

ENVIRONMENT OMNIBUS: CYCLING AND BATTERY INDUSTRY SUPPORTS PACK-LEVEL LMT BATTERY REPAIRABILITY

[European Cycling Industries](#) and Recharge believe that the amendment to Article 11(5) of the Battery Regulation submitted under Proposal COM (2025) 981, Article 1(2)], is a vital step forward. The amendment adjusts repairability requirements for Light Means of Transport (LMT) batteries, recognising that requiring cell-level repairability for LMT batteries by February 2027 creates unintended and negative side-effects for consumer safety, effective circularity and industry competitiveness.

We wish to stress that further refinement and simplification of the Battery Regulation LMT Battery repairability provisions, requiring pack-level rather than module-level repairability, would offer the safest, most effective and enforceable requirement for the industry and e-bike users.

We recommend MEPs and Member States to support a swift adoption of the Commission proposal COM (2025) 981 with the following amendment, ensuring that LMT battery repairability requirements are safe, clear and enforceable in February 2027:

5. Any natural or legal person that places on the market products incorporating LMT batteries shall ensure that those batteries, as well as individual battery modules included in the battery pack, are readily removable and replaceable by an independent professional at any time during the lifetime of the product.

- 1. Consumer Safety:** Mandating cell-level replaceability exposes both the technician and the consumer to unacceptable risks. Modern e-bike battery packs are not simple containers of cells; they are complex, hermetically sealed, integrated and factory-engineered systems with intricate safety mechanism operating under demanding conditions (vibration, dirt, moisture, impacts). Requiring LMT batteries to be opened and modified outside of a manufacturing environment is inherently hazardous. Latent defects can be caused by a variety of factors (water or microscopic ingress, electrostatic discharge, small welding error) and may not be immediately apparent, with a risk of short-circuit and violent thermal runaway weeks or even months later after the "repair" is complete.

Module-level repair reduces risks but still implies opening the battery pack. By contrast, pack-level repairs, conducted by qualified professionals, ensure the battery's sealed integrity is never compromised and therefore prevents significant risks of fire and injury associated with unsafe handling of batteries.

- 2. Circularity:** A true circular economy depends on products that are long-lasting and high performing. For battery packs, cell-level repairability impedes design efforts to ensure longevity and performance, as old and new cells cannot be matched properly, fundamentally disrupting the chemical and electrical balance, which accelerates degradation and the reduction of the battery lifespan.

A pack-level approach not only ensures performance and longevity throughout lifetime but also enables a robust system for collecting and recycling of waste battery packs end-of-life.

This approach would not preclude recyclers from opening battery packs at the end of their lifetime to extract battery cells for material recovery as is already practised today.

- 3. Effective industry enforcement:** Despite significant innovative efforts, no robust, safe and industrially viable methods currently exist for the safe and standardized replacement of individual battery cells. Mandating cell-level repairability substantially compromises industry performance and safety standards and raises major questions about liability and warranties for defects.

Ensuring pack-level repairability allows European and world-leading e-bike technology providers to build on their global reputation for product safety and continue innovating in durable, safe, and long-lasting battery technologies.

Further reading:

CONEBI-CIE position paper (October 2025) - [How to ensure that e-bike batteries continue to be safe in the future? Concerns Associated with Mandated Replaceability of Individual Cells in LMT Batteries](#)

Recharge position paper (April 2023) - [Safety is a priority for the battery industry. Risks associated with the design requirement for individual cell replacement](#)