

CAPIEL interpretation of EU batteries regulation 2023/1542 article 11: Removability and replaceability of portable batteries and LMT batteries for industrial instrumentation & control equipment.

Article 11 applies from 18th February 2027 and requires that PORTABLE BATTERIES¹ are readily removable by end-users without having to buy specialised tools. CAPIEL is fully supportive of the regulation's intention to extend product lifecycles by ensuring that equipment using batteries as a source of power are designed so that end-users can replace them, noting that INDUSTRIAL BATTERIES² are not subject to article 11.

However, the safety of end-users is paramount and there are certain, generally lower volume applications, where it would compromise safety, for untrained personnel to maintain equipment in this way. The regulation details derogations for these specific scenarios in article 11 clauses (2) & (3), for independent professionals to perform the replacement:

- Wet applications (where waterproofing needs to be preserved).
- Medical devices (where patients need to be protected).
- A permanent connection is required for the safety of the user and appliance (see §2).
- Continuity of power is required for data integrity reasons (see §1).

1. Data integrity considerations

In many electrotechnical applications, there are small button or coin cells, often soldered or welded to Printed Circuit Boards [PCBs] as back-up power for volatile memory or microchip clock functions. They are designed and manufactured in this way to ensure a permanent and reliable connection for data integrity reasons until treated as WEEE at the end of its life. In many applications, the clock provides the exact time and date when process or manufacturing data is collected. These small cells are not the main source of power for the equipment.

Commission guidelines ([C/2025/214](#)) published on the 10th January 2025 on the removability and replaceability of portable batteries clarifies this on page 8 under 'Data integrity considerations':

A similar case is batteries whose main function is to power a volatile memory itself or deliver backup functions in the internal clock of a device, such as CMOS (Complementary Metal-Oxide Semiconductor) batteries found in digital cameras, processors, sensors, and medical devices regardless of their class under Regulations (EU) 2017/745 and (EU) 2017/746 (e.g. blood glucose monitors or devices for dialysis treatments). In this case, continuity of power supply is also deemed necessary for data integrity reasons.

Therefore, it is the conclusion of CAPIEL members, that for small back-up cells in applications where data collection and transmission is the primary function, and a permanent, robust connection is necessary for data integrity, usually on a PCB buried deep within equipment, the derogation described in clause 3 of article 11 [Data integrity considerations] applies and only trained professionals should carry out the replacement of the cell or more likely, complete PCB, if deemed necessary before end-of-life.

¹'PORTABLE BATTERY' means a battery that is sealed, weighs 5 kg or less, is not designed specifically for industrial use and is neither an electric vehicle battery, an LMT battery, nor an SLI battery.

²'INDUSTRIAL BATTERY' means a battery that is specifically designed for industrial uses, intended for industrial uses after having been subject to preparation for repurposing or repurposing, or any other battery that weighs more than 5 kg and that is neither an electric vehicle battery, an LMT battery, nor an SLI battery;

