WOOD RISE 2022

RENOVATION, RESTORATION & REHABILITATION
OF URBAN BUILDINGS USING WOOD BASED TECHNOLOGIES

PORTOROŽ | SLOVENIA
6 – 9 SEPTEMBER 2022

CONFERENCE PROGRAMME

Version: 01. 08. 2022


NATUR
VÅRDS
VERKET

INTRODUCTION

WELCOME TO WOODRISE 2022!

From 6th to 9th September 2022, Slovenia is hosting the most renowned globally hosted event in the field of taller wooden buildings that draws over 1000 participants from all the fields of the built environment as well as policymakers and standardisation entities. The 2022 event is also taking place under the honorary patronage of the President of the Republic of Slovenia Borut Pahor.

The conference reflects all that the European Green Deal and the New European Bauhaus stand for. It showcases the best global practices in timber engineering and architecture with the aim to promote sustainable transformation and development of the construction sector. In 2022 the event will furthermore intensively focus on the topic of renovation, rehabilitation, and restoration of existing urban buildings with the use of wood-based technologies.

The conference is being held on the crossroad of three different cultures, where the forests of the east meet the construction technologies of the west. We invite you to join hundreds of fellow innovative timber construction designers on the Adriatic coast in beautiful Portorož, Slovenia, for four days of knowledge, tours, and Mediterranean hospitality.

Yours sincerely,

IZTOK ŠUŠTERŠIČ
Chairman
of the congress

ANDREJA KUTNAR
Director
of the InnoRenew CoE
organiser

KLAVDIJA KUTNAR
Rector
of the University of Primorska
organiser

STRUCTURE OF THE EVENT

The conference is divided into four main parts: Keynote lectures and Round table, R&D Project workshops, Technical sessions and Excursions. Over the course of the first two days, the plenary part of the event will take place, followed by two days featuring one- or two-day tours. The two-day tours finish at airports in Venice, Munich, and Vienna, so guest can fly home from major European flight hubs. A more detailed event description is available in the following chapters, for easier orientation the reader should also pay attention to the colour coding in the agenda. Overall, the conference is intertwined with social and networking events, like cocktail evenings, gala dinner, clustering session and several coffee and lunch breaks that will allow the guests to not only gain new knowledge, but also widen their international networks. During the first two days of the event an exhibition of sponsoring companies is also taking place at the venue from morning till evening.

MONDAY, 5. 9. 2022	
19:00 – 21:00	COCKTAIL ICEBREAKER

TUESDAY, 6. 9. 2022	
09:00 – 09:30	COFFEE
09:30 – 11:30	R&D PROJECT WORKSHOPS
11:30 – 13:00	LUNCH BREAK
13:00 – 13:30	OPENING
13:30 – 14:50	KEYNOTES
14:50 – 15:20	COFFEE BREAK
15:20 – 16:40	KEYNOTES
16:40 – 17:10	COFFEE BREAK
17:10 – 18:10	ROUND TABLE
18:10 – 19:20	COFFEE BREAK
19:20 – 22:00	GALA DINNER

WOODRISE 2022
PORTOROŽ | SLOVENIA
6-7 SEPTEMBER, 2022

AGENDA

WEDNESDAY, 7. 9. 2022	
09:00 – 09:30	COFFEE
09:30 – 09:40	WELCOME
09:40 – 11:00	KEYNOTES
11:00 – 11:30	COFFEE BREAK
11:30 – 12:50	KEYNOTES
12:50 – 14:20	LUNCH BREAK
14:20 – 15:40	KEYNOTES
15:40 – 16:10	COFFEE BREAK
16:10 – 16:50	KEYNOTES
16:50 – 17:00	CLOSING
17:00 – 17:30	COFFEE BREAK
17:30 – 18:30	TECHNICAL SESSIONS
18:30 – 20:00	CLUSTERING EVENT

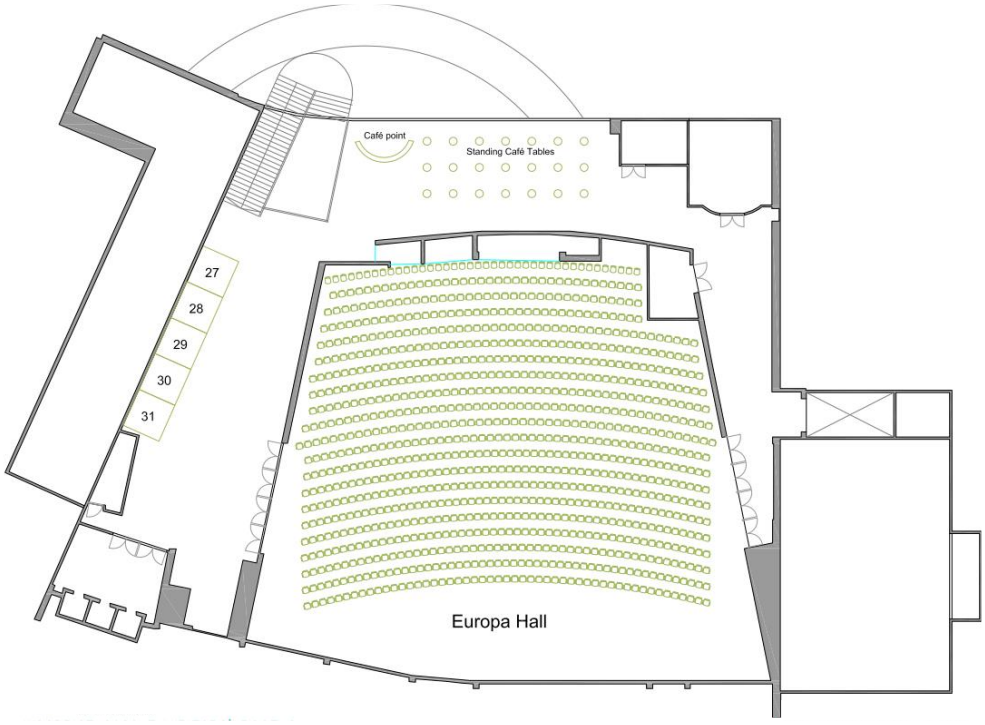
THURSDAY, 8. 9. 2022	
ALL DAY	1-DAY TOURS, 2-DAY TOURS

