

Living Labs for Sustainable Agri-Food Commercialisation

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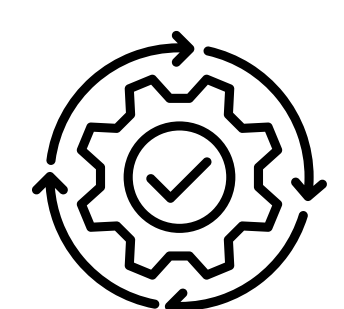
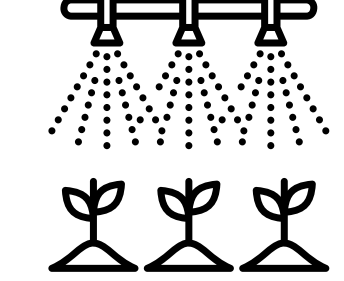
THE MALTA CHAMBER



Background on EXCEL4MED

EXCEL4MED is a Horizon Europe project strengthening innovation ecosystems in the Mediterranean agri-food sector. It focuses on nutritious fruit products and maximizing valorisation of food industry by-products, building collaboration between Greece, Malta and France to promote sustainable growth in regional food value chains. The overarching goal is to create an excellence hub in Mediterranean fruit supply chains (pomegranate, citrus), developing resilient, green technologies and adaptive business models for circular food systems.

Objectives

- **Place-based innovation ecosystems:** Develop sustainable innovation clusters in Malta and Greece to produce added-value fruit products and reduce waste along the food chain.
- **Sustainable business models:** Co-create and test innovative, triple-bottom-line business model strategies (using the Triple-Layered Business Model Canvas) that balance economic viability, environmental stewardship and social value.
- **Stakeholder co-creation:** Engage diverse actors (farmers, SMEs, researchers, policymakers, consumers) in participatory living lab workshops to collaboratively design solutions. These living labs bring quadruple-helix partners together to co-create solutions for Mediterranean food challenges.
- **Green technology integration:** Promote adoption of novel green food-processing technologies (e.g. energy-efficient methods, waste-to-value processes) to minimize environmental impact and resource use.

Methodology

- **Stakeholder mapping:** Identify key stakeholders across the agri-food value chain (farmers, processors, regulators, consumers) in each country.
- **Living Lab workshops:** Conduct multi-stakeholder workshops in Malta and Greece where participants use structured tools to co-design business strategies.
- **Triple-Layered Business Model Canvas (TLBMC) [1]:** Use the TLBMC as a central framework. In workshops, groups filled in the canvas, explicitly addressing three dimensions – economic (costs, markets, revenues), governance/policy, and social/community impacts.
- **Governance/ESG layer:** Incorporate a governance layer (policy, regulatory, ESG standards) on top of the TLBMC, ensuring strategies consider environmental regulations, social responsibility and policy collaboration.
- **Q-methodology surveys [2]:** Facilitate Q-methodology exercises with stakeholders (24 in Malta, 27 in Greece) to capture diverse attitudes toward novel food technologies. These sessions grouped participants by shared viewpoints on innovation adoption.
- **Participatory co-design:** Use interactive activities (case studies, scenario planning, group discussions) to refine ideas. Output included draft action plans and co-created business models adapted to local contexts.

Results

Waste valorisation and circular products: A major theme in both labs was turning waste into value. In Malta, participants highlighted using fruit by-products (e.g. pomegranate peels) to create new food products like jams and sauces. In Greece, discussions similarly explored converting citrus and pomegranate residues into marketable ingredients. These examples demonstrate how circular processes can open economic opportunities while reducing waste.

Triple-bottom-line insights: Stakeholders explicitly addressed economic, environmental and social dimensions. Economically, they saw new markets and SMEs opportunities for by-product goods; environmentally, they sought to reduce resource use and emissions; socially, they considered community impacts and jobs. The Triple-Layered Canvas helped integrate these factors, for example, groups analyzed cost structures and market dynamics (economic layer) alongside governance frameworks (policy) and stakeholder engagement (social layer).

Collaborative strategies: The workshops yielded co-designed business-model concepts. In Greece, working groups used the standard Business Model Canvas to propose innovative strategies for strengthening fruit supply chains and cutting waste. Stakeholders identified practical steps (e.g. establishing new distribution channels for waste-derived products) and highlighted policy support needs. In Malta, consensus emerged on building integrated value-chain ecosystems: participants noted that streamlined collaboration among farms, processors and authorities is needed to achieve sustainability goals.

Systemic gaps and governance: Both Living Labs revealed gaps in current systems. Participants pointed out fragmented coordination and the lack of tailored governance for circular agri-food. They stressed the importance of aligning with Environmental, Social and Governance (ESG) standards by taking guidance from international sustainability frameworks and tailoring them to local realities. The explicit “governance” dimension in the workshops brought attention to regulatory barriers and community policy, highlighting the need for inclusive governance mechanisms to scale innovations.

Conclusion

Living Labs proved to be powerful enablers of sustainable agri-food commercialisation. By bringing stakeholders together in co-creative processes, the project yielded practical, place-based solutions (e.g. consumer-informed green products, circular business concepts) that directly address sustainability challenges. The approach inherently aligned economic strategies with Environmental, Social and Governance (ESG) priorities: for example, participants developed value chains that consider resource efficiency, social equity, and policy frameworks in tandem. These outcomes have broad relevance for policy and practice. The Living Lab model is replicable in other regions, offering a blueprint for innovation in agri-food systems. In summary, EXCEL4MED’s Living Labs demonstrated a concrete pathway to circular, resilient food value chains by co-designing sustainable business models and green technologies in partnership with the community.

References

[1] J. Barry and J. Proops, “Seeking sustainability discourses with Q methodology” Ecological Economics, vol. 28, no. 3, pp. 337–345, Mar. 1999, doi: [https://doi.org/10.1016/s0921-8009\(98\)00053-6](https://doi.org/10.1016/s0921-8009(98)00053-6).

[2] A. Joyce, R. L. Paquin, and Y. Pigneur, “The triple layered business model canvas: a tool to design more sustainable business models” presented at the ARTEM Organizational Creativity International Conference, 2015.