



The evolving landscape of Research Infrastructures in Europe  
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# INTRODUCTION TO MAIN ISSUES CONCERNING PLANNING, EVALUATING AND SUSTAINING RIS

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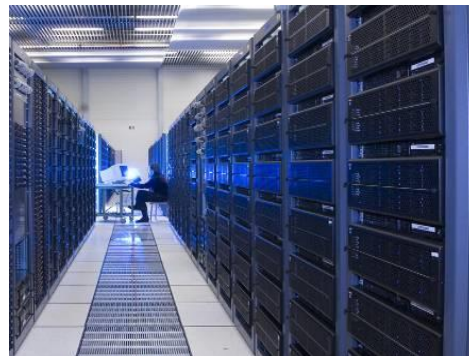
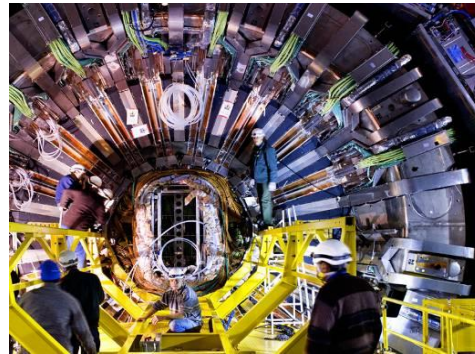


# Research Infrastructures

Research infrastructures are *facilities, resources and services* used by the research communities to conduct research and foster innovation.

## Major scientific equipments

## Knowledge-based resources



## e-infrastructures

# Why an EU approach for Research Infrastructures?

- To **address collectively** the complexity and cost of the design and development of new world class research infrastructures
- To **open access** to the research infrastructures existing in the individual Member State to all European researchers
- To **avoid duplication of efforts** and to coordinate and **rationalise the use** of these research infrastructures
- To trigger the **exchange of best practice**, develop **interoperability** of facilities and resources, develop the **training** of the next generation of researchers
- To connect national research communities and **increase the overall quality of the research and innovation**
- To help **pooling resources** so that the Union can also develop and operate research infrastructures **globally**

