ReHubs

A joint initiative for industrial **upcycling** of textile waste streams & **circular materials**

EURATEX

THE EUROPEAN APPAREL AND TEXTILE CONFEDERATION

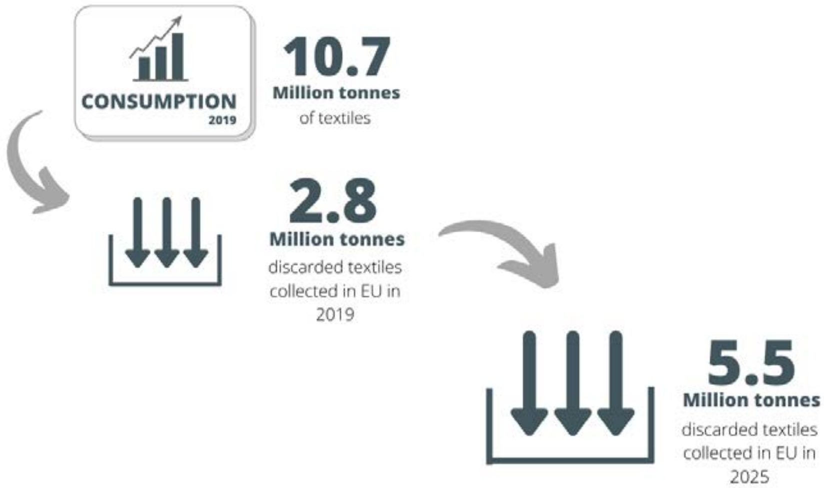
Recycling Hubs for Europe

The traditional linear textile business model (from virgin materials to products and then waste), results in high consumption of raw materials and generation of waste, which contributes significantly to the large and negative environmental impact of the global textile industry.

While apparel is only one of several textiles' applications, the global apparel production and consumption appear to have doubled over the past 15 years, generating higher waste.

Even if the amount of textile waste separately collected in Europe has increased over the last five years from an estimated 2 mln tons in 2014 to 2.8 mln tons in 2019, this volume is expected to increase substantially once the EU waste legislation will be put into practice by the end of 2024[1].

In less than four years[2] textile waste shall be collected separately and could total an amount between **4.2 to 5.5 mln tons**[3] which should be dealt with ideally within the EU[4].



For non-collected textile waste, currently there are neither viable re-use solutions, nor alternatives to incineration or landfill which is meant to be abandoned. There is simply no large-scale plan in Europe to manage all textile waste streams.

The European textile industry is renowned for its high-quality products and a front runner in the shift to circularity. Companies have already been investing and introduced circularity in both production and products. However, most of the solutions already on the market or at R&D stage, represent small portions of their business models. Companies face financial & technological barriers which they cannot address alone and therefore need collaboration across value chains.

1. As consequence of the EU Directive on Waste EU 2018/851.
2. Some EU countries anticipate the deadline: Finland targets separate textiles waste collection by 2023 and Italy even by 2022.
3. Source: Gherzi Textil Organisation estimates.
4. In 2019 an estimated 35% of all collected textile waste is exported outside EU27.

In line with the EU ambitions of the Green Deal and the transition into Circular Economy, collaboration can turn a societal waste problem into a business opportunity for European SMEs and large business alike, as well as a new source of job creation in Europe.

Therefore, EURATEX, the European Apparel and Textile Confederation, proposes the development and set up of European Textile Recycling Hubs (ReHubs).

The textile waste generated today and the recycling capacity

In 2019 the EU produced approximately 5.8 mln tons of textiles[5] and imported ≈6.5 mln tons. With ≈1.6 mln tons exported, the apparent consumption can be estimated at approximately 10.7 mln tons, or 24 kg per capita[6]. Only around 2.8 mln tons were collected in Europe, whereas more than 4 mln tons have largely disappeared in incinerators or landfill alongside with residual waste.

