Guidelines for Organising an Innovation Co-Creation Laboratory Online

for Public Sector Organisations with Engagement of Researchers and Entrepreneurs

Interreg Baltic Sea Region

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Guidelines for Organising an Innovation Co-Creation Laboratory Online
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Foreword

In 2017, as part of the Project "Strengthening Smart Specialisation by Fostering Transnational Cooperation" (GoSmart BSR) under the Interreg Baltic Sea Region Programme 2014–2020, the Vidzeme Planning Region, in cooperation with partners in seven countries, launched an international innovation brokerage system in the Baltic Sea Region to promote cross-border cooperation between companies and researchers in the development of new products and services. The need for an innovation brokerage system is justified by barriers to industry and research cooperation, including lack of mutual trust and weak collaboration skills. This problem is characteristic both for Latvia and other countries of the Baltic Sea Region, and it is also confirmed by the 2019 study on barriers to the growth of smart specialisation in Vidzeme[1]. Meanwhile, in order to foster cross-border cooperation for the development of innovations, it is important to promote the formation of mutual trust, the development of collaboration skills and the exchange of knowledge between research and industry here in Latvia.

If you have not dealt with the concept of "smart specialisation" so far, we would like to explain that it originated in the scientific environment, is widely used to underpin European Union policies and represents a new approach to fostering innovation-led economic development. Smartness refers to identifying strengths and comparative unique advantages of countries and regions. Specialisation or specialism is the selection of priority areas for the development of which targeted measures are implemented and funding is allocated, thus stimulating the formation of a critical mass of knowledge, and human and material resources in the selected areas[2].

The most promising and priority areas for support in the Vidzeme Region by sector

- Woodworking and furniture manufacture
- Food and beverage production
- Information technology, in particular information services – computer programming
- Processing of non-metallic minerals
- Logistics services – transport and storage
- Distant and exportable professional services – scientific, technical, architectural, financial, business and legal services
- Installation and maintenance of modern technological equipment and devices.
- Use of biomass for chemical processing and energy

1 Vidzeme Planning Region. Action Plan for Further Sustainable Development of Smart Specialisation in the Vidzeme Region 2020–2022. *Vidzeme Planning Region*, 2019.

2 Krumberga, K. Viedās specializācijas stratēģija – ceļvedis uz inovācijām [Smart Specialisation Strategy: A Guide to Innovation], *Enerģija un pasaule*, 2018/5, pp. 54–57.

The results of the study showed that one of the obstacles to the growth of companies in the fields of smart specialisation is weak or non-existent cooperation with the most outstanding scientific institutions at the national and international level. The study has repeatedly established that entrepreneurs of the Vidzeme Region lack knowledge about the latest discoveries and scientific developments, as well as the opportunities to use them for the needs of their industry and the creation of innovations[3].

10 most significant obstacles to growth of smart specialisation areas in Vidzeme

1. Lack of information on the availability of support for small and medium-sized enterprises (SMEs).
2. Difficulties in providing skilled labour in rural areas in general.
3. Lack of qualified labour force in the strong areas of the Vidzeme Region.
4. Lack of cooperation between companies and scientific institutions.
5. Complexity of the language used in applications for support and in reports which is difficult to understand.
6. Bureaucratic burden pertaining to receiving support.
7. Drain of talents and leaders.
8. Insufficient understanding of markets and/or demand by SMEs and insufficient resources for professional analysis of market demand.
9. Insufficient SME resources (financial, human capital and time) for the creation of innovation, including for R&D.
10. Difficulties in engaging global-scale leaders.

In order to gradually eliminate the poor cooperation between entrepreneurs and researchers, the Vidzeme Planning Region (hereinafter referred to as VPR) in cooperation with Riga Technical University's Design Factory (hereinafter referred to as RTU DF) implemented an experimental event in 2020: The **Innovation Co-Creation Laboratory** (hereinafter referred to as the **ICL**). It sought solutions for the development of sustainable food packaging.

The concept of "innovation co-creation" can increasingly be found in documents of various levels, such as policy frameworks, project calls and action plans developed within international projects. In Latvia, however, we are just beginning to get to know it. At present, there are no described prerequisites, methods or practical advice on how co-creation should be organised by public sector organisations, which have a mediating role in promoting industrial and scientific cooperation.

These guidelines aim at sharing the experience and lessons learnt from organising the first ICL in Vidzeme and providing practical advice on how to implement such activities as successfully as possible in the future.

The guidelines will be particularly useful for professionals involved in the day-to-day promotion of collaboration between researchers and companies, as well as for business development specialists and innovation project managers. They include feedback on the content and technical side not only from the ICL organisers, but also from the participants, such as entrepreneurs and researchers.

The first part of the guidelines deals with the concept and process of co-creation. The second part provides an insight into the ICL and the key methods and tools used in the co-creation process. The third part describes in detail the stages of the ICL and tips for their successful implementation. The annex to the guidelines includes working materials, such as interview forms, scenarios for co-working, worksheets and assessment questionnaires.

Enjoy the reading and may this material inspire you to look for new forms of strengthening cooperation between researchers and entrepreneurs!

3 Vidzeme Planning Region. Action Plan for Further Sustainable Development of Smart Specialisation in the Vidzeme Region 2020–2022. *Vidzeme Planning Region*, 2019.

Team

Author

Inese Suija-Markova

ICL Scenario Developer and Process Moderator, Author of the Guidelines

Inese Suija-Markova holds a master's degree in Business Management and Innovation (MBA) from Riga Technical University and is currently a doctoral student at the same university. Her research is related to knowledge transfer and management of knowledge-intensive business services. Since 2008, Inese has been leading the Institute for Environmental Solutions, a private research and development organisation, and since 2017 she has been Vice Mayor of Cēsis Municipality Council. She gives lectures on project management, innovation techniques and creativity. Former US and Canadian government fellow. In 2003, she received an individual scholarship from the UNESCO Bank Fellowship Programme 2002–2003 for carrying out research at the European Association in Brussels for the Education of Adults. She is also a participant, lecturer and moderator of numerous international conferences and seminars.

Organisers

Santa Vītola

ICL Idea Promoter and Project Manager, Working Group Moderator, Guidelines Development Coordinator

Santa Vītola holds a master's degree in Governance and Communication from the Vidzeme University of Applied Sciences, and she also studied Transnational Public Administration at Södertörn University in Stockholm, Sweden, in 2020. In the Vidzeme Planning Region, she manages international cooperation projects and initiatives aimed at regional development, fostering of innovation and bioeconomy development and promotion of good governance. She represents the region in international conferences, communication campaigns and cross-border cooperation working groups. Over the past two years, Santa has upgraded her knowledge by participating in the Leadership Programme Youth & Bioeconomy of the Swedish Institute, in the Localising SDGs Programme of the Council of the Baltic Sea States and obtained a business advisor certificate.

Līga Efeja-Lībiete

Design Thinking Workshop Coordinator and Moderator

Līga Efeja-Lībiete is a practitioner of strategic design and systems approach as well as a creator and moderator of cooperation, including interdisciplinary co-creation and innovation processes. She holds a master's degree in Intercultural Conflict Management from the Alice Salomon University of Applied Sciences Berlin, Germany, and since 2007 she has mastered practical learning, group process management and systems approach techniques on a regular basis. Līga is a certified personal growth coach as well as a developer and implementer of youth and adult curricula with extensive international work experience. She delivers lectures and runs classes on personal growth, creativity, teamwork and the systems approach. Since 2017, Līga has been engaged in several EIT Climate-KIC programmes. In 2020, she created and implemented the training of the EIT Climate-KIC's Network of Climate Coaches.

Marta Riekstiņa

Public Relations and Technical Support Coordinator

In 2019, Marta Riekstiņa obtained a bachelor's degree in Communication and Public Relations Management from the University of Liepāja. Since graduating, she has been a public relations specialist in the Vidzeme Planning Region and is currently working on several international projects focused on business, innovation, bioeconomy and regional development. After starting out in the region, she also supported coordination of a project aimed at addressing the lack of mobility and access to services in regions affected by demographic change. Marta has participated in the development and coordination of various communication plans.

Nadīna Elekse

Researcher Engagement and Communication Support, Working Group Moderator

Nadīna Elekse holds a bachelor's degree in Philosophy and is currently completing her master's degree in Business Administration at the BA School of Business and Finance. During her studies, she also attended Charles University in Prague and INSEEC School of Communication in Paris. Since 2018, Nadīna has been working at Riga Technical University's Design Factory, an innovation and entrepreneurship hub with the best equipped prototyping lab in the Baltics, and several business support and entrepreneurship promotion programmes. Since 2019, Nadīna has been the manager of EIT Food Hub Latvia, a Knowledge and Innovation Community established by the European Institute of Innovation and Technology (EIT).

Laima Engere-Levina

Smart Specialisation Research Elaboration Coordinator, Working Group Moderator

Laima Engere-Levina is the manager of the Entrepreneurship Centre of the Vidzeme Planning Region. She holds a professional master's degree in Business Management with qualifications in Management of Enterprises or Organisations in Creative Industries. Laima has professional experience in providing business consulting and evaluating business models. She is also experienced in strategic planning and fundraising, including raising EU funds, as well as implementing innovation projects. Her main job responsibilities and area of expertise are the creation and maintenance of business networks; promotion of the availability of business environment and innovation support instruments in the region; organisation of business-enhancing and educational activities to facilitate the competitiveness of SMEs and development of innovation.

Ilona Platonova

Cross-border Innovation Development Expert, Working Group Moderator

Ilona Platonova holds a bachelor's degree in Business Administration and a master's degree in Economics, and she has started her doctoral studies in application of design thinking and measuring its impact at the BA School of Business and Finance. Ilona has substantial work experience in both private and public sectors. Most of her work projects have been related to innovations and new developments. In the European Integration Office, she participated in the process of the EU accession negotiations; she was involved in the development of the business model of Arena Riga, which was the first experience of this kind in Latvia; she was an Adviser at the Office of the Minister for Economics and a Parliamentary Secretary at the Ministry of Economics. In the private sector, she ran a small business and worked in sales and was involved in implementing innovations in business, using examples from other countries and industries.

What is Co-Creation?

Concept of Co-Creation

Co-creation is closely related to the creation of a new value; therefore, in the scientific literature you will most often come across the term "value co-creation". This means a process of joint problem solving, which involves integration of the supplier and customer resources (Fig. 1). Suppliers apply their specialised knowledge, skills, methods and judgment, while customers contribute their knowledge about the needs and business. The aim of such collaboration is to create value-in-use [4].

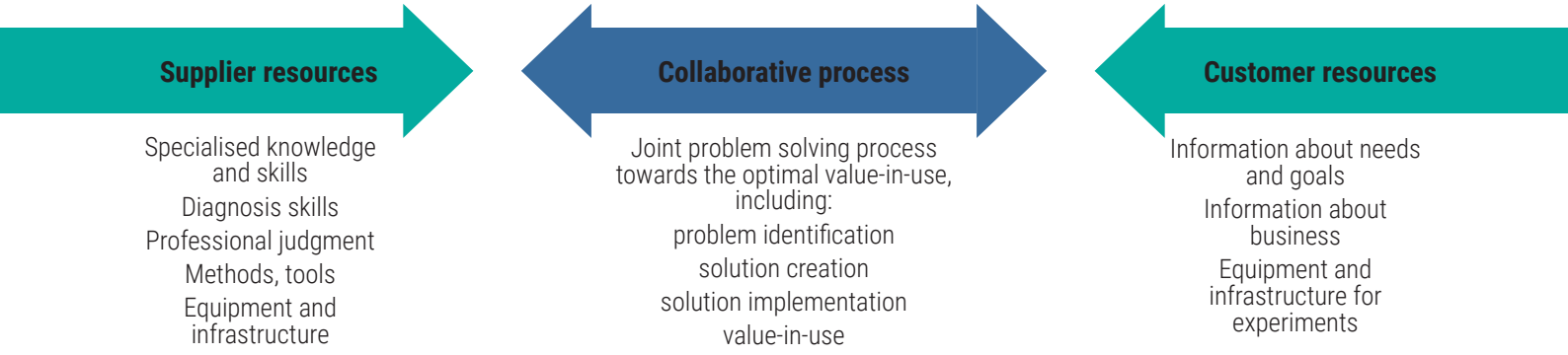


Fig. 1. Framework for value co-creation[5].

In the context of cooperation between universities, scientific institutions and companies, we consider scientists and researchers as suppliers, and companies as customers.

Nowadays, research and business are very closely linked. Researchers are increasingly expected to carry out practical research which focuses on addressing problems that are important for the economy and society. Meanwhile, companies need new solutions and innovations that help them survive and thrive on global markets and in the conditions of ever-increasing competition. Co-creation is one of the tools for scientific and industrial cooperation in the process of innovation development.

Innovation is the implementation of new scientific, technical, social, cultural or other ideas, developments and technologies in a product or service.

