

# Next Technology Tecnotessile Tuscany Fashion Cluster

## Leonardo Marchetti

### Project Manager

# Next Technology Tecnotessile (NTT)



- ❑ **Next Technology Tecnotessile** Società Nazionale di Ricerca r.l. is an Italian research center established in 1972 in **Prato (Tuscany Region)**
- ❑ Shareholders: 40% Ministry of University and Research, 60% textile and machinery-textile industries.
- ❑ 25 employees

## Business:

- ❖ R&D in textile, machinery, and material sectors
- ❖ Technological innovation and transfer
- ❖ Project management
- ❖ Testing and validation of products

## Technological priorities:

- ❖ Circular Economy
- ❖ Sustainable textile
- ❖ Digital Technologies and Industry 5.0
- ❖ Chemistry and Nanotechnology

# Our lab: Centro Eccellenza Qualità (CEQ)

- ❖ Chemical and ecotox analyses
- ❖ Physical and mechanical testing
- ❖ Defect and failure analysis

- ❖ Composite material testing
- ❖ Comfort analysis
- ❖ Chemical and metallographic analyses



# Next Technology Tecnotessile (NTT)



Consultancy services on textile technologies from raw materials to final products



Circular economy and sustainable textile practices



Modification of materials, surface functionalization, development of novel chemical processes



Design of mechanical devices and machinery development



Composites (textile, packaging, automotive, furniture and building)



Environmental monitoring of textile value chain by Life Cycle Assessment (LCA)



R&D for process automation and real-time control



R&D for purification and reuse of industrial wastewaters



# The Tuscany Fashion Cluster



## Main Sectors



## Main targets

- ❖ Strengthen the regional technology transfer
- ❖ Support R&D collaborative activities for new sustainable technologies, new products and services.

## Main actions

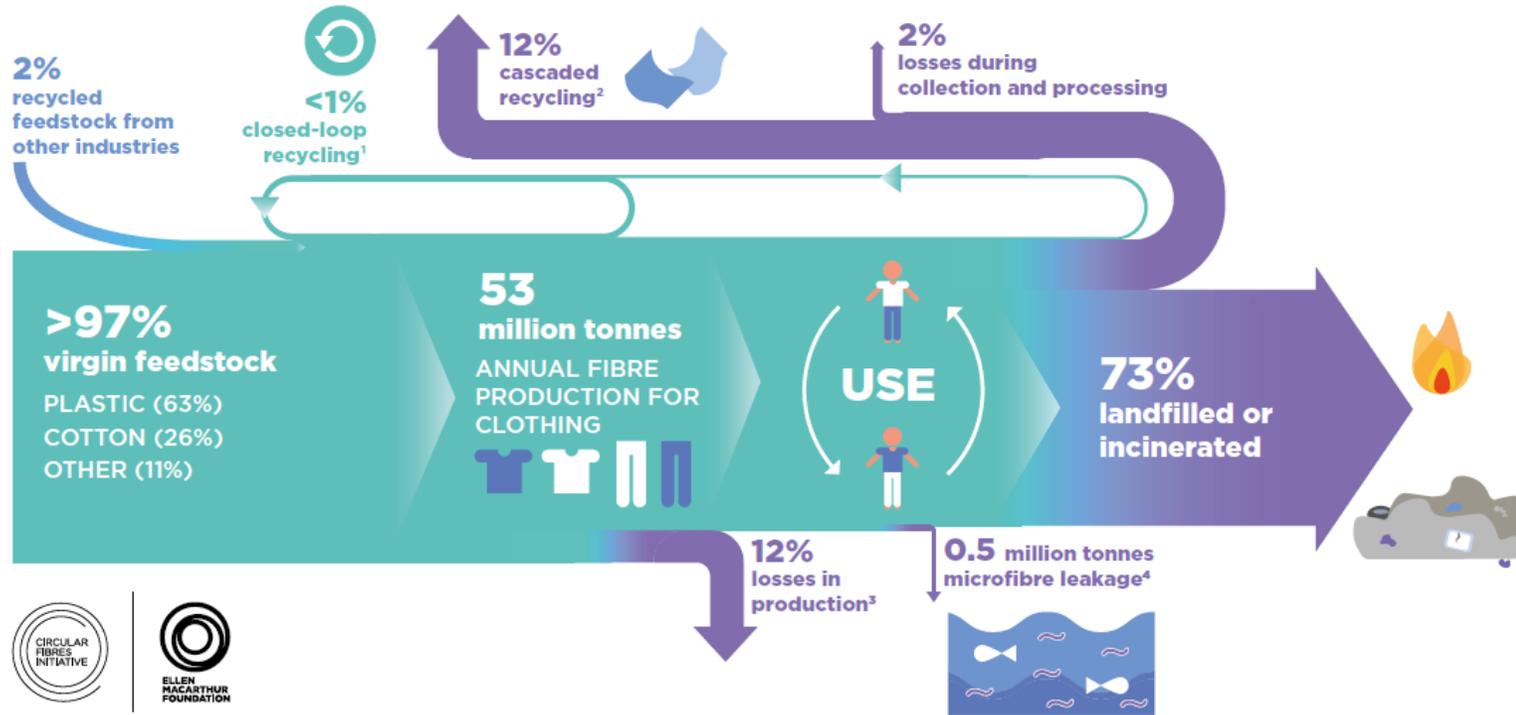
- ❖ SMEs involvement in development paths for innovation
- ❖ SMEs involvement in R&D projects
- ❖ Internationalisation
- ❖ Capacity building
- ❖ Events and contents creation
- ❖ Matchmaking and networking

