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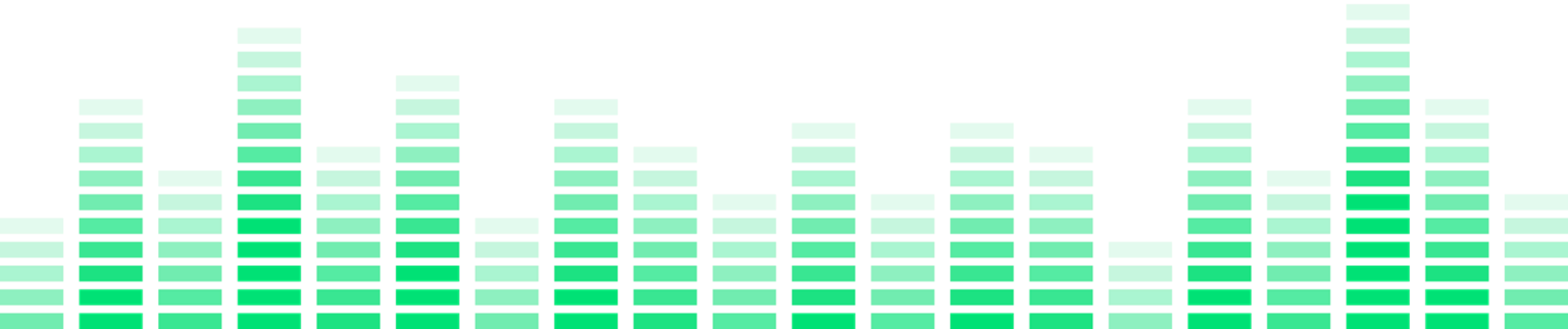
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# Battery Pass

**A consortium to advance the implementation  
of the EU Battery Passport**


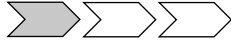

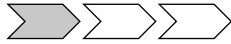

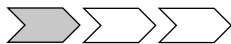

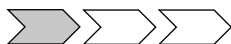



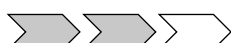









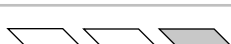




# The Battery Regulation is part of the EU Green Deal and complements the Strategic Action Plan on Batteries

## Key elements of the EU's climate and sustainability efforts

<b>EU Green Deal</b>	Comprehensive plan to make the EU climate-neutral by 2050, safeguard biodiversity, establish a circular economy and eliminate pollution, while boosting the competitiveness of the European industry and ensuring a just transition for the regions and workers affected.
<b>New Industrial Strategy</b>	Framework guiding the development of the industrial sector, aiming to support the EU's broader goals of climate neutrality, digital transformation, and economic growth.
<b>Circular Economy Action Plan</b>	Initiative promoting the sustainable use of resources, especially in resource-intensive sectors with high environmental impact, such as textiles and construction.
<b>Strategic Action Plan on Batteries</b>	Initiative introduced in 2018 as part of the Clean Mobility Package and updated in the context of the EU Green Deal aiming at developing a sustainable and competitive battery value chain in Europe with the objective to ensure a reliable and sustainable supply of batteries.
<b>Battery Regulation</b>	Proposed in 2020, replacing the EU Battery Directive, and likely entering into force in August 2023, it is part of the EU Green Deal and complements the Strategic Action Plan for Batteries by providing a legal framework aiming to make batteries sustainable throughout their entire life cycle.

# The Battery Regulation is a ground-breaking reform on the EU internal market as it covers the entire life cycle and mandates the first digital product passport