# Commitments within the Innovation Union

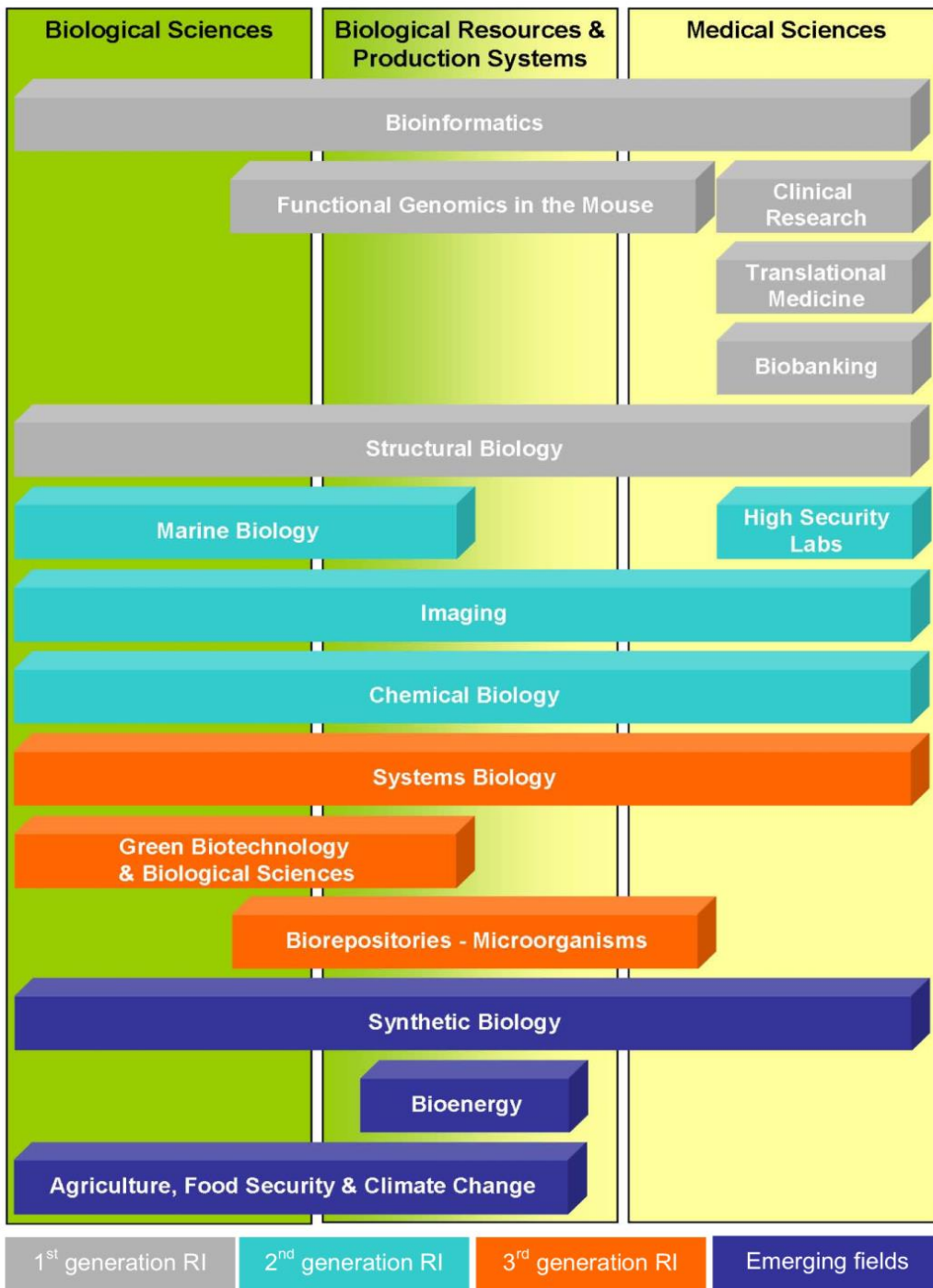
- *By 2015 (...) have completed or launched the construction of 60% of the priority European research infrastructures currently identified by ESFRI (...).*
- *... opening of Member State operated research infrastructures to the full European user community ...*
- *The European Union should step up its cooperation on the roll-out of the global research infrastructures ...*

# From FP7 to Horizon 2020

- More focused support to the implementation and operation of world-class infrastructures such as **ESFRI projects**
- Broader **access** to and deeper **integration** of European research infrastructures
- Foster the **innovation potential** of research infrastructures
- **Widen** the participation to pan-European research infrastructures
- More support to **e-infrastructures**
- Reinforce policy support to **European strategy on research infrastructures**
- Develop **international dimension** of the actions

# Planning

- Role of ESFRI
  - guidelines for RIs prioritization (indicators)
  - European roadmap (compare global level)
- Role of e-infrastructures ( 'data infrastructures' ): vehicle for diffuse innovation
- Special attention to RIs on social science and humanities , as they need the full european coverage being key to innovation

