OPTI FOR VALUE

OPTIMISING FOREST OPERATIONS FOR SUSTAINABLE FOREST MANAGEMENT & HIGH-VALUE APPLICATIONS

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THE CHALLENGE

Global wood demand is rising and is estimated to significantly surpass supply, raising the pressure to increase forest areas and growth. Forestry offers a pathway to strengthen European competitiveness, reduce dependence on non-renewable, unsustainable resources, and enhance the circular bioeconomy, and climate resilience. However, Europe's forests and their value chains face diverse challenges, including biodiversity loss, and increasing threats to forest health and economic revenue caused by climate change.

OptiForValue tackles these challenges by optimising forest operations for sustainable forest management and high-value applications, fostering a transition to more sustainable and resilient forest-based value chains. This will be achieved using unique, interconnected modelling techniques and technologies involving strong participative engagement and novel scientific approaches. This will include early warning indicators for declining tree health and wood quality, adaptive forest management strategies, remote sensing and artificial intelligence for agile forest operations, and integrated value-chain optimisation and life cycle assessments. Creating a comprehensive forest knowledge base, that will enable forest owners and managers to improve their response to growing pressures on forests and strengthen forest resilience and the bioeconomy for forest-based value chains.

AT A GLANCE

PROGRAMME: Horizon Europe JU - Circular Bio-based Europe Joint Undertaking (Call Topic: HORIZON-JU-CBE-2023-R-02)

TYPE OF ACTION: Research and Innovation Action

DURATION: September 2024 - August 2028 (48-month)

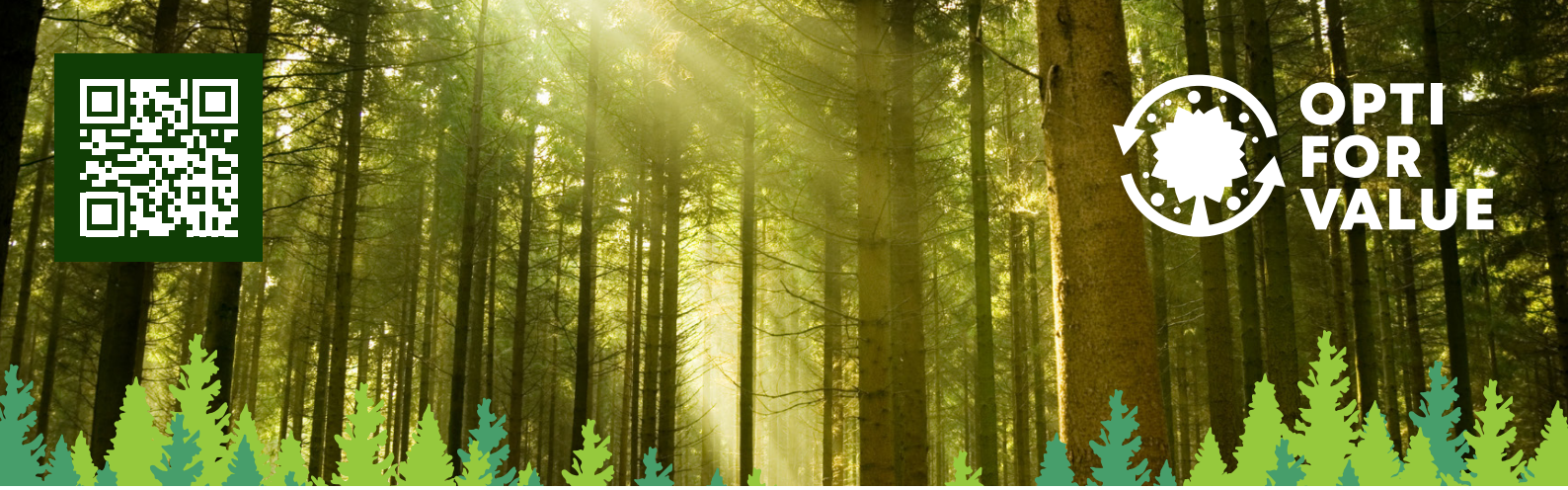
CONSORTIUM: 17 partners from across 7 European countries

COORDINATOR: LUKE National Resources Institute (LUONNONVARAKESKUS), Finland

BUDGET: €4.997 million

OBJECTIVES

- **Develop and upgrade non-invasive solutions for forest health, monitoring and wood quality control**, including the development of risk assessment tools for drought, fire, insects, and snow damage.
- Design and develop sustainable forest management methods to **restore and enhance forest health and increase biodiversity**.
- **Develop the forest sector's operational capabilities for agile value management**, to meet new opportunities and challenges under changing climate conditions.
- Gain a deep understanding of the **environmental and social impacts of the forestry solutions** and their economic feasibility.
- **Demonstrate how the projects' methods and solutions enhance forest value chains** via local multi-actor studies and data analysis, spanning forest inventory and operations to transport, storage and processing through to production of value-added engineered wood products.
- **Increase co-creation with knowledge exchange** between regional and local forestry actors to develop innovation capacity, encourage deployment of solutions & maximise uptake of new opportunities.



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EXPECTED OUTCOMES

OptiForValue will provide novel techniques, technologies and guidelines for improved management of forest stands and value chains affected by drought, fire, insects, and snow damage across Europe. Expected results include the development of new high-value engineered wood products from both healthy and damaged wood, supporting cascading use of sustainably harvested forest biomass; and adjustments in forest management to meet future alternative demands for high-value forest products – in alignment with the EU Forest Strategy 2030, EU Green Deal and EU Biodiversity Strategy 2030. OptiForValue will accelerate this transition by **enhancing the sustainability, resilience, supply security and cost competitiveness of regional value chains in Central European, Mediterranean and boreal forests, via case studies in Austria, Spain, Sweden and Finland**, with potential applicability to various regions throughout Europe.

Significant long-term OptiForValue impacts are expected to be achieved, **including a 10% reduction in wood damage, with a subsequent increase in wood harvesting (€240 million annually), 3% value addition from better quality control (€350 million annually), 5% increase in the forestry workforce in areas affected by climate change, and 5–10% reduction in fossil fuel consumption and greenhouse gas emissions.**

CONSORTIUM

The **OptiForValue consortium** is led by LUKE (Finland) and comprises of a multi-actor, transdisciplinary team of 17 partners (5 small/medium-sized enterprises (SME), 2 large enterprises, 5 universities, and 5 research institutes) across 7 European countries (Austria, Bulgaria, Finland, Germany, Ireland, Spain, Sweden).

MORE INFORMATION

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