Regulation categories	Exemplary requirements	Lifecycle stages
 Restriction of substances	<b>Mercury, cadmium, lead</b> restrictions – delegated acts potentially extending this list	
 Recycled content	Min. levels of <b>recovered cobalt (16%), lead (85%), lithium (6%), and nickel (6%)</b> , increasing over time	
 Due diligence policies	<b>Implementation of a due diligence policy</b> , incl. traceability or chain of custody system	
 Green public procurement	<b>Criteria for sustainable procurement procedures</b> for batterie to be established	
 Labelling and marking	<b>List of general information</b> on battery labels determined; <b>QR Code</b> required	
 Safety parameters	Stationary energy storage systems requiring <b>technical documentation on safety</b>	
 Removability, replaceability	Portable batteries must be <b>easily removable and replaceable</b> by consumers	
 Performance, durability	<b>Minimum performance &amp; durability requirements</b> for batteries will be determined	
 SoH, expected lifetime	<b>Up-to-date data</b> in the BMS to determine SoH and expected lifetime	
 Carbon footprint	<b>Carbon footprint</b> reporting required for the first time and for each model per manufacturing plant	
 Waste battery management	<b>Collection targets</b> as well as <b>min. recycling efficiencies</b> and levels of <b>recovered Co, Cu, Pb, Li, Ni</b>	
 Improved data availability	An electronic record of a battery ( <b>battery passport</b> ) with key static and dynamic data	

Material sourcing & production      Use phase      End of life

# The purpose of the battery passport is to provide transparency and awareness, enable the shift to a circular economy, and create a level playing field

## Purpose of the battery passport



### Provide transparency to impact decisions

- Enable informed decisions based on comprehensive data being provided digitally
- Gain knowledge about the history / story of a product
- Shift from intuitive to conscious decision-making about batteries' design, use and fate



### Enable the shift from linear to circular economies

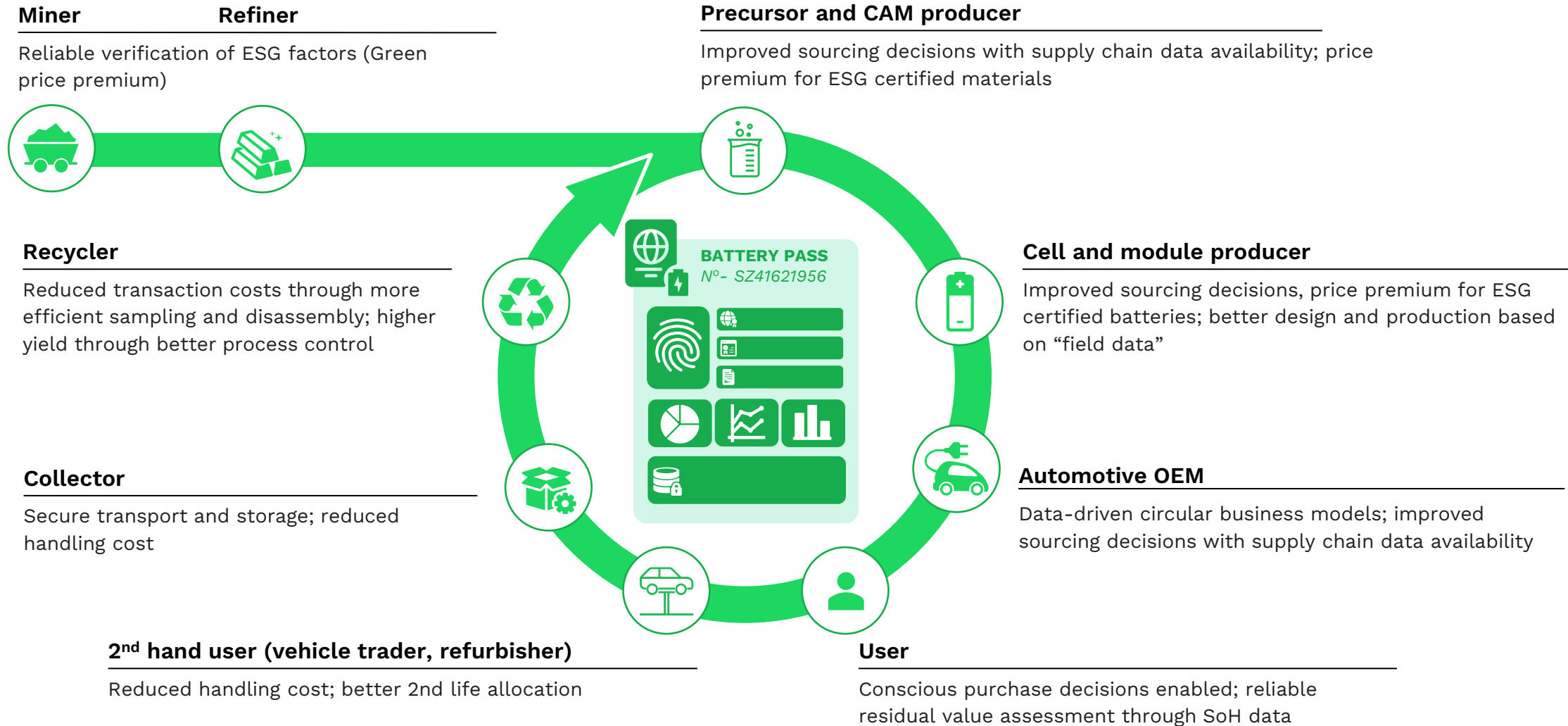
- Provide the required “situational awareness” for batteries including, for example a “product-as-a-service” mode, instead of considering a product a consumable only
- Keep products within the system to save resources and minimize the amount of actual waste
- Switch philosophy from quantity driven to quality driven economy



