



# Towards circularity of Textiles

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LOUNAIS-SUOMEN  
JÄTEHUOLTO

Public Waste Management Company  
in South-West Finland

Owned by **18** municipalities

**440 000** citizens and

holiday homes about **40 000**

over **100** employees

Turnover **28 M€**



**EKO**  
PARTNERIT

**N**  
Lounavoima

**KIERTOMAA**



# Post-consumer textiles from households



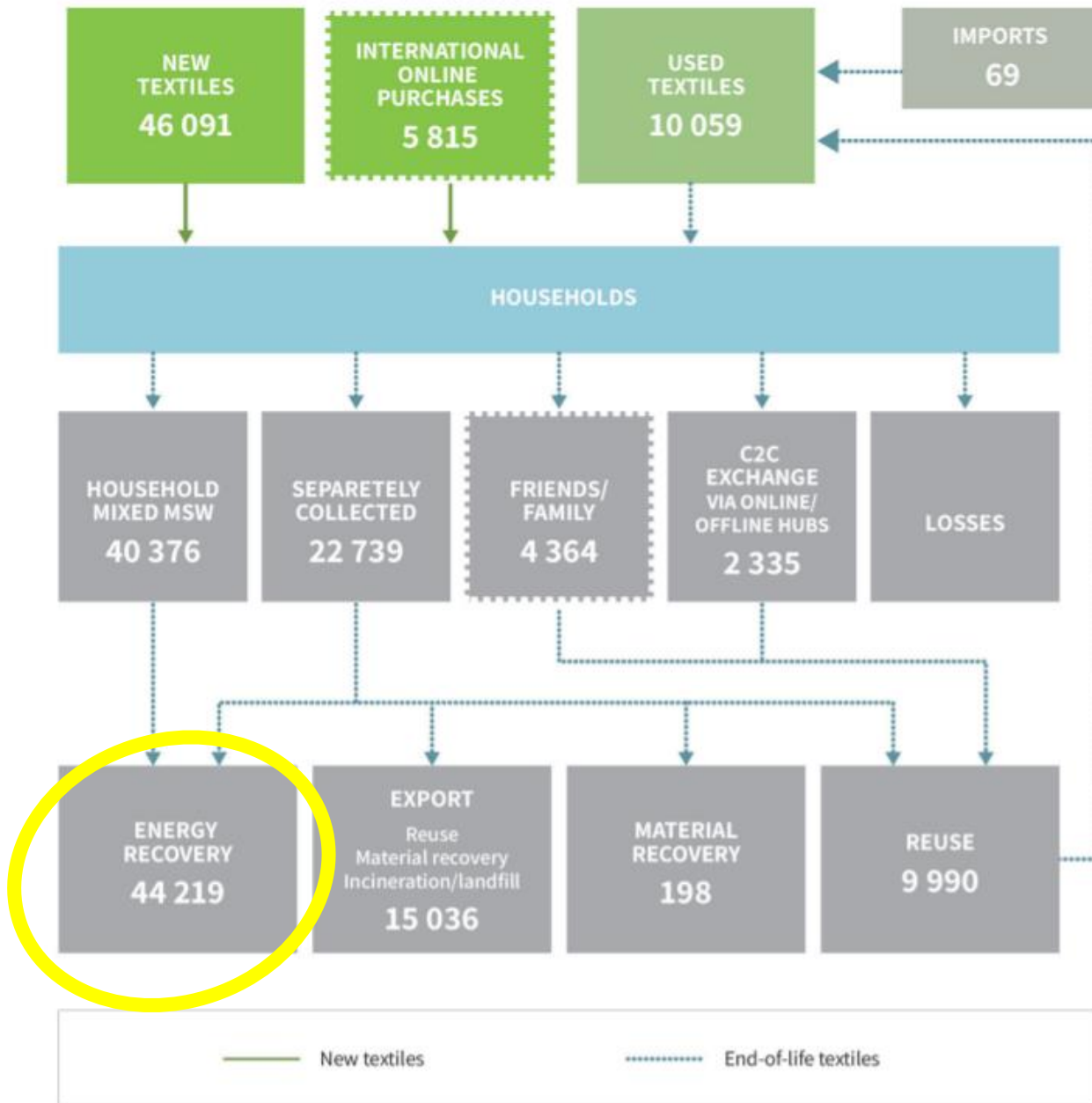
End-of-life textile from households is a waste fraction under municipal responsibility. It includes both reusable textiles and textile waste. So far it has mainly ended up in energy recovery in Finland.



