METHODOLOGY
PARTICIPATIVE
CHALLENGE
IDENTIFICATION
→

KALEIDOS PROJECT

#1_BACKGROUND AND CONTEXT

The following methodology introduces the sequential steps and tools used by UAB to facilitate open innovation processes. This process encourages collaborative, creative engagement among diverse actors from a region, allowing them to agree around a shared vision for tackling specific challenges. Through structured collaboration, these regional actors—including representatives from academia, industry, government, and civil society—can leverage collective expertise to generate innovative solutions that address common goals and local needs.

#2_OBJECTIVE

The aim of this process is to tackle shared regional challenges by establishing structured frameworks and platforms that facilitate open dialogue, cooperation, and collective action. These mechanisms are designed to bring together key stakeholders from academia, industry, government, and civil society, fostering a culture of trust, mutual understanding, and synergy.

#3_DURATION

2-3sessions of 2-3 hours

#4_NUMBER OF PARTICIPANTS

Ideally, the group should consist of 20-40 people, including representatives from academia, industry, government, and civil society. However, the exact number may vary depending on the participants' capacity and available resources.

#5_EXPECTED *OUTCOMES OF* THE WORKSHOP:

- Foster a culture of collaboration, openness, and trust among regional actors to drive continuous innovation and progress.
- Develop co-created solutions that are broadly supported and effectively address local challenges.
- Strengthen stakeholders' capacity to innovate both collaboratively and independently in future initiatives.

#6_PROCESS AND MECHANISMS ALREADY *IN PLACE WITHIN THE INSTITUTIONS* THAT MIGHT SUPPORT THE PROCESS

Before beginning the process of challenge identification, it is crucial to identify and evaluate the existing mechanisms that promote innovation processes at your university.

Universities must proactively engage with their local ecosystems by building trust-based networks and collaborating with key stakeholders such as businesses, government entities, and local organizations. Establishing these relationships fosters open dialogue, encourages collaboration, and creates the conditions necessary for transformative knowledge co-creation and dissemination. By aligning academic strengths with local needs, universities can drive innovation and contribute to both community development and global advancements.

Actively working to build diverse networks enhances a university's ability to lead open science initiatives, ensuring they are not only innovative but also socially relevant and impactful. This approach positions universities as hubs of knowledge, collaboration, and transformation, grounded in local relevance while maintaining a global perspective.

Promoting open science is a long-term commitment that requires sustained institutional support and strategic leadership. Universities must embed these processes into their vision and operational strategies, dedicating the necessary resources to build resilient ecosystems of trust and collaboration.

AT UAB, EXAMPLES OF INSTITUTIONAL STRUCTURES THAT CONNECT THE UNIVERSITY WITH LOCAL STAKEHOLDERS TO FOSTER OPEN SCIENCE PROCESSES INCLUDE:

- Hub B30
- UAB Communities Oriented to Strategic Challenges
- UAB open labs constitute an ecosystem where people collaborate for the successful and innovative development of projects and ideas.
- The UAB Research Park
- Oficina de Reptes

EXAMPLES OF ACTIVITIES TO PROMOTE CO-CREATION AND COLLABORATION WITHIN THE ECOSYSTEM INCLUDE:

- Inspiring Sessions: Hosting events that highlight innovative practices and case studies to motivate stakeholders (i.e. Innovation Brunchs | HubB30)
- Co-Creation Workshops: Facilitating participatory sessions that bring together diverse actors to collaboratively address challenges and generate solutions (i.e. Innovation mornings | HubB30)
- Community Events: Organizing initiatives such as the innovation week (Setmana de la innovació – Coneixement i tecnologies de futur), Challenge-based learning day or Service-Learning day to create platforms for exchange and dialogue.
- Schedule on-demand meetings with local organizations: Collaborating with associations such as chambers of commerce, B30 network entities, and third-sector organizations to align efforts and achieve common objectives

