guidelines were originally due 18 February 2025, and now the new deadline is 26 July 2026.

08. CE Marking

Commencing on **18 August 2024**, manufacturers are required to apply the CE marking prior to releasing the battery into the market or initiating its use. The Regulation's implementation timeline has a few very confusing discrepancies.

C&R has received confirmation from EPBA (*European Portable Battery Association*) who confirmed this information with the European Commission that CE marking will be mandatory from August 18, 2024 onwards, together with the conformity assessment procedure in Article 17:

"The actual obligation to do CE marking is in Article 38 (in Chapter VI), which applies from 18 August 2024."

The CE marking must be affixed to each individual battery before the battery is placed on the market or put into service. In cases where direct application to the battery is not practical due to its nature, the marking may be placed on the packaging and accompanying documents of the battery. The CE marking should also be visibly, legibly, and indelibly affixed to the battery according to Article 20(1).

If deemed necessary according to Annex VIII, the marking is conferred by a notified certification body. Notified body involvement is specifically mandated for Articles 7 and 8 concerning LMT, EV, SLI, and industrial batteries with a capacity exceeding 2 kWh.

According to Annex VIII, Part A(4), the manufacturer has to create an EU declaration of conformity for each battery model, as outlined in Article 18. Both this declaration and the technical documentation, must be available to national authorities for a **period of 10 years** from the date when the last battery of the relevant model is placed on the market. The EU declaration of conformity should clearly specify the associated battery model.

Moreover, as mentioned in Article 20(4), the CE marking must incorporate the identification number of the certifying body where required under Annex VIII.

Also, if necessary, it has to be accompanied by pictograms or other markings relating to the safe storage, use, transport, and treatment of the battery.

Guidelines for affixing the CE marking to products, including portable batteries, are detailed in the Commission's Blue Guide.

09. Circular Economy

The Regulation is designed to advance a circular economy by encompassing the entire life cycle of batteries. To be able to achieve this, the Regulation outlines end-of-life requirements, collection targets, obligations, and objectives for material recovery, and extended producer responsibility.

The Regulation establishes **collection targets for producers**, requiring them to collect:

- **63%** of waste portable batteries by the end of 2027
- **73%** by the end of 2030.

Additionally, it introduces a specific collection target for **waste batteries from light means of transport**, mandating a collection rate of:

- **51%** by the end of 2028, and
- **61%** by the end of 2031.

The **lithium recovery target from waste batteries** are:

- **50%** until 2028 and
- **80%** until 2032.

These targets may face possible adjustments in the future according to market trends, lithium availability, and technological advancements.

Mandatory minimum levels of recycled content are specified for industrial, SLI batteries, and EV batteries for each battery model per year and per manufacturing plant:

- **16%** for cobalt,
- **85%** for lead,
- **6%** for lithium, and
- **6%** for nickel.

For nickel-cadmium batteries, recycling efficiency target is set at 80% by the end of 2025 and **for other waste batteries** 50% by the end of 2025.

Calculation and verification methodology of rates for recycling efficiency and recovery of materials of waste batteries:

As the EU pivots toward a deep industrial transformation centered on the circular economy, Commission Delegated Regulation (EU) 2025/606 provides the essential compliance mechanism for the ambitious targets set out in the overarching Batteries Regulation (EU) 2023/1542.

For any entity engaged in waste battery management, from collection to advanced material recovery, this regulation is the definitive guide on accountability and performance measurement.

What's the Core Purpose?
This Delegated Regulation establishes a legally harmonized framework across the Union by setting out the specific methodologies for measuring performance. It ensures that targets are met consistently, preventing 'greenwashing' and promoting high-quality material recovery.

Specifically, the regulation dictates how recyclers must:

- *Calculate Recycling Efficiency (rRE):* Defining the system boundary for measuring the overall percentage of mass recovered.
- *Measure Material Recovery (rRM):* Providing the methodology to prove the recovery rate for specific critical raw materials (CRMs).
- *Standardize and Verify Documentation:* Enforcing strict templates and verification procedures to ensure traceability across the entire multi-step recycling chain.

Key Metrics Defined
The regulation focuses on two distinct, crucial performance indicators:

1. Recycling Efficiency (rRE)
This metric measures the total mass of the waste battery successfully converted into usable materials or products. It is calculated separately for four distinct battery chemistries: Lead-Acid, Lithium-based, Nickel-Cadmium, and Other.

Formula (Section 2, Point 1):
rRE = ∑m output; minput × 100, [mass %]
rRE=minputmoutput×100[mass %]

- minput: The mass, on a water-free basis, of waste batteries prepared for recycling, including non-cell components like casings, integrated cables, and external parts.
- moutput: The mass of materials obtained that are destined for use in their original or other purposes (excluding landfill, backfilling, or energy recovery).

