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Tallinn, 14, June 2022: New EU project to accelerate the impact of 5G, digital wood models, digital twins, and AI at the edge for small and medium wood manufacturing enterprises.
5G-TIMBER: Secure 5G-Enabled Twin Transition for Europe's Timber Industry Sector

5G-TIMBER team in Tallinn, Estonia (08/06/2022) at the project kick-off meeting

Despite the widespread beneficial impact 5G technologies have had on the manufacturing sector in the EU, the associated enabling and emerging digital tools and standards including **edge-computing and artificial intelligence are rarely implemented by small and medium-size manufacturers**. High cost, technological risks and lack of best practice discourage adoption. In these industries, small-volume machinery, hand-assembly and construction often present challenges in achieving efficient, green production, sustainability and zero-waste.

5G-TIMBER, funded by the European Commission, aims to address this dual challenge by supporting the **rapid uptake of 5G technologies, considering real industrial practices and constraints in the EU timber industry over the wood value chain**.

An ambitious, multidisciplinary research and innovation team will conduct advanced, large-scale **field trials** on 5G deployments in energy-intensive scenarios such as **sawmill machinery manufacturing, construction/renovation (woodhouse factory), wood waste valorisation through biochemical processes**. The field trials are planned in Norway, Estonia and Finland.

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The team includes **sixteen organisations** from academia and industry across **ten European countries.** The project will demonstrate **key innovations in timber** by proposing advanced **digital wood models, open standards for production data, data analytics at the edge, precise indoor localization, "Digital Twin" and augmented reality applications and industrial IoT.** They anticipate releasing an open source toolkit for wood manufacturing SMEs to support safe, sustainable and optimized data-driven manufacturing.

"**Wood is the most widely used sustainable construction material,** and growing in use for renovation and temporary housing. However, the underutilisation of wood (standing at only 63% in EU), high amount of waste (50-65%) and resource-inefficiency present security threats to EU citizens and markets. They account for the decrease in the competitiveness of EU enterprises compared to big exporters, like China", **said Professor Muhammad Mahtab Alam, the Project Coordinator (Tallinn University of Technology, Estonia).** "In the 5G-TIMBER project we specifically address the environmental and social sustainability of industrial production in the EU, by focusing on wood chain and construction sector, where the latter is responsible for 36% of GHG emissions in the EU. Working closely with the wood industries, we want to **increase wood-based materials recycling by 50%, increase productivity by 15%, reach 99% of the work done in the factory (vs. 85% today), reduce on-sitework by 10%, reduce product nonconformities by 10%, and increase workers' safety in wooden houses production and onsite assembling.**"

In the longer term, the **5G-TIMBER** project will also **contribute to meeting the growing demand for climate friendly products and raw materials, enabling greater use of wood and wood-based products, and** extending the lifecycle of wood to 100+ years to reduce waste and greenhouse gases.

Dr. Pat O'Sullivan (CEO of **Inlecom** Commercial Pathways Company, Ireland, 5G-TIMBER partner) believes that **5G-TIMBER's** solutions go far beyond the timber industry and are able to **promote sustainable, efficient data-driven manufacturing in many other EU materials value chains**. "EU small and medium manufacturers face strong international competition. Achieving global leadership in clean and climate-neutral industrial value chains is vital to future success, and to increase job attractiveness and security for a large, talented workforce. This project will provide **open-source and open-standard based applications, business analysis and exploitation pathways** that I believe will ensure significant impact - for the wood industry, and many others."

To support that ambition, partner **Crowdhelix** will create a **network of at least 150 organizations.** "It is our role to build an **impact driven virtual community** populated by world leading experts in the manufacturing industry and related fields of research, development and innovation", said **Michael Browne, CEO of Crowdhelix**. Universities, research organisations, SMEs, large multinational corporations, investors, end-users, policy-makers, industry stakeholders from manufacturing, industrial production, wood production, machinery and more will be engaged and brought together to maximise the project impact.

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5G-TIMBER has a total budget of 10 million EUR and will run for three years from 1 June 2022.

The consortium implementing the project is composed by **16** European organisations:

- Tallinn University of Technology, *Estonia* (Project coordinator)
- Crowdhelix Limited, *Ireland*
- Athonet SRL, *Italy*
- Inlecom Commercial Pathway, *Ireland*
- Jotne EPM Technology AS, *Norway*
- Harmet Oü, *Estonia*
- Teknologian Tutkimuskeskus VTT Oy, *Finland*
- Politecnico di Milano, *Italy*
- Innovawood ASBL, *Belgium*
- Hekotek AS, *Estonia*
- Tieto Finland Oy, *Finland*
- Tieto Sweden AB, *Sweden*
- Octavic PTS SRL, *Romania*
- Thales DIS France SAS, *France*
- Thales DIS AIS Deutschland GMBH, *Germany*
- Acceleran, *Belgium*

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