

Case Study H

Company: Recover-E
Location: Amersfoort, Netherlands
Product: ICT Equipment (laptops, desktops, tablets, screens)
Type: Foundation
Remanufacturing Maturity: Early-stage
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The Recover-E Foundation is led by Royal Haskoning DHV's sustainability and circular economy consultants and was co-developed in partnership with SiSo, to boost refurbishment of ICT equipment through a shared partnership approach to asset management.

Motivation for Remanufacturing

Electronic waste is the fastest growing waste sector globally. In 2015, more than 245 million laptops were sold worldwide. There is huge potential to optimise value that currently isn't being valorised. Materials embedded in these products can be recaptured and re-used to create a whole new value chain after the first life.

Product Description

Recover-E refurbishes a range of ICT equipment including laptops, mobile phones, tablets and desktops (eg Fig. 10), which are resold to a second user under a two-year warranty.



Fig. 10 Refurbished Lenovo Thinkpad

Design for Remanufacturing

Typical design issues Recover-E see include damage to the hardware including broken buttons and keyboards and aesthetic damage to plastic housings, which drive early product replacement. Recover-E sees durability, modularity and the layout of internal hardware to allow remanufacturable and recyclable components to be separated from each other without damage, to allow more easy separation of valuable materials and working parts, such as hard drives.

Environmental Benefits

Improving management of the processes between initial and second use contributes to a longer life (and use) for the product, unlocking higher value along the entire value chain. By adopting a multi-strategy end of life approach, to combine reuse, remanufacturing and refurbishment Recover-E can extend the life of products, while also ensuring a secure supply of materials at a stable price.

Economic Benefits

The Recover-E approach means reuse of ICT hardware can deliver a higher economic return than recycling alone. Through refurbishing, reselling and maintaining ICT equipment, Recover-E extends the life of these products providing low cost goods to secondary markets. The market potential of Recover-E lies in its focus on managing data relating to ICT equipment, components, parts and materials throughout the whole life cycle. Ultimately, the Recover-E program will expand to provide Life Cycle Analysis (LCA) data on all recovered ICT products, enabling stakeholders in the chain to monitor assets transparently.

Social Benefits

Recover-E works in partnership with The Salvation Army who supports and empowers vulnerable, marginalised members of society by involving them in optimising the logistics chain as part of its reintegration programs. Throughout The Netherlands, the initiative is creating positive impact in many communities, providing opportunities for education and personal development.

Business Models

Recover-E maximise the value of ICT equipment through use contracts within business-to-business markets, through its track-and-trace ICT platform which allows stakeholders to access and track information about finance and materials throughout the product life cycle.