

## Call for participation as expert in Thematic Working Groups of BatteRles Europe

### Dear Key Stakeholder,

We have the great pleasure to invite you and your organization to be an active part of **BatteRles Europe**, the European Technology & Innovation Platform (ETIP) focused on battery related R&I, supported through Horizon 2020.

As part of the Strategic Action Plan for Batteries, the European Commission tasked a consortium of InnoEnergy, EERA and EASE, Zabala Innovation Consulting and Clerens Consulting to set up an inclusive, operational and proactive coordination platform - "**BatteRles Europe**"<sup>1</sup>.

With your active contribution and in-depth knowledge as experts in the battery sector, the new platform will become a focal point of information, exchanges, priority setting and co-operation on batteries R&I throughout the EU, while establishing strong relations with existing fora active in the battery R&I value chain.

To achieve its objectives, the platform will develop several activities:

#### 1) **Becoming EU-wide forum for exchanges and cooperation on battery-related R&I**

**BatteRles Europe** will help identify active stakeholders and their role's, in batteries R&I along the whole value chain. This will serve as useful insight for developing one's own R&I activities and finding key partners to move forward with, on already identified research priorities<sup>2</sup>. To achieve this **BatteRles Europe** will gather research, industry as well as sector and Member States representatives.

**BatteRles Europe** will strive to provide one-stop access to EU-level R&I funders.

It will federate different research streams, including Strategic Energy Technology Plan, Strategic Transport Research and Innovation Agenda<sup>3</sup>, the large-scale long-term research initiative on Future Battery Technologies (Batteries 2030+ initiative started under H2020<sup>4</sup>), Interregional partnership on advanced battery materials, EIP on Raw Materials and others.

It will also strive to ensure that positive effects from the Important Projects of Common European Interest result in wider synergetic impacts meanwhile offering these projects a wider pool of know-how and partners to draw upon.

#### 2) **Benchmarking of battery chemistries**

The benchmarking of battery chemistries is an important prerequisite for the comparison of different battery systems. As technology evolves quickly, the benchmarking will have to be timely and precise. It will identify the cutting-edge state of the art advancements and collect an overview of the array of battery chemistries currently under development. With the information available, the best attempt will be made for comparing results. Further considerations will be given to the proposed applications of the

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<sup>1</sup> Contract No ENER/C2 2018-453-A7

<sup>2</sup> See e.g. [https://setis.ec.europa.eu/sites/default/files/set\\_plan\\_batteries\\_implementation\\_plan.pdf](https://setis.ec.europa.eu/sites/default/files/set_plan_batteries_implementation_plan.pdf)

<sup>3</sup> <https://ec.europa.eu/jrc/en/publication/brochures-leaflets/strategic-transport-research-and-innovation-agenda-stria-roadmap-factsheets>

<sup>4</sup> <http://battery2030.eu/>

batteries studied. The benchmarking study will not be limited to results from European R&I but will take a more global approach.

### 3) An Updated Strategic Research Agenda

The Strategic Research Agenda (SRA) will be the document identifying the main research gaps to be addressed to develop and secure a sustainable, efficient and competitive battery value chain in Europe. The SRA will propose the research and innovation actions that need to be taken, covering the entire battery value chain. The strategic research agenda aims to be a tool for the industry, European institutions and for member states to identify main research and innovation needs in Europe and the corresponding funding needed to support the development of innovative solutions for the whole battery value chain. It will help ensure that collaborative synergies are created across Europe on all TRL levels. The SRA will build upon the work performed under the Integrated SET-Plan Action 7: Implementation Plan "Become competitive in the global battery sector to drive e-mobility and stationary storage forward" on batteries<sup>5</sup>, expanding and revising it where necessary.

### 4) Horizon 2020 and Horizon Europe

**BatteRies Europe** will aim at bringing together different projects from recent/ongoing and future calls under H2020 and facilitate links with other key projects throughout the EU to foster synergies.

#### The Thematic Working Groups

To achieve the objectives described above, a number of Working Groups have already been set up, largely based on the work done before under SET-Plan Action on batteries, and now going far beyond SET-Plan borders, as explained above. The working groups will have a large degree of freedom to develop papers and initiatives aiming at fostering the development of the battery value chain in Europe. It will be the WG's responsibilities to identify new challenges and issues that could be faced by the Battery R&I community. The work of the Thematic Working Groups will feed into key strategy documents to be adopted by the General Assembly which will be formed later this year as will be explained during the meeting of 25 June.

The Working Groups are set up to ensure the most adequate balance between the effectiveness of their work on the planned deliverables and the openness towards new subjects and new issues which may appear. They are building on the legacy of the SET Plan action on batteries, to ensure the involvement and contribution of all the stakeholders of the battery sector as a whole, providing vision, inputs, guidance and continuous feedback for the development of the integrated R&I Roadmap.