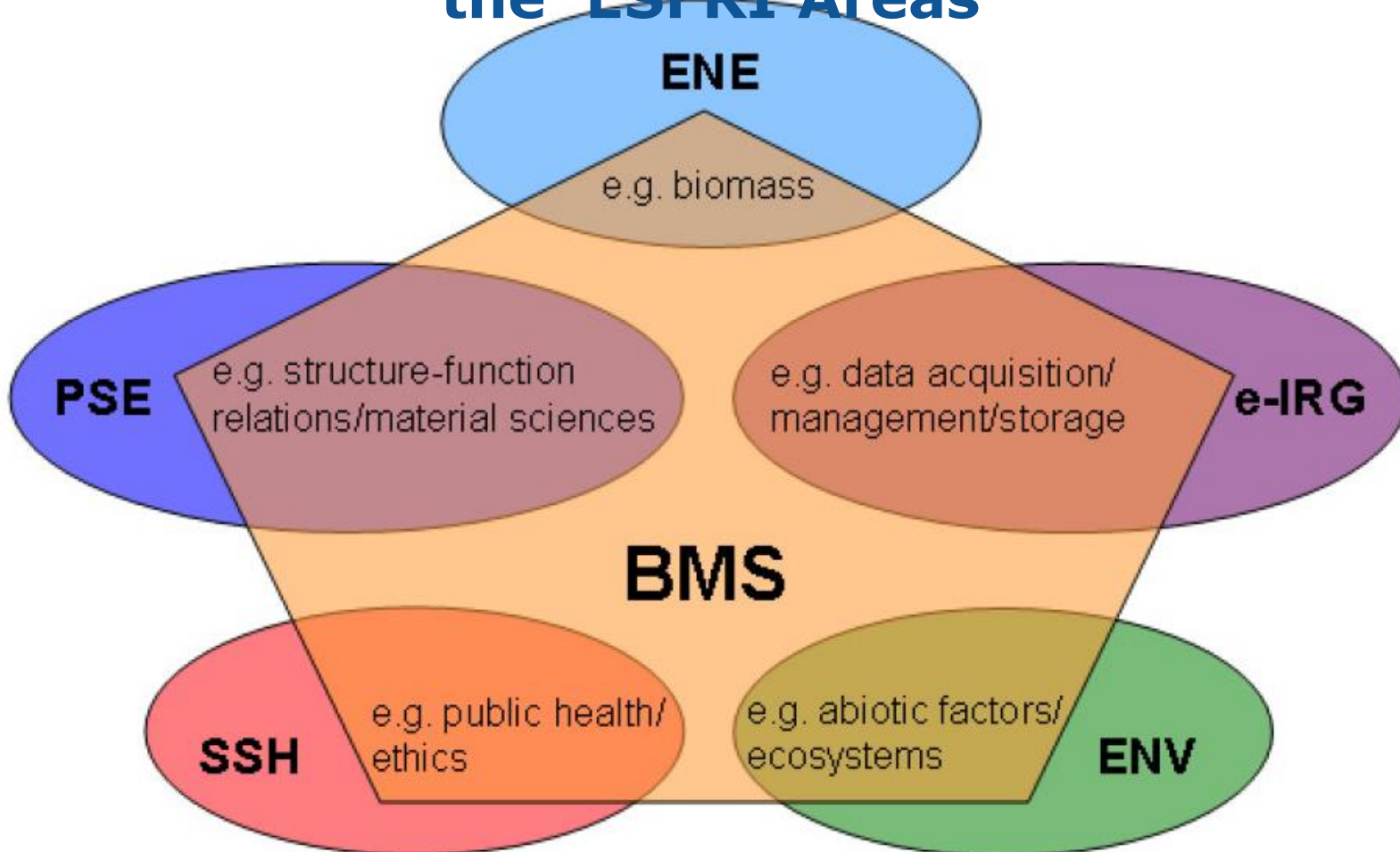


**Areas of research and activities underpinned and supported by BMS