

IMPACT_CASE

CIRCULAR ECONOMY IN CONSUMER ELECTRONICS



CASE / PROBLEM

Currently the majority of phones are produced, sold, used, and disposed or kept in a drawer indefinitely. This linear model of production and consumption uses enormous amounts of energy and input materials and produces just as much electronic waste and greenhouse gas emissions. E.g., around 50 million metric tons of e-waste are produced globally, of which merely 20% are recycled, thus heavily harming the environment (Baldé et al., 2017). Moreover, recent estimates predict an annual e-waste production of up to 120 million tons by 2050 if we stick to the linear model of production and consumption.

The goal of refurbished GmbH, an online marketplace for refurbished products, is to expand the scope of the circular economy within the consumer electronics market by putting one refurbished product into every household in Europe.

SOLUTION

- Refurbishment regains value from used products and reduces both the amount of electronic waste and materials that need to be mined from the earth for producing products.
- E.g., total emissions for a new iPhone 7 are 62,6 kg of CO₂ – 78% of which are due to the production.
- To remain carbon neutral, i.e., to make up for the remaining ~30% of greenhouse gas emissions, refurbished plants a tree for every device sold.

RESULTS

- Compared to new products, refurbished products save ~70% of the greenhouse gas emissions over the whole product lifetime.
- 100% carbon neutral refurbished electronics, thanks to cumulatively planted >500.000 trees (Q1/21).
- Refurbed manages to offer its products for prices 10-40% cheaper than those of new products.

INNOVATOR



INNOVATION AREA

RESOURCE EFFICIENCY

COST SAVINGS

80 Million €
saved by refurbished customers

CO₂ SAVINGS

>23.000 tons
cumulative since 2017

IMPACT VISION 2030

- 3 mio. tons CO₂ savings
- 17,5k tons in cumulative electronic waste savings