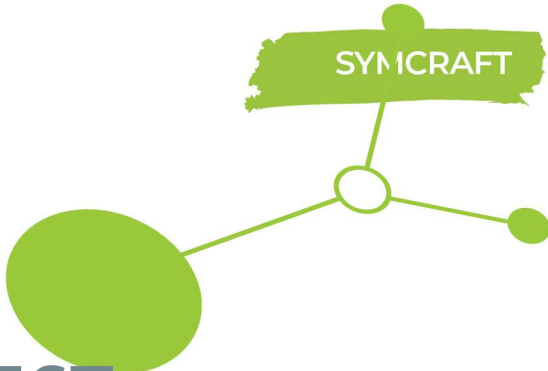




SYMCRAFT



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Main Author: Enrico Segantin (t2i)

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TABLE OF CONTENTS

Sommario

1. PURPOSE OF THE DOCUMENT.....	3
2. METHODOLOGY.....	4
3. THE SYMCRAFT CIRCULAR ECO-BUSINESS MODEL CANVAS TOOL	6
4. ENGAGEMENT OF COMPANIES: BILATERAL CALLS AND FOLLOW-UP MEETINGS	7
5. CROSS-VALUE-CHAIN CO-CREATION WORKSHOPS AMONG PARTNERS OF THE THREE SUPPLY CHAINS.....	9
6. REGIONAL PILOT RESULTS	10
ANNEXES.....	11

1. PURPOSE OF THE DOCUMENT

This deliverable presents the consolidated results of Pilot Action 2 of the SYMCRAFT project, dedicated to the activation of industrial symbiosis pathways between manufacturing industries and craft SMEs across the three target supply chains addressed by the project — Wood & Furniture, Textile & Fashion, and Ceramics & Glass. Building on the scouting and mapping activities carried out under Pilot Action 1, Pilot Action 2 moved the SYMCRAFT approach from the identification of potential industrial waste and by-product streams to the concrete activation of cross-sector collaborations between companies generating production residues and craft or artisan enterprises capable of transforming those residues into new products with added cultural, aesthetic and economic value. The document outlines the common methodology jointly agreed by the SYMCRAFT partnership to ensure a consistent, comparable and replicable approach across the seven partner countries and the three pilot supply chains, while allowing sufficient flexibility to adapt to the specific industrial fabric, craft traditions and stakeholder landscape of each pilot region.

The document further describes the SYMCRAFT Circular Eco-Business Model Canvas Tool, the dedicated digital instrument developed within the project to support partners and companies in designing, discussing and validating the eco-business model underlying each cross-sector collaboration; illustrates in detail the engagement process carried out with the participating companies, from the initial informational outreach to the final validation of the Circular Eco-BMC; and reports the cross-regional results achieved within each pilot territory, highlighting commonalities, differences and lessons learned that will feed into the scaling activities planned under Pilot Action 3. The detailed activity reports compiled by the individual partners — including showcase descriptions, waste stream characterisation, description of the circular collaboration established, the resulting Circular Eco-BMC outputs, the key benefits generated for the supplier, the artisan and the environment, and the specific role played by the SYMCRAFT partner in facilitating the collaboration — are provided as Annexes and constitute an integral and inseparable part of this deliverable. This report is intended primarily for the Joint Secretariat and the Managing Authority of the Interreg Central Europe Programme, for the SYMCRAFT partnership itself, and, in its public dissemination version, for external stakeholders, policymakers and practitioners interested in replicating the SYMCRAFT industrial symbiosis methodology in other territories and value chains.