The following Thematic Working Groups are established:

- WG1: New and Emerging Battery Technologies
- WG2: Raw Materials and Recycling
- WG3: Advanced Materials
- WG4: Manufacturing and Cell Design
- WG5: Application and Integration – Mobile
- WG6: Application and Integration - Stationary

A short description of the WGs including a list of non-exhaustive, indicative topics that the WGs will tackle is given in Annex 1.

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<sup>5</sup> [https://setis.ec.europa.eu/sites/default/files/set\\_plan\\_batteries\\_implementation\\_plan.pdf](https://setis.ec.europa.eu/sites/default/files/set_plan_batteries_implementation_plan.pdf)

## National and Regional Coordinator's Group on batteries R&I (NRCG)

The National and Regional Coordinator's Group (NRCG) will gather Member States and regional representatives ensuring a strong link between **Batteries Europe** and the Member States/Regions. The NRCG will be a point of exchange on EU co-funded joint actions and gather MS/regions opinions as regards R&I strategic vision for batteries.

The NRCG work closely together with **Batteries Europe** but will nevertheless maintain decisional autonomy as regards joint and/or coordinated actions. The NRCG will exchange information, best practices and ideas with each other for (joint) funding of battery-related R&I which will open opportunities for improved coordination and synergies between regional, national and European activities.

## Be part of Batteries Europe!

With this letter you are formally invited to express your interest to be an active member of Batteries Europe! We are currently looking for expert members for all of the thematic working groups mentioned above, as well as some candidates for Co-Chair positions that still need to be filled for the first year of operation.

**Please note that only entities active in a thematic working group are eligible for a possible membership of the General Assembly for Batteries Europe. Membership of a Thematic Working Group requires expertise in the topic(s) addressed by that Thematic Working Group, as well as active willingness to share knowledge and active contribution to the group's activities, Thematic Working Group membership may be revised based on contributions.**

We are very much looking forward working together with you and receive an expression of interest by filling-in the attached form in Annex 2,

On behalf of the **Batteries Europe** Secretariat,

**InnoEnergy**, Ilka von Dalwigk, **EASE**, Thomas Otuszewski and **EERA**, Edel Sheridan with the support of Zabala Innovation and Clerens Consulting.

## **Annex 1**

### **WG1 New and Emerging Battery technologies**

The WG1 will have focus on building a long-term vision for the battery value chain. This WG will bring both industry and academia together with a special emphasis on involving industry experts across the entire value chain. The group will deal with new concepts and chemistries to be investigated. The WG will support Battery 2030+ and other national initiatives which examine the low TRL level research.

Specific tasks/topics:

- Technology watch: To create an awareness of new concept technology developments worldwide.
- Study of the development of an efficient modelling platform, integration of sensor technology, new battery chemistries.
- Analysis of how emerging battery technologies can be brought to from lab to factory and in to the market.
- Supporting SME's with new concepts to connect with industry.

### **WG2: Raw Materials and Recycling**

This working group will bring together both the raw materials supply (mining & processing) industries along with the growing recycling industry to address the issues faced by the raw materials providers and the recyclers.

Specific tasks/topics:

- Development of circular models including substitution of critical raw materials
- Main focus on producing and refining materials.
- Ecodesign and Eco-labelling.
- Reversed logistics, battery dismantling, and improved chemical processes for metal recovery.
- Address sustainability and public acceptance issues.
- Disassembly and Design for recycling

### **WG3: Advanced Materials**

WG3 will focus on advanced materials developments for improvements of current battery technologies and high TRL technologies, including solid state batteries as well as advanced batteries for stationary applications. Focus will be placed on the development of materials / coupling of materials to produce batteries for specific applications such as EV, maritime and aviation. The interplay between active materials and cell design is also a topic of interest. Joint workshops with the WG4 on manufacturing are foreseen as there are many interdependences between the materials used and the manufacturing processes. Similar workshops are foreseen with WG 2 on recycling. The R&D advancements made in this field would have an expected impact in the 3-5 year time frame.

Specific tasks/topics:

- Benchmarking of various battery chemistries, including? on full cell level
- Standardisation for reporting of materials performance

- Study of materials selection for specific applications and identification of the research gaps at material level
- Workshops concerning materials and manufacturing and materials and recycling (in co-operation with WG 2 and 4)

#### **WG4: Manufacturing and Cell Design**

WG4 will focus on the development of manufacturing methods for current and future battery technologies and the cell designs for the same. New techniques such as additive manufacturing can be investigated for scalability and applicability to battery production. The Pilot Line Network will play an important role in this WG along with the battery cell production stakeholders.

Specific tasks/topics:

- Address issues in relation to intellectual property rights
- Carry out studies with respect to sustainability
- Consider new manufacturing techniques and applicability to battery technology.

It is expected that Work Packages 5 and 6 on Application and Integration, as described below, will be closely coordinated with policy DGs of the European Commission, due to their interfaces with energy, transport and competition aspects, as well as upcoming standardisation issues under the current of future legislation.

