

re:newcell

**We make fashion
sustainable**

Re:newcell can make fashion sustainable

There is a way to turn used cotton and viscose into new high quality biodegradable pulp, new fibers, new yarn, new fabrics and new garments that can be produced and worn with a clear conscience.

The re:newcell pulp is:

1. Circular (upcycling solution, closed loop)
2. Biodegradeable (pure cellulosic based)
3. Quality (top fiber properties)
4. Scalable (first plant already built)



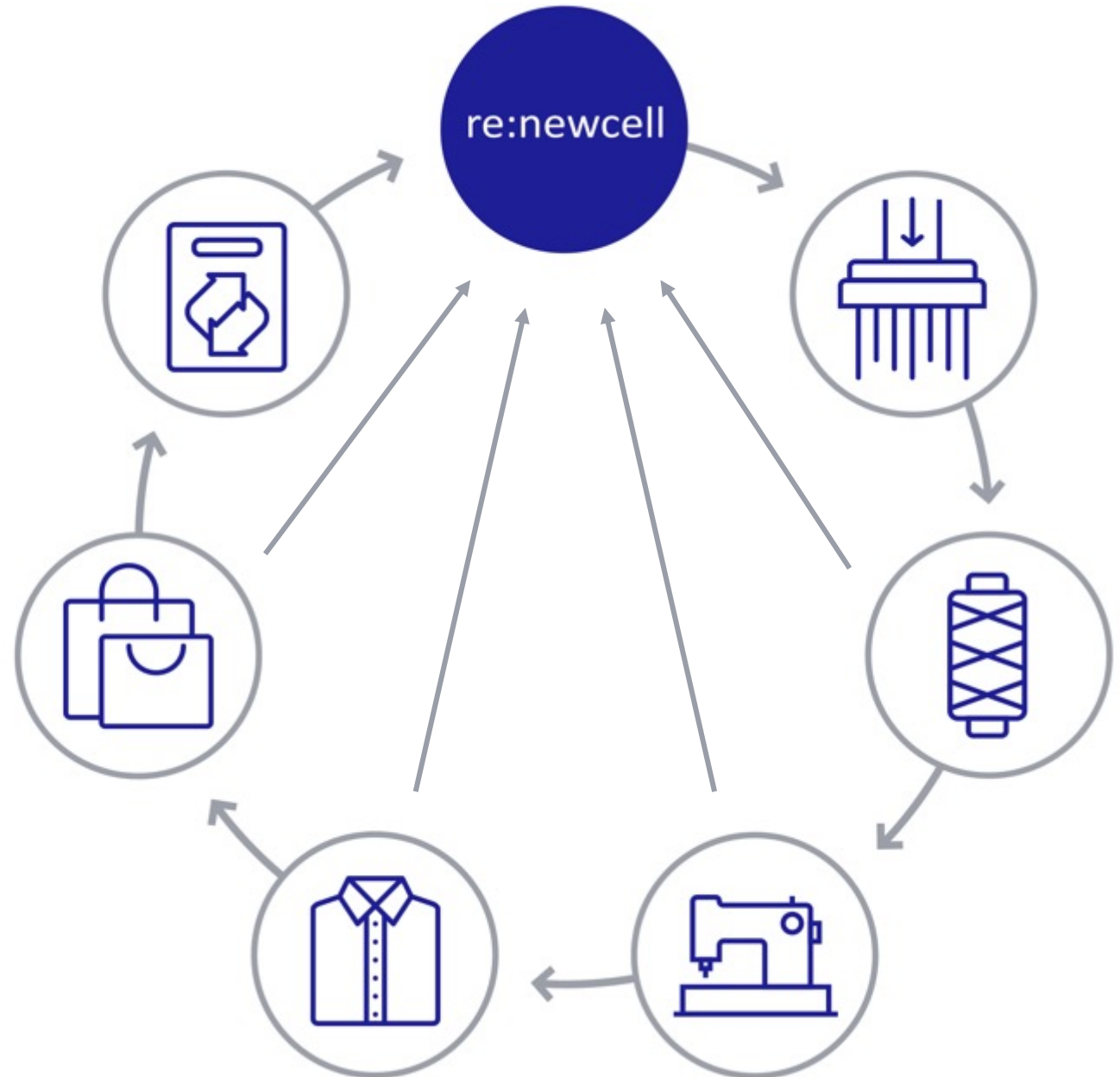
We have closed the loop

Our recycling technology dissolves used cotton and other natural fibers into a new, biodegradable raw material, re:newcell pulp.

