

Practices and International Prospects in Textile Circulation

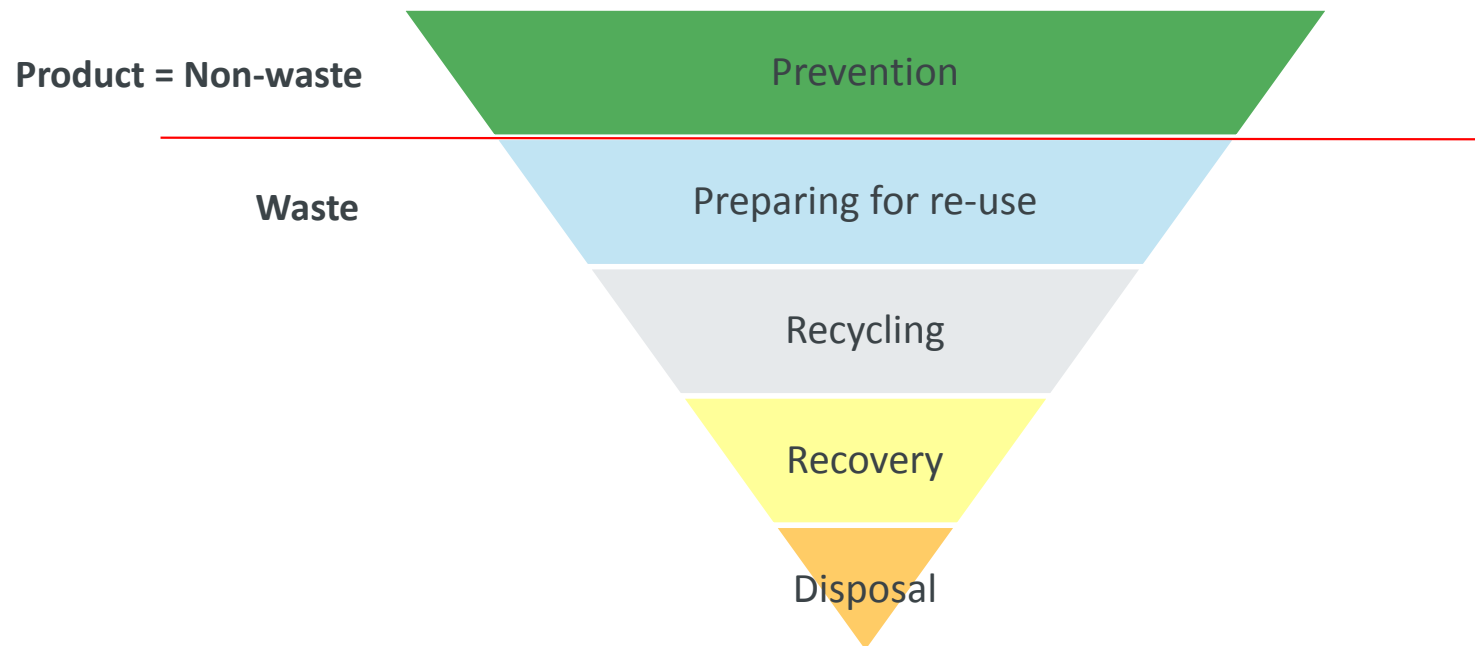
Senior Scientist Pirjo Heikkilä VTT

Specializing in bio- and circular economy in the Baltic Sea Region – seminar, 26.3.2019 Tampere