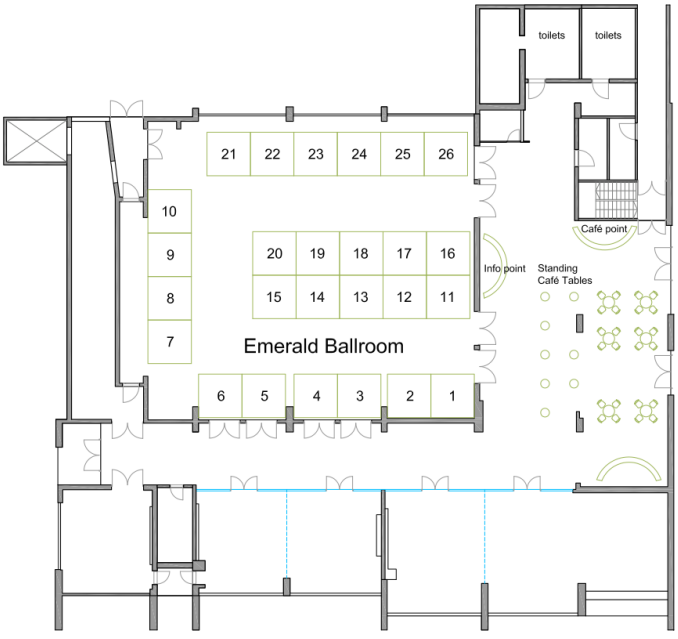
FRIDAY, 9. 9. 2022	
ALL DAY	2-DAY TOURS

MAIN VENUE

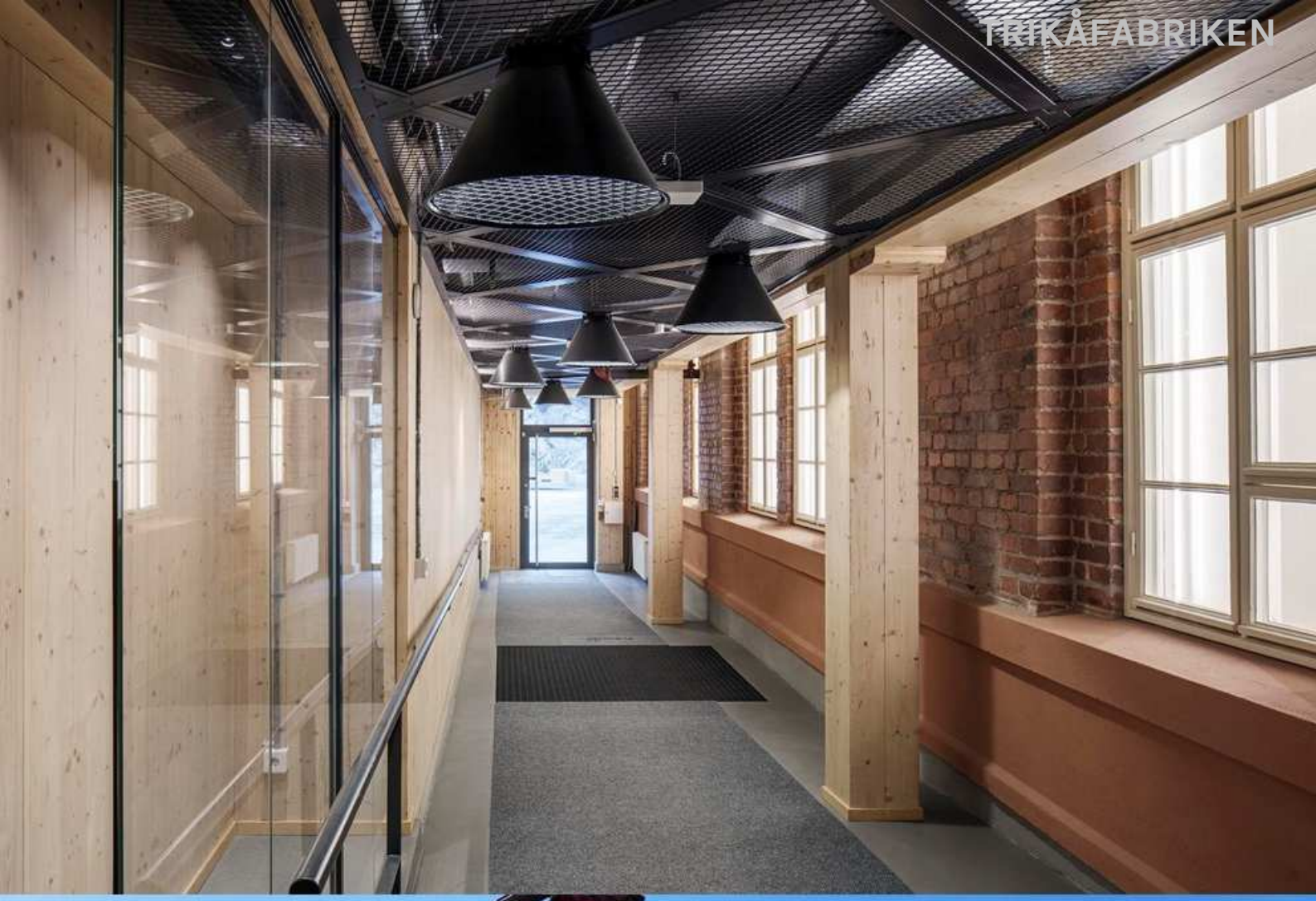
CONGRESS CENTRE BERNARDIN

The welcome, keynotes, round table and closing will be taking part in the main Europa Hall on the first floor. The sponsoring company exhibition will be permanently set in the Emerald Ballroom on the ground floor, however a part of the exhibition will also be on the first floor. The R&D Project workshops and Technical sessions will be held in parallel sessions in several smaller lecture halls around the Emerald Ballroom and in the Europa Hall.





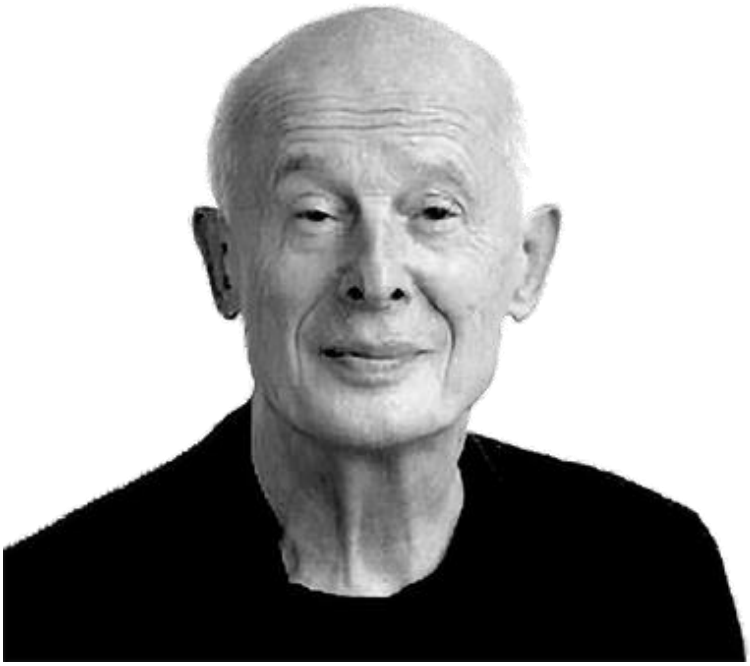
TRIKÅFABRIKEN



TES FACADE

INSPIRATIONAL KEYNOTES

THE GREAT TRANSFORMATION OF THE BUILT ENVIRONMENT



HANS JOACHIM SCHELLNHUBER

POTSDAM INSTITUTE FOR CLIMATE IMPACT RESEARCH

"Mastermind" of the New European Bauhaus

Hans Joachim Schellnhuber is Director Emeritus of the Potsdam Institute for Climate Impact Research (PIK), which he founded in 1992. He is a Distinguished Visiting Professor at Tsinghua University (China) and member of numerous learned societies such as the Pontifical Academy of Sciences, the German National Academy Leopoldina, and the US National Academy of Sciences. Since 2019, Schellnhuber has been working intensively on the transformation of the built environment and the potential of wooden buildings as carbon sinks. He is co-founder of Bauhaus der Erde and a member of the New European Bauhaus High-level roundtable.

MATERIALS FROM RENEWABLE RESOURCES – GREAT FUTURE OR JUST A MODERN TREND? ARE THEY REALLY SUSTAINABLE?

BOHUMIL KASAL

FRANUHOFER WKI

A leading research institution in areas of renewable resources

Bohumil Kasal is the director of the Fraunhofer WKI, Wilhelm Klauditz Institute of Wood Research in Braunschweig Germany and a Professor of Organic and Wood-based Construction Materials at TU Braunschweig. Prior to his appointment, he held the Bernard and Henrietta Hankin Chair of Residential Building Construction at the Pennsylvania State University where he was also appointed a Professor of Architectural Engineering and a Professor of Civil and Environmental Engineering, and directed the Pennsylvania Housing Research Center. Kasal has held honorary appointments at the University of Bristol, UK and University of New Brunswick, Canada, adjunct Professorship at the North Carolina State University, USA and he is a Professor at the Czech Technical University in Prague and Professor at the University of Primorska, Slovenia. He is a Fellow of the IAWS, elected member of the ASCE, licensed engineer and a Fulbright Scholar.

