Interreg Baltic Sea Region
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CIRCULAR ECONOMY
Circular spaces
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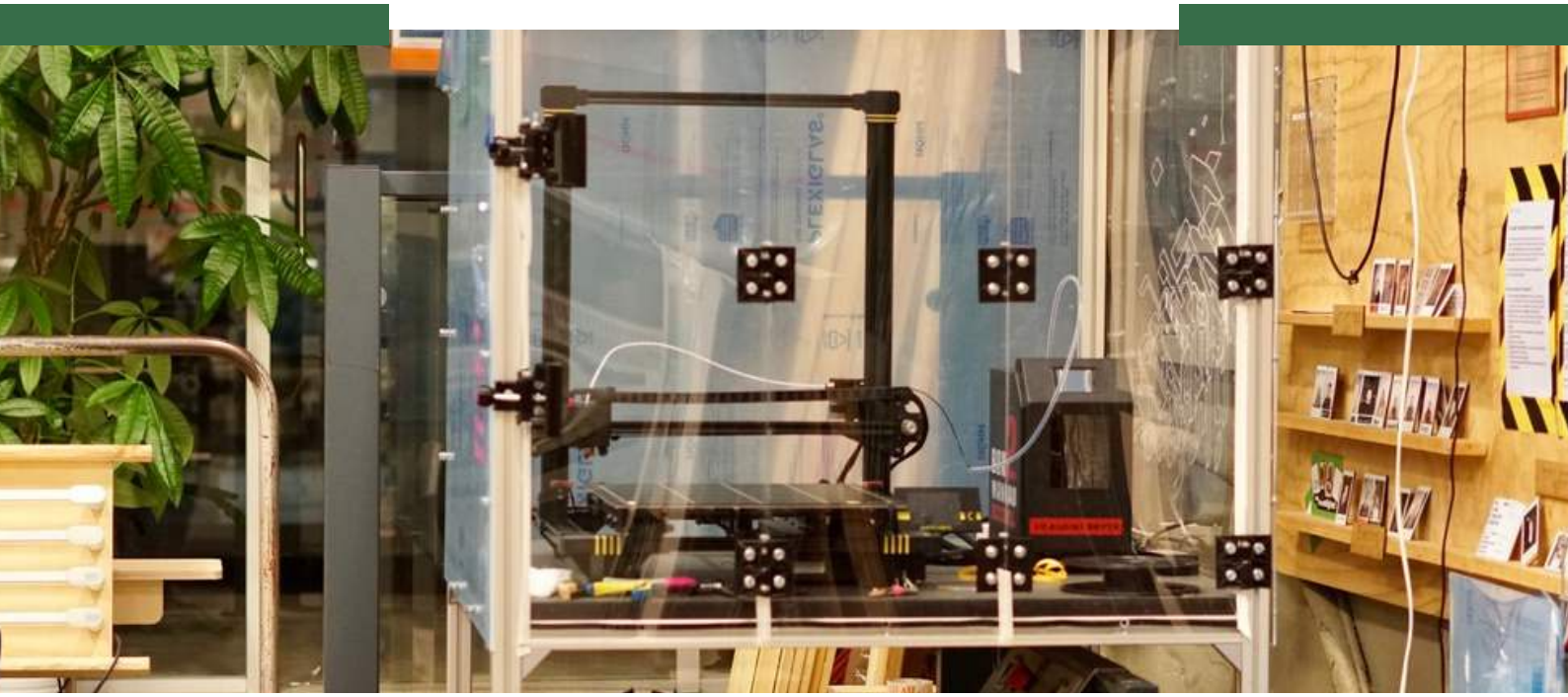
NEWSLETTER

CIRCULAR SPACES

Transforming makerspaces to circular economy principles



TOP NEWS OF THE PROJECT

INTER-NATIONAL CONFERENCE IN LATVIA

We are happy to invite you to the next conference of the project "Circular spaces"! The conference will be held on **5 March, 2025, in Valmiera, Latvia**. This event will gather makers, designers and policymakers to explore circular economy practices in makerspaces. Expect inspiring speakers, exciting discussions, an exhibition showcasing work done by international teams and other intriguing features. Attend in person or online. Save the date and see you in Valmiera!

UBC FEATURES CIRCULAR SPACES IN NEWSLETTER

Story about empowering citizens to build sustainable businesses in Valmiera (Latvia) has been published on **Union of the Baltic Cities** (UBC) Sustainable Cities Commission newsletter. UBC is a voluntary, proactive network mobilizing the shared potential of its member cities for democratic, economic, social, cultural and environmentally sustainable development of the Baltic Sea Region. Read the full article **here**.

