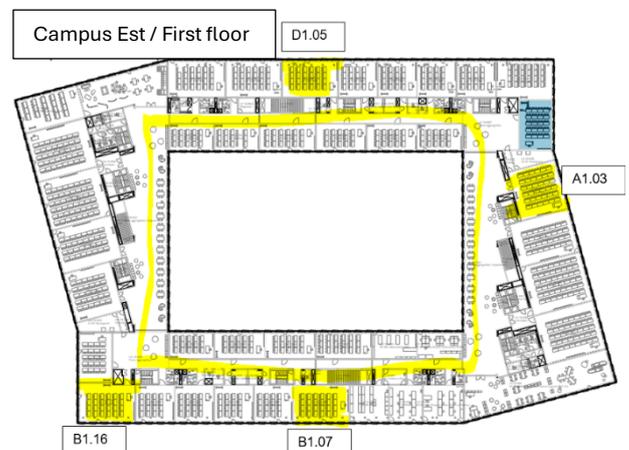


Conference program: overview

Day 1, Thursday November 14th 2024				
Registration, Welcome & Networking				
12:30	Conference Room	Room A1.03	Foyer	Room D1.05
13:30	OPENINGS Dirk Wilhelm, FTAL President Emanuele Carpanzano, FTAL Conference Steering committee chair			
13:45 - 14:45	Keynote Session 1 Track chairs: André Podleisek (OST), Maria Franco Mosquera (BFH) <i>Putting Circular Economy into practice – a joint effort of research, industry and regulators.</i> Melanie Haupt (Realcycle)	/	/	/
14:55 - 15:55	FP track 1 - Circular Plastics Management Track chair: Aurelia Kogler (FHGR) <i>Situational Analysis of Plastic Waste Management in Pakistan- Policy Perspective and Circular Economy Recommendations</i> Lala Rukh (University of Galway), Abdul Fatah and Muhammad Mohsin Memon <i>Situational Assessment of Plastic Waste Management in Pakistan: Insights from Public Awareness and Stakeholder Engagement</i> Lala Rukh (University of Galway), Abdul Fatah and Muhammad Mohsin Memon <i>Plastic Circularity as a competitive model: a business case in toy sector</i> Alessandro Fontana, Andrea Cercatore, Castrovinci, Deborah Leone, Marco Pirodda and Marco Spaggiari. Filippo Gallizia (Geomagword SA)	FP track 2 - Material Innovation and Recycling Technologies Track chair: Daniel Schwendemann (OST) <i>Enhancing sustainability of thermoplastic composite parts through backmolding of ud-tapes with recycled pet materials</i> Jasper Hollender (OST), Gion Barandun and Martin Rudolph Jay Renée Thalmann (ZHAW), Jay Renée Thalmann, Yasaman Yavaribajestani, Christian Stocker, Peter Kobel, Samuel R. Garcia, Valentino Vigneri, Andreas Taras and Patric Fischli- <i>Folded Steel and Cement-free Concrete Composite Systems: Joint Design Towards Design for Disassembly</i> Salome Berger (ZHAW), Simon Winterberg, Corinna Baumgartner, Jan Inauen, Justin Staller and Daniel Schmid <i>Mycelium Material Substitutes Conventional Bicycle Helmet Material By Adapted Design for X Processes</i>	WIP track 1 - Circular Construction and Design Track chair: Marco Viviani (HEIG-VD) <i>A Holistic Framework Proposal for Circular Construction from Current Trends, System Needs, and Sustainable Objectives</i> Roger Vergés (UPC), Kàtia Gaspar, David Font and Núria Forcada <i>Reuse and Remanufacture construction wood in Switzerland</i> Luca Cornuz (BFH) Louise Mazzoni Leduc (HES-SO), Bernadin Kenne Diffo, Hervé Tchakouté Kouamo, Jean Ambroise and Abdelkrim Bannanir	WS track 1.1 - Building Reuse Ecosystem <i>Components Reuse in Construction sector</i> Carlo Gambato, Leidy Guante Henriquez, Stefano Zerbi (SUPSI) and Francesco Frontini
16:00	Coffee break			
16:30	FP track 3 - Circular Construction and Design Track chair: Korbinian Schneider (FHNW) <i>Advancements in circular construction: A case study on innovative structural systems using reused concrete slabs for load-bearing applications</i> Adrian Kiesel (ZHAW), Guido Brandi, Andri Gerber and Patric Fischli-Boson <i>Critical review of circularity indicators for neighborhoods in developing countries</i> Cihan Kayaçetin (Bilkent University) <i>From Reviews of Sustainable Building Rating Systems and Circular Indicators for the Built Environment to a Practical Tool Supporting the Design of Sustainable Circular Buildings</i> Leidy Guante Henriquez (SUPSI), Francesco Frontini, Marco Imperadori, Carlo Gambato and Stefano Zerbi	FP track 4 - Business Performance and Circular Practices Track chair: Elimar Frank (OST) <i>Effects of Circular Practices on Business Performance Factors</i> André Podleisek (OST), Nicolas Hofer, Katharina Luban and Roman Hänggi <i>Sustainable crowdfunding in Ticino: a research and implementation journey</i> Alessandra Versi (University of Bern) <i>Measuring Circular Economy- A case study from the aviation industry</i> Christine Grimm (HSLU)	WIP track 2 - Circular Economy in Agro-industrial and Farm Settings Track chair: Rolf Krebs (ZHAW) <i>Valorizing Agro-Industrial Waste: Exploring Antimicrobial Peptides Prepared from Feather Keratin</i> Justine Horner (HEIA-FR), Amira Ben Mansour, Sutida Jansod and Roger Marti <i>Green!Tea: Implementing pyrolysis and biochar-based fertilizers for the Vietnamese Tea Sector</i> Grégoire Meylan (FHNW), Diu Do Thi, Stephan Gutzwiller, Hien Le Viet, Hien Nguyen Van and Andreas <i>Is Reusable Better? A Lifecycle Assessment of Coffee Packaging Options for an SME Coffee Roastery in Switzerland</i> Melanie Xenia Boillat (BFH) and María Franco Mosquera	WS track 1.2 - Building Reuse Ecosystem <i>Circular Solutions to Transform Business Model</i> Anna Juda (Circulararch) <i>Reimagine the key roles in the building reuse ecosystem</i> Anna Juda (Circulararch)
17:30	Networking Apéro			

