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1. EXECUTIVE SUMMARY

This document provides an overview of outputs on the Pilot Innovation Environments. Based on the results of the work package 3 (WP 3) of the FORESDA project and the actual situations of the Austrian economy and the innovation strategy of Salzburg 2025, we decided to setup a pilot environmental (e.g. demonstration centre) for upcoming approaches of innovative materials and/or products at the Salzburg University of Applied Sciences in Kuchl, Austria. The effective utilization of materials and energy resources is becoming an increasingly important challenge for the economy and society. There exist various approaches for the solving this challenge. One way is that companies can react to this situation and they can develop new materials and products from available and sustainable natural resources.

The Pilot Innovation Environment supports the innovation strategy 2025 of Salzburg and fosters the utilization of renewable materials (e.g., wood, straw, and bark), which is also a national and transnational challenges in EU.

2. MOTIVATION FOR PILOT INNOVATION ENVIRONMENT

2.1 BACKGROUND

The effective utilization of materials and energy resources is becoming an increasingly important challenge for the economy and society. There exist various approaches for the solving this challenge. One way is that companies can react to this situation and they can develop new materials and products from available and sustainable natural resources. Improvements in efficiency (cost effectiveness) as well as the modernization of existing methods and technologies is important and will be also crucial for leading companies.

Resource efficiency involves the consideration of all the stages of the life cycle of a product including extraction of resources, production, the use of the product and disposal or recycling.

Some of Austrian companies of the forest-based economy are not very innovative, because they have an inhibition threshold for time- and cost-consuming research (e.g. basic and/or applied research) and based on this behaviour they have not access to research institutes. Therefore, some of the companies' innovative ideas will never be transferred to the market. Based on the results of the work package 3 (WP 3) and the actual situations of the Austrian economy and the innovation strategy of Salzburg 2025, we decided to setup a pilot environmental (e.g. demonstration centre) for upcoming approaches of innovative materials and/or products at the Salzburg University of Applied Sciences in Kuchl, Austria.

2.2 OBJECTIVES

The main objectives can be formulated as follow:

- providing training and demonstrating facilities for proven and new innovative solutions developed by local organizations (e.g. SME) as well as organisations from other regions
- competence centre for advising local companies with respect to the uptake and implementation of new solutions in their own processes and products

Therefore, we can summarize the strategy of our pilots formulated as follow:

- regional and international collaboration for cross-sectoral research and innovation activities for SMEs

The companies were supported based on the FORESDA project and according to the rules of the Danube Transnational Programme (DTP). The pilot environment BioMatHub at the Salzburg University of Applied Sciences was focused on applied research work. However, the proof of concept for the innovative ideas/approaches is the border. Further work was not done in the frame of the FORESDA project.

3. SHORT DESCRIPTION OF PIE

BioMatHub is a pilot environment in frame of the FORESDA project. The scientific members of the implementation of BioMatHub are employed at the Salzburg University of Applied Sciences in Kuchl and was financed by the FORESDA project to support the SMEs (e.g., generation of innovative ideas to research projects). The facilities of the Department of Forest Products Technology and Timber Constructions can be used for the work in frame of BioMatHub / FORESDA project. The research work was done by scientific members or students at the Salzburg University of Applied Sciences. The target groups (e.g. SMEs) were provided all necessary materials (e.g. glue) for the development processes.
Two researchers were responsible for the networking and collaboration of possible SMEs, that will do feasibility studies in this pilot environment. They also planned the work and briefed the laboratory staff members for the work procedures. Other two laboratory staff members did the actual necessary work.

4. PIE ACHIEVEMENTS

New impulses through product and process innovations as well as a cross-sectoral image offensive should contribute to sustainably strengthening a leading industry in rural areas. The importance and appreciation of the renewable resource wood were shown by the idea generation in the Pilot Innovation Environment.

4.1 CONTRIBUTION TO NATIONAL STRATEGY (RELATED TO FBI/FORESDA)

The use of wood in local economies throughout the observed areas (e.g., WP 3) is supported, to differing degrees, by public support schemes. The scope of these support schemes varies from the local, to the regional and to the national level. Not all support schemes are directed exclusively towards forestry and wood-based industry but include these sectors in a broader context. For example, smart specialisation strategies (S3) of regions, in which the observed research areas are located, may help to support innovative wood-based products.

Innovative solutions for Austrian waste are often holistic systems solutions, for example systems developed for waste treatment, collection and recycling, such as high-level wood-based logistics, such as highly innovative recycling projects at the Pilot Innovation Environment. There are also the development of regional waste management plans and the extraction of fuel from waste with innovative technologies to minimize pollution, both play a central role.