SHOWCASE KEYNOTES

55 SOUTHBANK BOULEVARD MELBOURNE

JULIAN ANDERSON

BATES SMART

With significant experience in leading large architectural and consultant teams, Julian works with clients from the earliest stages of a project through to completion. He has extensive experience across commercial, residential, educational, infrastructure and urban design projects. Using innovation as a tool for success, Julian works to turn complex briefs into built forms, bringing clients' ideas and aspirations to life with user-focused architecture that is humanistic, contextually responsive, sustainable and flexible.

A timber skyscraper on a concrete midrise

The adapted building at 55 Southbank, located in inner Melbourne, is the first cross-laminated timber (CLT) extension project in Australia. Approximately 1,730 tonnes of CLT were used to add 10 levels to an existing steel and concrete commercial building, sequestering nearly 2,800 tonnes of CO2 from the atmosphere and introducing a mix of uses to the evolving Southbank neighbourhood. The potential for urban renewal of this scale was anticipated in 55 Southbank's original design. The building, as completed in 1989, was engineered and constructed to tolerate a 6-storey addition. However, the renovation built from CLT added 10 more levels to the original 6 storey commercial building.

HOTEL MONDEGO A WOODEN BUILDING IN A MASONRY SHELL

LUÍS JORGE

TISEM

Luís Jorge is a structural engineer whose primary practice focuses on CLT and timber structures. He is the managing partner for the TISEM design office, where he is responsible for coordinating timber building design. He is also a Professor in the Civil Engineering Department at the Polytechnical Institute of Castelo Branco. His technical and scientific interests include timber structures and buildings and sustainability in construction.

A new timber core in an old masonry envelope

Hotel Mondego is a project developed from the renovation and amplification of an old three-story building dated to the beginning of the nineteenth century. Hotel Mondego is located in downtown Coimbra, Portugal, and has an art deco façade. The intervention consisted of complete interior demolition, preserving only the exterior masonry walls. The architectural design conceived 29 rooms, with a vertical building extension of one floor (for a total of four floors). The structure consists of a CLT solution for all the walls, floors and roof, which resulted in 280 cubic meters of wood used for the project.

SHOWCASE KEYNOTES

REFURBISHMENT AND REDENSIFICATION WOODEN SOLUTIONS

STEFAN WINTER

TUM

Stefan Winter is a professor of timber structures and building construction at the Technical University of Munich and head of department of Civil and Environmental engineering. He is also a Co-owner of a Civil Engineering consulting Company (bauart Konstruktions GmbH&Co KG). He is a member of a number of National and European Standardisation Committees, Chairman of CEN TC 250/SC5 (Eurocode 5 – Timber structures) and member of CEN TC 124, chairman of DIN NABau advisory board. He is a Check engineer in Civil Engineering for Timber Structures appointed by the Government of Bavaria and public appointed and sworn Expert of Timber Structures.

A contemporary timber-based refurbishment

TUM façade solutions combined with additional structures (e.g., vertical extensions): This talk will look into specific rules for fire safety when adding stories to existing buildings, like those agreed to in the City of Frankfurt. These additions often lead to a building's change of allocation to regulation-based classes and a formal increase in fire safety requirements.

15 YEARS OF WOODEN RENOVATION EXPERIENCES IN FRANCE

FRÉDÉRIC STAAT

FCBA TECHNOLOGICAL INSTITUTE

Frédéric Staat is a chemical engineer from Compiègne Technology University (1985) and holder of a Specialized Diploma in Business Strategies, CNAM Paris (1991). As an innovation expert, he has 35-years of leadership experience in B2B services in the cosmetics, agro and wood industries. Since 2009, he has been the FCBA Timber Industry and Construction Department Director and is currently the WoodRise Alliance Coordinator.

Technical studies, numeric tools & building sites

Since 2009, numerous studies with the aim of developing the use of wood in construction supported by French authorities and professionals have been conducted in the frame of the so-called Wood Plans, with FCBA as the main technological operator. Some of them were devoted to renovation with wood such as Rehabilitation Guide for Individual House or Developing and Renovating with Wood Project with results integrated in numeric tools for designers or engineers and building owners. As a result, wood market share in renovation, extension and elevation has significantly grown in the last 15 years as shown in numerous and various illustrated implementations.

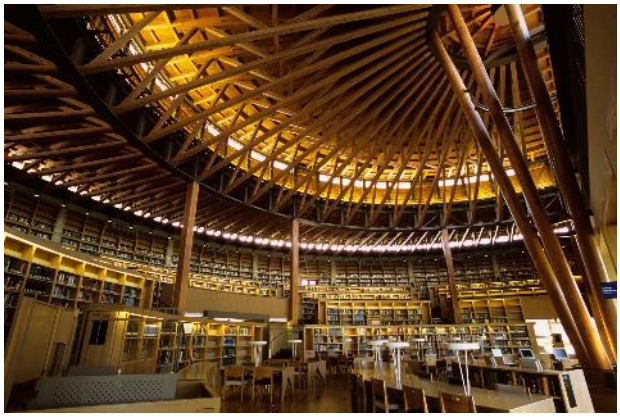
SHOWCASE KEYNOTES

TRADITIONAL JAPANESE CARPENTRY MEETS NEW TECHNOLOGY – CASE STUDIES FROM PAST TO PRESENT

NORIAKI YAMADA

YAMADA NORIAKI STRUCTURAL DESIGN OFFICE (YSD)

After graduating from Kyoto University in 1997, he worked at Masuda Structural Design Office before opening his own structural design office. He pursues the possibilities of wooden structural design with timbers from various regions, and old and new wood construction techniques. Representative works include OITA Prefecture Martial Arts Sports Center, KAMIKATSU ZERO WASTE CENTER, Akita International University Nakajima Library, and Awakura Hall, etc.



Learning from the old masters

Compared with other structures, wooden structures in Japan are diverse and have strong historical and regional characteristics, and the combination of the materials and techniques used to build the structure depends largely on the architect's philosophy and background. The lecture will discuss the possibilities of wooden structural design by introducing new construction and renovation projects that have been undertaken with consideration for the current environmental and social issues such as the decline of the forestry and lumber industries, a decrease in the number of craftsmen, the evolution of fabrication, and large diameter standing timber.

CONSERVATION OF WOODEN BUILT HERITAGE: THE CONCEPT OF MINIMAL INTERVENTION

MIKEL LANDA

ICOMOS

For 25 years Mikel has been devoting part of his activity to teaching in the University of Navarra and other national and international universities. He has developed his professional activity in his own office since 1991. In 2000 he co-created the company Landa-Ochandiano arquitectos, that works mainly in heritage conservation. Surgery interventions in wooden heritage are his specialty. Today, Mikel is the President of the Advisory Committee of ICOMOS and has recently been President of the International Wood Committee and Vice-President of the Spanish National Committee.

Less is more …

Wood has been a widely used material for creating architecture in history. While the properties of wood have given the carpenters freedom to create, they condition any intervention in wooden heritage. In this context, the lecture starts with a reflection about the criteria for conservation adapted to wooden heritage. Techniques for intervention in a wooden structure can be based in the work of carpenters along history and in different cultures, and prove structural efficiency, and compatibility. It will end showing some examples of interventions solved with the criteria of minimal intervention adapted to each specific case.

SHOWCASE KEYNOTES

SARA KULTURHUS CENTER – 20 STORIES IN ONLY TIMBER

ROBERT SCHMITZ

WHITE ARKITEKTER AB

Robert Schmitz was the project architect, together with Oskar Norelius, for the Sara kulturhus. He is an experienced Architect with a demonstrated history of working in the architecture & planning industry. He is skilled in Sustainable Design, Urban Design, Urban Planning, Architectural Design, and Architecture. Strong entrepreneurship professional graduated from Chalmers University of Technology.