### Create a battery level playing field

- Build the future battery value chain on multi-stakeholder responsibilities
- Move stakeholders to compete on innovation
- Develop business models that operate on value creation, value capture, and value conservation

# The battery passport will unlock major value along the entire value chain



# The Battery Pass is a consortium of 11 partners from industry, science, technology and beyond, co-funded by BMWK aiming to advance the EU battery passport

## Key facts on the Battery Pass Consortium

- Evolved from the Circular Economy Initiative Germany (CEID)
- Led by system change company Systemiq
- 11 consortium partners from industry, science, technology and beyond
- Co-funded by the German Federal Ministry for Economic Affairs and Climate Action (BMWK) with EUR 8.2 mn
- Aiming to advance the implementation of the EU battery passport mandated by the EU Battery Regulation
- Five work packages incl. coordination and communication, content and technical standards, demonstrator, and value assessment
- 3-year timeframe from April 2022 to April 2025

CONSORTIUM LEAD

SYSTEMIQ

CONSORTIUM PARTNERS

acatech



BASF  
We create chemistry

BMW  
GROUP

Circular

FIWARE  
FOUNDATION

Fraunhofer  
IPK

TWAICE

umicore

VDE  
RENEWABLES

\*under subcontract



Kick-off event of the Battery Pass Consortium in Berlin in April 2022

# The consortium evolved out of the Circular Economy Initiative Germany (CEID) dating back to the year 2016



2016

Decision to found the Circular Economy Initiative Deutschland (CEID)



2019

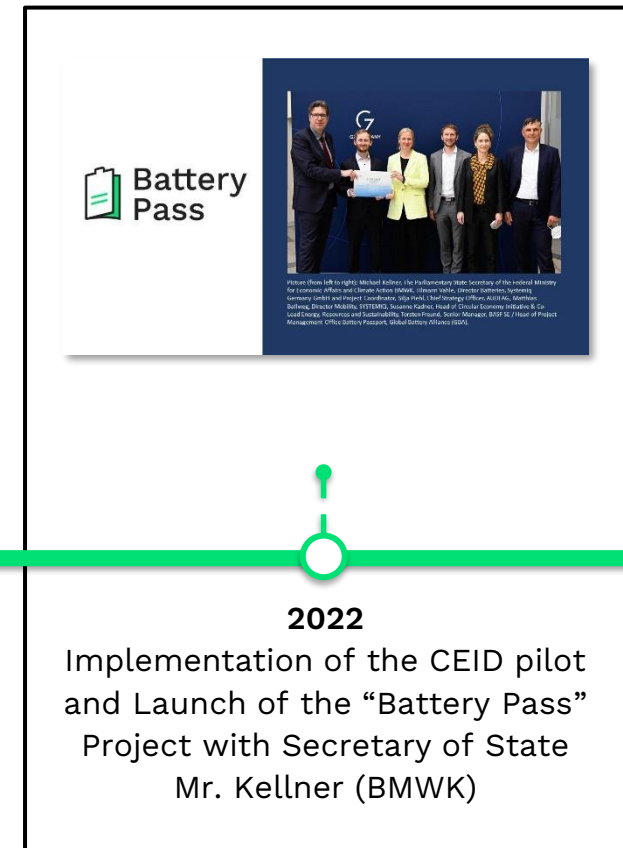
Launch of the CEID with Secretary of State Hr. Rachel (BMBF)



