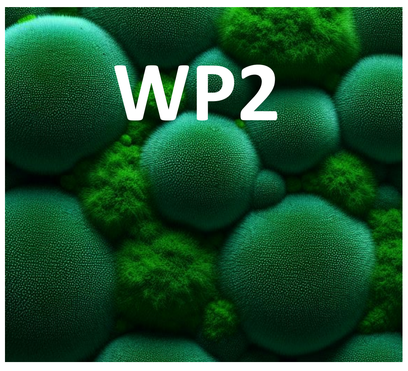
BIOTEXFUTURE

BIOCUSHION

Application-specific guideline for the development of spacer fabrics

Database 1:
Yarns

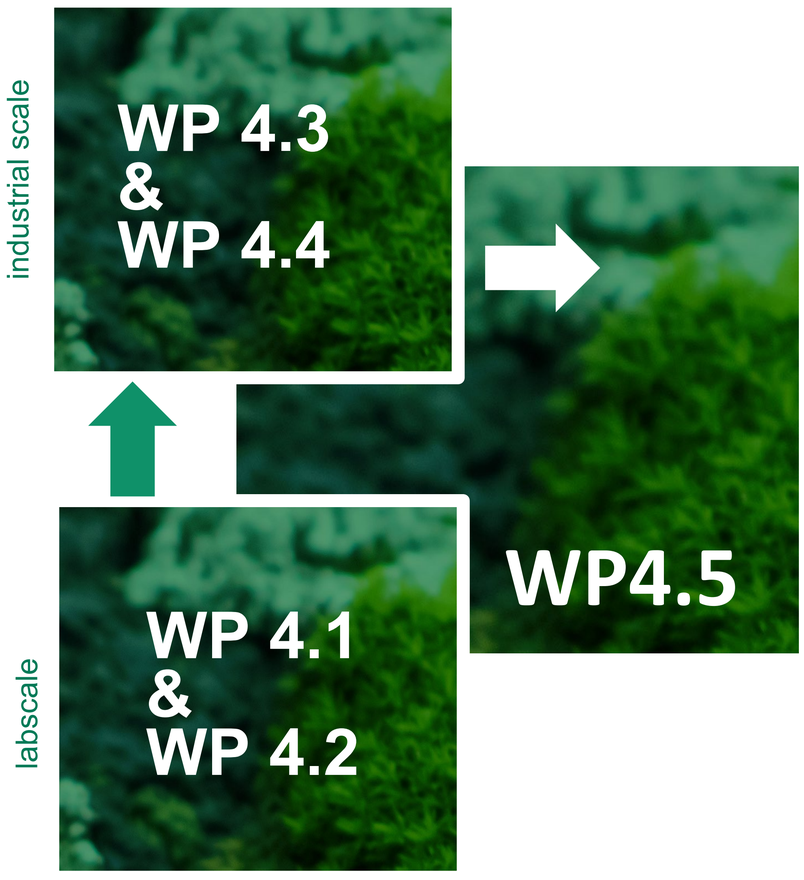


Database 2:
Requirements for Spacers

Database 1+2 =
Development Tool

Evaluation scheme for sustainable product development

Proof of Concept:



Trial and improvement of the Development Tool

MOTIVATION

Due to the large number of variable parameters for the textile construction and the resulting properties, spacer fabrics are attractive for the use in countless areas of application. As a result of the three-dimensional structure, these textile substrates are often used as cushioning elements. Increasingly, there are requests from industry to replace foam components with spacer fabrics. But does this substitution also bring an improvement in terms of sustainability? Though the growing range of new yarn materials is promising more sustainability, the majority of textile production still relies on products of fossil origin. Spacer fabrics are no exception for this. The reasons for this are various:

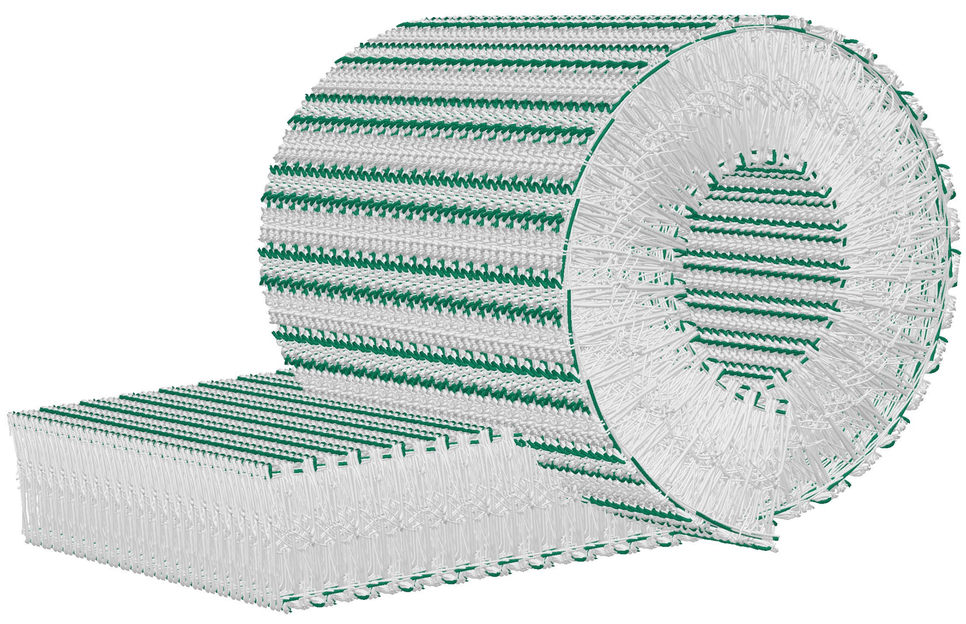
- The search for new sources challenges buyers and developers to find a **balance between** the need to provide for a more **circular product and** also to comply with **quality standards**
- Companies have **tight deadlines** for the implementation of new products and **limited human resources**
- The **availability of biobased materials** is not yet guaranteed, the selection of monofilaments is **limited** and biopolymers and recycled yarns have a higher **cost factor**

AIM

The aim is to develop an application-specific guideline for the development of circular spacer fabrics that can be used on an industrial scale and adapted for other areas of application. As part of the project, a demonstrator from the sportswear sector is to be created for a predefined performance comparison..

APPROACH

Many material- and application-oriented studies exist. Focused on one scientific sub-area, these reports often only provide us with solution approaches that we have to put together ourselves like pieces of a puzzle in correlation with other design parameters in order to achieve an optimal product result. If the transformation to a holistic and sustainable product development should succeed, this resource-intensive process must be simplified for companies. For this reason, the Biocushion project team has set itself the goal of establishing a development guideline that focuses on the circularity and CO_2-reduction of the semi-finished product and removes the hurdle of selecting an environmentally friendly yarn. The planned work of the consortium is primarily intended as fundamental research, which will set a milestone for the further development of existing spacer fabrics into more sustainable options (incremental innovation).



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