RIs**





## the ESFRI Areas

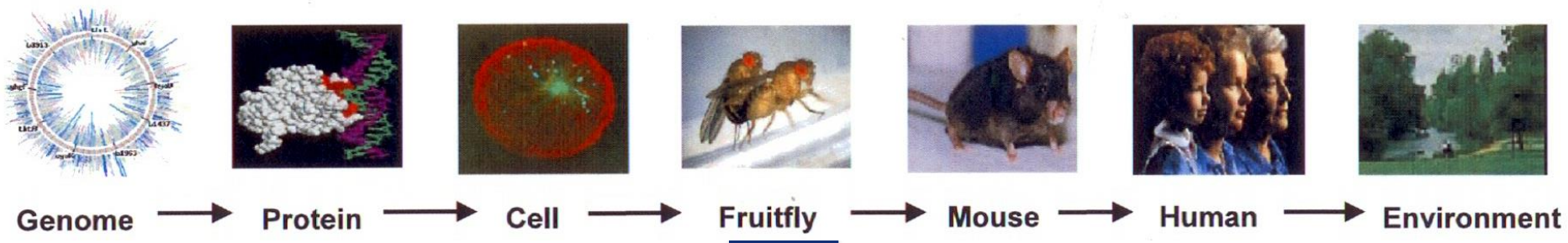
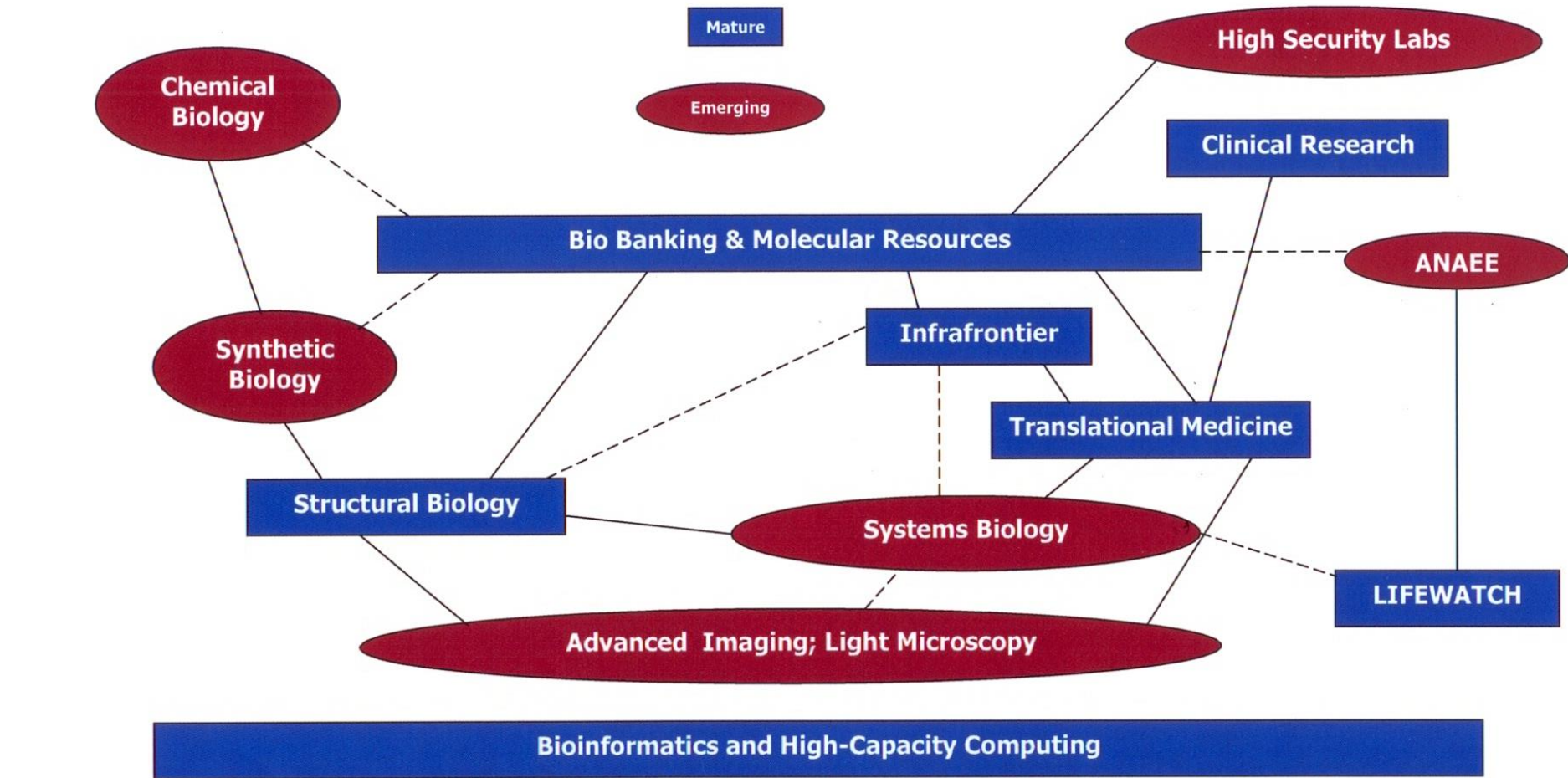


