French Grande Ecole, one of the leading textile master degree in Europe

Textile Technologies
Sciences
Management

One of the main academic research laboratory in Textile in Europe

Applied Textile Science
→ Textile Innovation:
  Materials and Processes
  Manufacturing (factory for the future)
  Retailing

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Circular economy and textile

Collaborative fashion scenario: LCA?
Example - Flax Shirt
Lifespan: weared 50 times

New fibres and new processes
LCA: Environmental impacts decrease 10% to 30%

Recycled fibers

Collaborative fashion?
- Responsible Consumption
  - Purchasing
  - Collective Consumption
  - Use

Extension of Product Lifespan
- Reuse
- Repair
- Recycle

Fast Fashion / Slow Fashion
LCA: Environmental impacts decrease 80% to 90%
Reference case

Manufacturing and transport

Buy in a shop

Wearing and cleaning
10 times once a week
→ 10 weeks

End of life

new case: renting

Manufacturing and transport

Rent in a library

Wearing and cleaning
10 times once a week
→ 10 weeks

End of life

5 times a year

5 times a year
LCA Comparison Flax Shirt

F.U.: « to wear a flax shirt once a week for one year »
« and to have a new shirt each 10 weeks »

Software: Simapro
Method: ILCD 2011 Midpoint+

Avnier 2017 – A. Perwuelz
LCA Comparaison Flax Shirt

Software: Simapro
Method: ILCD 2011 Midpoint+

F.U.: « to wear a flax shirt once a week for one year »
« and to have a new shirt each 3 weeks »
Conclusions

• Collaborative fashion consumption Environmental benefits depends on:
  – Lifetime / quality of clothes
  – Frequency of changing clothes

• LCA is a tool adapted to validate the environmental benefits of circular economy scenarios

Poster Presentation:
IMPACTS OF COLLABORATIVE CONSUMPTION BASED ON RENTAL STRATEGIES FOR FASHION PRODUCTS

Maximilien Schrub, Romain Benkirane, Sebastien Thomassey, Anne Perwuelz