

AM4BAT

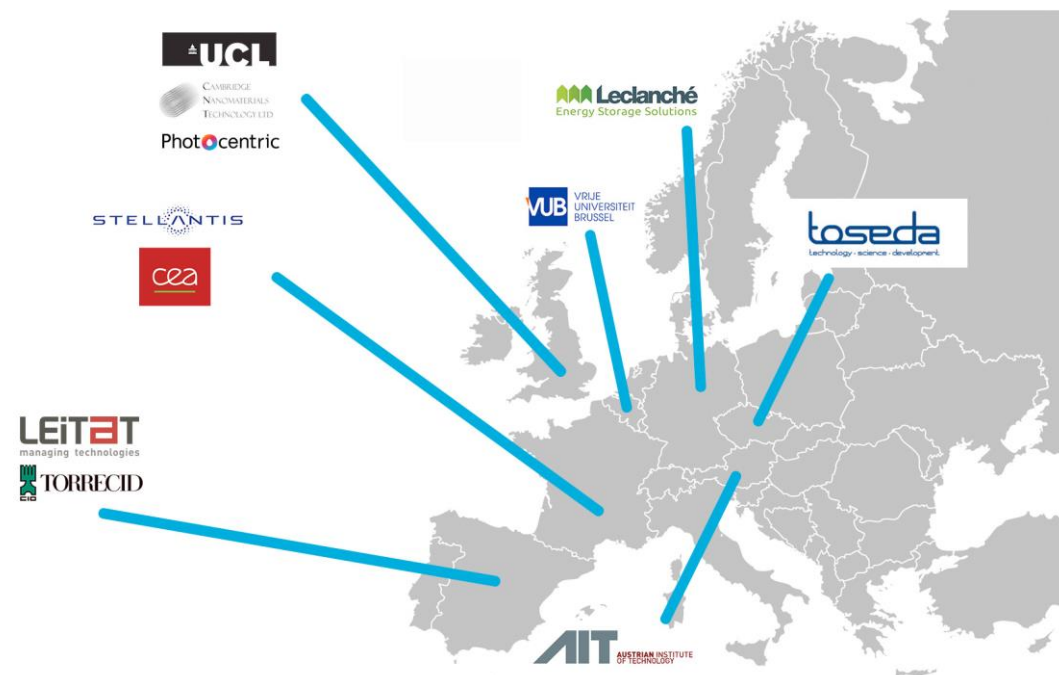
HORIZON-CL5-2021-D2-01-03

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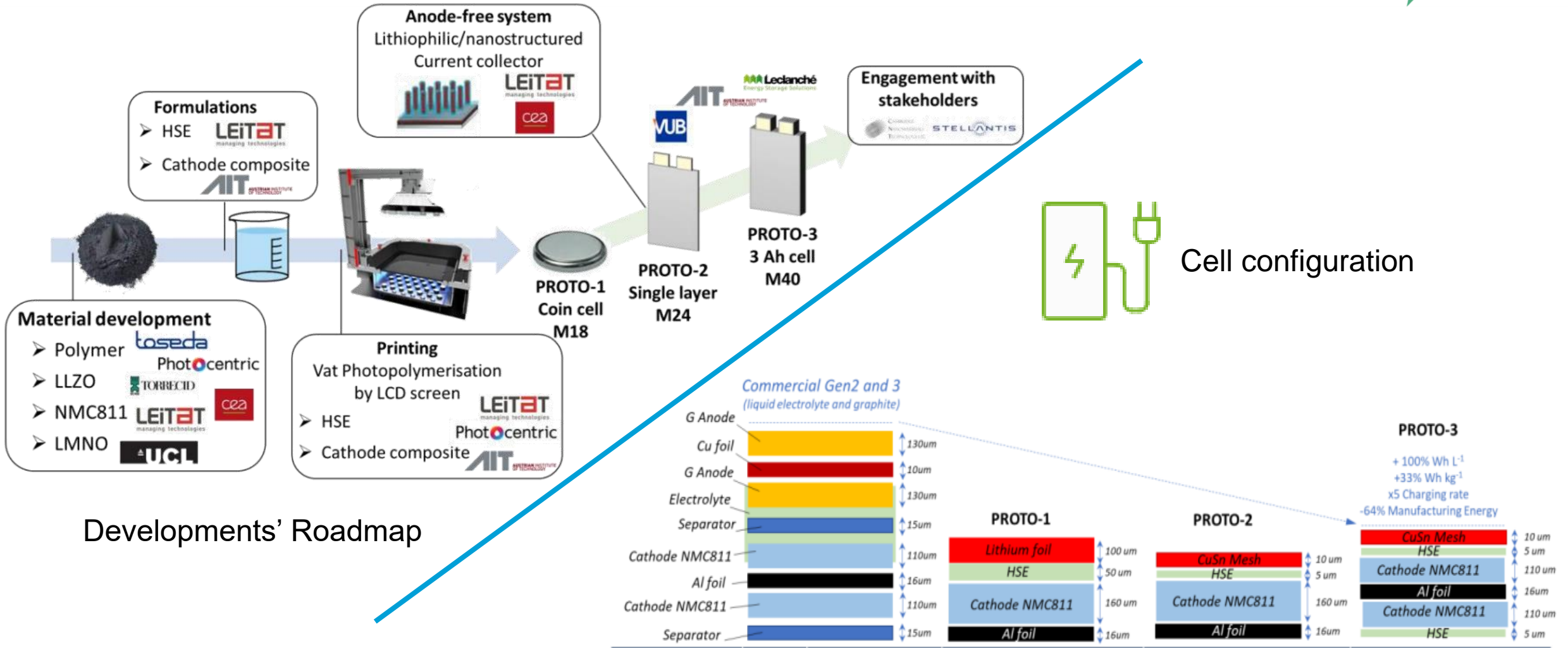
EU contribution: 4,854,773,75 €

