

Recommendation Framework for Science Foresight with an European Dimension

ESF-Workshop

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(Max Planck Society)

Horizon 2020 – big chances for science



2014 – 2020

€80 billion budget

1. To strengthen the EU's position in science with a dedicated budget of € 24 598 million
2. To strengthen industrial leadership in innovation € 17 938 million
3. To provide € 31 748 million to help address major concerns shared by all Europeans

Starting point

Europe has a general deficit in “science foresight” with a European dimension and an oversupply of technology foresight activities.

We see a *melange* of “voices” in the form of statements, reports, recommendations from

- national research institutions, ministries, agencies;
- scientific societies
- national academies
- European project boards
- etc.

1. Scientific Questions:

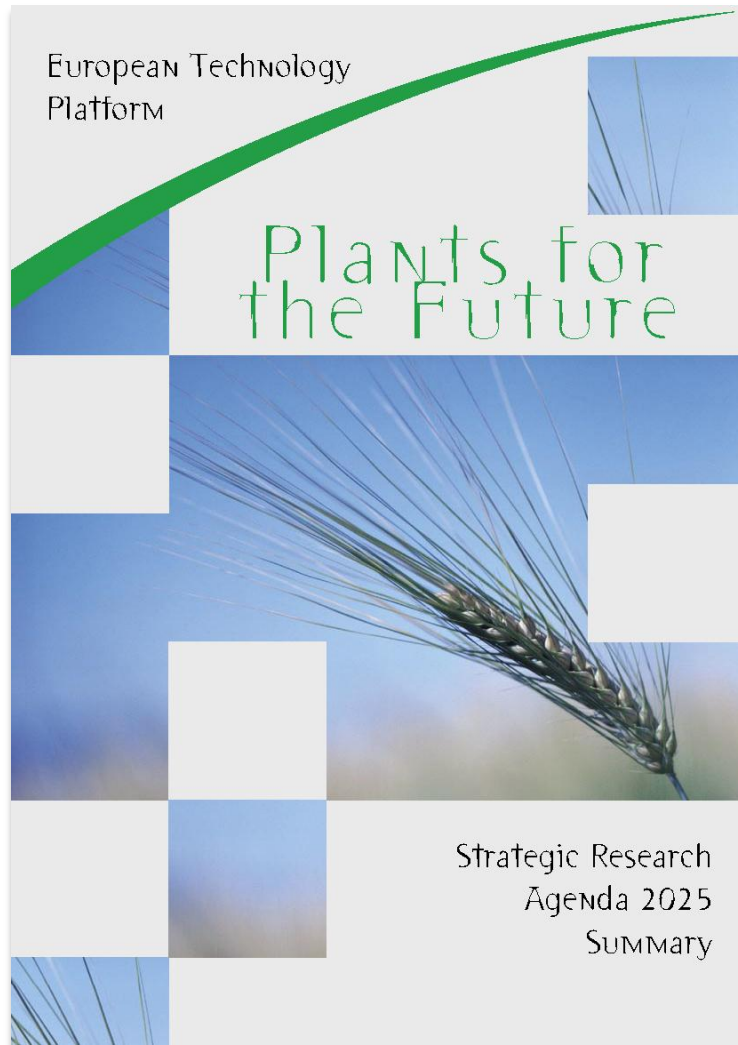
How to identify the themes with overarching scientific relevance for Europe?

(a) How to organize and (b) how to select?

A selection of possible categories:

- broad interdisciplinary or facility-based fields
- upcoming new topics or new developments at the interface between established fields
- infrastructure and facilities needs
- Governance issues (data, integrity, ethics)
- etc.

