

FiberTies: Nordic network on biobased fibers

The focus of the Nordic network FiberTies is to implement knowledge on the use, recycling and reuse of fibrous biomass for industrial application and future products.

Wood has been used for building construction, furniture and utensils for innumerable years. The use of wood fibers also has a long history but have the potential, together with other biobased fibers, to enter new areas of exploitation aka the demands for new, sustainable products with new and optimized properties. The knowledge on fibers in the wood research and the wood processing industry could unquestionably benefit players striving to exploit new types of biomass. Thus sharing knowledge is the key for further progress.

For numerous plant-based fibers the research and development is still only at a fundamental level, although the basis for the development of valuable fibrous materials is present. Opportunities are emerging for introducing plant fibers in new areas and constellations previously unthought-of.

The FiberTies network has specifically aimed to look at how to implement and work with biobased fibers and potentially by-products from farming and food production. Resources should be used in a sustainable way and the process of doing so must be economically acceptable. The different stakeholders in that chain – from innovation to market – needs to understand each other and to interact to make the best out of it and to see the opportunities.

The focus of the network was to share knowledge and place focus on sustainable value-added, utilization of plant fibers from the forest and agricultural sectors in building, textile and packaging industry. The used of bioderived textile fibers (cotton, hemp, linen, wool etc.) in products as well as design aspects of production are part of the scope. Circular economy through recycling and reuse of biobased fibers was also a focus area of the network activities. The FiberTies network aids to contribute to the shift into a sustainable society by creating contact between universities and industry thus helping knowledge transition. The network has brought together Nordic industry partners, universities, designers and research institutes, together with stakeholders from the wood industry, wood research, biomass research, and agricultural.

Two network meetings and a joint FiberTies/COST training school have been hosted by DTI during 2015 to 2017 with very good participation as well as representation of all the targeted groups.

The network has brought together players from sectors representing the whole value-chain of relevant parties involved in biomass production and processing, design, fiber modification and refining and product manufacturing. Researchers has met processors, architects and designers along with producers. FiberTies has enabled many good discussions on the newest research and discussions of known problems.

The network offered a platform for exchanging ideas, sharing infrastructure and initiated new and further collaboration between partners. The partners in the network have a common opportunity and responsibility for addressing relevant subjects. An internet platform was available and open to the network during the whole project and will be maintained when the project terminates.

This collaboration between multiple parties from various disciplines has convey the sharing and progression in innovative knowledge on fibrous biomass to the industry thus promoting the usage of this knowledge in product development and production. This will help generate new designs and products, local production and new jobs for small and medium sized enterprises as well as larger industries. Synergies and collaborations between sectors will facilitate increased awareness about the applications and possibilities in biobased materials thereby boosting innovation and transition to circular bio-economy.

The knowledge sharing between sectors and between Nordic countries has been very interesting and has elucidated that the issues we are facing are common. There are many ideas and development project that run in parallel, which are based on similar ideas and thus that could benefit significantly from interaction across research communities and sectors.