

RENEWABLE
MATERIALS AND
HEALTHY
ENVIRONMENTS
RESEARCH AND
INNOVATION
CENTRE OF
EXCELLENCE

(InnoRenew CoE)



Funded by the Horizon 2020 Framework
Programme of the European Union;
H2020 Widespread-1-2014 - Teaming

About the project Renewable Materials and Healthy Environments Research and Innovation Centre of Excellence (InnoRenew CoE)



In 2014, the project Renewable Materials and Healthy Environments Research and Innovation Centre of Excellence (InnoRenew CoE) was proposed within the Horizon 2020-WIDESPREAD-2014 call under the topic WIDESPREAD-1-2014: Teaming.

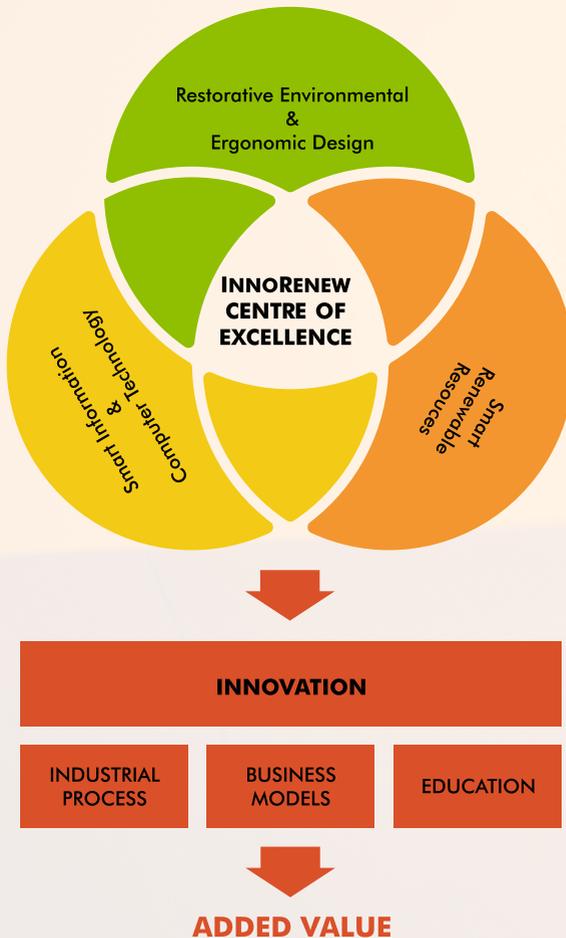
The specific challenge of this call was to create or upgrade centres of excellence in European countries and regions that are lagging behind in terms of research and innovation performance and could, due to existence of such centres, reclaim their competitive position in the global value chains. Teaming also addressed this challenge to be built on partnerships between leading scientific institutions and low performing partners that display the willingness to engage together on this purpose and emphasised that the project's scheme should fit within the relevant Smart Specialisation Strategy of the participating low performing member state or region. The proposed vision of the InnoRenew CoE project is to establish a centre of excellence in Slovenia, which currently encounters many difficulties within its forest sector and wood-product value chain even though it is the third most forested European country with most extensive forest coverage. In January 2015, the InnoRenew CoE project was chosen among 169 submitted project proposals to the Horizon 2020 WIDESPREAD-1-2014: Teaming call.

Objectives of the InnoRenew CoE project:

- to establish improved, innovative and efficient use of renewable materials for building products and materials, as well as development of new techniques for cascade use, reuse, and recycling of wood products, residues and waste
- to create, improve, and communicate innovative products, processes, services, business models and systems for smart, sustainable and modern built environments for all generations, thus facilitating Slovenia's transformation into a society focused on sustainability, cyclical economy, human well-being, and use of its renewable resources and assets
- to advance scientific excellence in Slovenia in wide range of fields related to renewable materials such as wood materials, construction, biology, polymers, social sciences, cultural heritage, computing, mathematics, psychology, kinesiology, modelling, simulation, design, logistics, deployment, risk assessment, decision making, and management



Concept diagram of the InnoRenew Centre of Excellence



Type:

Horizon 2020
WIDESPREAD-1-
2014:Teaming call

Duration:

1 year (1st June 2015
- 31st May 2016) -
first implementation
stage

Coordinator:

Assoc. Prof. Dr.
Andreja Kutnar,
acting dean of
the Faculty of the
Built Environment
and the head of
the Department of
Technology at Andrej
Marušič Institute,
University of
Primorska

Focus:

preparation of the
business plan of
the future centre of
excellence

Leading partner of the project:

University of Primorska (UP), Slovenia

Advanced partner and mentor institution of the project:

Fraunhofer Institute for Wood Research – Wilhelm-Klauditz-Institute
(Fraunhofer WKI), Germany

Seven complementary Slovenian partners:

EuroCloud Slovenia/Zavod e-Oblak

Institute for the Protection of Cultural Heritage of Slovenia (ZVKDS/IPCHS)

National Institute of Public Health (NIJZ)

Regional Development Agency of the Ljubljana Urban Region (RRA LUR)

Pulp and Paper Institute (ICP)

Slovenian National Building and Civil Engineering Institute (ZAG)

University of Maribor (UM)

Project's Work Packages and LL InnoRenew:

The first stage of the project – the preparation of the business plan – consisted of six work packages (WP) carefully designed to achieve specific objectives in order to carry out the overall project's aim of developing a firm and competent business plan serving for development of an enduring and effective centre of excellence:

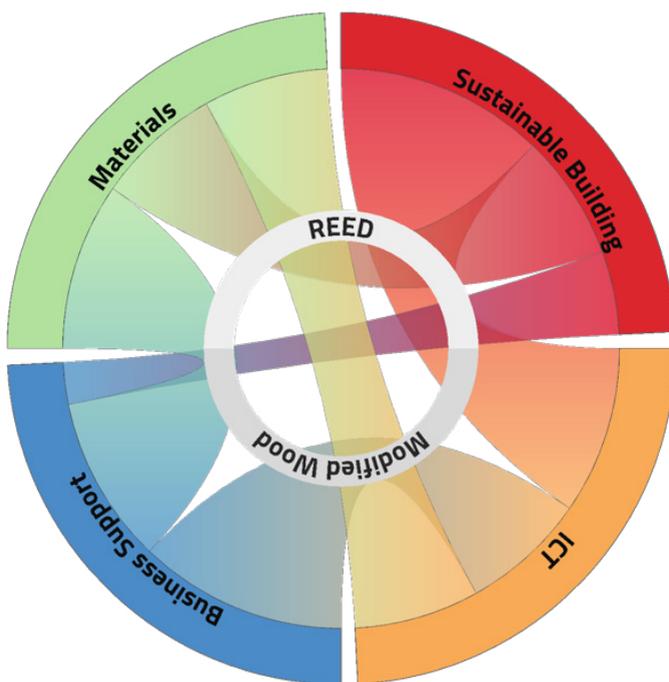
- **WP1 Management and coordination**
- **WP2 Market analysis**
- **WP3 Scientific development and innovation excellence**
- **WP4 Business model / Operational Plan**
- **WP5 Financial Performance**
- **WP6 Dissemination**

The consortium also set up the **Innovative Renewable Material Uses living laboratory (LL InnoRenew)**, which is established as an aid for the preparation of the business plan of the CoE, and furthermore to contribute to the promotion of Slovenia's scientific excellence within many diverse scientific and professional fields.

Envisaged centre of excellence InnoRenew CoE

The concept of the future centre of excellence grew progressively through the first implementation stage of the project. The InnoRenew CoE's RDI activities were determined by consortium after extensive review of other research centre offerings, through consideration by the experts within the project and its living laboratory, and market research which included an industry survey and focus groups. Ultimately, four consortium partners (UP, Fraunhofer WKI, ZVKDS/IPCHS, and ZAG) decided to found the non-profit institute InnoRenew CoE.