2020/2021

Publication CEID Reports

- EV batteries
- Packaging
- Business Models
- National Roadmap



2022

Implementation of the CEID pilot and Launch of the "Battery Pass" Project with Secretary of State Mr. Kellner (BMWK)

Key CEID members continue collaboration in Battery Pass:



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

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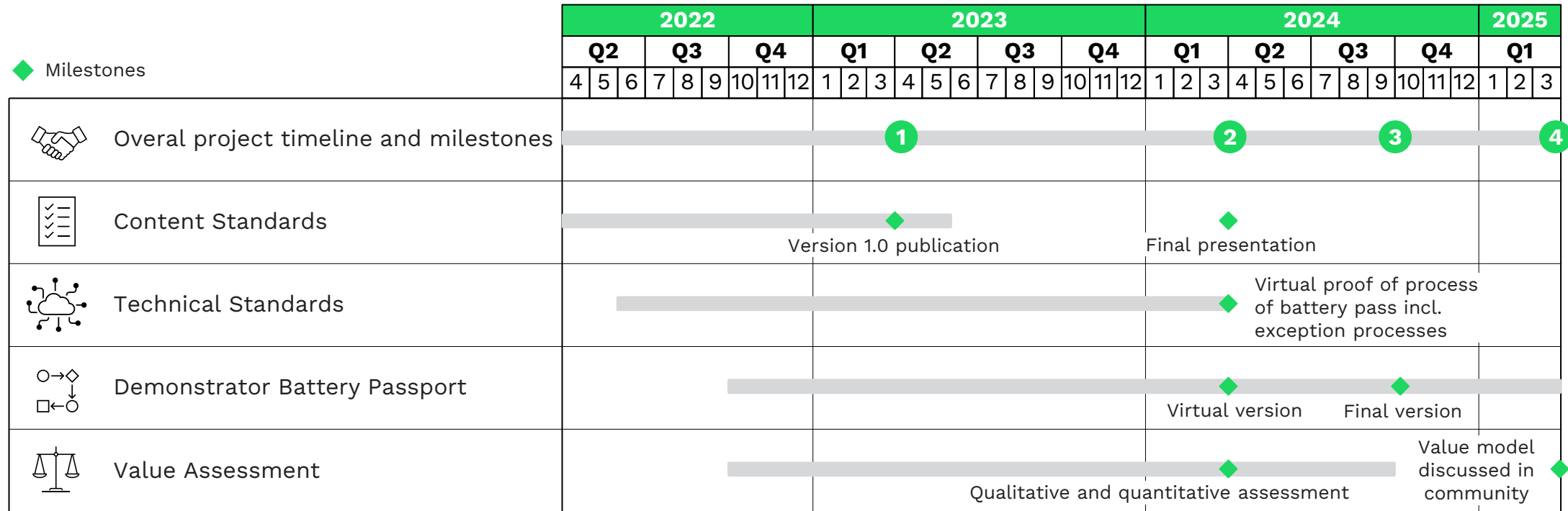
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# The Battery Pass develops a perspective on battery passport content and technical requirements, builds a demonstrator, and assesses the value of the passport

Work packages		Sub-topics	
WP1	<b>Project Coordination and Stakeholder Engagement</b>		<ul style="list-style-type: none"> <li>a) Consortium coordination</li> <li>b) Content governance for quality and coherence</li> <li>c) EU alignment and global compatibility</li> <li>d) External communication for results dissemination</li> <li>e) Scaling up and making results permanent</li> </ul>
WP2	<b>Content Standards</b>		<ul style="list-style-type: none"> <li>a) Carbon footprint</li> <li>b) Supply chain due diligence</li> <li>c) Circularity and resource efficiency</li> <li>d) Performance and durability</li> <li>e) Responsibility and liability</li> <li>f) Auditability</li> </ul>
WP3	<b>Technical Standards</b>		<ul style="list-style-type: none"> <li>a) Reference models for data collection along battery life cycle</li> <li>b) Contextualization regarding EU and global data spaces</li> <li>c) Process and access logics based on the reference models</li> </ul>
WP4	<b>Demonstrator</b>		<ul style="list-style-type: none"> <li>a) Data infrastructure</li> <li>b) Data storage &amp; process execution</li> <li>c) Integration with Catena-X/ EES/ Gaia-X</li> <li>d) Demonstration</li> </ul>
WP5	<b>Value assessment</b>		<ul style="list-style-type: none"> <li>a) Benefit modelling of individual use cases</li> <li>b) Benefit modelling of the battery passport overall</li> </ul>



