MICROBIOMESUPPORT - Towards coordinated microbiome R&I activities in the food system to support (EU and) international bioeconomy goals

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Food Systems

- **Food Production**: precision farming, 3D printing, bioplastics
- **Processing**: processed foods
- **Packaging**: waste streams, healthy people, distribution, logistics

The way food is produced and how it affects our health, wellbeing, and the environment.
Launched 30 Nov 2017

Member states: EU, Canada, US, Argentina, South Africa, India, China and New Zealand; Observers: Australia, South Korea

Currently four Working Groups:
- Forestry (Canada)
- Plant health (USA)
- ICT in Precision food systems (New Zealand)
- Food Systems Microbiome (EU)

MICROBIOMESUPPORT
• CSA funded under H2020 call SFS-32-2018

• November 2018 – October 2022

• Coordinator AIT; co-coordinator INRA

• 27 partners from EU and IBF countries and two associated international partners

• three Advisory Groups “Funding & Policy Advisory Group”, “Industry Advisory Group” and “Coordinators’ Platform” and Expert Pool
Major objectives

• Identification and **mapping of microbiome activities** in the EU and worldwide, including programs and facilities, along the food chain and beyond

• **Creating a platform** for scientists, regulatory experts, industry, funding and policy organizations

• Improve use of existing data, to allow comparability and improved mining of microbiome data (**microbiome standards and best practices**)

• Define **strategic agendas** to enable microbiome applications in the food sector and beyond

• **Collaboration and coordination** in support of a **sustainable bioeconomy**

• **Raising awareness** and **exchange of knowledge** across scientific and political communities, including the International Bioeconomy Forum (IBF) and the general public
Structure

WP7: Ethics requirements

WP6: Coordination & Management

WP1: Mapping international microbiome activities and facilities along the food chain and beyond

WP2: Revisiting microbiome standards and best practices

WP3: Defining strategic research agendas to enable microbiome applications in the food sector and beyond

WP4: Collaboration and coordination in support of a sustainable Bioeconomy (IBF)

WP5: Exchange, Communication and Citizen dialogue (ECC)

Milestones:
- Mapping finalized, database/platform established, common standards defined, gap analysis finalized
- Recommendations finalized, common strategies defined
- Policy papers and collaboration with IBF WGs
European Partners

Austria
- Austrian Institute of Technology (AIT)
- rtd services
- Austrian Competence Centre for Feed and Food Quality, Safety & Innovation (FFoQSI)
- Graz University of Technology

Belgium
- Flemish Government – EWI Department
- European Food Information Council (EUFIC)

Denmark
- LLa-Bioeconomy

Estonia
- Tallinn University of Technology

France
- French National Institute for Agricultural Research (INRA)

Germany
- Jülich Research Center
- Helmholtz Center München
- German Aerospace Centre

Greece
- Agricultural University of Athens

Ireland
- Agriculture and Food Development Authority (TEAGASC)

Italy
- University of Turin

Netherlands
- Wageningen University
- Foundation Wageningen Research

Spain
- Spanish National Research Council (CSIC)

Poland
- Institute of Animal Reproduction and Food Research of Polish Academy of Sciences

UK
- CAB International (CABI)
International Partners

Canada
- University of Waterloo

USA
- Pacific Northwest National Laboratory

Brazil
- University of Campinas

Argentina
- Ministry of Education, Culture, Science and Technology

South Africa
- University of Pretoria

China
- Institute of Microbiology of the Chinese Academy of Sciences

India
- Pondicherry University

Australia
- Western Sydney University

New Zealand
- Scion
Partners as National Ambassadors
Advisory Groups – important stakeholders

**INDUSTRY ADVISORY GROUP**
Bayer Crop Sciences, Novozymes, Danone, Unilever, Johnson & Johnson, Koppert, Evogene, AgBiome, Eurofins, Cultech…….

**FUNDING & POLICY ADVISORY GROUP**
EPSO, JPI Ocean, JPI Antimicrobial Resistance, JPI HDHL, ETP Food for Life, Agriculture and Agri-Food Canada, DSMZ German Collection of Microorganisms, National Research Foundations and Councils, National Ministries, ……

**COORDINATORS‘ PLATFORM**
Coordinators of European EU projects and initiatives

**EXPERT POOL**
European and international microbiome experts
WP1: Mapping Microbiome Activities

Aim: to obtain overview of activities, facilities, funding programs in Europe and beyond in relation to microbiome-related research

- Common ground workshop
- Survey on national funding programs, major facilities, projects, institutions, experts, publications, applications
- Literature / bibliometric mining
- Workshop on elaborating educational needs
WP1: Common Ground Workshop

• 4-5 March 2019
• Different stakeholder groups discussed – Policy, Industry, Science

• Microbiome exemplary country presentations
• Status quo – success stories, what works well, major hurdles?
• Visionary process – where will we be in 2030?

SURVEY
GAP ANALYSIS
R&I STRATEGIC AGENDAS
WP2: Revisiting Microbiome Standards

**Aim:** to elaborate and disseminate an internationally agreed microbiome definition, best practices and standards, consistent protocols and pipelines

- Questionnaires and Workshop elaborating an internationally agreed microbiome definition & elaboration of standards
- Workshops on concepts for central storage of samples and biobanking & on data storage and metadata requirements
- Workshop on how to make best use of existing data
- Workshop on how to integrate new –omics data / technologies
Aim: to recommend strategic research agendas for future microbiome activities and to stimulate networking and partnerships

- Exploration of existing tools (Knowledge Platforms etc.) to improve and support collaboration & elaboration of best practise examples / case studies.

- Visioning process through a trans-sectorial workshop to identify gaps, potential wins and long-term strategies. Delphi survey with experts, gradually building up on a consensus strategy

- Connecting with EU regulation agencies / experts
Aim: to set up a platform for international collaboration (specifically also with IBF countries) and to contribute to a sustainable, circular bioeconomy

• Based on WP1 elaboration with multi-stakeholders opportunities and added value in collaboration; implementation options

• Workshop on identifying impact of international collaboration on the bioeconomy

• Joint workshop linked to annual meeting with other IBF WGs as a discussion forum and to elaborate synergies / joint interests
Aim: to maximize outreach and impact and to implement an international platform for collaboration

• Development and implementation of a communication and dissemination plan, project identity, templates and website, Integration Workshop

• Development and implementation of a multi-level stakeholder engagement plan, production of tailored dissemination materials

• Outreach and impact debates and activities: high-level debate (attracting high-profile stakeholders addressing the importance of microbiome research); Technical Workshop Tours; Science and Technology Options Assessments conference in the EP
MICROBIOME SUPPORT represents a major, internationally recognized platform for microbiome R&I related to food systems and beyond including relevant stakeholders and will substantially contribute to global bioeconomy goals.
"...Microbiome is EVERYWHERE!! (90% of biosphere diversity)."

[WP3 team, AIT, DLR, INRA, CSIC]
Thank you for your attention

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see www.microbiomesupport.eu