

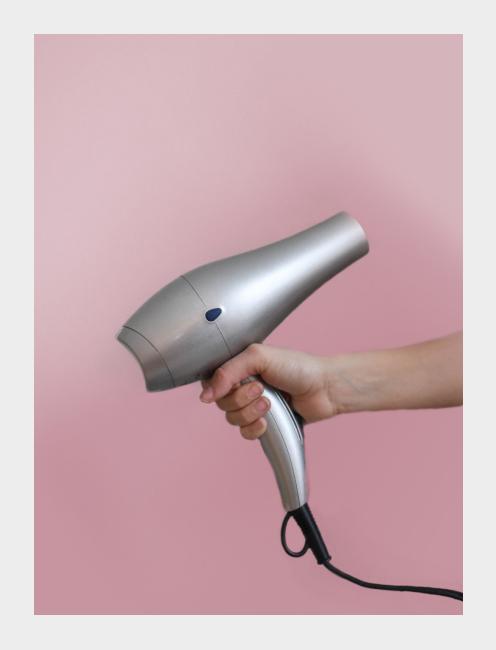
Ruud Balkenende

Professor of Circular Product Design

Delft University of Technology

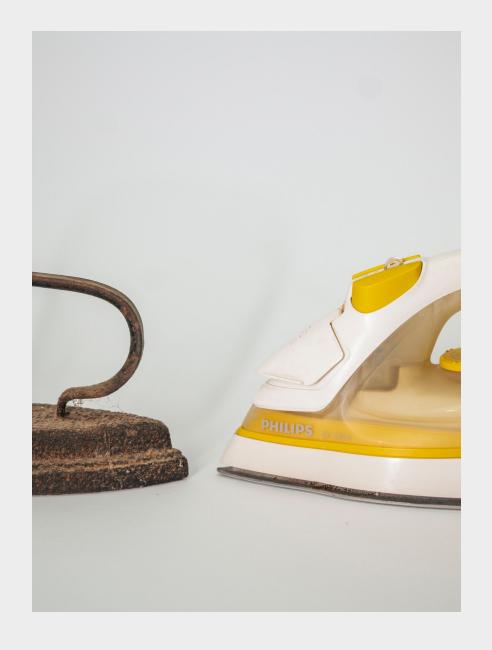
Product Level

- Reduce complexity:
 Minimise the total number of components
- Consider modularity:
 e.g. combine hazardous and/ or valuable parts into
 a single module
- Design for shredding/ mechanical opening
- Enable disassembly



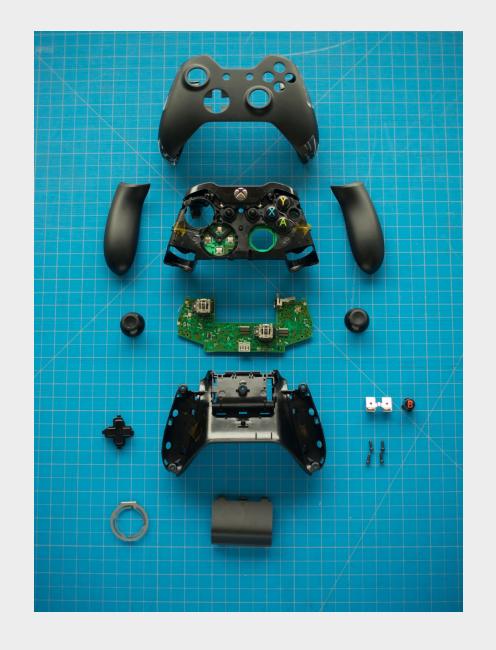
Product Level

- Avoid creating permanent connections
- Reduce the total number and different types of fasteners
- Protect fasteners from wear and corrosion
- Choose fasteners that can be removed with standard disassembly tools



Component Level

- Ensure that hazardous and/ or valuable components are easily identifiable and accessible
- Avoid permanently connecting components
 e.g. through gluing, welding or insert moulding
- Cables & wires: minimise their number and length



Material Level

- Determine whether a material is recyclable
- Use recycled materials whenever possible
- Minimise the number of different materials used
- Use a single material *or* avoid mixing materials e.g. through 2K moulding
- Avoid harmful materials, substances and additives