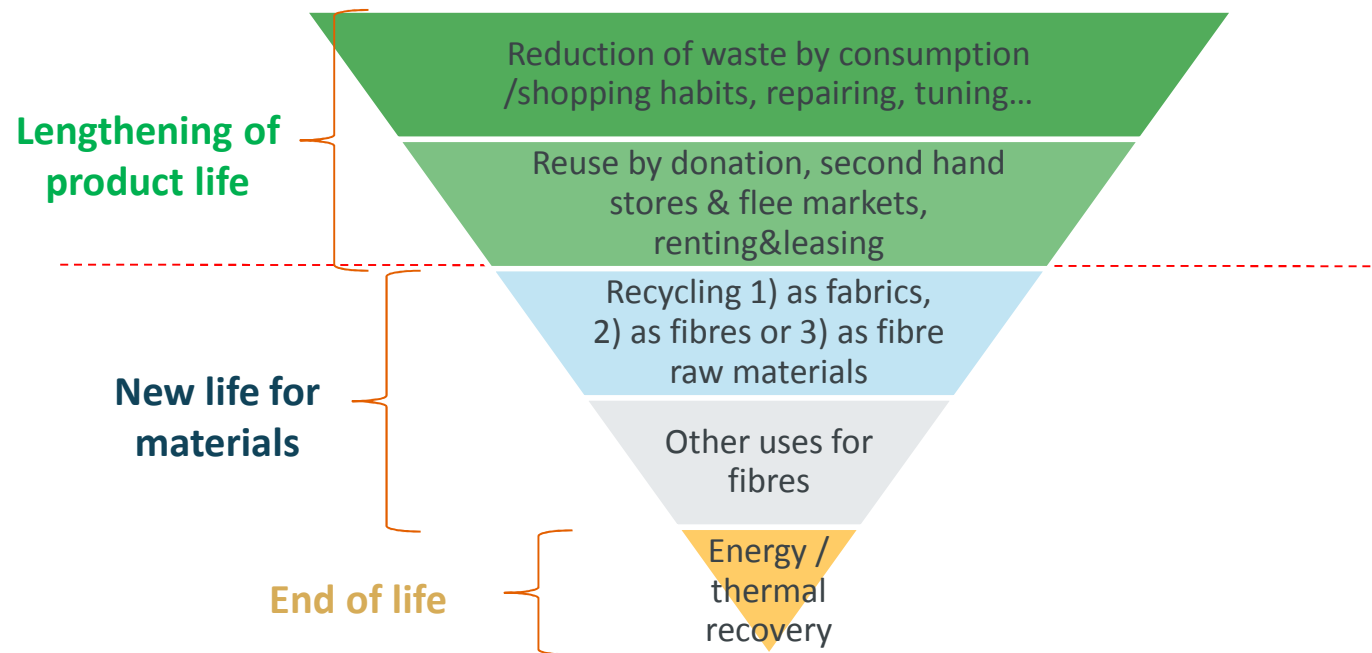
27.3.2019 VTT – beyond the obvious

**Target of circular economy:
Maintain the value of products and
materials as high as possible for the
maximum of time with the minimum
environmental impact.**