Broad interdisciplinary fields



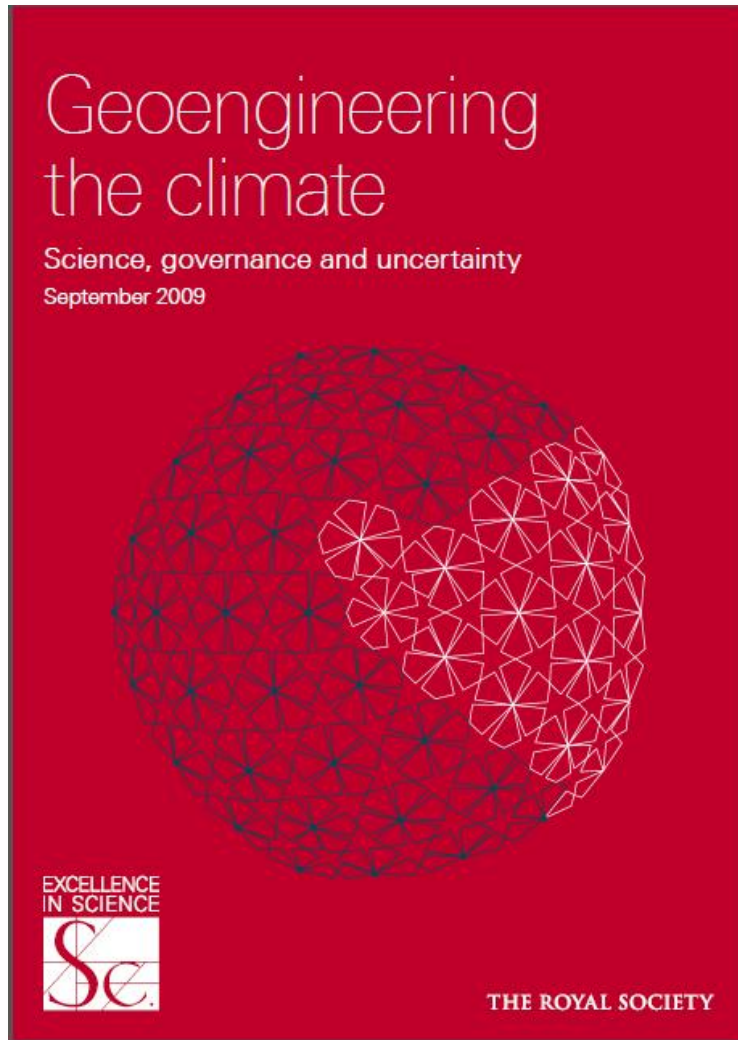
Plant research: From molecules to organisms

Facility/infrastructure-based fields

Astronomy and Astrophysics



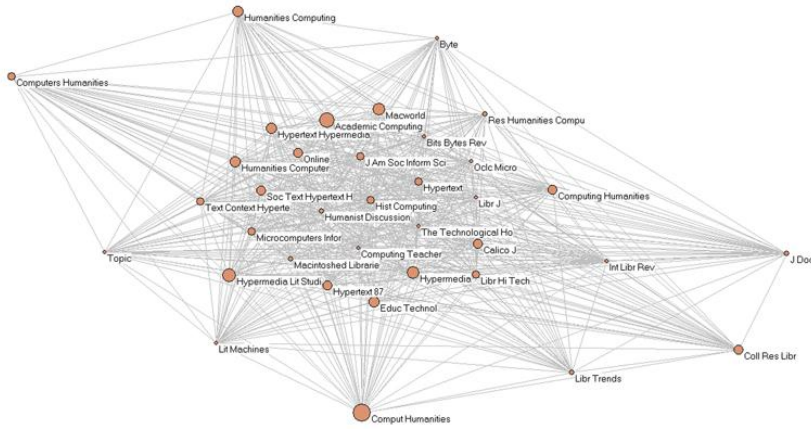
New developments at the interface between established fields



