Interreg CENTRAL EUROPE

Co-funded by the European Union

SYMCRAFT

RECOVER WASTE TO NEW PRODUCT

From industrial residual material to a jointly selected prototype idea

Replication Guideline



Textile

Agro-food

Wood & Furniture

FOREWORD

Foreword / Introduction

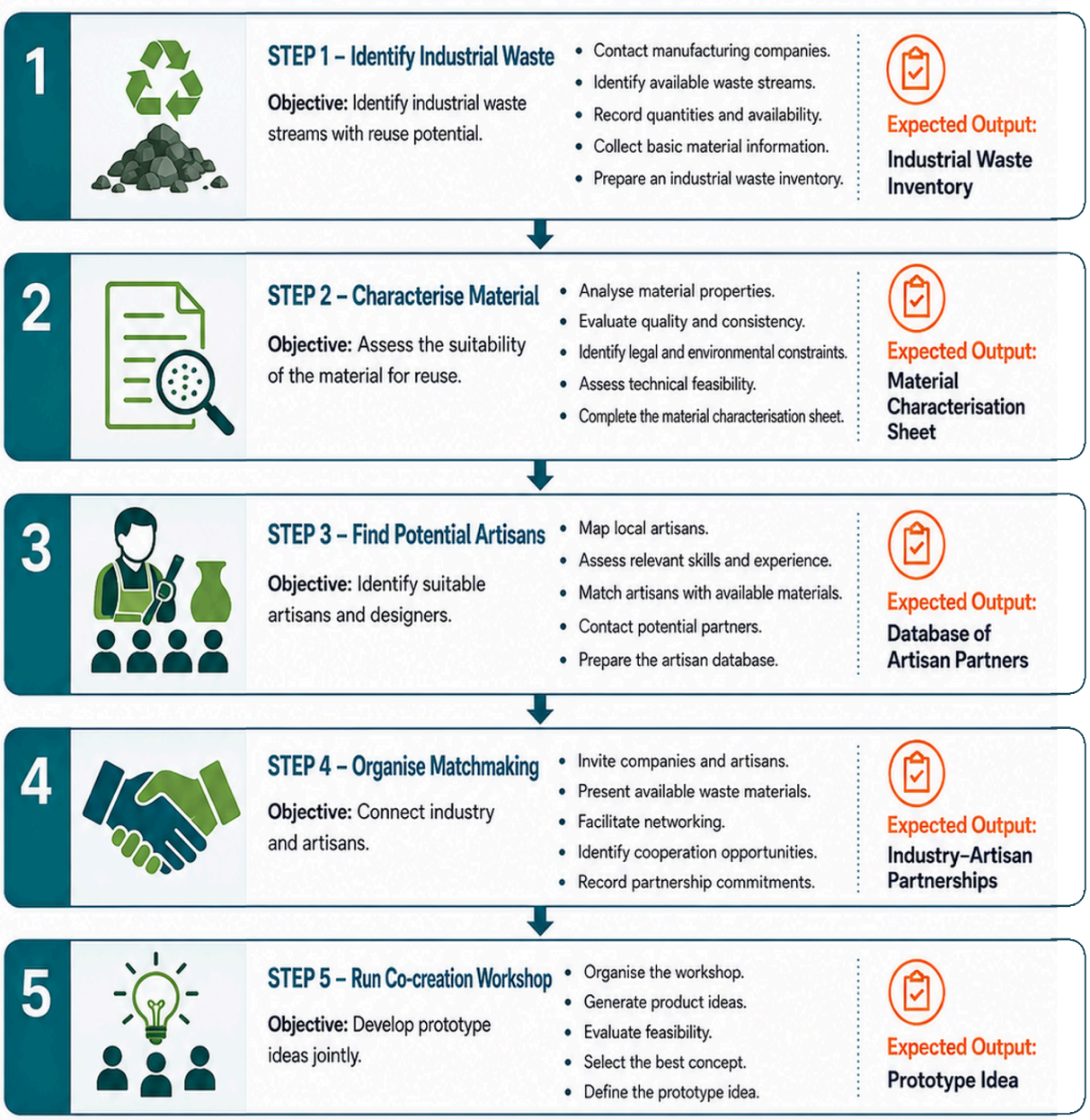
SYMCRAFT – Creative craft for industrial symbiosis in circular economies – connects industry, crafts, design and intermediary organisations to turn residual materials into circular products, services and cooperation. The Central Europe partnership brings together 11 partners from eight countries and nine regions and tests the approach through three linked pilot actions.

