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EU Invests €6 Million in Piloting a Deposit-Return System for Used Textiles

A new EU-funded project has been launched to develop a deposit-return system for used textiles across Europe. Known as TexMat, the initiative will reward consumers for returning reusable and recyclable items, while notifying producers when discarded textiles require waste management. Automated collection containers will sort items by assessing their quality and capturing key information about the materials through digital product passports, set to be introduced across the EU in the near future.

Elina Ilén, TexMat Project Leader at VTT Technical Research Centre of Finland, said: "TexMat solution has great potential to transform the collection and resale of used but still valuable garments, supporting second-hand markets while enabling consumers to monetise their textiles. By developing a cost-effective, robust, and user-friendly solution, we aim to relieve consumers of the need to evaluate which garments can be resold for reuse or recycling. Automated collection and sorting will also support textile waste management operators by quickly and accurately separating garments suitable for reuse from those destined for disposal, reducing reliance on manual work."

Europe faces a growing challenge with textile waste. In 2022, an estimated 6.94 million tonnes were generated — roughly 16 kg per person. Of this, around 11 kg per person was not separately collected and typically ends up mixed with household waste destined for landfill or incineration. The TexMat solution aims to change this by ensuring that the vast majority of textiles are collected for reuse or recycling, so that only a tiny fraction risks being wasted, while supporting extended producer responsibility policies.

The initiative, running until March 2029, brings together 14 partners from seven EU countries. Research and academic expertise comes from VTT, TTK University of Applied Sciences (Estonia), the University of A Coruña (Spain), the University of Vaasa (Finland), and RISE, Research Institutes of Sweden. Civil society and textile reuse organisations – HUMANA Fundación Pueblo para Pueblo (Spain), the Helsinki Metropolitan Area Reuse Centre (Finland), and Green Liberty (Latvia) – contribute experience in consumer engagement, sustainability, and circular economy practices.

Industry partners cover the full textile value chain, from materials and production to data, hardware, and software solutions. Emmy Clothing Company (Finland) provides insights from the second-hand market, while Protex Balti (Estonia) collaborates on digital product passport integration into garments. Rovimatica (Spain), STAM SRL (Italy) and IRIS Technology Solutions (Spain) work together to develop the smart container and related digital tools, including data-driven solutions to analyse public perception and policy developments for textile circularity, contributed by YAGHMA (Netherlands).

Pilot activities in Finland and Spain will test the system in real-world settings, helping partners refine the innovations and explore how the system could be scaled across Europe. The initiative is funded by the European Union's Horizon Europe research and innovation programme.

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