The three supply chains addressed by Pilot Action 2 — Wood & Furniture, Textile & Fashion, and Ceramics & Glass — were selected at the outset of the SYMCRAFT project because they combine, in most Central European regions, a

significant industrial base generating structured and quantifiable waste and by-product streams with a parallel, often underexploited, tradition of craft and artisan know-how capable of transforming those materials into new products of high aesthetic, functional or cultural value. Pilot Action 2 therefore represents the operational heart of the SYMCRAFT approach to industrial symbiosis: rather than a purely industrial or purely craft-based intervention, it deliberately bridges the two worlds, generating collaborations that create economic value for both sides while reducing the volume of material sent to disposal. The remainder of this document is structured to reflect the logical sequence of this work: Section 2 details the common methodology; Section 3 describes the Circular Eco-Business Model Canvas Tool that supports it; Sections 4 and 5 describe respectively the bilateral company engagement and the cross-value-chain Co-Creation Workshops through which the methodology was implemented; Section 6 summarises the regional results; and the Annexes provide the full, showcase-by-showcase evidence produced by each partner.

2. METHODOLOGY

The Pilot Action 2 methodology was jointly defined by the SYMCRAFT consortium during the transnational partner meetings preceding the piloting phase, in order to ensure consistency of approach across the three supply chains and the seven participating pilot regions, while leaving room for territorial specificities in terms of industrial structure, craft tradition and stakeholder engagement practices. Rather than a single generic sequence, the methodology was designed as an operational pipeline made of five concrete, sequential steps, each producing a tangible output that fed into the next one, from the first contact with a company to the final validated Circular Eco-Business Model Canvas.

The first step consisted in the direct engagement of companies belonging to the three target supply chains through targeted informational campaigns aimed at inviting them to participate in the SYMCRAFT Co-Creation Workshops. In each pilot region, partners combined several communication channels to reach the highest possible number of relevant industrial waste generators and craft/artisan enterprises: dedicated informational emails describing the SYMCRAFT approach, the concept of industrial symbiosis and the concrete opportunity represented by the workshop; direct phone calls to companies already mapped during Pilot Action 1 scouting activities; leverage of regional business associations, chambers of commerce, craft guilds and cluster organisations to relay the invitation to their membership base; and, where useful, short one-to-one preparatory calls with the most promising companies to explain in person the objectives of the initiative and to pre-screen the type of waste stream or craft capability they could bring to the workshop. This informational and recruitment phase was critical to build a sufficiently diverse and complementary pool of participants — combining, within the same room, industrial partners generating waste streams and artisans or craft SMEs able to valorise them — without which no meaningful matching could take place during the following workshop.

The second step took place during the Co-Creation Workshops themselves, where the actual matching between industrial waste suppliers and craft/artisan enterprises was generated. Each workshop was structured to maximise the opportunities for spontaneous and facilitated matching: short pitch sessions in which each participating company presented its waste stream, production residue or, symmetrically, its craft capability and material needs; structured networking tables organised by material typology (wood, textile, ceramic, glass, metal, leather, and so on) to bring together companies with complementary profiles; and facilitated matchmaking sessions led by the SYMCRAFT partner staff, who used their prior knowledge of the participants, built during the informational and recruitment phase, to actively suggest and broker promising combinations rather than leaving the process purely to chance. The output of this step was a first list of candidate pairs or small groups of companies — an industrial waste generator and one or more craft/artisan enterprises — expressing a genuine interest in exploring a concrete circular collaboration.

In several pilot regions, for the most mature and promising matches identified during the workshop, the partners went one step further and supported the participating companies in sketching a first, preliminary version of the Circular Eco-Business Model Canvas directly during the event, on paper or on the digital tool projected in the room. This on-the-spot drafting exercise served two purposes: it allowed the companies to immediately visualise, in a structured way, the potential shape of their collaboration — waste stream, transformation process, new product or application, value proposition, and expected environmental and economic benefits — while the enthusiasm and mutual understanding generated by the face-to-face matching was still fresh; and it gave the SYMCRAFT partner staff an early indication of the robustness of the match and of the additional technical or commercial information still needed to complete a solid business model. Not every match reached this stage within the workshop itself, since the depth of information available during a single event is necessarily limited, but for a meaningful share of the collaborations documented in the Annexes this preliminary canvas represented the actual starting point of the subsequent development work.