Pilot Action 1 concentrated on identifying reusable industrial residual streams and connecting them with artisans, designers and craft-based SMEs. The reported implementation mobilised 181 stakeholders across agro-food, textile and wood/furniture activities. It created more than 40 tandem or cooperation cases and aimed to translate them into around 40 prototypes, digital twins or feasibility studies. Co-creation workshops and transnational exchanges combined industrial material knowledge with practical craft capabilities. The pilot also exposed recurring barriers: material variability, legal classification, logistics, safety, scale mismatch and continuity after the first meeting. Solution 1 converts that experience into a replicable five-step pathway ending with a documented prototype idea.

Scope	Participation	Cases	Outputs
8 countries • 3 sectors	**181 stakeholders reported**	**40+ tandem/cooperation cases**	**around 40 prototypes, digital twins or feasibility studies**

GRAPHICAL IMPLEMENTATION TO-DO LIST

Follow in order • adapt the checks, not the agreed outputs



IMPLEMENTATION PACK people • evidence • decisions • companion tools

Who does what

Industry	Artisan / designer	Intermediary
Provides residual material, source data and practical constraints.	Assesses transformability and develops realistic product ideas.	Finds partners, facilitates co-creation and keeps evidence visible.

Minimum readiness and evidence

- ✓ A real and sufficiently described residual stream
- ✓ Material risks and variability made visible
- ✓ Capabilities confirmed directly with partners
- ✓ Prototype idea recorded with assumptions and open questions

Sector adaptation

Agro-food: hygiene, contamination, perishability and regulated uses. Textile: fibre mix, treatments, cleanliness and irregular supply. Wood & furniture: coatings, adhesives, moisture, dust and hazardous treatments.

Digital tools and separate System Map

Tool 1 supports material assessment, inspiration and matchmaking. Tool 4 formats reviewed Markdown content. Neither tool validates technical, legal or safety claims. Web link: **https://www.t2i.it/symcraft/**

Use this guideline together with the separately maintained **SYMCRAFT Solution 1 System Map**. The graphical To-Do List is reproduced on page 2, while the System Map remains a separate companion file and is not counted within the three content pages of this guideline.

DO	DON'T
Start with one concrete case • verify critical facts • test proportionately • record decisions and open questions.	Assume feasibility or legal status • treat digital output as validation • scale before testing • hide unresolved risks.

Working rule: use the graphical To-Do List for the operational sequence, the System Map for the wider relationships, and this guideline for method, evidence and decision logic.

Method in practice and evidence to retain

METHOD IN PRACTICE	EVIDENCE TO RETAIN
Begin with verified material facts, not an abstract sustainability claim. • Use physical samples wherever practical. • Let intermediaries translate industrial constraints into craft opportunities. • Select the concept transparently and record why alternatives were not chosen.	Waste inventory and material characterisation • Partner profiles and matchmaking record • Co-creation record and concept comparison • Selected prototype idea, assumptions and referrals

AGRO-FOOD	TEXTILE	WOOD & FURNITURE
Describe origin, hygiene, contamination, perishability, traceability and the intended non-food or regulated use.	Record fibre composition, finishes, cleanliness, sorting and supply variability; discarded lingerie components can be carefully dismantled and tested for suitable accessory or material applications.	Check wood or board type, dimensions, moisture, coatings, adhesives, treatments, dust and higher-risk end uses.

