ForestValue

ForestValue
Research
Programme
Midterm Seminar

Tuesday 17th – Wednesday 18th
November, 2020

ForestValue

About ForestValue

ForestValue builds on the success of three previous forest-based ERANETs: WoodWisdom-Net+, SUMFOREST and FORESTERRA. The aim of ForestValue is to comprise the **joint implementation of trans-national call for proposals for research, development and innovation** (RDI) in the forest-based sector.

In total, these three ERA-NETs behind ForestValue have had national investments of around 67 MEUR to a variety of trans-national funded RDI projects (64 funded projects). The total volume of these projects accounts for around 86 MEUR.

Now, after the joint effort under the ForestValue ERA-NET Cofund, since the first ERA-NET in 2004, the **total national investments** into forest research through these networks of national funders will be up to more than **100 MEUR**.

The primary purpose of the present ForestValue joint call is to contribute to transforming the global economy from a dependence on fossil and non-renewable raw materials to a sustainable "**bio-based economy**".

The call contributes to the overall objectives of ERA-NETs - including the mobility of researchers and practitioners between the countries and intensify researcher training, thereby **increasing the quality of European research & innovation actions** and their implementation in the market.

Sustainability and modernisation of forestry systems and downstream value chains, including innovative business concepts and production technologies, will be needed to develop the forestry sector and the European bioeconomy, of which forestry accounts for a large share.

The ForestValue consortium consists of **30 partners** representing different programmes in the bioeconomy funding sector, coming from different regions and countries inside/outside Europe.

Core Partners

Finland

Ministry of Agriculture and Forestry (MMM), the Coordinator
Academy of Finland (AKA), Finland
Innovation Funding Agency Business Finland (Business Finland), Finland
Ministry of the Environment (YM), Finland

Austria

Federal Ministry of Sustainability and Tourism (BMNT)

Czech Republic

Ministry of Agriculture of the Czech Republic (MoA)
Forestry and Game Management Research Institute (FGMRI)

France

The French Environment and Energy Management Agency (ADEME)
The French National Research Agency (ANR)

Germany

Federal Ministry of Food and Agriculture (BMEL)
Agency for Renewable Resources (FNR)
Federal Office for Agriculture and Food (BLE)

Ireland

Department of Agriculture, Food and the Marine (DAFM)

Latvia

Latvian Academy of Agricultural and Forestry Sciences (LAAFS)
State Education Development Agency (VIAA)

Poland

National Science Centre (NCN)

Slovenia

Ministry of Education, Science and Sport (MIZS)

Spain

Agencia Estatal de Investigación (AEI)
The Centre for the Development of Industrial Technology (CDTI) E.P.E.

Sweden

The Swedish Research Council for Environment, Agricultural Sciences and Spatial Planning (FORMAS)
Swedish Energy Agency (SWEA)
Swedish Governmental Agency for Innovation Systems (Vinnova)

United Kingdom

The Forestry Commissioners (FC)

Norway

The Research Council of Norway (RCN)

Switzerland

Swiss Innovation Agency (Innosuisse)
Federal Office for the Environment (FOEN; in the Federal Department of the Environment, Transport, Energy and Communications DETEC)

Tunisia

Institution of Agricultural Research and Higher Education (IRESA)

Turkey

The Scientific and Technological Research Council of Turkey (TUBITAK)

Argentina

Ministerio de Ciencia, Tecnología e Innovación (MINCYT)

Egypt

Academy of Scientific Research & Technology (ASRT)

Funded projects.
Session 1. Advanced Forest Management strategies

MULTIFOREVER – Towards intensification of conifer production through multi-varietal forestry based on somatic embryogenesis.

Coordinator
Jean-François Trontin, FCBA – The French Institute of Technology for Forest-based and Furniture Sectors, France
jean-francois.trontin@fcba.fr

Other partners
AR, DE, ES, FI, FR, SE

Project objective:
The project's ambition is to apply novel approaches to clone a genotype, not only from juvenile, but also from mature tissues, and to develop a value added chain and joint strategy to bring high-quality somatic trees at acceptable costs towards multi-varietal forestry (MVF) of economically relevant conifers (pine, spruce, larch, Douglas-fir).

MultiForest – Innovative sustainable management of multifunctional forests

Coordinator
Mikko Mönkkönen, University of Jyväskylä, Finland
mikko.monkkonen@jyu.fi

Other partners
AT, DE, NO, SE

Project objective:
This project aims to provide novel insights to forest policy, forest management and land-use planning by quantitatively analysing impacts of policies, management practices and developing large scale forest programs that can simultaneously maintain or increase timber production and ensure the sustainability and resilience of multifunctionality in forests.

Funded projects.
Session 1. Advanced Forest Management strategies

ValoFor – Innovative sustainable management of multifunctional forests

Coordinator
Silvio Schueler, Austrian Research Centre for Forests (BFW), Austria
silvio.schueler@bfw.gv.at

Other partners
DE, FI, SE, SI

Project objective:
The objective of ValoFor is to understand the contribution of small forest owners in the transition to a wood based bioeconomy by considering the perception and management strategies of small forest owners. This includes analysing and comparing forest management strategies with respect to potential timber supply, ecosystem services and forest resilience in climate change.