/Law on Scientific Activity of the Republic of Latvia/

During the co-creation process, entrepreneurs and researchers from different fields of science jointly define and solve problems important to the industry. The new value – developments for new products, services, processes or technologies, etc. – is created by combining and merging the knowledge and skills of researchers with the business expertise of entrepreneurs. Remember that creating new solutions is complex if all those involved in the process are like-minded. **The power of co-creation lies in diversity!**

4,5 Aarikka-Stenroos, L., Jaakkola, E. Value co-creation in knowledge intensive business services: A dyadic perspective on the joint problem solving process. *Industrial Marketing Management* 41, 2012, pp. 15–26.

In the co-creation process, researchers identify the scientific challenges associated with the defined problem, while entrepreneurs pinpoint its economic potential. Both parties offer the information and know-how at their disposal and participate in both defining and solving the problem. Joint problem-solving generates new information and innovation, so it benefits both researchers and entrepreneurs.

Co-creation is NOT

- Commercialisation of inventions, which means the alienation of the economic rights to the invention or their use in exchange for remuneration.
- Contract research, in which a company commissions specific research to a scientific institution or group of researchers and does not participate in its implementation and creation of solutions.

Process of Co-Creation

Co-creation may take several forms. In the model of cooperation between universities and companies developed by Finnish colleagues, three forms of co-creation are distinguished.

Bridging co-creation. It aims to create collaborative connections between researchers and companies. Bridging co-creation produces solution proposals for problems that have been identified in cooperation.

Experimental co-creation. It aims to find solutions to the company's problems by carrying out practical experiments created in cooperation and testing assumptions.

Co-research is research conducted by the university and the company together, aiming at creating new knowledge [6].

Fig. 2 shows the co-creation process. It starts with defining the problems and proceeds to solving them. At the end of the process, the results are analysed and the solutions created are tested in business practice. In this way, companies can obtain developments for new products, processes or practices, and researchers can evaluate the result of co-creation using a scientific method. Dialogue is important at every stage of the co-creation process. After the first tests, the process may have to be repeated or returned to one of the previous stages.

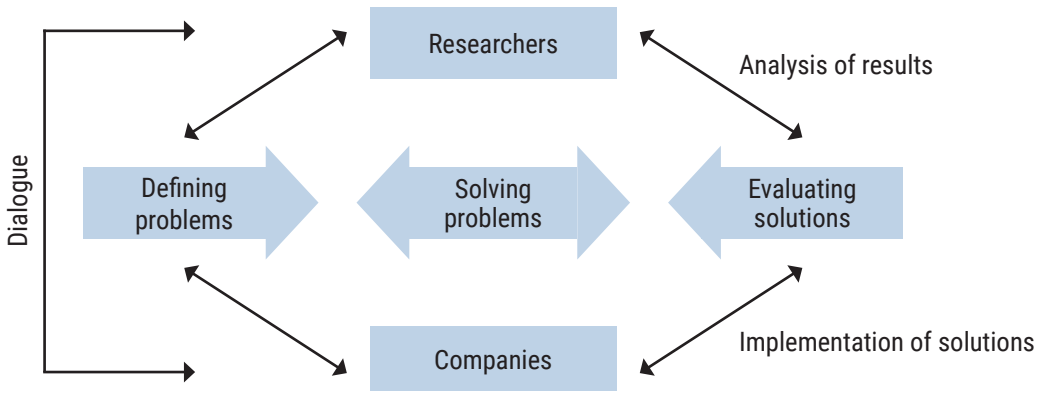


Fig. 2. Co-creation process[7].

6,7 Hautamaki, A., et.al. Co-creation. A guide to enhancing the collaboration between universities and companies. *University of Helsinki and the authors*, 2018, ISBN 978-951-51-4096-8

What are the benefits from the co-creation process for the parties involved?

Benefits for researchers

+ A deeper understanding of the problems pertaining to different areas of the economy and the factors influencing it.
+ A deeper understanding of the importance, necessity and practical applicability of their research area.
+ Practical experience in solving business challenges together with entrepreneurs.
+ Opportunity to use and test their knowledge in a new context and format.
+ Opportunity to strengthen the value of their current research activities in the eyes of potential partners.
+ New ideas for future research.
+ Expanded network of contacts in both science and business environment.

Benefits for entrepreneurs

+ Solution concepts or ready-made solutions to the problem identified.
+ New knowledge of various scientific discoveries, developments and technologies.
+ Practical experience in solving business challenges together with researchers.
+ Opportunity to look at their company's activities from different perspectives.
+ New contacts for further cooperation with other entrepreneurs and researchers.

Participants in the Co-Creation Process

Companies tend to be very different, and they have different problems to be solved. Companies can also be rivals if they operate in the same industry or use similar methods. It would be preferable for several companies to take part in the co-creation process, but it is very important that these companies are not direct rivals or that they are very clearly aware of their limits. Ideally, co-creation should involve companies with similar problems and a high level of willingness to share them [8].

The benefits and potential risks of the co-creation process with one or several companies participating [9].

One company participating in the co-creation process

+ Lack of competition, which increases trust;
+ Focus on the company's own problem and sufficient time to consider it;
+ Opportunity to gather researchers whose profile corresponds to the company's problem area;
− Restricted basis for generating ideas, no possibility to reflect with other companies' practices;
− Weak possibility to expose their own opinions to constructive criticism;
− A risk that the researchers experience the process as a one-sided service and not as an equal cooperation process.

Several companies participating in the co-creation process

+ Companies benefit from analysing other companies' problems;
+ Networks are created between companies;
+ Problems are viewed from multiple perspectives, especially if there are companies from different fields;
+ A balance between researchers and companies contributes to the atmosphere favourable to co-creation;
− Less time for considering questions that are important to the company;
− Companies may be more reserved in presenting their own problems.

8,9 Hautamaki, A., et.al. Co-creation. A guide to enhancing the collaboration between universities and companies. *University of Helsinki and the authors,* 2018, ISBN 978-951-51-4096-8

What is the Innovation Co-Creation Laboratory?

The ICL is a professionally managed set of events. Its aim is to promote cooperation between researchers and companies in creating innovative solutions, such as products, services, processes, technologies, business models, etc., commercialisation of inventions and strengthening of Latvian practical research and business competitiveness.

Methods Used in the Innovation Co-Creation Laboratory

Co-creation envisages expanding the knowledge base and thinking boundaries of the participants and development of cooperation skills; therefore, various methods based on active participation are used in the co-creation process.

Dialogue Method

Most of us have heard the saying of the famous Greek thinker Socrates, "I know that I know nothing". This popular quotation describes well the essence of the dialogue method, by mastering which we learn that we actually know a very limited amount of information, which, moreover, is not always completely true. The dialogue method is based on development, and it involves building a common understanding of an issue, accepting different and even opposite views, not imposing one's opinion, as well as an open and equal conversation. A dialogue cannot have a predefined result.

Basic principles of a dialogue

- All participants in the dialogue are equal
- Dialogue proceeds freely
- People listen and try to understand each other
- No single perspective is inherently better or worse than another perspective
- Hierarchical settings, arrogance or seeking pre-determined results are not part of a dialogue
- Dialogue is a mutual learning process

Rules of a dialogue

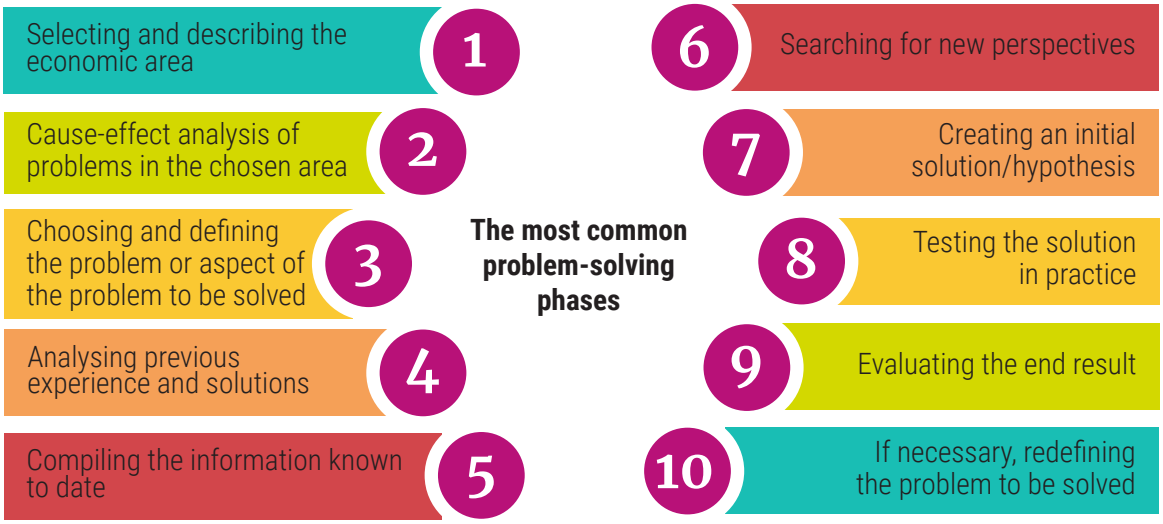
- Do not talk to yourself – dialogue is a conversational exchange not a monologue.
- Do not assume that only your own opinion is important and worth expressing.
- Say what kind of thoughts and emotions arise from the experiences of others.
- Do not hesitate to express your opinion and do not be afraid of confrontation.
- Ask if you do not understand something, do not presume.
- Speak only for yourself, do not refer to a collective (avoid saying "we know / it is known").
- Let everyone speak in peace, do not interrupt or talk out of turn.
- Listen to what others say and want to say.
- Encourage everyone to express themselves.
- Continue the ideas of others, do not nip them in the bud.
- When criticising, be constructive.
- Avoid using jargon and use the language that others understand.

Problem Solving

As mentioned above, co-creation means solving problems in cooperation with people with diverse backgrounds and different competence profiles.

Problems may be grouped into convergent and divergent ones. Convergent problems are those that are defined in a detailed and clear way and which can be eliminated using a previously known solution or a pre-tested specific process for reaching a valid solution. Most often, such problems can be solved relatively easily, and co-creation is not required.

Divergent problems are more difficult to solve. This requires an analysis of the causes, asking the right questions and examining solutions from different perspectives. Divergent problems also include the so-called wicked problems, which are complex, multidimensional, interdependent and do not have a single optimal solution. Typical examples of wicked problems are climate change, urbanisation, insecurity and poverty. However, there are also divergent problems in the strategic development of a particular region or company, which do not only have one right solution: several scenarios are possible, and they can also be contradictory. This does not necessarily mean that wicked and divergent problems cannot be solved. Involvement of people from different fields with diverse backgrounds becomes important for their successful solution.



In the context of co-creation, it is important to realise that all problem-solving phases are unlikely to be completed due to time and resource constraints. As a result of the experimental co-creation, by asking precise questions, participants will at best manage to come up with hypotheses, concepts of ideas or quick prototypes of solutions. In order to test solutions in a real business environment, it is recommended to organise a new project or encourage further independent collaboration, thus laying the foundation for long-term collaboration between companies and researchers.

Design Thinking

Design thinking is one of the methods that can be useful in experimental co-creation and is especially efficient when working with complex, undefined and time-varying problems that affect many people and are related to the need to find a new approach. It is a collaborative experimental process in which prototyping and testing of active ideas with users is of key importance.

The design process is interpreted differently, but the basic idea is similar in all cases. The design process consists of several phases and is iterative (Fig. 3).

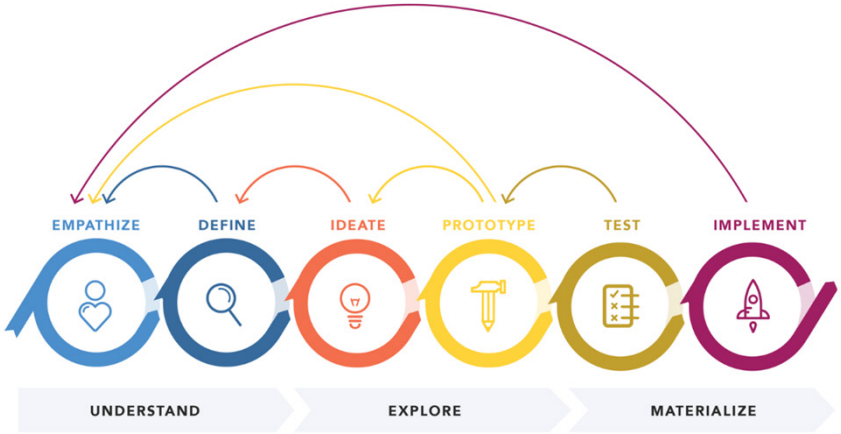


Fig. 3. Phases of a design thinking process [10].

Empathising – get to know your users and find out what they are doing, saying, thinking and feeling; understand the wider context of the problem and explore market opportunities.

Defining – summarise all the findings of the research phase, define the problem you want to solve and identify opportunities for innovation..

