THE ULTIMATE RECYCLED KNITTING YARN

When considering sustainability and circular economy, the textile industry faces significant challenges. While most textile waste ends up in general waste, only 1% undergoes fiber-to-fiber recycling. Thanks to legislation such as the UPV, market demand for recycled materials is on the rise. Companies within the fashion industry are seeking solutions that are not yet available on the market. The complexity of textile products makes recycling them, extremely challenging.

The project *'the ultimate recycled knitting yarn'* aims to optimize the properties of sustainable knitting yarn, with a specific focus on reducing twist to minimize spirality issues in knits. Various yarn blends will be explored with the goal of creating the ultimate recycled knitting yarn. This will involve mechanically recycled fibers from Wolkat, where old clothing serves as a source for new clothing (fiber-to-fiber recycling).

Task Description

The objective of this internship or graduation assignment is to develop several yarn prototypes as well as knits, analyze their properties, improve where possible and find the ultimate knitting yarn. Research questions you might focus on are:

- What are the quality requirements for the yarn and the knitwear to meet current market demands?
- What is the optimal fiber ratio for with the highest possible percentage of recycled fiber?
- What spinning and knitting machine settings are required to produce the knitting yarn and corresponding knitwear?

The project is a cooperation of the Research Group Sustainable & Functional Textiles and Wolkat Fibre B.V. You will mainly work at the Circular Textile Lab and the knitting lab in the Epy Drost building of Saxion. Here you will learn the process of creating a yarn through carding, drawing, and spinning as well as knitting. You will also conduct various quality tests on the fibers, yarns and knit. During weekly meetings with your supervisor and peer students, you will discuss your progress. This way the whole team will learn from your findings as well, and we can help each other out when needed.

PRACTICAL INFORMATION

Student profile: This assignment is specifically for Fashion & Textile Technologies students with a strong interest in sustainable textiles and textile processing. We are looking for a student that can work very precisely and independent. As you will be working alongside other students and researchers in the lab we expect you to make a clear planning and have clear communication.

Location: Epy Drost building Saxion Enschede

Contact person(s): Laura Erkens **l.m.erkens@saxion.nl**

Let us know if you are interested by sending your CV and motivation letter.