Example: A facility processes 15,000 tonnes of Lithium-based battery packs. If the useful output fractions (recovered metals, plastics, converted casings) total 12,300 tonnes, the Recycling Efficiency is:
rRE=15,000 t12,300 t×100=82%

2. Rate of Recovery of Materials (rRM)
This metric specifically measures the recovery performance for key target materials (TM): Cobalt (Co), Copper (Cu), Lithium (Li), Nickel (Ni), and Lead (Pb). The calculation point is critical, defined as the step where the material is recovered as a substance or product that can directly *substitute primary materials* in industrial processes.

Formula (Section 3, Point 1):

- rRM(TM)=mTM,input∑mTM,output-pure×100[mass %]

Example: A recycling batch contains 450 kg of Nickel within the input stream (mNi,input). If the final high-purity Nickel salt recovered at the rRM calculation point contains 425 kg of Nickel metal, the Material Recovery Rate is:

- rRM(Ni)=450 kg425 kg×100≈94.4%

Accountability and Traceability: The Documentation Mandate
The 2025/606 regulation places a strong emphasis on full accountability through rigorous documentation. The "First Recycler" is responsible for providing annual data for every step of the recycling process, even if carried out at multiple facilities or outside the EU.

Key Documentation Requirements (Section 5, 6-9):

- Flow Charts: Mandatory detailed flow-charts for each treatment step, illustrating the material journey from waste battery input to final output fractions.
- Input/Output Detailing: Comprehensive lists of input, intermediate (e.g., Black Mass), and final output fractions for all chemistries.
- Hazardous Substance Reporting: Explicit documentation is required for the safe immobilization and disposal of controlled substances like Cadmium (Cd) and Mercury (Hg).
- Verification: Competent authorities must verify the data, covering completeness, accuracy, and the provision of documentary evidence (e.g., contracts, transport documents) to ensure traceability.

9.1. QR Code

All batteries must be marked with a QR code from **18 February 2027**. According to Article 13(6), the QR code shall provide access to the following:

"(a) for LMT batteries, industrial batteries with a capacity greater than 2 kWh and electric vehicles batteries, the battery passport in accordance with Article 77;

(b) for other batteries, the applicable information referred to in paragraphs 1 to 5 of this Article, the declaration of conformity referred to in Article 18, the report referred to in Article 52(3) and the information regarding the prevention and management of waste batteries laid down in Article 74(1), points (a) to (f);

(c) for SLI batteries, the amount of cobalt, lead, lithium or nickel recovered from waste and present in active materials in the battery, calculated in accordance with Article 8."

In order to attain a sustainable battery life cycle, the utilization of electronic battery passports and QR codes will furnish us with more transparent labeling and information.

9.2. Digital Battery Passport

The Digital Battery Passport (DBP) is an electronic dossier or a digital record system for a battery, carrying all information gathered throughout the battery's life cycle and facilitating the exchange of this information among various parties in the value chain with the aim is to increasing transparency relating to the battery's supply chain.

Specifically designed for industrial batteries, the DBP guarantees that recovery organizations can assess the optimal disposal approach for waste batteries by considering their chemical composition and usage history.

According to **Article 77** of the Regulation:

*"1. **From 18 February 2027** each LMT battery, each industrial battery with a capacity greater than 2 kWh and each electric vehicle battery placed on the market or put into service shall have an electronic record ('battery passport').*

2. The battery passport shall contain information relating to the battery model and information specific to the individual battery, including resulting from the use of that battery, as set out in Annex XIII."

Per Article 77, only LMT, EV or industrial batteries (with a capacity greater than 2 kWh) will need a battery passport.

- If it is placed on the market offline or if online but the online seller is established in the EU and it is placed on the market from inside the EU, the manufacturer is responsible for fulfilling the battery passport requirements.
- If the battery placed on market is from outside the EU, then the importer is responsible for fulfilling the battery passport requirements.
- If the online seller is not established in the EU and the battery is marketed to EU customers, the manufacturer or importer will be responsible for fulfilling the battery passport requirements depending on who is targeting the EU consumers.
- If the online seller is not established in the EU and the battery is marketed to non-EU customers, the battery passport requirement does not apply.

The battery passport is the first implementation of a Digital Product Passport (DPP) within the EU and is recognized as a key instrument in the European Twin Transition which is designed to address two challenges: the first one is the green transition towards a sustainable and low-carbon economy and the second one is the digital transformation of society. The EU has indicated that there are plans for the extension of the DPP into other product categories such as textiles, construction, consumer electronics, plastics, chemicals, and the automotive sector.

