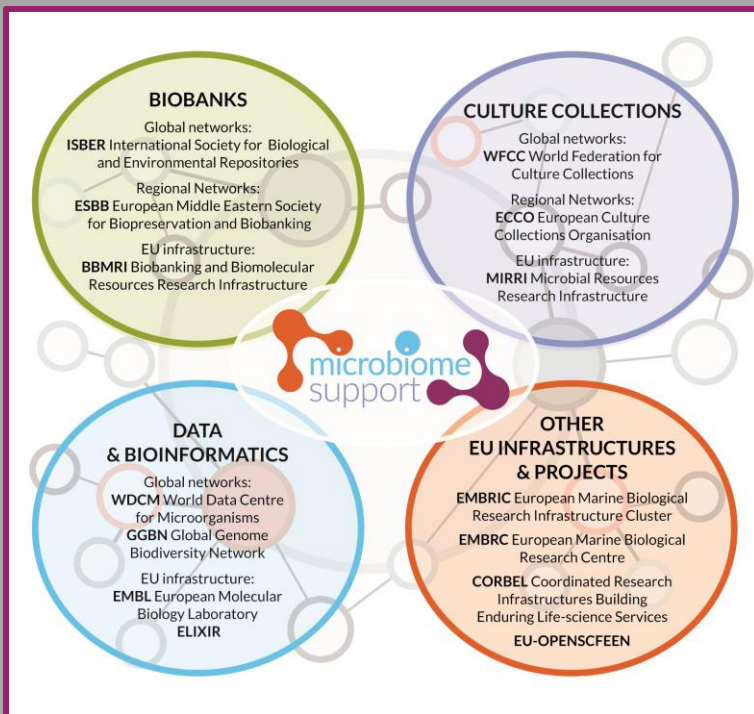


Factsheet: Development of Microbiome Biobanks – Challenges and Opportunities

The microbiome research field is rapidly evolving, but the required culture collection and biobanking infrastructure is currently fragmented and not prepared for the biobanking (storage) of microbiome samples. Our paper recommended an urgent assessment of how biobanks can underpin research by preserving microbiome samples and their functional potential.



The current research landscape has been developed for culture collections, biobanks and EU infrastructures serving different scientific domains. An approach for the biobanking of microbiome samples is required to underpin the burgeoning research area.

Summary Recommendations and the Way Forward

- The question of **why and what** should be conserved has to be addressed in detail considering scientific, economic, social, and environmental perspectives.
- Taking into consideration diversity and complexity of microbiomes across environments, a **prioritized list** should be agreed upon to focus the efforts and achieve advancements.
- The biggest technological **bottleneck is the development of optimized methodologies** for the preservation of microbiomes and for the assessment of preservations' success in terms of maintaining the composition and functionality of microbiomes.

The clear complementarity between culture collections and biobanks necessitates an approach to enable that both work together to ensure that this critical microbiome research field has effective support. This will require the identification of infrastructural overlaps to gauge what is required and what is available/missing within the EU and beyond.

Citation: Ryan, M.J., Schlöter, M., Berg, G., Sessitsch, A et al., 2020. Development of Microbiome Biobanks—Challenges and Opportunities. *Trends in Microbiology*.



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