BMS = Biological and Medical Sciences  
e-IRG = e-Infrastructure Reflection Group  
PSE = Physical Sciences and Engineering

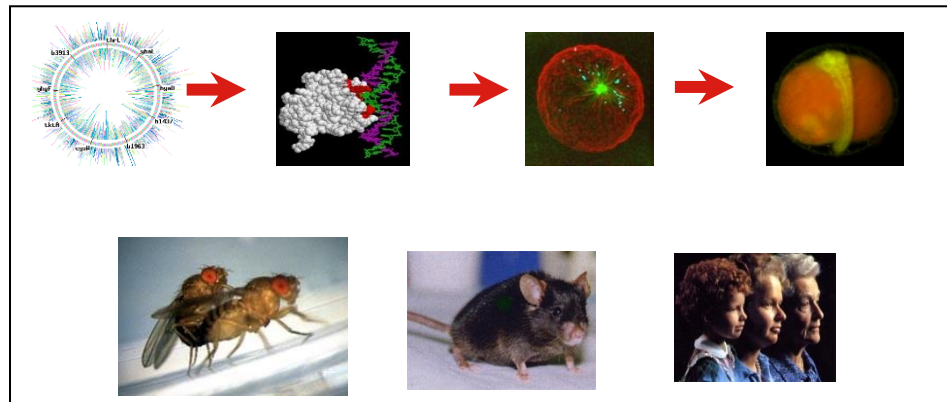
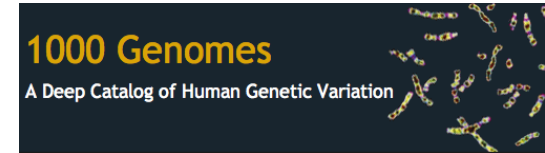
ENE = Energy  
ENV = Environmental Sciences  
SSH = Social Sciences and Humanities



# Diagrammatic representation of Research Infrastructures within the BMS Landscape



- New / High-Throughput Technologies
- Comprehensive data, also for individuals
- Emphasis on systems, not reductionism



- Growth of translational biology – molecular medicine, agriculture, food, environmental sciences...



# Evaluation

- SCOPE: The evaluation process at European level should aim at financing maybe a limited number of Research Infrastructure, but with a significant funding, although for a limited time
- What is the return?
  - on scientific, technologic and economic objectives
  - on society
- How is it managed?
  - Eg. governance mechanisms to assure “openness” and sharing best practice
- Is the access wide enough and inclusive?
- Having mapped the existing, are there un-exploited potential of European Ris

