

CONSORTIUM



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18

Partners

11

Countries

48

Months

5

Million
€ Budget



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Orchestrating food
system microbiomes
to minimize food waste

ABOUT

MICROORC will develop sustainable solutions that reduce and prevent food spoilage and food waste, with focus on technologies, services, tools, policies, and practices that are based on monitoring, utilizing, and targeting microbiomes in food and the food processing chain. The tools and technologies developed in MICROORC are positioned at a high level of research and innovation (R&I) maturity and are expected to achieve TRL6-7 by the end of the project.

The aim of MICROORC is to reduce waste of perishable foods in retail and households.



Predictive analytics models incorporating microbiome information to predict shelf life



Time-temperature indicators (TTIs), sensing and smart label solutions for dynamic shelf life labelling



Rapid detection assays for microbial indicators of food spoilage



Microbiome based protection technologies to replace synthetic chemicals and increase shelf life and safety



Novel packaging solutions targeting spoilage for sustainable development and increased shelf life



1) by developing tools, technologies and guidelines for improved process control with microbiome monitoring and more accurate shelf life prediction and labelling



2) by extension of shelf life by developing bioprotection and packaging technologies that reduce, control, or limit the growth of spoilage or pathogenic organisms.



A green transition will require that new innovations are evaluated for sustainability in the broad sense, and establishment of a new regulation and policy supporting their implementation. Sustainability assessments, including the view of the consumers, will be an integrated part of the innovation processes in MICROORC.



Since regulations cannot change at a speed that matches the rapid development of technology and the market, new methods of policy and regulatory innovation are needed. Policy recommendations will be developed through co-creation with stakeholders (Policy Labs).



A targeted dissemination, communication and exploitation strategy will be employed to maximize impact.

MICROORC technologies and scientific discoveries, combined with increasing public awareness and demand for sustainable food, will contribute to a fair, healthy and environmentally friendly food system, supporting the European Green deal. The approach is coherent with the New European Bauhaus Initiative by co-creation of knowledge and solutions in the multi-actor DT approach and with our focus on consumer understanding and inclusion in the consumer research and user desirability testing in our iterative approach.