The fourth step consisted of a series of dedicated follow-up calls organised by each partner with the specific groups of companies and artisans matched during the workshop. Unlike the workshop, which by nature is a one-off collective event, these calls were scheduled individually for each collaboration, at a pace compatible with the companies' availability, and were used to progressively enrich and refine the Circular Eco-Business Model Canvas using the dedicated SYMCRAFT digital tool. During these calls, partners worked jointly with the companies to characterise in detail the waste stream — quantities, seasonality, quality, current disposal cost — to define precisely the transformation process and the resulting new product, to clarify roles, responsibilities and, where relevant, commercial or logistic arrangements between the supplier and the artisan, and to populate systematically each block of the Eco-BMC: value proposition, key partners and resources, material and value flows, cost and revenue structure, and, most distinctively, the environmental and social impact dimensions added by SYMCRAFT to the

traditional Business Model Canvas. Depending on the complexity of the collaboration, this iterative development involved between two and four follow-up calls per showcase, each building on the tool output produced in the previous session.

The fifth and final step was the joint validation of the completed Circular Eco-Business Model Canvas, carried out during a concluding call bringing together, whenever possible, all the companies and artisans involved in the same collaboration together with the responsible SYMCRAFT partner. This closing session served to walk through the final version of the canvas block by block, to confirm that the description of the circular collaboration, the material flows and the expected benefits correctly reflected the shared understanding of all parties, to resolve any residual open point — for instance on logistics, pricing or intellectual property of the resulting craft product — and to formally validate the canvas as the reference output of the showcase, ready to be documented in the partner activity report and annexed to this deliverable. A common reporting template was adopted by all partners throughout this five-step process to guarantee comparability and aggregability of the showcases across regions; the template covers, for each collaboration, basic information on the companies involved, waste material characterisation, new product or application developed, circular collaboration logic and material flows, the validated Circular Eco-Business Model Canvas output, the key benefits for the supplier, the artisan and the environment, and the specific role played by the SYMCRAFT partner in supporting the showcase from first contact to final validation.

3. THE SYMCRAFT CIRCULAR ECO-BUSINESS MODEL CANVAS TOOL

The SYMCRAFT Circular Eco-Business Model Canvas Tool is the dedicated digital instrument developed within the project to support partners and companies throughout the entire pathway described in the previous section, from the first preliminary sketch produced during the Co-Creation Workshops to the fully validated canvas produced at the end of the follow-up calls. The tool extends the traditional nine-block Business Model Canvas — customer segments, value propositions, channels, customer relationships, revenue streams, key resources, key activities, key partners and cost structure — with a set of additional circular economy dimensions specifically designed for cross-sector industrial symbiosis collaborations: characterisation of the waste or by-product material flow at the origin of the collaboration; description of the transformation process applied by the craft or artisan enterprise; environmental impact indicators, such as quantity of waste diverted from disposal and, where estimable, associated CO₂ or resource savings; and the social and cultural value generated by the craft transformation itself, an aspect of particular relevance for supply chains rooted in traditional manufacturing know-how such as those addressed by SYMCRAFT.

Operationally, the tool is made available to partners and companies as a structured, easy-to-use digital template that can be filled in collaboratively during workshops, follow-up calls and validation sessions alike, ensuring continuity between the

different steps of the engagement methodology. Each completed canvas is stored and linked to the corresponding showcase in the partner activity report, so that it can be consulted directly through the reference provided in each Annex. Beyond its immediate function of documenting individual showcases, the systematic use of the same tool across all pilot regions and all three supply chains ensured a consistent analytical framework, enabling meaningful cross-comparison among showcases developed in different countries and sectors, supporting the identification of recurring patterns, replicable models and critical success factors, and laying the operational groundwork for the cross-regional analysis and the scaling activities planned within Pilot Action 3, where the most promising Eco-BMC models will be consolidated into transferable guidance for new territories and value chains.

