

Strategy Report on Research Infrastructures
ROADMAP 2018

Health and Food Landscape

Gabriela Pastori
Chair of Health and Food Strategy Working Group
UK ESFRI delegate

Impact
Conference,
Bologna, 24-25
January 2018

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UK - Gabriela PASTORI (chair)

SE – Maria ANVRET (vice-chair)

BE – Rachel Leproult

CH- Ioannis Xenarios

CZ - Radislav SEDLÁČEK

DE - Karin LOHMANN

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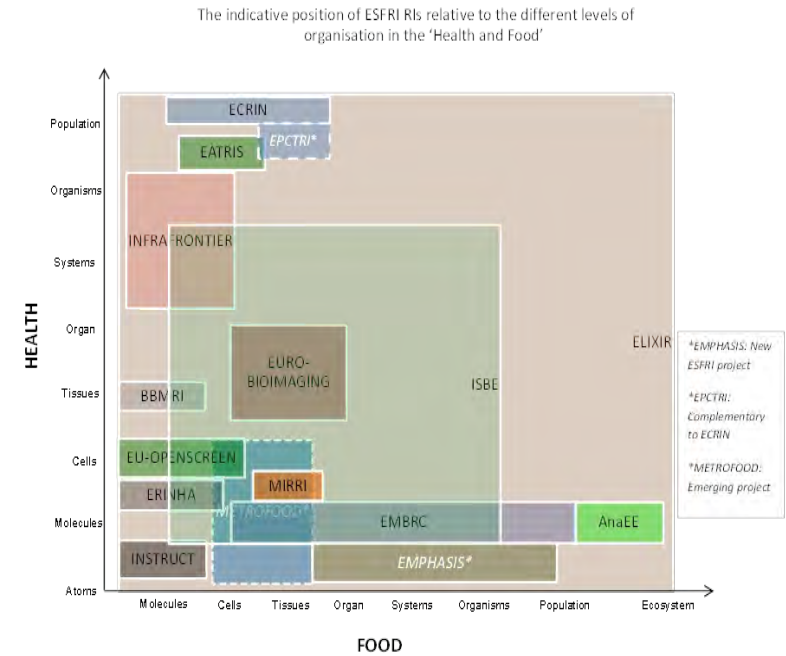
eIRG - Sergi GIRONA

EC - Margarida RIBEIRO



Landscape analysis

- essential component of the Roadmap
- current context of EU RI ecosystem
- a reference for monitoring and evaluation
- future trends

