

# SOTECIN FACTORY

Open Call 1 for Social Innovators

Annex 1: Guideline for Applicants



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## 1. INTRODUCTION

The SoTecln Factory goal is to connect industry with society in a community of mission-oriented social innovators, to support social entrepreneurs in their drive to increase the circularity of key product value chains, and to promote a culture of social innovation in European manufacturing businesses.

The Open Call 1 for Social Innovators will support 25 social entrepreneurs with financing, together with light capacity building services on different topics, from business model innovation to building an impact strategy, to new governance models and IP support. The SoTecln Factory focuses on improving the circularity of 7 key product value chains, as defined by the EU Circular Economy Action Plan: (1) Electronics and ICT, (2) Batteries and vehicles, (3) Packaging, (4) Plastics, (5) Textiles, (6) Construction and buildings, (7) Food, water and nutrients. It supports systemic transformation towards restructuring value chains to be low-carbon and circular, by implementing higher value circular economy strategies, i.e. Refuse, Rethink, Reduce, Reuse, Repair, Refurbish, Remanufacture. To address it, the project will organise an open call - Open Call 1 for Social Innovators - for identifying cutting-edge solutions from across Europe towards the Circular Economies (CEs). This open call will select and direct fund organizations to propose a convincing innovative product or service, benefiting from the use of digital tools, with a clear market that will disrupt current linear value chains towards circular ones.

In Summary, the expected project outcomes are:

- Innovations that combine technological and social innovation and support industry in their transition and the achievement of EU's priorities.
- A new generation of technologically savvy social entrepreneurs.
- New business models capitalising on new partnerships between industry and society.
- Support for 25 social entrepreneurs with funding and light capacity building regarding business models, fund-raising and exploitation 15 mission-oriented pre-market demonstration projects.
- Long-term impact for increased autonomy in key strategic value chains for a resilient industry.

This document provides a full set of information and rules regarding the Open Call 1 for Social Innovators of the SoTecln Factory project and details of the challenges to address.

## 1.1. OPEN CALL OVERVIEW

The call will provide selected innovators direct support and guidance towards the development and implementation of their solution and access to specialized and qualified resources within various disciplines and technologies aiming to create economic and social ecological impacts.

As such, the innovators are encouraged to submit social innovation projects that addresses higher-value circular economy strategies - Refuse, Rethink, Reduce, Reuse, Repair, Refurbish, Remanufacture (The respective definitions are in Annex A of this document) - to fundamentally restructure value chains to be low-carbon and circular. Selection of the most promising innovation prototypes will use the following criteria:

To achieve the outcomes, innovators are invited to address at least one of the challenges previously selected or propose a new challenge to the specific missions (See in Annex B of this document). For this contest, a challenge is defined as a critical sustainability problem in the context of circular economy and its 7 R's (Refuse, Rethink, Reduce, Reuse, Repair, Refurbish, Remanufacture). As such, innovators need to be able to apply with a dedicated solution approach to the challenge by using social innovation and technologies. The challenges and missions are explained in more detailed in Annex B.

## 1.2. OPEN CALL FRAMEWORK

The award of innovators will be based on a transparent process implemented specifically in this open call. The below diagram illustrates the open call process – from the call definition to final selection - and the innovator journey from the application moment to selection and engagement in SoTecln Factory programme.

The solutions offered by the social innovators, and the broader business models they are incorporated into, need to be desirable, feasible and viable, both in relation to their commercial and social impact potential.

While 25 innovators will receive an initial round of fundraising and light-touch capacity building, only 15 of those will be selected to the Demonstrators implementation and Impact assessment phases.

As such, SoTecln Factory will issue an open call with 2 phases:

- Phase 1, up to €15,000: light touch capacity building, mentoring and entrepreneurial support.
- Phase 2, up to €85,000: Implementation of mission-oriented demonstrators.

The overall process is described in Figure 1.

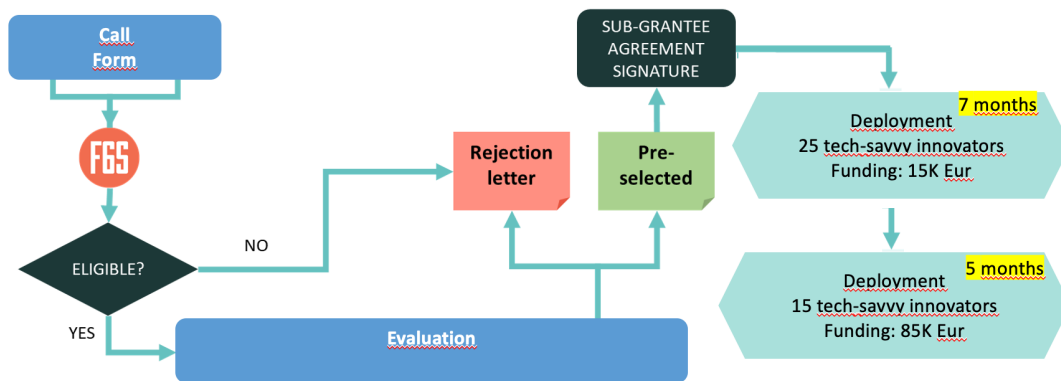


Figure 1: Open Call Process

### 1.3. SELECTED CHALLENGES SUMMARY

In this section, selected challenges are detailed. They are classified according to the Region of reference of the challenge. Before submitting to the Open Call for Social Innovators, please carefully read this section. In this call, the applicant can address at least one of the challenges detailed in Table 1 and Annex B or the applicant can propose a new challenge to address.

Table 1: Summary - Challenges and Missions

Region	Challenge	Mission
South-West (Portugal, Spain, Southern France)	<ul style="list-style-type: none"> <li>Developing a tool that contributes to the sustainability analysis of the urban food systems via food streams monitoring.</li> <li>Developing a tool to help upcycle geographically distributed food surplus.</li> </ul>	<p><i>"Support Iberian farmers, producers and consumers in a 3R agricultural revolution (one that is regional, regenerative, and resource-efficient) through platforms, tools, financial incentives, education, and transparent information."</i></p>
South-East (Romania, Greece, Bulgaria, Cyprus, Serbia, Ukraine)	<ul style="list-style-type: none"> <li>Producing a solution for the organic waste valorisation.</li> <li>Building digitized and scalable midstream infrastructure for small-chain fresh food supply.</li> </ul>	<p><i>"Foster closer collaboration between farmers, distributors, and retailers throughout the regional food value chain, and increase their capacity to leverage R&amp;D, sustainable technologies and production methods, and circular strategies to help them become more resilient, in the move towards a regenerative, circular food value chain."</i></p>
North-East (Hungary, Slovakia, Poland, Estonia, Lithuania, Latvia)	<ul style="list-style-type: none"> <li>Developing an online measurement tool/ quality assurance system to help rate/compare online food marketplaces, tools, and applications.</li> </ul>	<p><i>"Build more resilient regional food systems by improving farmers' access to resources and fostering closer connections between farmers and consumers to reduce the distance between production and</i></p>

