



# Towards an assessment of the impact of ELIXIR

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[www.elixir-europe.org](http://www.elixir-europe.org)

# Who is interested in the performance and impact of research infrastructures?

Interested stakeholders	Main interest(s)
National authorities	Justify large financial investment to e.g. Ministry, Parliament; demonstrate, maintain or develop leadership and attractiveness at national/international levels; demonstrate scientific and economic returns on public investment
Regional/local authorities	Justify investment; increased attractiveness of the area (incl. attractiveness and quality of local higher education institutions); benefits to local businesses and the development of local/regional innovation ecosystems
Research infrastructure funders	Value for money; maximise return on investment. Top priority is usually the scientific and technological impact, but funders often require RIs to demonstrate additional benefits
Research infrastructure initiators	<i>Ex ante</i> (i.e. predicted) assessment to demonstrate potential impact for funders, national authorities and local authorities and help raise funding
Research infrastructure management	Monitor impact on a regular basis to improve performance, and gather information to make the case to funders for sustainability including upgrades
Research infrastructure hosts	Demonstrate the value of the research infrastructure in terms of scientific attractiveness and skills
Scientific community	Advocate for new or updated research infrastructure to foster new scientific knowledge
Civil society/general public	Value for money, new scientific knowledge, general benefit to society (e.g. health, energy, food security). On case by case basis, impact on the environment and/or on local populations



(adapted from  
OECD, 2019)



# Defining performance and impact (there is some overlap!)

- Performance

- Usually internally-relevant; about management, delivery
  - *Is funding spent according to plan?*
  - *Are course participants satisfied (as per end-of-course survey)?*

- Impact

- **Impact ≠ Dissemination**
  - ... though dissemination is essential to achieve impact!
  - i.e. *"Publication is not enough. To generate impact, you need to campaign"*
- **Impact = Change** (compared to 'business as usual', i.e. *what is the added-value?*)
  - Usually externally-relevant
  - "Making a difference", fostering/leading to change within and beyond the research infrastructure
    - *Is a workflow/process faster as a result of project work?*
    - *Have course participants usefully applied their new skills after the course?*

# How do I get started with performance and impact assessment?

- Do not reinvent the wheel!
  - It is an established field! (e.g. international development aid, macroeconomics, etc)
- Keep it simple to start with:
  - Reflect on the activities you are you doing, and what they aim to achieve
    - *a really simple framework: Activities => Outcomes => Impact*
  - Identify the needs of your funder(s)
    - *does your funder want you to demonstrate how the funding is used? (= performance)*
    - *or does your funder want you to show the effect the funding has had/will have? (= impact)*
    - *or both?*
  - Collate/prepare evidence of performance and/or impact, in formats fit for the audience
    - *impact statement, narratives, qualitative/quantitative indicators*
    - *numerous methods exist (e.g. surveys, usage statistics, cost-benefit analysis, etc)*
- If you have funding, consider employing an impact evaluator or economist
  - ... to take your evaluation to a whole new level!