I-MAESTRO – Innovative forest MAnagEment STRategies for a resilient bioecOnomy under climate change and disturbances

Coordinator
Patrick Vallet, National Research Institute of Science and Technology for Environment and Agriculture (IRSTEA), France
patrick.vallet@inrae.fr

Other partners
DE, FR, PL, SI

Project objective:
The main aim of I-MAESTRO is to improve the scientific basis for developing management strategies that increase resilience of the bioeconomy to future natural disturbances and climate change, while also maintaining a high level of wood production, carbon storage, and habitat quality for biodiversity.

Funded projects.
Session 1. Advanced Forest Management strategies

NOBEL – Novel business models and mechanisms for the sustainable supply of and payment for forest ecosystem services

Coordinator
Harald Vacik, University of Natural Resources and Life Sciences Vienna, Austria
harald.vacik@boku.ac.at

Other partners
DE, ES, FR, NO, PT, SE

Project objective:
The objectives of the project are (i) to develop business models and mechanisms to internalise the socio-economic value of forest ecosystems, (ii) combine public policy tools with business models for implementing payments for forest ecosystem services (FES) at multiple levels, and (iii) demonstrate and compare alternative approaches for payments in case studies in Europe.

FunEnzFibres – From fundamentals to valorization: Enzymatic oxidation of cellulosic fibres and underlyig mechanisms

Coordinator
Kristiina Kruus, VTT Technical Research Centre of Finland Ltd, Finland
kristiina.kruus@aalto.fi

Other partners
AT, NO

Project objective:
This project will explore the potential of lytic polysaccharide monooxygenases (LPMOs) in oxidative modification of cellulosic fibres. The research aims at developing sustainable refining and dissolving processes.

Funded projects.
Session 2. Wood as a building material (I)

READiStrength – Resource-Efficient And Data-driven Integrated log and board Strength grading

Coordinator
Olof Broman, Luleå University of Technology, Sweden
olof.broman@ltu.se

Other partners
AT, DE

Project objective:
Making use of the latest technological developments in round timber scanning, the project READiStrength aims to improve the current concept of sawn timber strength grading towards earlier, more flexible and adaptive approaches prior to conversion at the raw material stage to make the best use of Europe's wood resources.

StrongComposite – A novel material concept for high strength cellulose composites

Coordinator
Ingo Burgert, ETH Zurich, Switzerland
iburgert@ethz.ch

Other partners
AT, FI, SE

Project objective:
This project will explore invention originating from a material concept, which unifies delignification and densification of wood while retaining the beneficial fibre directionality, thus enabling a "green" high performance product. One of the technological objectives is to develop and upscale such industrial processes that enable large enough prototype geometries for the addressed fields of application.

Funded projects.
Session 2. Wood as a building material (II)

InFutUReWood – Innovative Design For the Future – Use and Reuse of Wood (Building) Components

Coordinator
Karin Sandberg, RISE Research Institutes of Sweden, Sweden
karin.sandberg@ri.se

Other partners
ES, DE, FI, IE, SI, UK

Project objective:
The project focuses on the reuse of current reclaimed wood in the circular economy as structural material but also on creating a "design for deconstruction" for future building. The main objective is to develop a method for ensuring future possibility of circulation of timber products with true consideration of whole life-cycle, and practical industry issues at design, construction and deconstruction phases.

CLICK DESIGN – Delivering fingertip knowledge to enable service life performance specification of wood

Coordinator
Ed Suttie, Building Research Establishment (BRE), United Kingdom
ed.suttie@bre.co.uk

Other partners
CA, DE, FI, FR, NO, SE, SI

Project objective:
CLICK DESIGN will develop a performance based specification protocol to enable provision of a software tool for architects and specifiers to embed service life performance specification for wood.

Funded projects.
Session 2. Wood as a building material (II)

Hardwood_joint – Innovative joints in hardwoods

Coordinator
Carmen Sandhaas, Karlsruhe Institute of Technology/ Timber Structures and Building Construction (KIT), Germany
carmen.sandhaas@kit.edu

Other partners
AT, FR, SE

Project objective:
The overall project objective is to foster high-performance hardwood structures in the European building sector by developing economic, reliable and innovative joint technologies for hardwood members and the design thereof. The objective is to pave the way for using more hardwood products in the building industry by giving added value to hardwood species which are currently mainly used as fuelwood.

FIRENWOOD – Improved fire resistance of engineered wood products in timber buildings

Coordinator
Karolina Storesund, RISE Fire Research, Sweden
karolina.storesund@risefr.no

Other partners
CH, DE, SE

Project objective:
The main project goal is to ensure a fire safe use of innovative, engineered wood systems in taller and larger buildings, by providing (i) improved fire design models, validated by small- and full-scale fire tests, and (ii) classification and test methods for adhesives with regard to elevated temperatures and fire. The main focus will be the effect of structural joints and adhesives in cross-laminated timber (CLT), glue-laminated timber (GLT) and wood-based I-joists.