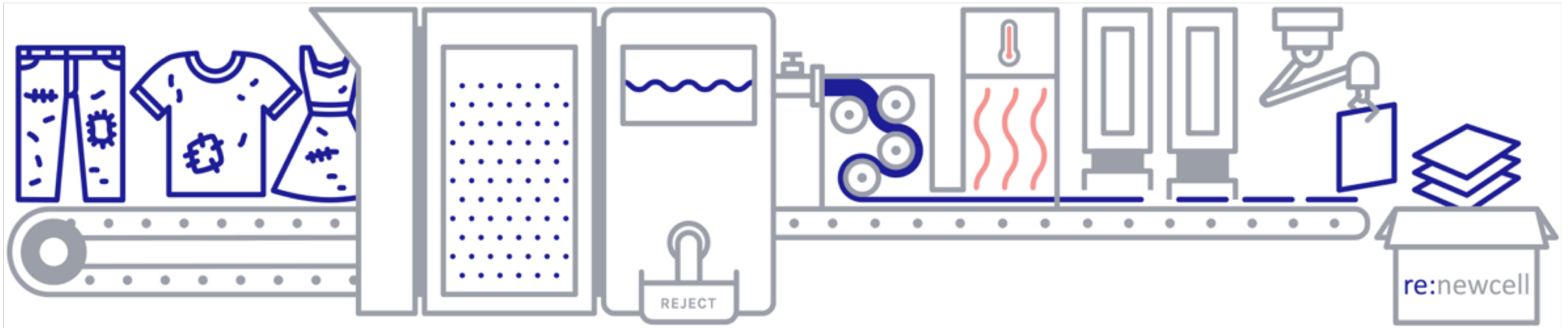
It can be turned into textile fiber, be fed into the textile production cycle and meet industry specifications.

It's the link that has been missing from the cycle. Fashion can finally be produced and consumed in a never-ending loop.

re:newcell

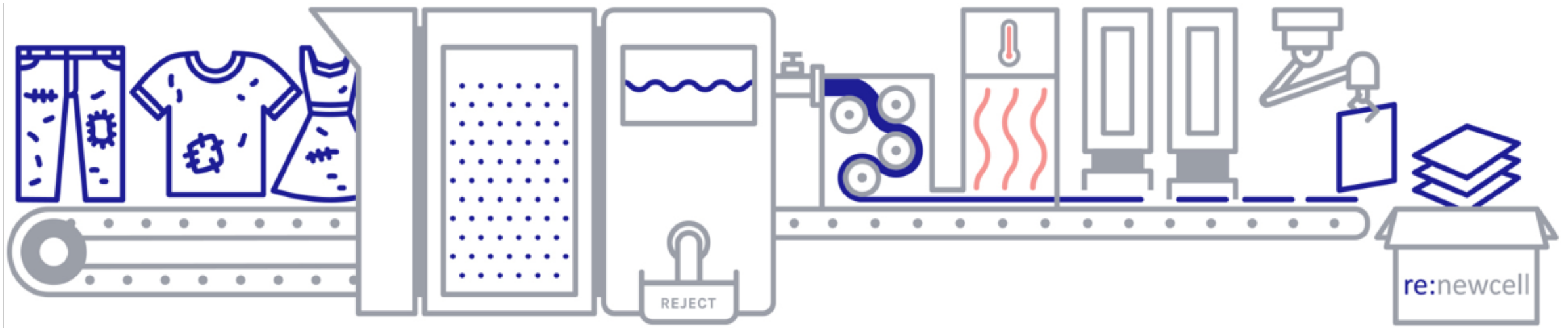


The re:newcell upcycling process



1. We receive textile waste with high cellulosic content (cotton, viscose, lyocell).
2. The textiles are shredded, de-buttoned, de-zipped, de-colored and turned into a slurry.
3. Contaminants and other non-cellulosic content are separated from the slurry and sent to other recyclers.
4. The slurry is dried to produce a pure, natural re:newcell pulp, which is packaged into bales and fed into the textile production cycle.