Duration: 06/2022 – 05/2026

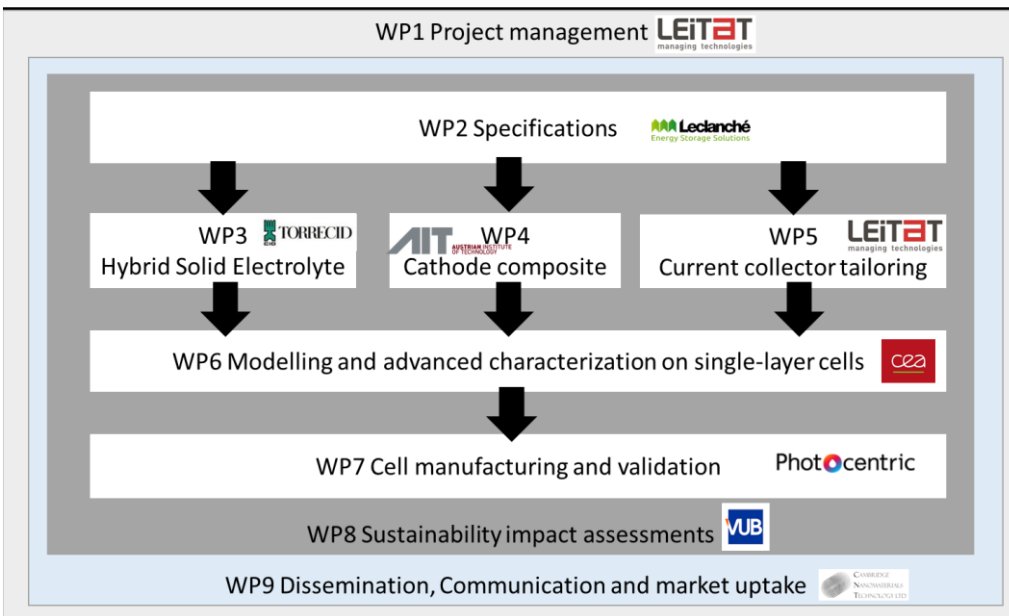
Coordinator: LEITAT



AM4BAT will develop innovative component materials and assemble an **anode-free all-solid-state battery** (ASSB) manufactured by a cost-competitive and sustainable **Vat Photopolymerization 3D printing**. The objective is to reach a high-performance cell energy density of **400 Wh/kg** and **1000 Wh/L** for **electric vehicles** applications. This will be achieved by developing materials including i) single crystal NMC811 with superior energy, ii) **LNMO Co-free** and higher voltage for a high power AM4BAT variant, iii) doped LLZO with different size from 0.5 to 5 μ m and 50-100 nm for higher loading in the HSE (Hybrid Solid Electrolyte), and iv) novel acrylic **sustainable photocurable polymer** containing nanocellulose additive. The materials will be optimized for their processing by additive manufacturing. AM4BAT will then validate the technology via 3-Ah pouch cells reaching TRL5, and will carry out an evaluation of