Benefits from taking over (Why to join)

Better visibility of residual materials Turns hidden waste and by-products into described material streams.	**More informed reuse decisions** Makes quality, variability, logistics and unresolved constraints visible early.
Faster access to craft capabilities Connects materials with relevant skills, equipment and creative experience.	**More effective matchmaking** Focuses exchange on real materials, constraints and credible cooperation.
Concrete innovation Moves networking toward co-created concepts and selected prototype ideas.	**Accessible uptake** Works for small cases without requiring a complete business plan at the start.
Evidence for later decisions Creates a traceable basis for Solution 2, reporting and replication.	**Stronger circular value chains** Can connect residual streams, prototypes, business models and partnerships.

How to start

Select one real residual stream, describe its constraints, identify relevant artisan skills and organise one focused matchmaking/co-creation session. Carry the strongest prototype idea and open questions into Solution 2.

Important limitation. Solution 1 structures the identification, matching and development of reuse opportunities; it does not guarantee legal status, technical feasibility, partner commitment, market demand or commercial success.

Use together with: SYMCRAFT Solution 1 System Map, the relevant SYMCRAFT digital tool and the detailed source instruments referenced in the full Solution.

From interest to uptake

Start: Select one real residual stream.	**Mobilise:** Confirm supplier, artisan/design and intermediary roles.
Demonstrate: Complete the five steps and record the selected prototype idea.	**Continue:** Transfer the evidence package to Solution 2.

Uptake and monitoring questions

Who benefits? Material providers, artisans, designers, craft SMEs, chambers and innovation intermediaries.	**What to monitor?** Materials described; partners contacted; matches confirmed; co-creation completed; concepts selected; open questions referred.
When to proceed? When material evidence and partner capabilities support a credible prototype concept.	**Next decision** Develop customer value and the eco-business model through Solution 2.

FREQUENTLY ASKED QUESTIONS

PURPOSE

What does Solution 1* deliver?
A documented prototype idea, digital twin or feasibility study based on a real industrial residual stream.

Who should take part?
An industrial material provider, an artisan or designer, and an intermediary to organise the match and evidence.

STARTING POINT

Where do we begin?
Choose one residual stream; record its origin, quantity, frequency and intended reuse possibilities.

Can we begin with an artisan idea?
Yes. Define the properties the idea needs, then find and describe a suitable residual stream.

Can we screen several streams?
Yes; document each selected stream and its constraints separately.

MATERIAL & SAFETY

Which material facts matter most?
Composition, treatments, dimensions, cleanliness, variability, storage and known restrictions.

Who checks whether reuse is allowed?
The parties verify the material status, safety and intended use under national rules; seek qualified advice where needed.

MATCHMAKING & CO-CREATION

How do we choose an artisan partner?
Match the material to real skills, equipment, capacity, location and willingness to test.

What happens at the workshop?
Compare material evidence and samples, develop possible uses, then select one concept with a recorded rationale.

What if the volume is too large?
Test smaller batches, add partners or consider another reuse route.

TESTING & EVIDENCE

Is the selected concept already feasible?
No. Check technical, safety, regulatory and market assumptions before committing to production.

What should we keep?
The material sheet, partner and match notes, sample or test findings, workshop record and open questions.

DECISION & NEXT STEP

When should a case pause or stop?
When critical safety, legal, technical or supply questions cannot be resolved proportionately.

Where does a promising idea go next?
Take the selected concept and evidence into Solution 2**; use Solution 3*** to define cooperation terms.

* **Solution 1 -** One solution to recover waste for new product/service

** **Solution 2 -** One solution to create business/incomes for handicraft with waste from industry

*** **Solution 3 -** One solution for the collaborations between Industry and Handicraft for the re-use/recycling of waste

SYMCRAFT
Creative craft for industrial symbiosis

SOLUTION 1

Reusing Industrial Waste for New Handicraft Products/Services

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SYSTEM MAP - FIVE-STEP REPLICATION PATHWAY, SECTORS AND SUPPORTING TOOLS

WHAT IS SOLUTION 1?

Solution 1 provides a practical five-step pathway for identifying reusable industrial residual materials, understanding their characteristics, connecting them with craft and design capabilities, and jointly selecting a promising prototype idea.

