

Resortecs,  
Recycling made  
Easy.

# From Waste to Profit: How workwear brands could earn €30 per garment.

## About us

Resortecs is a design-for-disassembly company leading the textile circular transition with **Smart Stitch™** & **Smart Disassembly™** – heat-dissolvable stitching threads and thermal disassembly systems that make recycling easy.

## Challenge

In the protective workwear industry, the complexity of separating the different components multi-material, multi-layer jackets make manual and mechanical disassembly an expensive option without enough ROI. This is why many hold the assumption that designing for circularity represents costs without financial advantages.

In this case study, we showcase that using active disassembly to make aramid-based jackets designed for circularity is a short-term investment with competitive returns in the long-term.



Important data points and industry values used in this business case can be consulted in Resortecs' From Waste to Profit Report. Available for download via [bit.ly/from-waste-to-profit](https://bit.ly/from-waste-to-profit).

## Approach

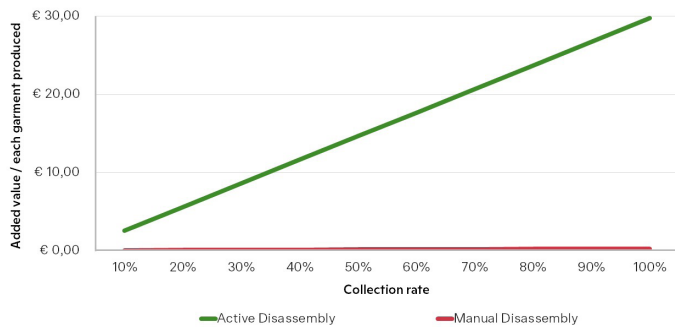
- In this case study, **the cost of disassembly** is compared with:
  - the value of sorted textile materials (available as feedstock for recycling)
  - the equivalent CO<sub>2</sub> offsetting costs avoided.
- **Manual and Mechanical Disassembly** (i.e. shredders) costs are calculated per disassembled volume (€/ton input products).
- **Active Disassembly** (i.e. Resortecs) costs are calculated based on the Smart Stitch™ investment (€/km of thread) and the Smart Disassembly™ process (€/ton input products).
  - The cost of Smart Stitch™ is incurred per textile product produced, while the cost of disassembly is only charged on the amount of textile products collected and disassembled.
- This is why, in the case study, the value generation is expressed along with **the collection rate**: the percentage of the total production that has been collected and disassembled for recycling.



## Results

- For aramid-based jackets, since aramid fabric is of very high value, financial benefits are already achieved with manual disassembly.
- Nevertheless, as from a 2% collection rate, Active Disassembly doubles the profitability achieved with manual disassembly by reducing the waste generated during the disassembly process.
- Active Disassembly generates a maximum net profit of €29.72 for each jacket produced.

### ROI of Disassembly Processes per Textile Product with feedstock (i.e. sorted textile material) at current value



**2%**  
collection rate  
for profit generation

**€29.72**  
maximum net profit  
per jacket produced

### Insight

In the protective workwear industry, garment collection rates are generally high since garments are sent back to the industrial laundry or workwear brand at end-of-life.



### Learn more

[Download the LCC report](#)

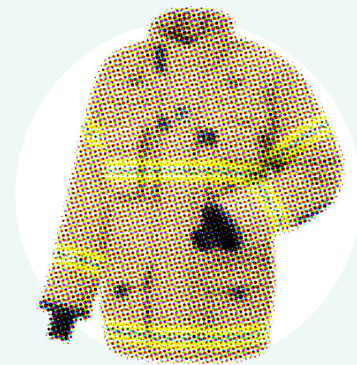
Resortecs' life cycle cost analysis:  
"From Waste to Profit - Maximizing Textile Circularity with Design for Disassembly".

## Looking ahead

The feedstock value of aramid destined for recycling is expected to rise to 70% of the raw aramid's price.

### In case the feedstock value doubles:

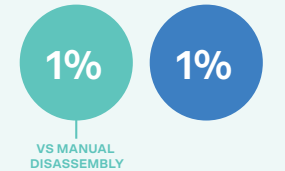
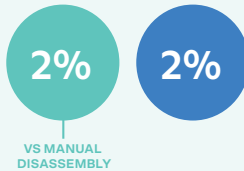
- Mechanical disassembly remains a cost in every scenario;
- Active Disassembly outperforms mechanical disassembly as from a 1% collection rate,
- Active Disassembly generates a maximum net profit of €43.57 for each jacket produced.



### Aramid-based protective workwear

with current Aramid feedstock price, i.e. 50% virgin price

with increased Aramid feedstock value, i.e. 70% virgin price



- Product collection rate % at which Smart Stitch™ & Smart Disassembly™ outperforms other best performing Disassembly process
- Product collection rate % to achieve financial profit with Smart Stitch™ & Smart Disassembly™



### Questions? Get in touch!

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