**LOUNAIS-SUOMEN  
JÄTEHUOLTO**

## **Vision**

**To find the best circular solution  
for all end-of-life textiles collected  
from households**



## Textile flow in Finland 2019 Report

62 000 t of new clothes and household textiles supplied to Finland. The total consumption, both public and households, is 11,3 kg/capita.



# Municipal waste management companies working together





# Nationwide operating model

Regional collection and pre-sorting with local partners  
Cooperation with charity organizations  
All textiles to be sorted with same instructions

Together agreed to collect end-of-life textiles – the message is the same to citizens in whole Finland..

Sorted textiles are transported to LSJH  
Contracts and shared costs between MWMC's

A high-quality collection chain, from households to sorting, prevents textiles from spoiling during collection and enables high-quality textiles in the further processing phase.



## 2022 – 2023 Nationwide operation model

- National post-consumer household textile collection mandate comes into effect 1.1.2023 in Finland.
- Expansion to nationwide textile collection will be organized in phases by 2023 and negotiations of co-operation with the remaining waste companies during this year.
- Support of KIVO ry.
  - Nationwide communication campaign in fall 2022 is being planned in collaboration with KIVO and municipal waste companies.
  - To secure residents wholistic understanding of sorting instructions and textile collection.

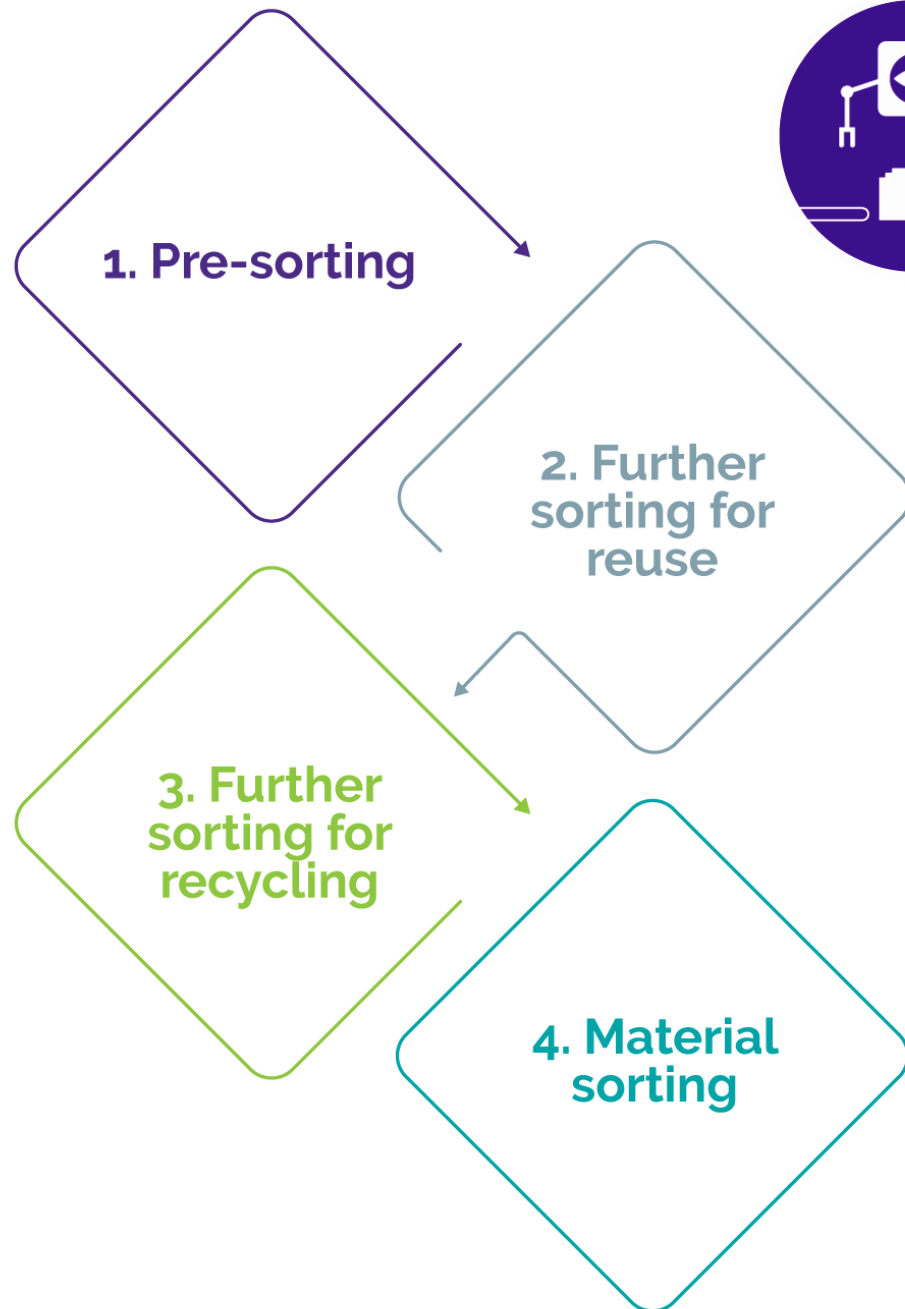




# Mutual sorting

Sorting instructions is provided by LSJH. All textiles will be sorted by following Circular Economy principles:

1. Presorting
  - Sort out damaged textiles (mold, dirt, moisture) and remove textiles which don't belong to the collection.
2. Reusables
  - Sort out textiles which are good enough quality for reuse as such.
3. Recyclables
  - Sort out textiles which don't have recycling solutions yet.
4. Material sorting
  - Sort by material content
  - Quality scanning with handheld NIR scanner





# Sorting Principles

- Organization of localized presorting close to material sources, when possible
  - to reduce transportation costs
  - to support local employment and infrastructure
- Sorting Hubs?
- Utilizing organizations for co-operation in presorting f.e.
  - workshops and employment services
  - charities
- Creation of wholistic, efficient cross national way-of-working for sorting end-of-life textiles from households
- LSJH involved in supporting the organization of localized presorting.



# Professional Sorters

High quality sorting of post-consumer textiles from household for high quality recycled rawmaterials

- material purity
- reusables - vintage
- recyclables
- elastane content
- color
- texture