	<ul style="list-style-type: none"> <li>• Developing tools to improve and increase farmers online visibility to potential customers.</li> <li>• Developing a solution that supports the pre-ordering and sale of seasonal products in close surroundings.</li> </ul>	<p><i>consumption, to facilitate production of quality food, and to inspire more sustainable localised consumption and production."</i></p>
East (Turkey, Armenia, Georgia)	<ul style="list-style-type: none"> <li>• Developing a solution to facilitate better understanding of crop-based carbon emissions.</li> <li>• Designing and encouraging the adoption of novel meat free alternatives.</li> </ul>	<p><i>"Leverage digitalization, data centric approaches, biotech, and other solutions to increase the transparency and traceability of the agri-food value chain, reduce food waste, and radically reduce impacts stemming from meat and dairy production."</i></p>
North-West (Netherlands, Northern France, Belgium, Luxembourg, Ireland)	<ul style="list-style-type: none"> <li>• Developing data-driven approaches to enable circular product strategies.</li> </ul>	<p><i>"Leverage digitisation and data by connecting actors in the textile value chain in the EU to empower decision-making towards higher R circular economy by increasing transparency and traceability."</i></p>
Centre-South (Italy, Slovenia, Croatia, Malta)	<ul style="list-style-type: none"> <li>• Developing sustainable finishing processes for high-performing fabrics and/ or analytical techniques to enable fabric traceability.</li> <li>• Developing a verification tool for environmentally friendly claims made by textile suppliers.</li> <li>• Enabling the footwear industry to increase the use of sustainable materials and processes via an innovative digital tool.</li> <li>• Developing a solution for the collection of textiles suppliers' information and the assessment of the sustainability-related supplier risk.</li> <li>• Retaining product performance and longevity in the move towards less complex, biobased, and biodegradable materials.</li> <li>• Increasing the access to and affordability of circular services and reverse logistics.</li> </ul>	<p><i>"1. Enable greater transparency, traceability and verifiability of product-level data and incentivise reduced production impacts by improving mechanisms for data collection, verification and sharing.</i></p> <p><i>2. Develop new digital solutions, production technologies and services to drive circularity throughout the whole lifecycle of products, whilst encouraging greater collaboration across the value chain, and increasing awareness of consumers of the impacts of their clothing."</i></p>
Centre-North (Germany,	<ul style="list-style-type: none"> <li>• Communicating the comprehensive sustainability impacts of recycled products to customers.</li> </ul>	<p><i>"Leverage circular design, enabling technologies, and knowledge sharing to reduce and replace single use plastics and</i></p>

Denmark, Austria, Sweden, Finland)	<ul style="list-style-type: none"> <li>• Designing a robust take-back system for paint packaging.</li> <li>• Developing reusable smart packaging for cosmetic products and beauty care industry</li> <li>• Producing a tracking solution for business models with reusable packaging in the food (e.g., cups/plates) and cosmetics (e.g., shampoo bottle/soap dispenser) industries.</li> <li>• Reducing plastic consumption in packaging materials (shrink wrap, trays/multi-packs, etc.) via environmentally friendly solutions.</li> </ul>	<p><i>to maximise the potential of packaging solutions that close material loops, while enabling the main value chain actor across to adopt them by 2030."</i></p>
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## 2. ELIGIBILITY CRITERIA

### 2.1. TARGET APPLICANTS

- Applicants can be individuals and organizations.
- Individuals should be part of a legal entity with a valid VAT at the time of the contracting phase.
- Organizations should have a valid VAT or company registration number at the time of the contracting phase.
- Consortium (Individual/Single organisation + Challenge (owner) that is not listed in Annex B) are eligible for this call.
- Single organizations are eligible for this call.
- All entities must be eligible to work in the EU or Horizon Europe associated Member State (See Section 2.3)

### 2.2. TYPE OF APPLICATIONS ELIGIBLE IN THE OPEN CALL

All the project proposals need to clearly describe a prototype solution and the social impact. With the aim of engaging and deploying top-down experiments, SoTecIn Factory has defined the following possible participation approach for applicants:



- Challenge (Top-Down Approach): Driven by the value chain challenges proposed by industrial and technological companies in the open call for challenge owners, applicants will propose solutions that address specific value chain challenges. Innovators will have the chance to select at least one challenge in a list of 21 challenges available. The challenges are described in Table 1 and the detailed description of the challenges is Annex B.
- Innovate [bottom-up Approach]: The initiative relies entirely on applicants, who have a particular social innovation concept with capacity to be adopted by industry players but does not fit a specific challenge defined in SoTecIn Factory (value chain challenges in Annex B). In this case, applicants can propose a challenge to address.
- Two-in-one [innovator with challenge proponent]: participation track led by a consortium, meaning that the applicant tech-savvy innovator will apply together with their own value chain challenge proponent proposing a joint solution that follows a specific market need. Even being part of the consortia, challenge proponents, do not receive funding for their participation, the grant is 100% dedicated to the tech-savvy innovator to develop and deploy its demonstrator.

Overall, the goal is to develop and implement projects combining technological and social innovation to support overcoming the circular challenges related to one or more value chains. Indeed, SoTecIn Factory programme will be continuously monitored by the core consortium of the project to facilitate matchmaking and thus give place to meaningful and impactful demonstrations.

### 2.3. ELIGIBLE COUNTRIES

Only applicants legally established/resident in any of the following countries (hereafter collectively identified as the “Eligible Countries”) are eligible:

- The Member States (MS) of the European Union (EU), including their outermost regions:  
[https://european-union.europa.eu/principles-countries-history/country-profiles\\_en](https://european-union.europa.eu/principles-countries-history/country-profiles_en)

- Other Countries linked to the Member States:  
[https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/common/guidance/list-3rd-country-participation\\_horizon-auratom\\_en.pdf](https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/common/guidance/list-3rd-country-participation_horizon-auratom_en.pdf)

(Please see pg 2)

- Horizon Europe associated countries according to the updated list published by the EC:  
[https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/common/guidance/list-3rd-country-participation\\_horizon-auratom\\_en.pdf](https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/common/guidance/list-3rd-country-participation_horizon-auratom_en.pdf) (Please see pg 1)
- The UK will participate in all parts of the Horizon Europe programme with the only exception of the EIC Fund (which is part of the EIC Accelerator of Horizon Europe that provides investment through equity or other repayable form).

## 2.4. OTHER ELIGIBILITY RULES

- i. Only one proposal per organisation/individual will be accepted.
- ii. Applicants must not be directly or indirectly involved in different consortia.
- iii. The legal entity is not under liquidation or is not an enterprise under difficulty accordingly to the Commission Regulation No 651/2014, art. 2.18.
- iv. Its project is based on the original works and going forward, any foreseen developments are free from third-party rights, or they are clearly stated.
- v. It is not excluded from the possibility of obtaining EU funding under the provisions of both national and EU law or by a decision of both national and EU authority.
- vi. People and organisations related to the SoTecln Factory project (members of the consortium, Mission Councils) are not eligible to participate in the open call.
- vii. If selected, innovators applying in a consortium with a challenge owner will be the only entity funded. The challenge owners (the other part of the consortium) will not be funded by SoTecln Factory.
- viii. Tech-savvy innovator participating in several proposals within the same call will make all the proposals they are in, not eligible.
- ix. Resubmission is allowed in following open calls only if the SME was not accepted in the previous one (stage 1), meaning that even if an innovator did not manage to go through stage 2, it cannot apply again to SoTecln Factory.

## 2.5. LANGUAGE

English is the official language for SoTecln Factory open call. Submissions done in any other language will be disregarded and not evaluated.

