

Presentation of the Batt4EU Partnership

Towards a competitive European industrial battery value chain for stationary applications and e-mobility - A European Partnership under Horizon Europe

Ambition of the Partnership

The Batt4EUPartnership's vision

To establish by 2030 in Europe the best in the world innovation ecosystem to boost a competitive, sustainable and circular European battery value chain and to drive the transformation towards a carbon-neutral society

- Only a **partnership**, i.e. a long-lasting and coordinated effort involving industry, research and the public sector, can live up to the challenge and bring predictability to the European battery value chain stakeholders.

By pooling Europe's resources and knowledge, partnerships have demonstrated their efficiency for accelerating the development, industrialisation and deployment of strategic technologies that underpin growth and jobs in key sectors of the European economy

Towards a competitive European industrial battery value chain for stationary applications and e-mobility

General objectives

1. Contribute to making Europe the first climate-neutral continent by 2050 by widespread adoption of e-mobility and stationary electrical energy storage
2. Enable European leadership in the battery industry across the value chain, creating economic growth and jobs in a circular economy, by supporting the development of an innovative, competitive and sustainable battery manufacturing industry in Europe
3. Contribute to achieving a zero-pollution ambition for a toxic-free environment, by providing safer and more sustainable batteries and processes (along the whole value chain, including recycling).

Specific objectives

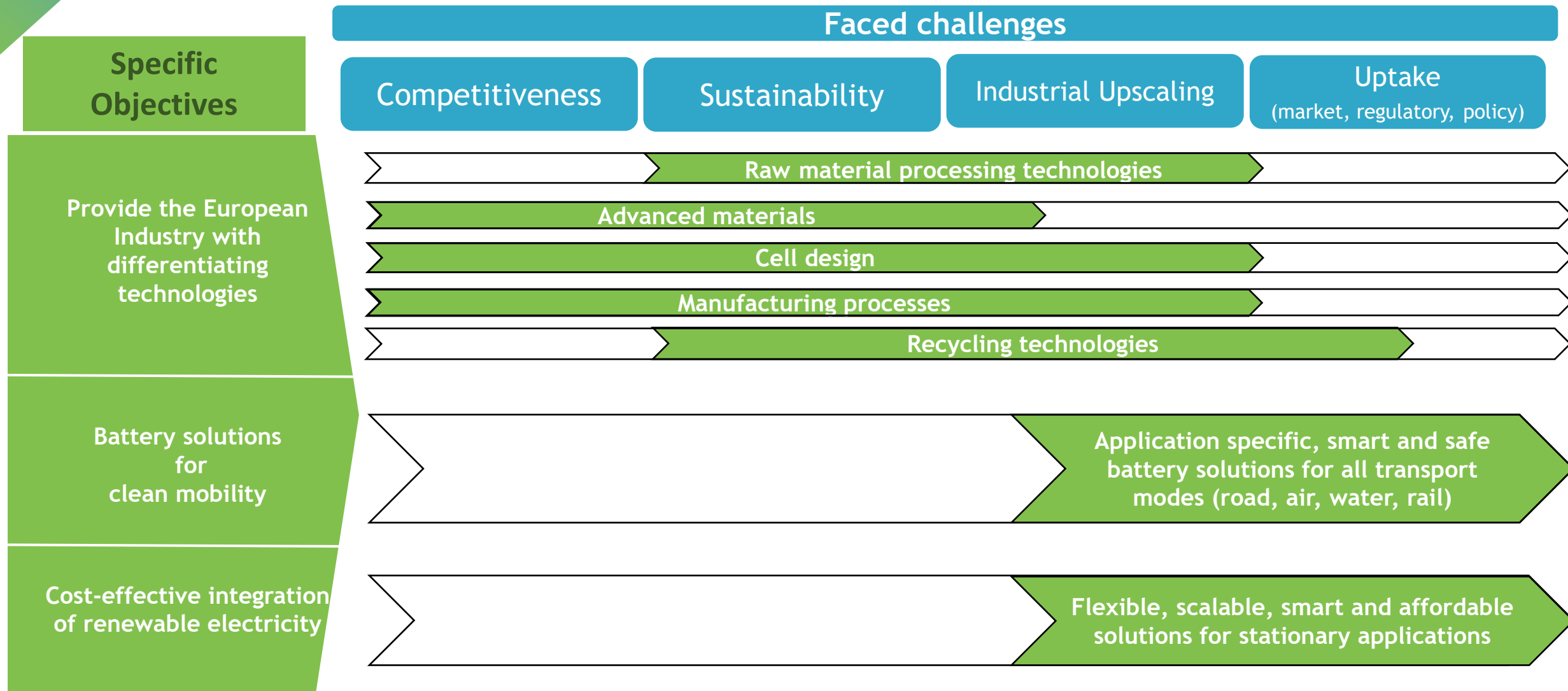
1. Support the development of differentiating technologies in battery materials, cell design and manufacturing and battery recycling, leading to demonstrations of new chemistries, cells, production lines and proof of concept of recycling logistics and methods.
2. Accelerate the development and deployment of sustainable and affordable battery solutions for clean mobility, by building a strong innovation ecosystem with downstream partnerships leading to joint demonstrations in different transport modes
3. Enable a cost-effective integration of renewable energy sources in the power grid, by developing affordable batteries for stationary energy storage applications, leading to demonstrations of different scales of storage systems.