## 122 members

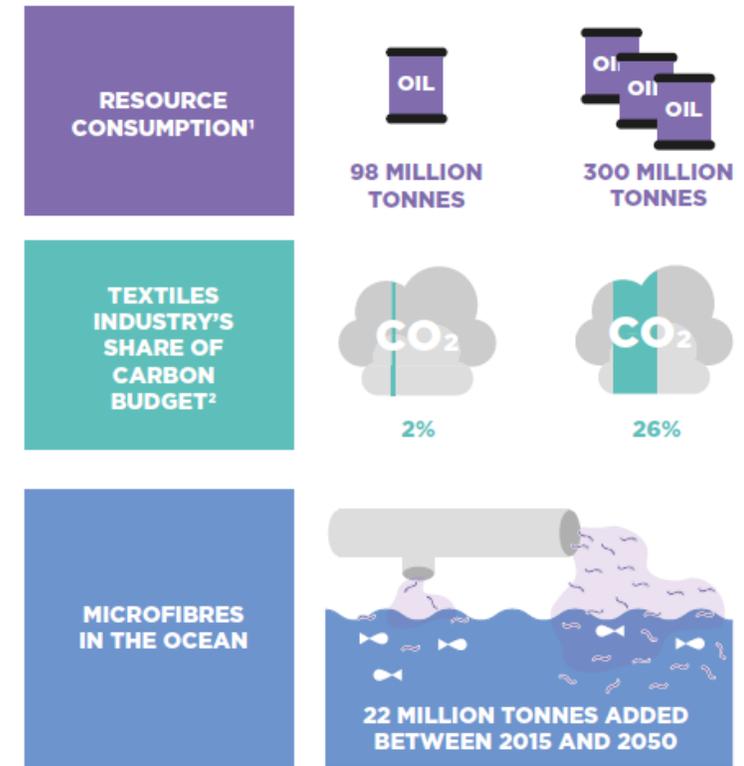
- ❖ 95 SMEs
- ❖ 10 Large Companies
- ❖ 4 universities
- ❖ 10 R&D inst. & training centers
- ❖ 3 Federations