7,000 ton capacity in our first plant



Our process reuses chemicals again and again.

We only use renewable energy throughout the recycling process.

We can produce 7,000 tons of biodegradable re:newcell pulp per year at our Kristinehamn plant (equivalent to 30M t-shirts).

We will build full scale plants over the few next years each with a capacity 30 000 ton per year.

Dive into re:newcell pulp



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Upcycling can improve fiber quality

Fiber made from re:newcell pulp performs better than lyocell in several dimensions.

Staple fiber properties

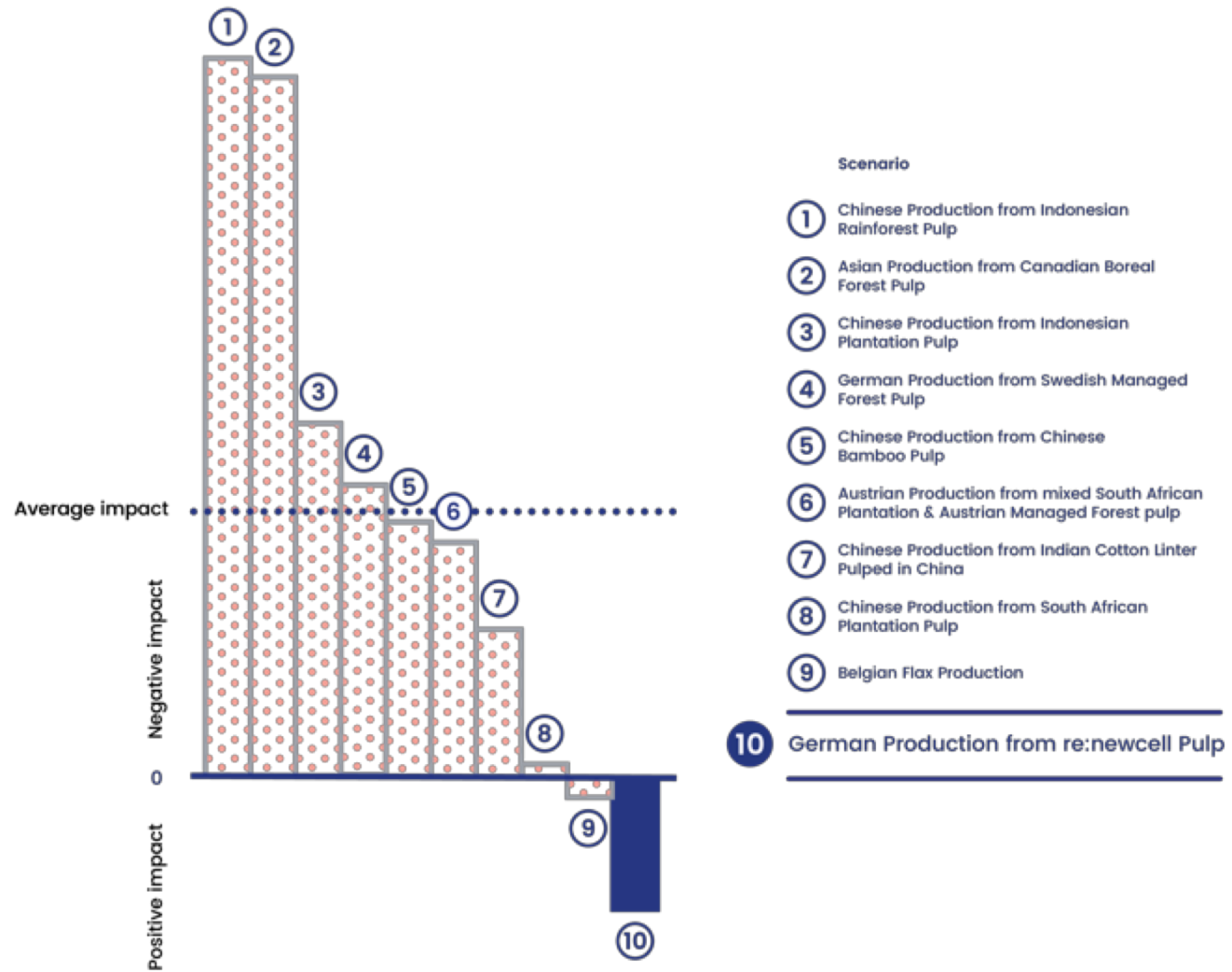
	re:newcell pulp	Birch/ re:newcell mix	Lyocell market leader reference
Fineness [dtex]	1,65	1,65	1,32
Tenacity, dry [cN/tex]	46,9	54,7	39,9
Elong at break [%]	11,3	13,4	13,4
E-modulus [N/tex]	8,3	10,6	7,0

