



# **BATTERIES | Towards a competitive European industrial battery value chain for stationary applications and e-mobility**

**A European Partnership under Horizon Europe**



*Batteries European Partnership*

# Presentation of the Batteries European Partnership

## Ambition of the Partnership

### The Batteries Partnership'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 make Europe the 1<sup>st</sup> climate-neutral continent by 2050
2. Enable the European leadership in the battery industry across the value chain, creating economic growth and jobs in a circular economy
3. Contribute to achieve a zero-pollution ambition for a toxic-free environment

## Specific objectives

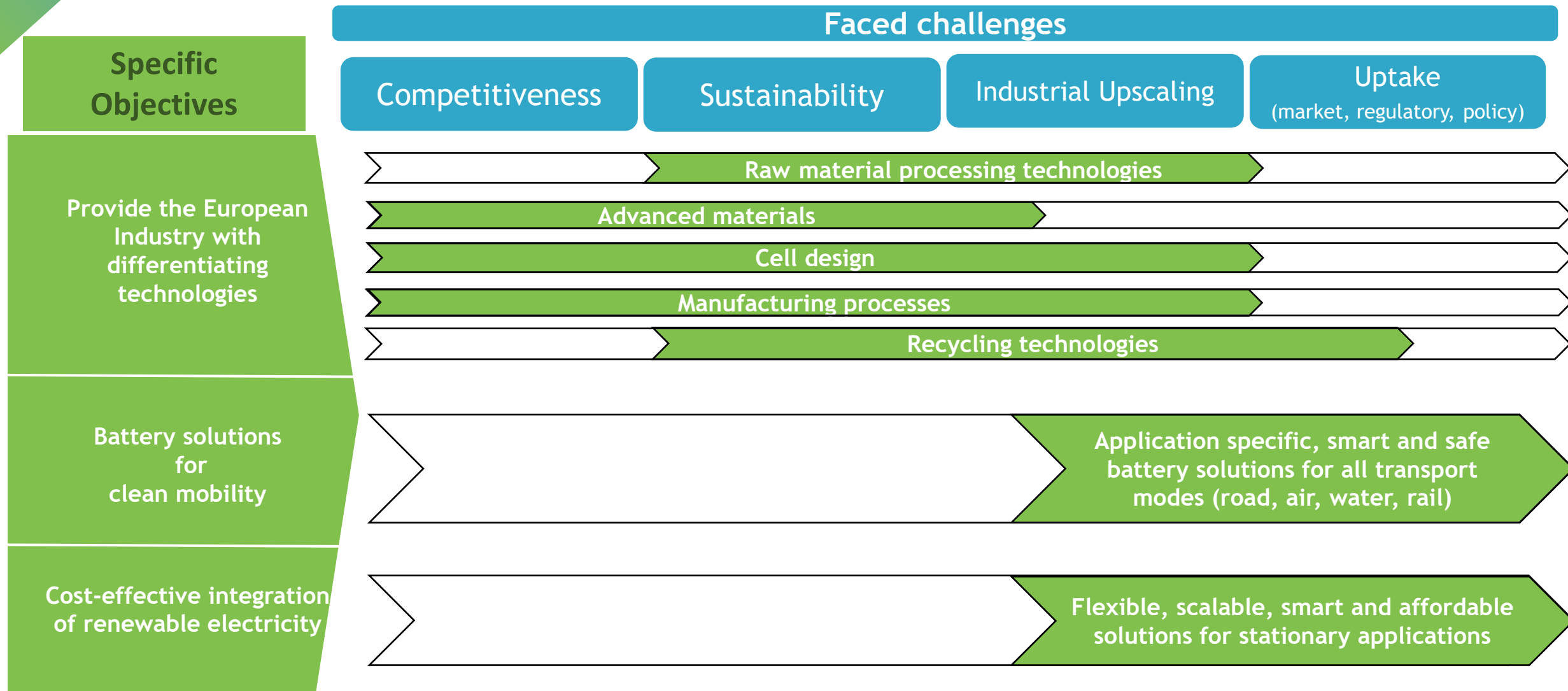
1. Provide the European Industry with differentiating technologies, supporting the development of an innovative, competitive and sustainable battery manufacturing industry in Europe
2. Develop sustainable and affordable battery solutions for clean mobility
3. Enable a cost-effective integration of renewable energy sources in the power grid