Technical objectives (2030 targets vs 2019 values, in line with SET Plan)

1. Increase energy density +60%
2. Increase power density and charging rate (charging time < 20')
3. Improve cycle lifetime > 2x
4. Reduce battery cost - 60%
5. Ensure battery safety⁽¹⁾
automotive 4 / aviation and waterborne 2
6. implement BAT in manufacturing and recycling operations (plants 4.0 or 5.0)
7. Improve sustainability and circularity)

⁽¹⁾ EUCAR cell safety level

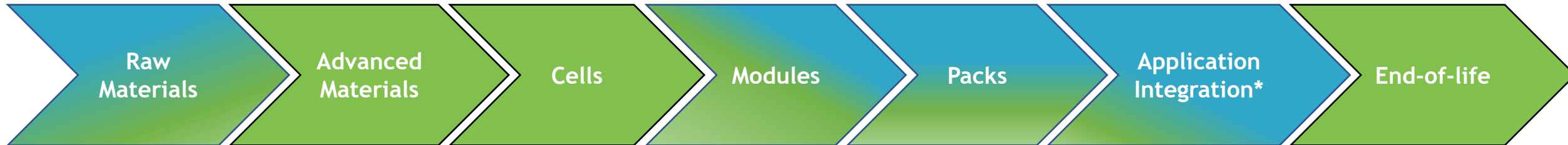
A clear intervention logic, identifying the key challenges to be tackled by the detailed targets for each specific objective



Scope of the Partnership

For applications sectors with a dedicated partnership, this dedicated partnership will take the lead on the downstream R&I segments activities **specific to this sector*

- While R&I has to be conducted on all parts of the value chain, advanced materials development and battery cell design & manufacturing are seen as the key activities for which a well-structured coordination will allow Europe to develop the most differentiating technologies



- The Partnership should therefore allocate **a substantial part of its resources** on these segments of the value chain, along with circular economy aspects
 - Active material and related components (battery-grade raw materials, cathodes, anodes, binders, electrolytes (particularly solid-state future electrolytes), the processes and equipment to manufacture them, and novel methods for accelerated discovery and engineering of materials and interfaces)
 - Other materials (separators, casing, mechanical components,...)
 - Cell assembly technologies: the transition to solid state creates the opportunity to invest in new technologies to compete worldwide, but it requires advanced technology for manufacturing: specialised equipment for new manufacturing technologies...
 - Re-use, recycling, secondary raw materials from recycling
 - Regarding applications, the Partnership will mainly focus on batteries for decarbonised transport and stationary energy storage.
- Appropriate balance between short-to-medium term and long-term R&I activities
 - enhancement of close-to-market Li-ion technologies (TRL 5-8)
 - new promising and longer-term breakthrough technological solutions (TRL 2-4)

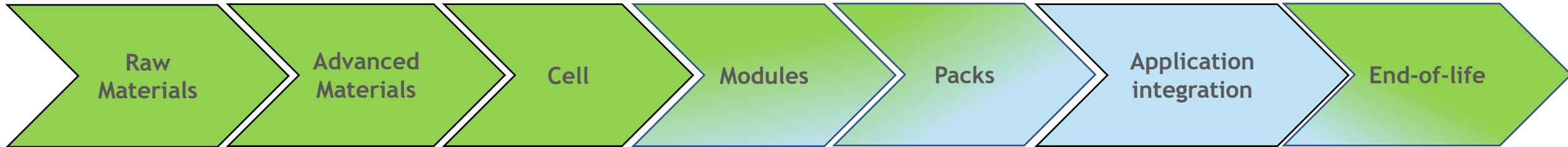
Interactions and synergistic effects with other Partnerships