CIRCULAR SPACES INTERNATIONAL CONFERENCE TO INSPIRE CIRCULARITY IN CREATIVITY

On 10 October, 2024, the Circular spaces international conference took place in the circular makerspace at Maker in Copenhagen. The conference was filled with presentations with useful solutions and creative ideas. Altogether more than 60 people participated, both online and on site, to hear the latest news about circularity in makerspaces.

FOCUS ON NEW SOLUTIONS

The conference was opened with a tour of the premises at the Maker. The workshop and community manager at Maker **Asger Nørregård Rasmussen** proudly demonstrated the makerspace, emphasizing the actions done to ensure that it is possible to make products based on circular economy principles.

After the tour of the makerspace **Malte Hertz Jansen**, managing director at Maker, opened the meeting. The conference was continued with a presentation from **Evija Nagle**, project manager of the "Circular spaces". She introduced the audience with the project, partner consortium, overall project aims and deliverables. Evija Nagle highlighted the importance of the cross-border cooperation between the partners by sharing knowledge and experience in different fields.

Conference presentations

After the introductory part of the conference, we explored the solutions prepared within the project. **Ilze Eglāja** from Valmiera Development Agency dove deep in one of the solutions – guidelines "Transformation into circular makerspaces". Ilze elaborated more on the 10 steps developed on how to transform an existing makerspace to a circular makerspace that provides all the necessary tools for makers to produce circular products. Find the guidelines **here**.

To provide real examples, Malte from Maker showed their makerspace transformation by showing examples of before and after. In the makerspace they have introduced new equipment, improved work flow, updated material storage and upgraded infrastructure for recycling. **Diogo Dias Da Costa Vale** from Gewerbehof Luckenwalde shared their experience on transforming to circular makerspace. Their key to transformation has been organizing workshops that show circular economy principles in the makerspace, including environmentally friendly 3D printing materials, creating a material tracking system and material recovery station, waste sorting and other activities.

Tour of the circular makerspace Maker in Copenhagen, Denmark

THEORY PUT INTO PRACTICE

To strengthen the transformation to circular makerspaces even more, international teams in 5 makerspaces across Baltic Sea Region are working on circular products by utilizing equipment, space and knowledge in these makerspaces. For the conference teams had prepared the first prototypes of the products. The prototypes were showcased in an exhibition.

Team no.1 from makerspace DARE developed packaging from recycled plastic bags using only thermo-presses. This packaging was created for a natural wool sweater made of dog wool.

Team no. 2 from makerspace DARE developed an eco-friendly tea set. The kit includes a reusable glass jar with a food-safe silicone lid and sleeve, as well as innovative eco-friendly tea bag solutions.

Jan Tore Usken from Creator makerspace in Stavanger, Norway, introduced the audience with the education program "Circular makerspaces: training program". The program includes 9 topics that cover all you need to know about circular economy and creating circular products in makerspaces. The program includes both methodological notes and slides for each topic. Find the training program **here**.

Sandra Rožkalne from Ventspils High Technology Park shared the newest solution in the project – digital circular collaboration tool. It's a tool where makers can meet suppliers, where makers can post their products and makerspaces showcase their circularity. The tool is a great way how to connect different parties and strengthen the cooperation. The tool also includes guidelines and training program mentioned before. Find the tool **here**.

Insights on communication activities in the project were shared by **Elizabete Brūvere**, project's communication manager. Elizabete also shared insights about the future and had an interactive part with the participants by asking questions about the barriers that makerspaces and makers experience to transform into circular economy based makerspaces.

The next part of the conference was the second edition of event series that Maker organizes – 'Speaking of: Design Ethics'. Researcher **Linda Nhu Larsen** gave a presentation on responsible design, highlighting the need to create products that are transformable, dismantled, repairable and sustainable. This was followed by a presentation by A:gain on how to produce sustainable products on a large scale. Products created in their company include recycled plastic tables, acoustic panels made from textiles, window displays made from recycled windows and more.

Speaking of: Design Ethics

MAKER'S CIRCULAR TRANSFORMATION: SUPPORTING CIRCULAR DESIGN AND LOCAL PRODUCTION

Maker is a collaborative workshop and knowledge center dedicated to transforming how ideas take shape. Rooted in design-by-collaboration, we empower professionals to share knowledge, develop new skills, and bring their ideas to life. By offering hands-on training with tools and machinery, promoting circular design principles, and hosting public events that inspire and connect, we strive to make circular design, new waste materials and local production more accessible for everyone.

As part of the Circular Spaces project, Maker has undertaken a significant transformation to enhance opportunities for working with recycled materials and supporting local production. The primary goal of this transformation is to reduce waste by creating internal systems for material sharing, upgrading our facilities to better process materials, and fostering a deeper understanding of circular design principles among our community. Additionally, through partnerships, we connect our members with "new waste" materials sourced from local industries, encouraging their reuse in new designs and products.