Ideating – generate as many ideas as possible and select useful and original ideas from the created range of opportunities, which can be combined and developed further through prototyping.

Prototyping – use quick prototyping to test the solution ideas with users without making large financial investments. The task of this phase is to make mistakes and learn quickly, gradually improving and consolidating your idea.

Testing – test the prototype with real users and get feedback to further develop or improve your idea. The design process is based on repetition, change and continuous improvement to get to the first practical version of a product or service.

Implementing – launch your product or service on the market, showing it to the world and putting it to use. Gather feedback from users to plan how to potentially improve this or your future products and services.

10 Gibbons, S. Design Thinking 101. 2016, https://www.nngroup.com/articles/design-thinking/

Digital Tools Used in the Innovation Co-Creation Laboratory

We live in an age of speed, change, complexity and uncertainty. We also saw this very clearly in 2020, when the spread of the COVID-19 virus began, and the decisions and restrictions followed. This was a year when we all had to demonstrate our ability to quickly find our bearings in the new conditions, adapt to them and learn new skills. Restrictions on face-to-face meetings also affected the ICL process, forcing organisers to look for ever new ways to hold their events online, including quickly learning to work with a variety of online tools.

Six interactive tools were used in the first Innovation Co-Creation Laboratory: the Zoom, MS Teams and WhatsApp communication apps, the Mentimeter audience engagement tool, the Miro online collaboration board, and Google Drive and its apps.

Zoom

https://Zoom.us

Zoom is a video communication tool that allows you to organise an unlimited number of online meetings. For the purposes of organising the ICL, the Zoom Pro version was used, which provides for meetings of up to 100 participants without a time limit, as well as the possibility to divide participants into working groups in separate virtual rooms in addition to video and audio recording. We used Zoom both in the selection process of the participants, when interviewing researchers and entrepreneurs, and during the co-creation (see Fig. 4).

Fig. 4. Screenshot of the ICL process in Zoom.

Microsoft Teams

https://microsoft.com

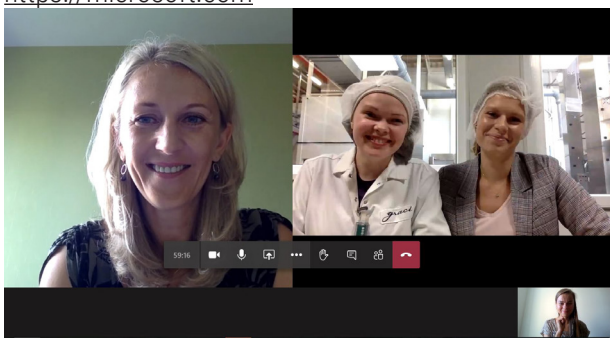


Fig. 5. Screenshot of the member selection process in Microsoft Teams.

Microsoft Teams is one of the Office 365 online applications which can be used for communication individually or in groups. For easier use of MS Teams, it is recommended to install the app on a computer. We used MS Teams during the ICL in the participant selection process for interviewing researchers and entrepreneurs as well as for arranging organisers' working meetings (see Fig. 5).

WhatsApp

https://whatsapp.com

WhatsApp is a free communication tool that was originally created to replace texting on mobile phones with a more advanced, cost-effective and convenient solution. We used WhatsApp during the co-creation process during the ICL in order to ensure prompt communication between and among the members of the team of organisers (see Fig. 6).

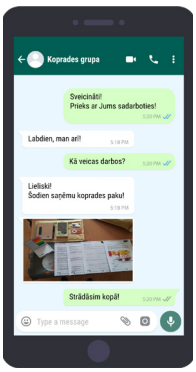


Fig. 6. Screenshot of WhatsApp.

Mentimeter

https://menti.com, https://mentimeter.com

Mentimeter is an interactive presentation tool for conducting lectures, seminars and meetings and communicating with the audience. Presentations built in Mentimeter can contain text and images, and they also incorporate a polling tool. In addition, the app can be used as a tool for creating tasks. A component of Mentimeter is Menti-tool for interactive participation of the audience in Mentimeter presentations using polling, word cloud, test or question and answer functions. These features are available in the free version of the app. During the ICL we used Mentimeter to activate the participation of the audience during the warm-up tasks, to assess the overall atmosphere in the co-creation process and to obtain immediate feedback (see Fig. 7).

Fig. 7. Answers of the ICL participants in Mentimeter.

Miro

https://miro.com

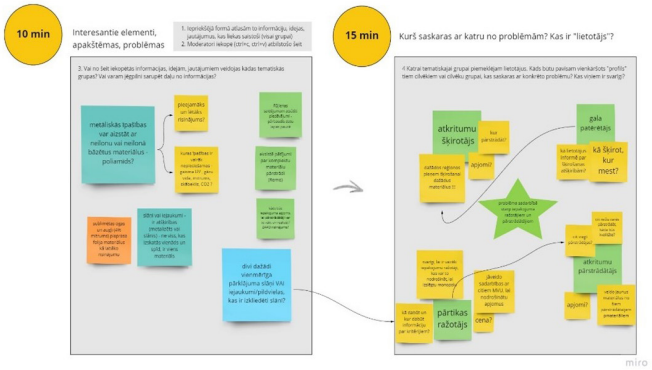


Fig. 8. Screenshot of the Innovation Co-Creation Laboratory's group work.

Miro is an online collaboration whiteboard that is especially suitable for remote group work. Miro is useful for generating and organising ideas in real time, making notes and corrections, leaving comments, converting hand-drawn sketches into precise geometric shapes, notepads, or organograms, and then downloading them to your devices. During the ICL, we used the free version of the application (see Fig. 8).

Google Drive and its Apps

https://google.com/drive

Google Drive is a cloud-based file storage solution and synchronisation service. During the ICL, Google Drive was used to exchange work materials between the organisers. The Google Docs app available on Google Drive was used to create and edit various documents related to the ICL planning process online, while the Google Forms app was used to create event assessment questionnaires and get feedback from participants.

Team of the Innovation Co-Creation Laboratory

Although the co-creation process is based on dialogue and a free flow of ideas, it must nevertheless be smartly structured and managed in order to ensure a productive, constructive process and also its outcome. Organising a successful ICL requires teamwork in which each participant has clearly defined roles and responsibilities.

Our ICL organising team was composed of several members.

Idea promoter and ICL project manager. Responsible for engaging partners and external experts, establishment of the support team formation, engagement of entrepreneurs, preparation of legal documents, ICL publicity and public relations, process monitoring and supervision, and preparation of reports for the event's funders.

Project partner. Responsible for identifying and engaging researchers, engaging external experts, preparation and implementation of parts of the experimental co-creation scenario, and notification of the event through their information channels.

The choice of project partners can be determined by a number of needs, such as complementary competences or contact networks, the capability to pool financial resources or expertise on specific aspects. Taking into consideration the thematic focus of the first ICL on sustainable food packaging, RTU DF was a very appropriate partner, as RTU is the largest engineering university in Latvia, which represents EIT Food, the European Institute of Innovation and Technology's Knowledge and Innovation Community on Food, and works closely with scientists of various fields from RTU and other Latvian and international universities and scientific institutes and acts as experts in design thinking and prototyping.

Public relations specialist. Responsible for the preparation and distribution of the ICL publicity materials and participants' information kits and materials, distribution of evaluation questionnaires and compilation of results, technical support during the co-creation (e.g., creating Virtual Zoom Rooms, briefing the participants), monitoring of the co-creation process and provision of feedback to the moderator and assistants.

ICL moderator. The management of the entire co-creation process should be entrusted to a professional and experienced moderator. This can be a person outside or inside the organisation with extensive and diverse experience in managing interdisciplinary projects or processes, very good communication skills and the ability to run discussions and resolve conflicts. The moderator must be able to create a trusting environment, clearly communicate and repeat the goals and objectives of the co-creation, help participants get out of the comfort zone, summarise and present information, inspire a courageous dialogue and continuously evaluate the process and lead the conversation. From a process perspective, the moderator's role is to develop the scenario of the ICL course, carry out selection interviews with entrepreneurs and researchers, summarise the obtained information, prepare the ICL assistants, manage the co-creation process, analyse the participants' feedback and adapt the scenario to the participants' needs and expectations, lead the ICL assessment process and prepare a report on the progress of the ICL and recommendations for its improvement.

Moderator's assistants. Taking into consideration the specificity of online events, such as group work in several parallel virtual spaces, assistants or group work moderators must be involved in addition to the moderator. Their task is to take notes of the group work, present the results in cooperation with the group members, ensure audio and video recording of the group work, manage the group work process and provide feedback to the moderator on the necessary improvements or changes in the tasks. The role of the assistant is to mediate in the dialogue between the entrepreneur and the researcher and to be able to ask guiding questions and inspire them when the dialogue is not going well. Just like the moderator of the entire co-creation process, the group work assistants must constantly monitor the dynamics and process of the group work and the progress towards the completion of the task, be able to quickly summarise the information obtained and look for synergies. If the event took place face to face, the need for assistants would have to be discussed, as the process with up to a certain number of participants (16-20 people) in one room can be successfully led just by the ICL moderator.

Stages and Course of the Innovation Co-Creation Laboratory

The first ICL in Vidzeme took place from 1 June to 30 November 2020 in six stages (Fig. 9). Based on the recommendations of experts and entrepreneurs, its focus was on one of the areas of smart specialisation of the Vidzeme Region – food and beverage production – and the challenges related to sustainable food packaging.

June 1 - September 30

Engagement of participants

Announcing the event with an open application process for entrepreneurs

Identifying and inviting researchers from different scientific disciplines

Exploratory interviews

Signing the agreement with each of the participants

October 1 - November 3

Preparation

Developing a detailed programme and scenario for the co-creation

Preparing information and material kits and delivering them to the participants

Briefing the participants

Training of ICL assistants

Filling in the participants' worksheets

November 4

Bridging co-creation

Getting to know one another

Analysing industry problems in greater depth

Defining R&D challenges

Dividing the participants into teams

Assessing the bridging co-creation stage

November 5 - 23

Independent communication of participants

Independent communication among participants to obtain and discuss additional information related to the challenge posed by the team

November 24

Experimental co-creation

Identifying the solutions using the design thinking method.

Assessing the experimental co-creation stage

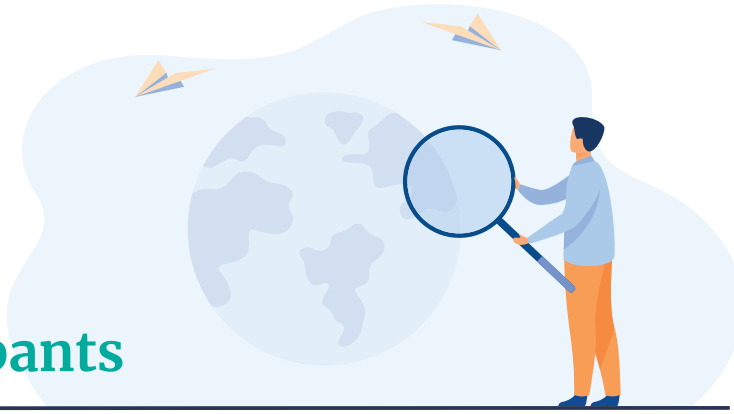
November 25- 30

Assessment

Obtaining feedback from the participants on the implementation of the entire co-creation process in technical terms and in terms of contents

Preparing the guidelines for the co-creation process

Fig. 9. Stages and tasks of the first Innovation Co-Creation Laboratory in Vidzeme.



Engagement of Participants

The task of stage 1 of the ICL was to engage around seven food business entrepreneurs and seven researchers from different scientific disciplines related to food production and food packaging. The total defined number of participants in the experiment for optimal coordination of the online event, including the moderator and assistants of the event, is 20 people.

When organising the first ICL in Vidzeme, this stage was implemented from 1 June to 30 September 2020.

Engagement of Entrepreneurs

Entrepreneurs were engaged to participate in the experimental event through a public application procedure. As part of the procedure, in addition to the press release, a visually easy-to-understand information poster was made (Fig. 10). The call for applications was announced both on the organisers' websites and on the social media accounts in Facebook and LinkedIn. The message was sent to 26 VPR municipalities and reposted on their websites and in the media. All interested parties had the opportunity to fill in the online application form by a certain date (within 2 weeks in our case), answering questions about the company's operations and products, challenges related to the development of sustainable food packaging, previous experience in solving the challenges, and collaborations with researchers. Each of the potential participants was asked to indicate the desired day and time to be contacted on the specific week when the organisers were planning to run individual interviews. This makes it much easier to schedule an interview, and the participant takes account of the time when it is expected.

The main criteria for the selection of entrepreneurs were the company's motivation and attitude, interest and readiness to participate in the co-creation process, taking into account that the co-creation process elaborates on common challenges, not individual problems of a particular company. The company's professional reputation was on the selection criteria list too. As our goal was to transfer experience by preparing the guidelines, it was important for entrepreneurs to be aware that they would have to provide feedback and advice on both the ICL process and the methods used. Representatives of 8 companies applied for participation in the first ICL in Vidzeme, but one of them withdrew due to the company's circumstances.