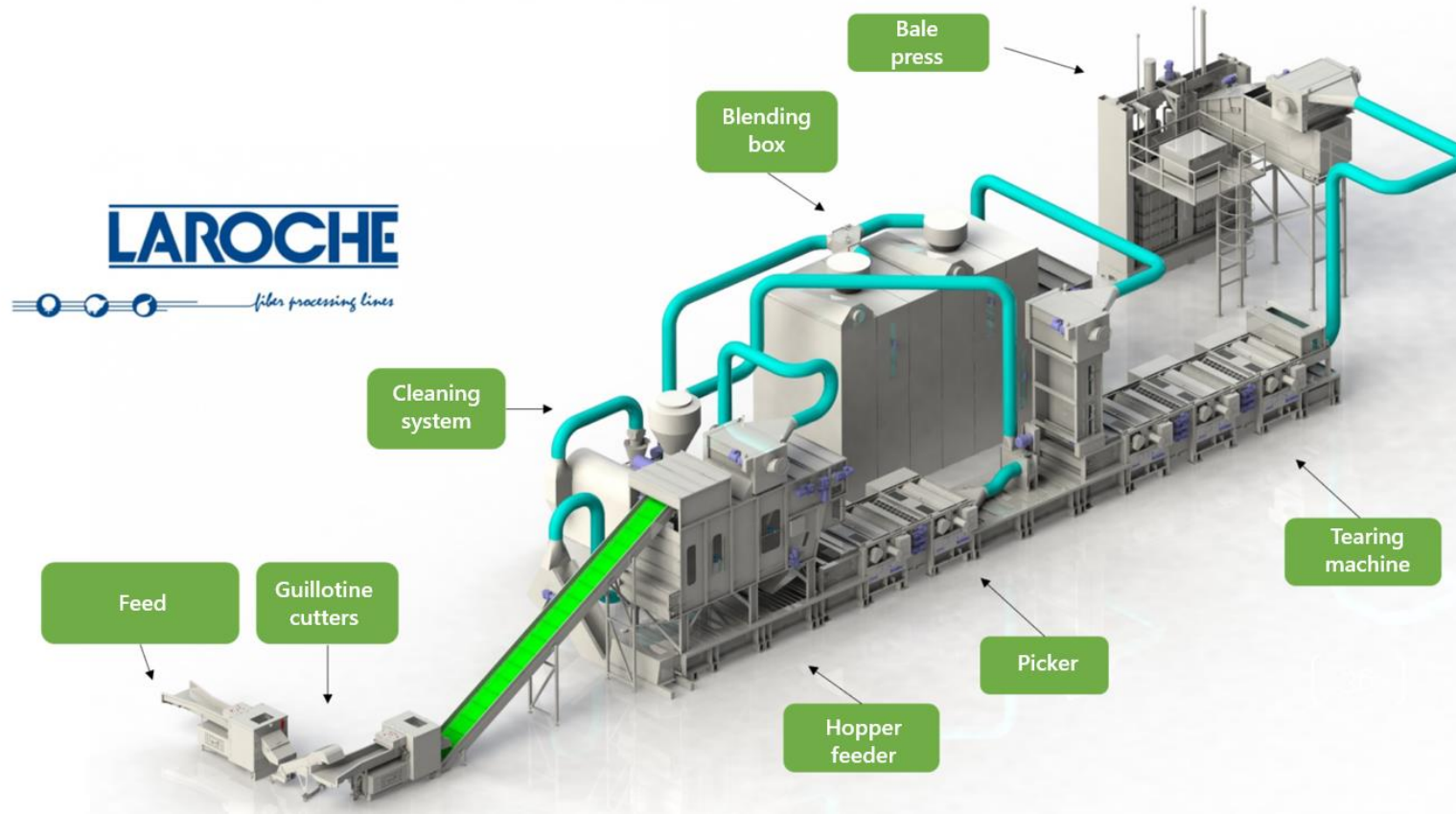
# Paimio Green Field Circular Hub: pilot facility started operating 11.2021

LSJH's mechanical opening line operates under the same roof with Rester Oy, which takes care of the B2B sectors textiles. Joint capacity of 12 000 t/a



[www.poistotekstiili.lsjh.fi/en](http://www.poistotekstiili.lsjh.fi/en)

# Mechanical opening



Recycled  
Fibers for  
companies,  
industries  
and research





# Materials

## Natural fibres

- Cellulose 70/30
- Hand cotton 80 %
- NIR cotton 98 %
- Viscose
- Wool
- Linen
- Denim

## Synthetic fibres

- Synthetics mix 70/30
- NIR Polyester/Polyamide
- Knitteds

## Mixed fibres

An aerial rendering of a large, modern industrial building with a dark, flat roof and a prominent entrance. The building is surrounded by a parking lot with several cars and a few red trailers. The area is landscaped with many green trees and grass. The overall scene is presented in a semi-transparent, dark overlay.