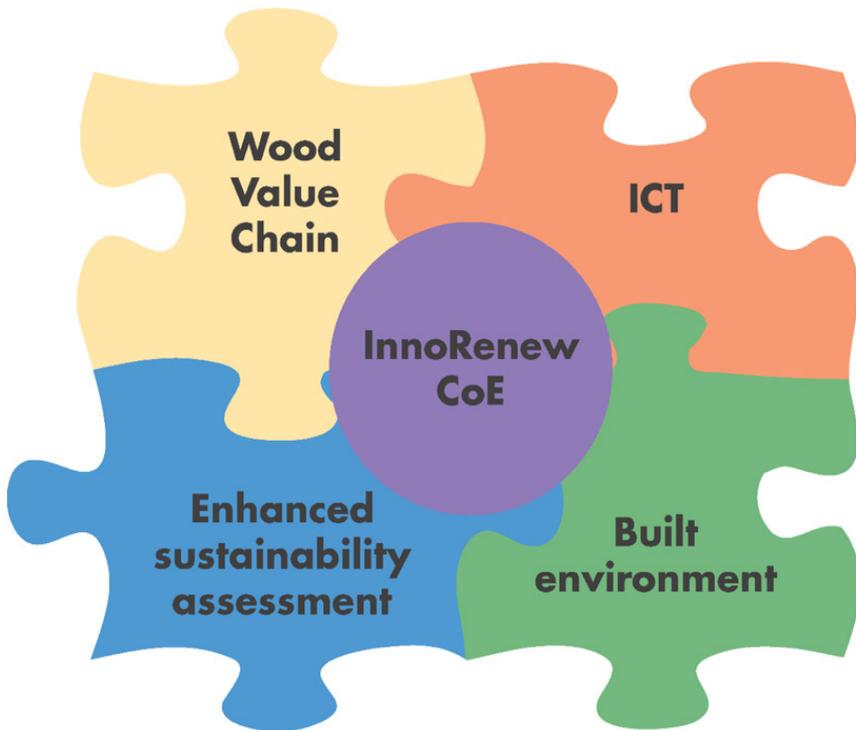
Two main CoE's thematic areas of research were chosen which will set the InnoRenew CoE apart from other centres: **Restorative Environmental and Ergonomic Design (REED)** and **Wood Modification**. Additionally, four key RDI activities most related to the two key distinguishing technologies were selected: **materials, business support, ICT, and sustainable buildings**.



Chord diagram of relationships between research areas. All links are bilateral, and the width of each chord represents the relative impact of the relationship between the connected research areas.

Both groups of key themes and activities are linked through three core research themes (CRTs) which will support and continually shape the former two and will take place in conjunction and alongside all other RDI activities – **health, design and cultural heritage, and policy and government liaising.**

The foreseen basic RDI infrastructural needs were divided between many laboratories and workshops, such as Workshop and machine shop, Human health lab, Composites manufacturing lab, Chemical engineering lab, Physical testing lab, Characterisation lab, Structures lab, Acoustic properties lab, and High-powered computing lab, which will employ global experts, researchers and technicians, as well as grant writers, science communicators, business experts, and statisticians and data analysts. Combining this excellence in the staff's knowledge and competences with the state of the art research equipment into well-designed structure of work will make the CoE scientifically excellent, innovative, and internationalised, sustainably creating value for science, industry, and society.







University of Maribor



RRA LUR
regionalna razvojna agencija
ljubljske urbane regije



Zavod za varstvo
kulturne dediščine Slovenije
*Institute for the Protection of
Cultural Heritage of Slovenia*



NIJZ
Nacionalni inštitut
za **javno zdravje**



Inštitut za celulozo in papir
Pulp and paper Institute

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**ZAVOD ZA
GRADBENIŠTVO
SLOVENIJE**

SLOVENIAN
NATIONAL BUILDING
AND CIVIL ENGINEERING
INSTITUTE

The University of Primorska (UP)

As the project coordinator and a partner of InnoRenew, UP will lead, coordinate, collaborate, and contribute their knowledge of wood science and sustainability. UP will also provide expertise in the fields of ergonomics focused on improving human well-being in the built environment, ICT, mathematics, and business management.