English is also the only official language during the whole execution of the SoTecln Factory programme. This means any requested submission of reports will be made in English to be eligible.

## 2.6. CONFLICT OF INTEREST

Applicants shall not have any actual or/and potential conflict of interest with the SoTecln Factory selection process and during the whole programme. All cases of conflict of interest will be assessed case by case. In particular, applicants cannot be SoTecln Factory Consortium partners or affiliated entities nor their employees or co-operators under a contractual agreement. Suppose a conflict of interest is discovered and confirmed at the time of the evaluation process. In that case, the use-case proposal will be considered as non-eligible and will not be evaluated.

## 3. PREPARATION AND SUBMISSION OF THE PROPOSAL

- Applicants should access the project website to apply:  
<https://sotecinfactory.eu/open-calls/open-call-1-for-social-innovators/>

- Participants are requested to read and follow the instructions in the form carefully.
- On the website, click on the Apply button. The submission will be done through the F6S platform - <https://www.f6s.com/sotecinfactory-oc-socialinnovators/apply> directly linked with the SoTecln Factory Open Call.
- Applicants are required to register a profile at F6S to be able to submit a proposal.
- Applicants are requested to answer all mandatory questions (with no exception)
- Additional material, which has not been specifically requested in the online application form, will not be considered in the proposal evaluation.
- It is strongly recommended not to wait until the last minute to submit the proposal. Failure of the proposal to arrive in time for any reason, including communication delays, automatically leads to rejection of the submission. The time of receipt of the message as recorded by the submission system will be definitive.
- SoTecln Factory offers a dedicated support channel for proposers at [sotecinfactory@f6s.com](mailto:sotecinfactory@f6s.com) for requests or inquiries about the submission system or the call itself. Those received after the closure time of the call will neither be considered nor answered.
- The information provided should be actual, accurate, and complete and should allow the assessment of the proposal.

### 3.1. COMPLAINT DUE TO A TECHNICAL ERROR OF THE SOTECIN FACTORY ONLINE SUBMISSION SERVICE

If you experience any problem with the application submission system before the open call deadline, you should reach F6S by e-mail through [support@f6s.com](mailto:support@f6s.com), cc'ing the SoTecln Factory Team [sotecinfactory@f6s.com](mailto:sotecinfactory@f6s.com), and explain your situation.

Suppose you believe that the submission of your proposal was not entirely successful due to a technical error on the side of the Online Submission Service. In that case, you may lodge a complaint by email through [support@f6s.com](mailto:support@f6s.com) cc'ing the SoTecln Factory Team [sotecinfactory@f6s.com](mailto:sotecinfactory@f6s.com) and explain your situation.

For the complaint to be admissible, it must be filled within **4** calendar days following the day of the call closure. You will receive an acknowledgment of receipt, the same or the next working day. What else to do? You should secure a PDF version of all the documents of your proposal holding a timestamp (file attributes listing the date and time of creation and last modification) that is before the call deadline, as well as any proof of the alleged failure (e.g., screenshots). Later in the procedure, you may be requested by the F6S IT Helpdesk to provide these items.

For your complaint to be upheld, the IT audit trail (application log files and access log files of the

Online Submission Service) must show that there was indeed a technical problem at the project side that prevented you from submitting your proposal using the electronic submission system.

Applicants will be notified about the outcome of their complaint within the time indicated in the acknowledgment of receipt. If a complaint is upheld, the secured files (provided to the IT helpdesk) for which the investigation has demonstrated that technical problems at the project prevented submission will be used as a reference for accepting the proposal for evaluation.

### 3.2. CONFIDENTIALITY AND DEADLINE

Any information regarding the third-party proposal will be treated in a strictly confidential manner.

Only proposals submitted before the deadline will be accepted. After the call closure, no additions or changes to received proposals will be taken into account.

## 4. EVALUATION

After closing the call, the evaluation process will start. The evaluation is done in 3 distinct stages, as follows:

### 4.1. ELIGIBILITY CHECK

An automatic filtering to discard non-eligible proposals will follow the short list. Eligibility criteria check will verify:

- (i) The existence of a legal entity in an eligible country
- (ii) Applications in English
- (iii) Proposals alignment with the missions and the value chains.

### 4.2. EVALUATION OF PROPOSALS

The evaluation of proposals consists of 2 stages: Evaluation of Proposals and Interviews (optional). Due to the nature of the SoTecln Factory OCs, a team of external experts will be defined to evaluate the received proposals. The interviews are optional and will be scheduled only if evaluators need for further clarifications regarding the proposal applied to the call to make a decision.

### 4.3. EVALUATION CRITERIA FOR INTERNAL EVALUATORS (STAGE 1)

The evaluation board with experience in the tech-social innovation, as well as in industrial domains targeted by SoTecln Factory project will review each proposal, scoring them based on:

- Desirability - value offered meets user needs and aims at significant impacts. Value Proposition, business models and social impact will be also evaluated.

- Feasibility - technically, and aligning to a team's vision, desires, and capabilities to deliver impacts. Technology and tools described in the proposal will be evaluated. The solutions should have achieved a prototype level prior the submission to this call.
- Viability - economically profitable in the short-term and at scale and delivering direct impacts.

**Table 2: Scoring Description**

Score	Result	Description
1-2	Fail	The proposal fails to address the criterion under examination or cannot be judged due to missing or incomplete information
3-4	Poor	The criterion is addressed in an unsatisfactory manner. There are serious inherent weakness
5-6	Good	While the proposal broadly addresses the criterion, there are significant weakness that would need correction
7-8	Very Good	The proposal addresses the criterion well, although certain improvements are possible
9-10	Excellent	The proposal successfully addresses all relevant aspects of the criterion in question. Any shortcomings are minor.

#### 4.3.1.SCORING

1. Desirability [score between 1-10; with threshold >6; weight 40%]
2. Feasibility [score between 1-10; with threshold >6; weight 30%]
3. Viability [score between 1-10; with threshold >6; weight 30%]

#### 4.4. INTERVIEW (STAGE 2)

The interview aims to better understand project concept, team skills & competence, capacity, and willingness to exploit the results. If during interview applicants do not commit to what has been presented in application form, these will be declassified. The goal is to finalise the selection of 25 innovators and their projects.

This evaluation stage is **optional**. The selected innovators will be invited to the interview only if any further clarification is needed.

#### 4.5. FINAL SELECTION AND RESULTS ANNOUNCEMENT

At the end of the evaluation process all proposals will be ranked based on their scores. All applicants (accepted and rejected) will receive the evaluation summary report by email.

## 5. SUB-GRANT AGREEMENT

All the legal issues are accurately covered by the planned contracts with the sub-granted beneficiaries. A written Subgrantee agreement will be signed with successful applicants. It will foresee, among other things, the special clauses derived from Horizon Europe in cascading granting, the payment schedule and conditions (milestones), general legal text issues of rights and obligations by the SoTecln Factory consortium, and each sub-grantee, including IPR and audit procedures.

The sub-grantee agreement will also have a set of annexes like the technical description of the project (form submitted), bank account information form, guidelines of the call, status information, and any other document required by SoTecln Factory to assure the correct execution of the sub-grantee projects.

Each winning applicant will sign a subgrantee agreement with the project consortium.