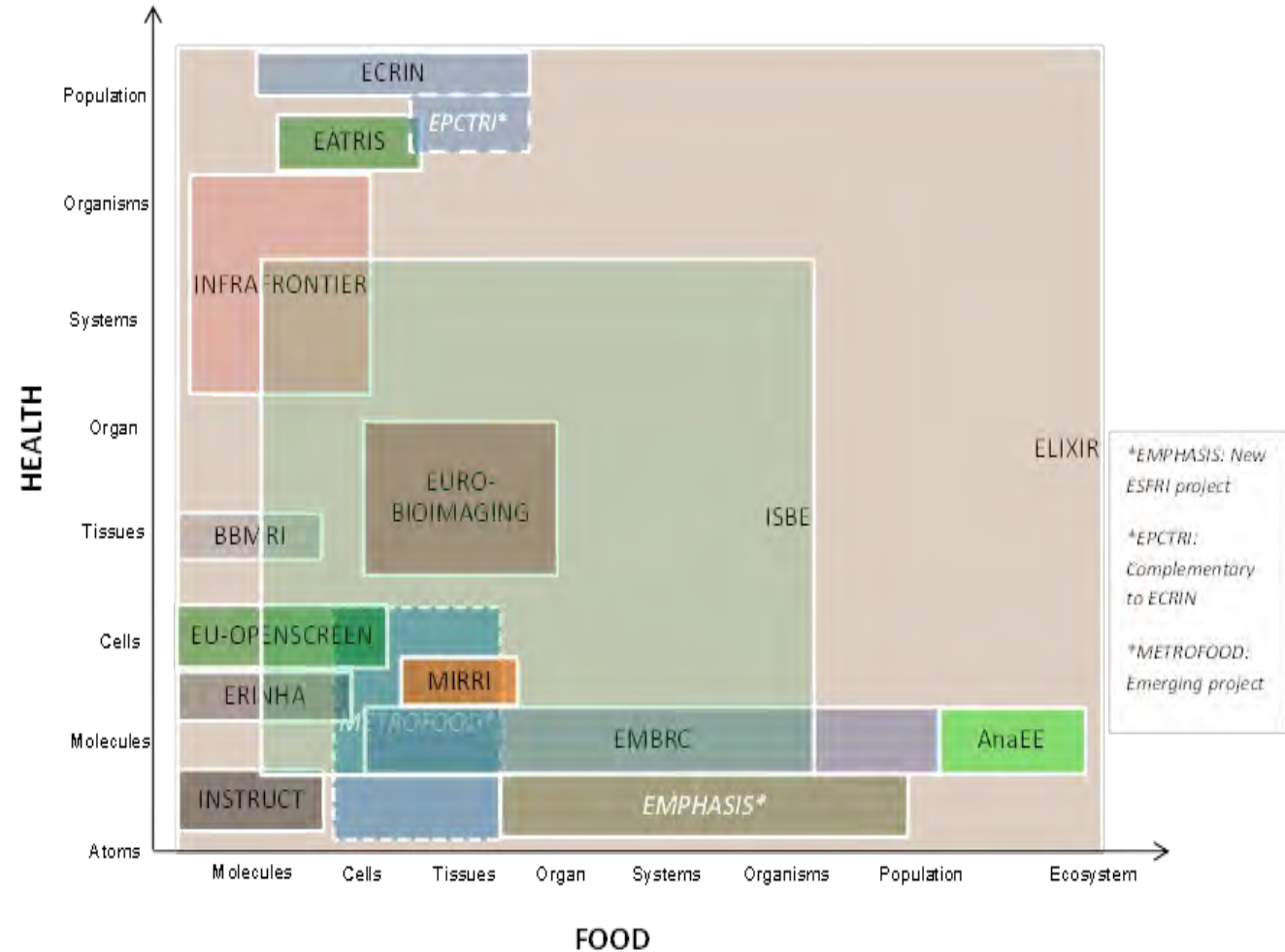


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Landmarks and Projects

Complementary
Emerging

The indicative position of ESFRI RIs relative to the different levels of organisation in the 'Health and Food'