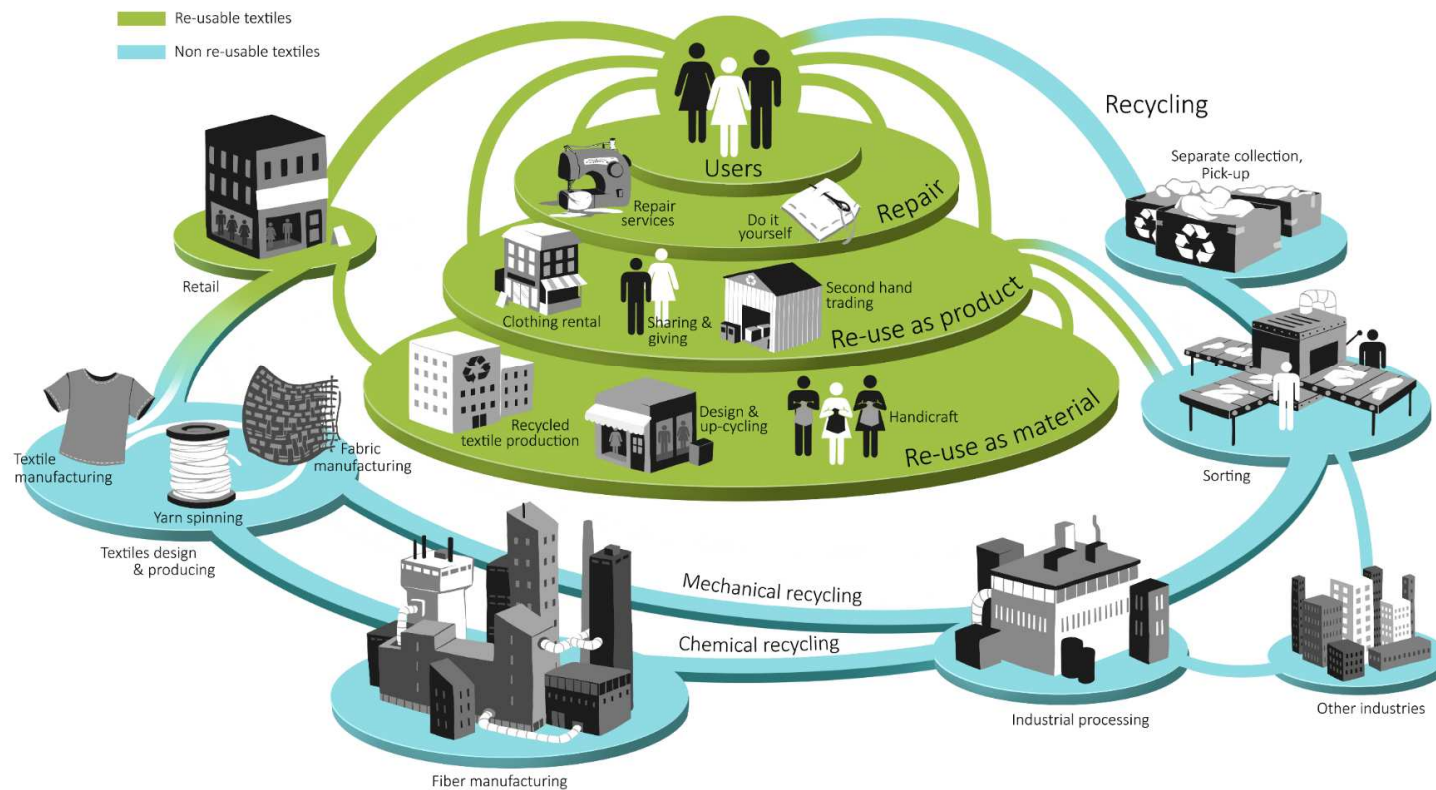
Waste Hierachy



Adopted Waste Hierachy and Textiles



Model of The Circular Ecosystem of Textiles

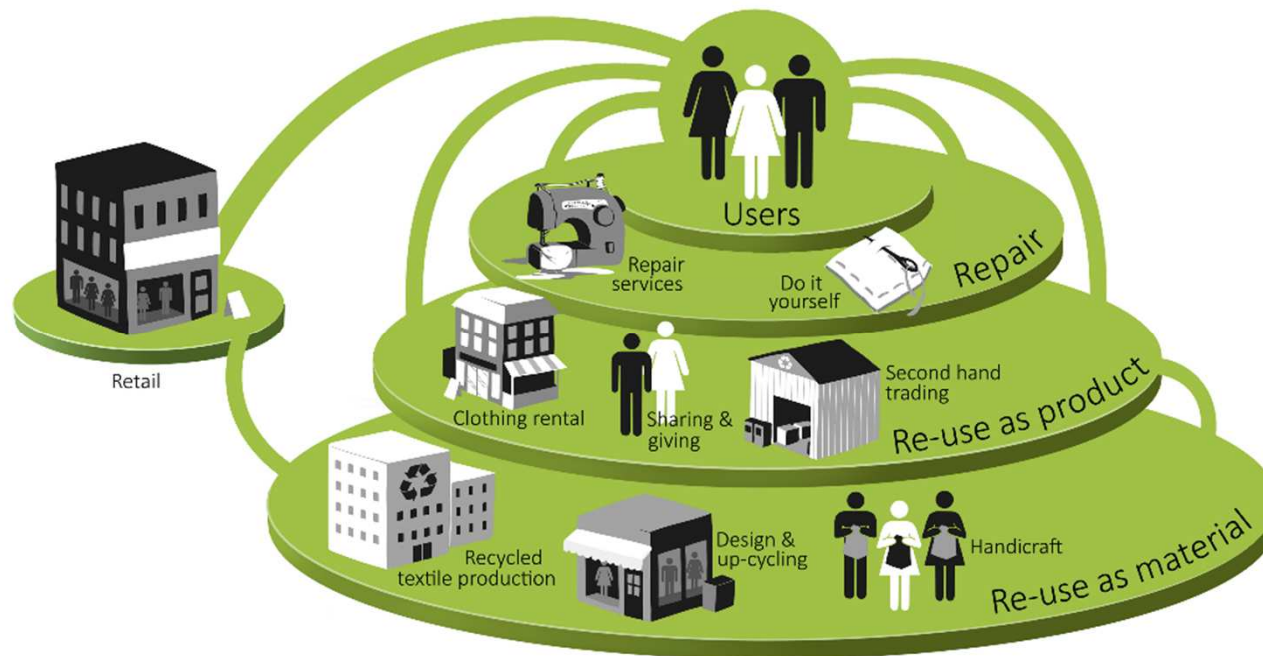


(Fontell & Heikkilä, 2017 – <https://www.vtt.fi/inf/pdf/technology/2017/T313.pdf>)

What we have?