A 20-stoy timber beauty

The Sara kulturhus, an almost 80 meters high 20-story wooden building. It houses six theatre stages, the city library, two art galleries, a conference center, restaurants, and a hotel with 205 rooms in the Swedish city of Skellefteå. Sara kulturhus has been constructed from 12,200 cubic meters of wood from trees harvested from within a 60km radius of Skellefteå. The amount of carbon dioxide stored is equal to approximately 13,500 fl ights from Stockholm to New York. All of the trees used in Sara kulturhus have been replaced in the forest by young trees. In 2022 the in Sara kulturhus won the International Award for Wood Architecture, was an honouree in Global Vision Awards and won the bronze in the International Design Award for 2021.

TRIKÅFABRIKEN PROJECT

MATTHEW EASTWOOD

TENGBOM

From a Masters Degree in Architecture from the University of Oregon with a focus on sustainable design, to 13 years of practice in California with sustainable architecture in light wood frame construction, to 8 years in Sweden with large-scale efficient mass timber construction, Matthew has had a firm grip on wood construction, always with a focus on the most environmentally efficient outcome. Looking for ways to improve, the focus in recent years has turned to our existing real estate stock and how we can modernise and densify our cities. One solution to climate-smart (re)development is already in front of our eyes.

Even an old factory looks amazing with timber

The building is located in Stockholm's old industrial neighbourhood Hammarby Sjöstad, the 1920s textile factory Trikåfabriken is the oldest preserved industrial property in the area. The original 1928 brick building now serves as the ground floor for the new edifice. Its subsequent add-ons (some also made during the 40's, 60's and the 80's) have now been transformed into a modern and sustainable, 25,000 sqm office complex. With its five-story wooden frame extension, clad in Corten, it exemplifies how contemporary architecture can link the past to the present while adding a new layer to the city. The 45-degree-angle roof has been treated as a fifth facade and is an essential element of the experience of the building from the street and from a distance.

SHOWCASE KEYNOTES

80 M STREET SE

JASON WRIGHT

HICKOK COLE ARCHITECTS

Jason Wright has over 15 years experience designing, renovating and constructing commercial and institutional buildings. His specialty is focusing on detailing and how buildings are assembled to reinforce the design concept. When not working on project design, Jason participates in the new code development process for The District of Columbia and is a member of DCBIA and AIA.

The biggest vertical extension in North America

The 100,000 ft2 addition, designed by Hickok Cole and Arup, added two full floors to the existing 7-story concrete building, as well as a penthouse level with additional office and amenity spaces, including a rooftop terrace. To gain approval for 80 M's exposed mass timber overbuild an integrated team of mass timber experts worked closely with the D.C. code authority to demonstrate that the proposed solutions fulfilled current fire and life safety code requirements and aligned with the standards of the 2021 IBC, which will allow mass timber buildings of up to 12 storeys. The project is now the first high-rise overbuild timber structure in North America.

A DOZEN YEARS OF INNOVATIONS USING TIMBER

BRUNO DUJIČ

CBD D.O.O.

Bruno Dujic worked at the Faculty of Civil Engineering and Geodesy at University of Ljubljana as a teaching assistant and senior researcher in the field of building materials for 14 years. He was the principal investigator on a number of international research projects and different industrial research projects for timber construction companies. Since October 2009 he is employed at the research and design Company CBD d.o.o., the most renowned engineering office for timber structures in Slovenia. During his career he received several national awards for innovations in timber construction engineering, including the prestigious Puh award.

No limit in timber innovations for reconstructions

The lecture will cover a decade of innovations using timber for the purpose of renovating the existing building stock in Slovenia, especially focused on solving the seismic-related issues. A wide variety of cases, mostly in south-eastern Europe will showcase everything from new building cores, vertical upgrading, using light-weight solutions for construction in tight spaces as well as using timber for seismically strengthening existing structures.

WIND SERVICEABILITY DESIGN OF TALLER TIMBER BUILDINGS

Presentation of a large in-situ testing campaign of tall timber buildings, their dynamic response and finite element modelling & updating. Dissemination of new design guidelines.

Project: Dynamic Response of Tall Timber Buildings under Service Load (DynaTTB)

The Dynamic Response of Tall Timber Buildings under Service Load (Dyna-TTB) project is supported under the umbrella of ERA-NET Cofund ForestValue. Its aim is to quantify the structural damping in as-built tall timber buildings (TTB), identify and quantify the effects of connections and non-structural elements on the stiffness, damping and wind-induced dynamic response of TTBs, develop a bottom-up numerical finite element model for estimating the dynamic response of multi-storey timber buildings, validate the predicted response with in-situ measurements on TTBs and disseminate findings via a TTB Design Guideline for design practitioners.

Organisers:

IZTOK ŠUŠTERŠIČ

INNORENEW COE

IGOR GAVRIĆ

INNORENEW COE

MARIE JOHANSSON

RISE

STATE OF THE ART IN TIMBER SEISMIC DESIGN

Presentation of the most relevant timber seismic design endeavours in USA, Canada and Europe, including the ongoing biggest full scale shaking table test in history.

Projects: NHERI Tallwood, Seismic Performance of Mass Timber Systems



The first talk will present the NHERI Tallwood project, an NSF-funded research effort to develop and validate a resilient-based seismic design methodology for tall wood buildings. The project started in September 2016 and will last through 2022. This presentation will begin with a project overview including past testing, analysis, and design of a full-scale 10-story building with post-tensioned rocking wall lateral systems to serve as the seismic force resisting systems and provide re-centering capabilities. The test building will be subject to multiple earthquakes including more than six earthquakes having mean recurrence intervals of 2500 years.

The second talk will introduce the audience to the latest research related to mass timber seismic force resisting systems (SFRSs) at FPInnovations and Canada in general. The efforts in code implementation of various mass timber systems in Canada will also be discussed. Details of a new Canadian Wood Construction Research Network will also be presented.

The third talk will present the two aspects that mainly influence the mechanical behaviour of CLT shear walls: connections and openings. The results of experimental projects recently conducted by CNR-IBE timber research group will be presented and discussed, namely:
1.biaxial connectors; 2. shear-key connectors and 3. mechanical behaviour of CLT shear walls with door or window openings.

Organisers:

JOHN W VAN DE LINDT

COLORADO STATE UNI.

MARJAN POPOVSKI

FPINNOVATIONS

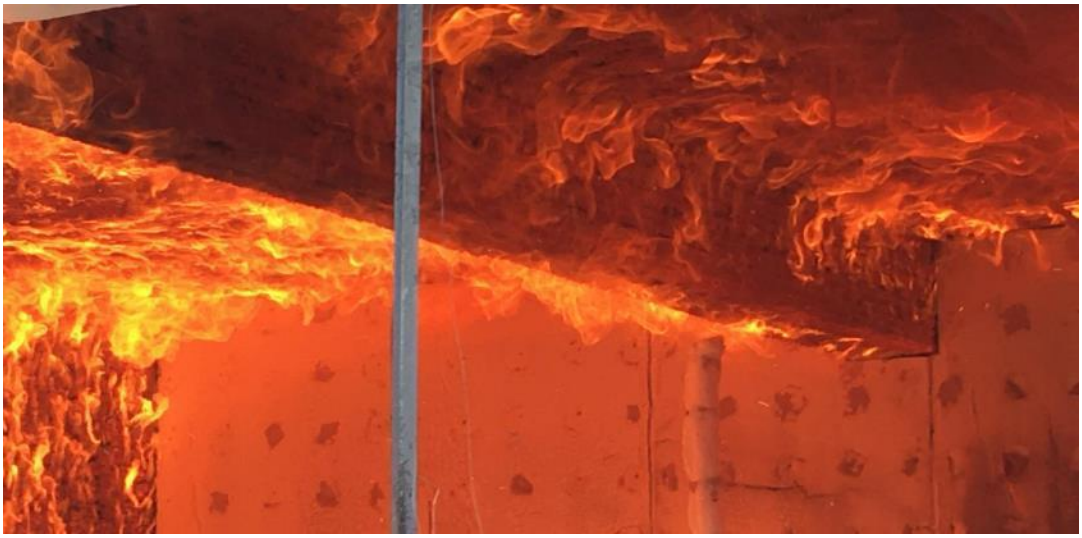
ANDREA POLASTRI

CNR-IBE

VISIBLE MASS TIMBER IN BUILDINGS AND FIRE SAFETY CHALLENGES

Presentation of three recent fire safety project dealing with issues of visible timber during fire situations, the challenges it brings and how to overcome them.