Geoengineering – global dimensions

Upcoming new topics

Digital Humanities

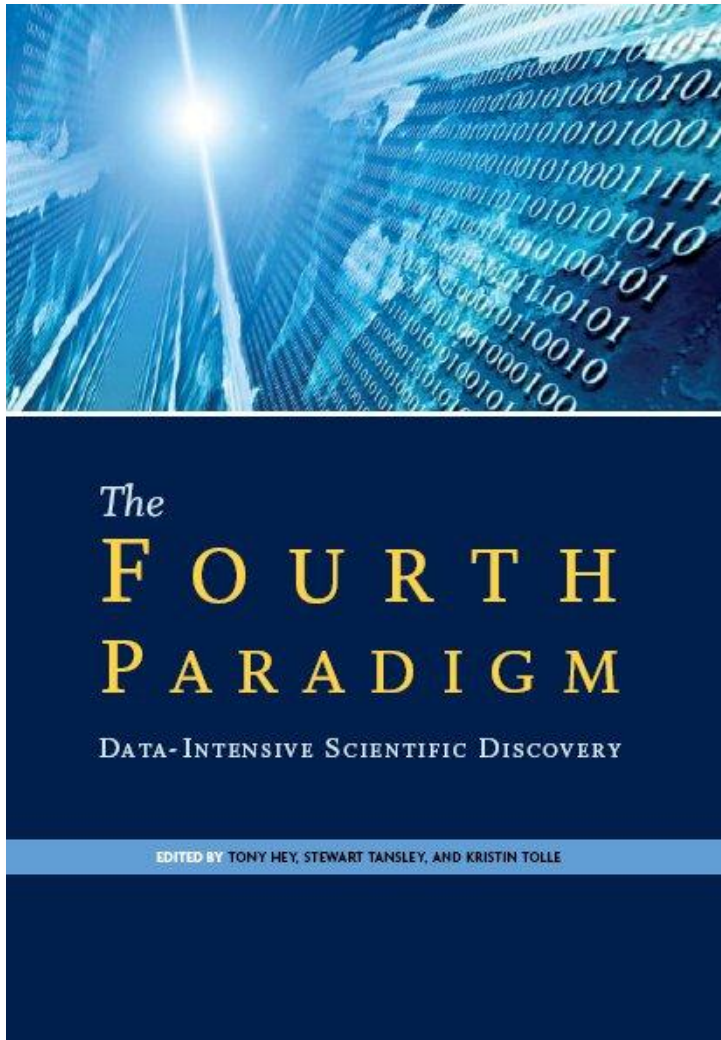


Infrastructure and facilities



Infrastructure and research facilities

Governance issues – Data usage



Data-intensive science

Career pathways and perspectives

**Mapping the Future:
Survey of Chemistry and Physics
Postdoctoral Researchers' Experiences
and Career Intentions**

Future pathways in career
development



Research integrity and ethics



MEMBER ORGANISATION FORUM

Fostering Research Integrity in Europe

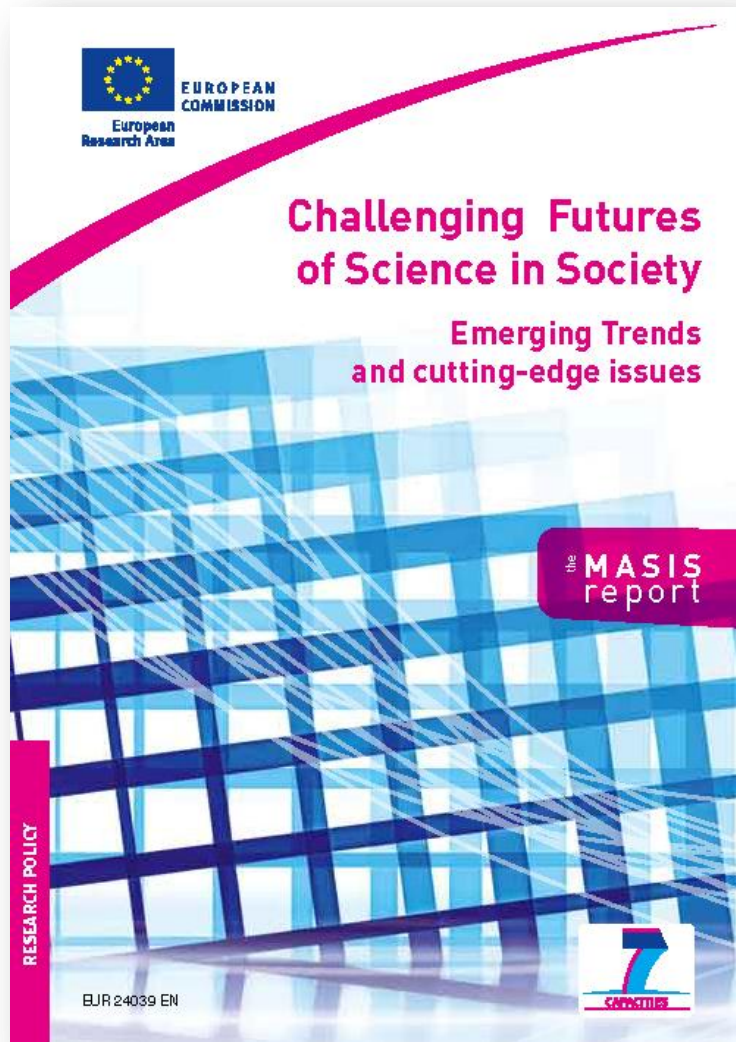
A report by the ESF Member Organisation Forum on Research Integrity

