Smart Textiles
Case study
Material Sense (Netherlands)

Training @ Material Sense 21 November 2013

Introduction

Material Sense is a dynamic organization linking designers, researchers and cutting-edge companies in an active network. By sharing expertise and collaborating in the exploration of the properties of materials, new products and new ways of utilizing materials are created. Material Sense lobbies for a materials-oriented design and development of products (see: www.materialsense.com).

TU Delft contacted Material Sense to give a training session with the LCA to go tool. Material Sense is interested in the tool with regards to the smart textiles products they designed and will design in future. Besides they would like to inform their customers and partners about LCA by getting more understanding of the methodology in general and by specifically explore the possibilities of the LCA to go tool.

Report

The training event took place in the afternoon of November 21st 2013, from 1 to 5 PM at the office of Material Sense in Eindhoven. Three employees (Simone de Waart, Patrick Vissers and Meerthe Heuvelings) of the company got acquainted with the tool by a practical training session. They used the tool in a "learning by doing" manner and were guided through the process by the LCA to go representative from the TU Delft Natascha van der Velden. For the training a scarf with LEDs was chosen which was developed by Meerthe Heuvelings.

Material Sense gave valuable feedback to the tool. The following points summarize the remarks:

- After registration and logging in, the List of products appears at first. It would be better to show the page with Introduction/Data/Data Quality/Results or the Introduction itself. Besides on this page should be a direct link to the LCA to go website (it is there, at the bottom under About Us, but why not name it to the LCA to go website).
- Introduction text is too long and too "scientific". *Environmental performance* should be explained and the final Section should be at the top. Open with: The lower the eco-costs, the better the product. Add graphics to explain the process (e.g. the production line from the leaflet).
- Each time the data-entry lines (e.g. **Family Material Quantity Unit Eco-costs**)are presented (in all life-cycle phases) they could be accomplished

with an extra *edit* column (to clarify the possibility to delete (or validate) the entry).

- **You have specified 0% of the product weight** > does not work.
- Sometimes the "Sorry, something went wrong box appears, but it is not clear exactly when. After a while, or new entries, the announcement wasn't there anymore. At this moment it appears when clicking Distribution.
- Soldering and Polystyrene (PS > as packaging) are not in the datasets.
- It would be better to express the weight of the product in grams instead of kg and not take liters for transport.
- The 230V in the description of the energy use is confusing. Name it Industrial energy.
- The Comparison function doesn't work. The users are very interested in this feature and they are positive about the different ways to the results. In the pdf some sentences are too long and in the diagram the eco-costs should not be presented near the bars (doesn't look nice this way and the x-axis already shows the outcomes).
- It would help to present an example of a product.

In general Material Sense was positive about the tool and they stated that the training gave them better insights in the LCA process and the steps to be undertaken. They were not aware of the fact that all these aspects (e.g. lifetime and transport) were important when conducting a LCA. Because the Comparison function did not work so it was impossible to already create a success story at this moment (although it would have been possible to make a comparison with the results of two products, but for this there was not enough time).

Material Sense would like to stay involved in the LCA-to-go project and intends to use the tool for a more complete assessment of the product as soon as they collected the proper data, since they are now aware of the necessary information to conduct an LCA with the LCA to go Smart Textiles tool. Furthermore they consider using the tool for the assessment of future designs.

A final conclusion was that the tool allows for a relative easy and quick assessment (compared to what they knew about the duration of conducting LCAs so far), but is more time consuming than "to go" implies.