Project: Fire safety challenges of tall wood buildings, Glue line integrity in fire, Fire Safe Implementation of visible mass timber in tall buildings.



New mass timber materials such as CLT have significantly increased the possibilities and popularity of timber as a structural material. Among other things, mass timber materials are often cited for their aesthetic qualities, which is confirmed by strong architectural demands for having visible timber surfaces in buildings. The visible mass timber, however, is a combustible material which introduces new fire safety challenges. This workshop will discuss these challenges, which include the possible influence of mass timber on fire development, burnout resistance and façade exposure. Also, less studied aspects such as fire-fighting challenges and structural damage after a fire will be discussed. The workshop will finally discuss recent research that created knowledge to overcome some of these challenges. An interactive part of the workshop is planned, in which the opinion and background from the audience will be asked anonymously and on voluntary basis. Questions in this interactive section will mostly concern opinions regarding suitable performance goals for buildings of different types.

Organisers:

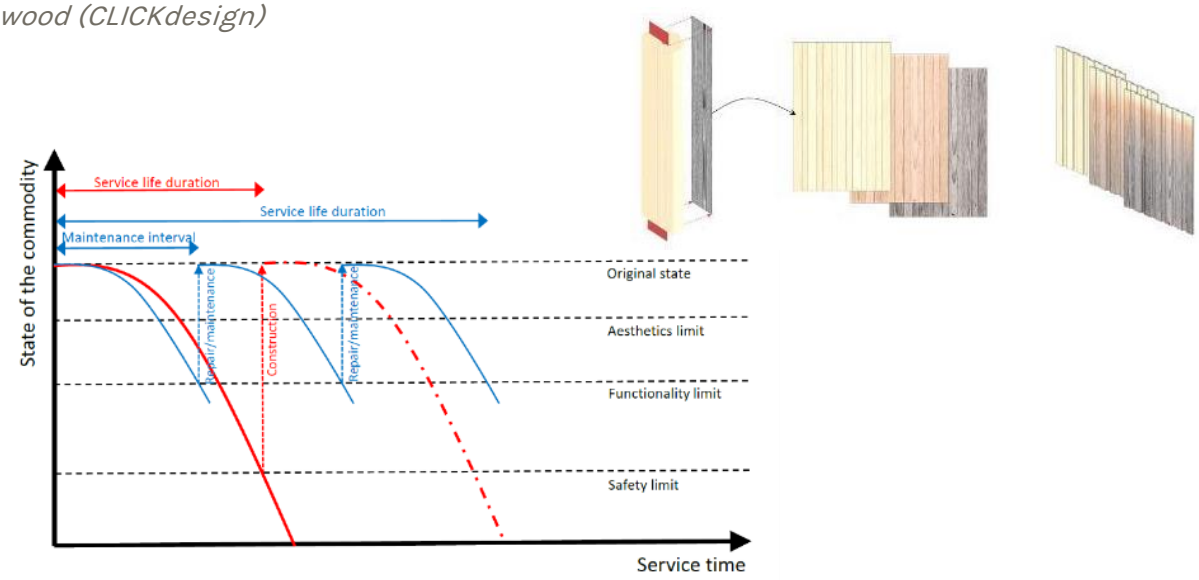
DANIEL BRANDON

RISE

SERVICE LIFE PERFORMANCE SPECIFICATION OF WOOD

Presentation of a performance-based specification protocol to enable a software tool for architects, specifiers and the public to embed service life performance specification for wood.

Project: Delivering fingertip knowledge to enable service life performance specification of wood (CLICKdesign)



CLICKdesign 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. The expected major breakthrough of CLICKdesign is the development of a performance-based specification protocol for wood in construction and enables provision of a software tool for service life performance specification for planners and architects. This major innovation will expand the reach of wood products to new users beyond the small proportion of specifiers who are xylophiles and 'wood aware', increasing market confidence with users for wood as a reliable product and expand possibility for new product innovations. This supports the forest sector's vision to triple market share for wood products and services in construction by 2030. The CLICKdesign tool will facilitate reaching this goal by combining an easy-to-use tool with pedagogic background information.

Organisers:

JAKUB SANDAK

INNORENEW COE

ANNA SANDAK

INNORENEW COE

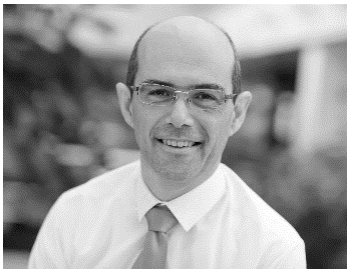
SUSTAINABLE WOOD CONSTRUCTION FOR RURAL DEVELOPMENT AND URBAN TRANSFORMATION

Demonstrating how 'forest to building' construction chains can be optimized to foster both rural development and urban transformation whilst being connected with sustainable forest management in Europe

Project: BASAJAUN

BASAJAUN is a major European innovation action about building with wood. The project partners have developed and tested innovative materials, products, building systems and digital supply chain solutions for manufacturers and end users. The proof points for industrial end users and customers include a full record of the product's technological and sustainability characteristics, productivity, cost efficiency and competitiveness. Two demo buildings are being constructed in Finland and France that integrate various of these innovative materials and solutions. Furthermore, the team prepares the setup of an open innovation platform, which facilitates further dissemination, exploitation, and upscaling of the results together with other companies and regional stakeholders. The project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement no. 862942. The consortium is coordinated by TECNALIA and comprises 29 partners in 12 countries.

Organisers:



JAVIER GARCÍA JACA

TECNALIA

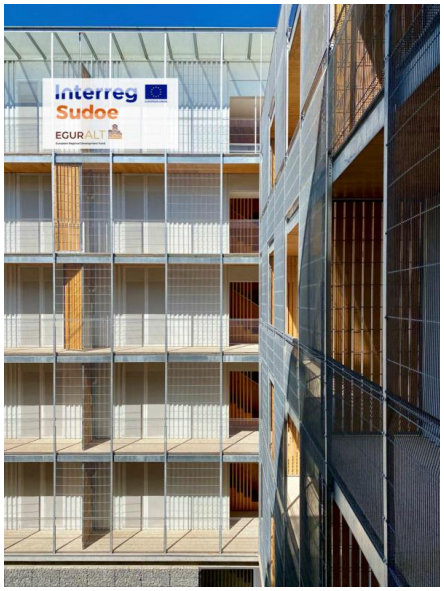
UWE KIES

INNOVAWOOD

INNOVATIVE SOLUTIONS FOR THE PROMOTION OF MID-RISE TIMBER

Application and dissemination of innovative solutions for the promotion of mid-rise timber construction in the Sudoe area

Project: Sudoe Eguralt



The objective of EGURALT is to apply and disseminate innovative solutions for the promotion of mid-rise timber construction in the SUDOE area, thus contributing to the global fight against climate change by promoting the use of natural materials from sustainable and renewable sources. Eight beneficiary entities from six regions of the SUDOE area are working in three fields: the promotion of mid-rise public timber buildings; the development of new technological timber products; and the transformation of the wood sector necessary for the paradigm shift in construction in the SUDOE area. The main contributions are: 1) the exchange of knowledge between technological poles, public authorities and industry through stakeholder tables, study visits...; 2) the application testing of new products and processes and dissemination with industry; and 3) the capitalization of knowledge through training courses for timber advisors in the construction industry.