#7_CHALLENGE *IDENTIFICATION* PROCESS OUTLINE

Once the mapping of the activities, structures and mechanisms present at your institution available to support open innovation processes is completed we can proceed with the specific steps to defining a challenge:

STEP 1: SELECTING THE MAIN TOPIC (AREA)

The first critical step in defining a challenge is to select the main topic or area of focus. This topic should be prioritized based on a variety of factors, including ecosystem demands, the institution's internal capacities, and its strategic objectives. However, it is essential to view this topic as a broad and adaptable framework—a concept that encourages exploration from multiple perspectives to ensure its continued relevance to the community it serves. The chosen topic should align with one or more Sustainable Development Goals (SDGs) to address global challenges while anchoring the initiative in a broader international context and must be shared by a wide number of stakeholders.

AS AN EXAMPLE, CONSIDER THE FOLLOWING MAIN TOPICS:

- Ageing
- Climate change and environmental degradation
- Zero waste
- Digital transformation
- Persistent unemployment and workforce skill gaps
- Social inequality

Often, these topics naturally emerge from the network activities generated by the various initiatives described in point 6. Additionally, to ensure an impactful prioritization process, organizers should base their decisions on a thorough understanding of regional priorities and societal needs, either by following up on or developing a regional ecosystem map.

To guide the topic selection process and ensure alignment with broader objectives, the following resources can be utilized:

- **The** RIS3CAT 2030 Strategy (Research and Innovation Strategies for Smart Specialization): Offers insights into regional strengths and potential areas for growth.
- **Institutional Strategic Lines**: Ensures the topic aligns with the university's goals and mission.
- **European Priorities**: Anchors the topic within EU policies and global agendas, such as the European Green Deal or the Digital Agenda for Europe.

STEP 2: CO-DEFINITION OF REGIONAL CHALLENGES

Once the topic is selected, the process of defining challenges begins.

As a first step, the organizers need to identify potential quadruple helix (4H) stakeholders (including researchers, local and regional public policy managers, third-sector organizations and citizens) to collaborate in defining the challenge and to invite them to the sessions. This identification can be done supported by the different networking sessions cited in point 6 or supported by key local documents where initiatives related to the topic are explained. The goal is to engage stakeholders who are interested in the thematic area and have the institutional capacity to drive change.

The process can be organized into two or three workshops where 4H actors will collaborate to co-define regional challenges. Below is a description of the process to co-define regional challenges through three workshops, each lasting approximately 2–3 hours.

WORKSHOP 1: MAPPING THE ECOSYSTEM

The goal of the first workshop is twofold: to gain a comprehensive understanding of key stakeholders and territorial work lines, and to analyze the strengths, weaknesses, opportunities, and threats (SWOT) of the territory.

I. **Gain a global understanding of the key stakeholders and territorial work lines related to the main topic:**

Develop a broad and detailed perspective on the individuals, organizations, and institutions that play a significant role in the topic of interest. This involves identifying their roles, interests, and contributions, as well as mapping the existing initiatives, policies, and projects within the territory. Understanding these dynamics helps to pinpoint areas of synergy, collaboration, and potential influence to address the topic effectively.

A tool that might help to identify other relevant actor during this process is the stakeholder mapping (A. Stakeholder map from the TOOLBOOK)

II. Analyse the current state of the territory in relation to the main topic:

Conduct a SWOT analysis to evaluate the internal and external factors affecting the region's capacity to address the specific topic:

- Strengths: Explore existing resources, expertise, and infrastructures that provide an advantage.
- Weaknesses: Identify internal limitations or gaps that may hinder progress.
- Opportunities: Highlight emerging trends, technologies, or external support that could be leveraged for improvement.
- Threats: Assess risks, such as economic, environmental, or policy-related challenges, that could impede success.

