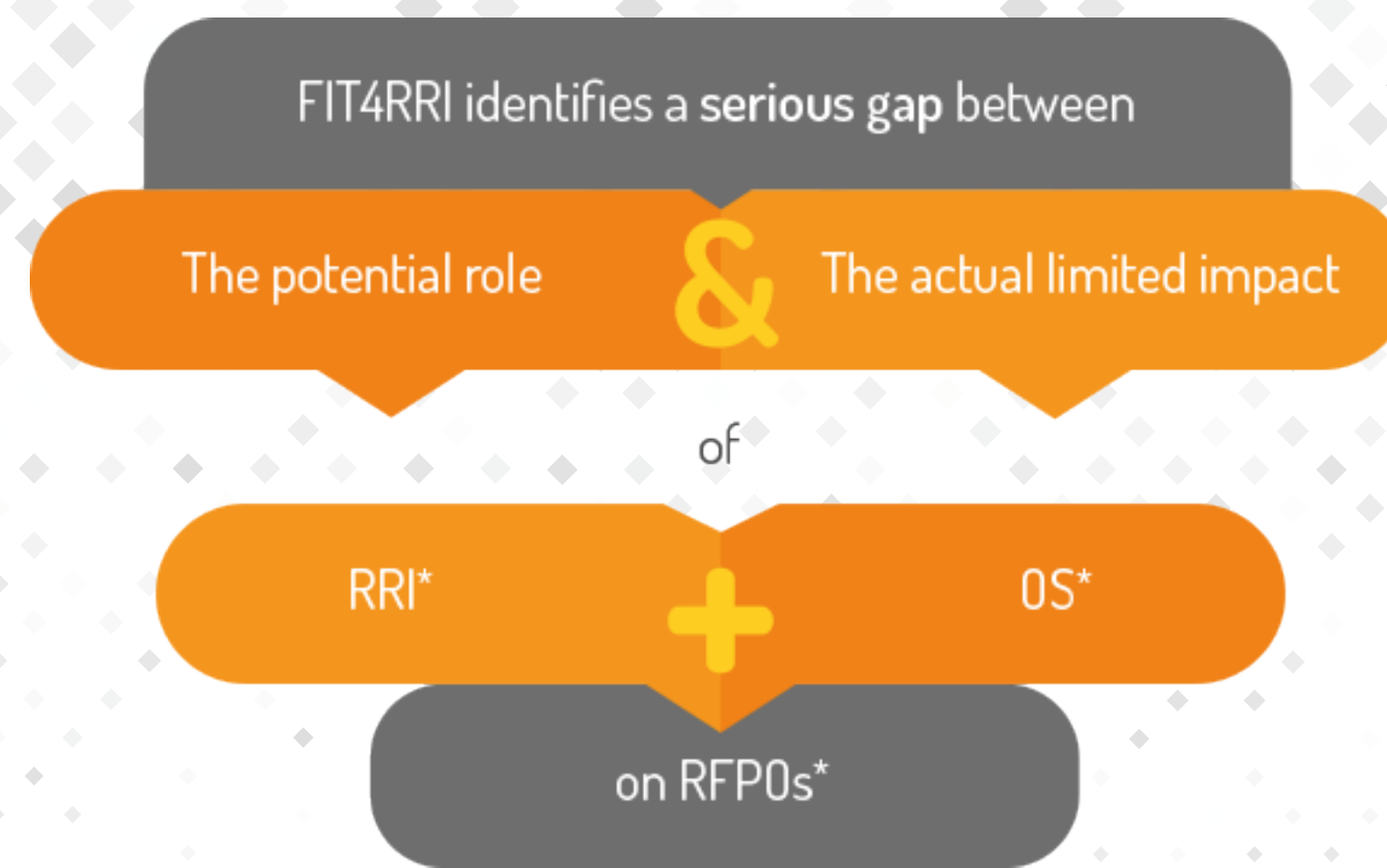




Fostering Improved Training Tools for Responsible Research & Innovation

Critical trends shaping science



Objectives

- 1 RRI & Open Science training
- 2 Advanced governance settings

FIT4RRI's extensive literature review identified trends, drivers, barriers, values and interests of the diffusion and embedment of RRI practices and approaches in RFP0s.