# Overall, the project runs 3 years starting with content and technical standards proposals in the first year, to be validated and demonstrated subsequently



- 1 Concept model for data and auditing
- 2 Technical system model
- 3 Demonstrator in use
- 4 Use case model and follow-up for implementation

# The Battery Pass consortium draws upon a network of associated and supporting partners and guidance of the Battery Pass Advisory Council

## The Battery Pass partner network

### Associated Partners



### Supporting Partners

Still growing...



### Advisory Council



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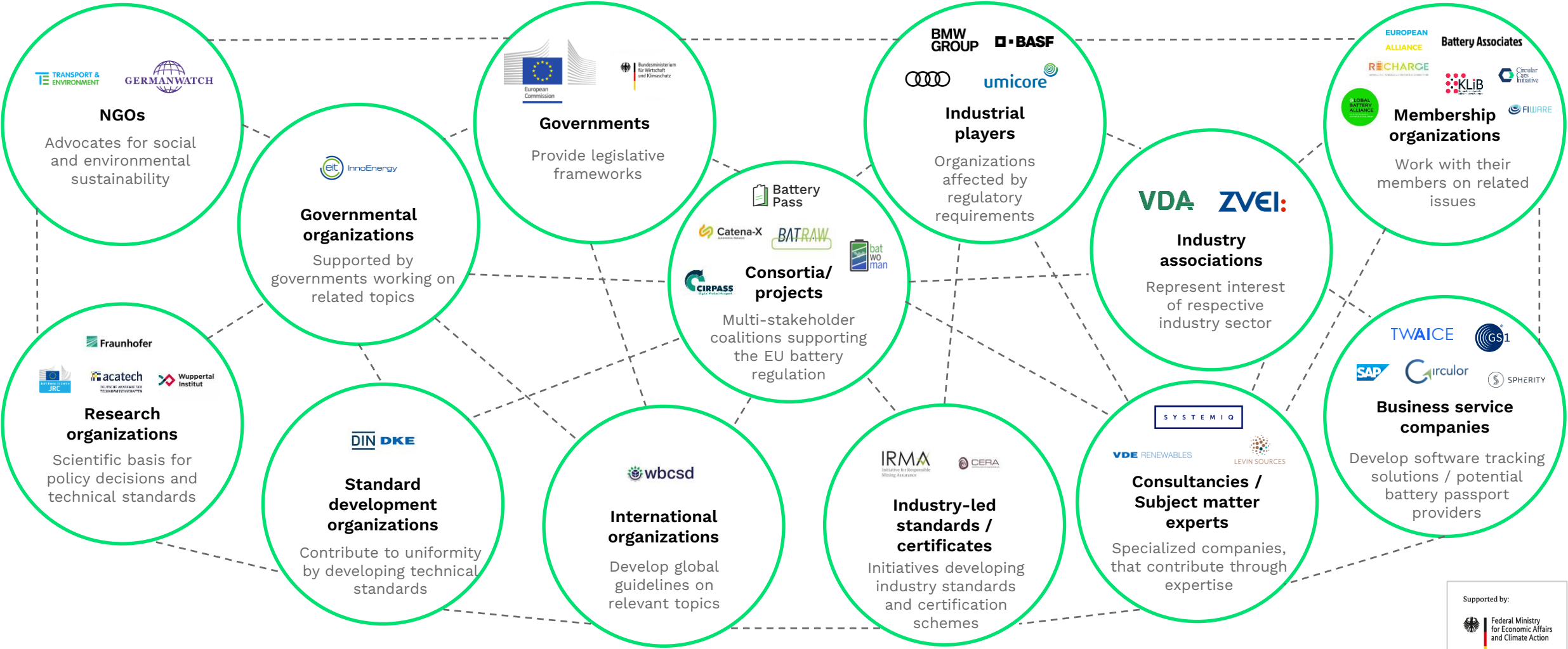
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# The Battery Pass consortium has established contacts across all major battery passport ecosystem stakeholder archetypes

Exemplary organizations



# Maximum harmonization and synergy potential is ensured through close alignment and collaboration with other key battery passport initiatives

## Global Battery Alliance

Collaboration with GBA on setting globally harmonized **rules to calculate the carbon footprint** of batteries (Battery Pass extends the GBA GHG rulebook by the distribution and EOL phase) and alignment on **responsibility indicator frameworks** (e.g., human rights, child labour etc.).