The tool was developed by t2i, in its role as WP2 activity leader, on the basis of the co-design sessions carried out with the SYMCRAFT partnership during the preparatory phase of Pilot Action 2, and was subsequently refined through an iterative process informed by the direct feedback collected from partners during the first Co-Creation Workshops and follow-up calls. Early testing highlighted the need to keep the tool as lightweight and visual as possible, so that it could be filled in live during a workshop session without requiring specialised business modelling skills from the participating companies, while still capturing enough technical and quantitative detail — on waste volumes, material composition, transformation process and expected environmental benefit — to support a meaningful comparison across showcases at project level. The resulting version of the Circular Eco-BMC Tool therefore balances simplicity of use in the field with analytical robustness at consortium level, and constitutes, together with the reporting template described in Section 2, one of the two methodological pillars on which the entire Pilot Action 2 evidence base rests. A short user guide accompanies the tool, so that partners joining the piloting activities at a later stage, or new companies engaged during the scaling phase of Pilot Action 3, can adopt it autonomously without the need for extensive prior training.

Looking ahead, the same Circular Eco-BMC Tool is expected to remain the reference instrument also for Pilot Action 3, ensuring full methodological continuity between the piloting and the scaling phase of the project: showcases that reach a sufficient level of maturity during Pilot Action 2 will be revisited and further developed using the identical canvas structure, while new collaborations activated during the scaling phase will be onboarded directly through the tool, without the need to design a parallel or alternative documentation format.

4. ENGAGEMENT OF COMPANIES: BILATERAL CALLS AND FOLLOW-UP MEETINGS

The completion of a validated Circular Eco-Business Model Canvas for each showcase required an intensive, multi-stage engagement effort with the participating companies, extending well beyond the collective moment of the Co-Creation Workshop described in Section 5. Before each workshop, SYMCRAFT partners invested significant effort in informational outreach and preparatory

bilateral contacts, as detailed in the Methodology section, to build a pool of companies genuinely interested in exploring an industrial symbiosis collaboration and sufficiently informed about the SYMCRAFT approach to make the most of the workshop itself. After the workshop, for every selected match between an industrial waste supplier and a craft/artisan enterprise, project partners organised a structured series of dedicated bilateral calls and follow-up meetings, tailored to the specific pace, availability and level of digital familiarity of the companies involved — ranging from small artisan workshops with limited administrative capacity to larger manufacturing companies with dedicated sustainability or innovation staff.

These bilateral interactions allowed the partners to collect detailed technical information on waste streams and production processes that is rarely available or shareable in a large collective workshop setting; to refine, call after call, the value proposition and the underlying circular collaboration logic; to co-define material flows, quality thresholds, logistic arrangements and, where relevant, indicative pricing mechanisms between the supplier and the artisan; to validate progressively the assumptions underlying the Eco-Business Model Canvas as it was being populated through the SYMCRAFT tool; and to support, where applicable, the informal or formal negotiation of supply or cooperation agreements between the companies, going beyond the scope of the project itself. Particular attention was paid, during these calls, to maintaining the motivation and engagement of both sides of each match, since industrial symbiosis collaborations of this kind often compete, in terms of company time and attention, with day-to-day production priorities; partners therefore adopted a proactive follow-up approach, setting concrete next steps and deadlines at the end of each call rather than leaving momentum to dissipate between sessions. The bilateral engagement work has been, overall, a key enabling factor for the quality, completeness and robustness of the showcases documented in the Annexes, and represents, together with the workshop matching itself, the true operational core of Pilot Action 2.

