

Rising to the e-waste challenge and shifting attitudes to consumption

The recent legislation around Right to Repair and recycling is a signal that radical change is needed in the way we conceive and look after our physical products.

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Business and design leaders need to start thinking beyond table stake compliance with this emerging legislation. If we don't, we are missing the signals telling us that drastic, accelerated change is needed in order to reduce e-waste and rise to the future challenges of global heating and our shifting attitudes to consumption.

The UK government "Right to Repair" legislation, which came in the form of the *Eco-design and Energy Labelling Regulations 2021*, legally requires manufacturers of large electrical appliances like TVs, washing machines and refrigerators to make spare parts available for up to 10 years, to come with repair manuals, and be designed in such a way that they can be dismantled using readily available tools. In 2022, the EU is due to introduce similar regulations to cover smaller appliances such as vacuum cleaners, smartphones, tablets and laptops through the *Designing mobile phones and tablets to be sustainable - eco-design legislation*.



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Currently the best way to reduce e-waste is to make our products last for longer and recycle them when they reach the end of their lives. There are several ways product design can help:

- *Design for Durability* The most sustainable thing you can do is keep your products for longer. As such, brands need to ensure their product's life is not cut short through wear and accidental damage in normal use.
- *Design for disassembly as carefully as assembly* It's as crucial to design for the disassembly experiences for consumers and repair professional as we currently do for assembly in production. Companies need to consider modularity to ensure easier owner repairs and think about designing tools to assist more complex repairs by repair professionals.

- *Design for upgrade not just repair* Products whose core technologies are quickly evolving can die prematurely when they become uncompetitive or unsupported, so consider designing an upgrade path for your product.
- *Access to spare parts* Ensure key spare parts are available for 10 years after you sell your product, as required by recent UK legislation. This is no small feat as technology brands will have to balance the need not to create excessive e-waste of spare parts not used in the repair process, but also manufacture enough spare parts when the original production line and supply chain have closed.
- *Repair services - not shifting responsibility to others* Consider the service of consumer products an opportunity to innovate and establish an ongoing relationship with customers rather than the existing sell and forget process. As producers, brands should take a role in this. A recent study by the Green Alliance, an independent think tank, found that reusing and repairing household goods could create an estimated 450,000 jobs over the next 15 years in the UK.

Perhaps we can learn from the car industry. Whilst some people love tinkering with their cars, most of us are happy to pay for our cars to be serviced and repaired. A whole secondary industry exists to support their repair.

