Demonstrating MSI achievements and impacts: Sharing new international developments and practices

Laura Hillier
Director, Performance, Evaluation and Analytics

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1. Two international efforts currently underway:
   a. Reference framework for assessing the socio-economic impact of research infrastructures
   b. RI-Paths project
2. Where do we go from here
3. Next steps
“Framework for assessing the socio-economic impact of research infrastructures” aims to provide funders, decision-makers and RI managers with a tool to evaluate the achievement of relevant socio-economic objectives and facilitate the communication and reporting to different stakeholders.”

- International Expert Group
- Literature review
- Survey (RI Managers, RI stakeholders)
- International ‘feedback’ workshop
- 4 test-case studies
While high quality scientific output remains the most important strategic goal of all RIs, their socio-economic impact is broader. It includes cultural, educational, economic and social impact as well as structuring effects of the RI. The Reference Framework addresses this broader scope.

- **25 Core Impact Indicators**
  - provide a general picture of the socio-economic impact at a given time
  - can be used by most RIs whatever their type and discipline

- **58 standard Impact Indicators**
  - all indicators identified as being in use, or as of interest, by more than one RI

- to help taking into account the specificities of each RI
### Core Impact Indicators by RI objective:

#### Support science
- Citations
- Publications in High Impact journals
- Scientific users
- Collaboration excellence (scientific)
- Projects granted
- Structuring effects of the RI

#### Support innovation
- Projects with industrial partners
- Patent with a commercial use
- Innovations co-developed with industry

#### Facilitate regional collaborations
- Full time equivalent
- Papers co-authored with national universities
- Regional firms using the RI
- Suppliers

#### Education outreach and knowledge transfer
- Students trained
- Public visibility
- Knowledge sharing and improvement
- Educational and outreach activities
Core Impact Indicators by RI objective (cont'd):

| Support to public policies                  | • Production of expert advices  |
|                                            | • Production of resources       |
| Data policy, production and use            | • Production of experimental, observational data |
|                                            | • Commercial data use and service |
|                                            | • Data sharing                  |
| Social Responsibility                      | • Gender balance                |
|                                            | • Corporate social responsibility|
|                                            | • Environmental impacts        |
RI-PATHS project aims to develop a model describing the socio-economic impact of research infrastructures (RIs)

- Take stock of existing approaches and map the current and future data gathering needs
- Develop a modular impact assessment (IA) model that represents all major impact pathways of RIs
- Operationalize the IA model by defining a set of reference indicators, providing guidance on monitoring and evaluation approaches and testing feasibility with pilot RIs.
RI-PATHS approach
Participatory process

Research infrastructure stakeholder community

Participatory co-design workshops

Testing, piloting, and validation

Initial impact assessment model

Concept note on modular impact assessment framework

Indicators, metrics and assessment methods

Draft impact assessment model

Final impact assessment model and methodological handbook

September 2018
January 2019
June 2019
September 2019
June 2020
Impacts should be considered from a process perspective, i.e., insistence on indicators and counting ‘numbers’ should be avoided.

Things to keep in mind:

- Impacts result from interactions and depend on ‘enabling conditions’
- Impacts may only materialize over a medium to long term
- Many of the impacts are intangible
- Impact must be assessed based on RI type and objective
- While some impacts are primarily economic and capable of being evaluated in monetary terms, many others – and especially those relating to environmental or social effects – may have to be evaluated qualitatively
Survey of RI

Scientific fields and geographic distribution

Scientific fields of activities

28 EU countries, 6 non-EU countries including Canada (5 RI), Pan European RI (10 RI)
Survey of RI

Types of RI

Respondents distribution according to international classification

Respondents distribution from RI-PATHS classification

- Other/not applicable
- Mobile
- Virtual
- Distributed
- Single-sited

Facilities providing Scientific Services 48%
Pure fundamental / basic research 19%
Use-inspired basic research 19%
Applied and solution-oriented research 14%

Respondents

distribution

from

RI-PATHS
classification
Survey of RI
Current and past experience with impact assessment (IA)

Aspects assessed in the frame of socio-economic impact assessment, from respondents’ experience

- Scientific output of your Research Infrastructure (e.g. publications, etc.)
- Education and skills improvement of young researchers spending a period at your Research Infrastructure
- Know-how and technological spill-over between your Research Infrastructure and firms (e.g. patents, prototypes, etc.)
- Outreach activities to general population (e.g. events, social media, etc.)
- Access to more and/or better data for scientific use
- Contribution of the Research Infrastructure to the regional economy (e.g. employment effects, increase of GDP, etc.)
- Economic impact on suppliers deriving from procurement contracts with your Research Infrastructure
- Other

Mostly internally with RIs resources. In few cases, externally contracted.
Key ingredients of the IA framework

• Broad validity, fitting with a wide range of evaluation questions and typologies of RIs. Balance between common rules and flexibility - modularity

• Useful references and a ‘menu of options’ for different assessment needs

• Support the lifecycle of a RI from construction through to operation phases

• Credible and usable tools and guidance to RI managers for their application
Any questions related to these European initiatives, or their link to our efforts?
Where to from here & how does this help us?

- We seem to be on the right track: the core MSI KPI are included in the OECD framework
- Continued participation in global initiatives and sharing of challenges and best practices
- Look for opportunities to improve effectiveness and efficiency
Discussion questions:

1. How does your facility interpret: ‘demonstrating’, ‘achievements’, ‘impacts’ (ranging from scientific to societal)?

2. What are the key challenges for your facility to demonstrate achievements and impacts to various stakeholders?

3. What are some good practices and available tools your facility uses to identify, collect & track, format, and communicate/distribute achievements and impacts?