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Landmarks and Projects

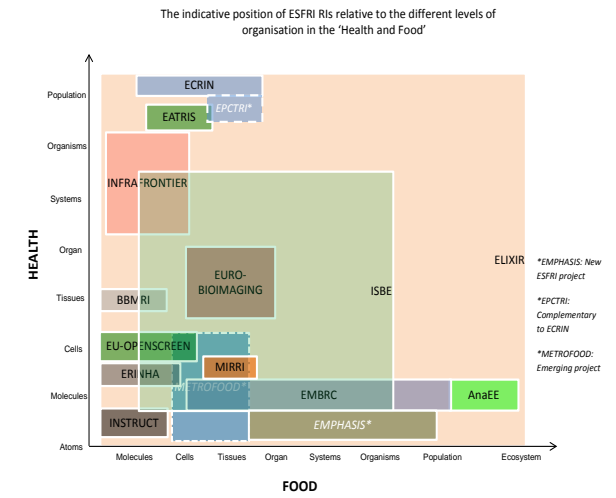
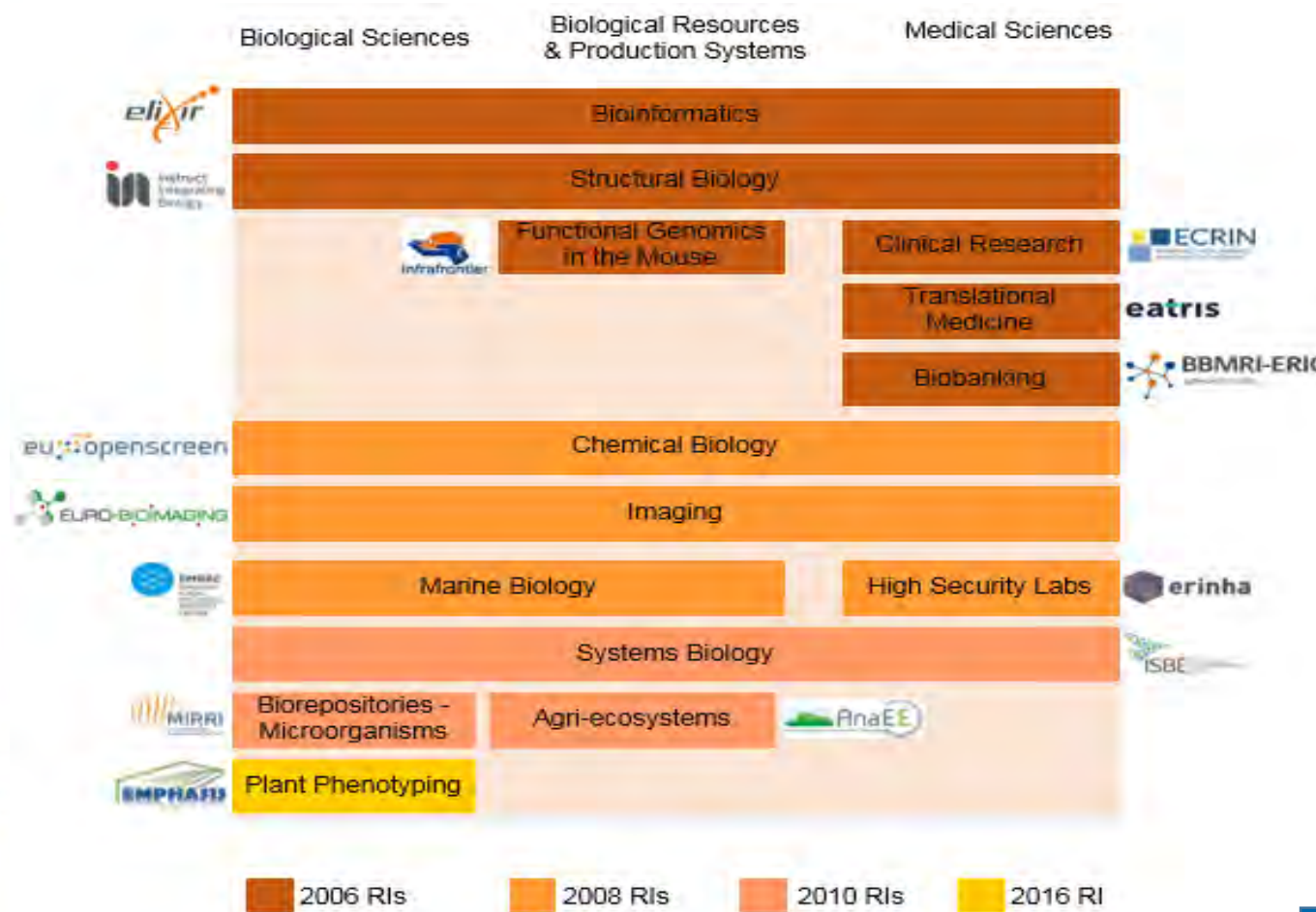


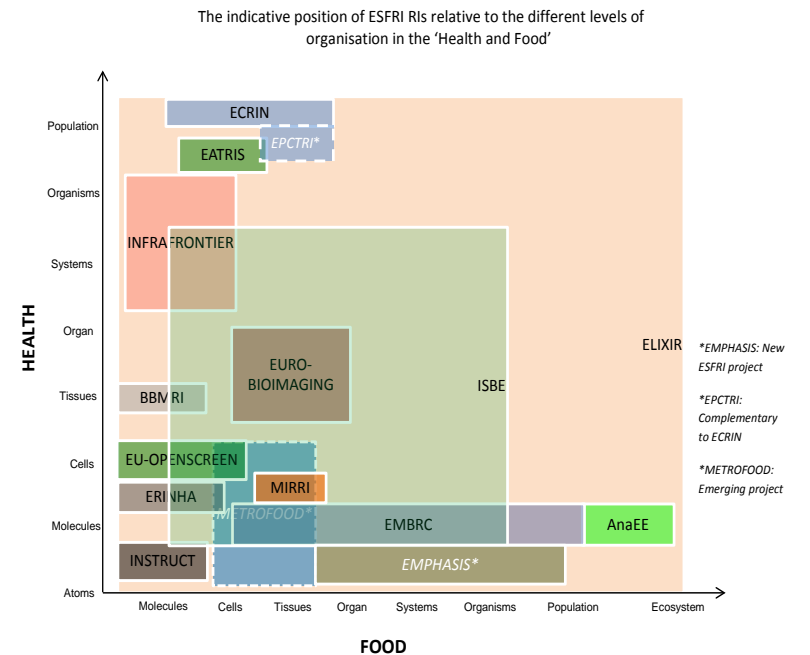
Figure 1: Health and Food Research Infrastructures (RIs) in ESFRI Roadmap 2016

