

Dedicated to overcoming barriers in the reuse of old batteries in energy storage

Big Leap



SecondLife Battery Energy Storage Systems (SL-BESS).



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the European Union

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Project funded by



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ABOUT BIG LEAP

The **BIG LEAP** project is a Horizon Europe initiative that enhances operation reliability of SLB by addressing interoperability in Battery Management Systems. It develops a three-layer BMS architecture for SLBs, integrates an adaptable Energy Storage System (ESS) design, aiming for safe and reliable operation from SL to SL-BESS.

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OBJECTIVES

- We focus on designing and developing advanced Battery Management Systems (BMS) and Energy Storage Systems (ESS) with three layers that make it easy to reconfigure batteries for different applications.
- Our goal is to enhance the performance of batteries, ensuring safe and reliable operation from first-life (FL) to second-life (SL) applications. By implementing in-site End-of-Life (EoL) diagnosis and safety recalibration, we aim to extend the operational lifetime of batteries while reducing refurbishing costs.
- Our innovative Battery Management System is interoperable, adaptable, and updatable, offering three degrees of openness for swift industrial deployment.

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METHODOLOGY

Focusing on improving **Second-Life Battery Energy Storage System (SL-BESS)** adaptations and applications. The project will use old batteries from different types of electric vehicles and stationary sources to design a new battery that can be easily adapted for energy storage.

BIG LEAP will cover 42 months and will be structured into 9 Work Packages (WPs). WP1 to WP7 will cover all the technical aspects undertaken in the project to develop the innovations of the BIG LEAP project, while WP8 will address its communication, dissemination, and exploitation plan and WP9 tackles the overall project consortium management.

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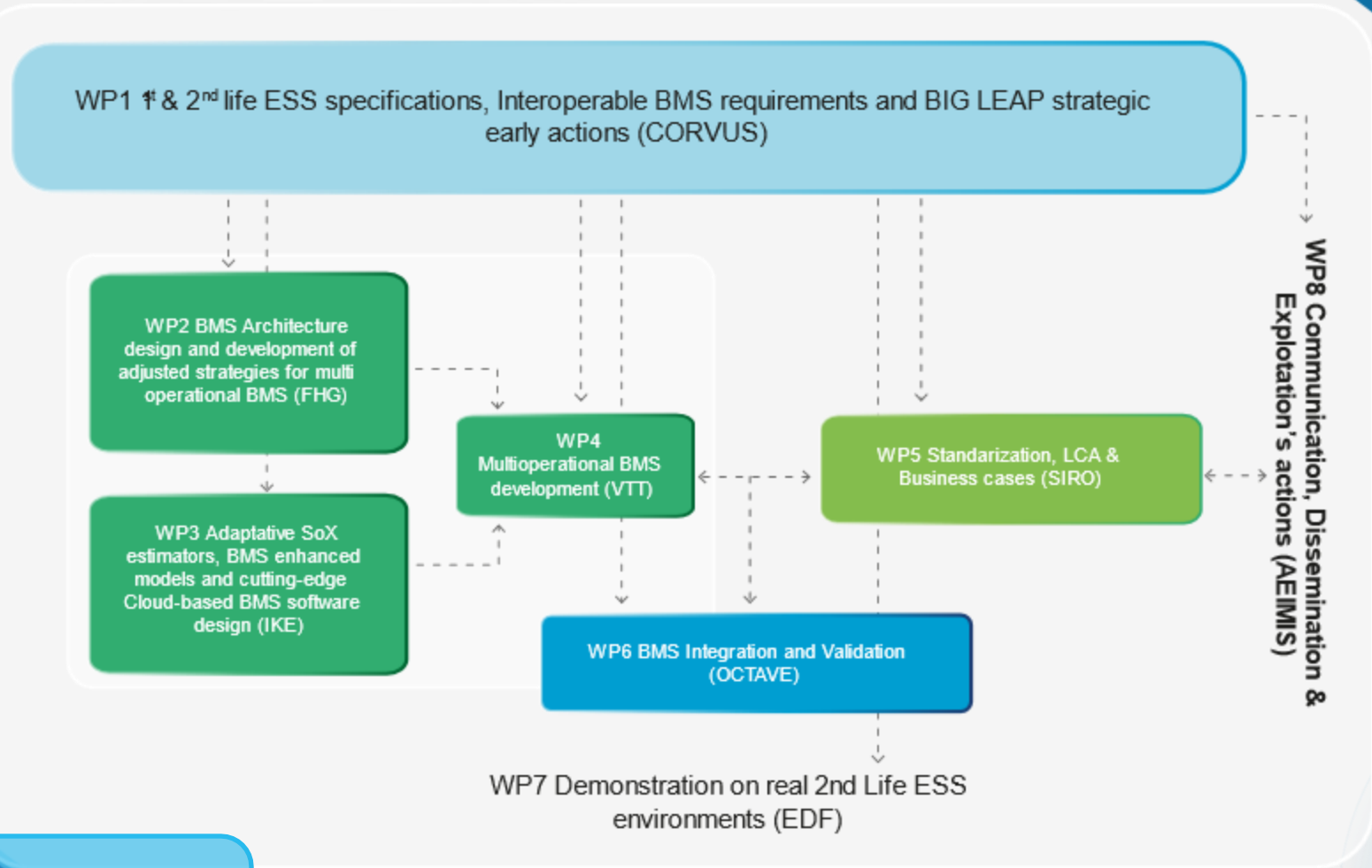


