BIG LEAP Project: Advancing Battery Management Systems and Second-Life Battery Integration

• A consortium of 16 partners from 10 European Member States and two international partners has officially launched the BIG LEAP project, an ambitious 3.5-year journey funded under the Horizon Europe initiative.

• BIG LEAP is set to introduce advanced Battery Management Systems (BMS) that improve compatibility, connect 1st Life Batteries with 2nd Life Battery Energy Storage Systems (SL-BESS), and make batteries more adaptable, strengthening their value chains.

Ninove, Belgium. February 13, 2024– The BIG LEAP project just started its 42-month journey. This project aims to achieve the next generation of Battery Management Systems (BMS) to improve the interoperability between battery chemistries and architectures and enhances the operation reliability of second life batteries, thus extending adaptability and empowering battery value chains.

Batteries are identified as a key technology in guiding the clean-energy transition, especially in automotive and energy storage. The BIG LEAP project addresses challenges such as the lack of interoperability or the non-standardized processes, by developing solutions for Second-Life Battery Energy Storage Systems. The technological breakthroughs

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planned for the Battery Management Systems include a three-layer architecture to ensure interoperability, safety, and reliability.

This will be complemented by an adaptable Energy Storage System design, facilitating BMS integration and expanding SLB's potential applications. Moreover, the project aims to optimize the battery refurbishment process by making it cost-effective, faster, and standardized.

The development methodology involves collecting data from Electric Vehicles (EV), maritime E-Vessels, and Energy Storage System batteries. The testing will take place at three demonstration locations. The aim is to validate the effectiveness and compatibility of the innovative BMS and ESS, facilitating their upscale in the market. This solution is expected to have a positive impact on the European economy throughout the battery value chain, emphasizing sustainable benefits.

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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