TYPE OF TEXTILES	TYPE OF WASTE	SOURCE OF WASTE
Industrial	fibre, filament, yarn, woven, textile surface (woven, knitted, nonwoven, braided etc.)	fibre & filament production, spinning, weaving, knitting, nonwoven, finishing, garmenting
Pre-consumer	garments, hometextiles (incl. carpets), technical textiles, nonwoven	brands, retailers, distributors
Post-consumer	garments, hometextiles (incl. carpets), technical textiles, nonwoven	final consumer

Most of the 2.8 mln tons of collected waste is post-consumer waste. Nevertheless, waste produced during the industrial process should play an important role as it may be easier to process and it brings costs-related advantages in the collection, sorting and recycling.

5. The term "textiles" covers final consumer product incl. garments, home textiles (bed-linen, towels, curtains, table- and kitchen cloths, etc.), technical textiles, composites and nonwovens
6. Source: Gherzi Textil Organisation estimates.

Most of the collected textiles are garments. 65% of those are sorted within Europe with the remaining 35 % exported outside the EU. From these sorted textiles, about 50-60% are still in the condition to be re-used or worn again; 10-15% are converted into low value products such as wipers/cleaning cloth; 10% are incinerated or landfilled and the remaining 15-30% are recycled.

The largest part of the recycled textiles waste (0.42 mln tons in 2019) is downcycled: textiles are shredded into fibres which are used into low value applications (automotive, insulation materials, cleaning clothes, etc). A relatively small part is successfully recycled into higher value applications as textile fibers to make new garments. Chemical recycling which can generate high quality raw materials is at a very early stage.

From an environmental and economic point of view, it is a loss to simply ship abroad or incinerate more than 4 mln tons of potential raw materials.

Fig. estimated volumes of discarded textiles

Turning Textile Waste into Value

The increase of collected textile waste from 2.8 mln tons to 4.2 - 5.5 mln tons will become a major environmental and economic challenge, unless Europe sets up a large scale and coordinated system for collecting, sorting and recycling all textile waste streams by 2024.

In less than four years[7] the textile wastes shall be collected separately and should ideally be processed in the EU.

To turn the upcoming textile waste problem into an opportunity, EURATEX, the European Apparel and Textile Confederation, with its members[8], launches a join initiative to set European Textile Recycling Hubs, the **ReHubs**.

MISSION

"establish 5 recycling hubs serving the whole Europe, for upcycling waste and circular materials by collecting, sorting, processing, and recycling industrial, pre-consumer and post-consumer textile wastes"

Setting the ReHubs near European textile and apparel districts will offer the benefit of circular economy by upcycling textile wastes, as a completely new, coordinated, large-scale management of material-streams.

The Hubs' capacity to treat large volumes will create economies of scale, justifying the costs of existing recycling technologies as well as investments into new ones, such as chemical & thermal/melt recycling. This will generate new raw materials for the textile value chains, which is mostly made of SMEs (fiber-to-fiber closed loop), and for symbiosis with other European industries (e.g. automotive or other industries).