Applications sectors with a dedicated Partnership

- 2Zero
- Clean Aviation
- Zero-emission waterborne transport
- Transforming Europe's rail system

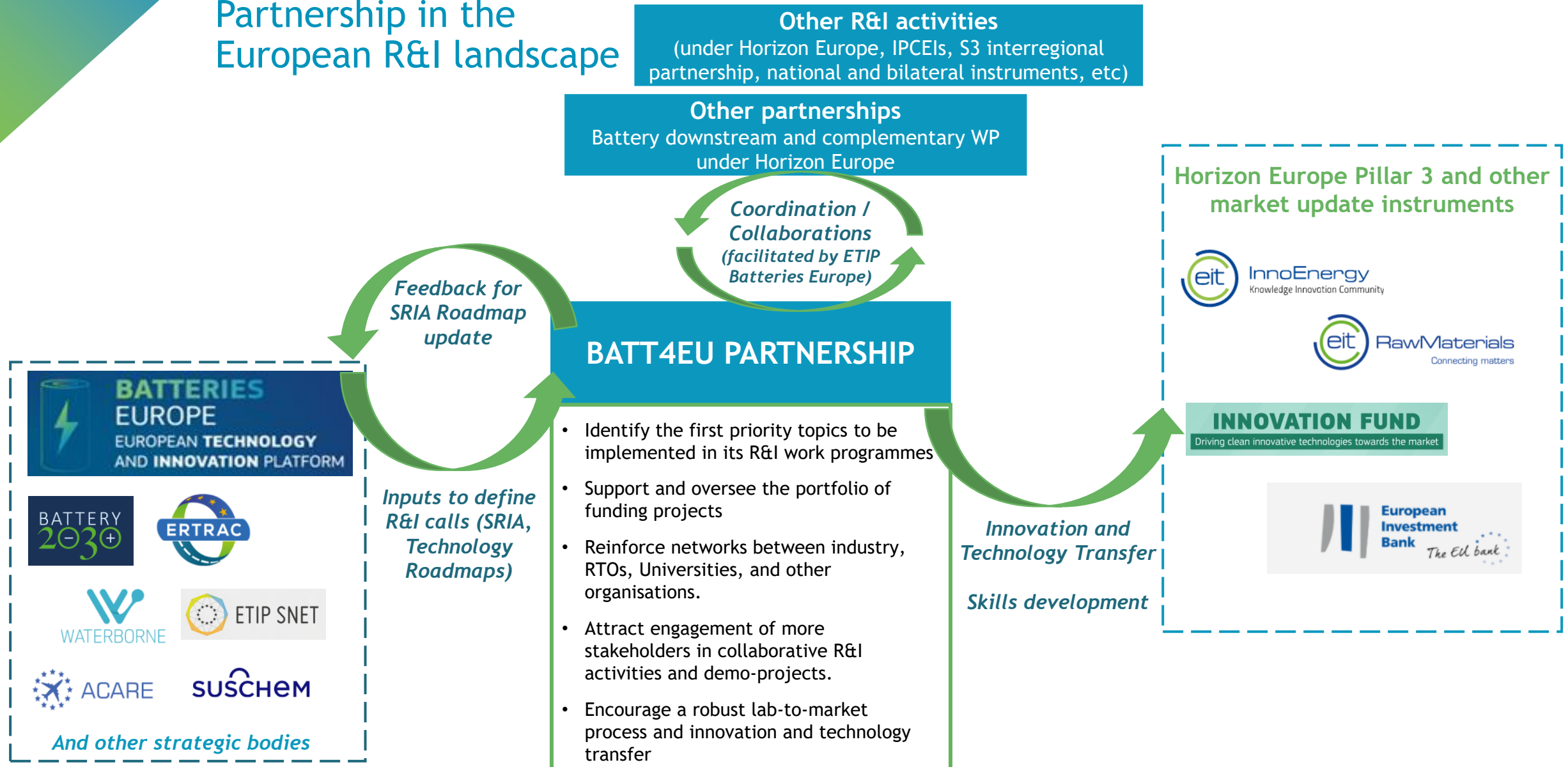
The dedicated partnership takes the lead on the downstream R&I segment activities specific to this sector

2Zero Partnership as an example



- 2Zero will be responsible for R&I activities dealing with the **integration** in the vehicle, **charging infrastructures**, etc.
- Topics related to **battery modules**, **battery packs** and **battery management system** will be addressed as interface in both partnerships. The responsibility will be allocated to main research focus (i.e. either upstream (material, cell or battery manufacturing innovations) or downstream (vehicle integration,...))