# Evaluation

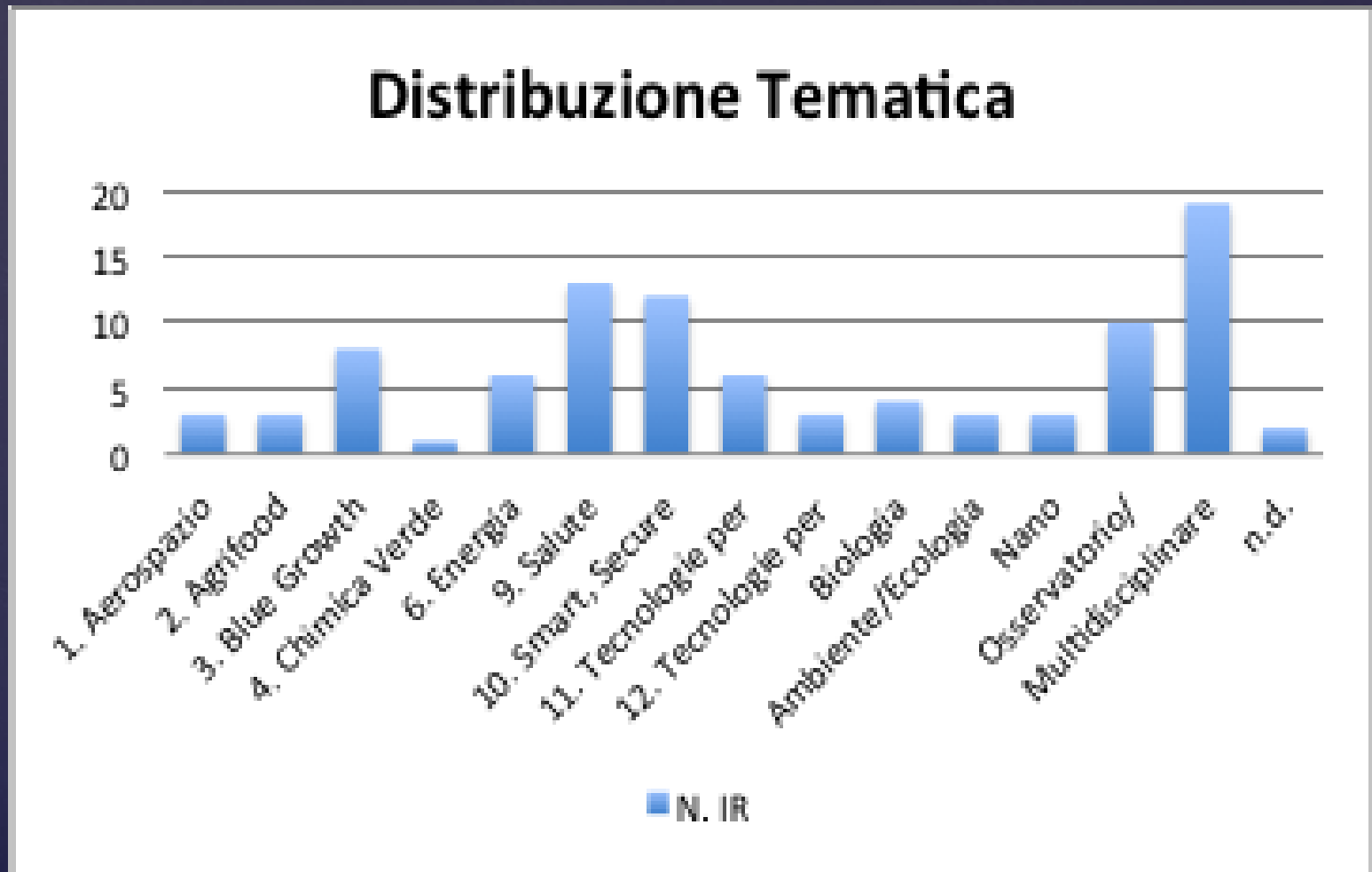
- Two steps? Two panels?
  - Scientific and future perspectives
  - Governance and sustainability?
- Criteria
  - Cost-efficacy
  - Level of access
  - Data collection and archives
  - Attractivity
  - Functioning vs construction costs
- Correlation with national evaluations
- Together with e-infrastructures

# Sustainability

- Success related to level and quality of “openness”
- Underline the potential of research infrastructures for innovation
- Facilitate Income from service activity and “industrial use”
- Find adequate and novel funding instruments (long-term commitments for both funds and staff )
- Coordination between Member States and the Commission to ensure synchronization and synergies between the various instruments, at regional (smart specialization strategies), national, and EU level

