

## Case studies: Sustainable solutions for transforming the smartphones and ICT sector

# Phone-as-a-service: banishing the linear ownership model

Like many retail sectors, the smartphone industry is built on selling large numbers of units with a short lifespan. Marketing of smartphones is heavily based on the allure of the latest, most cutting-edge edition of similar products. Users have fully absorbed this message and often upgrade to newer models well before it is necessary. Once a phone is sold, the manufacturer relinquishes control and responsibility. In fact, given the focus on newness as a value proposition, the release of new models hastens the obsolescence of existing ones. Manufacturers compete to constantly release new devices, with no incentive to design for longevity.

Meanwhile, because phones are small and because people value the data left in them, old phones often languish forgotten in a drawer and never make it back into the materials supply chain. Those which are resold often end up in countries where there is no capacity to safely recycle them when they are no longer usable.

Together, these factors result in vast and rapid throughput of scarce materials, whose production and disposal has highly detrimental impacts on environment and human wellbeing. But this fast-moving linear model is not inevitable; rather it is a business model that currently dominates the market.

**“Old phones often languish forgotten in a drawer and never make it back into the materials supply chain.”**

Some innovators are improving product longevity via modular smartphone design. One of these innovators, Fairphone, is now going one step further to create a circular business model for their devices – by offering ‘Fairphone-as-a-service’.



Image credit: Fairphone

## Selling circularity: What are customers really paying for?

A business model based on ‘Product-as-a-service’ (PAAS) starts from the view that when someone makes a purchase, what they are paying for is not the item itself but the function that the item provides.

Examples of this approach include lift-sharing apps or car clubs as an alternative

to car ownership. Advantages for the supplier may include a regular cash flow from users, and a new long-term asset in the product. The user benefits from not having to deal with maintenance or eventual disposal, paying only for the duration for which they need the product. As they are paying for

access to a functioning product, they also have the security of knowing that the product will be replaced if it malfunctions or becomes obsolete. Businesses and large institutions may be more receptive to this model than consumers. This is because:

- They are more likely to buy for function rather than feeling – it’s a less personal purchase than it would be for an individual consumer, so the desire to ‘own’ the item may be lessened.
- Procurement teams often have already planned a specific end point to their ownership of a product (e.g. writing-off the device after two years).
- They are often used to a leasing ownership model already, for big-ticket items like cars and large ICT – and it’s a relatively small step from ‘leasing’ to ‘pay-per-access’.

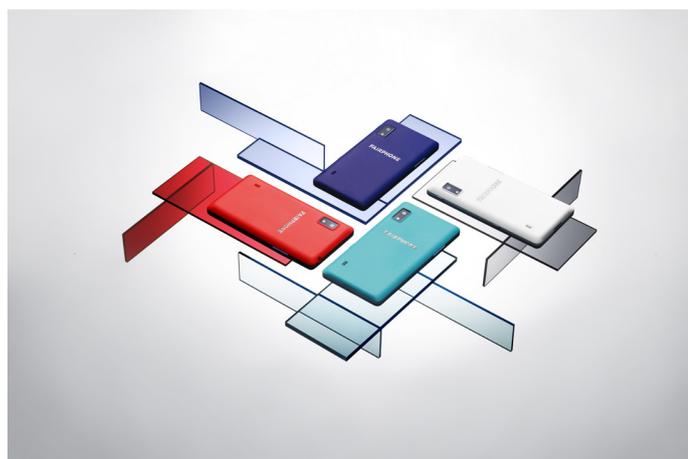


Image credit: Fairphone

## The sustainability dividend: with ownership comes great responsibility

When the manufacturer has ownership of the product until end of life, the product becomes a long-term asset that brings in cash flow. This gives the manufacturer a reason to make sure the product remains in top condition and recover maximum value from its parts at end of life. Not only does this incentivise maintenance, but also design for longevity and recycling – immediately attacking the biggest sustainability problems in ICT.