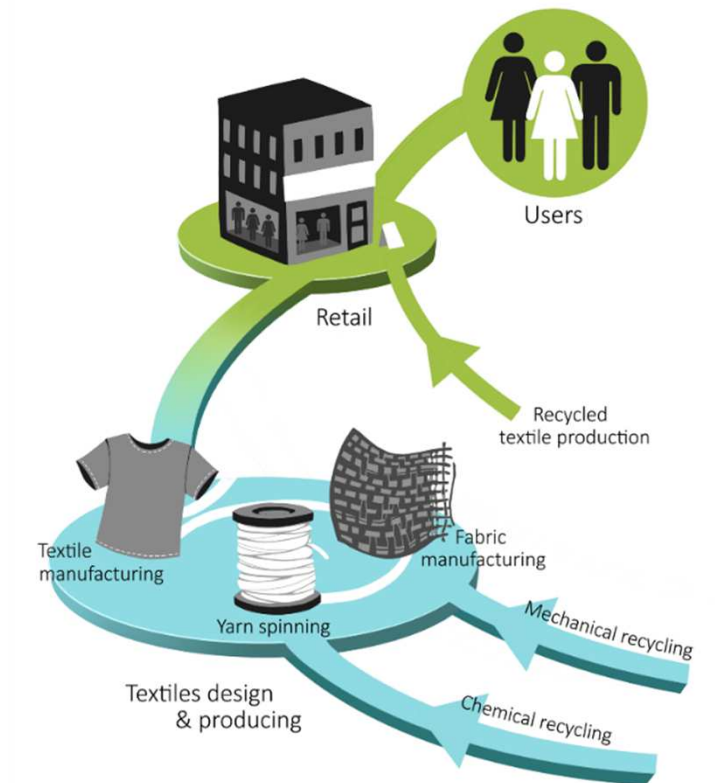
What is still missing?

Existing – expected be increase in CE



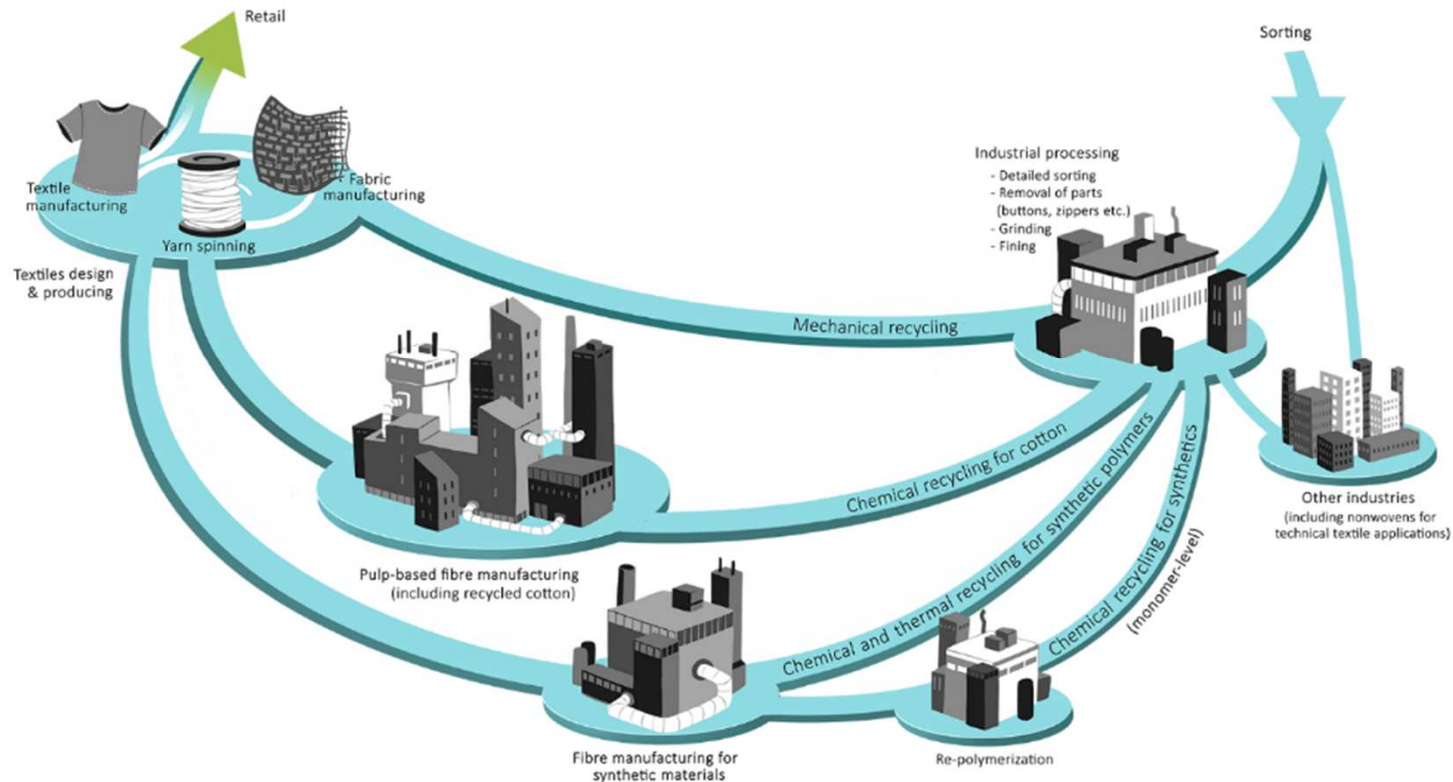
(Fontell & Heikkilä, 2017 – <https://www.vtt.fi/inf/pdf/technology/2017/T313.pdf>)