Funded projects.
Session 2. Wood as a building material (II)

DynaTTB – Dynamic Response of Tall Timber Buildings under Service Load

Coordinator
Marie Johansson, RISE Research Institutes of Sweden, Sweden
marie.johansson@ri.se

Other partners
FR, NO, SE, SI, UK

Project objective:
The overall objective is to identify experimentally a number of full-scale Tall Timber Building (TTB) structures within Europe and, based on these results, develop representative Finite Element (FE) models for predicting the vibration response of TTBs exposed to wind-induced dynamic loading.

InnoCrossLam – Innovative Solutions for Cross Laminated Timber Structures

Coordinator
Boris Azinović, Slovenian National Building and Civil Engineering Institute (ZAG), Slovenia
boris.azinovic@zag.si

Other partners
AT, DE, ES, SE

Project objective:
InnoCrossLam aims at increasing even further the competitiveness of cross laminated timber (CLT) as a versatile engineered product, by increasing its predictability in demanding design situations not covered by the guidelines of today, or codes and standards foreseeable in a near future. In addition, the project will further develop a previously suggested (proof-of-concept) multi-functional use of CLT in terms of its thermal activation.

Funded projects.
Session 3. Innovative harvesting techniques

DynaTTB – Dynamic Response of Tall Timber Buildings under Service Load

Coordinator
Marie Johansson, RISE Research Institutes of Sweden, Sweden
marie.johansson@ri.se

Other partners
FR, NO, SE, SI, UK

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InnoCrossLam – Innovative Solutions for Cross Laminated Timber Structures.

Coordinator
Tomaz Pazlar, Slovenian National Building and Civil Engineering Institute (ZAG), Slovenia
tomaz.pazlar@zag.si

Other partners
AT, DE, ES, SE

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Funded projects.
Session 3. Innovative harvesting techniques

AVATAR – Advanced Virtual Aptitude and Training Application in Real Time

Coordinator
Dirk Jaeger, Georg-August Universität Göttingen, Germany
dirk.jaeger@uni-goettingen.de

Other partners
NO, SE

Project objective:
The objective of AVATAR is to complement operator training programmes, such as the Rational Efficient Cost Optimization (RECO), through the development of quantitative support tools. These tools will analyse harvester and forwarder operator's pre- and post-training work through machine control systems and sensor technology, and compile directed feedback to guide the operator towards more balanced working methods and techniques.

SMALLWOOD – Small diameter wood utilization with innovative stand management for multifunctional forests and a growing sustainable bio-economy.

Coordinator
Tomas Nordfjell, Swedish University of Agricultural Sciences (SLU)/ Department of Forest Biomaterials and Technology, Sweden
tomas.nordfjell@slu.se

Other partners
ES, FI, SI

Project objective:
The overall objective is to develop and evaluate new technologies and business and operational models that can support a sustainable management and utilization of different types of small diameter wood, and further boost new SMEs and work opportunities in particular in rural areas.

Funded projects.
Session 3. Innovative harvesting techniques

GreenLane – Fast-tracking value and resilience for industrial wood supply.

Coordinator
Dag Fjeld, Norwegian Institute of Bioeconomy Research (NIBIO), Norway
dag.fjeld@nibio.no

Other partners
AT, SE

Project objective:
The overall goal of the project is to develop a virtual supply chain laboratory environment enabling value-tracking and interactive testing of harvesting and transport responses to challenging climate scenarios. The focus is on implementing weather-driven models for wood quality and availability.

Keynote speakers

Andreja Kutnar

Received her PhD in Wood Science at the University of Ljubljana, Slovenia, in 2008. In 2017, she was nominated as an affiliated faculty member in the Department of Wood Science and Engineering, Oregon State University, USA and was a DAAD Guest Professor at Georg-August-Universität Göttingen, Germany in 2018. From 2014 until 2020 she was an Executive Board members of InnovaWood and as July 2020 she is a President of the Society of Wood Science and Technology. She is also a member of Young Academy of Europe.

Tobias Stern

Dr. Stern holds a master degree in Forestry and a PhD from University of Natural Resources and Life Science, Vienna (BOKU). He worked 10 years in the field of market analysis and innovation research.

From 2014 to 2016 he coordinated the WoodWisdom project "What We Wood Belief" (W3B). Since 2016 he is Professor at the Institute of Systems Sciences, Innovation and Sustainability Research at the University of Graz.

Maa- ja metsätalousministeriö

GOBIERNO
DE ESPAÑA

MINISTERIO
DE CIENCIA
E INNOVACIÓN

AGENCIA
ESTATAL DE
INVESTIGACIÓN

ForestValue

This project has received funding from the
European Union's Horizon 2020 research
and innovation programme under grant
agreement No 773324

Designed by:

FECYT

FUNDACIÓN ESPAÑOLA
PARA LA CIENCIA
Y LA TECNOLOGÍA