Björquist S, Aronsson J, Henriksson G and Persson A. Textile qualities of regenerated cellulose fibers from cotton waste pulp. *Textile Research Journal* 2017

<https://doi.org/10.1177/0040517517723021>

...and reverse the climate damage

Fibers made from re:newcell pulp have a substantial **positive** net global climate change impact.



The chart shows net global climate change impact in ten different fiber production scenarios

Source: SCS Global Services Report

”Life Cycle Assessment Comparing Ten Sources of Manmade Cellulose Fiber”

Can we have your jeans, please?

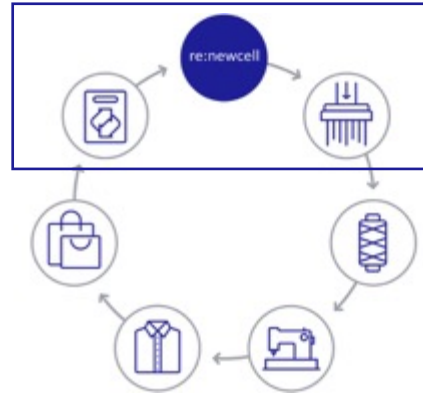
Initially we prefer to recycle cotton, especially denim jeans. They are:

- Easy to sort (*everyone can spot a pair of blue jeans*).
- They usually are close to 100% cotton.



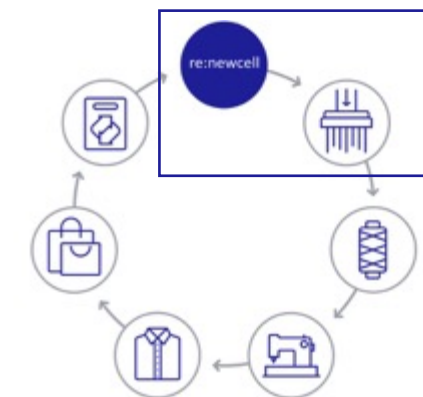
Different forms of cooperation

1. Forms of cooperation
2. Closed loop collection
3. Open loop collection
4. Recycling solution



1. Closed loop collection cooperation

Customer tailored loop where the fashion brand has a take back program and can supply post-consumer cotton textile waste. Re:newcell upcycles the used garments into dissolving pulp, which can be turned fibers (viscose, lyocell) through selected fiber spinners. These fibers are then supplied to yarn, textile and clothes producers through the brand's preferred value chain. Re:newcell supplies the brand with relevant LCA or footprint data, which can be used for internal and external purposes.



2. Open loop collection cooperation

A circular collection where the fashion brand relies on textile waste coming from re:newcell own sources. Re:newcell upcycles the textile waste into dissolving pulp, which can be turned fibers (viscose, lyocell) through fiber spinners. These fibers are then supplied to yarn, textile and clothes producers through the brand's preferred value chain. Re:newcell supplies the brand with relevant LCA or footprint data, which can be used for internal and external purposes.



3. Recycling solution cooperation

Re:newcell offers a premium upcycling solution with outstanding sustainability credentials. Post-consumer cotton textile waste is sent to re:newcell, who then upcycles the used garments into dissolving pulp with a low impact LCA footprint. The supplier of the incoming waste receives relevant credentials and certificates. Re:newcell supplies the supplier with relevant LCA or footprint data, which can be used for internal and external purposes.

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Thank you