Existing – some adjustments in CE



(Fontell & Heikkilä, 2017 – <https://www.vtt.fi/inf/pdf/technology/2017/T313.pdf>)

Some existing, but development needed for CE

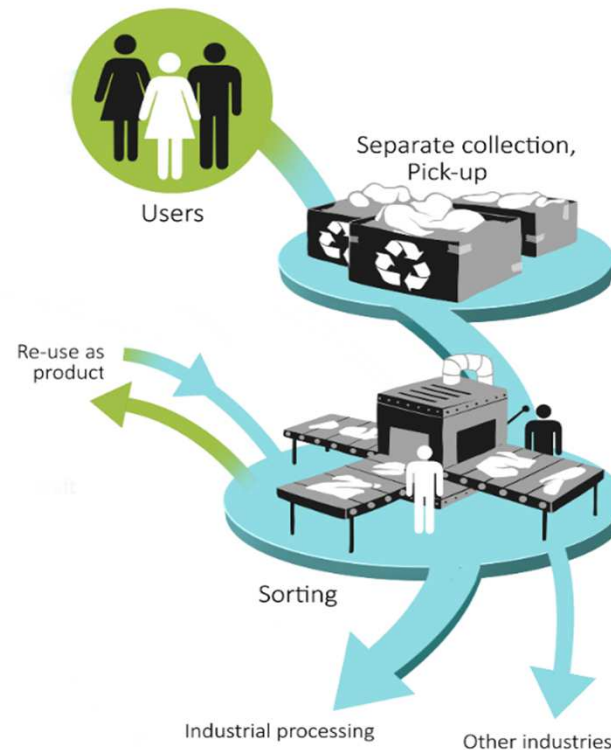


(Fontell & Heikkilä, 2017 – <https://www.vtt.fi/inf/pdf/technology/2017/T313.pdf>)

Needs to be build for CE

EU level decisions:

- Separate collection of textile waste by 2025
- Recycling targets, not stated yet