Transformed wood workshop

Guided by our mission to support circular design and local production, we've integrated circular design principles and infrastructure into our professional makerspace. This transformation enables our community to design, produce, and repair with a focus on local resources and more sustainable design practices.

KEY UPGRADES AS PART OF THE TRANSFORMATION

The transformation has mainly focused on enhancing our woodworking capabilities through professional facilities, tools and circular practices. By investing in advanced machinery, work environment optimization and promoting material circularity, Maker is on a continuous journey to reimagine how makers, designers, and entrepreneurs interact with resources and materials.

Leveling and thickness planer

Sanding table and sanding station

- **Full-Sheet CNC machine with automatic tool change:** Facilitates precise, waste-minimizing woodwork, making it easier to work with reclaimed and locally sourced materials.
- **Enhanced dust collection:** Improves air quality, enhances work safety, and ensures a clean, efficient workspace essential for woodworking.
- **Material sharing systems:** Industrial shelves, racks, and modules support the sharing and reuse of leftover materials, promoting a culture of resource efficiency and optimal material use.
- **Workshop press for compressed materials:** Allows for experimentation with creating new materials from waste, contributing to sustainable production practices.
- **Leveling and thickness planer:** Optimizes wood processing and consistent material quality, particularly when working with reclaimed wood, which often provides superior quality compared to virgin wood.
- **Sanding table:** Ensures high-quality finishing for locally crafted products while reducing airborne particles for a cleaner work environment.
- **Dust curtains (dust separation):** Maintains a clean and safe workspace by containing dust within specific areas.

Racks for sharing waste materials

Material racks

Storage racks

VALUE CREATED THROUGH THE TRANSFORMATION

This transformation has strengthened Maker's ability to support circular design and local production, while fostering a resource-efficient and community-focused workspace. The following are ten key benefits:

1. **Minimized waste:** Improved tools and sharing systems ensure materials are reused effectively, reducing overall waste.
2. **Support for sustainable design:** Members have access to professional equipment that encourages the creation of long-lasting, and more sustainable products.
3. **Enhanced local production:** The upgrades promote the use of locally sourced and reclaimed materials, reducing reliance on importedresources.
4. **Improved work environment:** Better dust collection and separation create a healthier and more productive workspace.
5. **An inspirational model:** The transformation demonstrates how makerspaces can champion sustainable design and circular production on a local scale. This is applied as upgraded infrastructures and facilities, but also on training material and programmes.
6. **Material experimentation:** The workshop press, material library and our material lab enables members to explore and experiment with new ways of repurposing waste materials.
7. **Lower costs:** Material sharing reduces costs for members while supporting more affordable local production.
8. **Education in circular design:** Hands-on experience with circular practices equips members and a public with skills to design and produce with circular material as a focal point.
9. **Community collaboration:** Shared resources and upgraded facilities create opportunities for community collaboration as well as public events, programmes and workshops.
10. **Strengthened local economy:** Promoting reuse and supporting local production contributes to economic resilience and sustainability in the community.

Material library and new waste materials

Material lab for experimenting with eco-materials and recycling of materials

Through this transformation, Maker has managed to reduce the attitude-behaviour gap and evolve into a space focusing on circular design and local production. By integrating circular practices, advanced tools, and resource-sharing systems, we are empowering our community to create responsibly while supporting a stronger local economy. This journey reflects our commitment to shaping a better tomorrow—one material, one project, and one collaboration at a time.

Author: Makerspace Maker team

CELEBRATING A SUSTAINABLE CHRISTMAS: MAKERSPACES AS HUBS FOR RESPONSIBLE FESTIVITIES

The holiday season is often a time of joy, togetherness, and generosity, but it also comes with environmental challenges. From over-packaged gifts to the short lifespan of trendy gadgets, the Christmas season contributes significantly to waste and resource depletion. However, makerspaces are perfectly positioned to challenge the throwaway culture of the holidays by providing resources, knowledge, and tools to create meaningful, sustainable gifts.

During the holiday season, makerspaces can foster sustainability by hosting workshops on upcycling, repair, and eco-design. Imagine creating a handmade gift using reclaimed wood, 3D printing with recycled filament, or breathing new life into an old item through creative reuse. These gifts not only reduce waste but carry a personal touch, making them far more meaningful than mass-produced alternatives.

Moreover, makerspaces can serve as community hubs for sharing and renting tools, reducing the need for individuals to purchase new equipment for one-off projects. This not only saves money but supports a shift toward shared ownership models that align with circular economy principles.