Day 2, Friday November 15th 2024				
08:00 Registration, Welcome Coffee & Networking				
09:00		Room B1.07	Foyer	Room B1.16
Conference Room Keynote Session 2 Track chair: André Podleisek (OST), Maria Franco Mosquera (BFH) <i>Critical Materials and Circularity in the Swiss context</i>		/	/	/
David Peck (TU Delft)				
10:00 Coffee break				
FP track 5 - Circular Economy in the Fashion Industry Track chair: Marco Viviani (HEIG-VD) <i>Applying a transdisciplinary approach to the development of a biologically circular beanie</i> <i>Advancing Circular Economy in Fashion: Feasibility and Impact of Enhanced Recycling Technologies for post-industrial Textile Waste</i> <i>Towards Circular Economy in the Fashion Industry: A Regional Case Study in Ticino</i>		WIP track 3 - Business and Innovation models in Circular Economy Track chair: Aurelia Kogler (FHGR) <i>Investing in Circularity: A Qualitative Analysis of Venture Capital Funding for Circular Economy Startups</i> <i>Who cycles with us? Starting a Living Lab in the Toggenburg-Region to Promote and Test Circular Economy Structures and Processes in Swiss Rural Areas</i> <i>Water and Nutrient Circularity as a Service (WaNCaaS) – A feasibility study for new business models to close the water and nutrient cycles in the food industry</i> <i>Between saving and sustainability: how online platforms are reshaping narratives and representations of the second-hand fashion market in Italy</i>	WIP track 4 - Energy, Material and Waste Sustainability Solutions Track chair: Markus Lenz (FHNW) <i>LCA in the Plastics Sector – Methodology and Challenges</i> <i>PEF/PET-starch hydrogels from recycled sources for shrimp farm’s wastewater treatment</i> <i>End-of-life strategies for perovskite solar cells</i> <i>Contribution of small, decentralized biogas plants toward SDGs</i>	WS track 2 - Business Model Transformation <i>Core Elements for the Transition of Companies to Circular Economy</i>
Line Fournier (BFH), Larissa Hänni and Maria A. Franco Marco Ricchetti, Aurora Magni, Alessandro Fontana (SUPSI), Deborah Leone and Ludovica Rossi Alessandro Fontana (SUPSI), Marzio Sorlini, Andrea Barni, Claudio Capuzzimati, Rosario Pirrotta and Emanuele Carpanzano		Priya Saikumar (University of Oxford) and Siyu Li Lineo Devecchi, Andreas Schneider (BFH), and Timo Oliveri Alice H. Aubert (ZHAW), Maximilian Grau, Grégoire Meylan and Nico Pfändler Cecilia Cornaggia (UNICATT) and Eleonora Noia	Johanna Klobasa (OST) and Daniel Schwendemann Simon Cerqua (ZHAW), Eugenia Bonora, Piyawan Kongseng, Chantarak Sirinya and Christof Brändli Meret Amrein, Anika Sidler, Bastien Vallat, Markus Lenz (FHNW) and Dalila Rocco Yosef Cassarà, Pamela Principi and Camilla Perego (SUPSI)	Elimar Frank (OST), Tom Koch and Michaud Frédéric
Keynote Session 3 Track chairs: André Podleisek (OST), Maria Franco Mosquera (BFH) <i>Financing the Transition circular economy</i>		/	/	/
Maria Castillo (Ecofact AG)				
Award ceremony, wrap-up and final remarks Dirk Wilhelm, FTAL President Gian-Luca Bona, ETHZ & EPFL André Podleisek, OST		/	/	/
13:05 Networking lunch				

Conference room	Campus est, Sector A, ground floor
Foyer	Campus est, Sector A, ground floor
Room A1.03	Campus est, Sector A, first floor
Room B1.07	Campus est, Sector B, first floor
Room B1.16	Campus est, Sector B, first floor
Room D1.05	Campus est, Sector D, first floor



Conference program: details

KEYNOTE SESSIONS

Keynote session 1	November 14th, 2024, 13:45-14:45, Conference room Track chairs: André Podleisek (OST), Maria Franco Mosquera (BFH)
<p>Melanie Haupt. Putting Circular Economy into practice – a joint effort of research, industry and regulators.</p> <p>Melanie Haupt is Managing Director of realcycle GmbH and has been working for many years in favour of a sustainable circular economy. After completing her doctorate at ETH Zurich on the ecological optimization of municipal waste management, she dedicated another four years to research in the field of sustainable circular economy. Today she is a lecturer in waste and recycling management at ETH Zurich and various universities of applied sciences and also runs the consulting agency realcycle GmbH, where she contributes to closed cycles with open thinking. Melanie Haupt is also a member of the board of trustees of PUSCH and an advisor to the Institute for Environment and Natural Resources at the Zurich University of Applied Sciences</p>	
Keynote session 2	November 15th, 2024, 9:00-10:00, Conference room Track chairs: André Podleisek (OST), Maria Franco Mosquera (BFH)
<p>David Peck. Critical Materials and Circularity in the Swiss context.</p> <p>Associate Professor, David Peck, researches and teaches, cross faculty, in the fields of critical materials and circular design, in particular developing remanufacturing. He is a founding member of the TU Delft Critical Raw Materials working group and the TU Delft Circular Built Environment Hub. In addition, David is a visiting Professor with Coventry University, Centre for Business in Society. David is also an adjunct Professor at Graduate School of Management, Politecnico di Milano. David is an Executive Board Member for EIT Raw Materials and ERMA. David also works with ad hoc committees in the European Union in Brussels, The Netherlands Government in The Hague, and is a Horizon Europe reviewer. David sits on the steering committee for the European Remanufacturing Council. He is the TU Delft lead scientist for EU Horizon Europe & Horizon 2020 projects CiRCLETECH, Pop Machina, ProSUM, ERN and FP7 CRM_Innonet. David is TU Delft scientific leader for the EU KIC EIT Raw Materials, representing the university in the programme. David sits on the TU Delft Critical Materials core working group, representing his faculty in developing TU Delft actions in the field.</p>	
Keynote session 3	November 15th, 2024, 11:35-12:35, Conference room Track chairs: André Podleisek (OST), Maria Franco Mosquera (BFH)
<p>Maria Castillo. Financing the Transition circular economy</p> <p>Maria Castillo is a Senior ESG Rijs Advisor at ECOFACT AG. She leads a variety of ESG risk advisory projects, including providing climate-related advice to financial institutions. She also supports the further development of ECOFACT's Monitoring Peer Policies program, analyzing and benchmarking the environmental and social risk policies of leading financial institutions. Maria specializes in climate change, nature, fossil fuels and circular economy-related topics. Before joining ECOFACT, Maria was a financial analyst and managed sustainable projects in developing countries. She has worked for private and public institutions, creating cost and impact assessment tools as well as interactive training modules. Maria holds a master's degree in sustainability and consultancy from the University of Leeds in the UK.</p>	