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METHODOLOGY

WP9 Project Management, Coordination & Ethics (BRING)



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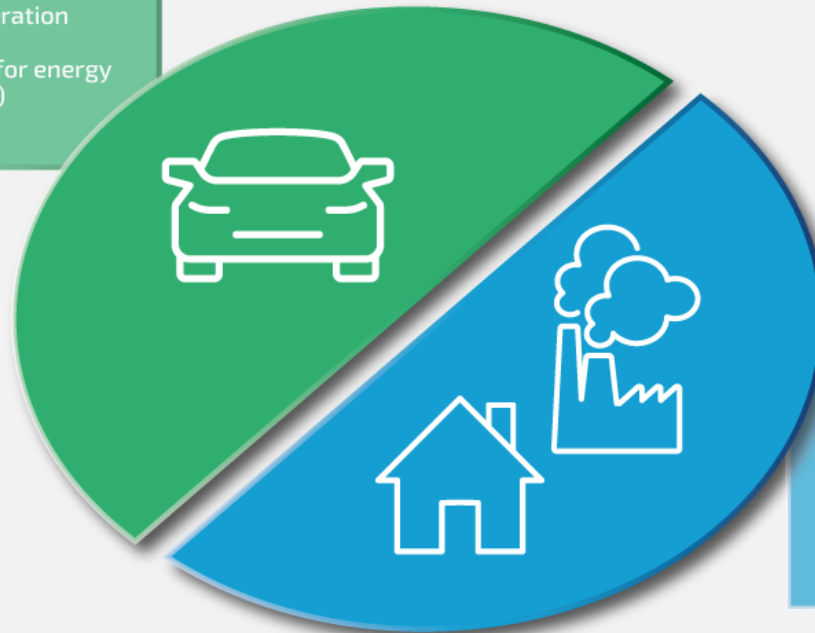
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METHODOLOGY

Mobile VS Stationary requirements

- Optimised for high energy density and fast charging
- Few full cycles during operation
- Compromises on lifetime for energy density (Ni-rich, Si-Anode)



- Relatively low C-rates during operation
- Optimised for one full cycle per day
- Safety critical in residential homes
- Optimised for long service life due to large expenses for system replacement

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IMPACTS



Enhancing battery system designs for SL applications.



Accelerating the roll-out of cheaper and qualified SL-BESS.



Improving the sustainable pathway of Second-Life Battery reconfiguration.

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CONSORTIUM

Under the leadership of Brussels Research and Innovation Center for Green Technologies (BRING), BIG LEAP brings together a consortium of **16 partners from 10 EU** Member States (Belgium, Czech Republic, Finland, France, Germany, Italy, Lithuania, Spain, Portugal, and Norway) with 2 Third countries associated with Horizon Europe (Turkey and Switzerland) and two international partners (India and Morocco).



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