integrity | integrity
1 the quality of being honest
integrity.
2 the state of being whole ;
• the condition of being u
• integrity consistency or l
Middle Engl
compare wi



www.esf.org

Science communication and public engagement

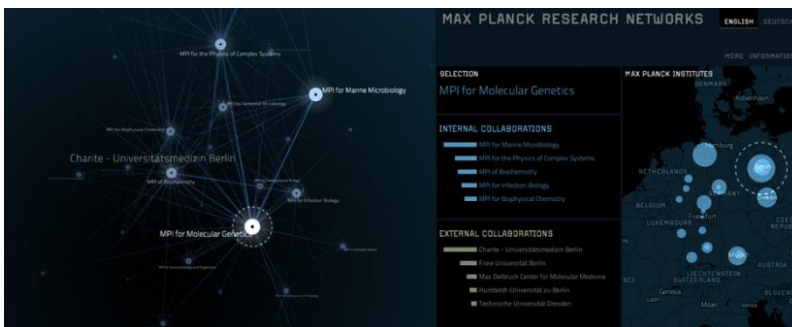


2. State of the art

How to develop tools

- to analyse the input and output data of science;
- identification of data sources;
- development of performance indicators and
- impact assessment,
- etc.

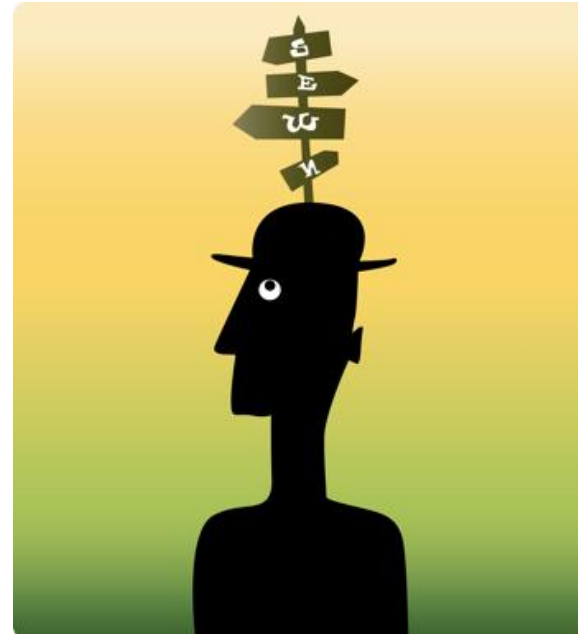
(use of Scopus, Web of Science and others)



3. Scientists



How to attract prestigious scientists in the respective research field to participate in science foresight exercises?



