

Making sense of the EU's fight for user-replaceable smartphone batteries

If you've been online in the past week, you've probably seen one or two headlines about the European Union voting in favor of easy-to-replace batteries in smartphones by around 2027. That's based on a June 14th vote in which the European Parliament voted overwhelmingly in favor of an agreement that would overhaul the rules around batteries in the bloc.

The good news is that those headlines are fundamentally accurate; the EU is moving forward with regulation designed to require smartphones to have batteries that are easier to replace, to the benefit of the environment and end users. But this being the European Union, there's a lot more going on behind the scenes. And it's these details that could have a significant impact on how and when manufacturers will actually have to comply.

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EU wants to bring to all smartphones.

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makes a battery "removable" anyhow?***

So what exactly does it mean for a smartphone's battery to be easy to replace? A lot of the EU's definition boils down to what tools are required for the procedure. Although "removable" recalls the feature phone era or one of Fairphone's devices that only require a fingernail to open, the definition used in the battery regulation voted on this month doesn't go that far. Instead of requiring removal without tools, the battery regulation instead places limits on the kinds of tools that will be needed to replace a battery. Here's the relevant section:

"A portable battery should be considered to be removable by the end-user when it can be removed with the use of commercially available tools and without requiring the use of specialised tools, unless they are provided free of charge, or proprietary tools, thermal energy or solvents to disassemble it."

Rather than calling for entirely tool-free battery replacement, the wording of the regulation focuses on preventing end users from having to use proprietary tools or finicky processes. So the EU's goal is less about turning every phone into a Fairphone 4, with its battery you can pop out in a couple of seconds with your bare hands, and more like the recent HMD Nokia G22, whose iFixit battery replacement guide still calls for the use of a basic tool or two. In other words, the G22's battery can be replaced using commercially available tools that don't seem terribly specialized and

doesn't require proprietary tools, solvents, or thermal energy like heat guns or an iFixit iOpener, which are designed to melt the glue some manufacturers use to hold components together. Simple, right?

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Not so fast, says iFixit's Opsomer. He points out that while EU law only defines "basic tools, product group specific tools, other commercially available tools, and proprietary tools," it *doesn't* define "specialized tools." "This current specification could easily give rise to a situation where in order to replace a battery, a user would have to purchase a tool that is in fact specialized but not officially defined as such," Opsomer says, "The cost of which could easily exceed the cost of the replacement battery."

So iFixit is pushing for lawmakers to count a device as user-repairable under the battery regulation if it can be repaired using "basic tools." Included in this category are common screwdriver styles like flat-head, Phillips, and Torx, though Opsomer admits it's likely to include some nicher implements like iFixit opening picks.

Another potential point of contention is how user-replaceable batteries could coexist with waterproofing. The battery regulation contains an exemption for devices "that are specifically designed to be used, for the majority of the active service of the appliance, in an environment that is regularly subject to splashing water, water streams or water immersion." Opponents of such rules often bring up waterproofing as a feature that could suffer if a device is designed to be easily opened.

"A big success for the right to repair"

In a statement, Opsomer said the EU's exemption is based on "unfounded safety claims" and cited underwater flashlights as an example of a device that's able to offer both a user-replaceable battery alongside a waterproof construction. In a YouTube video, repair technician Louis Rossmann cites the Samsung Galaxy S5 (IP67 – so it can be immersed in relatively shallow water for up to 30 minutes) and Sonim XP10 (IP68 – which can be immersed in deeper water for longer periods of time) as phones with good water resistance that also offer removable batteries, though other recent repairable phones like the Fairphone 4 (IP54 – offering protection against splashing water) and Nokia G22 (IP52 – protected against dripping water) fare less well.