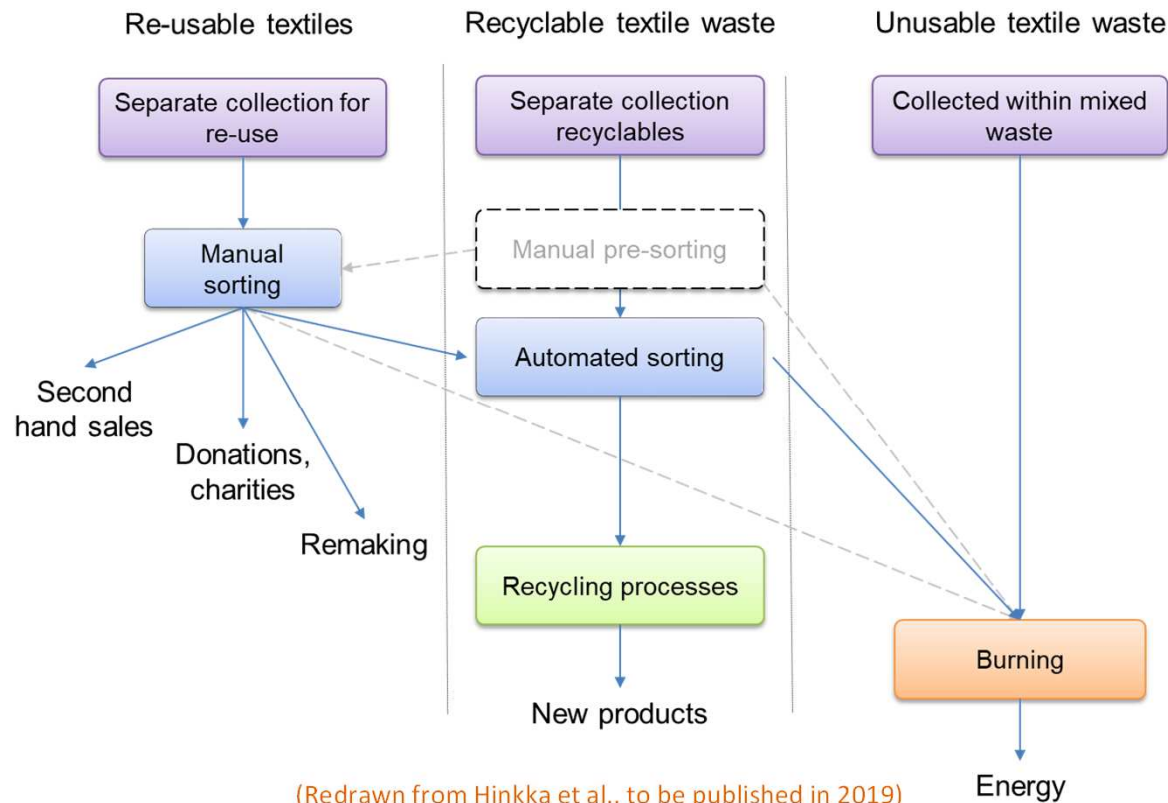


National level:

- EU countries can decide & determine how this should be organized
- Legislation expected in 2020

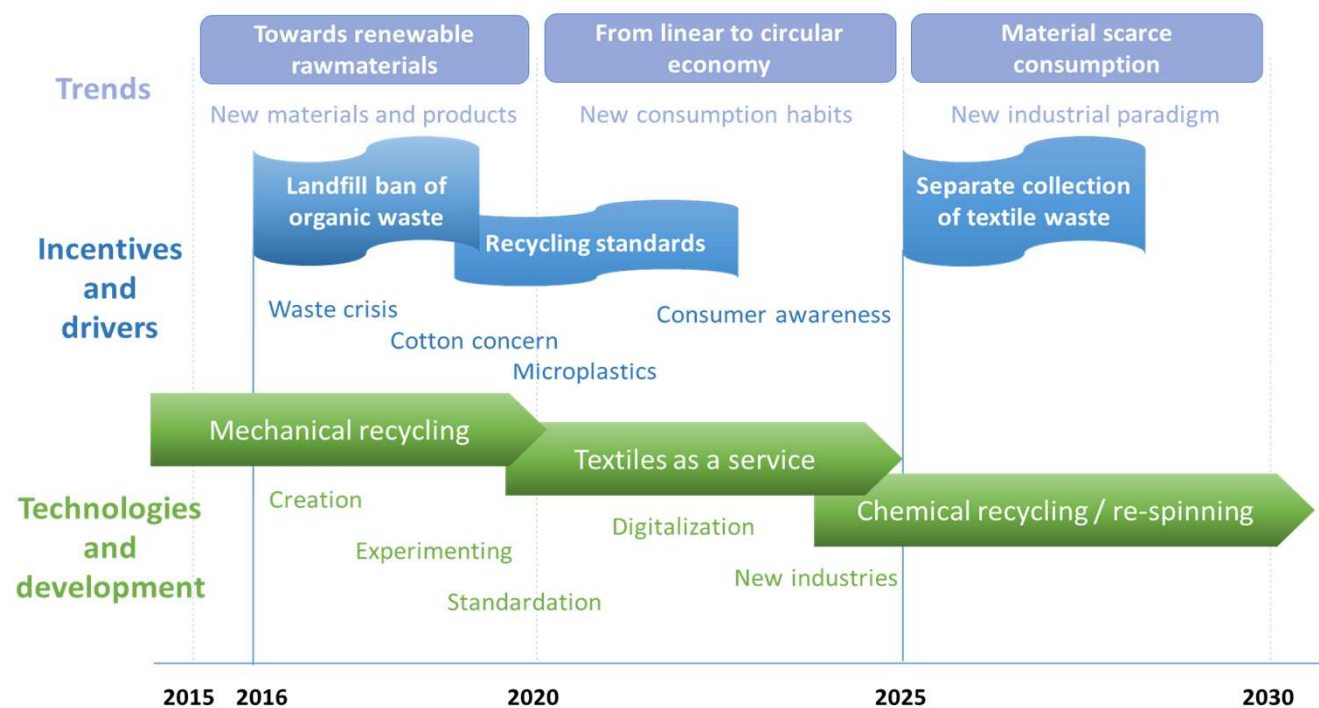
(Fontell & Heikkilä, 2017 – <https://www.vtt.fi/inf/pdf/technology/2017/T313.pdf>)