The Batt4EU Partnership in the European R&I landscape



Why joining the Partnership?

The Batt4EU Partnership have the following main missions:

- to provide recommendations for calls for proposals supported within the specific parts of the Horizon Europe Work Programmes related to batteries;
- to implement and regularly update the commonly agreed Strategic Research and Innovation Agenda (SRIA) for batteries;
- to support and oversee the portfolio of projects funded under the Partnership Work Programmes, to monitor their execution phase, and to disseminate their results ;
- to create/reinforce networks between the battery industry (including start-ups and SMEs), RTOs, universities and other organisations, and to ensure synergies with other European Partnerships and initiatives;
- to support the development of EU regulations on battery standards, safety, and sustainability;
- to actively promote and monitor innovation uptake in the market.

Why joining the Partnership?

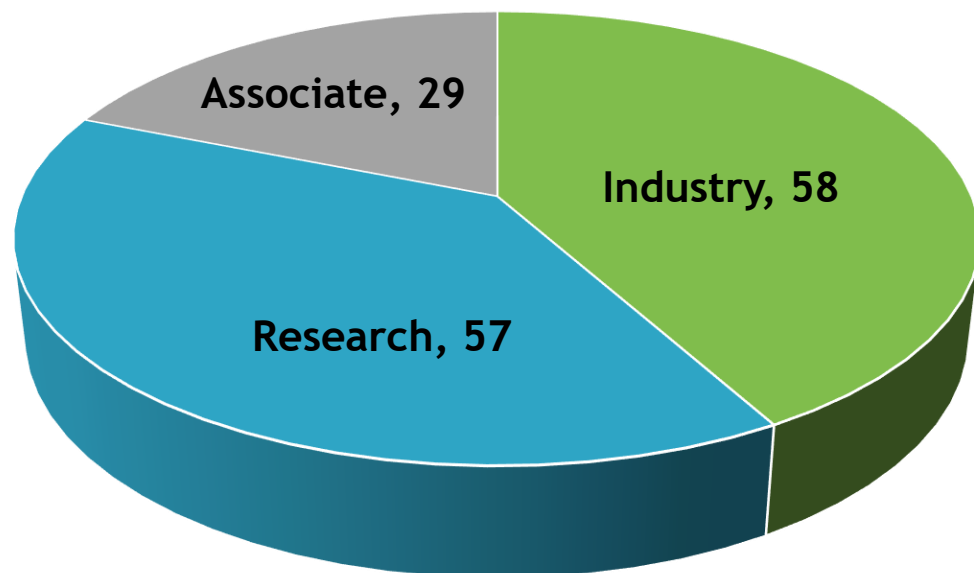
Being involved in BEPA provides the following benefits:

- First hand information on the **industrial R&I roadmap**;
- First hand view of **impactful research findings** generated in Europe (in Horizon Europe projects);
- Opportunity to significantly **contribute to the direction of battery research**, drive the prioritisation of research topics and ability to impact it;
- Be part of a **strong industrial network** with a focus on innovation;
- **Overview and understanding of the entire value chain** and the potential impacts of upcoming innovations across all sectors;
- **Understanding of the potential impact of innovations** resulting from research employing cross cutting topics (e.g. digitalisation);
- **Understanding of the technology readiness** (what's in the pipeline!)
- **Strong connections to other European Partnerships** which influence the battery industry;
- Understanding of the **requirements and conditions** that will be / is created by European regulations.