Organisers:

VANESA BAÑO

CESEFOR

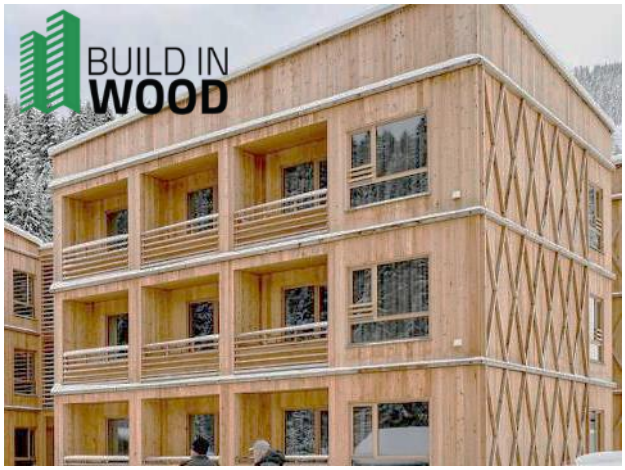
CARLOS MARTINS

SERQ

A SUSTAINABLE INTERNATIONAL WOOD VALUE CHAIN AND NETWORK

Developing a sustainable and innovative wood value chain for the construction of multi-storey wood buildings. Connecting stakeholders into a permanent and self-sustainable network.

Project: BUILTINWOOD



To meet the global and European challenges of reducing the GHG emissions from the construction sector, Build-in-Wood will develop a sustainable and innovative wood value chain for the construction of multi-storey wood buildings. The ambition of the project is to make optimized and cost-effective wood construction methods common practice in the European construction sector. Build-in-Wood will address this challenge by innovative development of materials and components as well as structural systems and façade elements for multi-storey wood buildings fit for both new construction and retrofitting. Developments will be tested, piloted, and fully documented for immediate market uptake. Active engagement of selected cities will strengthen the urban-rural connections. The project aims to lay the foundation for post-project full scale construction projects using developed solutions.

Organisers:

PEDER FYNHOLM

DTI

HYBRID TIMBER STRUCTURAL COMPONENT

Presentation of structural and fire performance for a new type of timber-concrete composite system with adhesive bonding.

Project: Adhesively Bonded Timber-Concrete Composite (TCC) Hybrid System for Sustainable Built Environment

The inherent negative properties of timber such as low tensile strength in direction perpendicular to fibres, high variability of properties, and long-term reliability issues such as durability, largely limit its wider application in civil infrastructure. One effective approach to mitigate these negative properties of timber in structures is the combination of timber with other building materials such as concrete to form hybrid timber structural system with enhanced load bearing capacity, stiffness, dynamic performance, and thermal building performance and fire performance, i.e. timber-concrete composite (TCC). This workshop will introduce a new type of TCC system with adhesive bonding which is suitable for constructing new buildings and retrofitting old buildings. The mechanical and fire performance of adhesively-bonded TCC system will be introduced.

Organisers:

LIBO YAN

FRAUNHOFER WKI

INDOOR AIR & WOODEN BUILDINGS

Presentation of key parameters and main factors influencing indoor air quality in wooden built environments.

Project: IAQIP

Indoor air quality has become a key issue when discussing inhabitant well-being and health in built environments. It addresses both climatic parameters and thermal comfort as well as the chemical composition of indoor air. In view of potential effects of airborne pollutants on human-health, the construction type of a building, used building materials and furnishing, ventilation strategies and user-specific habits are the main influencing parameters. In different national R&D projects, indoor air quality in wooden buildings and its dependency on specific emission sources, chemical processes and controlling factors have been comprehensively examined and mitigation strategies have been developed. This workshop will summarize the main findings and key aspects regarding indoor air quality in wooden built environments by also giving an overview about environmental regulations and discussing challenges of new construction types (taller wooden buildings, tiny houses).

Organisers:

ALEXANDRA SCHIEWECK

FRAUNHOFER WKI

ACOUSTICS

Delphine Bard Hagberg

Laboratory measurements on high acoustic performance floor structure solutions of wooden floor structures

Heinz Ferk

Renovation - Improvement of sound insulation of wooden ceilings in historical residential buildings

Jean-Luc Kouyoumji, Catherine Guigou-Carter, Nicolas Balanant

Maquette Acoustique AdivBois : the in-situ flanking transmissions measurements facility for high-rise wooden buildings

Mohamad Bader Eddin

Acoustic modelling of airborne sound insulation of wooden façade systems using artificial neural networks

DIGITALISATION

Franco Piva

Digital model and DfMA: the new value engineering tools to lower the cost and the risk

Hana Svatoš-Ražnjević, Luis Orozco, Anna Krtschil, Gregor Neubauer

Towards Architectural Design Freedom in Multi-Storey Timber Buildings: Applications of a Novel, Adaptive Building System

Michael Marzy

The Magic of BIM in Wood Construction

Benjamin Kromoser, Sara Reichenbach, Raphaela Hellmayr, Roman Myna, Rupert Wimmer

Additive manufacturing of fully recyclable walls made of a renewable secondary-resource composite

FIRE

Andrea Lucherini, Ulises Rojas-Alva, Friderik Knez, Grunde Jomaas

Towards a sustainable built environment based on fire-safe design with timber and wooden products

Daniel Brandon

Factory-bonded gypsum on CLT – A quest to improve quality & efficiency

Valeriy Perminov

Numerical Solution of the Problem of the Impact of Forest Fires on Buildings

Karlis Livkiss, Ahmed Ali Awadallah Ahmed, Anders Dragsted, Leo Menzemer, Ian Pope, Ana Sauca

Research programme for addressing the fire safety challenges of timber buildings

RENOVATION, RESOURCES & HUMAN HEALTH

Aída Santana Sosa

Light up! – International Wood Student Competition for standard systems to vertical extensions

Andreas Schweiger

Specific systemization of timber building to promote urban redensification of housing stock

Bill Parsons

A practical approach to developing and sharing advanced mass timber solutions

Assia Talhil; Aline Barlet; Regis Le Normand; Thomas Catterou ; Jean-Baptiste Casting; Sylvain Boulet

Lightweight floors vibrational comfort, first experimental results of the GIVILIF project

ENVIRONMENTAL IMPACT

Andreas Kragh; Alexandru Dondera

Copenhagen's largest timber building – A full LCA comparison

Erwin M. Schau

Life cycle assessment (LCA) of the largest wooden building in Slovenia – The InnoRenew Centre of Excellence, Izola

Rachael Jamison; Heather Stegner

A Radical Transparency: The Carbon Story for U.S. Wood Products

Stephan Ott; Anna Wagner

Decarbonization and Circularity Potential of Prefab Building Envelope Components

DURABILITY

Eva Prelovšek Niemelä, Richard Acquah, Urban Kavka

Weather Protection and Moisture Content of Large Mass Timber Buildings During Construction

Anna Sandak

Bioinspired Living Coating System for High-Rise Buildings

Jan Vcelak

Long-Term Statistical assessment of conditions in Timber buildings construction

Jeppe Rasmussen; Thijs van Tilburg

Moisture management strategy using sensor technology in mass timber construction Components

STRUCTURAL ISSUES

Lei Han; Andreja Kutnar; Iztok Sustersic; José Couceiro; Dick Sandberg

Restrained swelling deformation of densified wood dowel in dowel-laminated timber (DLT)

Bruno Dujič; Martin Hladnik; Boštjan Lesar; Miha Bogataj; Tomaž Pazlar

iQwood – Slim & robust massive DLT elements

Priyank Maithani

Properties of cross laminated timber from Melia dubia Cav., a plantation grown hardwood

Riccardo Pedroni

Wind Tunnel Test Timber High Rise: Kaj 16 Case study

POSTER PRESENTATIONS

Darren Woods

Developing a culture of continuous Improvement

Christian Brischke; Richard Acquah; Tolgay Akkurt, Gry Alfredsen; Per O. Flæte; Eva Frühwald Hansson; Geir W. Gustavsen; Hasan Hosseini; Targo Kalamees; Jaan Kers; Villu Kukk; Roja Modaresi; Jonas Niklewski; Anna Sandak; Jakub Sandak; Philip B. van Niekerk

Enabling robust and precise Life-Cycle-Costing in wood construction by novel methods for service planning – an outline of the 'WoodLCC' project

Anna Sandak; van de Beld Bert; Heeres Hans ; Vcelak Jan; Jakub Sandak

Sustainable Development of Wood-based Products for the Construction Sector – the NewWave Project Approach

Namhyuck Ahn; Mariapaola Riggio; Lech Muszynski; Catarina Pestana; Laurence Schimleck; Ambrose Dodoo; Maureen Puettmann

Perceived Barriers and Potentials in Promoting Circular Economy in the Mass Timber Industry

55 SOUTHBANK BOULEVARD

ONE DAY TOURS

8. september 2022

All the one-day excursions start in the morning from the Congress centre in Portorož and return to the starting point in the evening. The excursions combine tourist attractions with company or institute visits.

