

Future of forestry might be closer than you think

Brussels, 21 March 2024

Forestry might no longer be what you imagine it to be! Long gone are the days when forestry consisted only of rugged lumberjacks who went into the forest with axes and saws, and where the wood they harvested was only used to build log-houses and furniture. Modern forestry is the source for a domestic biomanufacturing sector, and it is supported by digital mapping, big data streams and precision forestry management for the benefit of the European society and the environment.

While wood in its simplest form is still widely used as a building, packaging and energy material, the range of applications has expanded. Wood is made up of three main components: cellulose, hemicellulose and lignin. Decades of research and innovation have led to techniques to extract these components and transform the raw materials into a wide range of innovative products. Europe's forest resources are today used for making [biobased clothing](#), [batteries](#), [medical applications](#) and even in [frames for satellites](#). Forests are a cornerstone for Europe's biomanufacturing capacity. That said, public and private efforts must increase significantly to make Europe the first fossil-free economy, while maintaining competitiveness and protecting the environment. Initiatives such as the EU funded project [VIOBOND](#), that aims to set up the first commercially viable production plant for wood-based binders that can substitute fossil-based phenol and formaldehyde glues, must become more numerous.

Not only the way that we utilize our forests is evolving; the way that we manage them has changed as well. Although field measurements continue to be a crucial part of forest management, the forests are nowadays closely monitored with the help of remote sensing technologies relying on satellite data, airplane surveillance and drones. These systems, combined with AI technology and advanced prediction models, deliver a constant output of new information; harvested area, stand age and the volume and quality of the wood that is available. This allows to plan forest management operations very precisely and determine which forest functions should be prioritized in particular areas, thus enabling a holistic management strategy. Another widely used application of new technologies is monitoring of biotic and abiotic disturbances in ecosystems, like forest fires, pest outbreaks and storms. With the weather becoming increasingly unpredictable and extreme, different advanced monitoring tools are becoming crucial for foresters to adapt to new circumstances.

The European Union is also working out a proposal for regulating forest monitoring. It is important that this regulation takes into consideration the existing monitoring systems in different Member States and data sensitivity. The forest management practices around Europe, as well as the trade-offs and challenges faced by the forest owners and managers need to be understood by the decision-makers to use the information

adequately and support the sector to continue to provide multi-functional, healthy, resilient and sustainable forests. We hope that initiatives such as the EU-funded project, [FORWARDS](#), can help promote science-based knowledge to guide forest management using the principles of climate-smart forestry whilst contributing to the objectives of ecosystem restoration and biodiversity preservation along with multi-purpose use of forests.

This trend of innovation within the forestry sector extends to the EU institutions in Brussels. Never have there been as many new forest-related policy initiatives at EU level as during the European Green Deal. The new proposals are still coming out, and just yesterday the European Commission presented their new initiative on [Biotechnology & Biomanufacturing](#). We hope that the decision-makers in Brussels take the time for an in-depth dialogue with key actors from the forest-based sector to make sure that the policies in preparation are balanced and have the impact that is intended.

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