# Topinpuisto end-of-life textile refinement plant

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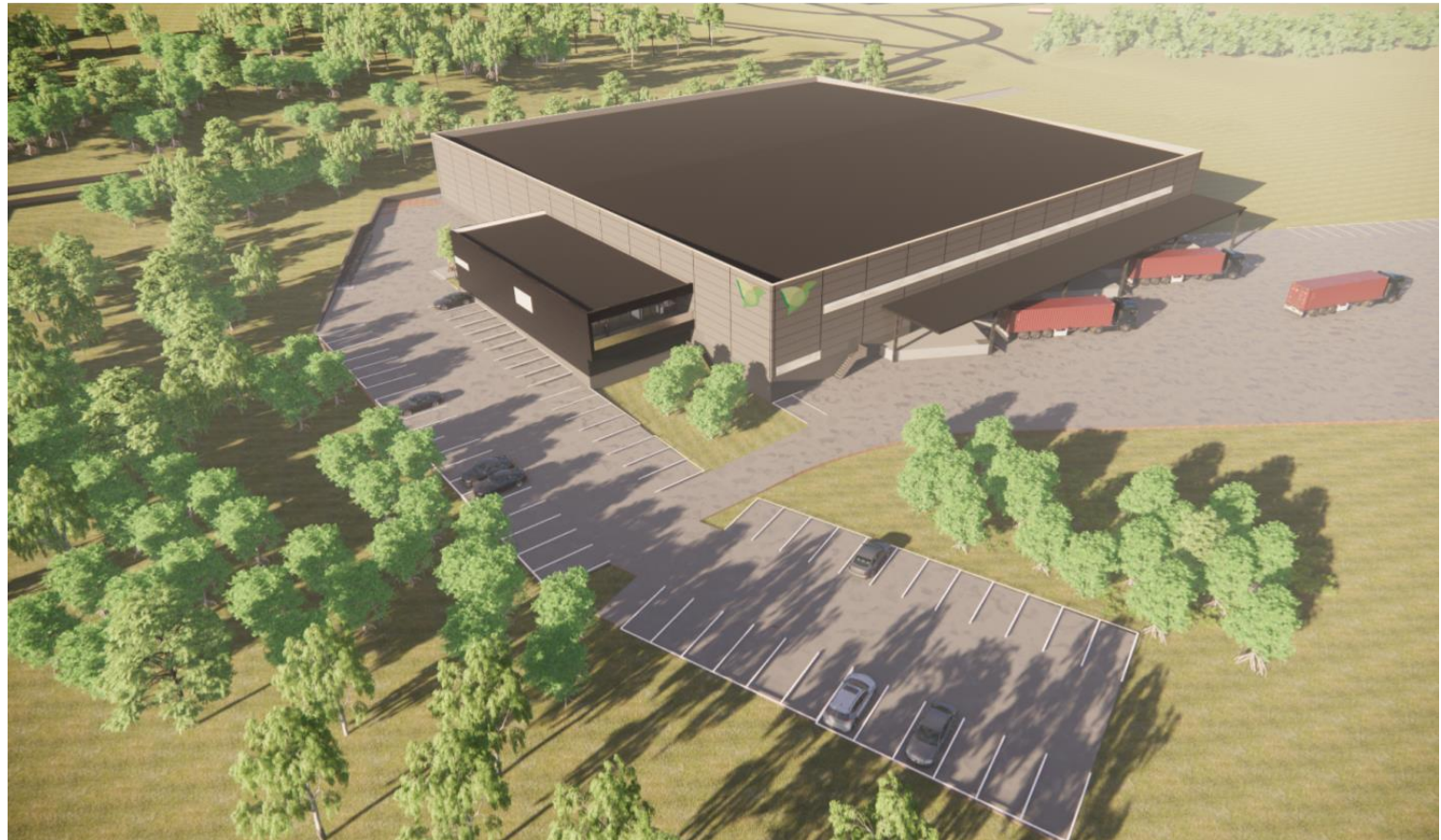
LSJH has received Business Finland funding for larger processing facility in Turku Topinpuisto

[End-of-life textile refinement plant receives funding from Business Finland - End-of-life textile refinement plant \(lsjh.fi\)](https://www.lsjh.fi)