2. Safety considerations

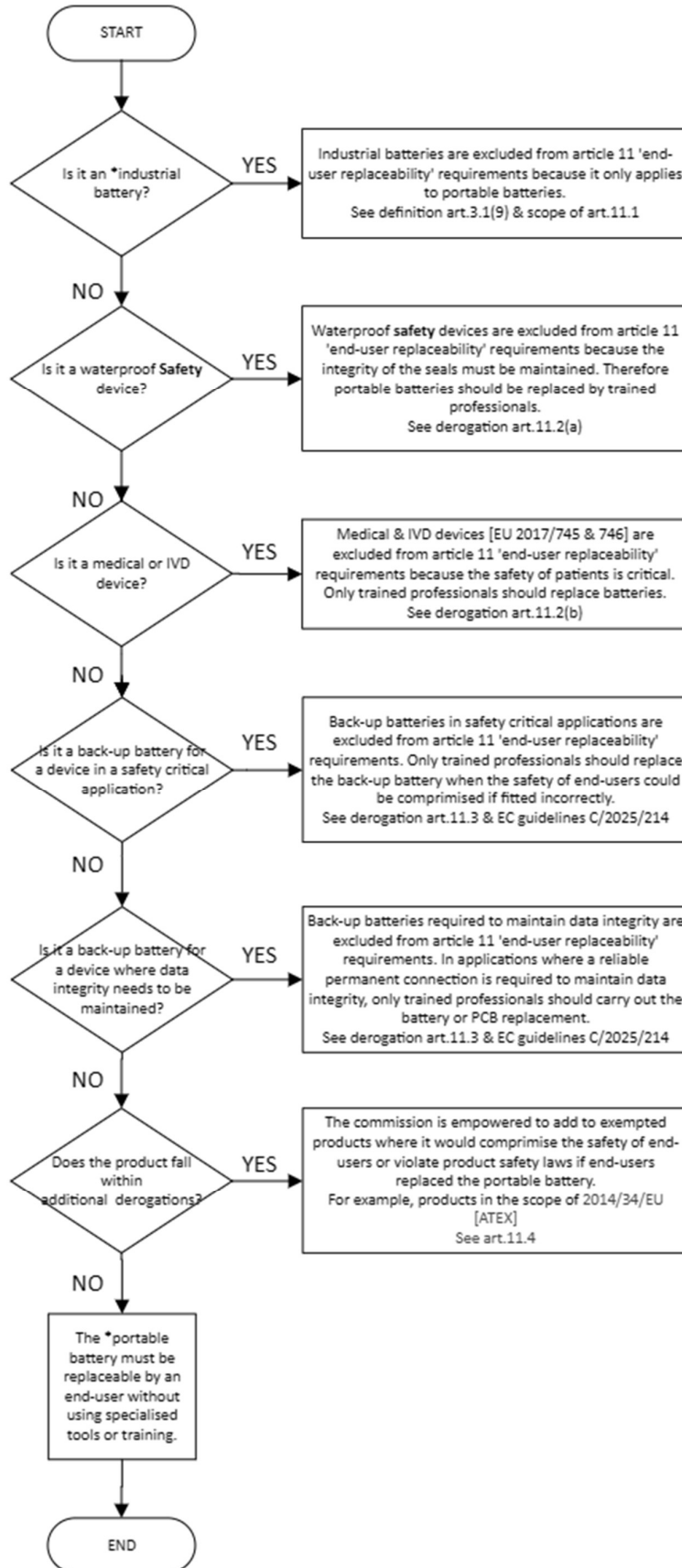
Commission guidelines ([C/2025/214](#)) published on the 10th January 2025 on the removability and replaceability of portable batteries clarifies this on page 8 under 'Safety considerations':

Therefore, in smoke alarms which are designed for at least 10 years of uninterrupted operation matched by a battery with the same service life, and where continuity of power supply and a permanent connection between the product and the respective portable battery is required to ensure the safety of the user and the appliance, it is considered that the portable battery does not need to be removable and replaceable by the end-user.

There are other 'safety-critical' devices, permanently connected to mains power, where the functioning of the device may be compromised if end-users replaced safety back-up batteries incorrectly. The batteries should last for the lifetime of the device but if they do require replacement, it should be carried out by a trained professional with specialized tools.

Therefore, it is the conclusion of CAPIEL members, that for portable batteries described in the application above, where the functioning of the safety device may be compromised if end-users replaced these batteries incorrectly, the derogation described in item 3 of article 11 [Safety considerations] applies and only trained professionals should carry out the replacement of the battery, if deemed necessary before end-of-life.

These batteries are always a backup for the existing power supply and are critical to the correct functioning of the device. Removal of these batteries could lead to damage to the product and possible hazardous situations. Additionally, these are designed to last significantly longer than the device they are in, which is proven with a very low failure rate of the devices currently in the field.





ABOUT US:

CAPIEL is the Coordinating Committee for the Associations of Manufacturers of Switchgear and Controlgear equipment for industrial, commercial and similar use in the European Union.