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Landscape analysis

Brief

- Update the landscape analysis
- Provide an overview of RI ecosystems
- Identify gaps and promote inter- and cross-disciplinary aspects
- Explore complementarities and effectiveness at the boundaries
- Forward look and trends



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Towards a methodology for measuring social and economic impact of RIs

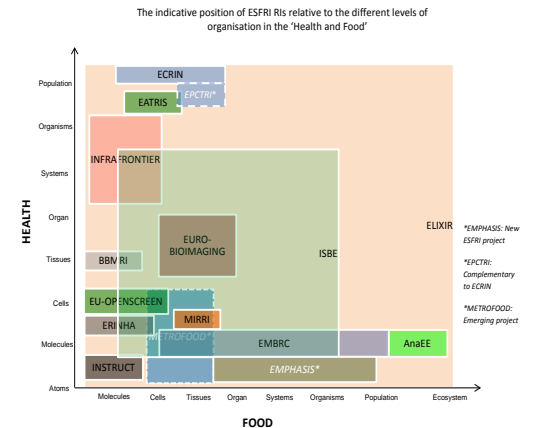
Assessing the scientific quality of research is common practice.
How to assess the impact of research on society is still largely unanswered.
A question for HF SWG is how best to measure and capture social impact in its RIs.

Why

- To demonstrate effective use of EC/ public resources
- Evidence for policy-making and to inform future decision making
- To provide evidence of societal and economic benefits
- To ensure sustainable funding for RIs

Needs to consider

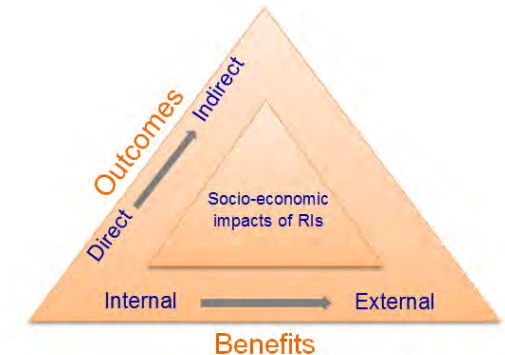
- Different stages of RI lifecycle (preparatory, operational and beyond)
- Different types of RI (single sited, distributed, virtual services etc.)
- Varying RI contexts (regional, national, pan-European, global)
- Varying users and services types



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Towards a methodology for measuring social and economic impact of RIs