9.2.1. Responsibility for Fulfilling the Battery Passport Requirements

Each battery is required to have a unique battery passport, and it is the responsibility of the economic operator who introduced the battery to the EU market to guarantee the accuracy, completeness, and currency of the data contained in the battery passport. completeness, and currency of the data contained in the battery passport.

There are two cases where the Regulation shifts the battery passport responsibility from one economic operator to another:

- Per Article 77(7), if a battery undergoes preparation for re-use, repurposing, or remanufacturing, the obligation to maintain accurate, complete, and up-to-date information in the battery passport shifts to the economic operator responsible for placing or using that battery. In such instances, a new battery passport will be generated, but it will remain linked to the original battery.
- Per Article 77(7) second paragraph, if a battery transitions from active use to a waste battery, the responsibility for ensuring the accuracy, completeness, and currency of information is transferred to either the producer, the producer responsibility organization, or the waste management operator. In such instances, a new battery passport will not be required.

A Producer responsibility organization is defined as; "*a legal entity that financially or financially and operationally organizes the fulfilment of extended producer responsibility obligations on behalf of several producers*", whilst a **waste management operator** is defined as: "*any natural or legal person dealing on a professional basis with the separate collection or treatment of waste batteries*".

A battery passport will cease once the battery undergoes recycling in accordance with Article 77(8).

The battery passport must allow for public access to data contained therein with some specific details restricted to regulatory authorities and designated entities due to the sensitive commercial information.

Access rights differ between access groups:

- **General public** will have access to the battery model "information about batteries placed on the market and their sustainability requirements" in accordance with point 1 of Annex XIII, Recital 123;
- **Notified bodies, market surveillance authorities, and the EU Commission** will have access to the battery model in accordance with points 2 and 3 of Annex XIII;
- **Interested persons** (any natural or legal person with a legitimate interest) will have access in accordance with Points 2 and 4 of Annex XIII. According to Article 77(9), by **18 August 2026**, the Commission shall adopt implementing acts specifying which persons are to be considered persons with a legitimate interest.

9.3. Removability & Replaceability of Batteries

Article 11 of Regulation (EU) 2023/1542 is applicable from 18 February 2027 and contains obligations on the removability and replaceability of portable and LMT batteries that natural or legal persons who place products on the market incorporating them on the market must meet.

Key Requirements:

- *General Obligations (Article 11(1)):*
  - Portable batteries must be removable and replaceable by end-users without professional tools, except for certain categories.
  - LMT batteries must be removable and replaceable by independent professionals, including individual battery cells.
- *Tools for Removal:*
  - Batteries should be removable using basic or commercially available tools.
  - Proprietary tools or specialized tools must be provided free of charge if required.
- *Exceptions for Certain Products:*
  - Batteries in appliances designed for wet environments may be restricted to professional replacement if end-user replacement compromises safety.
  - Medical devices, such as diagnostic and imaging equipment, may require professional battery replacement.
- *Full Derogations from Removability Requirements:*
  - Devices requiring a continuous power supply for safety or data integrity, such as life-sustaining medical devices and data collection equipment, are exempt.
- *Independent Professionals Definition:*
  - Competent operators capable of safely replacing batteries for professional purposes.
- *Compatible Batteries:*
  - Devices must be designed to accept both original and compatible batteries, ensuring no compromise on safety and performance.
- *Availability of Spare Parts:*
  - Portable and LMT batteries must remain available as spare parts for at least five years after a product is last placed on the market.
  - Replacement must be offered at reasonable and non-discriminatory prices.
- *Software Limitations:*
  - Software must not obstruct the replacement of batteries with compatible parts.
  - Practices like "parts-pairing" (restricting battery replacement via software) are prohibited unless necessary for safety or functionality verification.

Based on EU Commission guidelines published on **10 January 2025**, to facilitate the harmonised application of provisions on the removability and replaceability of portable batteries and LMT batteries in Regulation (EU) 2023/1542:

"The removability of portable and LMT batteries is understood to be possible when the battery can be safely taken out of a device by the end user or an independent professional, with or without the use of tools, avoiding damage to the battery and to the device. In turn, the replaceability of portable and LMT batteries means that the battery can be removed and replaced with another battery without damaging or destroying the battery or the device where it is incorporated. This, therefore, enables further operation without affecting the functioning, performance or safety of the device. The obligation in Article 11(1) of Regulation (EU) 2023/1542 on the removability and replaceability of portable batteries by the end user is applicable to entire batteries, and not to individual cells. The end user should be a person having attained the age of majority without any specific experience or related qualifications related to removing or replacing batteries. In the case of LMT batteries, the obligation in Article 11(5) concerning the removability and replaceability by independent professionals is, additionally, applicable at the level of the battery cells included in the battery."

