

SENSOR HUB

COLLECT PRODUCT DATA AND DEFINE THE BEST RECOVERY PATH

An Innovation for sorting post-consumer Clothing, Household Linen and Footwear (CHF)

The SensorHUB equipment, developed by CETIA and funded as part of a three-year collaborative program with Refashion, provides a concrete solution to the complexity of sorting. It represents a major step forward in strengthening the competitiveness of the textile recycling sector. SensorHUB is a unique innovation that integrates various technologies specifically adapted to the detection and sorting of CHF. These technologies enable more effective processing of complex items — such as multilayered garments — by identifying their material composition as well as any hard points, including those not visible on the surface, which detection is critical to successful recycling.

IDENTIFICATION

Capturing a wide variety of data

SensorHUB is a detection and sorting unit that integrates multiple technologies on a single line, enabling the instant and automatic identification of non-reusable textiles and footwear's characteristics such as item type, number and location of trims (including those not visible), textile structure, color, and material composition. This enables SensorHUB to determine each item's recycling potential and direct it toward the most appropriate recovery pathway. SensorHUB is equipped with several sensors: X-rays (supplied by Brustia through a partnership with CETIA), 3D vision, 2D vision, hyperspectral cameras and NIR sensors, all combined with artificial intelligence algorithms developed and trained by CETIA.



SORTING

To sort all type of CHF items

Various ejection systems have been integrated into the sorting unit to provide flexibility to the solution. As a result, the equipment is capable of handling both flexible items such as textiles and structured items like footwear.



An efficient solution for optimizing recycling preprocessing stages

As part of its mission to develop tools for industry stakeholders and producers, and thanks to CETIA's expertise, Refashion provides the Textile sector with an operational system that facilitates the identification of collected textiles and footwear.

SensorHUB instantly and automatically detects all product characteristics, enabling to direct them towards the most suitable recovery pathway or optimized recycling preprocessing stages.

SensorHUB meets the requirements and expectations of recycling stakeholders through a tailored and modular approach, adapted to the specifications of each recycler and to each type of item to be processed.

SensorHUB also provides smart assistance to sorters. The platform addresses a wide range of sorting criteria, making decision-making easier and paving the way for a competitive economic model for textiles and footwear sorting for recycling and preprocessing for recycling.

Funded by :

Re_fashion