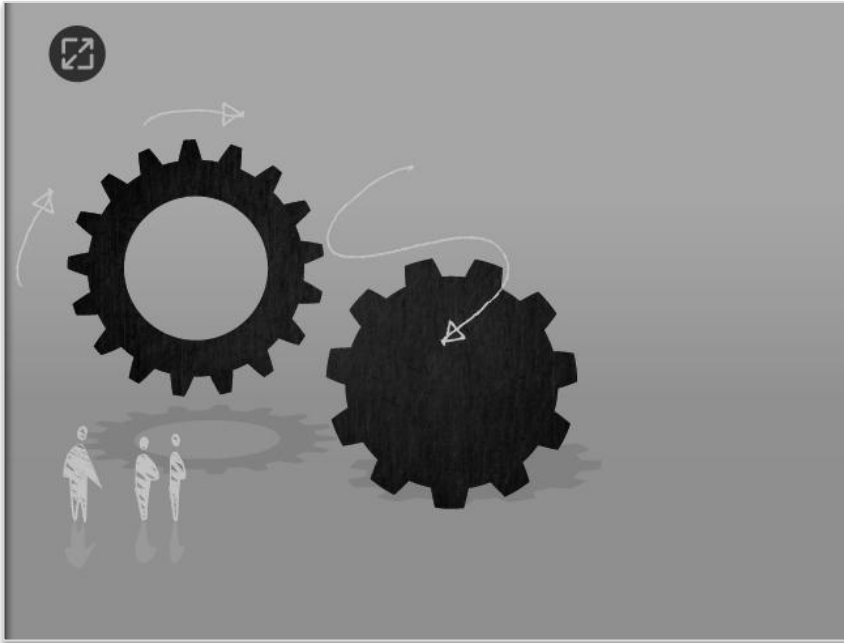
4. Implementation



How to identify requirements and ensure that the recommendations will meet the requirements and **expectations of the research councils?**

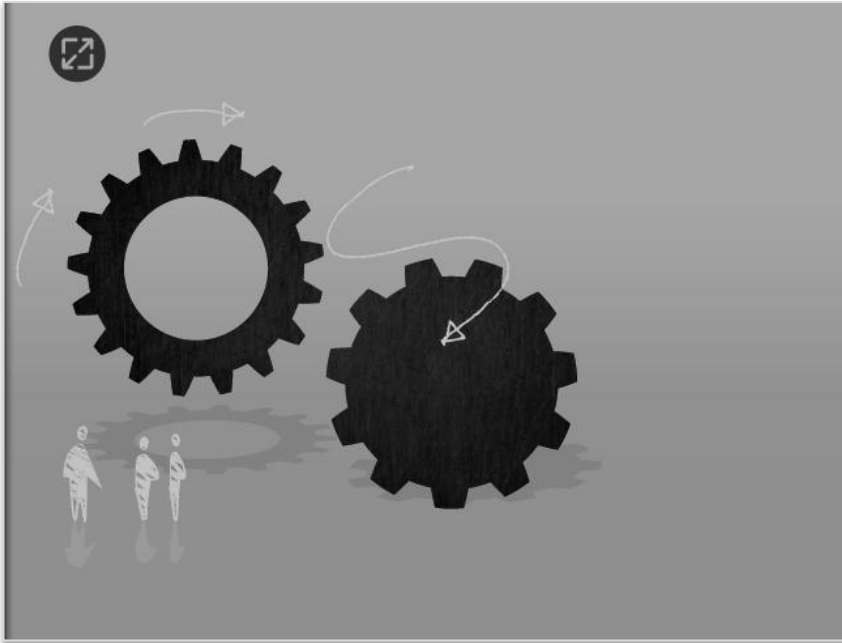
How to ensure that the recommendations will meet **acceptance within the respective scientific community?**

4.1 Levels of recommendation



- **Guidelines** for performing science foresight at a European level.
- **Budget recommendations** to undertake science foresight with a real European dimension.

4.2 Levels of recommendation



- A **list of elements** to be covered in a science foresight
 - state of the art analyses
 - stock taking and
 - coverage of the scientific questions
- Recommended **organisational processes** for a successful science foresight