FULL PAPER (FP) TRACKS

FP track 1 - Circular Plastics Management	November 14th, 2024, 14:55-15:55, Conference room <i>Track chair: Aurelia Kogler (FHGR)</i>
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14:55 – 15:15 Lala Rukh, Abdul Fatah and Muhammad Mohsin Memon. **Situational Analysis of Plastic Waste Management in Pakistan- Policy Perspective and Circular Economy Recommendations**

Marine plastic pollution is a rising global concern, which requires national and international immediate attention, and Pakistan's case is no different. About 8 million tons of plastic waste make its way to the ocean each year, negatively impacting marine life through ingestion and entanglement. This study is the situation analysis of plastic waste management from the policy perspective in Pakistan- policy perspective. While conducting the situational analysis, globally used, policy instruments are overviewed. The policy instruments used in Pakistan are further discussed in detail based on the recent data and information collected from literature, government reports and stakeholder interviews. A policy inventory is developed, consisting of relevant policies in Pakistan that address plastic or municipal solid waste and its management. Based on a thorough analysis of the Pakistan government's efforts, actions, policies, their implementation and information collected through semi-structured interviews, circular economy recommendations are provided. The circular economy recommendations are developed, keeping Pakistan's current economic state in mind. Given Pakistan's vulnerability to climate change and its energy shortfall, plastic pollution poses a significant challenge for the country. The recycling rate of PET in Pakistan is evidence that it is certainly possible to create a zero-waste model. Pakistan can solve multiple problems by dealing with plastic pollution, such as energy generation from waste. One of the primary recommendations for the circular economy is to focus on capacity and infrastructure building.

15:15 – 15:35 Lala Rukh, Abdul Fatah and Muhammad Mohsin Memon. **Situational Assessment of Plastic Waste Management in Pakistan: Insights from Public Awareness and Stakeholder Engagement**

This article focuses on the current state of plastic waste management and public awareness in Pakistan, with a particular emphasis on the public awareness perspective and Stakeholder Engagement. Despite being one of the most climate-affected nations in the world, less than one-third of Pakistanis consider global climate change a very serious concern. The country is already struggling with plastic pollution and its consequences, with the river Indus being the second most plastic-polluted river globally. Bans on disposable plastics have been largely ineffective, and a lack of awareness and operational recycling facilities have exacerbated the issue. The article proposes a need for awareness about the responsible consumption and production, as well as a circular economy model to address the problem. The study aimed to gather primary data from experts in the PWM sector using semi-structured interviews with predetermined open-ended questions. Among the fifteen interviews conducted, it was found that plastic pollution is causing damage to multiple resources, including the agriculture and fish industries along the River Indus. The study identified six key stakeholders in the PWM sector in Pakistan and analysed their power versus interest on a power-interest map. The article also discusses various awareness tools, educational and action-based, being used in Pakistan. The study aims to achieve effective plastic waste management in Pakistan by identifying public awareness tools and developing a stakeholder engagement analysis.

15:35 – 15:55 Alessandro Fontana, Andrea Cercatore Castrovinci, Deborah Leone, Marco Pirotta and Marco Spaggiari. **Plastic Circularity as a competitive model: a business case in toy sector**

The global toy industry is a major consumer of plastic, making it a critical sector for addressing plastic waste issues. This paper examines the potential of circular economy practices, particularly through the use of innovative materials such as Polymer XI, in reducing environmental impact and fostering sustainability in the toy sector. Polymer XI, developed by Geomag-world SA in collaboration with SUPSI, is a composite material made from 100% recycled polymer matrix with natural fillers like wood essences. This study investigates the technical, economic, and environmental viability of implementing circular solutions in the toy industry, highlighting the challenges and opportunities. The paper combines real business case analysis with laboratory results and life cycle assessment (LCA) to provide a comprehensive view of the possibilities and constraints in achieving circularity and sustainability in the toy industry through innovative material solutions.

FP track 2 - Material Innovation and Recycling Technologies	November 14th, 2024, 14:55-15:55, Room A1.03 Track chair: Daniel Schwendemann (OST)
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14:55 – 15:15 Jasper Hollender, Gion Barandun and Martin Rudolph. **Enhancing sustainability of thermoplastic composite parts through backmolding of ud-tapes with recycled pet materials**

The demand for advanced and sustainable materials is increasing as industries aim to reduce their carbon footprint. PET bottle recycling in Switzerland is a prime example of a successful circular economy in the field of plastic products, demonstrating the potential to reduce CO2 emissions. However, the recycling process often results in materials that no longer meet the required specifications and therefore cannot be returned to the cycle. In the field of injection molding, there is a significant opportunity for these materials, especially with the increasing trend towards using or switching to PCR (post-consumer recycled) materials to reduce the CO2 footprint. By adding suitable additives to rPET, it can also be used for technical parts currently made with PA or POM. Combining these materials with continuous fiber-reinforced PET-tapes in the backmolding process, presents a promising opportunity for producing highly rigid and highly stressed composite parts sustainably. This approach has potential applications in several fields, including automotive, energy applications as well as sports and leisure. First investigations indicate the mechanical properties achievable with sustainable material combinations, in comparison to the materials currently favored to show the potential of this solution approach. In this study, standard specimens have been manufactured to characterize the backmoulded parts, and in addition a demonstrator part (surf fin) has been successfully produced using already available standard tooling.

15:15 – 15:35 Jay Renée Thalmann, Yasaman Yavaribajestani, Christian Stocker, Peter Kobel, Samuel R. Garcia, Valentino Vigneri, Andreas Taras and Patric Fischli-Boson. **Folded Steel and Cement-free Concrete Composite Systems: Joint Design Towards Design for Disassembly**

Despite the widespread use of recycled steel in construction, the industry still has difficulty meeting the net zero CO2 emission goals due to the significant gray energy losses during building demolition and recycling. Thus, more emphasis has been put on re-using construction material with the help of design for disassembly. The application of visible steel in residential construction (especially in Switzerland) has been limited due to fire protection regulations and the challenges associated with practices to address this matter. Concrete-steel hybrid structures, commonly used for fireproofing steel structures, come with high CO2 emissions and lack easy dismantling, rendering them not compatible with sustainability goals. Furthermore, with hybrid steel-wood systems, the composite action is often not well developed, leading to inefficient use of material. The authors have introduced a demountable folded steel and cement-free concrete composite system that meets the fireproofing requirements and reduces the gray energy and raw material. The additively joined construction facilitates the later reuse of the elements. The structural system features small-scale steel beams and columns designed for residential buildings, using standardized components. The system's modularity supports architectural flexibility and adaptability for new constructions and extensions. This paper focuses on the details and development of joints and connections within this system that allow easy and efficient assembly and disassembly process, promoting circular economy in the construction and therefore playing a crucial role in improving the sustainability aspects and structural integrity of the hybrid steel structures.