CLT TOUR

700 km (round trip), one business and one tourist site

- **LAKE BLED**
- **HASSLACHER NORICA TIMBER**

The Woodrise 2022 CLT tour begins in Portorož. Participants will visit Lake Bled, Slovenia's most famous tourist attraction, and Hasslacher Norica Timber, cross-laminated timber (CLT) producer. This amazing factory churns out more than 100 000 cubic meters of CLTs each year. Bus transportation, guide, and lunch are included.

MACHINERY TOUR

600 km (round trip), one business and one tourist site

- **LEDINEK**
- **EXPANO**

The Woodrise 2022 Machinery tour begins in Portorož. Participants will visit Ledinek, a world-class producer of glulam and cross-laminated timber production lines. Participants will also tour Expano, Slovenia's pavilion at Expo 2015. Expano's timber construction showcases a working building designed to be disassembled and reassembled anywhere. Bus transportation, guide, and lunch are included.

GLULAM TOUR

400 km (round trip), one business and one tourist site

- **KOLES GLULAM**
- **BIGGEST FIR TREE IN SLOVENIA**

The Woodrise 2022 Glulam tour begins in Portorož. Participants will visit Koles, a boutique glulam producer with a new automated production line, and the biggest fir tree in Slovenia. Bus transportation, guide, and lunch are included.

INSTITUTE TOUR

200 km (round trip), two institutes and one tourist site

- **INNORENEW COE BUILDING**
- **POSTOJNA CAVE**
- **SLOVENIAN NATIONAL BUILDING AND CIVIL ENGINEERING FIRE LABORATORY**

The Woodrise 2022 InnoRenew CoE building, and ZAG fire laboratory tour begins in Portorož. Participants will visit the new InnoRenew CoE building (largest timber building in Slovenia), Postojna Caves and the Slovenian National Building And civil engineering institute's (ZAG) brand new Fire laboratory. Bus transportation, guide, and lunch are included.

TWO DAY TOURS

8.-9. september 2022

All the two-day excursions start in the morning from the Congress centre in Portorož and return to the starting point in the late evening of the 9th or early morning of the 10th September. However, all the tours visit one of the bigger airport hubs nearby, namely Venice, Munich, and Vienna in the evening of the 9th September, so guests can organise their flights home from bigger airports. All the excursions combine tourist attractions with company or institute visits.

VENICE TOUR

Two business and two tourist sites

- **XLAM DOLOMITI (CLT PRODUCER)**
- **ROTHOBLAAS (TIMBER CONNECTION PRODUCER)**
- **LAKE GARDA**
- **VENICE**

The Woodrise 2022 Venice tour begins in Portorož and ends in Venice. Participants have the choice to fly home from Italy or return to Slovenia with the tour bus. Buses will be returning to Portorož for those who wish. Bus transportation, guide, one overnight stay, one dinner, and two lunches are included.

		Arrival time	Departure time
Departure from:	Portorož		08.09.2022 08:00
Destination 1:	XLAM DOLOMITI	08.09.2022 12:00	08.09.2022 15:00
Destination 2:	Rothoblaas	08.09.2022 16:00	08.09.2022 19:00
Overnight at the hotel		08.09.2022 19:30	09.09.2022 07:00
Destination 3:	Lake Garda	09.09.2022 09:00	09.09.2022 11:00
Destination 4:	Venice	09.09.2022 13:40	09.09.2022 19:40

MUNICH TOUR

Two business and two tourist sites

- **LAKE BLED**
- **HASSLACHER NORICA TIMBER (CLT PRODUCER)**
- **LANGZAUNER (PRESS PRODUCER)**
- **MUNICH (TIMBER CITY)**

The Woodrise 2022 Munich tour begins in Portorož and ends in Munich. Participants have the choice to fly home from Germany or return to Slovenia with the tour bus. Bus transportation, guide, one overnight stay, one dinner, and two lunches are included.

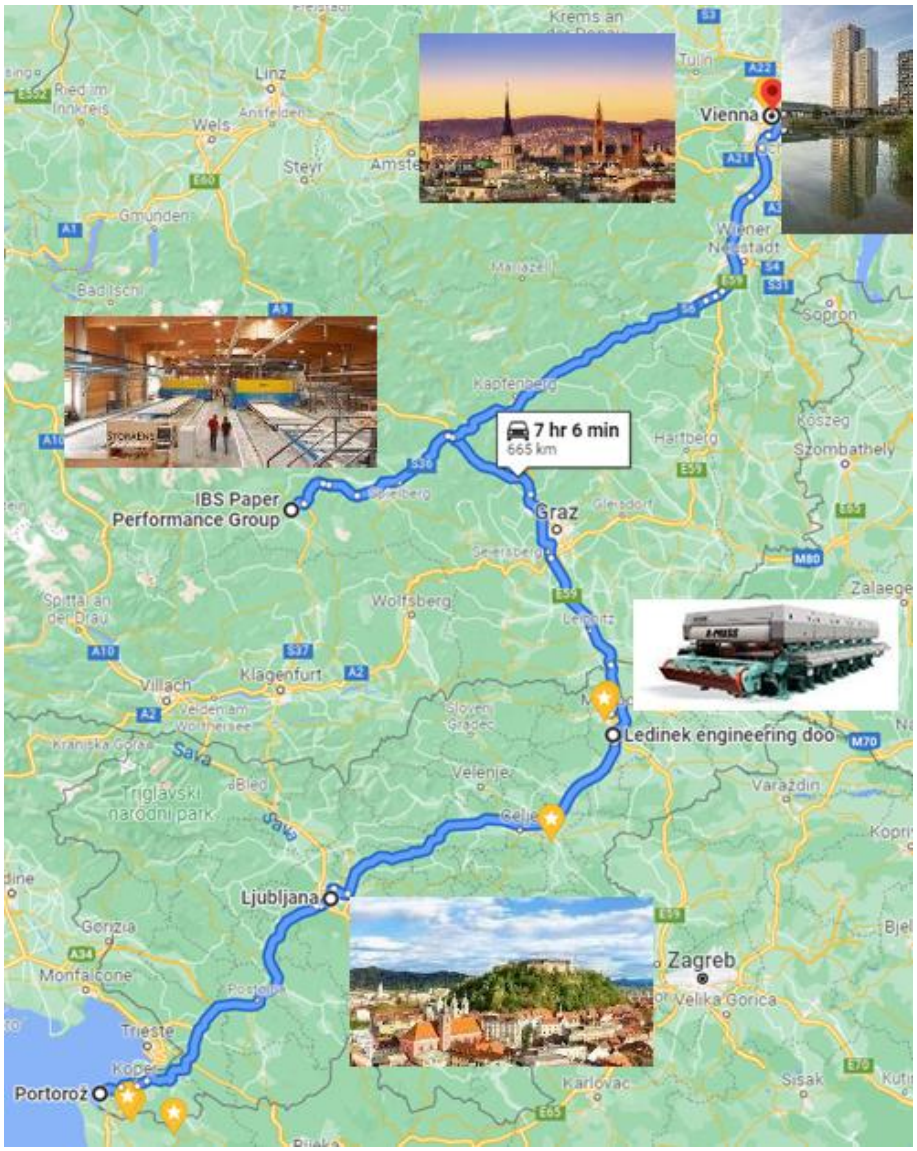
		Arrival time	Departure time
Departure from:	Portorož		08.09.2022 08:00
Destination 1:	Bled	08.09.2022 10:20	08.09.2022 13:30
Destination 2:	Hasslacher Norica Timber	08.09.2022 14:50	08.09.2022 17:50
Overnight at the hotel		08.09.2022 18:20	09.09.2022 08:00
Destination 3:	Langzauner	09.09.2022 11:20	09.09.2022 13:30
Destination 4:	Munich	09.09.2022 15:50	09.09.2022 21:50