A legal entity that does not provide the requested data and documents in due time will not be included in SoTecln Factory Programme.

### 5.1. SCIENTIFIC MISCONDUCT AND RESEARCH INTEGRITY

Issues of scientific misconduct and research integrity are taken very seriously. In line with the Horizon Europe Rules for Participation, appropriate action such as termination of the Sub-Grant Agreement Preparation phase or, if the Sub-Grant Agreement has been signed, the implementation of liquidated damages and financial penalties, suspension of payments, recoveries, and termination of the Sub-Grant Agreement, will be taken against any applicants/beneficiaries found to have misrepresented, fabricated or plagiarised any part of their proposal.

## 6. FUNDING

The financial support to third parties within the So will be in the form of a grant awarded (lump sum). During the programme, each selected third-party will have access to the following funds to deploy their projects.

- Phase 1: up to €15.000 against deliverables approved by the consortium partners and achieved milestones; start (5,000 Eur), mid (5,000 Eur) and end of 7-months (5,000 Eur);
- Phase 2: if selected to advance to Phase 2, the beneficiary will be funded with up to €85.000 against deliverables approved by the consortium partners and achieved milestones; being 50% paid at the end of the 1<sup>st</sup> month and 50% at the end of the demonstration project. This phase will last 5 months.

## 6.1. ORIGIN OF FUNDS

Any selected proposer will sign a dedicated Sub-Grant Agreement with the Consortium. The funds attached to the Sub-Grantee Funding Agreement come directly from the European Project SoTecln Factory funds. The consortium is managing the funds according to the Grant Agreement Number 101058385 signed with the European Commission.

As will be indicated in the Sub-Grant Agreement, the relation between the sub-grants and the European Commission through the SoTecln Factory project carries a set of obligations to the sub-grants with the European Commission. It is the task of the sub-grants to accomplish them and of the SoTecln Factory consortium partners to inform about them.

## 7. SUPPORT PROVIDED TO THIRD PARTIES

- In phase 1 capacity building will include 5 one-to-all sessions and 2 one-to-one sessions on solution validation, business models, social entrepreneurship, systemic venture building and steward ownership governance. 25 innovators will receive support from the consortium partners for 7 months.
- 15 of those will be selected to Phase 1. The capacity building will include 3 one-to-all sessions and 3 one-to-one sessions on funding and investment strategy, pitching, IPR support. The phase duration is 5 months.

Throughout both phases they will benefit from ongoing asynchronous support through the online community.

## 8. WHAT ARE THE EXPECTED OUTCOMES?

- Pre-market demonstration projects.
- The selected companies should have a prototype (upper TRL 6) of the proposed solutions **prior to the submission** as the aim is to push them to validate demonstration solutions.
- At the end of project, companies and solutions should be appealing for investors.

## 9. INTELLECTUAL PROPERTY RIGHTS

The ownership of all IPR created by the Innovators, via the SoTecln Factory funding, will remain with the Innovators. Results are owned by the Party that generates them. An agreement will introduce provisions concerning joint ownership of the results of the sub-granted projects.

The consortium will gather the basic aspects to manage third parties IPR:

- Confidentiality
- Third Party Ownership of results
- Commercial exploitation of results and any necessary access right
- Relevant Patents, know-how, and information Sublicense
- Pre-existing know-how excluded from contract.

Nevertheless, many specific IPR cases that will need a concrete solution from the bases previously fixed, may exist. In these conflict situations, the project consortium will be responsible to analyse the case and arbitrate a solution.

## 10. APPLICANTS COMMUNICATION FLOW

### 10.1. GENERAL COMMUNICATION PROCEDURE

. A communication will also be sent via e-mail to applicants rejected and selected, including the reasons for the exclusion and acceptance.

### 10.2. APPEAL PROCEDURE

If at any stage of the evaluation process, the applicant considers that a mistake has been made or that the evaluators have acted unfairly or have failed to comply with the rules of this Open Call, and that her/his interests have been prejudiced as a result, the following appeal procedures are available.

A complaint should be drawn up in English and submitted by email to [sotecinfactory@f6s.com](mailto:sotecinfactory@f6s.com). Any complaint made should include:

- Contact details.
- The subject of the complaint.
- Information and evidence regarding the alleged breach.

Anonymous complaints or those not providing the mentioned information will not be considered.

Complaints should also be made within **5 (calendar) days** since the announcement of the evaluation results to the applicants.

As a general rule, the project team will investigate the complaints to arrive at a decision to issue a formal notice or close the case within no more than twenty days from the date of reception of the complaint, provided that all the required information has been submitted by the complainant. Whenever this time limit is exceeded, the SoTecln Factory Consortium will inform the complainant by email of the reasons for the unforeseen delay and the subsequent step.



## 11. TIMELINE

**Table 3: Open Call Timeline**

Activity	Deadline
Open Call Launch	Jul 7 <sup>th</sup> 2023 at 12:00 PM
Open Call Closure	Sep 28 <sup>th</sup> 2023 at 6:00 PM
Evaluation (Selection of 25 Tech- Savvy Innovators)	Oct - Nov 2023
Results Announcement	Nov 30 <sup>th</sup> 2023
Sub-Grant Agreement Signature - Phase 1	Dec 2023
Deployment Phase 1 (7 months)	Jan – Jul 2024
Selection of 15 Tech Savvy-Innovators	Aug 2024
Sub-Grant Agreement – Phase 2	Sep 2024
Deployment Phase 2 (5 months)	Oct – Feb 2024

## 12. OPEN CALL MATERIAL – KIT APPLICATION

The SoTecIn Factory Open Call supported material is the following:

- **Annex 1 - Guideline for Applicants.** The present document. This document provides in detail the information to help apply to the Open Call containing a description of the open call, the modalities for application, the evaluation process, the scheme of the funding support, and how to submit a proposal.
- **Annex 2: Proposal Template.** Mandatory word document for applicants to prepare and submit proposals.
- **Annex 3: Online Application Form (for consultation),** the online application form, available at F6S platform for (for consultation).
- **Annex 4: Declaration of Honour (for consultation),** which declares that all conditions of the open call are accepted by an applicant SME. This document will be filled out by the selected company in the contracting phase.
- **Annex 5: SME Declaration (for consultation),** which evaluates the status of the SMEs participating in the call. This document will be filled out by the selected company in the contracting phase.

- **Annex 6: Sub-grant Agreement Template (for consultation)**, which provides a template of the sub-grant agreement that the successful applicants will be requested to sign.

## 13. POINTS OF CONTACT

The project consortium will also provide information to the applicants via the F6S blog so that the information (question and answer) will be visible to all participants. No binding information will be provided via any other means (e.g., telephone, video calls).