## 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<sup>(1)</sup>  
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)

<sup>(1)</sup> EUCAR cell safety level

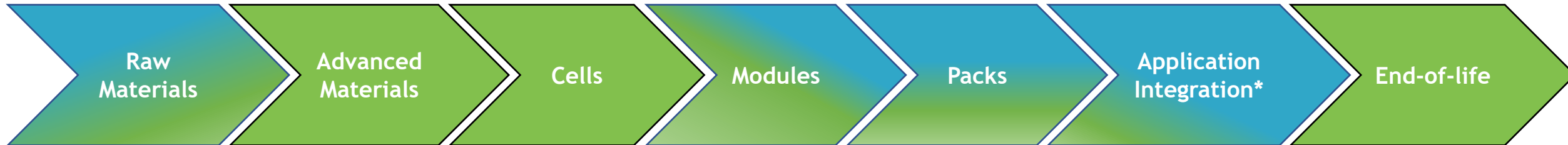
A clear intervention logic, identifying the key challenges to be tackled by the detailed targets for each specific objective



## 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)

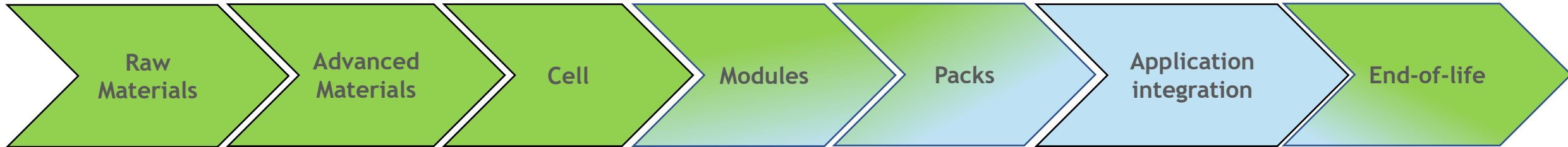
# Interactions and synergistic effects with other Partnerships

## 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 Partnership on Batteries in the European R&I landscape

**Other R&I activities**  
(under Horizon Europe, IPCEIs, S3 interregional Partnership, national and bilateral instruments,...)

**Other Partnerships**  
Battery downstream & complementary WP under Horizon Europe

*Coordination / Collaborations*  
(facilitated by ETIP Batteries Europe)

*Feedback for*  
*SRIA / roadmaps update*

*Horizon Europe Pillar 3*  
*and other market uptake instruments*

 **InnoEnergy**  
Knowledge Innovation Community

 **RawMaterials**  
Connecting matters

**INNOVATION FUND**

 **European Investment Bank**  
The EIB bank

*Innovation and*  
*technology Transfer*

*Skills development*

## PARTNERSHIP ON BATTERIES

*Inputs to define R&I*  
*calls (SRIA / Technology*  
*Roadmaps ... )*

- Identify the high priority topics to be implemented in its R&I work programmes
- Support and oversee the portfolio of funded projects
- Reinforce networks between industry, RTOs, universities and other organisations
- attract engagement of more stakeholders in collaborative R&I activities and demo-projects
- Encourage a robust lab-to-market process and innovation and technology transfer

 **BATTERIES EUROPE**  
EUROPEAN TECHNOLOGY AND INNOVATION PLATFORM

**BATTERY 2030+**

 **ERTRAC**

 **WATERBORNE**

 **ETIP SNET**

 **ACARE**

 **SUSCHEM**

 **MANUFUTURE-EU**

*Other strategic bodies...*



## Why joining the Partnership?

The Batteries European 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?

