

What standards should be used for battery passport API data exchange?

We recommend the following standards to be the foundation of the battery passport API data exchange: HTTPS over TCP/IP shall be the protocol standard candidates and JSON-LD shall be the standard RDF serialisation format for the battery passport payloads as they already are today, e.g. in Gaia-X, Catena-X and NGSI-LD.

What are the key requirements for battery design & manufacturing?

Battery design and manufacturing will need to comply with higher performance, durability and safety requirements, while minimising the environmental footprint. Some of the key requirements of the new Regulation on sustainability, labelling, EoL management and due diligence are described below.

What information should be included in a battery passport?

According to the Regulation, all information included in the battery passport needs to be based on open standards, which are yet to be defined. To ensure interoperability, data need to be in an interoperable format and transferrable through an open data exchange network.

Why are standards important for battery passports?

Standards play a significant role in the context of data processing for battery passports. They provide guidelines, specifications, and best practices for collecting, storing, managing, and exchanging data related to batteries throughout their life cycle. Standards ensure consistency, interoperability and reliability in data processing.

Should data be available upon a battery status change?

Abilities for making data available upon a battery status change. Crucially, for the battery passport to support circular economic activities, the data would need to be made available before a change in the battery status occurs, as actors need the information for their decision on whether to e.g.,

Do you need a SDS for a battery passport?

SDS in battery (material) manufacturing will need to complete SDSs. Passed through the supply chain, these can serve as input for the battery passport. However, information requirements between the

The obligations and deadlines are defined for specific types of batteries, meaning different battery types are affected by different requirements. For example, the carbon footprint calculation applies to industrial batteries, not ...

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Development of mechanically flexible batteries has stalled due to their capacity decay, limited power and energy, and safety issues. Here, advances in flexible electrodes and cell architectures ...

through articles of association, training, rules and regulations, written notification, etc., it puts forward confidentiality requirements on those who can access and acquire trade secrets, including its employees, former employees, suppliers, ...

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across battery supply chains, whilst creating a level playing field with horizontal requirements for all supply chain actors irrespective of their origins. Simultaneously, several implementation challenges have also emerged. These include confidentiality concerns and the existence of data silos between battery supply chain actors,

Innovations in battery technology are driving progress in various industries. Experts constantly strive to improve battery performance by increasing energy density, ...

The main objective of this article is to review (i) current research trends in EV technology according to the WoS database, (ii) current states of battery technology in EVs, (iii) advancements in battery technology, (iv) safety concerns with high-energy batteries and their environmental impacts, (v) modern algorithms to evaluate battery state, (vi) wireless charging ...

Key issues and challenges for the battery industry, corresponding knowledge gaps and recommendations 1 Strategic battery manufacturing and technology standards roadmap 2 1. Context 4 1.1 The Faraday Battery Challenge and standards 4 1.2 FBC Programme - process and objectives 4 1.3 FBC Programme - deliverables

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Section 28.304 - [Effective 4/2/2025] Enhanced driver license or enhanced official state personal identification card; issuance; security measures; radio frequency identification technology; requirements in addition to requirements for standard driver license or official state personal identification card; licensing sanction; issuance of corrected license or card for address ...

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The increase in sales of Electric Vehicles (EVs) boosted the production of Lithium-Ion Batteries (LIBs), which is the technology adopted in this type of vehicles because it provides light storage systems with high energy density and high power density [[1], [2], [3], [4]].The growing adoption of EVs increases the concern about raw materials in LIBs.

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