VIENNA TOUR

Three business and one tourist site

- **LUMAR HIŠE (PREFABRICATED TIMBER HOUSES)**
- **LEDINEK (ENGINEERED WOOD MACHINERY PRODUCER)**
- **STORA ENSO (CLT PLANT)**
- **VIENNA (HOHO VIENNA BUILDING)**

The Woodrise 2022 Vienna tour begins in Portorož and ends in Vienna. Participants have the choice to fly home from Austria or return to Slovenia with the tour bus. Bus transportation, guide, one overnight stay, one dinner, and two lunches are included.



		Arrival time	Departure time
Departure from:	Portorož		08.09.2022 08:00
Destination 1:	Maribor	08.09.2022 11:00	08.09.2022 12:00
Destination 2:	Ledinek	08.09.2022 12:15	08.09.2022 13:45
Overnight at the hotel		08.09.2022 16:00	09.09.2022 08:00
Destination 3:	Stora Enso	09.09.2022 10:40	09.09.2022 12:40
Destination 4:	Vienna	09.09.2022 16:00	


HOTEL MONDEGO


DONAMARÍA

WOODRISE 2022
PORTOROŽ | SLOVENIA
6-7 SEPTEMBER, 2022

PRICING

PRICE LIST FOR REGISTRATION, ACCOMODATION AND TOURS

Congress Center Bernardin is in the St. Bernardin Resort, which features spas, restaurants, and accommodations with balconies and sea views. Attendees who opt to stay on-site at the resort have a choice of three hotels within the complex.

GRAND HOTEL BERNARDIN

Grand Hotel Bernardin is located by the sea.

This hotel offers an indoor pool and wellness center with heated seawater.

All rooms have private balconies overlooking the sea and access to a luxurious private beach.

HOTEL HISTRION

Hotel Histrion is the largest hotel on the Slovenian coast.

Surrounded by the sea, this fully refurbished hotel offers access to Sea Water Park Termaris and the Benedicta Wellness Centre.

HOTEL VILE PARK

Hotel Vile Park is made up of four villas.

This hotel offers a private beach and outdoor pool as well as access to Hotel Histrion's indoor pools. It also features a children's playground and a mini club.

Some rooms offer a balcony. Small pets are welcome.

REGISTRATION

EARLY BIRD UNTIL 20.06.2022
Regular registration: €490
Student registration: €99

STANDARD UNTIL 20.08.2022
Regular registration: €590
Student registration: €125

ON-SITE FROM 05–07.09.2022
Regular registration: €690
Student registration: €150

EXTRAS
Cocktail reception: €40
Gala dinner: €80
Translation: €80

ACCOMMODATION

GRAND HOTEL BERNARDIN
€164

HOTEL HISTRION
€153

HOTEL VILE PARK
€101

STUDENTS
€25

TOURS

TWO-DAY VENICE
€405

TWO-DAY MUNICH
€440

TWO-DAY VIENNA
€415

ONE-DAY CLT
€105

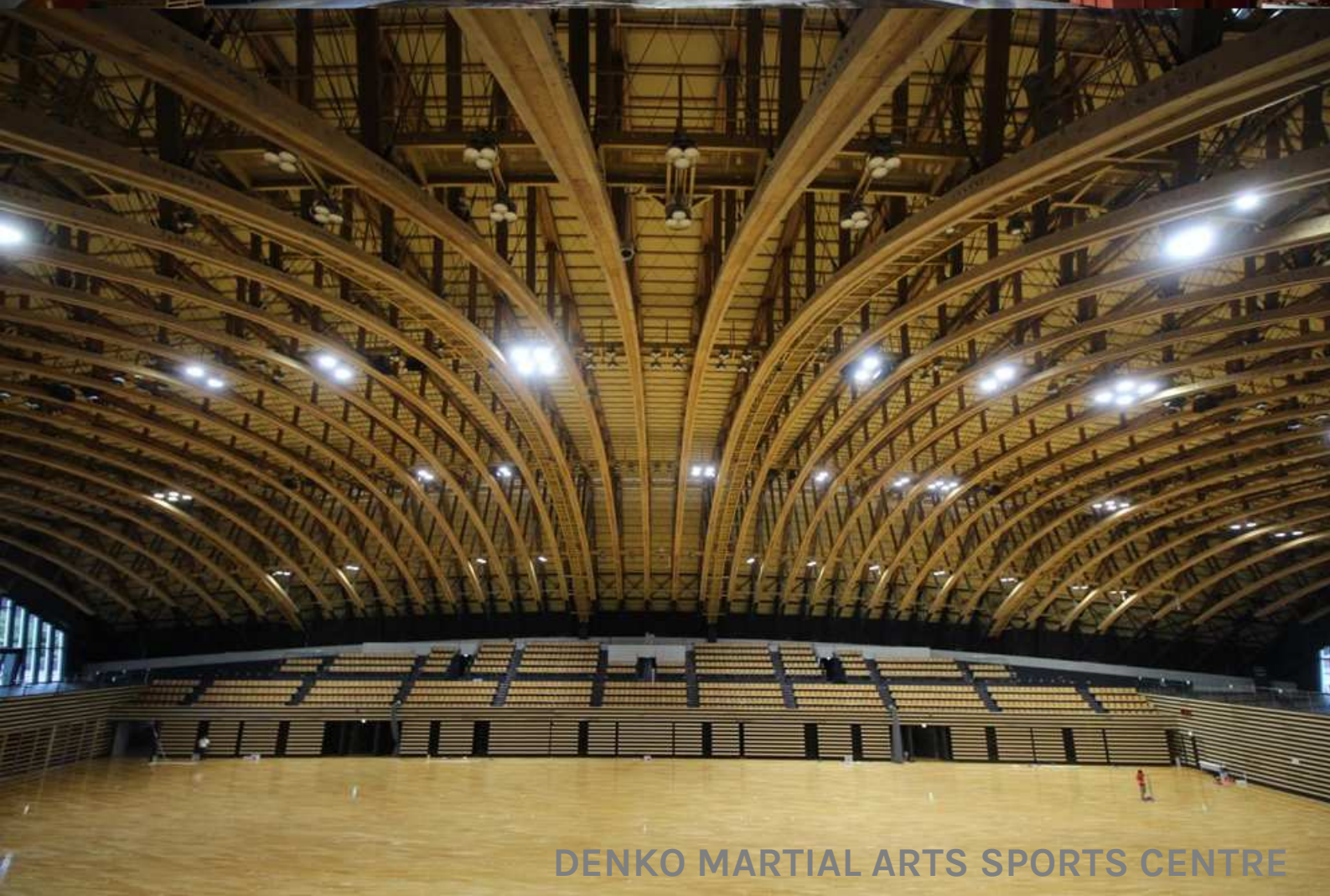
ONE-DAY MACHINERY
€100

ONE-DAY GLULAM
€100

ONE-DAY INNORENEW COE AND ZAG
€80

AKITA INTERNATIONAL UNIVERSITY NAKAJIMA

KAMIKAS ZERO WASTE CENTRE



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Version: 03 08. 2022