Batteries European Partnership

The Batteries European Partnership Association (BEPA)

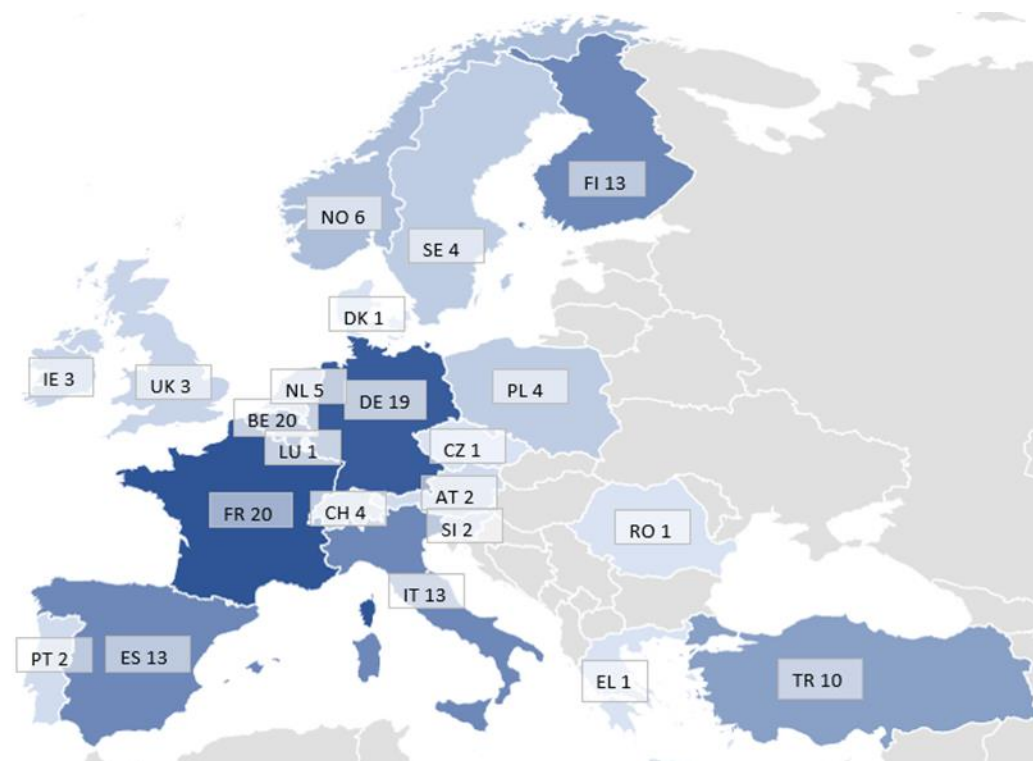
BEPA MEMBERS - *Overview*



Total number of BEPA members: 144

Update 22.03.2021

Geographical distribution of BEPA members



BEPA MEMBERS - *Industry members*

Industry members - Large

1	Akerma	20	Scania
2	AVL List	21	Solvay
3	BMW	22	Stora Enso
4	COMAU	23	THALES Research and Technology
5	Daikin Chemical Europe	24	Umicore
6	Dow Europe	25	VALEO Systemes Thermiques
7	DuPont		
8	EDF		
9	ElringKlinger		
10	Enel X		
11	FEV Europe		
12	Fortum		
13	FPT Industrial		
14	Iberdrola		
15	Infineon Technologies		
16	Leonardo Company		
17	Metso Outotec		
18	RENAULT		
19	SAFRAN		

Industry members - Intermediate

1	Allnex
2	BLUESOLUTIONS
3	Bozankaya
4	Coskunoz Kalip Makina
5	Croda Nederland
6	Exide Technologies
7	Finnish Minerals Group
8	HOPPECKE Batterien
9	MANZ
10	Midac
11	Mondragon Assembly
12	Rain Carbon
13	SAFT
14	TOGG

Industry members - Medium

1	Aspilsan Enerji
2	Baikowski
3	KIC Innoenergy
4	Phase Motion Control

Industry members - Small

1	Akkurate
2	Avesta Battery & Energy Engineering
3	Delft IMP
4	EIT Raw materials
5	ENERSENS
6	Geyser Batteries
7	Green Energy Storage
8	I-FEVS
9	IN-CORE SYSTEMES
10	INGECAL
11	MGM COMPRO
12	Nanocyl
13	Spinverse
14	SUNERGY
15	Talga