15:35 – 15:55 Salome Berger, Simon Winterberg, Corinna Baumgartner, Jan Inauen, Justin Staller and Daniel Schmid **Mycelium Material Substitutes Conventional Bicycle Helmet Material By Adapted Design for X Processes**

Evolving policy frameworks and social pressure for more sustainable circular products stipulate new requirements for the product development process. Thus, the Design for X (DfX) processes are adapted for these requirements and applied to a case study that aims to transition a conventional bicycle helmet to a fully circular product that adheres to the Cradle principle with a biological cycle. The DfX processes and the resulting considerations are utilized to investigate and overcome the challenges posed by the application of biological materials, such as mycelium, to a mass-produced B2C product. Thereby the concept for a suitable composite comprising of several organic materials is conceived and tested. A new manufacturing process capable of mass-producing helmets with said composite is developed with the DfX processes to make the concept economically viable. Initial drop-tests of helmet prototypes prove that the redesigned helmets have similar protective damping features to conventional helmets, and thus are functionally viable. The successful development of the bicycle helmet case provides evidence that the adaptation of the holistic DfX approach is feasible for overcoming the challenge of product development processes with increasingly complex new requirements.

FP track 3 - Circular Construction and Design

November 14th, 2024, 16:30-17:30, Conference room
Track chair: Korbinian Schneider (FHNW)

16:30 – 16:50 Adrian Kiesel, Guido Brandi, Andri Gerber and Patric Fischli-Boson. **Advancements in circular construction: A case study on innovative structural systems using reused concrete slabs for load-bearing applications**

This paper explores an innovative approach to new structural systems by incorporating reused components, specifically harvested concrete elements from buildings deemed for demolition. Unlike recycling, where materials undergo costly energy processing to return to their raw state, reuse preserves the original form, mechanical attributes, and chemical-physical properties of components, facilitating their direct integration into new structures [1]. This project aims to evaluate the benefits and drawbacks of this methodology, particularly in reducing embodied energy and greenhouse gas emissions during the construction phase (A1-A4 as per the European Norm SN EN 15804+A1) within the construction industry. The research examines the entire process beginning with the controlled deconstruction of donor buildings, logistical considerations, the adaptations of concrete slabs, and their reconfiguration of these into new, load-bearing systems designed for disassembly. Newly fabricated steel connections which meet all structural requirements mandated by Swiss regulatory bodies are used to connect the concrete slabs. The resulting system spans up to eight meters which is enough to fulfilling most demands set by planers. A comparison with typical structural systems made from concrete commonly used in the building sector reveals significant energy-saving potential and environmental benefits. Challenges such as sourcing suitable components and structural requirements are discussed. This study aims to show the potential of innovative joining techniques to create constructions which maximize efficiency integrity, and demountability of the new systems, weight bearing systems utilizing reused building components. This is achieved by developing a full-scale 1:1 mock-up, currently under construction at the ZHAW facility, which is scheduled for completion by early September this year.

16:50 – 17:10 Cihan Kayaçetin. **Critical review of circularity indicators for neighborhoods in developing countries**

The construction industry is shifting from a conventional linear practice towards a circular economy sector. Led by the European Union (EU) Green Deal, initiatives such as the EU Circular Economy Action Plan, Renovation Wave, and 'Fit-for-55' package aim to minimize emissions and material use until 2050. Previous initiatives focused on the emissions related to the use phase of the built environment, so-called Scope 1 carbon emissions. On the other hand, several other emission sources exist in the whole life cycle of buildings and cities. Circularity can become a key element in mitigating embodied carbon of building materials that originates from the production and end-of-life processes. Recently, cities and neighborhoods have been considered as the suitable scale to develop and test innovation solutions. On the other hand, there is no consensus on measuring circularity at urban scale and most of the recent studies originate from the EU. Then, this study aims to explore urban circularity indicators in the context of developing countries. First, existing urban circularity indicators are reviewed and then two case study areas with different urban settings from Turkiye are selected for exploring the indicators. Several recommendations are provided for the utilization of indicators in distinct urban settings and climate regions.

17:10 – 17:30 Leidy Guante Henriquez, Francesco Frontini, Marco Imperadori, Carlo Gambato and Stefano Zerbi. **From Reviews of Sustainable Building Rating Systems and Circular Indicators for the Built Environment to a Practical Tool Supporting the Design of Sustainable Circular Buildings**

The Construction sector is one of the main contributors to climate change and resource scarcity we face today. The transition towards Circular Economy (CE) models, and its interpretation at the building level with the Circular Building" (CB) idea, represents a possible solution. Unfortunately, previous research has reported the lack of a uniform and well-established performance assessment scheme to define and measure CBs. Considering the potential for impact during design decision-making, this study estimates opportunities for integrating circularity principles into the building design process and, on that basis, defines the groundwork for the future development of a meta-protocol supporting the planning of efficient and sustainable CBs. The paper presents the underlying framework and base structure of the in-progress tool by reviewing existing Sustainable Building Rating Systems' (SBRs) integration of CE principles and analyzing developed metrics for circularity practical assessment in the Construction sector.

FP track 4 - Business Performance and Circular Practices

November 14th, 2024, 16:30-17:30, Room A1.03
Track chair: *Elimar Frank (OST)*

16:30 – 16:50 André Podleisek, Nicolas Hofer, Katharina Luban and Roman Hänggi. **Effects of Circular Practices on Business Performance Factors**

This article assesses the impact of Circular Economy's on business performance as perceived by companies that have integrated it into their core business versus those that have not. In December 2022, a variety of industry sectors was surveyed. 512 participants responded, of which 216 stated that their companies had Circular Economy embedded in their core business operations and 135 said that Circular Economy had been implemented as a separate concept. Those companies that consider Circular Economy as embedded, 64.6 percent reported profit increases, 17 percent saw no change, and 4.7 percent reported a decrease. Both company groups reported considerably more positive effects than negative from Circular Economy, notably improved performance, decoupled value creation from new material and energy use, and enhanced resilience. Looking ahead, a Lean-Digital-Green approach and its combination of stable processes, accessibility of data and sustainability will lead to financial and operational benefits through excellence and innovation.

