

**Submitting Country, Organization, Company**

Research and HEI, Swedish School of Textiles/University of Borås (Sweden)

**If Organization or Company, please indicate the approximate number of employees**

760

**Title of the action**

Research and Higher Education Institute for Textiles

**Upload an image**



THE SWEDISH SCHOOL  
OF TEXTILES  
UNIVERSITY OF BORÅS

**Relevant Website**

<https://www.hb.se/en/the-swedish-school-of-textiles/>

**Type of initiative**

Public initiative

**Description of action**

Research and innovation on traceability technologies, and technology interventions for value chain sustainability, from both inclusive and responsible supply chain and business model perspectives.

**Type of action**

Traceability

**Please select the specific area/s of the action**

Research and Development of Innovative Solutions

Awareness and Education

Collaborative initiatives

**Scope of the action, including a description of the value chain processes that are covered**

**Objective**

Jointly develop a scientific network for researching and developing a traceability platform for online monitoring of international supply chain by using a series of coded smart materials (tags) fully integrated into textiles, and online control and optimization of partners' activities by exploiting data extracted using connected smart products and AI-based data mining in order to minimize environmental impacts and economic costs, and enhance human-material-environment interactions.

**Commitments**

Develop novel traceability systems spanning across different textile value chain stages.

**Value chain scope**

End-to-end textile supply chain.

**Timeframe and/or milestones for the action**

- A traceability system prototype by 2026

**Reference instruments and sources used**

Not relevant

**Expected benefits and impact for the stakeholders involved**

Enhanced traceability of the social/environmental/ethical attributes of product(s)/materials along the value chain; for example, for origin, quality, sustainability performance, and compliance with health and safety requirements for consumers and workers

A measurable impact on sustainability in value chains over time, eventually verified through life-cycle assessments and/or sustainability certifications

Enhanced environmental and socially responsible consumption and production, and circularity of the value chain, that may be relevant to and inspire other countries and industry actors/partners

**Stakeholders involved**

Business and industry associations

Scientific and technological community

**Key performance indicators for the action**

- For the traceability platform concrete KPIs are not yet defined, but are planned along the following categories:
  - Online monitoring and optimization of the international supply chain
  - Exploitation of data extracted from connected smart products
  - Efficacy of coded smart materials (tags) fully integrated into textiles
  - Efficacy of AI-based data mining algorithms for online control

- Optimized design solutions for minimizing environmental and social impacts and economic costs, and traceability capacity on the whole supply chain with accurate computation for TBL Life Cycle Analysis

### Good practices

- The action has been partly initiated through a joint international research network on "Sustainable Management and Design for Textiles" (SMDTex) (2013-21) which has trained 33 doctoral students from 16 countries to create polyvalent knowledge on international textile supply chains from sustainable development, textile management and textile design perspectives, by developing organizational solutions optimizing the existing textile production, supply chain, transaction and product design, with respect to the criteria of environment, society and human factors.
- This research network is now planned for extension for developing a Euro-Asia innovative Research Network on Development of a Cyber-Material-Based Traceability Platform for the Sustainable Textile Supply Chain.
- Link: <http://smdtex.ensait.fr/doku.php?id=start>

**How has this UNECE-UN/CEFACT Call to Action contributed to strategic engagement and/or public awareness in support of your commitment?**

By bridging novel research and innovation to stakeholder needs, and thus create market-ready innovations.

**Link to relevant goal(s) and specific target(s) of the United Nations**