- More info at: <https://sotecinfactory.eu/open-calls/open-call-1-for-social-innovators/>
- Apply via: <https://www.f6s.com/sotecinfactory-oc-socialinnovators/apply>
- F6S support team contact: [support@f6s.com](mailto:support@f6s.com)
- Online Q&A: <https://www.f6s.com/sotecinfactory-oc-socialinnovators/discuss>
- Individual emails: [sotecinfactory@f6s.com](mailto:sotecinfactory@f6s.com)

## ANNEX A - CIRCULAR ECONOMY 'R' STRATEGIES DEFINITIONS

Refuse	Refusing means rejecting hazardous materials/components to prevent it from becoming waste or being used inefficiently.
Rethink	Rethinking involves rethinking existing practices and systems to make them more efficient while reducing waste. It implies making product use more intensive, by sharing products or by putting multi-functional products on the market. Rethink can also include leasing or renting and so it is related to the product-service business model, involving the identification of new business opportunities.
Reduce	Reducing means decreasing the amount of material, natural resources or energy used when producing goods or providing services in order to minimise environmental impacts.
Reuse	Reusing means using items multiple times before they become waste or are discarded as they are still functional enough to be used again. It is related to second-hand consumption (e.g. in thrift stores or in e-commerce platforms) and promoted by take-back programmes.
Repair	Repair is to restore a damaged function and return an object to part of full working condition, allowing a product to be used again with its original function. Repairs can be done directly by the consumer itself or by the retailer/manufacturer.
Refurbish	Refurbish means to restore and update an old item/product or its function, and so it requires a modular design. The product's components are upgraded with specific quality and aesthetical conditions, and product overall structure remains intact. It is done after the use phase, when the product returns to the retailer/manufacturer/distributor.
Remanufacture	Remanufacture is the industrial process of manufacturing a new product by using (parts of) an old (discarded/damaged) product without losing its original function. So, the full structure of the old product is disassembled and the damaged components are restored.
Repurpose	Repurposing involves taking an existing item/resource such as furniture, clothing, technology, etc., and giving it a second life by transforming it into something with a different function than what it was initially designed for. The used product becomes an input to a new one, with a new lifecycle.
Recycle	Recycling requires breaking down materials such as plastics, metals, paper, glass etc., into smaller pieces so they can be transformed into recycled or raw materials that can be used again for production inputs.
Recover	Recovering involves collecting used materials such as metals & plastics which were previously considered wastes but now have some kind of value due to new technologies being developed around them. It could also encompass the incineration of material/residual flows for energy generation.

## ANNEX B - CHALLENGES DETAILS

### Challenges for Portuguese mission (Region South-West)

***Mission: "Support Iberian farmers, producers and consumers in a 3R agricultural revolution (one that is regional, regenerative, and resource-efficient) through platforms, tools, financial incentives, education, and transparent information."***

**Challenge: Developing a tool that contributes to the sustainability analysis of the urban food systems via food streams monitoring.**

**Challenge owner: Lisboa E-Nova Agência de Energia**

To support the analysis of the sustainability of urban food systems, we are challenged to set up a repository, which will serve as a basis for the development of analytical applications.

We are looking for a solution that:

- Captures data about different types of food streams consumed by various food businesses at a city level, agnostic to different types of food stocks and sales management systems.
- Provides information about the carbon footprint of the food streams, based on its origin, production methods, transport, storage, and distribution, utilizing existing databases with environmental-related data.
- Is able to receive and process both input data (quantification of input volumes and consumption of food streams), and output data (food waste produced)
- Allows for the processed data to be stored in a centralized data repository, which will serve as a basis for furthering sustainable food systems in urban contexts.

Given the complexity and scope of the different elements that contribute to the level of sustainability of each link of the food system value chain, the solution presented can be modular. Specifically, in its initial phase, the tool to be developed should identify the different links of the system and create a panel of relevant indicators for each of them. For example, for the links related to production, it is possible to use the tool to support management and assess, by type of product produced, the impact of the carbon footprint of the food produced (based on the water used in production, the use of fertilizers, the methods of pest control, the use of greenhouses, the waste produced and the way in which the waste produced is treated). For other links in the chain, such as retail or catering, the evaluation indicators must be adapted to the characteristics of each business. In these two examples, we are talking about the origin of the products, the characteristics of transport and storage, among others. Overall, the idea will be that each of these modules can be calibrated and that in the near future they can communicate in a systemic way to support a territorial evaluation system. In a broader perspective, all the information generated by the approach described above will be related to performance measures related to climate action plans and other local and regional strategies related to green infrastructure, sustainable and healthy food, environmental awareness, sustainable public procurement strategies, etc.

### **Challenge: Developing a tool to help upcycle geographically distributed food surplus.**

#### **Challenge owner: MC Sonae**

Finding the most efficient and sustainable way to upcycle food surpluses generated at different locations can be difficult, especially when it comes to perishable fresh food. This is especially true for food retailers, but also for farmers and food producers with different production locations. We, the leading food retailer in Portugal, are looking for an innovative solution to help them find the best options for recycling distributed food surpluses, challenging logistic models and the local valorisation ecosystem.

We are looking for a solution that:

- Can recommend the best options for upcycling in a local context, taking into account patterns of distributed fresh food surplus production and optimizing environmental, social and economic impacts.
- Has the potential to develop circular economy models.

Tools with the potential to be applied to other food value-chain actors, such as farmers and producers, are desired.

### **Challenges for the Romanian mission (Region South-East)**

**Mission: "Foster closer collaboration between farmers, distributors, and retailers throughout the regional food value chain, and increase their capacity to leverage R&D, sustainable technologies and production methods, and circular strategies to help them become more resilient, in the move towards a regenerative, circular food value chain."**

### **Challenge: Producing a solution for the organic waste valorization.**

#### **Challenge owner: National Institute for Research & Development in Chemistry and Petrochemistry – ICECHIM**

In Bucharest, 70% of municipal waste is organic, and there are no separate collection systems and no treatment facilities. In addition, there are many agricultural residues, side streams from food processing, markets and supermarkets, and unsold products that are wasted. We are looking for sustainable solutions to recycle these organic streams according to the principles of circular economy, zero waste, zero pollution and climate neutrality.

Due to the low market value of residual biomass, solutions should be applied locally or nearby. They should be innovative, cost-effective, and add value to existing resources.

We are looking for a solution that:

- Focuses on a waste stream that is easy to collect and whose volume, frequency, and composition are predictable.
- Focuses on a waste stream whose composition tends to be homogeneous.

- Results in end products of the valorized organic waste with a commercial value.

**Challenge: Building digitized and scalable midstream infrastructure for small-chain fresh food supply.**

**Challenge owner: Malltaranesc SRL**

Implementing the farm-to-fork concept is challenging because it is difficult to make small chain food distribution (from farmers directly to end customers) profitable, especially when it comes to fresh produce. There are several reasons for this, including demand-side inconsistencies, high labour costs for delivery, and other inefficiencies in the process.

Our existing solution to this challenge includes logistics software and an e-commerce marketplace to optimize food supply in small chains. A key challenge is how warehousing fits with distribution in this context.

We are looking for a solution that:

- Involves a digitized storage container with a refrigerated zone.
- Allows storing products while ensuring their freshness (ideally about 48 hours).
- Allows the container to be separated in 2 zones: one with boxes for the customer orders that the couriers can take directly, and another zone where the warehouse manager can sort the different products ordered by the customer and place them in the customer boxes.

Involves a software infrastructure that can manage the flow of goods as well as order traceability - specifically, the date each product entered the container, whether it was moved from a zone to a box or placed directly into a box, and the date each order was removed.

**Challenges for the Hungarian mission (Region North-East)**

**Mission: "Build more resilient regional food systems by improving farmers' access to resources and fostering closer connections between farmers and consumers to reduce the distance between production and consumption, to facilitate production of quality food, and to inspire more sustainable localised consumption and production."**

**Challenge: Developing an online measurement tool/ quality assurance system to help rate/compare online food marketplaces, tools, and applications.**

**Challenge owner: Pozi Network Zrt**

Recently, many systems and solutions have been developed to connect small producers and consumers. What is missing, however, is a reliable classification system for these food producer marketplaces.

