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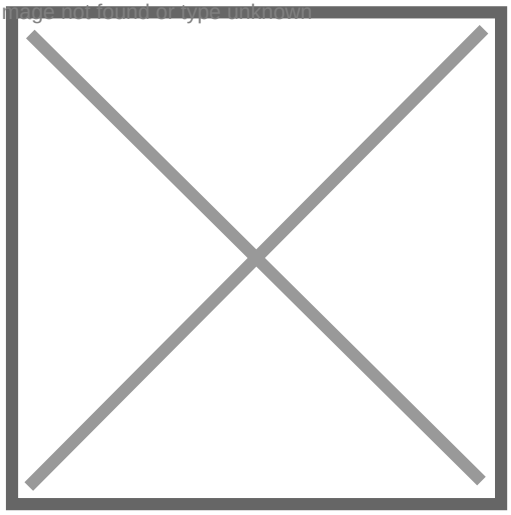

HORIZON-CL4-2022-TWIN-TRANSITION-01-10

tExtended

Full Title: Knowledge Based Framework for Extended Textile Circulation

Aim:

The project tExtended aims to introduce an innovative approach to the recycling of textile waste with the development of a Blueprint, a knowledge-based masterplan for the optimized cycling of discarded textiles. The Blueprint will define the processes for the implementation of a circular textile ecosystem and enable the replication of the tExtended solutions in different areas, especially business opportunities emerging from circular systems and innovations that are environmentally and socially sustainable. The development of the final Blueprint will include these steps:

- The development of the Conceptual Framework, consisting of: textile waste classification based on identified material quality and properties, requirements of intended industrial end-use, economical aspects, environmental impacts of textile waste valorization and recycling processes;
- The testing of the Framework within an Industrial-Urban symbiosis collaborative real scale demonstrator and the study of its replication potential in different regions.

Concept:
In tExtended the focus is on the end-of-life and recycling of discarded textiles during the whole cycle, from the collection to the manufacturing of new products. The capability of the circular textile ecosystem to utilize the waste as efficiently as possible, taking into consideration the environmental, economic, and societal constraints, requires seamless collaboration among all actors involved. tExtended aims to provide the whole textile ecosystem with the necessary digital solutions to collect and utilize

data and data-driven solutions to support real-time decision-making, to improve specific phases of the recycling system. To develop the solutions, tExtended will also involve local community actors, whose participation assures the feasibility of the model and the continued flow of second-hand textile material. By increasing the consumers' participation in pre-sorting and returning used textiles, the project will raise their awareness about the sustainability and circularity of textiles. tExtended will test models to realize a high local collection and sale, in order to increase the popularity of second-hand textiles. The knowledge produced with tExtended on circular economy applied to the textile industry will generate new business and strengthen competitiveness and resilience through sustainability and digitalization, thus accelerating the green and digital transformation in the European textile industry.

Start date:
01/12/2022

End date:
30/11/2027