Horizon Europe Work Programme

BIG LEAP

Next Generation of Battery Management Systems to increase Interoperability, bridge the Gap between 1st and SL-BESS, Extend Adaptability and emPower battery value chains

BIG LEAP Exploitation Plan and Stakeholder Engagement 1.0

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20/09/24	0.1	BIG LEAP Exploitation Plan and Stakeholder Engagement V.01	Draft, pending to validate with partners
05/10/24	0.2	BIG LEAP Exploitation Plan and Stakeholder Engagement V.02	Draft, pending to validate with partners

18/10/24	0.3	BIG LEAP Exploitation Plan and Stakeholder Engagement V.03	Version shared for Internal Review
25/10/24	0.4	20241018_BIGLEAP_D8.4 _Exploitation_plan_v(0.4)	First Internal Review, Contributions from AEIMIS added: - a methodology section included - deleting ambiguity and misalignment with GA - restructuring CoP in line with GA
31/10/24	0.5	20241031_BIGLEAP_D8.4 _Exploitation_plan_v(0.5)	First External review, contribution from IKERLAN, TATA, SIRO added: - minor modifications - specifications in the IP and questionnaire sections Second internal review, contributions from AEMIS added: - renumbering of the document versions along the text - Community of Practice details
04/11/24	0.6	20241105_BIGLEAP_D8.4 _Exploitation_plan_v(0.6)	Second External review, contribution from TATA, SIRO added: - minor modifications - specifications in the IP and questionnaire sections
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Executive Summary

The BIG LEAP project focuses on developing solutions for the SLBs BMS and its reconfiguration process. Technology breakthroughs will be made in its BMS, as a new three-layer architecture will be designed to ensure adaptability, updatability, and interoperability, all within a robust open-source framework. It will be complemented with an adaptable ESS design to ensure BMS integration and expand the SLB's potential applications. Additionally, the BIG LEAP project intends to optimize the battery reconfiguration process by making it cost-effective, faster, and standardized.

The methodology for the development of these innovations includes the collection of EV, maritime E-Vessel, and ESS batteries that will be dismantled and the data collected will serve as the basis for the BMS architecture development. An enhanced cloud-based system will be established, incorporating DT for optimal SoX operations, improved service layers, and functionalities for remote maintenance, big data storage, and Internet of Things (IoT) cybersecurity. Strategies for on-site diagnostics, module-level disassembly, and flexible ESS manufacturing for reintegration will also be developed.

The new BMS will be integrated into the batteries, alongside the ESS and will be tested in three demo sites. Two physical demos will be in Paris and Prague, and a virtual demo will be in Morocco. They aim to validate the novel BMS and ESS, proving their optimization and interoperability.

The BIG LEAP innovation includes a multidisciplinary consortium, a strong business case, and an Environmental Impact assessment. All with the intention of accelerating its market uptake with a cost-effective solution, positively impacting the European economy through the battery value chain and tracing its sustainable benefits.

This document contains the BIG LEAP Exploitation Plan and Stakeholder Engagement (D8.4, due at M10). It will be updated during the project through dedicated exploitation workshops with partners (ad-hoc or during consortium General Assemblies) and finalized at the end of the project with D8.5 (due at M42).