# The global environmental impact of the textile industry

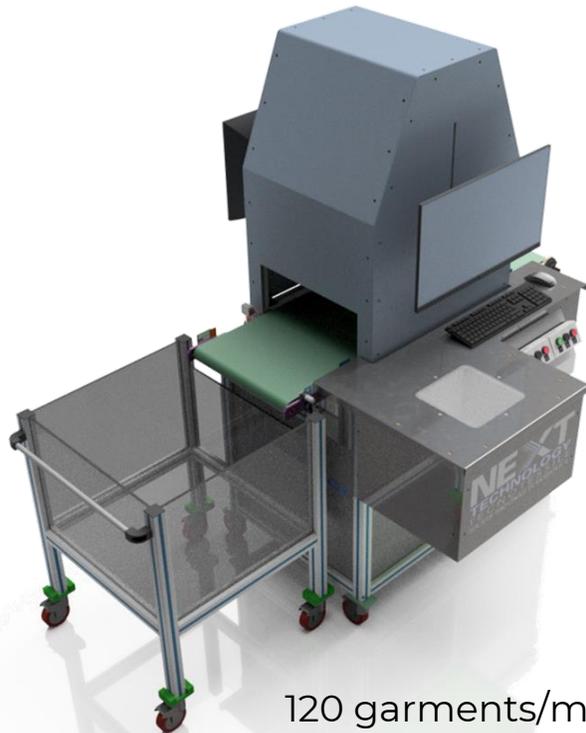


- 1 Consumption of non-renewable resources of the textiles industry, including oil to produce synthetic fibres, fertilisers to grow cotton, and chemicals to produce, dye, and finish fibres and textiles
- 2 Carbon budget based on 2 degrees scenario