## Catena-X Automotive Network

Aligning with Catena-X on developing an information model for **common data governance** principles. In addition, Battery Pass brings in further battery-specific expertise for the development of an **open ecosystem for information exchange**.



Developing content and technical guidance for the battery passport as foundational requirements for EU regulatory compliance and beyond



## CIRPASS

Supporting CIRPASS on the development of a **unified digital product passport approach** across multiple value chains by bringing in very detailed battery-specific insights.

## World Business Council for Sustainable Development

Working with WBCSD on aligning and harmonizing the GBA GHG rulebook as well as Battery Pass rules with the PACT pathfinder framework.



Knowledge exchange with JRC across several content clusters on **regulatory requirements** and implementation options



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# Some of the Battery Pass project highlights and progress during the last year

First consortium workshop at Umicore in Hanau



Industry consultation attracts 100 organizations submitting 250 comments



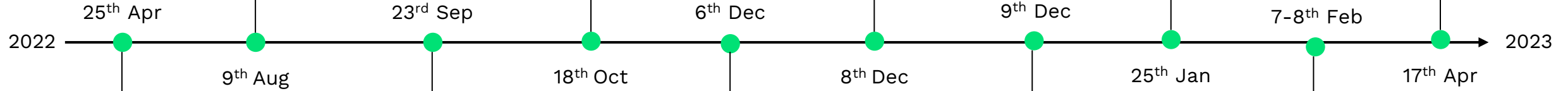
2<sup>nd</sup> in person workshop at Systemiq in Munich



Battery Pass and CIRPASS meet in Munich for a workshop to align collaboration



Publication of Content Guidance at Hannover Messe



Project kick-off with state secretary Kellner



First Advisory Council meeting at BMWK in Berlin



Battery Pass participates at TAIEX conference in Brussels



Parliament and Council reach provisional agreement on EU Battery Regulation

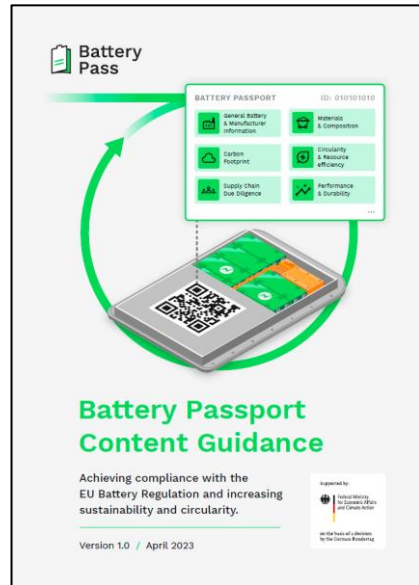


3<sup>rd</sup> in person workshop at BASF in Ludwigshafen

# Until now, the Battery Pass has published five documents that help organisations to understand battery passport related content requirements

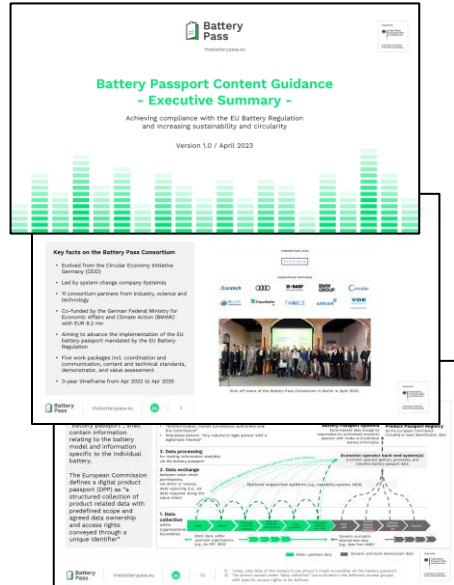
Click on the documents to start the download directly