#### **WG5: Application and Integration – Mobile**

WG5 aims to support electrification of the transport sector, including yellow machines, maritime sector etc., and other mobile applications through increased battery performance (lithium and post-lithium ion) including the development of charging solutions.

The SET Plan Implementation Plan and STRIA roadmaps, among others, will be used as a basis material for this group.

Social acceptance and LCA analysis of vehicles will be addressed and discussion between materials producers and manufacturers will be enhanced.

Specific tasks/topics:

- Identify the technological needs and challenges for the transport sector
- Hardware for (fast) charging
- Digitalization for application side and interoperability aspects, including open protocols
- Assessment of battery performance for mobile solutions
- Fast charging infrastructure and interoperability aspects, including open protocols
- Vehicle to grid (in cooperation with WG6), including on access to vehicle data for the purpose of charging
- Second life batteries (in cooperation with WG2 and 6)
- Recycling for the end users (in cooperation with WG2 and 6)

EGVI - European Green Vehicle Partnership funded from Horizon 2020 already works on number of aforementioned themes and the knowledge generated over the past year should serve as important contribution.

## WG6: Application and Integration – Stationary

This WG will focus on identifying the challenges and solutions for grid integration and stationary applications for batteries as well as assist in the benchmarking of the state-of-the-art-technologies. Explore user requirements of batteries for stationary applications such as providing balancing, ancillary services, congestion management services, as well as home storage applications with main focus on self-consumption (inter alia to feed in the work of WG3).

Specific tasks/topics:

- Identify the technological needs for efficient stationary battery storage system
- Identify research priorities, especially at battery system level and integration into energy system.
- Vehicle to grid (in cooperation with WG5)
- Interoperability (open, harmonized application programming interfaces) enabling easy use of batteries for different purposes.
- Second life batteries and Recycling for the end users (in cooperation with WG2 and 5)
- Hybridisation of Energy Storage technologies
- Explore possibilities of digitalization and blockchain technology for advancing stationary applications
- Study the potential development of new use cases and innovative business models that allow monetisation of battery-based services

## Annex 2

### APPLICATION FORM

<b>Family Name</b>		<b>First Name</b>	
<b>Contact Address</b>		<b>Telephone</b>	
<b>Email</b>			
<b>Nationality</b>			
<b>Organisation established in the EU supporting the candidate (registration proof can be requested by the European Commission)</b>			
<b>Position in the organisation</b>			
<b>Stakeholder Group represented by the organisation</b>	<input type="checkbox"/> Industry		
	<input type="checkbox"/> Research and Academia		
	<input type="checkbox"/> Association		
	<input type="checkbox"/> National or regional representative		
	<input type="checkbox"/> Other		
	<input type="checkbox"/>		
<b>[Working] group(s) of Interest</b>	<input type="checkbox"/> WG1: New and Emerging Battery Technologies		
	<input type="checkbox"/> WG2: Raw Materials and Recycling		
	<input type="checkbox"/> WG3: Advanced Materials		
	<input type="checkbox"/> WG4: Manufacturing and Cell Design		
	<input type="checkbox"/> WG5: Application and Integration – Transport		
	<input type="checkbox"/> WG6: Application and Integration – Stationary		
<b>Application for open Co-Chair Positions in WG 1, 3, 4 or 6</b>	WG1: New and Emerging Battery Technologies (1 position)		
	WG3: Advanced Materials (1 position)		
	WG4: Manufacturing and Cell Design (2 positions)		
	WG6: Application and Integration – Stationary (2 positions)		
<b>Short CV (and full CV should be attached)</b>	Please provide a short CV about your professional background (max 10 lines)		
	[Full CV should be attached]		
<b>Personal Motivation in relation to the platform's activities and most relevant experience in the related area covered by the working Group</b>	Please explain your motivation and experience and how your entity as a whole will contribute to the success of Batteries Europe:		

Expected contribution of your entity as a whole to sharing and generating knowledge	
<b>If applicable: motivation for Co-chairing a Working Group</b>	Please explain your motivation for Chairing/co-Chairing the chosen Working Group:
<b>How many working days per year would you be willing to commit to the working group's activities?</b>	Choose: <input type="checkbox"/> <10 <input type="checkbox"/> 10 to 15 <input type="checkbox"/> >20
<b>Please indicate your degree of influence over the strategic planning and direction of your organisation</b>	Choose: <input type="checkbox"/> High <input type="checkbox"/> Medium <input type="checkbox"/> Low

Return this application form **no later than 16 of June 2019** by email to [info@batterieseurope.eu](mailto:info@batterieseurope.eu) with email subject: "Application to Batteries Europe"

**For reasons of transparency and regularity, the European Commission or the European Court of Auditors may request access to the full documentation of the applications.**

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*Batteries Europe is the one-stop shop for the battery-related R&I Ecosystem and will gather research and industry to identify and prioritise the main research and innovation needs for the whole battery value chain in Europe.*

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