What is needed is an index of product quality and social impact, as well as a measurement system to assess new products and circular services for their quality and impact on quality of life. In other words,

a tool to measure the non-financial efficiency of the systems set up between farmers, distributors, retailers, and buyers.

We are looking for a solution that:

- analyzes and prioritizes the available public data in the food tech market not only in financial terms, but also in terms of quality and impact.
- can integrate with other systems or focus on an automated data reporting and monitoring system or a chat AI mega-system that polls consumers.

Basically, we are looking for a solution like an Airbnb or Fiverr rating system, only for small food producers and their distribution systems. This rating system can be used by food producers (for more efficient market search) and by online systems and applications of distributors and retailers to present their own rating and trustworthiness.

### **Challenge: Developing tools to improve and increase farmers online visibility to potential customers.**

#### **Challenge owner: FAZÉKBA!**

Combined with Challenge owner: Association of ÉLŐ Tisza

A major challenge in the transition to "farm to fork" is that people generally do not perceive and appreciate farmers in an appropriate way. Farmers compete with large retailers, which makes it difficult for them to sell their products at a good price. We are looking for technological solutions and innovative communication channels that allow farmers to connect with their customers and sell their products online while building trust between consumers and farmers.

We are looking for a solution that:

- Enables farmers to create standardized profiles and visualizes them in a way that is appealing to end customers (collective marketplace).
- Includes marketing tips for farmers: Step-by-step and intuitive instructions for farmers on how to take good photos/videos of their farms/products and the option to upload them to their profiles (e-learning platform).
- Offers farmers the possibility to sell their products online (manage orders and involves online payment systems) or to find information about sales points of each farmer (farmers market, etc.).
- Has the ability to directly deliver products to consumers (environmentally friendly approaches are desired).

The platform solution may focus on one or several aspects of the features described above. The overall goal of the solution should be to teach inexperienced farmers how to position themselves appropriately online to reach the maximum of potential customers, build trust with them and thus increase their sales.

**Challenge: Developing a solution that supports the pre-ordering and sale of seasonal products in close surroundings.**

**Challenge owner: Association of ÉLÓ Tisza**

Farmers have the big challenge to sell their seasonal products efficiently in their close surroundings - namely at the right time, at the right place and with the required quantity. This not only reduces food waste (which often occurs at farmers' markets, for example, because demand is unpredictable), but it is also more environmentally friendly because it limits long transport routes and the corresponding environmental impact. We are looking for new technological and IT solutions that allow us to achieve and serve short supply chains, combining a wide range of products (90-150 types of vegetables, fruits, and preparations) while minimizing logistical and human costs.

We are looking for a solution that:

- Manages pre-orders of seasonal products online via a web store.
- efficiently coordinates the production, logistics and distribution of these seasonal products.
- Includes a marketing campaign to raise customer awareness of buying seasonal products locally and ordering them online in advance.

**Challenges for the Turkish mission (Region East)**

**Mission: "Leverage digitalization, data centric approaches, biotech, and other solutions to increase the transparency and traceability of the agri-food value chain, reduce food waste, and radically reduce impacts stemming from meat and dairy production."**

**Challenge: Developing a solution to facilitate better understanding of crop-based carbon emissions.**

**Challenge owner: Doktor**

The agri-food sector is a major contributor to global carbon emissions. Yet current greenhouse gas emission calculation methodologies and approaches are primarily developed for industrial level assessments, and monitoring of emissions at the agricultural and field level is difficult. The methodologies offered by international carbon certification bodies cannot be evaluated on a crop-by-crop basis, and as a result, an accurate traceability cannot be achieved. This lack of sound understanding of the carbon footprint of conventional agri-food products at the farm level makes it difficult for both farmers and end consumers to understand and track the positive effect of regenerative agricultural practices, such as reduced carbon footprint, or increased soil organic carbon (SOC).

We are looking for a solution that:

- Is targeted at farmers as a core user group.
- Is user-friendly, intuitive, and accessible to farmers.
- Allows farmers to calculate carbon emissions of their farmed products, on a crop-by-crop basis.
- Is based on leading science-based methodologies.



- Increases transparency and traceability of the impacts of the agri-food value chain.
- Is easily integrated with other farm-level tools used by farmers.
- Develops a baseline for before/ after analyses of transitioning from conventional to regenerative agricultural practices.

At minimum, the solution should be applicable to the following crops: cotton, rice, corn, wheat, barley, tomato, potato, canola, citrus, and sunflower.

### **Challenge: Designing and encouraging the adoption of novel meat free alternatives.**

#### **Challenge Owner: Sodexo**

The global meat industry accounts for a significant amount of greenhouse gas emissions and is a leading contributor of other environmental impacts, such as land use change. In addition, the consumption of meat poses different types of health risks to the final consumer. As such, it is imperative to find new options for delicious meat-alternatives, particularly in the catering industry in our region (Turkey, Armenia, Georgia), where such options are currently limited. At the same time, we need to find new ways of convincing people to adopt these products and as a result, reduce their meat consumption.

We are looking for a solution that:

- Develops innovative, healthier meat-alternatives to be introduced to the regional market, with significantly lower carbon and water footprint, compared to conventional meat products and/or;
- Finds innovative ways to raise awareness and increase acceptance of these products by the final customer, including improving their understanding of the impact of meat consumption.

### **Challenges for the Dutch mission (Region North-West)**

**Mission: "Leverage digitisation and data by connecting actors in the textile value chain in the EU to empower decision-making towards higher R circular economy by increasing transparency and traceability."**

### **Challenge: Developing data-driven approaches to enable circular product strategies.**

#### **Challenge owner: PVH Europe**

Design decisions do not always lead to the most effective end-of-life outcome for a given product category. For instance, a product developer may choose a biodegradable material for an outerwear garment to meet sustainability goals. However, to meet customer needs and achieve higher resale value, it would have been better to design the garment to be repairable or durable. To overcome this challenge, we need data-driven approaches that can serve as the basis for product strategy decisions.

We are looking for a solution that:

- Collects data on consumer behaviour, product status, environmental impacts of different CE product strategies, and economic benefits of different CE product strategies, and,
- translates this data into a decision-making framework or actionable strategy approach to achieve and enable the best possible circular economy approach for a fashion company.

### **Challenges for Italian mission (Region Centre-South)**

**Mission: "1. Enable greater transparency, traceability and verifiability of product-level data and incentivise reduced production impacts by improving mechanisms for data collection, verification and sharing.**

**2. Develop new digital solutions, production technologies and services to drive circularity throughout the whole lifecycle of products, whilst encouraging greater collaboration across the value chain, and increasing awareness of consumers of the impacts of their clothing."**

**Challenge: Developing sustainable finishing processes for high-performing fabrics and/ or analytical techniques to enable fabric traceability.**

**Challenge owner: Cottonificio Albini Spa**

Textile fibres and fabrics are involved in long production and manufacturing processes, with some processes that have high impact in the environment. For example, in the production of easy-iron shirts, two treatments are usually performed: continuous wet treatment and continuous dry treatment.