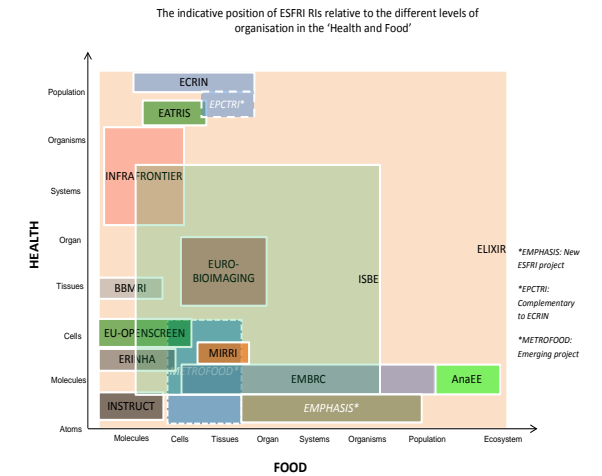
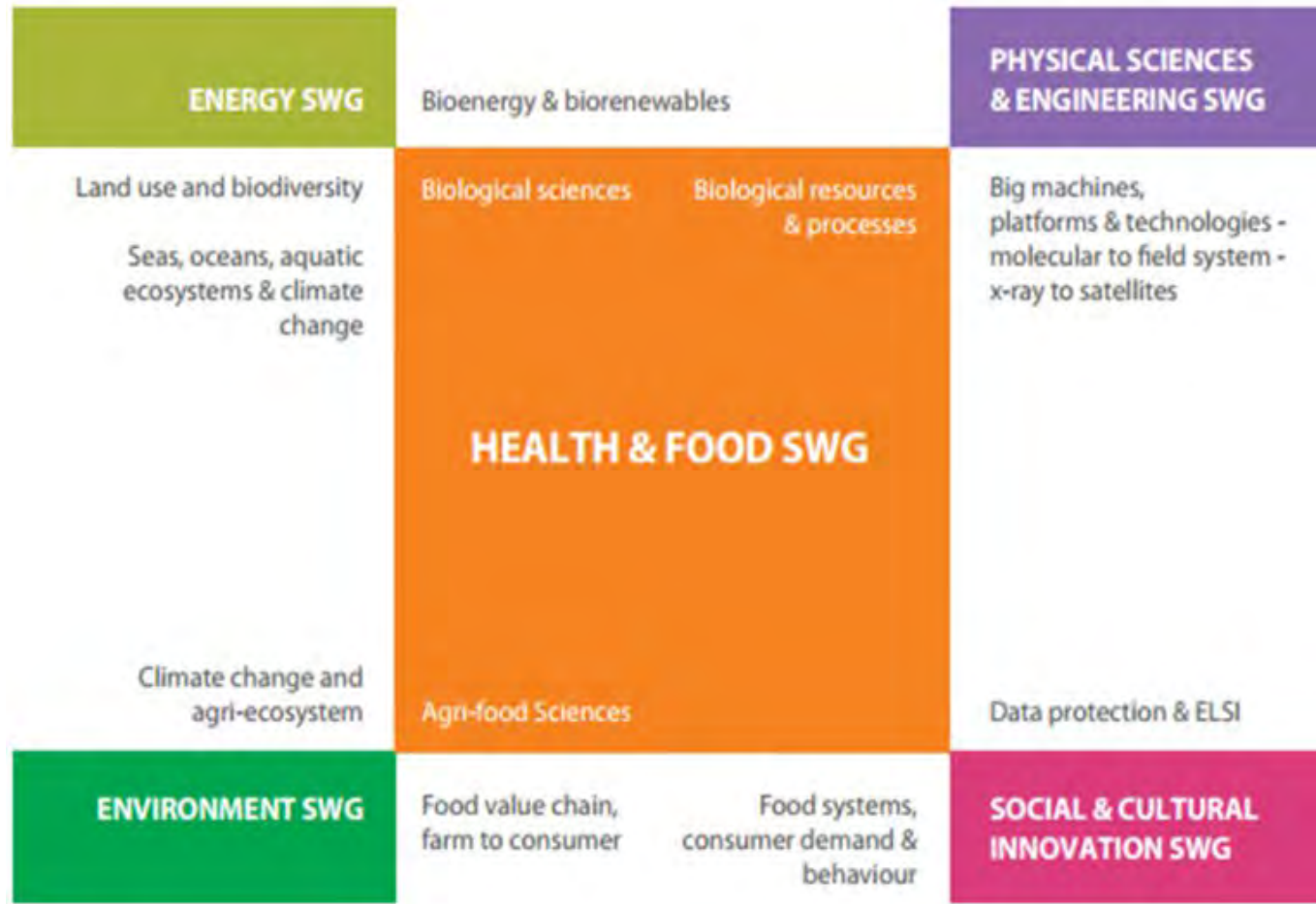
- **Direct benefits:** Positive impact directly made by RIs
 - Examples: directly created jobs; direct outputs from using RI service; reduced time for data acquisition etc.
- **Indirect benefits:** Positive impact resulting indirectly from the *RIs* (*negative impact avoided due to the existence and use of RIs*)
 - Examples: commercial supplier's turnover due to procurement of equipment/resources for RI, reduced duplication of effort as a result of using RI services etc.
- **Near term benefits:** Benefits received in the near term (up to 5 years)
 - Examples: publications, professionals trained etc.
- **Long term benefits:** Benefits received in the longer term (beyond 5 years)
 - Examples: new spin offs as a result of scientific output through the use of RI services,
- **Private benefits:** Benefits to individuals and stakeholders directly affiliated to the RI
 - Examples: financial benefit to RIs, publication in journals, theses etc.
- **Public benefits:** Benefits to individuals and stakeholders not directly affiliated to the RI
 - Examples: impact on policy decisions as a result of research outcomes etc.