START HERE: SELECT MATERIAL STREAM & SECTOR

AGRO-FOOD

Agricultural and food-production residuals: fibres, husks, seeds, pits, pomace, spent grain and other usable streams.

Use the common five-step pathway

TEXTILE

Textile offcuts, yarn and fibre residues, surplus stock, leather and recycled-textile streams for craft and design reuse.

Use the common five-step pathway

WOOD & FURNITURE

Wood offcuts, veneer, boards, panels, sawdust, shavings, packaging wood and furniture-production residuals.

Use the common five-step pathway

ALL SECTORS SHARE

- Common five-step pathway
- Real material data as the starting point
- Partner mapping and capability matching
- Co-creation before prototype selection
- A selected prototype idea ready for Solution 2

1 Identify Industrial Waste



OBJECTIVE

Identify industrial waste streams with reuse potential.

ACTIONS

- Contact manufacturing companies
- Identify available waste streams
- Record quantities and availability
- Collect basic material information
- Prepare an industrial waste inventory

EXPECTED OUTPUT

Industrial Waste Inventory

2 Characterise Material



OBJECTIVE

Assess the suitability of the material for reuse.

ACTIONS

- Analyse material properties
- Evaluate quality and consistency
- Identify legal and environmental constraints
- Assess technical feasibility
- Complete the material characterisation sheet

EXPECTED OUTPUT

Material Characterisation Sheet

3 Find Potential Artisans



OBJECTIVE

Identify suitable artisans, designers and craft-based SMEs.

ACTIONS

- Map local artisans and design networks
- Assess relevant skills and experience
- Match capabilities with available materials
- Contact potential partners
- Prepare the artisan partner database

EXPECTED OUTPUT

Database of Artisan Partners

4 Organise Matchmaking



OBJECTIVE

Connect industry and artisans around concrete material opportunities.

ACTIONS

- Invite companies and artisans
- Present available waste materials
- Facilitate focused networking
- Identify cooperation opportunities
- Record partnership commitments

EXPECTED OUTPUT

Industry-Artisan Partnerships

5 Run Co-creation Workshop



OBJECTIVE

Develop and select prototype ideas jointly.

ACTIONS

- Organise the workshop
- Generate product and service ideas
- Evaluate preliminary feasibility
- Select the best concept
- Define the prototype idea

EXPECTED OUTPUT

Prototype Idea

DIGITAL SYMCRAFT TOOL 1 - Industrial Waste Reuse Assessment and Matchmaking Tool

Supports the five-step pathway through material assessment, reuse exploration, artisan profiling and matchmaking guidance.

Material Intake
Record type, origin, quantity, frequency and current destination.

Reuse Assessment
Structure material properties, constraints and technical or legal questions.

Reuse Inspiration
Explore transformation directions and practical product concepts.

Matchmaking Support
Describe partner needs and support human validation of potential matches.

TOOL 4 - MARKDOWN CONVERTER TOOL

Universal support tool for Solutions 1-3 - converts reviewed Markdown-formatted reports into polished, ready-to-share PDF documents.

PRACTICAL PRINCIPLES

- Start with a real residual-material stream.
- Record facts before generating ideas.
- Match capabilities, not only interests.
- Use co-creation to narrow options.
- Carry unresolved questions into Solution 2.

LEGEND

- Agro-food sector
- Textile sector
- Wood & Furniture sector
- 1 Process step
- Digital tool support
- Flow / connection

AUTHORITY & EVIDENCE

The approved five-step Solution 1 To-Do List is the replication pathway. The Industrial Waste Inventory, Material Characterisation Sheet, partner records, matchmaking notes and the selected Prototype Idea form the evidence trail. Tool 1 supports assessment and matchmaking; partner, technical and legal decisions remain case-specific.

NEXT STEPS

Use this map as your guide. Start with Step 1 and move forward step by step. Carry the selected Prototype Idea into Solution 2 for eco-business-model development and validation.