To support this engagement effort operationally, most partners prepared a short informational kit — typically a one-to-two-page description of the SYMCRAFT project and of the concrete opportunity offered by Pilot Action 2 — used both for the initial recruitment contacts ahead of the workshops and as a leave-behind material after the bilateral calls, so that companies could share it internally with colleagues or management not directly involved in the discussion. Bilateral calls and follow-up meetings were organised, depending on partner and company preference, either as in-person visits at the company premises — particularly valuable for craft and artisan enterprises, where seeing the workshop and the available tools and residues in person considerably eased the definition of the transformation process — or as remote video calls, used especially for follow-up sessions once the initial relationship had been established. After each call, partners systematically updated the relevant Circular Eco-Business Model Canvas on the SYMCRAFT tool and kept a short record of the open points to be addressed in the following session, ensuring continuity of the engagement even when several weeks elapsed between calls due to companies' production or seasonal constraints, and

providing a traceable, cumulative history of how each showcase evolved from a first informational contact to a fully validated collaboration.

5. CROSS-VALUE-CHAIN CO-CREATION WORKSHOPS AMONG PARTNERS OF THE THREE SUPPLY CHAINS

In parallel with, and in continuity with, the bilateral company engagement, each SYMCRAFT partner organised one or more Cross-Value-Chain Co-Creation Workshops in its pilot territory, bringing together in the same room, for the first time, industrial companies generating waste and by-product streams from the Wood & Furniture, Textile & Fashion and Ceramics & Glass supply chains, and craft or artisan enterprises with the skills to transform those materials into new products. The workshops were designed around a common agenda structure, adapted by each partner to the local context: an opening session introducing the SYMCRAFT project, the concept of industrial symbiosis and the objectives of the event; short pitch presentations by the participating companies of their waste stream or, symmetrically, their craft capability and material interests; facilitated matchmaking sessions organised around thematic networking tables, in which SYMCRAFT partner staff actively supported the identification of promising combinations; and, for the more mature matches, a first hands-on session dedicated to sketching a preliminary Circular Eco-Business Model Canvas using the SYMCRAFT tool, so that participants left the workshop not only with new contacts but with a first tangible, shared representation of the collaboration they had started to imagine together.

Beyond their direct function of generating company-to-company matches, the Co-Creation Workshops also served as important alignment moments across the SYMCRAFT consortium, allowing partners to share emerging showcases as they developed, compare methodological approaches and facilitation techniques adopted in different pilot regions, identify cross-cutting patterns and transferable practices across the three supply chains, and consolidate a coherent narrative for the project as a whole ahead of the transnational reporting exercise. The workshops also provided a structured space to jointly discuss the practical application of the Circular Eco-BMC Tool — collecting feedback on its usability during a live, collective session rather than only during individual follow-up calls — to refine the common reporting template on the basis of first-hand facilitation experience, and to prepare the ground for the cross-regional analysis and the scaling activities foreseen under Pilot Action 3, where the workshop format itself is expected to be replicated, with adjustments, in new territories.

In terms of format, each Co-Creation Workshop typically lasted half a day to a full day and gathered a mixed audience of industrial companies, craft and artisan enterprises, representatives of business associations and, in several cases, regional or municipal authorities interested in the circular economy potential of the initiative. At the end of each workshop, partners circulated to all participants a short summary of the matches identified during the event, including, where already available, the preliminary Circular Eco-Business Model Canvas sketched live,

together with the proposed next steps and an indicative calendar for the follow-up bilateral calls described in Section 4. This immediate, written follow-up proved important to preserve the momentum generated during the event and to formalise, in a shared document, the commitments informally taken by the companies during the matchmaking sessions, reducing the risk that promising contacts made during the workshop would lose relevance once participants returned to their daily production activities.

Finally, the choice to organise the workshops as cross-value-chain events, rather than as separate sessions for each of the three supply chains, proved a deliberate and valuable methodological option: bringing wood, textile and ceramic/glass companies together in the same room occasionally generated unexpected, cross-sectoral matches that a single-chain event would not have produced, and in all cases exposed participants to a broader range of circular economy practices than they would otherwise have encountered, reinforcing the overall demonstration value of the SYMCRAFT approach beyond the specific showcases directly activated.