- Hyper-competition
- Acceleration of the research process
- Increasing pressure on assessment systems
- Task diversification
- Increasing openness to external actors



- Shrinking of research funds
- Increasing segmentation
- Increasing staffing
- Increasing mobility
- Critical dynamics affecting quality of research products
- Governance shift

Trends

Related to awareness

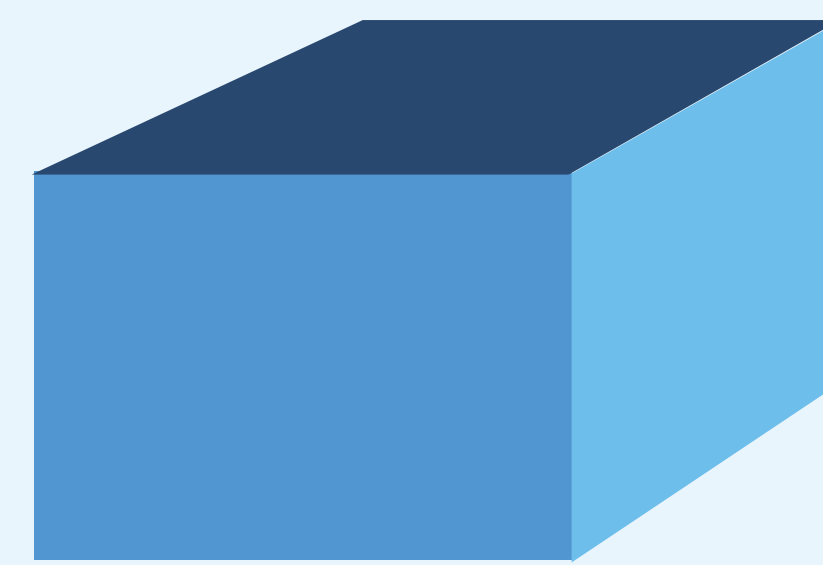
People are not aware of RRI.

Cultural attitudes of players

- Resistance to change
- RRI perceived as a risk or as limiting academic freedom
- Self-referentiality of RIs
- Priority given to short-term processes
- Specialisation or value systems marginalising societal issues
- University training approaches

Interaction between actors

- Stereotypes on other actors
- Lack of collaborative culture
- Diverging visions of societal benefits
- Conflicts between local, national & international cultures



Related to relevance

RRI is not perceived relevant for problems and is not capable to mobilise stakeholders.

Existing priority schemes

- RRI viewed as not relevant for excellence
- Pressure to publish
- Creating growth & making profit
- Open Access vs. IP/patenting
- Distrust in scientific institutions

Dynamics of RRI incentives

- Lack of material incentives & scientific recognition
- RRI as disincentive for scientific recognition
- Unclear benefits of RRI

Barriers

Related to sustainability

RRI is not perceived as sustainable in the long run.

- Bureaucratisation
- Lack of investments
- Resistance & institutional barriers
- Inadequate policy framework
- Difficulties in defining objectives, responsibilities & implementation procedures
- Lack of evidence and data about RRI

Related to effectiveness

RRI is not perceived as effective to solve problems.

Uncertainty

- About concept, promoters, process and impacts of RRI

Requirements & conditions

- Lack of resources, skill & training opportunities and communication channels to implement RRI

Specific technical issues intrinsically connected to implementation

- Management of public participation
- Turning RRI outputs into policies

Economic

Innovation policies increasingly embedding RRI in their mission, resulting in development of better products, services, employment and economic growth.

Political

Governmental and international funding programmes enhancing interaction among social actors and interdisciplinarity.

Technological

RRI providing new tools for co-creation, knowledge sharing between different stakeholders and involvement of end-users in innovation process.

Drivers

Environmental

Increasing investments on environmental issues also favouring RRI understood as fostering environmentally and socially sustainable research.

Social

Increasing demands for social inclusiveness and management of conflicting interests which RRI could address; increasing role of social sciences & university teaching in raising awareness on RRI.

Values & interests

Opportunity

RRI may help researchers and RIs to seize opportunities otherwise precluded to them in terms of funding, networks, careers and skills. >>>>

Management- of-the-future

RRI may help to anticipate R&I risks and benefits, so as to prevent the former and maximise the latter. >>>>

Quality

RRI may help researchers and RIs to improve the quality of R&I processes. >>>>

Democracy

RRI may help citizens and stakeholders to contribute to R&I (decision) making process. >>>>

Alignment

RRI may help to align science and innovation with societal needs, values, interests and expectations. >>>>

Self-protection

RRI may help researchers and RIs to protect themselves from risks deriving from changing science-society relations (decreasing public trust & authority of science, risks of conflicts & litigation). >>>>

Communication

RRI may help to communicate science to public and enhance communication among researchers. >>>>

The analysis of the literature allowed to identify seven interpretative frames about RRI and Open Science which are recurrently used to mobilised researchers and research organisations.



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