Fig. 10. Invitation to entrepreneurs to participate in the Innovation Co-Creation Laboratory.

Engagement of Researchers

Given the limited scientific expertise available in Latvia in the defined areas, the researchers were addressed in person through the VPR and RTU DF cooperation networks, having previously clearly identified the required areas of knowledge, such as food technology, biochemistry, microbiology, materials science, nutrition and public health. In other cases, researchers may also be engaged through a public application procedure.

The main criteria for the selection of researchers were the relevance of the research activity to the defined needs of the industry, complementary knowledge and skills, motivation and attitude, interest and readiness to participate in the co-creation process, as well as professional reputation. Like for entrepreneurs, it was important for researchers to be aware that they would need to provide feedback and advice on both the ICL process and the methods used

Exploratory Interviews

After receiving the application forms, the ICL moderator together with the representatives of VPR and RTU DF organised individual exploratory interviews lasting no more than one hour with each entrepreneur and researcher, using one of the online communication platforms: MS Teams or Zoom. The interview questions for entrepreneurs are listed in Annex 1 and the questions for researchers are given in Annex 2. In this way, the organisers of the co-creation were able to gain a better understanding of the participants' expectations, get to know the participants, get a feel for their demeanour as well as find out more about their previous experience and challenges in the defined field, their knowledge and skills. Such a conversation is also an opportunity to give a true and fair view of the role of each participant in the process in order to realise what resources both the entrepreneur and the researcher will have to invest in the process (such as knowledge, time, etc.).

Signing the Agreement

An undertaking agreement was signed with each ICL participant. Its main objective was to ensure the active participation of the participants at all stages of the co-creation process, including providing feedback to the organisers to prepare guidelines and improve the course of such co-creation laboratories in the future, as well as compliance with the General Data Protection Regulation and the requirements for the intellectual property rights.

High-value tips for the stage of engagement of the participants

- **Open application process.**
- **Clear and truthful information about the plan of the ICL process.**
- **Exploratory interviews.**
- **Adaptation of the content and process of the ICL to the needs and expectations of the participants.**
- **Timely scheduling of the dates of the ICL process.**
- **Written agreement on the terms and conditions of participation.**

Preparation

Tasks of stage 2 of the ICL:

1. developing a programme/scenario adapted to the process of the experimental activity as well as to the needs and expectations of the participants; preparing all the necessary information base and delivering it to the participants.
2. briefing the participants on the processes of the co-creation process and the use of digital tools during it.

When organising the first ICL in Vidzeme, this stage was implemented from 1 October to 3 November 2020.

Participant's Kit

One week before the bridging stage of the co-creation, each participant received a packet (Fig. 11) containing a detailed description of the ICL, the programme of the bridging stage of the co-creation and the preparatory worksheets (Annexes 3 and 4), an energy drink recipe and a treat, and various useful and promotional gadgets for the co-creation process (for note-taking and storage of materials). It is recommended to enclose a short description of each company and researcher with the work materials so that the participants get a more detailed picture of one another.

According to the participants of the co-creation, the provision of such materials to the participants demonstrates the caring attitude of the organisers and helps the participants come to the co-creation prepared and feel positive during the process. We sent the materials through a courier service, which conveniently allowed us to register the collection of all parcels at once. The courier arrived to collect the packets at the specified address and later delivered them to the parcel machine lockers indicated by the participants or their home/office addresses.

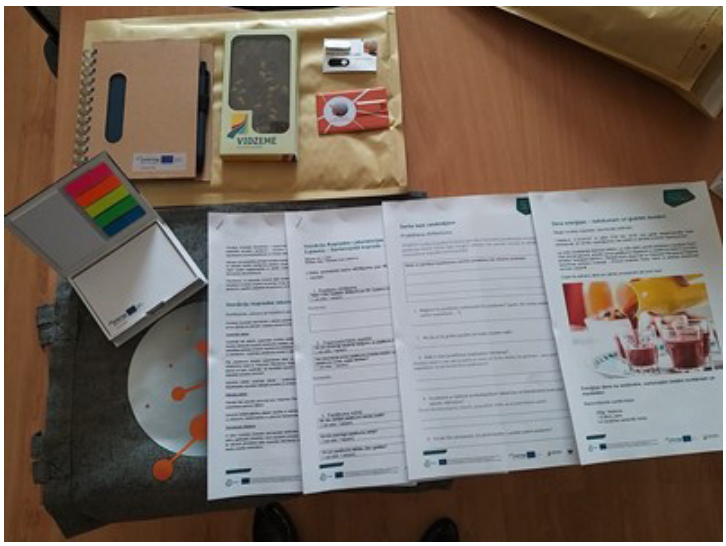


Fig 11. Contents of the Innovation Co-Creation Laboratory participant's kit.

Think about the details! In our case, all participants received the work materials on a USB data carrier, and it was not expected that some of the participants do not have a USB port on their computer and therefore do not have the opportunity to view the materials. One of the solutions is to place materials in a shared online storage and send the link to the participants by email. In that case, a USB stick would serve as a backup or a promotional gift.

Briefing the Participants

A few days before the bridging co-creation event, an online meeting was held, during which the participants had the opportunity to get to know each other a little, receive a briefing on how to use the digital tools Zoom and Mentimeter and test audio and video communications. Such a meeting can last merely 20-30 minutes, but it is a very important precondition in order for all participants to feel safe and learn how to use the basic functions of the digital tools on the day of the co-creation event. Even those participants who use these tools on a daily basis are not always familiar with all the features and functions of the platforms. Given that not all participants can attend such a briefing meeting, it is essential to record the meeting. It is important that you do not use the Zoom video recording function, but the computer screen recording function, because the Zoom video recording will not show menus, the buttons to be pressed and other details.

Briefing the Support Staff

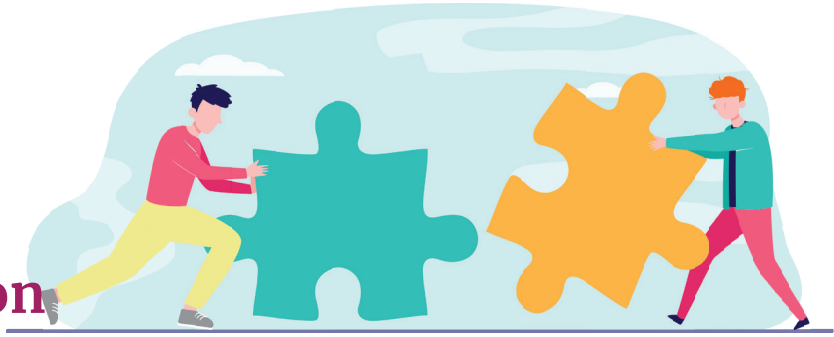
Before each of the next stages of the co-creation – the bridging co-creation and the experimental co-creation – the ICL moderator must give a briefing to the support staff. This means talking through the programme for the relevant stage in detail and introducing the objectives of the group work envisaged, the course of the event and the methods used.

For the group work to be successful, it requires careful preparation, trust in the group, continuous monitoring of the group dynamics as well as flexibility in regard to the process and the result. Based on our experience and anticipating that also assistants in other ICLs may lack experience in conducting group work online, it is important that during the preparatory stage, the ICL moderator discusses essential aspects, such as group dynamics, communication and conflict resolution tactics with the assistants and provides practical advice on how to handle different situations.

As a valuable study material for ICL moderators and assistants, we recommend the publication "Manual for Adult Educators" [Cefe Macedonia].

High-value tips for the stage of preparation

- **Preparation of the participants' kits and their timely delivery.**
- **A briefing meeting of the participants.**
- **Training of assistants for leading the group work.**



Bridging Co-Creation

Tasks of stage 3 of the ICL:

1. building a relationship between researchers and entrepreneurs based on mutual trust, open communication and constructive dialogue;
2. getting acquainted with the latest scientific insights, inventions and technological solutions in the thematic area of the ICL;
3. getting a deeper understanding of the problems defined by the chosen thematic area of the ICL and the related experiences of the participants;
4. setting thematic challenges for further work at the next stages of the ICL.

When organising the first ICL in Vidzeme, this stage was implemented on 4 November 2020.

Programme of the Event

The bridging co-creation is organised online using the Zoom platform and implemented in successive thematic blocks.

1. Coming together of the participants and ice-breaking
2. Information about the co-creation process and its course
3. Lectures on trends, discoveries and challenges in the defined field
4. Experience stories of the companies participating in the ICL
5. Session "Defining Problems" and presentation of its results
6. Raising the issues to be solved at the next stage of the ICL
7. Assessment of the bridging co-creation

A detailed scenario, including timing, a description of the methods used, the group work tasks and the expected results can be found in Annex 5.

If the event takes almost a full working day and is held online, plan the programme in a similar way as for a face-to-face event: include interesting ice-breaking tasks and short lectures, take short breaks every 40 to 60 minutes and encourage the participants to move around. Allow at least a 40-minute lunch break so that the participants can relax or deal with their work-related matters, and organise the co-creation process in smaller groups, thus creating a space for dialogue to unfold.

In the introduction of the event, plan time for short promo presentations of the companies and scientists. This will allow participants to get to know each other better and identify from the very beginning which participants they see as an opportunity to work with, discussing common challenges in group work.

During the co-creation, ask the participants to turn on video cameras to ensure a sense of presence and to be able to capture and respond to the participants' behaviour and emotions.

When planning co-creation sessions in smaller groups, consider the time allotted to them. For example, if there are 2 entrepreneurs and 2 scientists in a group, it is very likely that a 20-minute cycle will not be enough to discuss and analyse the problems defined by the entrepreneurs in depth. In this case, either schedule more time or ask the group work moderators to focus the discussion on one or more issues. Remember that the aim of this group work is to get to the root of the problem or the cause of the problem you should start working on in order to move the complex problem to a solution.

The famous physicist Albert Einstein said: "If I had an hour to solve a problem and my life depended on the solution, I would spend the first 55 minutes determining the proper question to ask… for once I know the proper question, I could solve the problem in less than five minutes." Therefore, in the process of the bridging co-creation, it is important not to think about solutions yet and not to be limited to what is currently known, but to discuss different aspects of the problem from as many perspectives as possible.

The bridging co-creation stage should conclude with a more precise understanding of the participants about the industry problems and a list of problems (Fig. 12) to be solved in the experimental co-creation. It is very likely that during this stage the participants will try to think more about solutions, so the task of the moderator and group work assistants is to remind from time to time that the next stage of the co-creation will be dedicated to searching for solutions.

As the outcome of the bridging stage is not predictable, it is very likely that one of the participants will want to withdraw or it will be necessary to engage additional specialists from the missing areas of expertise. Assume that the composition of participants in the co-creation process may change slightly! For example, during our experiment, packaging manufacturers and representatives of a waste collection and recycling company were successfully involved in the co-creation process at stages 3 and 5 of the ICL. As a result, the ICL participants learnt some important additional information which can be used when thinking about innovative solutions for sustainable food packaging.

Problem areas defined in the field of sustainable food packaging as a result of the bridging co-creation stage

Fig. 12. Problem areas defined in the field of sustainable food packaging as a result of the bridging co-creation.

To facilitate the full involvement of each participant in the co-creation process, make sure that the working groups consist of no more than 3-5 participants, including the group moderator. It is very likely that this will reduce the number of defined problems to work on during the next stage of the co-creation process. This is exactly what happened in our experiment: 4 working groups were made, which meant the need to reduce the number of defined problems from 10 to 4. We left the choice of problems to the ICL participants.

Using Google Forms, we created an online polling questionnaire in which each ICL participant could identify 3 priority issues to work with. The organisers then divided the participants into specific groups, respecting the participants' votes and taking into account the organisers' knowledge of each participant's professional experience and needs.

Assessment of the Bridging Co-Creation Stage

The assessment of the bridging co-creation stage can take place in various manners. We did it in two ways. First, at the end of the event, we obtained immediate feedback using the Mentimeter platform (Fig. 13). Second, by midnight on the same day, the participants had to complete a more detailed assessment questionnaire in the Google Forms app (Annex 6). Most participants did it immediately. If a participant is late in submitting their answers, be sure to remind! It is quite likely that they have missed the information about the specific task, as they disconnected from the event earlier due to unforeseen circumstances.