We are looking for a solution that:

- is able to replace traditional and more costly technological finishing processes, thus focusing on circular economy and sustainability. The upstream products of the refining product must consist of ingredients from natural and renewable sources, such as vegetable waste. The new solution should make it possible to obtain fabrics that are both high-performing and designed for high circularity potential. Ideally, it should be applicable to both cotton fabrics and other types of textile substrates with different compositions. This new product should represent an important evolution of the easy-care products on the market today and meet the needs of many different textile companies.

The broad value chain of Textile fibres and fabrics raises challenges related to recognizability of materials on the market. This topic is relevant as the manufacturer can better verify and control the fabrics in the different international markets, while the consumer might also have more information about the garment. This information can be useful at the end of the product life to identify the treatment applied to the garment to facilitate recycling or disposal.

We are looking for a solution that:

- enables detectability of fabrics through analytical techniques (e.g. FT-IR) to ensure traceability of the material even after it has been placed on the market. It must be possible to use the information obtained from the analysis systems for a quick and rapid verification.

## **Challenge: Developing a verification tool for environmentally friendly claims made by textile suppliers.**

### **Challenge owner: Piacenza**

Due to the cost of implementing environmentally friendly practices, there is currently a significant level of false green claims in the marketplace. The most common solution to reduce environmental, sustainability, and circular economy costs is to purchase limited quantities of organic or recycled materials and allocate them to production lots that may be subject to controls. However, regular production is done with less expensive, non-organic or non-recycled material. Since only certain lots are subject to controls, this unfair solution poses limited risks. This practice is well known to customs and security forces who want to fight fraud and counterfeiting.

We are looking for a solution to this problem, more specifically a viable and affordable tool capable of assessing the level of reliability of the data provided by the supplier of the textile value for the Digital Product Passport (DPP), in order to combat the false green claims made by unfair competitors and increase citizens' confidence in environmental claims at different levels.

We are looking for a solution that:

- Collects data that can prevent the adoption of purposeful claims by detecting misalignments and inconsistencies in the statements required for the future DPP.
- Uses cross-checks between the different data sets required for the DPP to detect false green declarations and reject and remove from the market the products that are the subject of false claims.
- Provides internal reliability assessment for data received from suppliers to conduct audits to verify textile supplier declarations and select suppliers with the best and most reliable green and circular performance.
- Leverages existing standardized data models already available in the market.
- Supports estimation of DPP performance of new products based on style definition to enable circular economy by design approach and improve 7Ps performance when developing new design ideas.
- Provides an affordable solution that is accessible to SMEs.

## **Challenge: Enabling the footwear industry to increase the use of sustainable materials and processes via an innovative digital tool.**

### **Challenge owner: Politecnico Calzaturiero**

European legislation is becoming more stringent in terms of sustainability and circular economy, especially for the fashion sector, which includes the footwear industry. The sustainable approach can be taken in several areas, such as environment, human rights, labour practices, traceability, etc., but the focus is increasingly on the use of sustainable materials, both indigenous and recycled or reused as such. The problems arise from: A) lack of knowledge of sustainable and recycled/recyclable materials on the market, B) in the case of knowledge of materials, there is a lack of knowledge of the relative components of footwear made from these materials and the relative technical characteristics (including legal) and their impact (if any) on the LCA of the product, C) there is little knowledge of the

suppliers of these materials and the corresponding certifications, recognitions, etc, D) there is no "single" and structured place to find the list of components of a shoe, both classic and sporty, the corresponding materials available on the market with their own technical characteristics and legal standards, as well as the corresponding sustainable "substitutes", E) there is no digital approach to manage this, where innovative systems such as AI or virtual rendering of the material (for use in design and development) could be inserted.

We are looking for a solution that:

- Involves setting up an innovative digital library tool with all the existing footwear materials. The main goal is to organize the library in such a way that it can be used directly by company employees in their daily work, in order to promote wide adoption.
- is structured according to a logic for shoes: through different filters for the type of product, the type of components and processes involved, the type of material required, etc...,
- Integrates technical data, performance data, and data on the impact of each material (e.g., opportunities for material recycling, impact on the life cycle assessment of the product, virtual representation of the material, etc.).
- Ideally refers to existing sustainable materials that can replace standards.
- Leads to greater knowledge of sustainable and recyclable/recycled materials for the footwear industry.
- Possibly enables sharing among companies, suppliers, material experts, test consultancies, etc.
- Allows for possible expansion in the future to all other fashion sectors (textiles, apparel, knitwear, eyewear, etc.).

### **Challenge: Developing a solution for the collection of textiles suppliers' information and the assessment of the sustainability-related supplier risk.**

#### **Challenge owner: Gruppo Mastrotto Spa**

The largest fashion brands and other brands associated with the textile sector, including car manufacturers, as well as other stakeholders, including non-governmental organizations and regulators, are increasingly demanding that supplier networks associated with the leather supply chain provide guarantees related to environmental sustainability (e.g., water consumption, waste management, climate change impact) and social sustainability (e.g., respect for workers' rights, occupational safety and health, respect for human rights, recyclability of material flows, and traceability of raw materials).

We are looking for a solution that:

- Can collect information from suppliers and assessing the sustainability risk of each supplier along the three dimensions - economic, environmental, and social.
- Includes dimensions such as sector to which the supplier belongs, company size of the supplier, geographical extent of the supplier's activity, organizational culture of specific groups of suppliers.
- Pays attention to the supplier's ability to implement circular economy strategies.

- Is based on a qualitative and quantitative assessment with data collected from potential suppliers as well as from existing databases, also considering external factors such as the political situation of the geographical area, transport conditions, etc.

We envision at least two use cases:

- 1) Potential supplier: the solution should allow to make a preliminary assessment of environmental and social risks based on indicators such as the geographical location, the sector to which they belong, or existing assessments in databases.
- 2) Qualified supplier: the solution should allow to assess the environmental, social, circular economy and traceability performance.

### **Challenge: Retaining product performance and longevity in the move towards less complex, biobased, and biodegradable materials.**

#### **Challenge owner: (Mission Council Member)**

Currently, fast-fashion dominates the textile industry, and is associated with many environmental and health hazards, many of them stemming from suboptimal materials and design choices, and petroleum-based, hazardous binders, additives, dyes, and finishes that provide aesthetic and performance characteristics to finished products. Yet with the increasing awareness of microplastic pollution, and other impacts stemming from the sector, citizens are looking for clothing that delivers on durability and performance, while also tackling the more systemic issues of microfiber release and biodegradability.

In the move towards a truly circular, regenerative textile sector in the Mediterranean region, we are looking for next generation of less complex, plant-based and bio fabricated materials, and its application in the textile industry. The solutions should ideally:

- Allow for creation of new materials which can retain high product performance and physical durability, allowing for increasing product longevity.
- Focus on supporting underserved product applications of next-generation materials, through understanding the performance needs and characteristics of commonly purchased goods.
- Provide sustainable alternatives to petroleum-based and hazardous binders, additives, dyes and finishes that provide aesthetic and performance characteristics to finished products.
- Support inventive design and manufacturing approaches, and allow for effective use of recovered and recycled materials from old textiles (e.g., in clothing, carpets, curtains, furniture, etc.)
- Help to identify new feasible bio feedstocks and match them with appropriate processing innovation, taking into consideration the regional context.