BEPA MEMBERS - *Research members*

Research members - Large					
			Mondragon Goi Eskola Politeknikoa Jose Maria Arizmendiarieta		
1	Aalto University	21		41	University of Oulu
2	AIT	22	NTNU	42	University of Patras
3	CEA	23	Paul Scherrer Institut	43	University of Twente
4	CNRS	24	Pavol Jozef Safarik University in Kosice	44	Uppsala University
5	DTU	25	Politecnico di Milano	45	VITO
6	Empa (Swiss Federal Laboratories for Materials Science and Technology)	26	Politecnico di Torino	46	VTT
7	FBK (Fondazione Bruno Kessler)	27	RISE	47	Warsaw University of Technology
8	Forschungszentrum Jülich	28	RSE		
9	Fraunhofer-Gesellschaft	29	Sabancı University		
10	Geologian tutkimuskeskus	30	SINTEF		
11	Helmholtz-Zentrum Berlin	31	SINTEF Energy		
12	IFE (Institute for Energy Technology)	32	Technische Universität Braunschweig		
13	IFPEN (IFP Energies nouvelles)	33	TECNALIA		
14	IKERLAN	34	TEKNIKER		
15	ILL (Institut Max von Laue - Paul Langevin)	35	Trinity College of Dublin		
16	IMEC	36	UBFC		
17	Istanbul Okan University	37	University of Antwerp		
18	KEMIJSKI Institut	38	University of Limerick		
19	LEITAT Technological Center	39	University of Ljubljana		
20	Lukasiewicz Research Network	40	University of Muenster (WWU)		

Research members - Small	
1	CIC energiGUNE
2	CIDETEC
3	ICSI Rm. Valcea
4	IMDEA Materials
5	INL (International Iberian Nanotechnology Laboratory)
6	INSTM (National Interuniversity Consortium of Materials Science and Technology)
7	IREC
8	ITE (Instituto Tecnológico de la Energía)
9	Sivas University of Science and Technology
10	TUBITAK RUTE

BEPA MEMBERS - *Associate members*

Associate members			
1	AVERE	21	GigaVaasa
2	BatteryPlat	22	Hessen Trade and Invest
3	BayFOR	23	IBAT
4	CEFIC (The Phosphorus, Inorganic and Nitrogen Flame Retardants Association, a Sector Group of Cefic)	24	KEMIANTEOLLISUUS (Chemical Industry Federation of Finland)
5	CLEPA	25	KLiB
6	Cluster Portugal Mineral Resources	26	National Fund for Environmental Protection and Water Management of Poland
7	Cobalt Institute	27	RECHARGE
8	Consortium for Battery Innovation	28	UKRI
9	Cursor	29	VDI/VDE Innovation + Technik
10	EARPA		
11	EASE		
12	ELV Environmental Services		
13	EMIRI		
14	EUCAR		
15	EUROBAT		
16	European Copper Institute		
17	European Industry Innovation Foundation (EIIF)		
18	Eyde-Klyngen		
19	Febelauto		
20	French Mobility		

BEPA - Governance structure

Private side association

General Assembly

Industry members

Research members

Associate members



Executive Board

10 members (inc. Secretary General)



Office

Secretary General
+ Staff



Association Delegation

25 members (Inc.
Executive Board)



Partnership Board

EC Delegates

DG RTD
DG MOVE
DG ENER
DG CNECT
DG CLIMA



Alignement Board with MS

BEPA - Governance bodies composition

Balanced representation

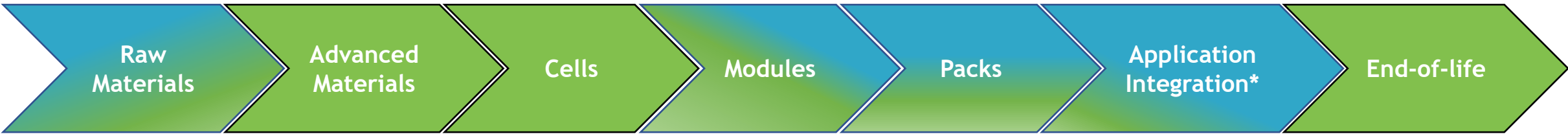
- between all sectors of the value chain, reflecting the key challenges
- between Industry and Research members

Executive Board and Association Delegation members

- represent their sector
- elected by G.A., possibly upon nomination from sector representative associations

3 types of members

- **Industry Members**
- **Research Members**
- **Associate Members**



Association Delegation

Executive Board			1 Chair (Manufacturing industry) + 1 Vice-chair (Adv. Mat.)			
	1 RM		1 Batt. Manufacturing supply		1 Automotive 1 Other application	1 Recycling
	1 Research Vice-Chair + 1 Research					
	Secretary General					
	1 RM	2 Adv. Mat.	3 Manufacturing industry 1 Batt. Manufacturing supply		1 Automotive 1 Auto supply 1 Stationary 1 Other	1 Recycling
	3 Research					
	2 Observers from sector representative associations					

Who can join BEPA?