16:50 – 17:10 Alessandra Versi. **Sustainable crowdfunding in Ticino: a research and implementation journey**

This study investigates the incorporation of sustainability-oriented crowdfunding as a means for financial institutions, to share responsibility with the community. The research addresses challenges and opportunities in sustainability crowdfunding, its contribution to the sustainability goals of financial institutions, and the project selection process. The methodology encompasses qualitative interviews, literature review, a case study of Raiffeisen Bank's crowdfunding platform "eroilocali.ch," a competitor's benchmark of user experience, a market test survey, and a focus group. Stakeholders have been identified, with key actors, including institutional entities and local businesses, deemed crucial. The platform emerges as a promising extension of ongoing sustainability efforts, involving both primary stakeholders focused on education and innovation, and secondary stakeholders such as public entities and local communities, thereby enriching the impact in the region. Furthermore, key findings underscore the significance of local commitment, a well-prepared platform, and the opportunity to enhance stakeholder engagement. Challenges include gaps in sustainability awareness and potential forms of resistance from stakeholders. The study recommends a user-friendly platform, community collaboration, and refined project selection for the successful integration of sustainability-oriented crowdfunding. The study found also that sustainability-focused crowdfunding contributes to the bank's goals across various materiality areas, such as digital offerings, compliance, human resources, environmental impact, and governance. The platform supports the bank's economic performance, transparency, and responsible governance, aligning with sustainability objectives. It additionally highlights a comprehensive and lean approach in the selection process is needed, considering that it might represents a competitive advantage. BancaStato played a crucial role in supporting and guiding the project as an expert entity.

17:10– 17:30 Christine Grimm. **Measuring Circular Economy– A case study from the aviation industry**

*This study tackles the challenge of measuring circularity within the procurement-to-waste system boundaries, where existing methods were found to lack suitability due to complexity or scope. To bridge this gap, we propose an extension of the Circularity Mass Utilisation Index (CMU) used at EU level, incorporating circular inflow to reflect procurement decisions. Our research culminates in the following formula: $CMU\ Extended = (Circular\ Inflow + Circular\ Outflow) / (2 * Total\ Material\ Use)$. Successful testing with SWISS International Airlines confirms its relevance in industry and shows that the approach is likely to be applicable also be-yond the airline industry.*

FP track 5 - Circular Economy in the Fashion Industry	November 15th, 2024, 10:30-11:30, Conference room <i>Track chair: Marco Viviani (HEIG-VD)</i>
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10:30 – 10:50 Line Fournier, Larissa Hänni and Maria A. Franco. **Applying a transdisciplinary approach to the development of a biologically circular beanie**

The problem of textile waste is enormous. In Switzerland, about 11 kg of clothes are discarded per person annually. Compostable textiles may offer a solution to the significant amount of waste nowadays. However, there are several barriers to developing and disposing of biologically circular textiles, including the fact that the industrial composting of textiles is not yet established. The present paper aims to comprehensively address the development of a biologically circular beanie by integrating a transdisciplinary approach to address ecosystem considerations. In order to answer the research questions, a stakeholder analysis, as well as a quantitative and qualitative analysis were carried out. Final results indicate that the project presents both risks and opportunities, particularly in relation to the system, supply chain, production capacity, and customer acceptance. The study implies that regulatory changes are necessary in Switzerland to enable the composting of textiles. Additionally, a product passport could aid in determining the compostability of the beanie. It is also recommended to engage in transdisciplinary collaboration to find a practical solution that satisfies all stakeholders.

10:50 – 11:10 Marco Ricchetti, Aurora Magni, Alessandro Fontana, Deborah Leone and Ludovica Rossi. **Advancing Circular Economy in Fashion: Feasibility and Impact of Enhanced Recycling Technologies for post-industrial Textile Waste**

The circular economy is crucial for the contemporary fashion industry, as it offers a way to tackle the numerous environmental and sustainability issues associated with the traditional linear approach to fashion production and consumption. A paramount challenge lies in drastically advancing recycling practices within the entire fashion value chain and managing the garments' end-of-life. Such advancements would allow the industry to recover the value of materials currently wasted throughout the journey from raw materials to garments in stores. The paper summarizes the exploration of the feasibility and the potential impact of the adoption of recycling technologies in various real-case scenarios, and it is based on primary data and information collected in (a) field research conducted by Blumine in the framework of a UNIDO SwitchMed project focusing on the valorization of post-industrial textile waste in a circular economy perspective in three North-Africa countries (Egypt, Tunisia, and Morocco), (b) in the evaluation of the environmental impact of new technologies for the treatment of textile fibers blended with elastane. Both (a) and (b) studies have highlighted the need to address the issue of the recycling of mixed fibers that represent a large share of textile waste.

11:10 – 11:30 Alessandro Fontana, Marzio Sorlini, Andrea Barni, Claudio Capuzzimati, Rosario Pirrotta and Emanuele Carpanzano. **Towards Circular Economy in the Fashion Industry: A Regional Case Study in Ticino**

The transition to a circular economy (CE) in the fashion industry is imperative for sustainability. This paper presents a methodological proposal for evaluating the maturity of CE adoption within manufacturing companies. With a focus on the Canton Ticino in Switzerland, where the fashion industry is highly specialized, this study examines the evolving landscape of the sector, highlighting shifts towards integrated logistics and outsourcing. A survey-based approach, complemented by targeted interviews, assesses the maturity of CE adoption among companies. Findings reveal varying levels of knowledge and adoption of CE principles, with significant opportunities for improvement identified. Key enabling factors include technological advancements, efficient reverse logistics, education, policy support, and consumer engagement. Challenges include the need for centralization in garment collection, enhanced sustainability education, and effective policy implementation. The proposed methodology offers insights into CE maturity levels, guiding stakeholders towards sustainable practices and fostering sector-wide circularity. Extension of this methodology to other sectors holds promise for comprehensive assessments and targeted actions, driving sustainable development on a broader scale.