# AI systems to boost textile recycling processes

**ClassifyXpert** - a semi automatic AI-machine for the selection and sorting of textile waste



120 garments/min  
Simultaneous Analysis  
Complete Tailor made System

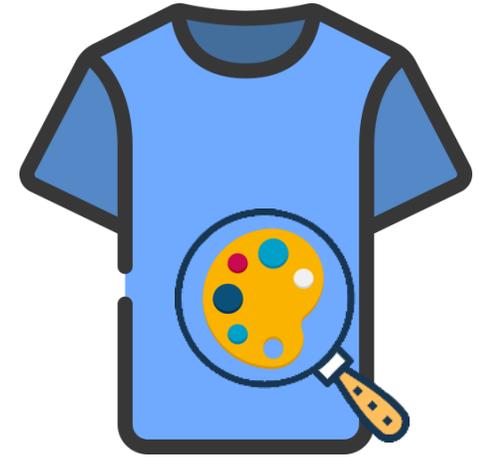
**Sorting of textile based on:**

Fiber  
Compositions



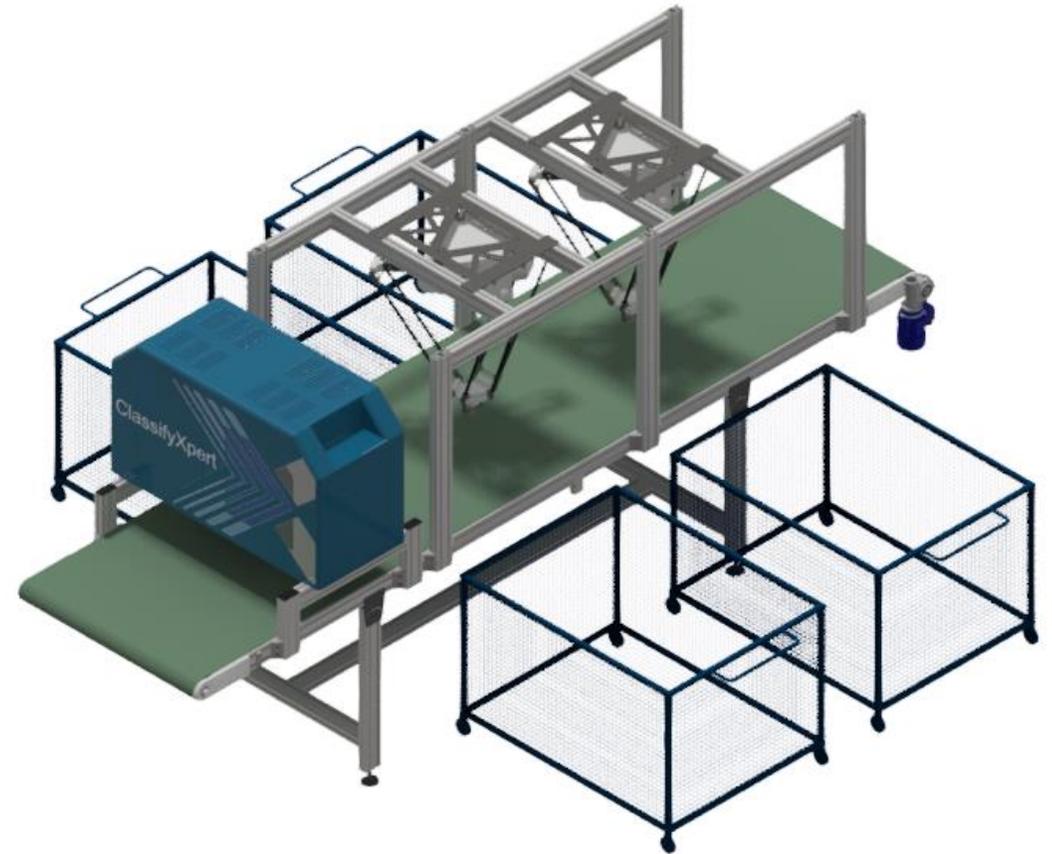
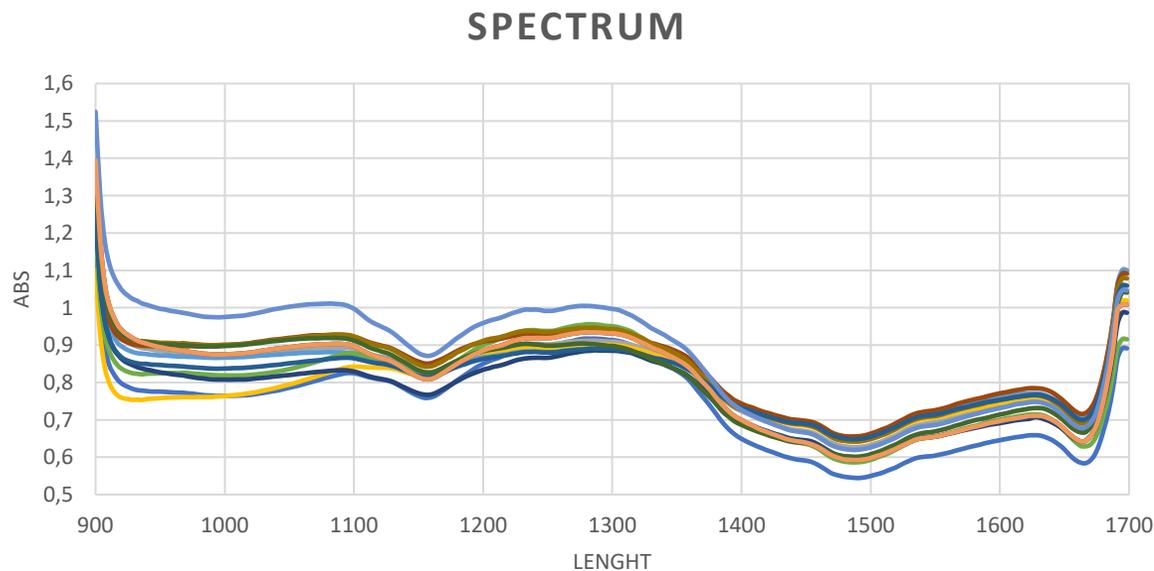
Fiber  
Structure

Color



# ClassifyXpert - a semi automatic AI-machine for the selection and sorting of textile waste

Spectrum acquisition takes place with a hyperspectral camera, that takes 'snapshots' of visual field and acquires a spectrum for each pixel in the frame



# What are we looking for?

*We are looking for potential partners interested in utilizing our technology and specialized know-how in the **textile sector**.*

*Additionally, we are keen to explore new uses for **digital technologies and AI systems** to further enhance our technology.*

# CONTACTS

***Leonardo Marchetti***

[Leonardo.marchetti@tecnotex.it](mailto:Leonardo.marchetti@tecnotex.it)

*Tel. +39 0574 634040*

*Cell +39 334 1053705*

***Next Technolgy Tecnotessile S.r.l.***

*Via del Gelso 13, 59100 Prato (PO), Italy*

# THANK YOU