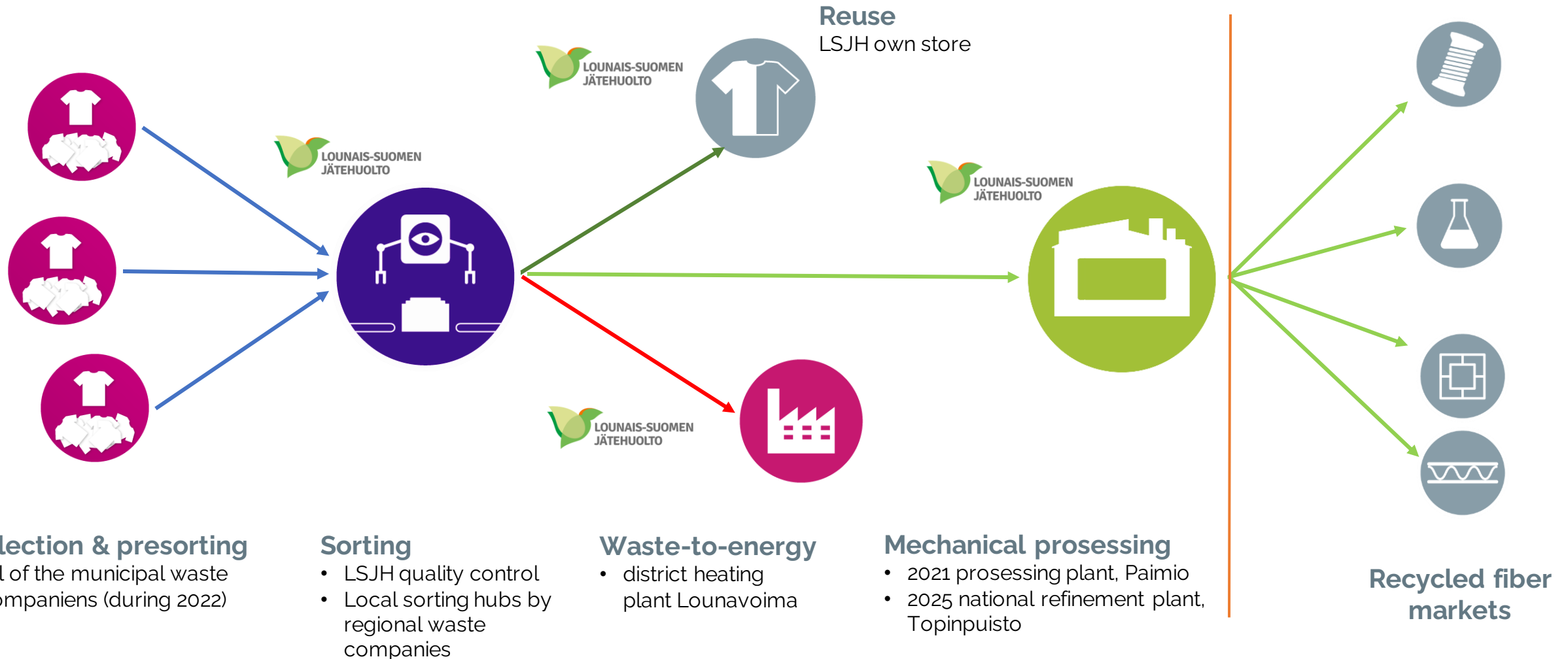


# Full scale processing plant in Circular Economy center Topinpuisto, Turku 2025?

- Enables the recycling of household end-of-life textiles in Finland (fiber opening capacity 15,000 t/a).
- The investment costs of the processing plant are estimated at € 20.5 million. (excluding financing costs), BF funding 5,17millions
- The direct employment of the processing plant are estimated at 100 to 150 persons / year



# Wholistic solution delivered by municipal waste companies





# Piece of Jeans

Unique denim products from LSJH's  
end-of-life textiles



# Infinite Fiber Company

Household post-consumer textiles collected by LSJH are used in the production of Infinna™ -fibres. The main ingredient in the new fibres are cellulose based textiles, for example cotton.



# Nordic Upstream

Nordic Upstream uses post-consumer textiles in their furniture and wall panels.



# Globe Hope

Globe Hope makes yoga products from LSJH's shredded end-of-life textiles and opened fibre.



# Jokipiin Pellava

Jokipiin Pellava produces towels, that have utilized linnen from European flax and cotton from Finnish post-consumer textiles.



More information and latest news:  
[www.poistotekstiili.lsjh.fi](http://www.poistotekstiili.lsjh.fi) | [www.telaketju.fi](http://www.telaketju.fi)  
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