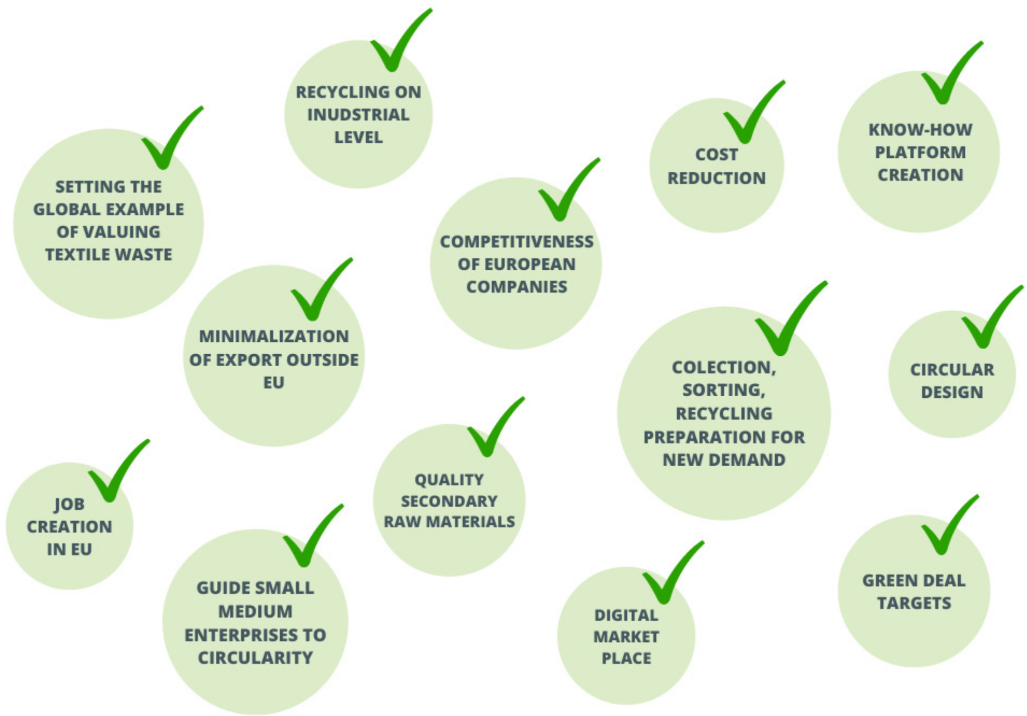
The ReHubs will enable the creation of a new European market of secondary raw materials saving additional waste-related costs. They will create and spread knowledge on products' recyclability and product design for a better cooperation between makers and buyers across the industry value chain.

In a longer run and by successfully overcoming the R&D challenges, the ReHubs will not only tackle the issue of landfill and incineration, but they will build an opportunity for Europe to

7. Some EU countries anticipate the deadline: Finland targets separate textiles waste collection by 2023 and Italy even by 2022
8. EURATEX in coordination with Creamoda, Fedustria, Consejo Intertextil Español, Finnish textile & Fashion, Sistema Moda Italia and Textil + Mode

strengthen its autonomy for raw materials and provide a healthy recycling ecosystem across Europe.

The ReHubs will create new green jobs. Estimates indicate that around 20 jobs could be created for every 1000 tons of textiles collected, sorted and recycled, ultimately creating up to 120.000 jobs in the European Union.



In the strategic textile ecosystem, the ReHubs offer a concrete example of partnership for change necessary to accomplish the EU objectives set in the Green Deal and in the Circular Economy Action Plan, as well as in EURATEX strategy.