Austrian economic policy has committed itself to the strategic option of the bio-economy, as envisaged in several strategic documents of the federal government such as the National Bio-economic Policy Strategy, the Bio-economy 2030 National Research Strategy, the Federal Government's Action Plan on material use of renewable resources and national biomass.

4.2 CONTRIBUTION TO NATIONAL/REGIONAL DEVELOPMENT AND INNOVATION POTENTIAL

The Austrian forest-based industry has a world-leading position in terms of technology and for this reason, FORESDA plays a fundamental role for research and innovation in the sector and has to always be promoted, in order to make it increasingly competitive at global level and focus on the need to establish alliances outside the borders and between industry, the research sector and other stakeholders: research institutes, authorities, scientific communities, environmental organizations, industries in related sectors. It is conceived as a challenge for the growth of Austrian research in the different sectors and for future developments in emerging technologies in the FBI-sector; therefore, it requires the development of combined and parallel techniques in the various emerging sectors. The aim

of Pilot Innovation Environment is to show potential ways for innovation and collaborations in new emerging sectors, avoiding possible negative competitions with the consolidated industrial sectors, as well as paper and wood and at the same time advancing and a circular economy and bio-economy of the forest heritage. Today recycling plays a very important role throughout Austria and for this reason it is important to start thinking about an innovative new value chain of wood and other bio-based materials.

4.3 CONTRIBUTION TO THE OBJECTIVES OF FORESDA

The effective utilization of materials according to the circular economy and bio-economy is becoming an increasingly important challenge for the economy and society. This development Pilot Innovation Environment (PIE) in the frame of the FORESDA project supported actively this main approach, which is in line with the specific objective 1 and objective 2.

New ideas and innovation projects were developed within the PIE at the Salzburg University of Applied Sciences. The low collaboration levels along the value chain and between different sectors (e.g., wood processing companies with cosmetic producer) were improved and different innovation projects were supported. During the work within the PIE, ideas for different start-ups and some improvements were discussed (e.g. business case study). All these various activities enhance the existing and foster new products, processes, business concepts showcasing the possibilities of wood and bio-based materials in tomorrow society.

4.4 HOW DOES THE PILOT CONTRIBUTE TO THE PROGRAMME PRIORITY "INNOVATIVE AND SOCIALLY RESPONSIBLE DANUBE REGION"?

Thorough the work in the PIE in region Salzburg in Austria the cooperation between different SMEs and research institute was fostered. The exchange of knowledge and transfer of technology will be sustainably increased the competence of the FIB sector in the Danube Region. The results of the PIE were used to get in contact with different stakeholders (e.g. SMEs, policy level, cluster organisations) and promote the further discussion about possible application, supports and implements at different levels. The framework conditions for SMEs

from different sectors were supported by providing some research competencies (e.g., knowledge in innovation project development and project proposal writing).

Study visits within the FORESDA showed the possibilities of innovative material use and the transfer from the laboratory to the industrial applications for the participators of different countries in the Danube Region. These persons are multiplicators in various regions. This process eliminates cross border barriers and bottlenecks to people, business and research for a liveable Danube Region.

4.5 How does the pilot fit into EUSDR?

The PIE in the Salzburg region in Austria is in line with the EU Strategy for the Danube Region. Protecting natural, cultural & economic heritage alongside Danube by developing regional novel Pilot Innovation Environments (PIE) can be located as the key strategy.

PIE was enabling local wood-processing SMEs, cluster managers, lecturers, students, policy makers, public persons and innovators from universities and industry to mutually re-invent traditional practices in order to build shared capacities for the promotion and material-use of wood and other biogenic materials in different sectors.

Training and support for cross-sectoral innovation of wood and bio-based materials and SMEs provide background for development and marketization of innovative material use of wood and other natural resources. The involving business support organisations within the FORESDA project ensured institutional learning and thus sustainability of the PIE.

5. Continuation of PIE

The Department of Forest Products Technology & Timber Constructions at Salzburg University of Applied Sciences will continue with the developed idea of the PIE in the frame of the FORESDA project. The organisation is reaching for further financial support. Furthermore, a regional research structure (Salzburg Center for Smart Materials) was developed and established in the region Salzburg. Some overlapping activities could be imaged to continue the idea of FORESDA to foster the innovation in the FBI sector. However, some further discussions for collaboration and exchange must be done.