The Regulation states that, beginning from **18 February 2027**, portable batteries integrated into appliances should be removable and replaceable **by the end-user** at any time during the lifetime of the device. Article 11(2) contains two exceptions to this whereby the following products incorporating portable batteries must be designed in such a way as to make the battery removable and replaceable **only by independent professionals**:

- *"(a) appliances specifically designed to operate primarily in an environment that is regularly subject to **splashing water, water streams or water immersion, and that are intended to be washable or rinseable**;*
- *(b) **professional medical imaging and radiotherapy devices**, as defined in Article 2, point (1), of Regulation (EU) 2017/745, and **in vitro diagnostic medical devices**, as defined in Article 2, point (2), of Regulation (EU) 2017/746."*
- Recital 38 provides further that: *"A portable battery should be considered to be removable by the end-user when it can be removed with the use of commercially available tools and without requiring the use of specialized tools, unless they are provided free of charge, or proprietary tools, thermal energy or solvents to disassemble it."*

Furthermore, **batteries for light means of transport** must be replaceable **by an independent professional**.

10. Digitalization

On 21 May 2025, the EU Commission published a proposal for a Regulation of the European Parliament and of the Council amending several EU Regulations, including the Regulations (EU) 2023/1542 as regards digitalisation and common specifications.

The proposed changes primarily focus on enhancing digitalisation and clarifying the use of electronic forms for information, documentation, and conformity assessment procedures under Regulation (EU) 2023/1542. Here are the proposed changes:

1. Introduction of "Digital Contact"

- New Definition: A new definition for 'digital contact' is inserted in Article 3, meaning "any up-to-date and accessible online communication channel through which economic operators can be reached or engaged without the need to register or to download an application."

2. Digitalisation of Documentation

- Conformity Assessment Documentation (Article 17): Records and correspondence for conformity assessment procedures must be drawn up in electronic form. Manufacturers must also provide all information and documentation related to these procedures to the notified body in electronic form.
- EU Declaration of Conformity (Article 18): The EU declaration of conformity must be drawn up in electronic form.
- Manufacturer and Importer Information/Documentation (Articles 38, 41): Information and documentation requested by a national authority from manufacturers or importers to demonstrate conformity must be provided in electronic form.
- Supplier Documentation (Article 39): Information and documentation from suppliers of battery cells and modules to manufacturers must be provided in electronic form, free of charge.
- Authorised Representative Documentation (Article 40): An authorised representative must provide information and documentation requested by a national authority to demonstrate conformity of the battery in electronic form.
- Distributor Documentation (Article 42): Documentation provided by the producer for compliance check by online platform providers must be provided in electronic form.
- Annex Amendments: Annexes VIII (Conformity Assessment), IX (EU Declaration of Conformity), and XIII (Battery Passport Information) are to be amended in accordance with an Annex to the amending Regulation.

3. Economic Operator Identification and Instructions

- Manufacturer and Importer Contact Details (Articles 38, 41): The requirement for a manufacturer to indicate their name, registered trade name or trademark, and postal address is amended to also require a digital contact, indicating a single contact point.
- Instructions and Safety Information (Article 38):
  - For stationary battery energy storage systems, instructions and safety information may be provided in electronic form.
  - If provided electronically, manufacturers must mark on the battery, packaging, or an accompanying document that they are accessible in the battery passport and how to request them in paper format.
  - For systems intended for or reasonably foreseeable to be used by consumers, the manufacturer must provide the safety information in paper format.
  - End-users may request the instructions or safety information in paper format at the time of purchase or up to six months after, and the manufacturer must provide them free of charge within one month.

11. What to Expect Next?

The Battery Regulation instructs the European Commission to develop delegated acts, guidance, or clarifications for numerous articles and chapters. Some of the secondary legislation came into effect, including removability, replaceability, material recovery calculation methodologies, and some of them are anticipated such as the format of the carbon footprint declaration for batteries by 31 December 2025, and the carbon footprint methodology for electric vehicle batteries by 30 September 2025.

Stakeholders in the battery supply chain need these secondary acts to gain a clearer understanding and ensure compliance with the regulatory requirements.

References

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2. https://thebatterypass.eu/assets/images/content-guidance/pdf/2023_Battery_Passport_Content_Guidance_Executive_Summary.pdf
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