<http://innorenew.eu/en/partners/coordinator-university-of-primorska>

Fraunhofer-Institut für Holzforschung - Wilhelm-Klauditz-Institut (WKI)

Fraunhofer-Institut für Holzforschung - Wilhelm-Klauditz-Institut is an institution of global research and innovation excellence in the field of renewable materials. As the advanced partner of the project and an institution of research and innovation excellence in the field of renewable materials, WKI will provide support and guidance to the InnoRenew CoE throughout the design and implementation of the new centre of excellence.

<http://innorenew.eu/en/partners/fraunhofer>

EuroCloud Slovenia

EuroCloud Slovenia's mission is to contribute to digitising European Industry through European Cloud Initiative as being member of EuroCloud Europe association (<https://www.eurocloud.org/about.html>) and help building a competitive data and knowledge economy in Europe. EuroCloud Slovenia will contribute mainly through the expertise on bringing European Open Science Cloud into operation within traditional industries of CoE core competences and bringing Digital Infrastructures also to other EU and global researchers from within fields related fields of renewable materials, including wood and material science, health, cultural heritage and in the end digital business enablement.

<http://innorenew.eu/en/partners/EuroCloud>

Institute for the protection of Cultural Heritage of Slovenia (ZVKDS/IPCHS)

The IPCHS' mission is to perform public service consisting of administrative and expert tasks in the field of protection of immovable, movable and intangible cultural heritage, including promotion, presentation, and raising awareness of its values. IPCHS' contribution to the CoE is their knowledge about cultural heritage material characterisation and technology, and overall conservation-restoration activities striving for the development of built environment beyond classical sustainability.

<http://innorenew.eu/en/partners/institute-protection>

The National Institute of Public Health (NIJZ)

NIJZ mission is to contribute to better health of population. NIJZ's contribution to the CoE is, providing research in the field of health, increasing the level of health by raising the awareness of population and carrying out other preventive measures.

<http://innorenew.eu/en/partners/health>

Pulp and Paper Institute of Slovenia (ICP)

ICP's contribution to the CoE is their knowledge in fibers, materials and processes in papermaking, development of new high added value paper and board products, and optimization of industrial processes to be more environmentally friendly. Pulp and Paper Institute is creating knowledge, services and strategies to increase competitiveness in paper and partner industries. It is a research and development centre which supports industry partners with a complete portfolio of services and strategic international and domestic network.

<http://innorenew.eu/en/partners/icp>

Regional Development Agency of the Ljubljana Urban Region (RRA LUR)

RRA LUR's mission is to detect potentials in the Central Slovene region, as well as to plan and co-create its sustainable development. RRA LUR supports sustainable-based economic, social and cultural activities, initiates interdisciplinary networks and collaborates in cross-sectorial value chains in terms of added value and establishing new work places. RRA LUR's contribution to the CoE is their knowledge of maximising market potential, functionality and user experience of new products and services, particularly with the wood processing industry.

<http://innorenew.eu/en/partners/rralur>

The Slovenian National Building and Civil Engineering Institute (ZAG)

ZAG as public and non-profit research organization in the field of building and civil engineering performs activities regarding fundamental and applied research, development of new methods of testing and measurement, certification of construction products, training of research and technical staff in particular technical fields, and participation in the preparation of technical codes and standards. ZAG's contribution to the CoE is their knowledge of building and civil engineering, and infrastructure for basic and applied research on raw and secondary materials, energy efficiency and life cycle analyses, structures and earthquake engineering as well energy efficiency, building physics, and fire related characteristics. <http://innorenew.eu/en/partners/zag>

The University of Maribor (UM)

University of Maribor (Institute for Engineering Materials and Design) develops and possesses expertise in the field of engineered polymer materials, mostly in fibrous and film form, for wide-ranging applications, encompassing biomedical sector and technical applications. UM will contribute knowledge in surface structuring and functionalization of polymer matrices, with emphasis on polysaccharide-derived materials.

<http://innorenew.eu/en/partners/university-of-Maribor>

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