## Why joining now?

- to contribute to the updating of the Partnership Strategic Research and Innovation Agenda which defines the main R&I priorities for the next years;
- to provide concrete inputs to the Horizon Europe Work Programmes, and as part of the elaboration process, to get an early understanding of the R&I topics that will be proposed;
- to network with the most high-quality entities of the European battery sector;
- to participate actively in the association's governance via the elected positions but also in the design of the association's scope of actions (e.g. match-making activities, support to specific research fields, coordination with EU/national initiatives, etc.)

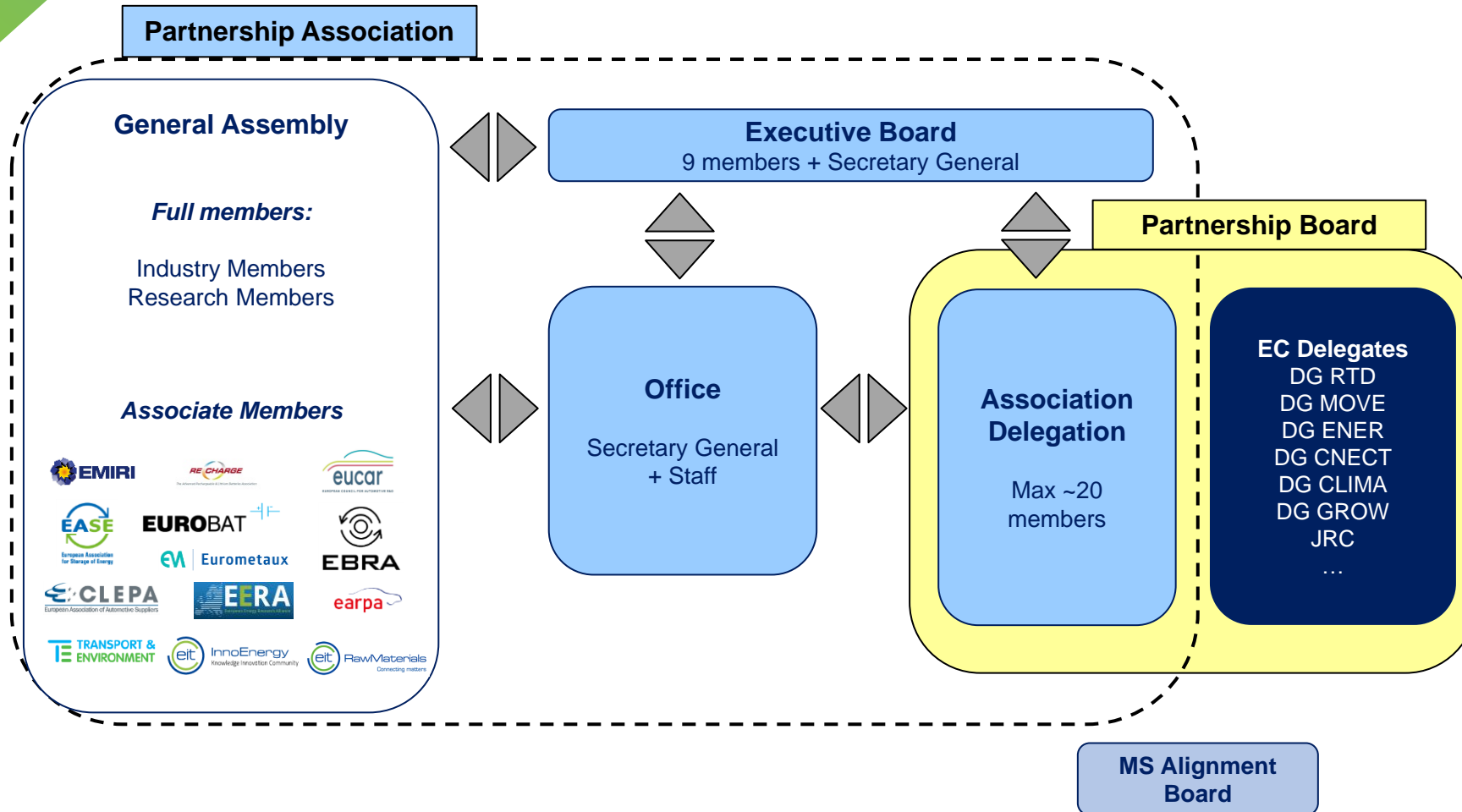


*Batteries European Partnership*

# The Batteries European Partnership Association (BEPA)



# BEPA - Governance scheme



The **General Assembly** - the supreme body of the Association

- approves the general policy of the Association on the basis of proposals of the Executive Board
- gives recommendations to the Executive Board for its application