Possibilities for Collecting and Sorting



Ecosystem & International Prospects

Future Prospects



Heikkilä P. et al., Telaketju - Towards Circularity of Textiles, VTT Research Report, VTT-R-00062-19, to be published spring 2019

International Aspects

- Recycling, also closed loops, is done by forerunners
- However...there is no extensive operational circular (eco)systems in the World, **yet**
- Therefore, there are similar needs in all countries
 - New business models, especially related to services and ownership of textiles
 - New value chains, also across different sectors
 - New partnerships
 - New innovations and development of technologies
 - Investments
 - Adjustments to regulation, incentives for developing circular solutions

International Aspects

- Strength of different countries are different and value chains can expect to cross borders
 - Complementing value chains and industries e.g. Nordic-Baltic co-operation
 - Ensuring sufficient raw material base for certain recycling processes may need collecting of certain textile waste fraction from several countries
- New ecosystem(s) needed

Telaketju - Ecosystem Building



Ympäristöministeriö
Miljöministeriet
Ministry of the Environment

Topics: Collecting, sorting and pre-processing

Participants: Municipal waste management and recycling organizations, public participants, as well as charities



Ministry of Economic Affairs
and Employment of Finland



Varsinais-Suomen liitto
Egentliga Finlands förbund
Regional Council of Southwest Finland

Topics: Investments and markets & business planning

Beneficiary: Municipal waste management organization in Southwest Finland

Tekes

**BUSINESS
FINLAND**

Topics: R&D for processes, products, services

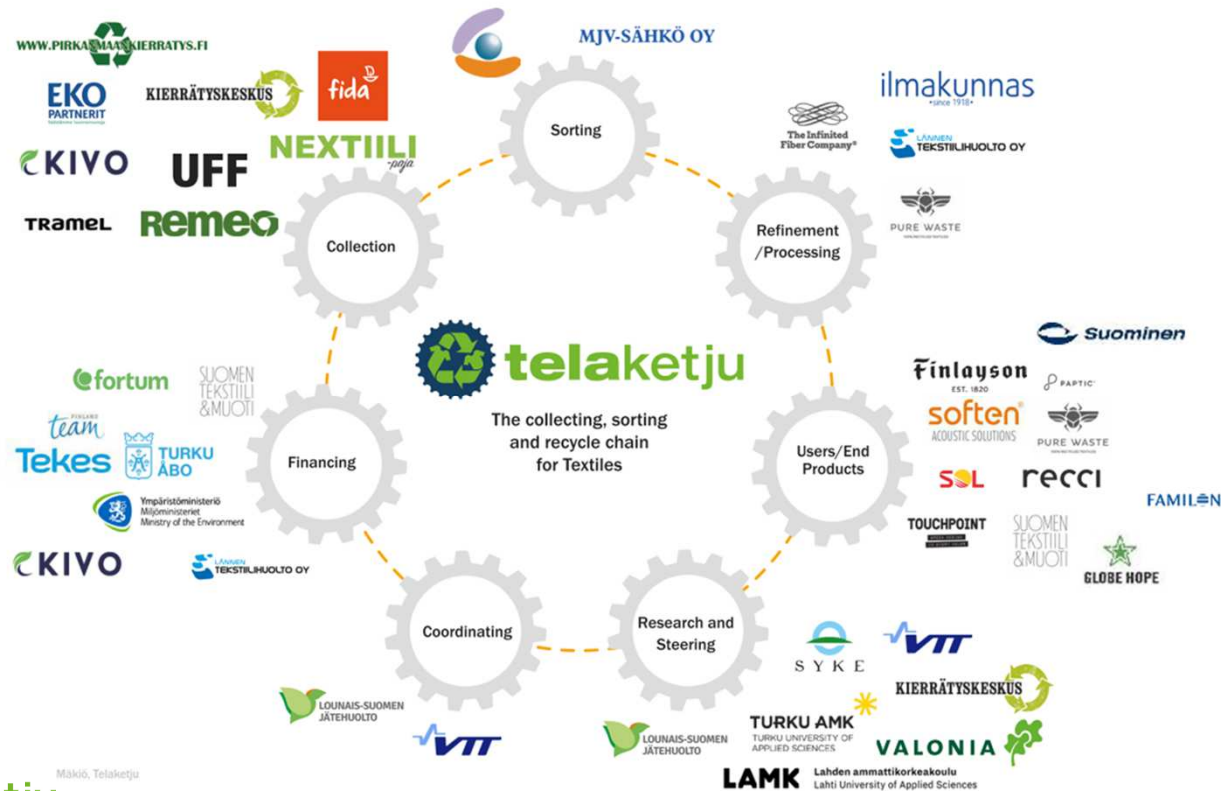
Participants: Companies, Research Institutes, Academia