WORK IN PROGRESS (WiP) AND PLANNED PROJECT (PP) TRACKS

WiP track 1 - Circular Construction and Design

November 14th, 2024, 14:55-15:55, Foyer
Track chair: Marco Viviani (HEIG-VD)

14:55 – 15:10 Roger Vergés (UPC), Kàtia Gaspar, David Font and Núria Forcada. **A Holistic Framework Proposal for Circular Construction from Current Trends, System Needs, and Sustainable Objectives**

The adverse effects of the built environment on ecosystems are aggravated by the looming threat of climate change impacts on society. Given that the construction sector significantly contributes to emissions, a shift is imperative to curtail its expansion and mitigate environmental and social impacts. This paper aims to analyse the current trends, system needs, and sustainable objectives within the construction sector from a location-specific perspective to identify flaws, unaddressed issues, bottle necks, and areas for improvement. To that end, sustainability and circularity metrics, trends in decision-making processes, the utilisation of Building Information Modelling (BIM), its integration with complementary technologies, and a state-of-the-art holistic assessment of buildings throughout their entire life cycle are examined. Once evaluated, a comprehensive framework proposal is outlined to address these topics, with a priority on promoting circular economy (CE) practices, particularly circular degrowth, with the aim of alleviating the adverse effects of the construction sector on the climate. Findings show that i) circularity metrics are seldom incorporated into LCSA processes, provoking lack of information, ii) automated decision-making criteria are infrequently utilised in construction projects, iii) data visualisation remains uncommon in BIM environments, and iv) product selection should not be conducted in isolation but rather should consider entire system typologies within the project. These findings, along with the proposed holistic framework, present an opportunity to transform the built environment into a more sustainable entity.

15:10 – 15:25 Luca Cornuz. **Reuse and Remanufacture construction wood in Switzerland**

Wood as a sustainable construction material is becoming more and more recognized and demanded. However, the amount of available wood on the planet at any given time is limited. Furthermore, the forest is of paramount importance in climate change mitigation and can't be easily cut. The cascading utilization of wood comes as a solution to increase the amount of wood in usage without detrimental effect on the forest and wood exploitation. This project proposes to implement cascading utilization of wood in Switzerland, starting with the reuse of construction wood and the other R strategies, before valorizing the wood as energy, a topic that is not implemented yet in the industry.

15:25 – 15:40 Louise Mazzoni Leduc (HES-SO), Bernadin Kenne Diffo, Hervé Tchakouté Kouamo, Jean Ambroise and Abdelkrim Bennanir. **Laterite based low carbon binders for circular economy in Yaoundé, Cameroon.**

This original study aims at paving the path for the development of an efficient and affordable low carbon binder, based on Yaoundé local wastes, that achieves sufficient mechanical strength and water resistance. Although mineral admixtures based on agricultural wastes ashes gave acceptable results, the most promising formulations were calcined laterite blended cement. The lowest cement content has been determined to be 30%. In binder paste samples containing 30% cement and 70% calcined laterite the occurrence of pozzolanic reaction was highlighted.

WiP/PP track 2 - Circular Economy in Agro-industrial and Farm Settings	November 14th, 2024, 16:30-17:30, foyer Track chair: Rolf Krebs (ZHAW)
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16:30 – 16:45 Justine Horner, Amira Ben Mansour, Sutida Jansod and Roger Marti. **Valorizing Agro-Industrial Waste: Exploring Antimicrobial Peptides Prepared from Feather Keratin**

The development of self-disinfectant surfaces is a key factor to minimize the risk of infection caused by harmful pathogens arising by everyday human activity. In this context, antimicrobial peptides derived from feather keratin emerge as a new reservoir of sustainable and non-toxic material, thus holding promise as prospective candidates for integration into contact-killing coating formulations. In this study, we investigated diverse methodologies for the extraction, isolation, and purification of peptides derived from various feather keratin hydrolysis techniques. Furthermore, we present the preliminary outcomes of the bioactivity assessment conducted on these peptides.

16:45 – 17:00 Grégoire Meylan, Diu Do Thi, Stephan Gutzwiller, Hien Le Viet, Hien Nguyen Van and Andreas Schönborn. **Green!Tea: Implementing pyrolysis and biochar-based fertilizers for the Vietnamese Tea Sector**

Vietnam is one of Southeast Asia's economic powerhouses. It aspires to high-quality agricultural production with a view to lucrative export markets, while transitioning towards more renewable forms of energy production to meet COP26 commitments. Biomass from productive forests is meant to support this transition. Soil health degradation and droughts driven by climate change led to high inputs of fertilizers and reliance on energy for irrigation. The pyrolysis of biomass to produce heat and biochar is a promising approach to reduce production costs linked to tea crops, while boosting energy and resource efficiency of local tea producers and enabling farmers to produce high-quality agricultural goods and maintain soil health. The wide-spread adoption of such a technological setting has the potential to reinforce Vietnam's position on international markets, while making a substantial contribution to its energy transition. In the Green!Tea project bringing together researchers and private sector from Switzerland and Vietnam, a pyrolizer was designed to 1) replace obsolete wood furnaces of a major tea company to provide heat for tea leaf drying in an efficient way and 2) supply biochar as soil conditioner for tea farmers. Instead of wood logs from rainforests, the pyrolizer relies on acacia wood chips from productive forests. This contribution presents the adapted pyrolizer and analyzes the characteristics of the acacia biochar in terms of its safe and impactful use in tea production.

17:00 – 17:15 Melanie Xenia Boillat and María Franco Mosquera. **Is Reusable Better? A Lifecycle Assessment of Coffee Packaging Options for an SME Coffee Roastery in Switzerland**

Coffee, one of the most popular beverages worldwide, is faced with different environmental sustainability challenges. One challenge being the environmental impact of packaging. Despite existing studies utilizing LCAs to analyze the environmental impact of food and beverage packaging options, there is still a scarcity of research focusing specifically on coffee packaging. This study assesses the environmental sustainability of 3 packaging options for a Swiss SME coffee roastery: recyclable PPPE, reusable glass, and compostable paper. The cradle-to-cradle analysis spans all lifecycle stages including raw material extraction, production, transportation, use, and disposal. OpenLCA (Version 2.0) and the ecoinvent database (Version 3.9.1) support the described assessment. Overall, this study is aimed at guiding the coffee roastery in choosing the most sustainable packaging based on environmental performance and promoting environmental responsibility in the coffee industry.

WiP track 3 - Business and Innovation models in Circular Economy	November 15th, 2024, 10:30-11:30, Rooma B1.07 Track chair: Aurelia Kogler (FHGR)
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10:30 – 10:45 Priya Saikumar and Siyu Li. **Investing in Circularity: A Qualitative Analysis of Venture Capital Funding for Circular Economy Startups**

The circular economy is recognized as a critical path to achieving net-zero, emphasizing systems that maintain resource circulation, reduce emissions from raw material production, and minimize waste's environmental and biodiversity impacts. It also strengthens supply chains by ensuring a steady flow of critical materials. A significant challenge in this transition is "closing the loop" through services, products, and innovations that keep materials in use. Startups and intermediaries are instrumental in connecting circulating products with consumers and end-of-life activities, playing a vital role in this ecosystem. Venture capitalists (VCs) are identified as key enablers of circular economy startups, with a growing focus on climate-conscious investments. This study investigates how VCs fund circular economy startups, analyzing the investment strategies, criteria, and impact metrics of five circular economy-focused VCs. Through archival research, thematic analysis, and semi-structured interviews with VCs in the United Kingdom, this research seeks to understand the decision-making processes VCs use in this sector. By understanding how VCs evaluate circular economy investments effectively, this contribution to literature highlights the unique investment dynamics within the circular economy, addressing both the opportunities and challenges start-ups with a circular economy focus face. The increasing cli-mate focus among VCs underscores the importance of integrating circular economy principles into investment strategies, reinforcing their role in driving sustainable development.