Membership is open to all legal persons interested to contribute to the activities of the Partnership. With some basic conditions (eligibility criteria art. 5.1):

- ✓ established in the European Union or in a country associated to EU RTD Framework Programme
- ✓ activities within the scope of the European Batteries Partnership
- ✓ sharing and supporting the objectives of European Batteries Partnership
- ✓ committing to the Strategic Research Agendas and roadmaps of one of the European Technology and Innovation Platforms (ETIPs) supporting the Batteries European Partnership
- ✓ willing to actively contribute as partner in projects of the European Framework Programme for Research and Innovation

Membership categories

➤ FULL MEMBERS (entitled to vote)

➤ INDUSTRY

- Battery raw materials industry
- Battery advanced materials industry
- Battery manufacturing industry
- Battery manufacturing supply industry
- Automotive industry (including automotive supply industry)
- Other applications industries (stationary storage, Maritime, Aviation, Rail, industrial applications...)
- Recycling industry

➤ RESEARCH

- Research Institutes and Universities --- non-profit-making

➤ ASSOCIATE MEMBERS (not entitled to vote)

Industry members (inc. for profit research)	Annual fee
Large (headcount>5000 and turnover >1,5bn€)	9.500,00 €
Intermediate (headcount 250-4999 or turnover 50ml-1,5bn €)	7.500,00 €
Medium* (headcount 50-249 or turnover 10-50ml €)	5.000,00 €
*SMEs (headcount 50-249 and turnover <50ml €)	2.500,00 €
Small (headcount<50 and turnover <10ml €)	1.500,00 €
Research members (non profit)	
Large (headcount>250)	4.000,00 €
Small (headcount<250)	2.500,00 €
Associate members (membership without voting right)	
Associations, NGOs and other stakeholders	1.000,00 €

How to become a member of BEPA?

- To become a member of BEPA, please fill in the application form [at this link](#).
- Once the application is submitted online: signed PDF version must be sent out via physical mail + email to BEPA Office (info@bepassociation.eu)
- Your application will be checked and submitted to BEPA Executive Board for approval. BEPA Office will then inform you when your application process will be finalised.

The screenshot shows the EUSurvey interface for an application form. At the top, there's a dark blue header with the EUSurvey logo. Below it, a checkbox is checked, indicating that a backup should be saved on a local computer. The main title of the form is 'APPLICATION FOR MEMBERSHIP OF THE BATTERIES EUROPEAN PARTNERSHIP ASSOCIATION'. A yellow box contains a note: 'Fields marked with * are mandatory.' Below this is a disclaimer box with a close button (X). The disclaimer text states that the European Commission is not responsible for the content of questionnaires created using the EUSurvey service. The form title is repeated: 'APPLICATION FOR MEMBERSHIP OF BEPA AISBL - THE BATTERIES EUROPEAN PARTNERSHIP ASSOCIATION'. A instruction line says: 'In order to proceed with your membership application, please complete and submit this form:'. The section is titled 'YOUR ORGANISATION'. There are two mandatory fields: 1. 'Legal name (full name of the organisation)' with a sub-note 'As stated in the legal statute of the registration act/deGREE establishing the organisation.' and a text input field. 2. 'Establishment / Registration country' with a sub-note 'Country of registration or establishment of the organisation' and a dropdown menu. At the bottom, there is a label 'Legal organisation's address:' followed by a text input field.

EUSurvey

☒ Save a backup on your local computer (disable if you are using a public/shared computer)

APPLICATION FOR MEMBERSHIP OF THE BATTERIES EUROPEAN PARTNERSHIP ASSOCIATION

Fields marked with * are mandatory.

Disclaimer
The European Commission is not responsible for the content of questionnaires created using the EUSurvey service - It remains the sole responsibility of the form creator and manager. The use of EUSurvey service does not imply a recommendation or endorsement, by the European Commission, of the views expressed within them.

APPLICATION FOR MEMBERSHIP OF BEPA AISBL - THE BATTERIES EUROPEAN PARTNERSHIP ASSOCIATION

In order to proceed with your membership application, please complete and submit this form:

YOUR ORGANISATION

* Legal name (full name of the organisation)
As stated in the legal statute of the registration act/deGREE establishing the organisation.

* Establishment / Registration country
Country of registration or establishment of the organisation

Legal organisation's address:



Thank you!

Contact: info@bepassociation.eu

Website: <https://www.bepassociation.eu/>

