



Lenzing

Innovative by nature

Stand
up!

Against business
as usual

Challenges on Chemical Recycling of Textiles

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The Lenzing Group at one glance

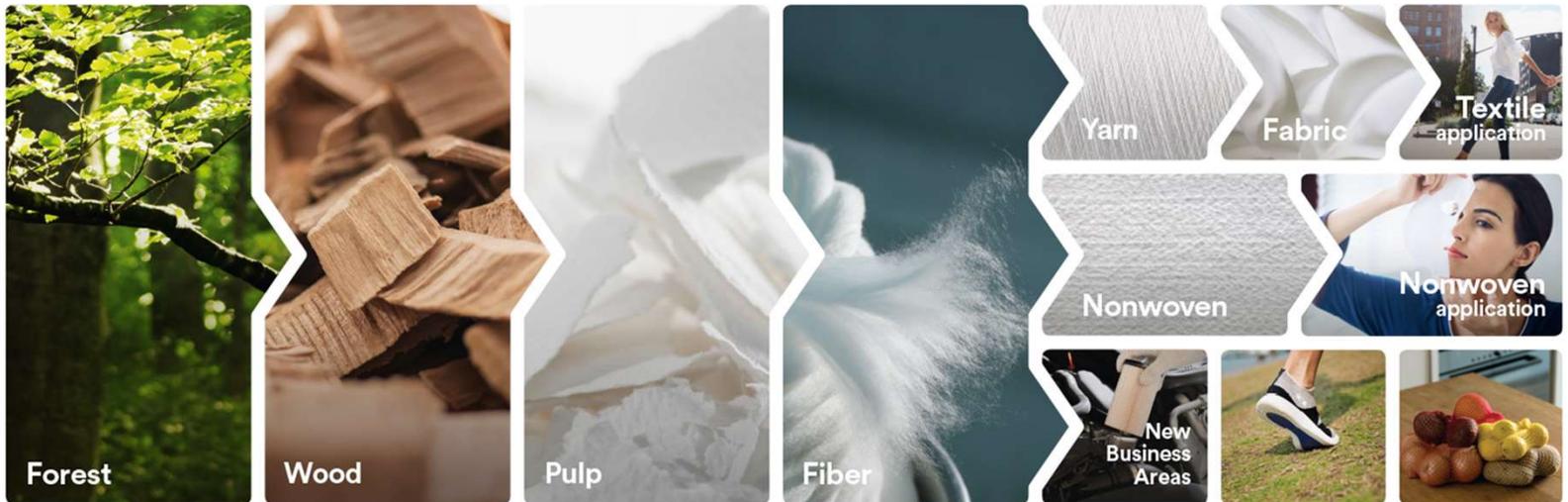
- Lenzing is a global fiber producer with the headquarter in Lenzing/Austria
- Group revenue around EUR 2 bn
- Around 1 mio tons of woodbased cellulosic fibers
- Production sites in Europe, US, China and Indonesia; Thailand and Brazil under construction
- Global network on sales offices to be close to our business partners
- Strong focus on sustainability and innovation



Our core market: wood-based cellulosic fibers

LENZING™ fibers produced from the raw material wood

Core product brands:



TENCEL™, VEOCEL™ and LENZING™ are trademarks of Lenzing AG.

Lenzing's Circular Economy Solution



- Solves waste problems in the society and gives a second life to cotton scraps
- First commercial available cellulosic fiber with chemical recycled content
 - The fibers show the same properties as TENCEL™ Lyocell from virgin material
- traceable until the final garment
- Environmentally responsible closed loop process
 - Solvent-spinning process recycles process water and reuses the solvent at a rate of more than 99%



Challenges in textile recycling

Collection and waste trade

- Waste definition vs “secondary raw material”
- No harmonized sorting standards and criteria
- No harmonized textile collection rules



Nature of waste and its content

- Too many different fiber blends in garments
- No transparency of materials and chemicals in the product
- Sorting technology not advanced (automated sorting still in pilot stage)
- Inhomogeneous textile waste (different colours, condition/age of garments etc.)



Challenges in textile recycling

Recycling process

- Most technologies only in start-up or R&D-stage (TRL 3-7)
- Methods for removal of buttons/zips
- Post-consumer textiles with unknown history require flexible processes, e.g. decolorization
- Handling of non-cellulosic, non-polyester contents (elastane, rubber)



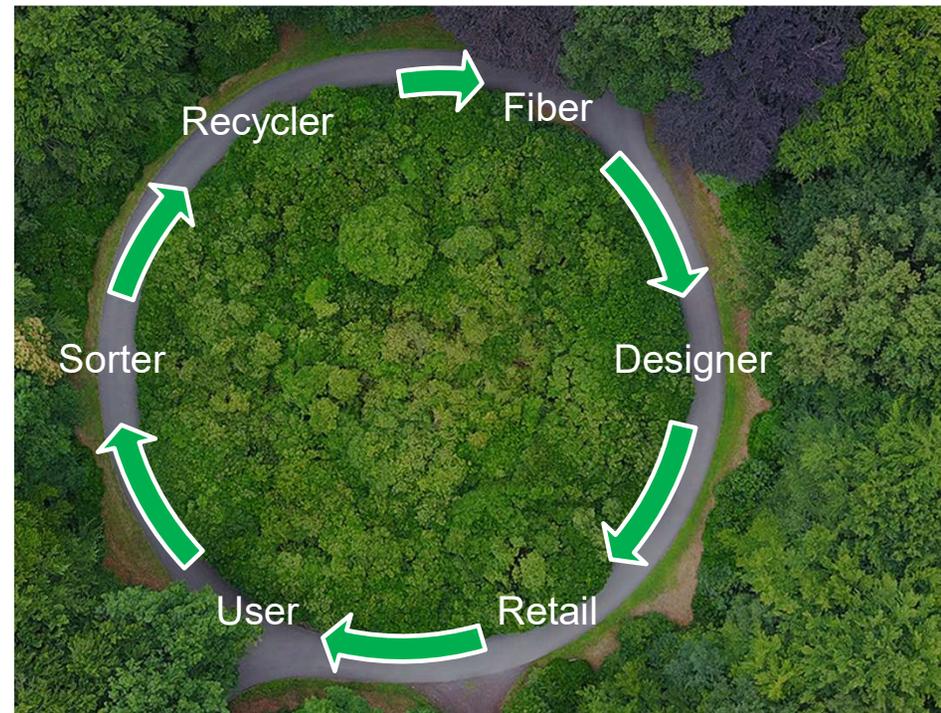
Barriers on uptake of recycled material

- Demand for recycled materials due to higher cost
- Consumer awareness
- Business case for upscaling new technologies



Is there a solution to these challenges?

**Partnerships,
collaboration and
networking**



Thank You

**for your
attention!**

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