10:45 – 11:00 Lineo Devecchi, Andreas Schneider and Timo Oliveri. **Who cycles with us? Starting a Living Lab in the Toggenburg-Region to Promote and Test Circular Economy Structures and Processes in Swiss Rural Areas**

Circular economy is a promising approach to reduce resource waste and greenhouse gas emissions. However, the "urban" circular economy concepts are not easily transferable to rural areas. We follow a living-lab-approach together with local actors in the rural area of Toggenburg. Together we analyse material cycles in the region and challenges of businesses while implementing circular economy concepts in their operations. Based on the results, we will test individually designed circular economy measures for regional businesses. Finally, we establish a rural hub for circular economy in the Toggenburg region. At the conference we will share preliminary results of our project, namely how material cycles in rural areas function and what challenges businesses face and are willing to discuss our approach with you.

11:00 – 11:15 Alice H. Aubert, Maximilian Grau, Grégoire Meylan and Nico Pfändler. **Water and Nutrient Circularity as a Service (WaNCaaS) – A feasibility study for new business models to close the water and nutrient cycles in the food industry**

Closing water and nutrient cycles in the food industry is essential for sustainability. This project promotes water reuse and nutrient recovery by treating wastewater as a resource. Despite progress in solid waste valorization, liquid streams in food production are underexplored. Wastewater from the food industry can be repurposed, e.g., for irrigation and nutrient recovery. The project proposes Water and Nutrient Circularity as a Service (WaNCaaS), where external providers manage water and nutrient circularity for food industries, so that the latter can focus on their core business. Our research focuses on the feasibility of this model through two case studies, with a salad and a cottage cheese producer, aiming to foster regional cooperation and a sustainable food system.

11:15 – 11:30 Cecilia Cornaggia and Eleonora Noia. **Between saving and sustainability: how online platforms are reshaping narratives and representations of the second-hand fashion market in Italy**

Second-hand fashion consumption is an ancient phenomenon, which has received a renewed attention in recent years in Italy, as well as other European countries. This attention is linked to different factors. First, the 2008 Global Financial Crisis has reduced the purchasing power of the middle class, pushing it towards cheaper and more frugal consumption practices. Secondly, in the last decade, due to the approval of the 2030 Agenda for Sustainable Development and the mobilization of social movements such as Fridays For Future, awareness about environmental sustainability and climate crisis has increased, pushing consumers to seek new forms of sustainable consumption. Third, digital platforms have unlocked the potential for peer-to-peer (P2P) exchanges, giving users the opportunity to buy and resell clothes online. As

online platforms have become increasingly important in the second-hand market, especially after the Covid 19 pandemic, this study investigates their role in shaping a new representation of second-hand, focusing on Vinted, the most popular app for second-hand clothing exchanges in Italy. The research involves visual and textual analysis of 25 commercials of the company, covering a period of three years (2021-2024). In particular, the prevalence of messages focused on saving or sustainability will be assessed, and the different implications of one or the other result will be discussed.

WiP track 4- Energy, Material and Waste Sustainability Solutions	November 15th, 2024, 10:30-11:30, foyer <i>Track chair: Markus Lenz (FHNW)</i>
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10:30 – 10:45 Johanna Klobasa and Daniel Schwendemann. **LCA in the Plastics Sector – Methodology and Challenges**

Life Cycle Assessment is as of today the most conclusive method to compare the environmental impacts of products or systems. Owing to its broad applicability, performing life cycle assessment requires a deep knowledge of the framework conditions of the method as well as of the examined product system. This review describes the most important steps of LCA and sheds light on selected challenges LCA practitioners are facing in the plastic environment.

10:45 – 11:00 Simon Cerqua, Eugenia Bonora, Piyawan Kongseng, Chantarak Sirinya and Christof Brändli. **PEF/PET-starch hydrogels from recycled sources for shrimp farm’s wastewater treatment**

Our aim is to develop PET-, rPET- and PEF-starch hydrogels as a bio-based solution for the sustainable treatment of wastewater (dyes, heavy metals, antibiotics, etc.) from shrimp farming and agriculture in general, which are a persistent environmental problem. This project started as a first step with the research of the depolymerization process and the basic feasibility of developing hydrogels using FDCA (and its derivatives) involving different types of crosslinkers. Different conditions were investigated and optimized to obtain oligomers at low reaction temperatures, short reaction times and high product yields. Subsequently, the obtained products were used as starting material for the synthesis of hydrogels. The properties of the hydrogels were adjusted by the structure, type and content of the crosslinkers used. It is expected that the developed hydrogels will have different mechanical properties (e.g. flexibility, elasticity, etc.) as well as different swelling behavior. Mixtures with starch and PVOH were carried out. Based on the optimized conditions, the rPET hydrogel was tested for the adsorption of anionic and cationic dyes in order to examine the possibility of using it as an adsorbent in wastewater treatment.

11:00 – 11:15 Meret Amrein, Anika Sidler, Bastien Vallat, Markus Lenz and Dalila Rocco. **End-of-life strategies for perovskite solar cells**