6. REGIONAL PILOT RESULTS

The results of Pilot Action 2 in each pilot region and supply chain are presented in full in the dedicated activity reports compiled by the individual SYMCRAFT partners and annexed to this deliverable. Each regional report follows the common reporting template adopted by the consortium throughout the five-step methodology described above, and provides the full description of the showcases developed in the corresponding territory, including: the industrial and craft companies involved and their role in the collaboration; the waste material or by-product characterised at the origin of the showcase; the new product or application developed by the artisan enterprise; the circular collaboration logic and the material flows connecting the two sides of the partnership; the validated Circular Eco-Business Model Canvas output produced through the SYMCRAFT tool; the key benefits generated for the supplier, for the artisan and for the environment; and the specific role played by the responsible SYMCRAFT partner in facilitating the collaboration, from the initial informational outreach to the final validation call.

Taken together, the seven partner activity reports — covering Austria, Italy, Slovakia, Slovenia, Hungary, Croatia and Germany — document a first, consistent body of concrete industrial symbiosis showcases across the three SYMCRAFT supply chains, generated through a shared methodology and a common digital tool, and therefore directly comparable across countries and sectors despite the diversity of local industrial fabric and craft tradition. This cross-regional, aggregated body of evidence constitutes the operational output of Pilot Action 2 and the direct input to the cross-regional analysis and to the design of the scaling activities to be carried out under Pilot Action 3, where the most promising models identified across the seven pilot regions will be consolidated into transferable guidance and actively promoted to new companies, craft enterprises and territories beyond those directly involved in the piloting phase. The complete set of regional activity reports is

provided as Annexes to this deliverable and constitutes the full operational evidence of the work carried out within Pilot Action 2.

Beyond the count of matches, workshops and validated canvases, the regional activity reports also capture a set of qualitative lessons learned that recur consistently across most pilot territories: the decisive importance of a well-prepared informational and recruitment phase ahead of each workshop, without which the quality of the matchmaking itself is inevitably reduced; the added value of facilitated, rather than purely spontaneous, matchmaking in bringing together companies that would rarely meet through ordinary business channels; the benefit of sketching a first Circular Eco-Business Model Canvas while the enthusiasm generated by the workshop is still fresh, even in a simplified and provisional form; and the need for sustained, proactive bilateral follow-up, sustained over several calls, to convert an initial match into a fully validated, robust circular collaboration ready to be documented in the corresponding annex. These lessons, consistently reported across the seven pilot regions and the three supply chains despite their different industrial and craft traditions, constitute in themselves one of the most valuable and directly transferable outputs of Pilot Action 2, and will directly inform the design of the scaling methodology to be adopted under Pilot Action 3, extending the same five-step engagement approach to new companies and new territories.

These results also confirm the validity of the overall Pilot Action 2 design choice of combining a light, replicable five-step methodology with a shared digital tool: the same approach could be consistently applied by partners with very different institutional profiles — technology transfer agencies, chambers of commerce, regional development agencies and cluster organisations — and across pilot regions with markedly different industrial density and craft traditions, while still producing comparable, aggregable outputs. This consistency is, together with the individual showcases themselves, one of the main assets that Pilot Action 2 hands over to the subsequent scaling phase of the project.

ANNEXES

The following partner activity reports are annexed to this deliverable and form an integral part of it:

Symcraft_D.2.3.1_Pilot action 2 Activity_Template-AUT

Symcraft_D.2.3.1_Pilot action 2 Activity_Template-ITA

Symcraft_D.2.3.1_Pilot action 2 Activity_Template-SVK

Symcraft_D.2.3.1_Pilot action 2 Activity_Template-SLO

Symcraft_D.2.3.1_Pilot action 2 Activity_Template-HUN

Symcraft_D.2.3.1_Pilot action 2 Activity_Template-HRV

Symcraft_D.2.3.1_Pilot action 2 Activity_Template-DEU