



TO REPAIR OR TO DISCARD?

DESIGNING FOR SLOWER CONSUMPTION

Over the last several decades, the incremental advancements in technology have enabled the seamless integration of technological products into nearly every aspect of our lives. Consider the journey from the public phone booth to today's multifunctional smartphones, or the evolution of the first motorised vehicles into modern foldable electric bikes. Along this path, numerous technologies and devices – such as touchscreens, NFC sensors, Bluetooth, cloud services, wireless charging – have become deeply embedded in our everyday routines. In this context, understanding the impact of design on our relationship with technology is crucial. The design decisions throughout development not only influence how we use and maintain our devices but also affect our broader relationship with the environment.

Connected with technology

As technological devices take on more of our daily tasks, they influence our perception of “what needs to be done”. Most of these technological devices share a common utilitarian perspective: they are designed to perform tasks for us more quickly and efficiently. However, this focus on efficiency places more emphasis on what a device can produce as a result, rather than on how we interact or relate to it. This drive for faster results keeps us constantly looking for what the “next upgrade” will be able to do for us rather than considering how to properly maintain our current devices. This mindset not only encourages the acquisition of new products, but it also contributes to the increasing cycle of discarding older ones.

Technological devices do more than simply fulfil functions; they reshape our experiences and relationships with the world around us, as proposed by Dutch philosopher Peter-Paul Verbeek.

His work on *mediation theory* considers that technologies are not just neutral tools, rather, they actively mediate how we perceive the world and act within it. For instance, let us consider how the proliferation of cameras embedded in smartphones has changed how we relate to our surroundings and to others. Designed with efficiency in mind, these devices turn photography into a simple task: a quick swipe on the locked screen provides instant access to the camera, which makes more situations to be perceived as photographable. This immediacy, in combination with the continuous connectivity of the smartphone shifts the focus of photography from preserving memories to sharing specific moments in real-time. Thus, technologies effectively shape how we understand and interact with our social and material environment through their design, features, and our engagement with them. The design and engineering decisions made from the start will impact our relationship with the product and therefore influence our understanding and involvement in the world, including when we consider a device worth being repaired or ready to be discarded.





Is it trash now?

One often overlooked aspect is how to empower consumers to maintain, extend the lifespan, and repair their products. While efficient manufacturing and lower costs are a common priority for designers and engineers, it can inadvertently result in products that are difficult for users to understand or repair. As a result, consumers often face the frustrating reality of dealing with “black boxes” – products that are not easily accessible or serviceable. This lack of transparency and user agency can drive the cycle of disposal and replacement, rather than encouraging product upkeep and repair.

This easy route has led to an exponential amount of electronic waste across the world. According to the European Commission¹, the premature end-of-life of consumer goods produces 261 million tonnes of CO₂-equivalent emissions and generates 35 million tonnes of waste each within the EU. Ranging from smartphones where the battery cannot be replaced up to a washing machine where a single component is defect, and repair costs may be higher than the cost of the new product. Even as e-waste recycling becomes a more common approach, the possibility of caring for our products starts at the design and engineering table as the products need to be designed for repair.

EU’s Green Deal

In recent years, the Right to Repair concept has gained significant momentum as groups advocate for policies that enable consumers and independent repair shops with the ability to fix their devices without manufacturer-imposed restrictions. The main goal of this movement is to contribute to the EU Green Deal to

make the European economy circular and resource efficient by disconnecting economic growth from resource use.

In addition to reducing e-waste, the new EU rules reinforce the extension of product lifespans and empower consumers to reclaim control over the devices they own. The recent approval¹ of the right to repair rules ensures manufacturers provide timely and cost-effective repair possibilities, and inform consumers about the repair paths. These new regulations further include making information available regarding spare parts, repair incentives, locating local repair services, and identifying shops selling refurbished products.

At its core, the right to repair seeks to empower consumers to reclaim control over the devices they own. But beyond its immediate practical implications, the movement also raises deeper questions about how technology shapes our experiences and relationships with the world.



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Ethics of Repairable Consumption

By taking Verbeek's perspective into consideration, through mediation theory, we can better understand the importance of designing for repair. Technologies designed to discourage repair confine users to a passive role, leaving them with limited understanding and minimal control over their devices. In contrast, if consumers can repair their devices, the interaction between user and technology becomes less transactional and more participatory. Having access to the inner workings of the technology they use, empowers consumers to fix their devices rather than replace them, promoting more sustainable practices among both users and manufacturers.

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demand for transparency and fairness in consumer technology. The way products are designed affects how consumers perceive their repairability, which can influence their initial purchasing decisions. By embedding repairability into the design process, manufacturers can promote values like transparency, environmental responsibility, and support consumer rights through different strategies. Mediation theory helps us recognize that the design choices we make not only shape individual consumer behaviour but also mediate our collective relationship with the environment.

Conclusion

Re-designing products for repairability poses multiple challenges in the short term, as manufacturers address product safety, consumer service plans, and the economic impact from in-company repair services. However, there is a moral imperative to design technologies that empower users, promote

sustainability, and reduce environmental harm. The right to repair movement is thus not only a legal or technical matter, but a profound ethical challenge in how we design and interact with the technologies that shape our lives.

In the long-term, manufacturers can benefit from acting on the right to repair as they innovate in their products, improve the relationship with their customers, and reduce the amount of e-waste generated. By acknowledging the non-neutrality of technology, we can begin to see the right to repair as more than a fight for consumer rights. It is a step toward creating a more sustainable and responsible technological ecosystem that can take manufacturing away from planned obsolescence. In this way, the right to repair is not just about fixing our devices; it's about fixing our relationship with technology itself. ■

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[1] <https://www.europarl.europa.eu/news/en/press-room/20240419IPR20590/right-to-repair-making-repair-easier-and-more-appealing-to-consumers>