### **Challenge: Increasing the access to and affordability of circular services and reverse logistics.**

#### **Challenge owner: (Mission Council Member)**

One of the core missing links in the transition to a circular economy is a robust system of "reverse" logistics. We need new logistics models to support product and material collection, sorting, and recovery for reuse, redistribution, and remanufacturing. In Italy, for instance, currently, this work is done by non-governmental organizations such as Caritas, or through informal networks.

We are looking for solutions and service models that would help to increase the access to and affordability of circular services provided within the region.

Specifically, we are looking for solutions that would:

- Maximise the ability of citizens to care for, maintain, repair, or upcycle their existing clothing so that products can be repaired throughout their full useful lifetime, by providing citizens with affordable repair and maintenance services.
- Provide viable options for scaling textile collection infrastructure and campaigns to encourage citizens to separate all textile materials from other municipal waste.
- Support the development of robust reverse logistics models, and improved textile sorting.
- Help to link the supply of collected products and materials with demand, based on their condition and material properties (ie., reuse prioritized over recycling whenever possible).

### **Challenges for German mission (Region Centre-North)**

**Mission:** "Leverage circular design, enabling technologies, and knowledge sharing to reduce and replace single use plastics and to maximise the potential of packaging solutions that close material loops, while enabling the main value chain actor across to adopt them by 2030."

**Challenge:** Communicating the comprehensive sustainability impacts of recycled products to customers.

**Challenge owner:** CompriseTec

Communicating the comprehensive sustainability impact of a product to customers is very challenging due to the large number of parameters as well as different system boundaries that need to be considered, such as material origin, processing, logistics, secondary emissions during the use phase, etc. Customers rarely have the necessary knowledge of the Life Cycle Assessment (LCA) process to fully understand the context of the data presented. Small product development companies need a simple and standardized way to communicate their sustainable product efforts directly to consumers in an understandable way to differentiate themselves from the competition. A solution should allow product developers/producers to communicate to their customers all the necessary information for a comprehensive LCA of their products to show the low impact of the products they are developing, especially regarding the circularity of the products.

We are looking for a solution that:

- Has accessibility to the information directly from the product.
- Enables an engaging and visually appealing presentation of relevant sustainability parameters.

- Has balance between correct sustainability information and a relatively low level of complexity.
- Has compatibility with the Digital Product Passport concept.

### **Challenge: Designing a robust take-back system for paint packaging.**

#### **Challenge owner: Hempel**

We are looking for a solution provider to develop a robust and well-designed take-back system for paint packaging that ensures it is collected/returned separately, cleaned, and directly reused (or, if it can no longer be reused, recycled into new paint packaging). This has the potential to dramatically change the economics and environmental impact of paint packaging, turn the industry around, reduce plastic pollution from paint packaging by more than 50%, and even help address the problem of paint waste.

We are looking for a solution that:

- Enables targeted optimizations in the design of existing paint packaging to balance reusability and recyclability,
- Involves a digital reverse logistics system that allows packaging to be tracked throughout the supply chain (from consumer to packaging supplier),
- Engages quality control procedures and preparation for reuse or recycling; and
- Suggests a business model that makes sense for all stakeholders in the ecosystem and provides appropriate incentives.

The development of such a solution would require close collaboration in the value chain between different actors such as a paint manufacturer, a retailer, the end users (DIY, professional), a recycler and/or refurbisher, and a packaging manufacturer. It would also require a high level of behavioural change in the sense that some of the stakeholders (e.g., retailers and consumers) should learn to accept reused packaging (i.e., packaging that does not look like new).

### **Challenge: Developing reusable smart packaging for cosmetic products and beauty care industry.**

#### **Challenge owner: Greiner AG**

Currently available packaging solutions are not designed for reuse. For example, packaging for reusable systems (e.g., soap dispensers / shampoo bottles) is difficult to clean after the product has been emptied (industrial washing / disinfection) and therefore only parts of the packaging remain in the reuse cycle (e.g., soap dispenser - pump system is thrown away; only the bottle is kept). In addition, returning a reusable packaging solution should be as easy and convenient as returning a single-use solution, with no friction for the consumer once the product is empty.

We are looking for a solution that:

- uses mono materials instead of different combinations of materials (e.g., glass bottle and plastic pump system)

- is easy / intuitive to use from the customer's perspective - analogous to "single-use" packaging designs.
- is usable for numerous reuse cycles.

Focus applications: Packaging designs and business models for shampoos, creams, soaps (cosmetics & beauty care industry). If needed, the solution can be targeted to a specific product or product part, e.g., a pump.

**Challenge: Producing a tracking solution for business models with reusable packaging in the food (e.g., cups/plates) and cosmetics (e.g., shampoo bottle/soap dispenser) industries.**

**Challenge owner: Greiner Innoventures GmbH**

Packaging in a reuse application is difficult to track and trace throughout the lifecycle of a container (e.g., cup/plate/bottle). However, tracking usage is crucial to analyzing and managing packaging inventory:

1. how many times a container has been used
2. when it must be discarded from the cycle (end of life)
3. how many containers are currently in the system
4. when new containers are needed (procurement)
5. where is the product in the reuse cycle (at the restaurant, at cleaning, at the user, etc.)

Solutions for packaging in a closed loop reuse system must be cost effective (scalable) and resilient (hardware and software - e.g., QR code and tracking platform).

We are looking for a solution that ideally:

- Is resistant to cleaning and disinfection applications (e.g., industrial washing facilities).
- Is convenient for customer experience at the "front end" = linking user and packaging (sign-up/hand-off).
- Is easy to handle at the "back end" as an agnostic solution for different applications (e.g., cups/bottles/plates) and for different technologies (e.g., image recognition).

**Challenge: Reducing plastic consumption in packaging materials (shrink wrap, trays/multi-packs, etc.) via environmentally friendly solutions.**

**Challenge owner: Anadolu Efes Brewery and Malt Industries**

Our organization aims to achieve net zero emissions in all its activities. For this reason, we want to start converting our packaging materials, which are one of the main sources of emissions. We want to focus primarily on eliminating plastic materials. In our current packaging portfolio, plastic consumption is mainly related to shrink packaging and PET SKUs. Shrink packaging is one of the main issues in the packaging sector. The shrink packaging, we use is currently 100% virgin plastic. There are two main applications for shrink packaging - one is wrapping beer trays and the other is multi-packs. We are looking for more environmentally friendly solutions to reduce the use of plastic in shrink



packaging. Increasing the proportion of recycled plastic or looking for more environmentally friendly and innovative packaging solutions for the containers (trays/multi-packs) could be possible solutions.

As we also aim to communicate with consumers with this eco-friendly solution, we are looking for market-leading innovative solutions to reduce the consumption of shrink material.

We are looking for ecological and innovative packaging solutions (packaging/shrink films) that ideally:

- Use biomaterials obtained by recycling food waste (the use of by-products from the brewing process would be invaluable).
- Packaging material with a strong and elastic structure
- Weight and moisture resistant materials for multi-packs
- Easy/intuitive use from the customer's point of view
- Be usable for numerous reuse cycles.

Main applications: Packaging design for kegs, bottles, cans, and trays/multipacks (brewing industry).  
If needed, the solution can be targeted to a specific product or product part, e.g., shrink packaging.