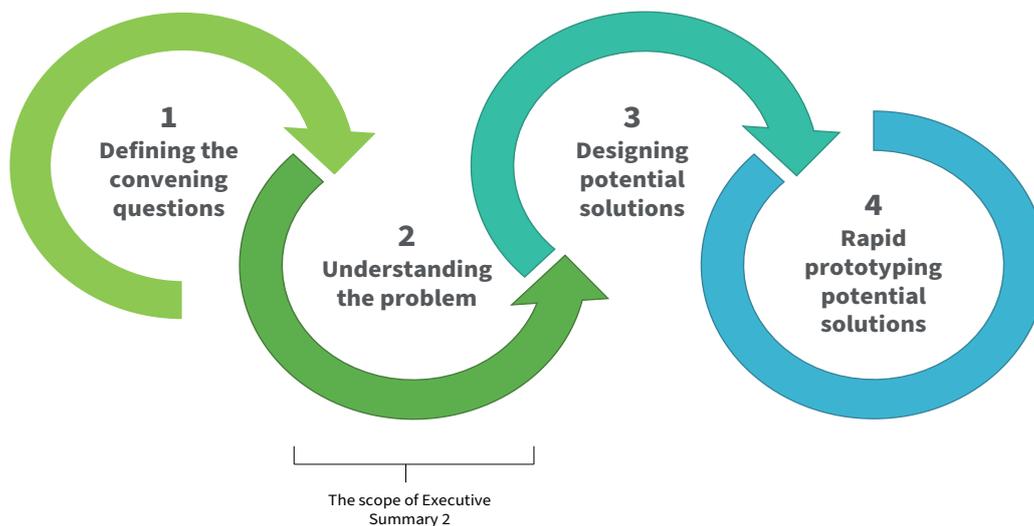


## "UNDERSTANDING THE PROBLEM"

**The second phase of the SIMBIO project ‘Understanding the problem’, conducted between February 2021 and November 2021, was focused on an in-depth analysis and understanding of the main problems and barriers to the development of supply chains of food bio-packaging (including compostable packaging) in Poland in accordance with the principles of the circular economy.**