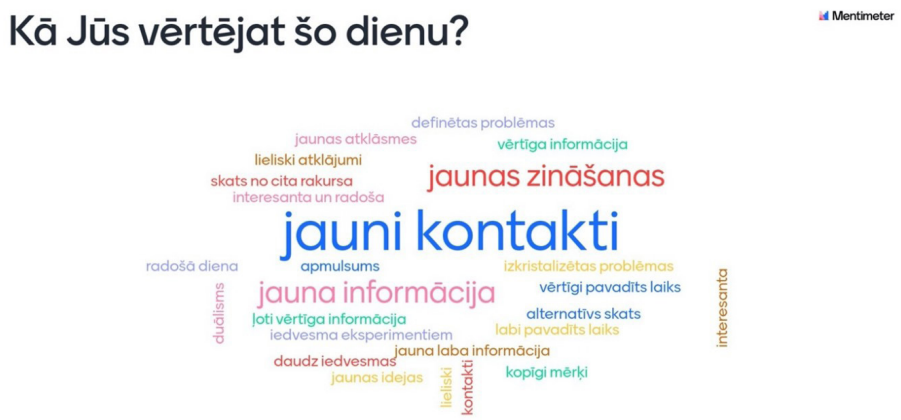


Fig. 13. ICL participants' assessment of the bridging co-creation.

High-value tips for the bridging co-creation

- **A professional moderator.**
- **Trained moderator assistants.**
- **Focus on the problem rather than solutions.**
- **Ensure the engagement and expression of all participants.**
- **Identify problems in a common thematic area.**
- **Consider whether changes/additions to the participants' team are needed.**

Independent Communication of Participants

Tasks of stage 4 of the ICL:

1. giving the ICL participants the opportunity to get to know each other better and to obtain more in-depth information about the problem areas of group work, technical, social, environmental and economic aspects of potential solutions or other issues of interest to them;
2. encouraging ICL participants to strengthen their mutual ties, thus laying the foundations for long-term cooperation between the entrepreneurs and the researchers after the conclusion of the ICL.

When organising the first ICL in Vidzeme, this stage was implemented from 5 to 23 November 2020.

KIt became clear at the stage of engaging the ICL participants that entrepreneurs lack knowledge about the research competences and infrastructure available in Latvia. Some entrepreneurs admitted that they did not know where to look for such information and where to start. Therefore, a stage of the participants' intercommunication was introduced in the experimental ICL process. It was held between the bridging co-creation stage and the experimental co-creation stage.

The process was voluntary and, according to the information available to the organisers, this opportunity was used both by the entrepreneurs to communicate with the researchers and with other entrepreneurs involved in ICL, and by the researchers establishing or updating contacts with their peers in the scientific environment.

Experimental Co-Creation

Tasks of stage 5 of the ICL:

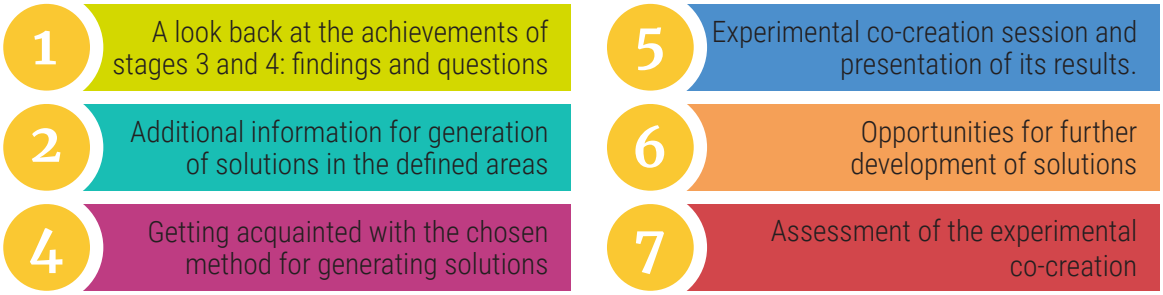
1. generating solutions – concepts and prototypes – to the problems defined in the bridging co-creation in the thematic area of the ICL;
2. evaluating the possibilities for developing these solutions further.

When organising the first ICL in Vidzeme, this stage was implemented on 24 November 2020.

Programme of the Event

Just like the previous stages of the ICL, the experimental co-creation is organised online using the Zoom platform. If conditions allow, it would be advisable to organise this stage face to face, ideally in rooms equipped with various laboratory-scale equipment, prototyping materials and tools, and easily movable furniture. Alternatively, the rooms should have materials for quick and easy prototyping. Unfortunately, in the online environment, there are limited possibilities to implement a joint prototyping process in a short time, so solutions are created mainly at the level of descriptions or sketches.

The experimental co-creation programme was implemented in several thematic blocks.



A detailed scenario, including timing, a description of the methods used, the group work tasks and the expected results can be found in Annex 8, while the design thinking workshop worksheets are given in Annex 9.

At the heart of the experimental co-creation is the search for solutions to pre-defined and selected problems. The problems can be very specific, and in order for the solutions to be created smoothly, it would be highly recommended for the participants to attend the experimental co-creation prepared. One week before the co-creation stage, the participants received in their e-mail the worksheet Exploring the Problem Raised by the Group (Annex 7), which must be filled in and brought along on the day of the event.

Solution Generation Method

The process of generating solutions to problems must be gradual and structured, so it is important for ICL organisers to agree on the most appropriate method. The stage of our experimental co-creation was based on the design thinking method, which is described in more detail in Section 2.1 of these guidelines. However, we draw your attention to the fact that it would take significantly more time to fully apply the design thinking method!

Due to the limited time and the online format of the event, the participants in the experimental co-creation went through three stages of design thinking: empathising, defining and ideating.

The activity took place in four groups led by moderators using Virtual Zoom Rooms. The results of the tasks were recorded in the Miro app by the group moderators. In order for ideas to be recorded in Miro smoothly and comprehensibly for the participants, the task sheets must be prepared in advance, group moderators must be familiar with them and must be very good at using Miro. But there is nothing to worry about, because anyone can get a grasp on the tool in 10-15 minutes by learning a few keystrokes and mouse clicks.

To get to the problem-solving concepts, the participants carried out several tasks.

Start of group work; empathising stage. The participants summarised the findings and conclusions of the quick research, which was their homework, sharing their vision of the problem and recalling each participant's area of activity and knowledge. The facts and assumptions on which the group based its understanding of the problem and the still unclear issues were mapped.

Empathising and defining the problem. Continuing to map the problem situation, the participants defined and described the users or people/groups of people related to the specific problem, including their characteristics (age group, occupation and level of skills and knowledge) and why the problem was relevant to them. The general problem was increasingly linked to the people involved in it and the context, also striving to understand the relevancy of the problem. Following the problem mapping, the groups put forward a narrower definition of the problem, which was targeted at specific users.

Ideating. After a warm-up exercise on creative thinking, the participants generated and formulated as many ideas as possible on how to solve a particular problem. From these options, one or more of the most relevant ones were selected, which were described in a little more detail.

Presenting the ideas. The nominated participant of each group, in cooperation with the moderator of the respective group, presented the group's ideas for solutions or their possible directions.

If the experimental co-creation stage can be organised face to face or for a longer period of time (most likely during a separate meeting), the ideating stage can be followed by quick prototyping to further develop the ideas, thinking about their practical aspects and reflecting them in a physical (or digital) format.

The tasks of the experimental co-creation have a certain "convergence-divergence" rhythm, which can be described in simpler terms as moving from research, information acquisition and discussion to analysis, from broad-vision ideating to idea consolidation and more detailed development (Fig. 14).

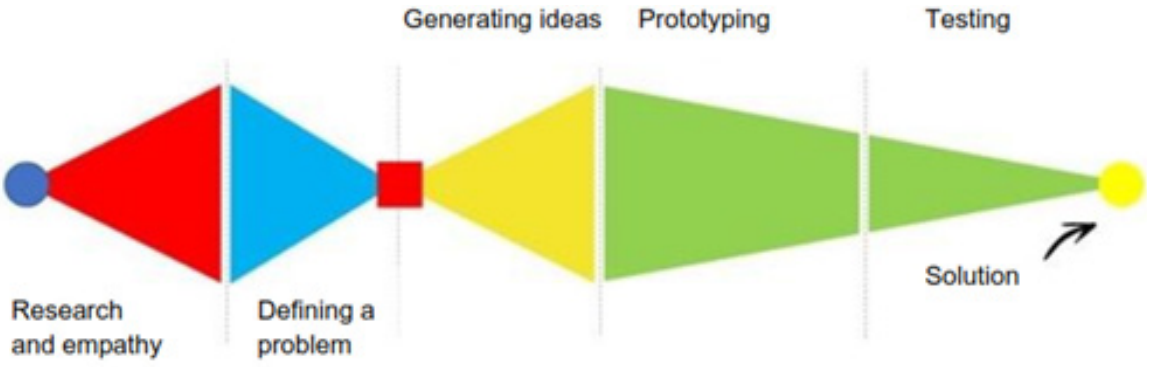


Fig. 14. Stages of the solution development process using a design thinking approach.

The process of generating solutions may seem easy and flowing, but when working in groups with different people, this is not always the case. Therefore, it is very important that after each task, the groups are given the opportunity to meet in a common space and discuss the progress of the task: how far each group has come, what difficulties they have encountered, where they are stuck and where they have succeeded. Our experience shows that in this way, groups can inspire each other, pull forward those who are struggling with the process or give impetus to new ideas.

Further Development of Solutions

We would like to remind you that the focus of the ICL organised by us was on one of the smart specialisation areas of the Vidzeme Region – food and beverage production – and the challenges related to sustainable food packaging. Already after the bridging stage of the ICL, we were able to conclude that the problems to be solved will be very different: both those associated with the food products and their production technologies, and those that require a change in public thinking and behaviour. Many of the problems are very suitable for further development in the co-creation process.

Therefore, upon the conclusion of stage 3 of the ICL, we agreed that at the end of the experimental co-creation we would dedicate time to the "take-home food for thought" – presentations on various support instruments for further development of innovative ideas both locally and internationally: funding resources, GoSmart BSR innovation brokerage network, EIT Food programmes and Latvian Food Bioeconomy Cluster.

As an additional benefit, we would like to highlight that the problems and potential solutions identified by the ICL are highly appropriate so that the Vidzeme Planning Region, within the scope of its mandate, continues elaborating on them in various international cooperation projects

Assessment of the Experimental Co-Creation

Similar to the bridging co-creation, in order to evaluate the experimental co-creation and provide immediate feedback on the entire ICL process, the participants had to complete a detailed assessment questionnaire in the Google Forms app (Annex 10) by midnight of the same day.

High-value tips for the experimental co-creation

- **Participants' readiness to generate ideas – doing the homework.**
- **Gradual and structured process for generating solutions.**
- **Short progress reports: summaries after each task.**
- **Pre-prepared worksheets in the Miro app, if used.**
- **Group work moderator's skills for working with the Miro app.**
- **"Take-home food for thought" for further development of ideas and solutions.**

Assessment

Tasks of stage 6 of the ICL:

1. getting feedback from the participants on the ICL processes and their efficiency;
2. getting the participants' recommendations for the improvement of the next ICLs;
3. developing guidelines for the organisation of ICLs for public sector organisations, involving researchers and entrepreneurs, or adapting them to the needs of the organisation.

When organising the first ICL in Vidzeme, this stage was implemented from 25 to 30 November 2020.

One week after the end of the ICL experimental co-creation stage, the moderator carried out in-depth interviews with the ICL participants – researchers and entrepreneurs. In order to structure the conversation, interview questions were prepared in advance and sent to the participants (Annex 11). As the requirements for social distancing were still in force, the interviews took place online on the Zoom platform, and the average duration of one interview was 45 minutes.

It is important to note that the interviews need to be organised within a maximum of two weeks after the end of the ICL while the participants have fresh memories, and the agenda is not filled with further projects and daily work.

The need for this stage must be assessed for each ICL organiser individually. The aim of the first ICL in Vidzeme was to test the co-creation method to promote cooperation between entrepreneurs and researchers and to prepare the guidelines; therefore, the participants took part in the ICL experimental round and were aware that they would be expected to provide active feedback. In other cases, where the purpose of the ICL is, for example, to generate a solution, the assessment stage may not be necessary. However, in both situations, it is important to maintain the relationship with the contacts gained in both research and industry, and to identify in due course the progress of the participants in dealing with the challenges in the thematic area of the ICL.

As the ICL continues to be implemented as a method, covering various thematic areas and levels of governance, each ICL organiser is expected to identify what works best, what methods and digital tools should be used and so on. It is therefore important to analyse one's experience, take notes and adapt the guidelines to ensure the transfer and succession of knowledge and skills within the organisation and to develop the most accurate ICL format.

