Smart Textiles
Case study
SMARTEX s.r.l. (Italy)

Smartex s.r.l. is a design consultancy that has large experiences with design and product development in the fields e-textiles and smart materials. The company develops innovative solutions and products at the intersection of hi-tech processes and the textile world. Smartex is specialized in research and has been participating in numerous innovative research projects (European and Italian funded). For instance, they developed smart fibres that can be used as sensing elements due to their electrical, physical and chemical properties. They are involved in following emerging market sectors: 1. biomedical; 2. sport; 3. ergonomics; and 4. security.

Ms. Paradiso is a senior product developer and works at Smartex as the R&D Director. She was contacted via e-mail and phone following up her previous participation in the SME survey (part of WP1). Although interested in improving the environmental performance of smart textiles products she has never worked with LCA at her company before. The main drivers for the use of LCA were: environmental concerns, Environmental legislations at national and EU level, own initiative for competitive advantage as well as environmental communication and marketing (Eco-Labelling). The company is particularly interested in eco-profiles about energy saving potential and recycling rates.

The training was undertaken remotely in form of several phone calls. The LCA was exercised at the example of the "WWS system", that is a smart textile product. First, a step-by-step introduction was given initially and then practical questions were solved when using the tool. The goal was to evaluate the environmental cost of this product to support internal decision-making.

As Smartex has no internal production resources, it was quite difficult to evaluate the energy consumption of production processes, or to know other details like the packaging or the transport. Components are manufactured by outsourcing facilities and then assembled in house. Each component of the system may have a different processes and eco-costs. Moreover, they use different materials with varying percentages and it was therefore hard to count the waste in all the processes that generate waste materials. In general, it will be better to have the possibility to include different options, for instance all the accessories are not included in the materials. Finally, the tool seems more oriented to mass industrial production than to a first prototyping phase, that is typical when a product is designed. Hence, it was most of the time not possible to find solutions in the cases reported in the tool.

The company is interested to be informed about the final release version of LCA to go tool.

Ms. Paradiso said: "The tool is nice and can be very helpful. However, concerning our specific field, the tool is not optimized for us".