manufacturability, a full sustainability assessment and a recycling study to support customers' uptake. Identified stakeholder groups as well as other research initiatives will be actively involved to ensure dissemination of AM4BAT results and broader users' acceptance. With its ambitious concept based on cutting-edge 3D printed ASSB and a strong consortium involving the whole value chain from material providers to an OEM, AM4BAT aims to overcome the remaining technological obstacles of the Gen 4b technology as specified in the work programme and accomplish the urgent shorter-term needs of the battery industry: to make Gen 4b batteries a viable technology beyond 2025. On longer term, the AM4BAT outcomes will contribute to the creation of a **sustainable European battery manufacturing** value chain helping the EU to succeed in the electric mobility roll-out and accelerate the energy transition.

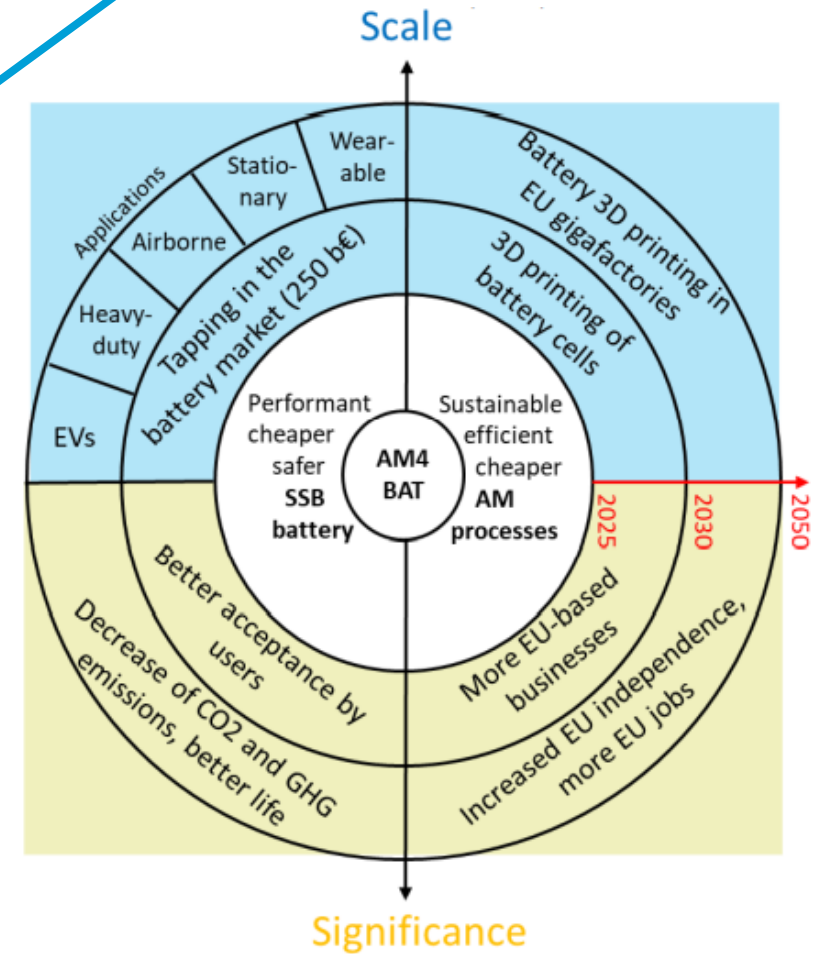


Developments' Roadmap



WP distribution

Impact
AM4BAT novel SSB battery





THANK YOU