Functioning of the ReHubs

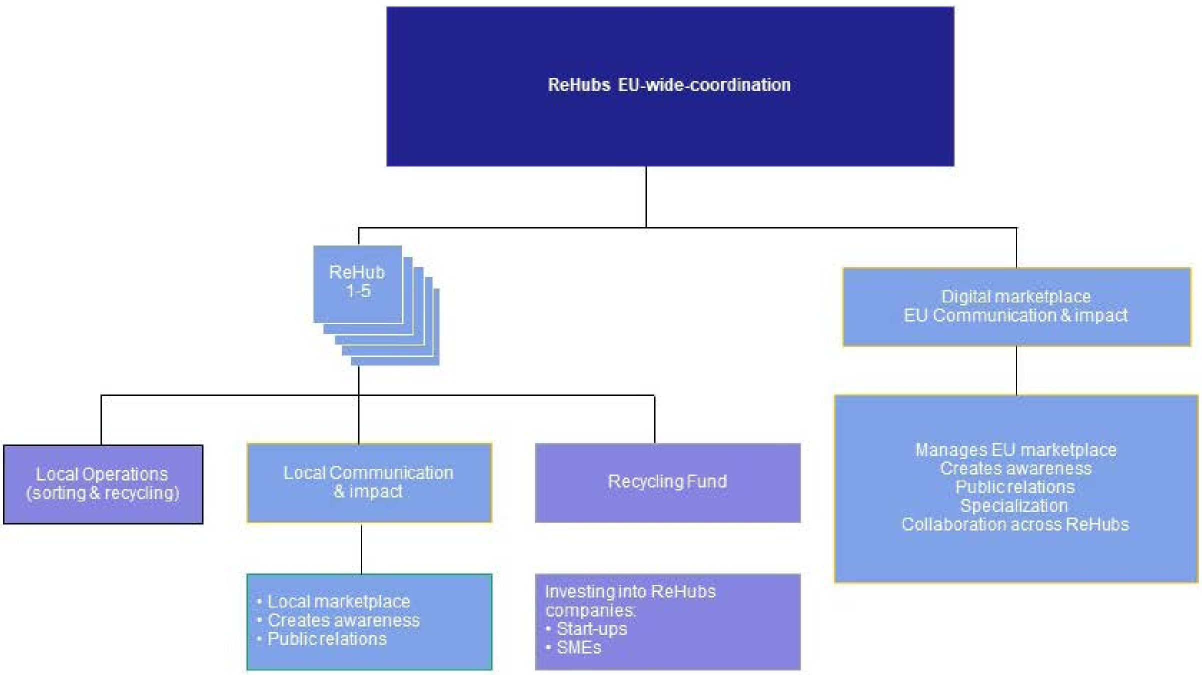
Based on their existing or emerging recycling industry as well as local textile / garment industry, 5 EU Member States have emerged to be the ideal candidate hosts: Belgium, Finland, Germany, Italy and Spain. These five initial ReHubs would however operate across borders and benefit to many other European countries in the short and mid-term.

Implementing the ReHubs will pool together major efforts and investments for circular textiles from over 100 businesses from across the European Union, with guidance from technology/ business-neutral organisations. Once set up, the ReHubs will operate as European coordination centres and service & solutions providers, managing different textiles waste streams and business needs. They would serve a cross-border European market through multiple existing or newly built installations.

Coordination of data will be ensured by a newly created digital platform, common to the 5 ReHubs and offered to companies or other operators to dispose of waste materials and/or to purchase new materials (one-stop shop concept).

Considering the high volumes of textiles waste to be treated, significant investment will be needed to scale up ongoing R&D, create new capacity and unleash investments in sustainable textiles and recycling.

The ReHubs will have different types of ownership reflecting local needs, specificities of the companies and different level of maturity in textile circularity. The functioning of the ReHubs may involve several players from within the textile value chain (spinners, weavers, knitters, dyers/ finishers, garmenting and making up) and beyond, including technology providers and textile machine manufacturers, end-of-life textile collectors, sorters, operators developing primary processing and automized sorting, mechanical and chemical recyclers, companies utilizing final products, charity organizations and municipalities.



Next steps

The planning foresees two steps: (i) fine tune the ReHubs specialization, strengthen coordination and enlarge the pool of stakeholders involved (ii) identify adequate financial resources, necessary to develop Techno- Economic feasibility studies of the 5 ReHubs and to trigger a larger private-public partnership.

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About EURATEX

As the voice of the European textile and clothing industry, EURATEX works to achieve a favourable environment within the European Union for design, development, manufacture and marketing of textile and clothing products.

The EU-27 textile and clothing industry, with around 160,000 companies employing 1.5 million workers, is an essential pillar of the local economy across many EU regions. With over € 61 billion of exports, the industry is a global player successfully commercializing high added value products on growing markets around the world.

Working together with EU institutions and other European and international stakeholders, EURATEX focuses on clear priorities: an ambitious industrial policy, effective research, innovation and skills development, free and fair trade, and sustainable supply chains.

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