Beyond gifts, makerspaces can encourage a broader culture of sustainable celebration. From DIY decorations crafted with salvaged materials to workshops on energy-efficient holiday lighting, makerspaces can help communities embrace creativity and resourcefulness in their celebrations.

Lithuanian Innovation Centre festive office

Author: Ugnė Masilionytė, Lithuanian Innovation Centre

EXPLORING COLLABORATION IN MAKERSPACES FOR CIRCULAR ECONOMY GOALS

On November 21, Tech-Park Kaunas at KTU Santaka Valley hosted the interactive seminar "How the Circular Economy Encourages Collaboration Between Businesses and Creative Open Spaces." The event, attended by nearly 30 participants from SMEs, academia, and business support organizations, highlighted the potential of circular economy principles in fostering innovation and collaboration.

Seminar in Tech-Park Kaunas

The seminar showcased results from the Interreg BSR programme “Circular Spaces” project, including a “Circular Makerspaces Training Program”, a “Digital Circular Collaboration Tool”, and real-world examples of circular practices. Živilė Paužaitė, representing Tech-Park Kaunas introduced the key project outcomes, such as circular transformation guidelines and a digital platform for makerspaces and artists, while Assoc. Prof. Dr. Visvaldas Važinskas provided insights into global trends, recycling challenges, and sustainable material use.

Participants visited Circular Makerspace Kaunas, a zero-waste facility where waste materials are repurposed into business products, and KTU M-Lab, a makerspace for prototyping with biobased materials and electronics. Both spaces demonstrated how collaboration between science, industry, and individuals can drive sustainable innovation.

The event combined theoretical insights and practical applications, inspiring businesses and communities to adopt circular economy principles. By engaging diverse audiences, it ensured the continued relevance and use of project outcomes, contributing to a more sustainable future.

Author: Tech-Park Kaunas team

MAKERSPACE DARE PARTICIPATES IN A CONFERENCE ON ARTIFICIAL INTELLIGENCE AND CYBERSECURITY

Valmiera Makerspace DARE participated in the conference "Artificial Intelligence and Cybersecurity: Cornerstones of Digital Transformation," organized by the Latvian Digital Accelerator, held at the Valmiera Concert Hall on October 18.

During the conference, DARE introduced attendees to the Circular Economy project, with a particular emphasis on the Digital Circular Collaboration Tool developed within the project. This digital tool promotes sustainable collaboration and resource use in the circular economy.

Additionally, a sorting conveyor prototype featuring computer vision was showcased. It was made from leather and acrylic glass scraps, as well as 3D-printed components. This prototype highlighted DARE’s transformative journey toward becoming a more circular and environmentally friendly makerspace, serving as an example for regional businesses and the international community.

By participating in this conference, Valmiera Makerspace DARE demonstrated its commitment and capability to actively contribute to the digital transformation process and foster the growth of the circular economy in Latvia.

Author: Valmiera makerspace DARE team

TRANSFORMING CREATOR MAKERSPACE INTO A CIRCULAR MAKERSPACE: A JOURNEY TOWARDS SUSTAINABILITY

At Creator Makerspace (Stavanger, Norway), we have always been passionate about fostering innovation and creativity. Recently, we embarked on an exciting journey to transform our space into a circular makerspace. This shift aligns with our mission of empowering sustainable practices while providing an inclusive environment for creators.

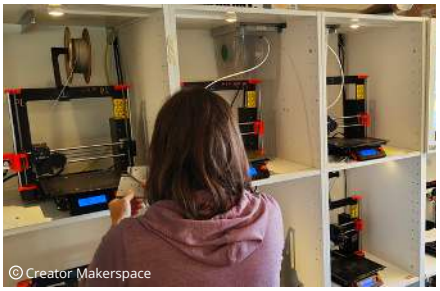
Our efforts focus on maximizing resource efficiency by incorporating upcycling, reusing materials, and adopting energy-efficient practices across our workshops. For example, our metal and wood workshops now integrate sustainable practices such as reusing scraps for prototyping and recycling unused materials into functional components for new projects.

To promote these values, we've also introduced workshops and community events highlighting the importance of the circular economy. These initiatives have not only educated our members but also strengthened our role in Stavanger's entrepreneurial ecosystem.

Through these changes, Creator Makerspace has evolved into a hub where innovation meets sustainability, inspiring makers and businesses alike to embrace the circular economy.

>>> AN EXAMPLE OF WHAT WE HAVE BEEN DOING:

3D Printer Filament Recycling: We've partnered with local organizations to process failed 3D prints and scraps of filament into usable spools. This closed-loop system ensures that plastic waste is minimized, and members have access to affordable recycled filament for their next projects.



Premises of the Creator Makerspace

Author: Jan Tore Usken, Creator Makerspace

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interreg-baltic.eu/project/circular-spaces

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