Researchers' Findings and Recommendations

Aspect to be assessed	Strengths	Opportunities for improvement / challenges
Benefits	- New experience because the ICL is a new, unprecedented format - New knowledge - New contacts	- Researchers should be remunerated for their work as experts and compensated for their direct costs, such as transport, meals and accommodation (if the event takes place face to face) - Concluding a service contract with a university or research institute for the participation of a researcher
Process of the ICL	- Moderators' work - The process is suitable for building contacts - The process is suitable for starting a creativity process - Problem analysis process	- The problems to be solved were too vague, so some of the solutions remained superficial - Each participant speaks as if in their own language, so sometimes it is difficult to understand each other - Group work moderators need to be skilled process managers, because sometimes the group work was not proceeding smoothly - Two full days online is too much - Before the online stages, it would be good for all participants to meet in person to establish a closer relationship - If the ICL takes place online, it would be good to change the compositions of the groups so that the participants have more opportunities to get to know and communicate with each other - The format and process may remain as they are, but the ICL should take place face to face - If the ICL takes place online, the process should be divided into shorter stages of 3-4 hours. It's not easy to take a whole day off work
Composition of participants	- It is positive that the ICL organiser is an institution operating in the region - Companies operating in the regions - Very different participants with different views on the problem - Involvement of packaging manufacturers	- Other colleagues from the scientific community could be involved - In addition to small businesses, medium and large enterprises should be involved, as they have more experience, knowledge and resources - The ICL may be an appropriate format for start-ups
Communication with entrepreneurs	- Contacts with specific companies have been gained - Information on the needs of producers has been obtained	- It was not always possible to understand the needs of the entrepreneurs
Future of the ICL	- Should definitely be continued - A great opportunity to network	- The challenge of finding time to take part in events of this format - The ICL should take place face to face
Potential engagement of international participants	- In general, the idea should be supported	- Consideration should be given to participants coming from countries at a similar stage of development

Entrepreneurs' Findings and Recommendations

Aspect to be assessed	Strengths	Opportunities for improvement / challenges
Benefits	- New contacts - New knowledge - New ideas - Opportunity to look at your company's operations from other perspectives - Opportunity to learn to collaborate and listen - Opportunity to enjoy what it means to generate ideas in a diverse environment together with people from different backgrounds - Opportunity to experience the process of reaching a certain level of result in a limited timeframe - Opportunity to improve computer skills	- It would be good to hold a virtual meeting in 40 days to share the experience about how far everyone has reached and what they have tried / changed / learnt / started
Process of the ICL	- Well-structured, without unnecessary information, without technical glitches and professionally moderated, especially taking into consideration that it took place online - More constructive group work, because due to the online format there is a time limit and less redundancy - Opportunity to work in groups; - Design thinking process	- Allow time for company presentations at the beginning of the bridging co-creation! Thus, the participants would have a chance to learn more about each other and consider the opportunities for cooperation - In the experimental co-creation, it was difficult for the groups to narrow down the initially defined problem, so several of the proposed solutions remained at a very general level - More time should be allowed for discussions and question-and-answer sessions - Allow more time for discussions
Composition of participants	- A very diverse and professional team - Exceeded expectations because all participants were ready to get involved and experience co-creation	- It would be worthwhile to involve representatives from the main stages of the food packaging value chain, such as researchers, packaging manufacturers, food producers, waste managers, consumers
Communication with researchers	- The researchers involved in the ICL were open and focused on finding solutions	- Sometimes, it was difficult to understand what the researchers said because they spoke competently but very scientifically. Without an interpreter, it is difficult for entrepreneurs to talk to researchers
Prospects for the ICL	- ICL is a good format for entrepreneurs to get to know each other and researchers	- It is necessary to focus on narrower goals and objectives and to define clearer problems
Engagement of international participants	- Very positive, because you could get a different perspective	
Willingness to pay for participation in the ICL	- If there is a clear goal and a solution, companies would also be willing to pay the participation fee	

Advantages and Disadvantages of an Online Event

Advantages	Disadvantages
- Participants express themselves in a more focused manner and are less likely to be carried away by a conversation - Group work strictly adheres to the time limit, as conversations are terminated automatically - The course of the event – both joint discussions and work in groups – can be recorded easily	- Limited opportunities to get to know each other better - Lack of informal conversations - Technical problems are possible (poor internet signal, audio or video signal interruptions) - Opportunity for participants to disconnect from the process

High-value tips for the assessment stage

- **Interview questions should be prepared in advance and sent to participants.**
- **Interviews should be conducted within two weeks after the end of the ICL.**

Afterword

The first Innovation Co-Creation Laboratory in Vidzeme took place in rather unforeseen and unprecedented circumstances. However, it proves that learning new methods and previously unknown tools for working together and mobilising innovative cooperation mechanisms are possible as long as we are surrounded by inspired and proactive people who are eager to learn.

Close people-to-people contacts can both promote belonging to a place and strengthen its economic growth. By cooperating, it is possible to discover more and more new paths in a previously seemingly known field. The development of innovation starts with an idea that may have been on someone's mind for a long time, but just as often ideas emerge in random situations, conversations and shared adventures. Innovation co-creation is an adventure and at the same time an experiment for each of its participants and organisers. Each of the participants and organisers of the first Innovation Co-Creation Laboratory can confirm that this is a great way to facilitate dialogue, understanding and acquisition of new knowledge among entrepreneurs and researchers.

For the organisers, the Innovation Co-Creation Laboratory was also a continuous learning process – from researchers and entrepreneurs, from the online work environment, from dynamic group processes and from each other. The processes experienced during the co-creation and the feedback provided by the participants to the representatives of both the Vidzeme Planning Region and Riga Technical University's Design Factory create an increasing understanding of the importance and promotion of mutual cooperation between research and industry. It also lays a good basis for taking these collaborations further across borders, looking for ever new partners for our entrepreneurs and researchers to develop joint innovations.

Already today, several participants of the Innovation Co-Creation Laboratory continue to work with some of the ideas generated during the co-creation or finally spoken out loud. As organisers, we are happy to share our experience in the format of guidelines for organising the Innovation Co-Creation Laboratory. May they inspire you to new experiments!

See you another time and in other formats!
Wishing you a day full of ideas and inspiration,
ICL Team

Acknowledgements

The team of organisers of the first Innovation Co-Creation Laboratory would like to thank all the participants for their responsiveness, interest, knowledge sharing, active participation and courage to get engaged in the experiment and dedicate time, the most precious resource, to it!

We say thank you to Labas saknes Ltd., Lienas Muceniece's brand Lienas medus, Līgatnes vīna darītava Ltd., Felici Ltd., Kainaži Ltd., Rūjienas saldējums Ltd., Dabas trauks Ltd., Stora Enso Packaging Ltd., and Polipaks Ltd.!

Thanks to the researchers from Riga Technical University, the University of Latvia, the Latvia University of Life Sciences and Technologies, the Institute of Food Safety, Animal Health and Environment BIOR and Riga Stradiņš University!

Thanks to the Interreg Baltic Sea Region Programme 2014–2020 that within the framework of the GoSmart BSR project, with the support of the European Regional Development Fund, it was possible to implement the Innovation Co-Creation Laboratory with the aim to promote scientific and industrial cooperation as well as to prepare these guidelines!

Annexes

Annex 1

Engagement of Participants.

Interview Questions for Entrepreneurs

1. Please provide brief information about your company: areas of activity, products, number of employees and main markets.
2. What food packaging problem, which you are facing at your company, do you want to solve in the innovation co-creation process?
3. What are the main factors influencing this problem: technological aspects, legislation, environmental requirements, consumer requirements, logistical constraints, finance or human health safety?
4. What resources (time, money) have you invested in solving the problem so far? What has prevented you from solving the problem completely?
5. What is your experience so far in cooperating with other entrepreneurs of the industry in solving this problem?
6. What is your experience so far in cooperating with scientists/researchers?
7. What do you expect from the Innovation Co-Creation Laboratory?
8. What information would you require in order to prepare better for participation in the Innovation Co-Creation Laboratory?

Annex 2

Engagement of Participants.

Interview Questions for Researchers

1. Please describe your research area/specialisation.
2. What has been your cooperation with entrepreneurs so far? In which sectors and industries are the results of your research used or could be used?
3. Have you had cooperation with food companies? If so, please tell us more.
4. How could your research area and specialisation contribute to solving the problem defined by food industry entrepreneurs?
5. What do you expect from the Innovation Co-Creation Laboratory?
6. What information would you require in order to prepare better for participation in the Innovation Co-Creation Laboratory?

Annex 3

Preparation. Homework for Entrepreneurs.

Defining the problem

IMPORTANT!!! Please fill in this worksheet before the event on 4 November and bring it along on the day of the event. The answers provided in the worksheet will be the basis for a conversation with researchers from different fields during the co-creation process

What problem related to food packaging do you want to solve?

Try to formulate this problem as a question (e.g., How could … be improved? How could … be ensured?)

What do you want to achieve with this or what effect do you want to create?

Write down what limiting factors or contexts you have to take into account.
They can be technological, financial, geographical, time-related or consumer-related.

Would you re-formulate the initial clause in the first question after these considerations?

Annex 4

Preparation. Homework for Researchers.

Exploring the challenges of entrepreneurs

IMPORTANT!!! Please fill in this worksheet before the event on 4 November and bring it along on the day of the event. The answers provided in the worksheet will be the basis for a conversation with entrepreneurs during the co-creation process.

After reading the summaries of interviews with the entrepreneurs, what questions would you like to ask in order to understand in more detail the problems identified by the entrepreneurs?

Start with more general questions that could lead to a more open conversation. Continue with more in-depth questions.

Company	Questions
Lienas medus (Liena's Honey) brand	
Labas saknes Ltd.	
Felici Ltd.	
Kainaži Ltd.	
Dabas Trauks Ltd.	
Rūjienas saldējums Ltd.	

Annex 5

Bridging Co-Creation. Detailed Scenario with the Programme.

Date: 4 November 2020
Venue: Online, the Zoom platform **Time of event**: 9:00 – 16:00 hrs

Goals:

1. Building a relationship between researchers and entrepreneurs based on mutual trust, open communication and constructive dialogue;
2. Getting acquainted with the latest scientific insights, inventions and technological solutions in the thematic area of the ICL;
3. Getting a deeper understanding of the problems defined by the chosen thematic area of the ICL and the related experiences of the participants;
4. Setting thematic challenges for further work at the next stages of the ICL.

Areas of influence of the bridging co-creation activities:

Programma:

Timing	Duration of the activity	Activity	Person in charge	Course of the activity / equipment used / resources required	Influence
09:00 – 09:20	20 min	Fast "registration" of the participants and joint tasting of the "energy drink"	Moderator	Using the menti.com platform, the participants enter the name of their geographical location; the moderator, using the place names seen in the word cloud, gives the floor to the participants for a short introduction (name, surname and organisation represented).	"Ice-breaking" among the participants as an easy and creative start to an intense day. 

Timing	Duration of the activity	Activity	Person in charge	Course of the activity / equipment used / resources required	Influence
09:20 – 09:30	10 min	The participants get to know each other closer through interviews in pairs	Moderator	Using Zoom Rooms, the participants are divided into pairs (1 researcher + 1 entrepreneur); one person interviews the other for 3 minutes and then they swap. Interview questions: - Why does the participant take part in the ICL? - What does the participant expect from the ICL? - What is one trait (skill, experience, thing, hobby, etc.) that makes the participant unique compared to other ICL participants? After returning to the common Zoom Room, the participants briefly share their experiences.	"Ice-breaking" among the participants as an easy and creative start to an intense day. 
09:30 – 09:40	10 min	Official opening of the Co-Creation Laboratory	Representative of the Vidzeme Planning Region	Opening speech.	The participants understand the context why the ICL is organised: where to look for the origins of the idea and what the VPR expectations for the ICL as a long-term method are. 
09:40 – 9:55	15 min	ICL goals, course and the participants' expectations	Moderator	A brief presentation of the ICL objectives and instructions for using Zoom and other tools used during the ICL; rules for participation (use of video, sound on/ off, asking questions, etc.); finding out the expectations of the participants using menti.com.	A smooth ICL process, without major technical challenges; full involvement of the participants in the process; the expectations of the participants have been identified and their satisfaction has been ensured as much as possible. 
9:55 – 10:00	5 min				
10:00 – 10:15	15 min	Co-creation process	Moderator	A brief lecture.	The participants gain knowledge about what the co-creation process is, and what the main stages of the co-creation process and the success factors for their implementation are. 

Timing	Duration of the activity	Activity	Person in charge	Course of the activity / equipment used / resources required	Influence
10:15 – 10:45	30 min	Recent trends, opportunities and challenges in food packaging	Thematic expert (from industry or research sector)	Lecture, answers and questions.	The participants gain knowledge from the industry (70% known, 30% new) about trends, opportunities and challenges in food packaging, especially through the prism of SMEs. 
10:45 – 11:00	15 min	Participant's experience (I)	Representative of the participants	Lecture, answers and questions.	The participants gain knowledge about the participant's experience and conclusions, having tested more than 50 different types of packaging samples. 
11:00 – 11:05	5 min	Movement break			
11:05 – 11:20	15 min	Participant's experience (II)	Representative of the participants	Lecture, answers and questions.	The participants gain knowledge about the participant's efforts to implement packaging in their business practices that is both sustainable and able to maintain product quality. 
11:20 – 11:30	10 min	Summary of part 1	Moderator	Oral summary of the topics heard and aspects of food packaging (technological, legal, environmental, societal, etc.), opportunities and challenges of SMEs in this field.	The participants obtain information to use or refer to in the next part of the bridging co-creation. 
11:30 – 12:10	40 min	Lunch break			
12:10 – 12:20	10 min	Energy boost	Moderator	1. The first task is "shake it off" (the participants are asked to stand up and shake one hand 8 times, shake the other hand 8 times, shake one leg 8 times and shake the other leg 8 times). 2. Which one of us is an artist. The participants need a white sheet of paper and a writing instrument (pencil, pen or felt-tip pen) and are asked to draw an event or fact related to their life in 30 seconds. This is followed by a short presentation of the drawings.	The participants get an energy boost and are inspired to think creatively. 

