



## Next Material

Katerina Amprazi – Master Student Textile Products Design  
kate.amp@web.de ; www.katerinaamprazi.de

### Woolness – a sustainable footwear concept for wellbeing

Is it possible to develop a holistic sustainable shoe concept with a focus on wool including smart application?

The master research project “Woolness – a sustainable footwear concept for wellbeing”, by master student Katerina Amprazi, is facing this. The modular shoe design concept presents a sustainable alternative to standard production processes in industry in combination with a smart application for wellbeing. The whole shoe is a modular system fixed and joined by sewing. Its components can be easily separated for recycling or repairing: The upper is knitted in zero waste fully fashioned technic and has only one seam at the back. It is made out of 100% organic wool. The second component is a 3-layer insole made from a non-woven woolen material to support the foot. The vibration technology consists out of 4 vibration motors, a battery and a micro controller is located in the 3D printed heel. It is made from 100% TPU. Inspired by foot reflexology, 4 vibration motors are implemented in the 3D printed footbed of the shoe. Their position is matching trigger points used by foot reflexology. Using an android smartphone application, the user is able to control the length of a local massage of the trigger points. The massage can have a positive impact on the wellbeing of head, heart, back and stomach.

The developed manufacturing methods prevent material waste and all components are recyclable. The smart function is an innovative method to relax and to improve wellbeing in the daily life.



**Coach:**  
Prof. Dipl.-Des. Ellen Bendt  
Hochschule Niederrhein - University of Applied Sciences

**südwollegroup**