telaketju

www.telaketju.fi

Telaketju - Ecosystem Building

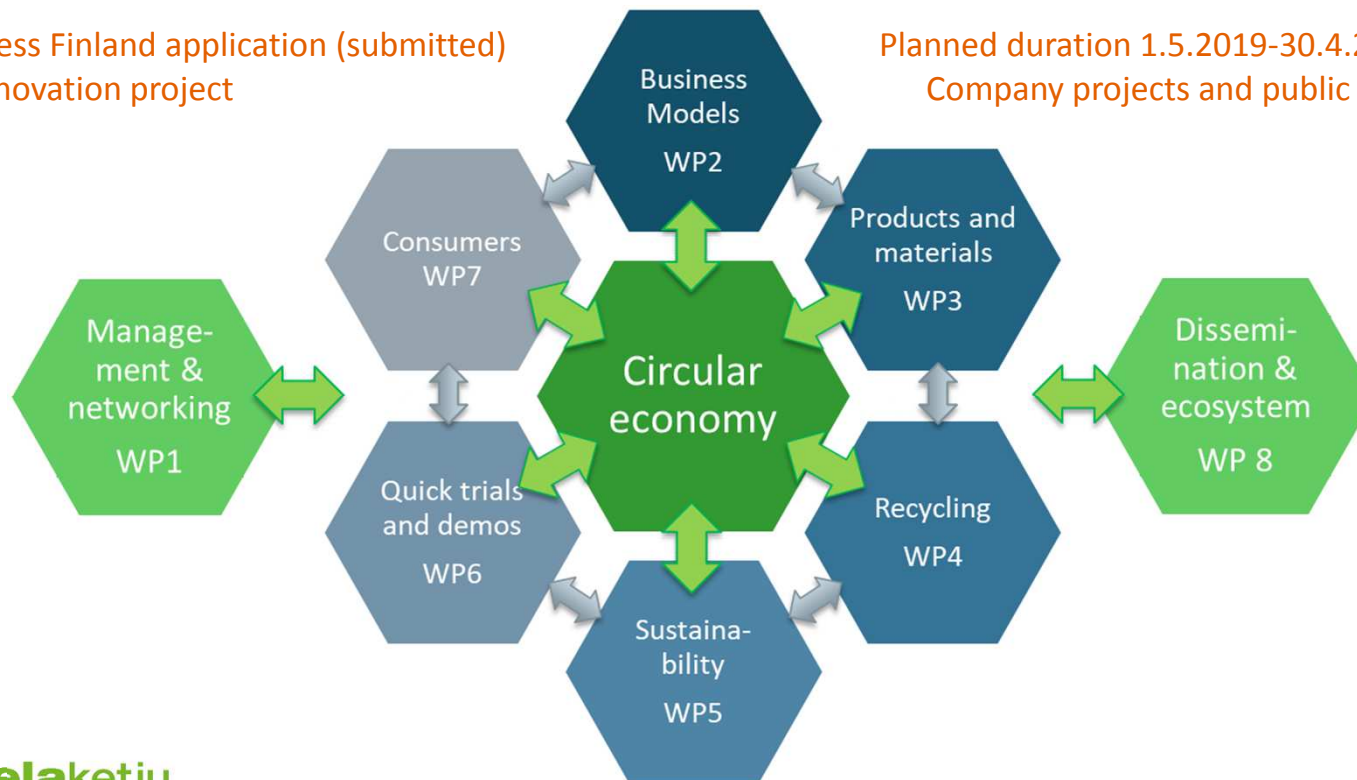


Telaketju - Ecosystem Building



Business Finland application (submitted)
Co-Innovation project

Planned duration 1.5.2019-30.4.2021
Company projects and public R&D



In conclusion...

Conclusions

- Circular economy is coming – it includes strengthening of re-use cycles as well as recycling
- This changes business value models and value chain, but continues providing new business opportunities
- New kinds of networks and ecosystem required especially in recycling
- Linear textile model has been global – circular ecosystems may be somewhat more local, but remain still multinational

Acknowledgements

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- Project consortium on Telaketju project
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Thank you for your attention!

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