Fairphone’s own website notes that retaining ownership “puts us in a better position to take advantage of the circular economy ... we can ensure that all the resources [in the phone] are used optimally over the phone’s life cycle, including when

it’s time to be used by another client or recycled.” It also allows Fairphone to provide the right product for different customer segments – such as lower prices for customers willing to accept cosmetic wear.

Data collection from rented devices could also form a key opportunity for sustainability. Access to the devices

across their whole life span could offer a wealth of data to inform future design of products, service agreements, and maintenance schedules. While this would entail certain privacy issues which would have to be addressed, the data could inform more robust or material-efficient designs – for example, by understanding how often a phone actually tends to be dropped, or what humidity it endures.

## Fairphone-as-a-service (FAAS)

The proposition for this new business offering was developed by Fairphone in concert with several partners including legal, financial and circular economy experts as well as potential service clients. This ‘community of practice’ identified several factors that would shape the success of Fairphone-as-a-Service<sup>1</sup>. These include:

- Finding the right flexible finance with up-front funding before cash flows become positive
- Establishing when it is acceptable to collect user data
- Establishing service level agreements (SLA) that ensure devices can function at all times at a level that is acceptable to all parties, and allocates each risk and responsibility to the most suitable party.

One finding is that Fairphone’s existing repairable modular design makes the product an ideal candidate for this business model. As it is designed to be easily repaired by anyone simply by swapping out modules, this gives a means to alleviate one key risk for both buyer and user: how to maintain access if the product breaks. This is solved by keeping a small pool of replacement parts on the client’s premises, as well as the regular preventative hardware and software maintenance that Fairphone undertakes.

<sup>1</sup> The consortium released a report detailing its findings, which can be found here: [www.circle-economy.com/the-circular-phone](http://www.circle-economy.com/the-circular-phone)

**Product-as-a-service incentivises the manufacturer to design for longevity and reuse – immediately attacking the biggest sustainability problems in ICT.”**

Fairphone is engaging with two potential 'clients' to pilot FAAS: one public sector body, and one large business. As of late 2018, the pilot is still at the stage of negotiating contracts to make sure that these are acceptable to both supplier and clients. Both clients in the pilot are taking part for the purpose of organisational learning. These entities want to learn how to operate more sustainably, and circular procurement is seen as a promising route towards this.

This approach is a completely new experience for all parties in the pilot. The challenge is to develop pricing and SLAs that align with the needs of all relevant departments of the client and do not clash with the client's existing procurement agreements with third parties. Getting the procurement model right is a key part of this, with an opportunity to set a great example for circular procurement.

## What next for Product-as-a-Service (PAAS)? Keys to success, challenges, and replicability

PAAS is not a completely new idea – existing examples range from tools to lighting to jeans. The model may be replicable for other ICT products, if all parties are committed to getting the contracts right for everyone.

Device data privacy – real and perceived – must be carefully navigated in order to keep all parties happy while gaining all the sustainability benefits that PAAS can offer. Some countries' privacy laws prohibit the collection of data that could identify an individual. It is technologically feasible to anonymise lifecycle data collected from rented devices, but some users may find it inherently invasive. Even if the data will never affect a user's own contract, the perception of privacy is more difficult to achieve. Fairphone co-founder Miquel Ballester observes that it is vital to first develop a trustworthy brand.



Image credit: Fairphone

## Find out more:

[bit.ly/Fairphoneforcompanies](https://bit.ly/Fairphoneforcompanies)

Header image credit: Fairphone

### Keys to success

- Targeting markets that buy for functionality and are used to a leasing model
- Cooperation between buyer and supplier to work out who can best carry different aspects of responsibility for the device
- Flexible finance with up-front cash to invest in producing devices.

### Next steps

- Exploring and identifying an ethical balance between privacy and data collection
- Finding ways to build in data privacy and to increase trust in this.

## About Transform Together

[Transform Together](#) works with civil society, governments and businesses to advance sustainable consumption and production in high and middle income countries. Bioregional is the convenor and secretariat of the partnership.

## About Bioregional

[Bioregional](#) works with partners to create better, more sustainable places for people to live, work and do business. We call this One Planet Living®.