The Five why's activity (B. Five Why's from the TOOLBOOK, can a help to find the origin of factors that feed the central problem) or the PESTEL analysis might also help to visualize the problem from different perspectives (C. Pestel Analysis from the TOOLBOOK)

WORKSHOP 2: SHARE VISION AND CHALLENGE IDENTIFICATION

I. Create a future vision for the group in the specific area:

Define an ideal scenario for the territory related to the topic of interest, establishing clear, inspiring, and sustainable objectives. This vision should reflect the needs and aspirations of the community while considering the local and global context. Additionally, it should guide the actions of the various stakeholders involved, directing efforts toward a balanced, inclusive, and innovative development model.

II. Identify the main challenges of the territory

The goal of this part is to detect the specific difficulties and obstacles that the territory faces in this area. This includes aspects such as infrastructure deficiencies, regulatory gaps, cultural barriers, social inequalities, or environmental pressures. Identifying these challenges will help prioritize areas for intervention and establish strategic lines of action to overcome them, involving relevant stakeholders in the search for concrete and effective solutions.

Based on the outcomes of the first workshop, the organizers identify potential challenges that could be addressed collaboratively and invite participants to agree on these or propose additional ones. At the end of the session, the challenges to be addressed are detected. This activity can be

structured using a voting system, where stakeholders vote on the priority level of each challenge. Afterward, time is given to add new challenges, followed by another round of voting to prioritize them.

WORKSHOP 3: SUB-CHALLENGES AND PRIORIZATION

The goal of this third workshop is to identify smaller, more manageable actions (sub-challenges) within the framework of each challenge that can be more easily addressed and worked on, and to establish prioritization.

I. Break down the territory's challenges and landing into sub-challenges:

Identify smaller, more manageable actions that allow for the achievement of the broader ambitions projected by each challenge. These sub-challenges should represent specific, concrete steps that can be implemented more easily and measured along the way, acting as stepping stones toward the larger objectives. By breaking down complex challenges, stakeholders can address them in a more structured and systematic way, ensuring progress and adaptability.

When defining sub-challenges, it is crucial to establish a realistic time frame to work with it and ensure it aligns with the available resources of all participants. It is also important to define qualitative and quantitative indicators to define the starting point of the challenge and that can be used to measure its impact in the short, medium, and long term, where applicable.

To identify the sub-challenges, it may be helpful to visualize the problems derived and insights of the challenge, encouraging participants to think about sub-challenges. The 'Saturate and Group' tool (A. Saturate and Group from the TOOLBOOK) can assist in organizing ideas. Additionally, the 'Five Whys' activity (B. Five Whys from the TOOLBOOK) can help uncover the root causes of factors contributing to the central problem, thus helping to identify sub-challenges.

II. Establish the foundations for prioritization

Classify the sub-challenges based on several criteria, including their **time horizon**, **viability**, **feasibility**, and **governance**. This process helps determine which actions should be tackled first and which ones require more time, resources, or coordination. The classification should consider:

- **Time horizon:** Is the action short-term, medium-term, or long-term?
- **Viability:** How likely is the action to succeed given the resources and conditions?
- **Feasibility:** Are the required resources, skills, and infrastructure in place for successful implementation?
- **Governance:** Who will be responsible for overseeing and executing these actions, and how will coordination between stakeholder's work?

A tool that might help to map the subchallenges and make decisions to priorize them is the Ideas selection Tool (F. Ideas selector from the TOOLBOOK).

III. Selection of the sub-challenge

In the previous step, the prioritized sub-challenge is identified. From this point forward, this sub-challenge will be the focus of further development during the Idea Generation Program.

SKILLS AND COMPETENCES:

System thinking, develop networks, conduct interdisciplinary research, promote open innovation, promote transfer of knowledge, empathy, flexibility, generate consensus, collaboration, creativity, problem solving, community engagement with research, transformative innovation, handling difficult conversations, team building.
MATERIALS NEEDED
Facilitator

RESOURCES, REFERENCES

- RIS3CAT Shared Agendas as platforms for synergies
- Articulating shared agendas for sustainability and social change
- https://ddd.uab.cat/record/291917/
- ESQUEMA TOOLBOOK V3



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