Outcomes and benefits framework (adopted from Beagrie et al 2010, Charles Beagrie 2011)

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Working at the boundaries – new opportunities for research and impact



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Working at the boundaries – new opportunities for research and impact

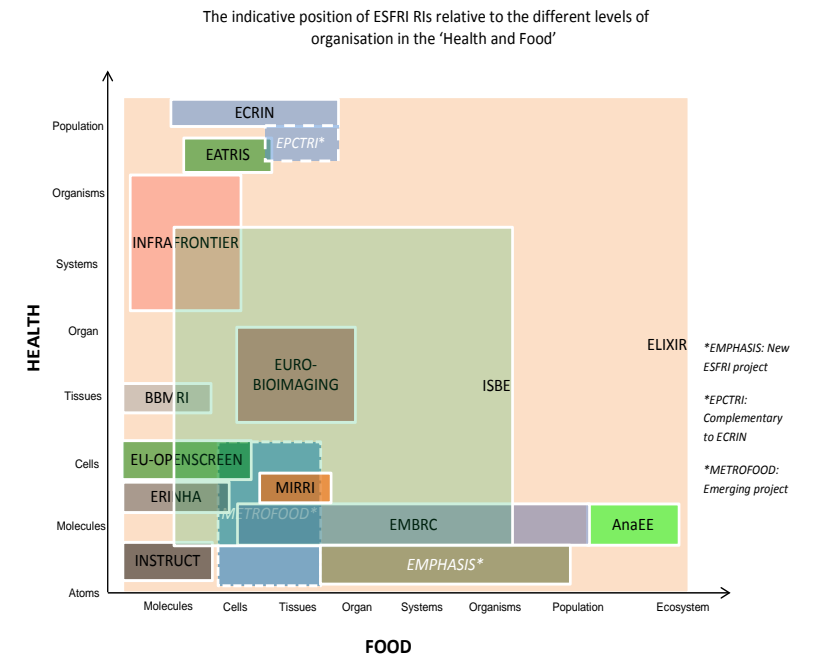


Figure 1: Some interconnections of Health and Food topic areas with areas in other ESFRI domains
 ELSI: Ethical, Legal, and Social Implications; HPC: High Performance Computing

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Working at the boundaries – new opportunities for research and impact

Health

Longitudinal studies and cohorts in the healthy population.

Anthropological studies and biobanking, omics, metabolomics.

Data protection and ELSI

Biomedical engineering, imaging, diagnostics and novel therapeutic approaches - ethical considerations

Precision medicine

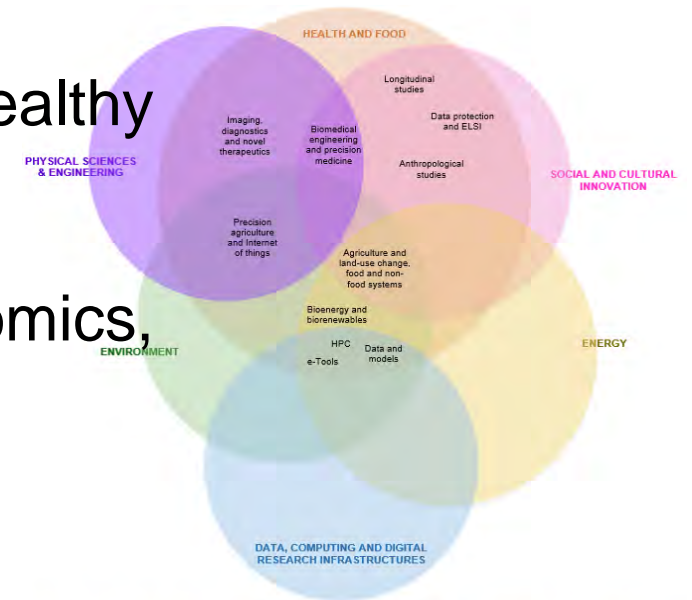


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Working at the boundaries – new opportunities for research and impact

Food

Precision agriculture and Internet of things, drones to satellites.

Agriculture and land-use change

Bioenergy and biorenewables

Food systems, link to nutrition and consumers

Health, environment and air pollution



Figure 1: Some interconnections of Health and Food topic areas with areas in other ESFRI domains
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The landscape keeps evolving – our challenges remain urgent

- continued need for a pan-EU approach;
- not all **gaps** are of the kind of ESFRI RIs - gaps can be identified at many levels;
- to complete the landscape, it will also be important to **connect** infrastructure efforts within Health and Food and with other domains – bilateral/multilateral;
- opportunities at the boundary areas for excellent research and impact.
- towards true **interdisciplinarity**.

Thanks

Impact Conference, Bologna, January 2018

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