## Battery Passport Content Guidance



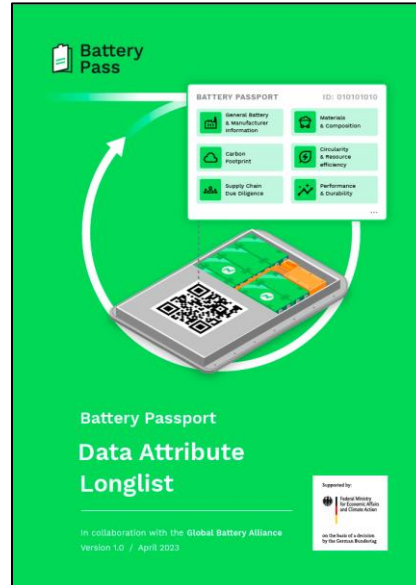
**Comprehensive report**  
PDF (200 pages)

Aggregates and interprets the content requirements for the battery passport as mandated by the EU Battery regulation and beyond enabling economic operators and other battery value chain players to prepare for the implementation.



**Executive Summary**  
Slide deck

Summarises the key insights and recommendations of the main Battery Passport Content Guidance report for industry and battery passport ecosystem representatives with only little time.

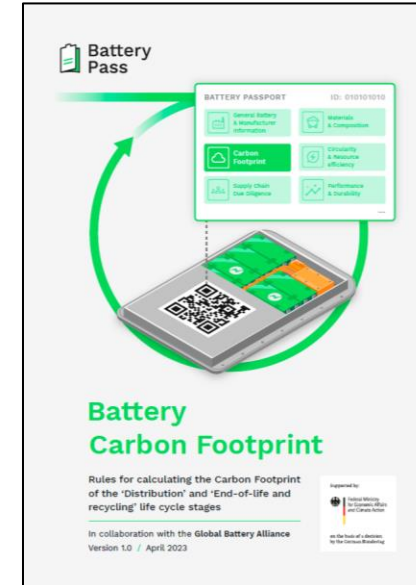


**Data attribute longlist**  
Excel file

Includes all data attributes required (and suggested) for the battery passport alongside definitions as well as further relevant data dimensions. Can serve as a first basis for the technical demonstration and implementation of the passport within the own organisation.

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## Carbon Footprint specific documents



**Carbon Footprint Rules**  
Report

Specifies accounting rules to calculate company-specific carbon footprints of the battery 'Distribution' and 'End-of-life and recycling' life cycle stages, complementing the GBA GHG Rulebook. Mainly of relevance for LCA practitioners.



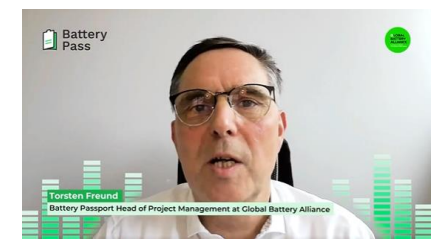
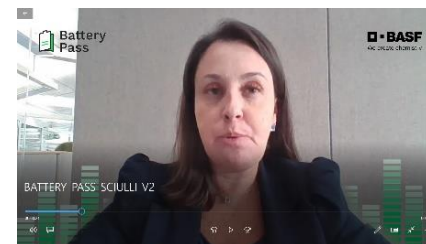
**Carbon Footprint EOL Analysis**  
Report

Comparatively assesses the three main EOL allocation approaches and their implications on the carbon footprint. Mainly of relevance for LCA practitioners and policy-makers.

# Curious to learn more about the Battery Pass partners?

## Battery Pass presents its Consortium partners

If you would like to learn more about the “Battery Pass” project, follow us on [LinkedIn](#) and watch our latest video campaign presenting the individual Battery Pass consortium partners and providing lots of background information on the project and the topic of battery passports in general





## Want to keep informed or get involved?

We appreciate your interest in “Battery Pass” and welcome contributions. If you would like to learn more about the “Battery Pass” project or engage as a supporting partner, follow us on [LinkedIn](#) , [subscribe to our newsletter](#) or [contact us directly](#).



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