The **Executive Board**

- follows the resolutions, instructions and recommendations adopted by the General Assembly.
- implements the policy and the work programme adopted by the General Assembly upon proposal of the Executive Board.

The **Association delegation**

- elaborates calls proposals in line with the work programme adopted by the General Assembly
- represents the private-side in the Partnership Board

The **Alignment Board**

- to align European and national priorities, identify opportunities for collaboration, avoid duplication of funding and disseminate information
- To identify outcomes of EU-funded projects of direct interest to national activities and offer demonstration possibilities to innovative solutions

The **Office** (under the authority of the Secretary General)

- Takes care of the daily management of the Association

# BEPA - Governance bodies composition

## Balanced representation

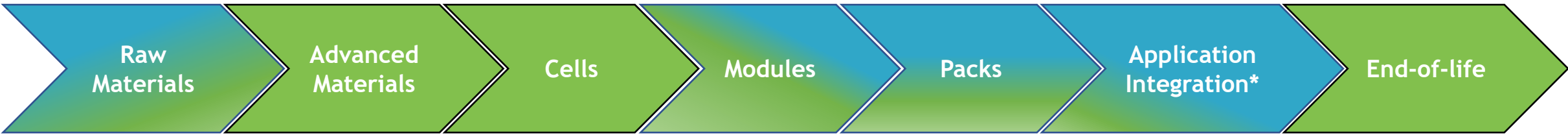
- between all sectors of the value chain, reflecting the key challenges
- between Industry and Research members

## 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



Executive Board		1 Chair + 1 Vice-chair (Treasurer)			
	1 RM		1 Batt. Manufacturing suppliers	1 Automotive 1 Other applic	1 Recycling
	1 Research Vice-Chair + 1 Research				
	Secretary General				
	1 RM	2 Adv. Mat.	3 Cells & Batteries 1 Batt. Manufacturing suppliers	1 Automotive 1 Auto suppliers 1 Stationary 1 Other	1 Recycling
	3 Research				
	2 Observers from sector representative associations				

## BEPA - Calendar of the next steps

- **October 30, 2020 - Opening of the application process**
  - ✓ Draft Articles of Association & Code of Conduct
  - ✓ Provisional schedule of fees
  - ✓ Application forms to join the Association and to candidate to the elected positions

<b>1. Industry members</b> (incl. for-profit research)	
Large (headcount>5000 or turnover >1,5 bn €)	9.500,00 €
Intermediate (headcount 250-4999 or turnover 50 ml-1,5 bn €)	7.500,00 €
Medium (headcount 50-250 or turnover 10-50 ml €)	5.000,00 €
Small (headcount <50 or turnover <10 ml €)	2.500,00 €
<b>2. Research members</b> (non-profit)	
Large (headcount >250)	4.000,00 €
Small (headcount <250)	2.500,00 €
<b>3. Associate members</b> (membership without a voting right)	
Associations, NGOs and other stakeholders	1.000,00 €

- **November 30, 2020 - Deadline for the Governing positions application**
- **December 2, 2020 - Publication of the Governing positions applications**
- **December 14, 2020 - 1st Statutory BEPA General Assembly**
  - ✓ Review and validation of the Articles of the Association
  - ✓ Election of the representatives of the Governing Bodies
  - ✓ Approval of the 2021 budget and schedule of membership fees

# Thank you!

[secretariat.bepa@clerens.eu](mailto:secretariat.bepa@clerens.eu)

## *The Batteries Partnership Core team*



## *with the support of*