In the global challenge of mitigating the effects of climate change, the replacement of fossil fuels with renewable energy sources plays a crucial role. Among those, solar energy is the most abundant and the photovoltaic (PV) industry has been rapidly growing in recent years. The worldwide cumulative PV installed capacity reached >1 Terrawatt (TW) at the end of 2022 and is expected to exceed 5.4 TW by 2030. However, with the increase in PV installations, the amount of future PV panel waste rises, and it is essential to integrate circular economy principles into PV manufacturing, use and end-of-life management. Due to low material use and easy processing, new generation thin film solar cells represent a promising alternative / addition to commonly used crystalline silicon solar cells. In particular, perovskite solar cells have made large improvements in power conversion efficiency and are currently standing at the edge of market entry. They may be used in symbiosis in tandem cells (i.e. perovskite together with silicon cells) to achieve previously unattainable efficiencies. Nonetheless, the most efficient and stable perovskite solar cells contain low amounts of lead, indium and silver. Lead is possibly the most critical constituent in terms of social acceptance, while indium is considered a critical raw material (suffering from supply risks). Finally, silver demand for solar PV already accounted for 10% of the global silver supply in 2021, leading to some concerns about its supply for PV deployment at the TW scale. Therefore, it is vital to develop responsible, energy efficient and scalable recycling solutions to guarantee circularity. Here we present such an environmentally benign and scalable recycling process for perovskites: after mechanical pretreatment, an aqueous extraction allows the selective and quantitative (about 99%) recovery of Pb in form of pure PbI₂, which can be used to remanufacture perovskites. This approach implies lower environmental impacts than other processes, in which organic solvents or molten salts are used as indicated by life-cycle assessments. Subsequently, indium and silver can be extracted from the residual solids by using nitric acid and separated and purified by nanofiltration. The process water from the lead recovery process contains different perovskite constituents (cesium, halides and organic compounds, such as methylammonium and formamidinium). Here, we will illustrate the possibilities for valorization of these waters in terms of material recovery.

11:15 – 11:30 Yosef Cassarà, Pamela Principi and Camilla Perego. **Contribution of small, decentralized biogas plants toward SDGs**

The objective of this study is to evaluate the effects and correlation of biogas towards SDGs (sustainable developments goals). The work consisted in evaluating anaerobic digestion processes and highlighting the correlation between biogas and specific SDGs (2: Zero hunger, 7: Affordable and clean energy, 13: Climate action). Then a specific case study was used as example: the data from “the pilot plant” delivered as project results SUPSI, in order to compare the effective relation with SDGs by using real data.

WORKSHOP TRACKS

WS track 1.1 - Building Reuse Ecosystem

November 14, 2024, 14:55-15:55, Room D1.05

Carlo Gambato, Leidy Guante Henriquez, Stefano Zerbi and Francesco Frontini. **Components Reuse in Construction sector**

The Construction sector is among the most polluting, waste-generating, and resource-depleting sectors. The integration of circular economy models into the sector's dynamics is emerging as a solution proposal. Peculiarities of the Construction industry (e.g., construction products are quite durable and have long lifespans) make circular strategies - as Reuse - key solutions for a transition to more environmentally sustainable patterns; however, reusing construction elements can involve significant obstacles that limit their application. To overcome some of the involved barriers, SUPSI-DACD-ISAAC founded the "4RnD - Circular Construction Hub". The hub is a project that aims to promote Circular Economy solutions in the local Construction sector. 4RnD wants to create a physical and digital platform where to experiment and develop circular-oriented forms, techniques, materials, and solutions that can contribute to the transition toward resilient and sustainable constructions. One of the first measures to promote the Circular Economy in the Construction sector can be the creation of building components marketplaces at the local level. In Switzerland, in recent years, there has been a progressive formation of digital platforms of this type (e.g., Salza, BTVZ, Useagain, L'Arciperl, ...). The last published is the first exchange platform for Construction materials of Ticino (Tessin): TiRiuso (<https://www.tiriuso.ch/>) that will be presented and discussed in the proposed workshop in connection to the building components reuse implementation in today's architecture. The platform was created by Ticino's homonymous deconstruction company (TIRiuso Sagl) with the support of the 4RnD Hub. Accordingly, the workshop investigates three main themes:

- the uniqueness of the circular processes that could be established in the Construction Industry.
- the acceptance level of Reuse for construction components.
- potential benefits and criticalities concerning exchange platforms of reused building components. The envisaged activities want to explore the mentioned CE topics while raising awareness of the Construction Industry's impacts and highlighting the need for a more drastic mindset change toward circular-oriented mechanisms also in this sector.

WS track 1.2 - Building Reuse Ecosystem

November 14, 2024, 16:30-17:30, Room D1.05

16:30 – 17:00 Anna Juda. **Circular Solutions to Transform Business Model**

In an era where sustainability is paramount, the circular economy offers a transformative approach for businesses to create economic, environmental, and social value. Yet, organizations often struggle to translate these principles into actionable projects. The Circular Business Model workshop provides a hands-on, practical framework for reimagining business strategies through the lens of circular economy principles. Participants will engage with a case study of a wood furniture producer, using playful tools to identify and develop circular solutions. Working in small groups, they will explore ways to enhance the company's positive impact and resilience, ultimately presenting their ideas through a collaborative pitch. This workshop, based on the proven Circulab methodology, aims to demystify the process of designing circular business models. It will equip participants with practical tools and techniques to foster innovative, solution-oriented thinking. By the end of the session, attendees will have a clear understanding of how to implement circular strategies within their own organizations. Ideal for, industry professionals, and institutional representatives, this interactive session promises to be both educational and inspiring.

17:00 – 17:30 Anna Juda. **Reimagine the key roles in the building reuse ecosystem**

The transition towards a reuse-oriented construction industry presents significant challenges, particularly in regions like Ticino, Switzerland, where reuse projects remain marginal. This workshop addresses key obstacles such as communication gaps, logistical needs, and economic considerations in fostering a reuse ecosystem. By convening stakeholders including architects, planners, and local authorities, the workshop aims to reimagine their roles and interdependencies in advancing sustainability in construction. Through scenario-based discussions and idea generation, participants will collaboratively devise strategies to promote material reuse. The workshop's desired outcomes include a shared vision of stakeholder responsibilities, comprehension of transition obstacles, and actionable solutions for industry advancement. This collaborative approach seeks to drive meaningful change and encourage stakeholders to act towards a more sustainable construction sector.

WS track 2 - Business Model Transformation

**November 15th, 2024, 10:30-11:30,
Room B1.16**

Elimar Frank, Tom Koch and Michaud Frédéric. **Core Elements for the Transition of Companies to Circular Economy**

The Workshop addresses the first two topic areas of the FTAL 2024 conference:

- *Innovative concepts for circular Rs in practice and business models*
- *Strategies to rethink and redesign towards circular value activities.*

The topic is «Core Elements for the Transition of Companies to Circular Economy». We will give a short overview on relevant core elements, such as CE-Design, CE-Strategies for/of Companies, CE Business Models, CE-Supply Chains, CE-Logistics and others.

Then, we focus on the measurability of Circularity and on Product-as-a-Service Business Models.

After a short input from the Workshop team, the participants will be activated by group works on a few relevant questions. For this, the participants can choose between the topics “measurability of Circularity” and “Product-as-a-Service Business Model Development”.

Prerequisites for participation: Basic knowledge of CE. Ideally, own and "real" experiences with one or more aspects of the transition of companies to circular economy.