Timing	Duration of the activity	Activity	Person in charge	Course of the activity / equipment used / resources required	Influence
12:20 – 12:30	10 min	Instructions on group work	Moderator	The participants are introduced to further work in groups, the division of responsibilities and the expected outcome.	The participants understand how the co-creation session will take place and what is expected of them. 
12:30 – 13:10	40 min	Co-creation session: Part 2	Moderator and support staff	Co-creation sessions are based on a combination of two co-creation techniques: World Cafe + Conceptual Mapping. 4 Zoom Rooms are being created, each of which is permanently reserved to two entrepreneurs and a representative of the organisers. Researchers rotate in pairs from one room to the next. The duration of one session is 20 minutes. In each session, the entrepreneurs present their challenge to the researchers using pre-filled worksheets. The researchers ask clarifying questions and express their ideas for solving problems using pre-filled worksheets. In each session, the support staff member, while listening to the conversation between the entrepreneur and the researchers, draws a conceptual map of the problem defined by the entrepreneur. In each subsequent session, the conceptual map is supplemented with new ideas and associations. The end result is a drawing (or description) with the main problem to be solved depicted in the centre and the related problems, potential solutions, keywords, etc. shown in the branches.	The entrepreneurs and the researchers gain a more detailed understanding and new knowledge about companies' challenges in food packaging. Group work facilitates building new contacts between the entrepreneurs and the researchers (everyone has the opportunity to talk to everyone), as well as the ability to communicate and jointly generate ideas for potential solutions to problems. The efficiency of two co-creation techniques has been tested. 
13:10 – 13:20	10 min	Rest break			
13:20 – 14:00	40 min	Co-creation session: Part 2	Moderator and support staff	The process described above is repeated.	
14:00 – 14:30	30 min	Presentation and summary of group work results	Moderator and support staff and participants	The support staff together with the participants report the result of the co-creation sessions. Each challenge takes 3 to 4 minutes to describe.	The participants have got acquainted with the results of all co-creation sessions and have gained an idea of the co-creation process and its "power". 

Timing	Duration of the activity	Activity	Person in charge	Course of the activity / equipment used / resources required	Influence
14:30 – 14:40	10 min	Rest break			
14:40 – 15:10	30 min	Selection of topics related to thematic challenges for the experimental co-creation and introduction to the next stages of the co-creation	Moderator and representative of RTU DF	Moderated group discussions: - What common problem areas have been outlined? Did any of what you heard repeated systematically? Which problem areas would be important to start with? Information about the course of the experimental co-creation.	The participants have agreed on 3-4 problems to be solved in the experimental co-creation stage. The participants have an idea of how the experimental co-creation will take place. 
15:10 – 15:25	15 min	Introducing the participants to the Biobord platform and network	Moderator + representative of VPR	As all companies involved are related to bioeconomy, and VPR is an institution directly engaged in the establishment of the bioeconomy innovation ecosystem, VPR will introduce the ICL participants to the opportunities to become involved in the international network of bioeconomy developers and participants and to the Biobord collaboration platform, a tool that can be used to search for further solutions in regard to food packaging challenges already in an international environment.	The participants have gained knowledge about the Biobord network and platform. 
15:25 – 15:40	15 min	Assessment of the bridging co-creation stage	Moderator	Assessment takes place in three ways: 1. Instant feedback from each participant via menti.com (emotions, keywords). 2. Assessment through the prism of the initially defined expectations – whether they were achieved – a question from the moderator for the participants. 3. Filling in the assessment questionnaires (electronically or in writing). If the questionnaire is completed in writing, it can be photographed and sent to the organisers.	The participants have reflected on their experience and provided feedback to both themselves and the organisers. 

Annex 6

Bridging Co-Creation. Assessment Questionnaire.

Assessment questionnaire of the bridging co-creation stage

Date: 4 November 2020
Venue: Online, the Zoom platform

Please provide your assessment of the course of the bridging co-creation, stage 2 of the ICL.

Overall assessment

What is your overall assessment of the course of stage 2 of the ICL? *(1-very poor; 7-excellent)*	**1**	**2**	**3**	**4**	**5**	**6**	**7**

Comments:

Organisational aspects

Did you receive the invitation to the event in time? *(1-very poor; 7-excellent)*	**1**	**2**	**3**	**4**	**5**	**6**	**7**

Did the information before the event give a clear idea of the course of the event and the homework? *(1-very poor; 7-excellent)*	**1**	**2**	**3**	**4**	**5**	**6**	**7**

Comments:

Objectives of the event

How do you assess the choice of the event themes? *(1-very poor; 7-excellent)*	**1**	**2**	**3**	**4**	**5**	**6**	**7**

How well were the objectives of the event achieved? *(1-very poor; 7-excellent)*	**1**	**2**	**3**	**4**	**5**	**6**	**7**

To what extent did the event meet your expectations? *(1-very poor; 7-excellent)*	**1**	**2**	**3**	**4**	**5**	**6**	**7**

Comments:

Course of the event

Quality of the speakers and presentations (1-very poor; 7-excellent)	**1**	**2**	**3**	**4**	**5**	**6**	**7**
Quality of the co-creation sessions (group work) *(1-very poor; 7-excellent)*	**1**	**2**	**3**	**4**	**5**	**6**	**7**
Quality of the moderator's work *(1-very poor; 7-excellent)*	**1**	**2**	**3**	**4**	**5**	**6**	**7**
Quality of the support team's work *(1-very poor; 7-excellent)*	**1**	**2**	**3**	**4**	**5**	**6**	**7**
Overall design and structure of the event *(1-very poor; 7-excellent)*	**1**	**2**	**3**	**4**	**5**	**6**	**7**
Relevance of the chosen methods and techniques to the objectives of the event *(1-very poor; 7-excellent)*	**1**	**2**	**3**	**4**	**5**	**6**	**7**
Compatibility of the chosen methods and techniques with the online environment *(1-very poor; 7-excellent)*	**1**	**2**	**3**	**4**	**5**	**6**	**7**
Level of interaction among the participants *(1-very poor; 7-excellent)*	**1**	**2**	**3**	**4**	**5**	**6**	**7**
Quality of the co-created ideas *(1-very poor; 7-excellent)*	**1**	**2**	**3**	**4**	**5**	**6**	**7**

Comments:

Additional questions

What did you like most about this co-creation stage?

What did you dislike about this co-creation stage?

What do you think should be improved and taken into account in preparing for the next co-creation stage?

Name and surname _____

Annex 7

Independent communication of participants. Homework for the ICL Participants.

Exploring the Problem Raised by the Group

IMPORTANT!!! Please fill in this worksheet before the event on 24 November and bring it along on the day of the event. The answers provided in the worksheet will be the basis for the group work during the co-creation process.

Thinking in detail about the problem to be solved in the group: what are your assumptions, knowledge and yet unanswered questions?

Use this form as a mind map to note down thoughts, information or questions at any stage! The goal is to gather and use the current knowledge as much as possible, as well as to identify what knowledge is still lacking.

My assumptions about this problem:
(Information, thoughts and opinions that are not necessarily based on data and evidence)

My knowledge about this problem:
(Information based on data, evidence or experience)

My key (= most important) questions about this problem, which are not yet clear to me:

Relation of the problem to different groups of society. How is this problem related to..?

These questions can also be used as a mind map. Note down thoughts, information or questions at any stage. The goal is to gather and use the current knowledge as much as possible, as well as to identify what knowledge is still lacking.

..me as a person, as an individual? ..my professional activity?

..my colleagues at my company or research institution?

..other companies or researchers?

..society as a whole or its individual groups?

Worksheet prepared by Līga Efeja-Lībiete

Annex 8

Experimental Co-Creation. Detailed Scenario with the Programme.

Date: 24 November 2020

Venue: Online, the Zoom platform **Time of event**: 9:00 – 16:00 hrs

Goals:

1. Generating solutions – concepts, prototypes – for the problems defined during the bridging co-creation stage in the thematic area of the ICL.
2. Evaluating the possibilities of further development of the solutions generated

Areas of influence of the experimental co-creation activities:

Programme:

Timing	Duration of the activity	Activity	Person in charge	Course of the activity / equipment used / resources required	Influence
09:00 – 09:20	20 min	Fast "registration" of the participants A look back at the achievements of stages 3 and 4 of the ICL Taking a sip of the "energy drink"	Moderator	Using menti.com, the participants answer the following questions: - What animal represents my mood today? - What am I going to do to make today's co-creation a success? A toast to our success in fulfilling our commitments!!! A general question in free form, returning from menti.com – what has happened since our joint meeting on 4 Nov. (events, reflections, insights, new information, etc.)? Brief information about where we are in the co-creation process and what the goals of the experimental co-creation stage are.	An easy and creative start to an intense day, mood "measurement". 

Timing	Duration of the activity	Activity	Person in charge	Course of the activity / equipment used / resources required	Influence
9:20 – 9:30	10 min	Summary of the challenges defined on 4 November	Moderator	Results of the poll. It is important to remind that co-creation is not specifically aimed at satisfying the needs of one company!	Gradually channelling the participants' thinking towards solutions. 
9:30 – 9:55	25 min	Participant's presentation Sustainability in food packaging: needs, solutions and opportunities	Representative of the participants	Presentation.	The participants gain knowledge from the packaging manufacture industry (70% known, 30% new) about innovation in packaging, particularly through the prism of SMEs and a link to the defined challenges, especially those that will not be touched upon during the group work. 
9:55 – 10:20	25 min	Guest lecturer's presentation Innovations and trends in waste sorting and recycling	Thematic expert	Presentation.	The participants gain knowledge from the point of view of a waste treatment company. 
10:20 – 10:30	10 min	Comfort break			
10:30 – 10:50	20 min	Introduction to the design thinking method	RTU DF representative	Interactive presentation about design thinking as a set of methods in the co-creation process. Introduction to the process steps that we will take today during the experimental co-creation.	The participants acquire a single description and methodology of the process, which they follow in the subsequent group work. The participants gain knowledge of the design thinking approach, which, along with the group work experience acquired further, can be used in the co-creation processes in other contexts. 
10:50 – 11:45	55 min	Experimental co-creation. Part 1	RTU DF + support staff	Instructions on group work. **50 min: Group work** The moderator and the RTU DF representative also join/ walk round the groups and support them. The moderator "keeps time" so that the participants can manage to complete all 3 tasks.	The participants in groups share the information obtained so far and the perceptions of the problem situation, creating a joint group view.

Timing	Duration of the activity	Activity	Person in charge	Course of the activity / equipment used / resources required	Influence
				(20 min) Research of a specific problem area: sharing the results and conclusions of the quick research performed so far, recording them in the Miro app. The task is based on the homework sheets. The participants should be encouraged to add any information, even if it is a small detail of something that has already been discussed or information that the participant is not really sure about. We go in succession through areas 1 – 2 – 3. The aim is to form a common understanding and mapping of the problem in the group working together for the first time. Helpful questions for group moderators: Is there anything remaining in the memory from the last co-creation? Are there any more new thoughts looking at the thoughts expressed so far? What else could be relevant to this problem? **(15 min)** Proposing and selecting sub-topics. We ask the group to identify which of the information compiled so far is interesting and relevant for the whole group (not just for one/two individuals who may express themselves more than others). For example, can we propose this as something important and do others feel this way? Copy the corresponding sheet (click on the sheet and press the CTRL+C / CTRL+V key combination) into the corresponding area. Useful questions: What would you think is the most important aspect to work on? Where could there be interesting opportunities? We try to group the selected information moving the sheets closer to each other – by thematic blocks, if any. **(15 min)** Defining and describing the user: who is facing this problem? Useful questions: Who are the people and groups involved in this problem or directly related to the selected elements of the problematic issue? What are they? Do we know any particularities (age group, occupation and level of skills and knowledge)? What is important for these people in terms of the problem (e.g., the use of particular packaging)? **5 min**: Summary of the first stage of the experimental co-creation [all together].	Following the methodology and instructions, more specific aspects of the problem to be solved are proposed and the user is identified and described: the group of people who would be interested in solving the problem. The group work is recorded on the online platform Miro with the help of the moderator of the group. 