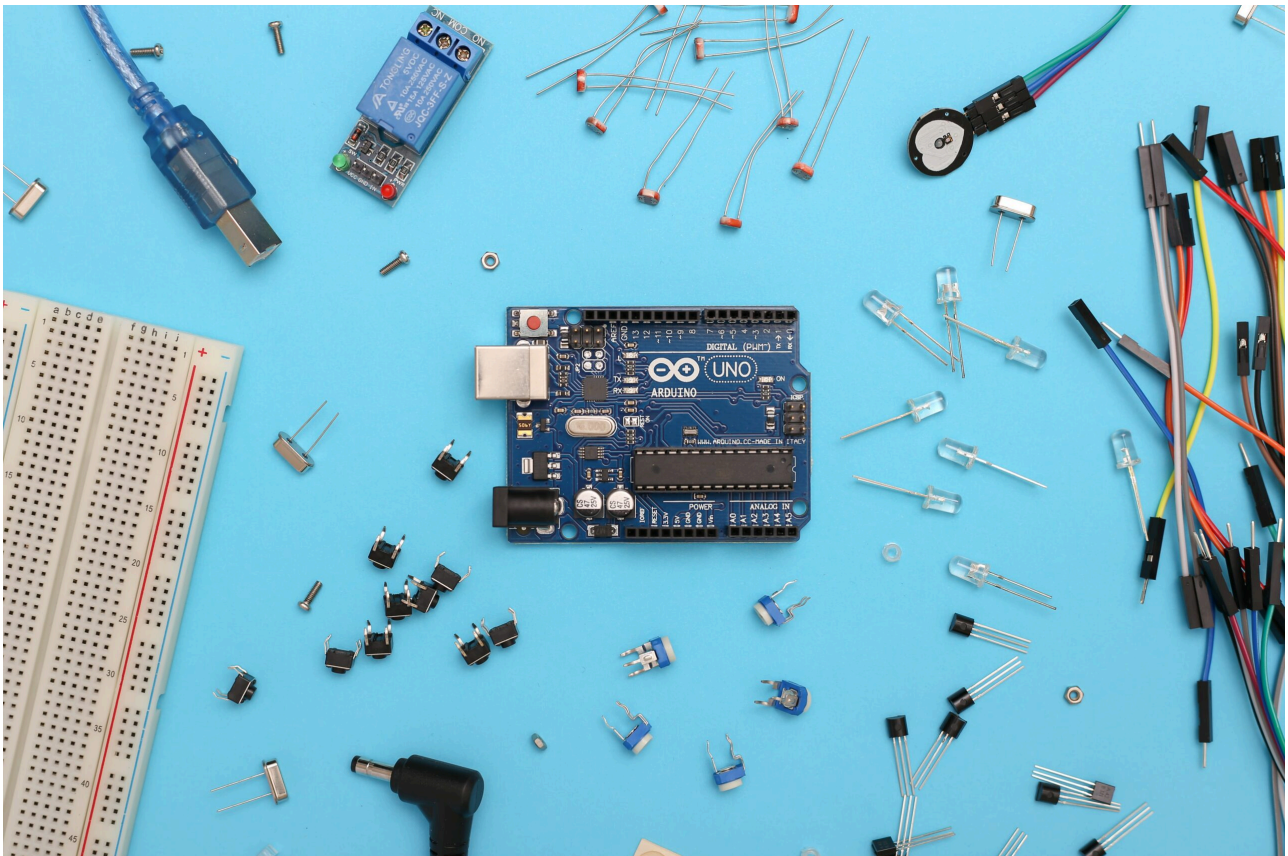
- *Design for desire* The most overlooked influencing factors in design for repair is an owner's desire and emotional connection to the product. Consider design not just as point of purchase but how it might evolve throughout the life of the product to remain desirable even when fashion changes and alternatives come to the market. It motivates us to repair in the first place in order to keep our products for longer.

Systemic design not just product design

Change is happening too slowly to meet the challenges ahead and limited by the current linear systems our products are produced in.

Back in 2014, I helped Fairphone, a small Dutch B Corp, design the world's first modular smartphone: a phone with longevity and ethics in the supply chain in mind as simple to repair as changing the batteries in a child's toy. Seven years later and design for product durability, modularity for repair and ethics in the supply chain established by Fairphone are only now beginning to get mainstream traction.

But as business and design leaders, so much of our behaviour and decision-making is influenced by the existing linear system of take, make, waste and the economic model. Our existing manufacturing and supply chains' infrastructure influences how we conceive and develop our products. Making improvements to products in this system is starting to feel a bit like rearranging the deckchairs on the Titanic.



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We need to shift to more circular systems that consider remanufacturing not just repair and recycling. If we stopped thinking about our products as a never-ending stream of new generations and think in terms of trans-generational products, we may be able to have an even greater impact on the materials and energy consumed in making and using those products. This will provide us with an opportunity to establish different kinds of long-term relationships with our customers and owners. By moving beyond a simple sell and forget attitude, we could help them do the right thing and keep their products for longer by perhaps establishing the kind of recurring revenue relationship with users that today's digital product companies have. This will encourage us to focus not on the sale of more products but the continued delivery of more value to retain our existing users and acquire new customers.

This systemic change will require a war time effort by the industry to mobilise industrial and human resources to shift to a circular system that tackles the accelerating challenges driven by global heating and shifting societal attitudes to consumption. But throughout the pandemic, as individuals and businesses we've experienced just what can be achieved and how quickly when businesses have no choice but to change.

We need drastic change and right now, startups and scale-ups are ideally placed to do this over the global tech brands because of scale. There is a window of opportunity for those encumbered by and heavily invested in existing linear supply chains that shape their behaviours. Now is the time for hardware startups to lead by thinking and acting more quickly to reinvent the systems and supply chains in which our products are conceived and delivered in the near future.

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