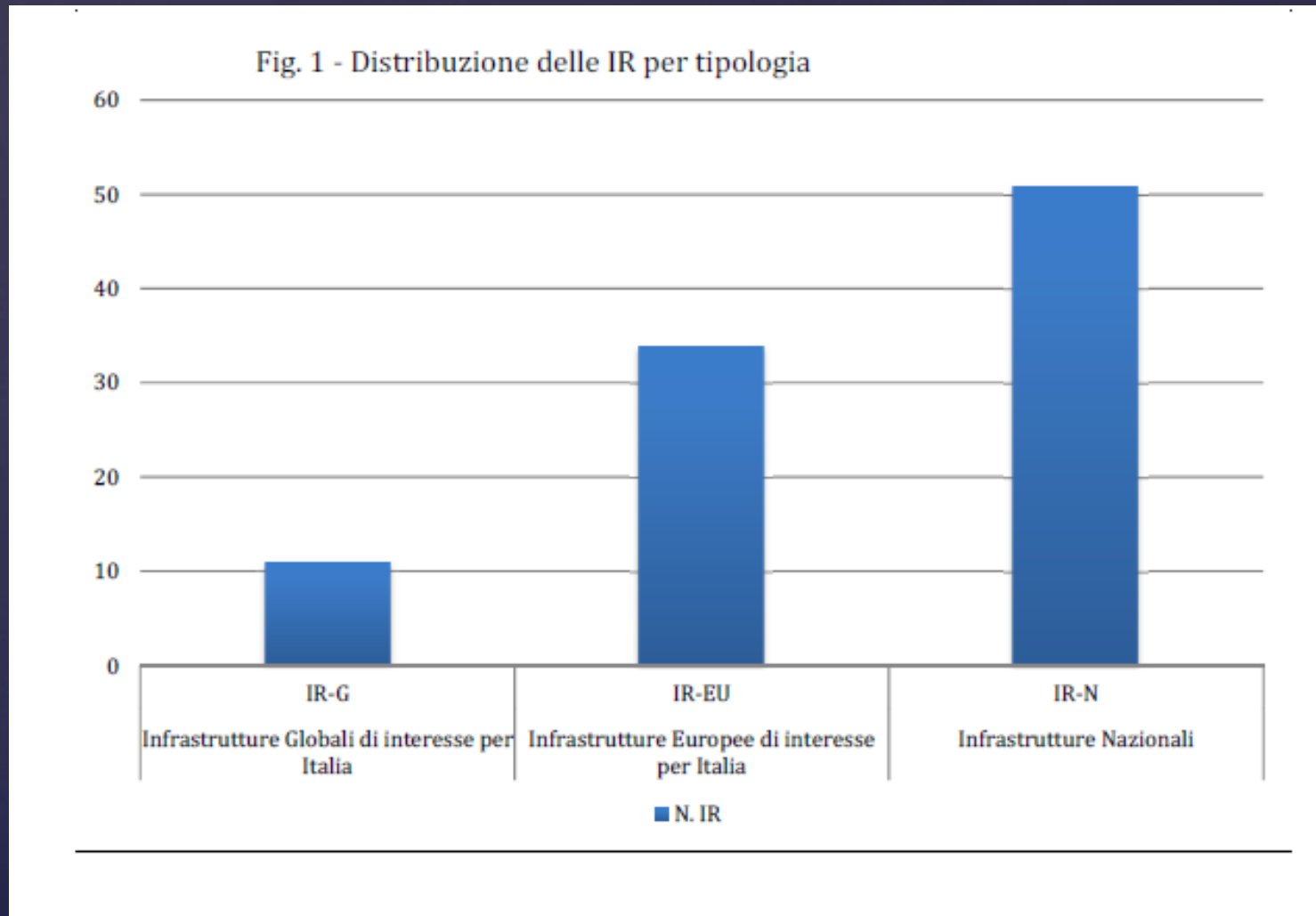


# Distribution of Ris in Italy on different thematic areas





# Distribution of Ris in Italy on different type



# Sustainability

- Coexistence of
  - Competition and collaboration
- Integration of
  - Research, Technology and Innovation
- Facilitate mobility