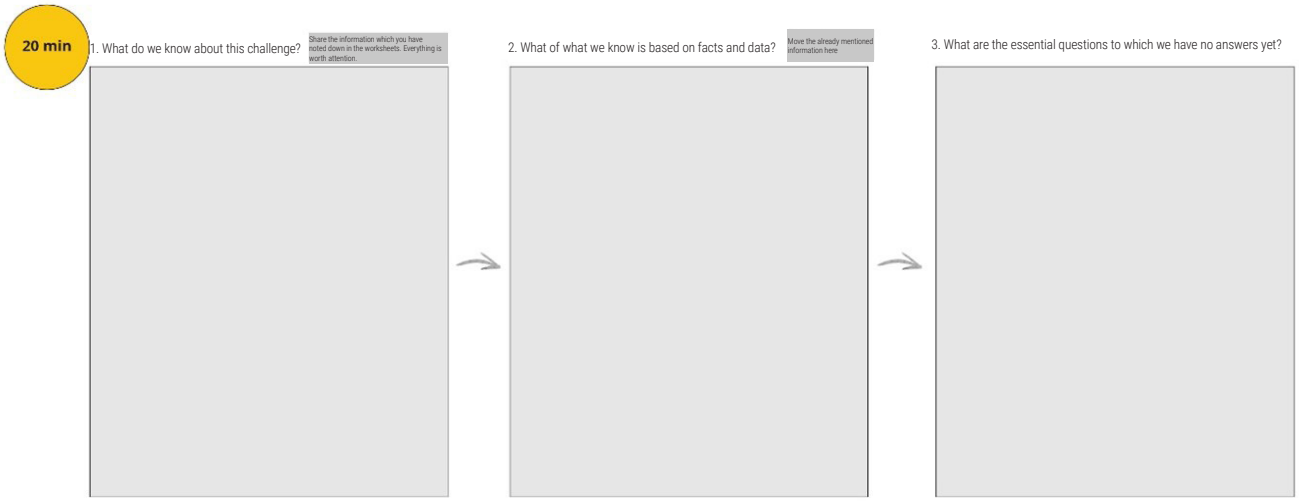
Timing	Duration of the activity	Activity	Person in charge	Course of the activity / equipment used / resources required	Influence
11:45 – 12:30	45 min	Lunch break			
12:30 – 12:40	10 min	Energy boost	Moderator	The task is called "look around"! Everyone gets on their feet and repeats the movements according to the moderator's cues: "tilt your head up and down"; "turn your head right and left" and so on several times. After 1 minute, the rules change and the words will have the opposite meaning: "down" will mean "up", "up" will mean "down" and so on.	The participants get an energy boost and are inspired to think creatively. Moral of the task: 1. In order to learn something anew, sometimes the old concepts must be forgotten; 2. The things done so far tend to interfere with the process of learning new things. 
12:40 – 14:15	95 min	Experimental co-creation. Part 2	RTU DF representative + support staff	**5 min**: instructions on group work. **15 min**: group work (breakout rooms), defining a specific problematic issue. 10 min [all together]: warm-up exercises to activate creative thinking. **15 min**: group work (breakout rooms), idea generation: what are the possibilities to deal with the problematic issue? Helpful questions: what else can be done? Are there any new ideas looking at the ideas expressed so far? Remember that now "everything is possible" – maybe there is another way to solve this? Maybe something could be done differently from what was said? The current task is to generate as many ideas as possible. The participants may not be allowed to criticise ideas. Back at 13:40 **5 min**: instructions on further group work. **20 min**: group work (breakout rooms), selection and synthesis of ideas, description of concepts and possible solutions. 14:08 **5 min**: summary of the second stage of the experimental co-creation, instructions regarding presentations.	The participants redefine the problem in groups, extending it to a particular user group. Preparatory activities help unleash creativity, which is necessary for the idea generation stage. When selecting and synthesising the ideas in accordance with special instructions, the group comes to the concept: the proposal to solve a particular problem of a specific user group. The group work is recorded on the online platform Miro with the help of the moderator of the group. 
14:15 – 14:25	10 min	Comfort break			

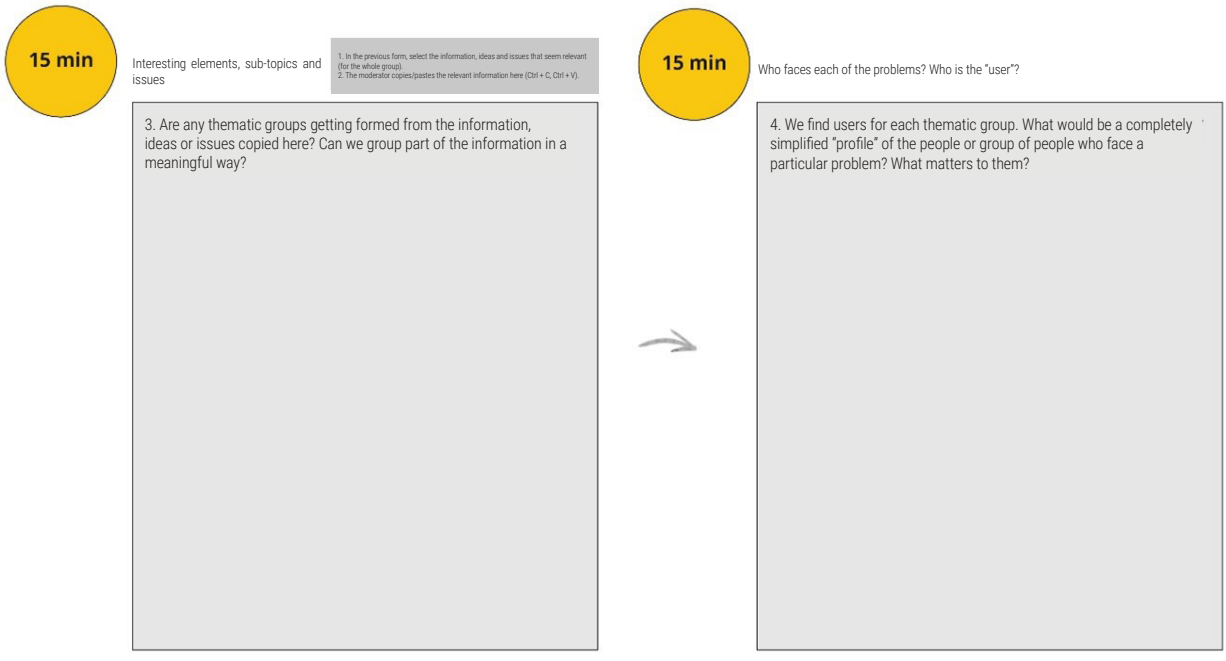
Timing	Duration of the activity	Activity	Person in charge	Course of the activity / equipment used / resources required	Influence
14:25 – 14:50	25 min	Presentations of group work results	Moderator + RTU DF + support staff	Representatives of each group present the result of their work according to the provided structure. After each presentation, other participants have the opportunity to ask questions and make suggestions.	The participants have learnt the results of other groups, as well as a short reflection on today's group work process, thus deepening understanding of both the challenges to be solved and the process of the co-creation. 
14:50 – 15:40	50 min	"Take-home food for thought"	RTU DF, VPR Innovation Broker, Latvian Food Bioeconomy Cluster	- RTU DF: presentation on EIT Food and DF (15 min). - Kristaps Ročāns, Managing Director of the Cluster: presentation on the operations of the Food Bioeconomy Cluster and the opportunities to get involved in it (10 min). - VRP Innovation Broker: presentation on the broker's services + support instruments (20 min) - The participants' questions and answers.	The participants have gained knowledge of various support instruments for the development of innovative ideas, and they are aware of what the organisers themselves are ready to take forward and solve. 
15:40 – 16:00	20 min	Assessment of the experimental co-creation	Moderator	The assessment is done in two ways: - "Before the ICL, I thought that …., now I think that …." - Filling in the assessment questionnaire (until midnight of 24 November) At the conclusion of the ICL, the participants are invited to write a wish to the ICL co-creation participants and organisers on menti.com.	The participants have reflected on their experience and provided feedback to both themselves and the organisers. 

Annex 9

Experimental Co-Creation. Worksheets.

Design thinking workshop worksheets

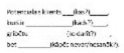




15 min

We select a specific user and explore his/her problem as far as possible

We do not start to discuss the ideas in detail or criticise them! At this point, all the ideas are worthy of our attention.

	Final formulation:  Potential client (who?) _____ that is (which?) _____ would like to (achieve what?) _____ but (why cannot achieve / manage it? _____

15 min

Task: Generate as many ideas and directions as possible.

We do not start to discuss the ideas in detail or criticise them! At this point, all the ideas are worthy of our attention.

All ideas!	**Selection of ideas**: 1. We mark the ideas that we do not want to lose: an interesting perspective or an individual element to be taken into account. 2. The selection of the ideas is presented in this field:

20min

What can we offer the user to solve his/her problem?

We create 2-3 proposals from the ideas/elements that we have selected.	**Final concept for the time being:** Potential client (who?) _____ that is (which?) _____ would like to (achieve what?) _____ but (why cannot achieve / manage it? _____ We could offer (what?) _____ that would work (how?) _____ and (additional information) _____

Annex 10

Experimental Co-Creation. Assessment Questionnaire.

Assessment questionnaire of the experimental co-creation stage

Date: 24 November 2020

Venue: Online, the Zoom platform

Please provide your assessment of the course of the experimental co-creation, stage 4 of the ICL

Overall assessment

What is your overall assessment of the course of stage 4 of the ICL? *(1-very poor; 7-excellent)*	1	2	3	4	5	6	7

Comments:

Organisational aspects

Did the information before the event give a clear idea of the course of the event and the homework? *(1-very poor; 7-excellent)*	1	2	3	4	5	6	7

Comments:

Did you have sufficient resources (e.g., technology, stationery, worksheets) to get fully involved in the ICL process online? *(1-very poor; 7-excellent)*	1	2	3	4	5	6	7

Comments:

Objectives of the event

How do you assess the choice of the event themes? *(1-very poor; 7-excellent)*	1	2	3	4	5	6	7

Were the objectives of the event clear to you? *(1-very poor; 7-excellent)*	1	2	3	4	5	6	7

How well were the objectives of the event achieved? *(1-very poor; 7-excellent)*	1	2	3	4	5	6	7

Please write what your expectations for the experimental co-creation were:

	1	2	3	4	5	6	7
To what extent did the event meet your expectations? *(1-very poor; 7-excellent)*							

Comments:

Course of the event

	1	2	3	4	5	6	7
Quality of the speakers and presentations *(1-very poor; 7-excellent)*							
Quality of the co-creation sessions (group work) *(1-very poor; 7-excellent)*							
Quality of the moderator's work *(1-very poor; 7-excellent)*							
Quality of the support team's work *(1-very poor; 7-excellent)*							
Overall design and structure of the event *(1-very poor; 7-excellent)*							
Relevance of the chosen methods and techniques to the objectives of the event *(1-very poor; 7-excellent)*							
Compatibility of the chosen methods and techniques with the online environment *(1-very poor; 7-excellent)*							
Level of interaction among the participants *(1-very poor; 7-excellent)*							
Quality of the co-created ideas *(1-very poor; 7-excellent)*							

Comments:

Additional questions

What did you like most about this co-creation stage?

What did you dislike about this co-creation stage?

What would have helped you to better prepare and participate in group work and discussions?

The future of the Innovation Co-Creation Laboratory

Do you think the Innovation Co-Creation Laboratories should continue to be organised to address companies' challenges in different areas?

Yes
No

If your answer is "No", please provide reasons for it

What do you think should be improved and taken into account when organising an Innovation Co-Creation Laboratory?

What do you think is a successful result of an Innovation Co-Creation Laboratory?

Name and surname: _____

Thank you for your participation and response!

Annex 11

Assessment. In-Depth Interviews.

Questions of in-depth interviews

Questions to entrepreneurs

1. What are the first thoughts that come to your mind when looking back on your participation in the Innovation Co-Creation Laboratory?
2. How do you assess the organisational process of the ICL: division of the ICL into stages, time allocated for collaboration, chosen methods and techniques of the co-creation (World Cafe, Problem Selection Process, Design Thinking)?
3. How do you assess the composition of the ICL participants?
4. How do you assess the contact with the researchers involved in the ICL? What was successful and what failed? Why?
5. What prospects do you see for such a format of cooperation between science and business?
6. How would you assess the process of the ICL if international participants with similar challenges also took part in it – what would be the challenges and benefits of this process?
7. Would you be willing to pay for participation in the ICL?

Questions to researchers

1. What are the first thoughts that come to your mind when looking back on your participation in the Innovation Co-Creation Laboratory?
2. How do you assess the organisational process of the ICL: division of the ICL into stages, time allocated for collaboration, chosen methods and techniques of the co-creation (World Cafe, Problem Selection Process, Design Thinking)?
3. How do you assess the composition of the ICL participants?
4. How do you assess the contact with the entrepreneurs involved in the ICL? What was successful and what failed? Why?
5. What prospects do you see for such a format of cooperation between science and business?
6. How would you assess the process of the ICL if international participants with a similar research profile also took part in it – what would be the challenges and benefits of this process?
7. Would you be willing to participate in the ICL in the future and under what conditions?