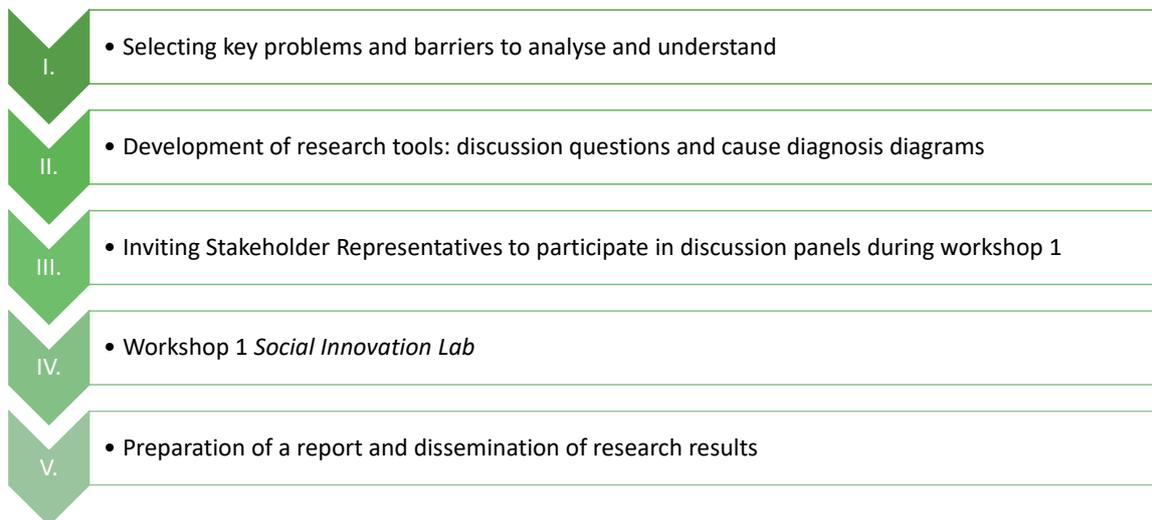


**Figure 1. The four stages of the SIMBIO project**

Addressing the goal and scope of the second stage, the SIMBIO research team accomplished specific tasks (Figure 2). First, the key problems and barriers to the development of the bio-packaging market were selected from among the challenges for the use of bioplastic packaging identified in the first stage of the project. Subsequently, research tools dedicated to the implementation of the second phase were developed, which include: a list of guiding questions forming a discussion scenario in a stakeholder cooperation workshop Social Innovation Lab and diagrams of diagnosis of causes. Subsequently, individual invitations to participate in the workshop were sent to stakeholder representatives. The final activity was to conduct workshop 1 Social Innovation Lab on 08/10/2021, during which, in a dialogue with stakeholder representatives, a diagnosis of the problems and barriers throughout the entire life cycle of bio-packaging was conducted. The second stage was completed with the preparation of a report, which presents the results and conclusions from the qualitative understanding of the problems and the identification of their causes, as well as opportunities and preliminary recommendations regarding the possible places and ways of jointly developing new solutions in the supply chains of bio-packaging for food, along with an indication of potentially involved stakeholders.

Designing the life cycle of bio-packaging, including compostable packaging, in line with the principles of the circular economy, is a process that requires the involvement of many stakeholders. The twenty-two participants of workshop 1 represented different internal and external stakeholders of bio-packaging supply chains from the private and public sectors including business owners, directors of public institutions, managers, presidents of non-governmental organisations, as well as consumers.

An in-depth analysis, conducted in an open dialogue with the representatives of the SIMBIO project stakeholders, provided the causes of the main four problems and barriers as well as extremely valuable conclusions not only in relation to individual problem issues, but also in relation to their relationship in terms of the subject. The discussion highlighted that the first problem - insignificant share of bio-packaging in the food packaging market in Poland – requires the solutions to counteract such causes as higher market prices and limited properties of bio-packaging in relation to plastic packaging. There are also no remedial measures available to increase the market competitiveness of bio-packaging (including compostable packaging).



**Figure 2. Tasks completed in the 2nd stage of the SIMBIO project**

The causes of the second identified problem – low awareness and the tendency of consumers to buy food products in bio-packaging – include the lack of appropriate educational activities due to low social awareness of bio-packaging, insufficient infrastructure for bio-waste management, low engagement of local authorities in development and financing the compostable infrastructure as well as unfair business practices that mislead customers and consumers, known as greenwashing.

Among the main reasons for the insufficient social and environmental responsibility of enterprises in the supply chains of food packaging for the benefit of the circular economy (the third problem) participants identified: insufficient integration of economic, environmental and social goals into one main sustainable goal of enterprise development due to the lack of competences and experience of enterprises in the areas of the circular economy and the bio-packaging market; the lack of linking the assessment of investors with the company's sustainable development, including the approach to managing packaging in an environmentally responsible manner; insufficient cooperation between enterprises for the circular economy; no social pressure to implement environmentally and socially responsible actions by enterprises and greenwashing resulting from the efforts to obtain the image of an ecological or socially responsible company.

The low level of development of the compostable packaging waste management (the fourth problem), in turn is due to the lack of uniform and transparent regulations regarding the planning and organisation of a closed-loop system for compostable packaging, insufficient communication between the private and public sectors on how to increase the use of compostable food packaging, a poorly developed compostable waste management system with difficulty in distinguishing compostable packaging waste from conventional waste as well as the lack of investments on the composting infrastructure due to the still low interest in its use.

Workshop 1 launched the platform for cooperation and the synergy of competences of internal and external stakeholders of bio-packaging supply chains from the private and public sectors. Most of the proposals accepted the key challenge for the development of the packaging market, which is to achieve economies of scale in the areas of supply chain management (supply, production and distribution) in order to increase the profitability of business activities on the one hand, and the affordability of bio-packaging on the other. Numerous recommendations are an attempt to meet the need to increase the social and environmental responsibility of society, enterprises, and public institutions. The proposed concepts also concern the shaping of a new model of stakeholder cooperation with the use of opportunities created by modern technological tools, which are digital platforms. Digital technologies can support both the development of trade contacts between market participants, as well as being an accelerator of entrepreneurship and supporting relations for the co-creation of innovations.

## PROJECT OVERVIEW

**Title:** New Frontiers in Social Innovation Research: Social Innovation Management for BIOPlastics

**Acronym:** SIMBIO

**Keywords:** social innovation, circular economy, bioplastic, packaging, supply chain

**Project aim:** to develop social innovation to address the challenges in applying bioplastic packaging in food supply chains, for a circular economy

## PROGRAM

**Trans-Atlantic Platform: Social Innovation Call**

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