# (Key) Performance Indicators (KPIs) - *some examples*

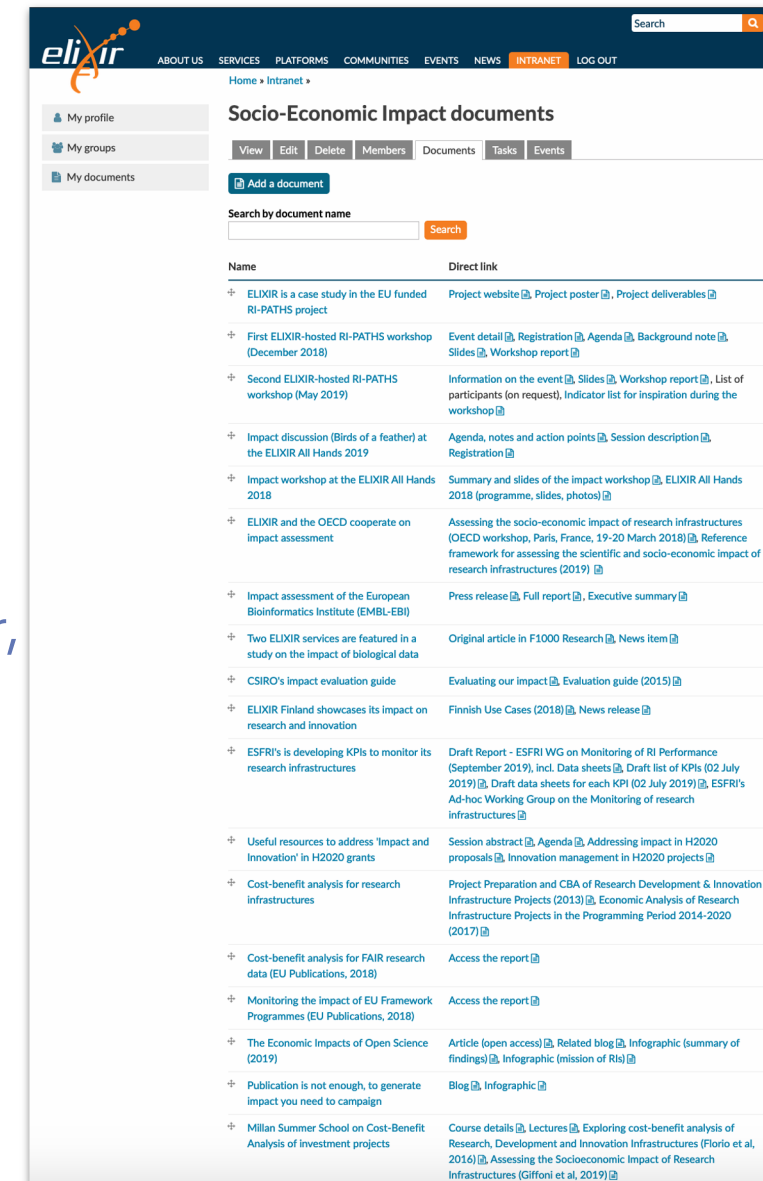
Performance area(s)	Title	Short description	Proxy for impact area (see later slide for detail)
Operations	Year-to-date Hub spending against annual forecast budget (contributions from Member countries, plus grant income)	Status and trends of ELIXIR's financial health	N/A
Operations	Various indicators related to the delivery of externally-funded projects (e.g. relating to milestones, deliverables, expenditure, gender balance, dissemination, etc)	Performance of delivery against project objectives	N/A
Operations	Extent of country Node involvement in ELIXIR Commissioned Services (i.e. grants awarded to the Nodes by the Hub)	Balanced Node involvement in ELIXIR-funded activities	Benefits of working together
User training	Number of Train-the-trainer events held	Knowledge-sharing	Skills development; benefit of working together
Service to users	Number of staff (Full Time Equivalent) at the ELIXIR Core Data Resources	Resource curation effort	N/A
Service to users	Number of unique "IP" addresses accessing ELIXIR Core Data Resources	Level of resource usage (proxy for user numbers)	ELIXIR resource uptake
Communications	Number of newsletter subscribers; proportion of newsletters opened by their recipients, and "click rate"	Usefulness and relevance of newsletters	N/A
Communications	Number of followers, shares and impressions on social media	Usefulness of information shared	Public awareness

# ELIXIR's impact areas ("areas of change") - *work in progress*

Direct impact	Who benefits directly?	Short description
Research efficiency	Resource users (academia, industry), service providers, funders	<i>Research is more productive and/or cheaper to undertake</i>
Bioinformatics resource uptake	Resource users (academia, industry)	<i>Bioinformatics resources are more widely known/appreciated and used by users</i>
Research infrastructure sustainability	Service providers	<i>The research infrastructure and its resources are more visible to and/or valued by funders</i>
Human capital (Skills development)	Resource users (academia, industry), service providers	<i>Resource users and service providers acquire and apply new skills</i>
Scientific knowledge (Research dissemination)	Research community at large	<i>Findings of service-related research are further shared with/appreciated by the wider service providing community</i>
Relationship capital (Benefits of working together)	Service providers, resource users (academia, industry)	<i>Research (public/private sectors) achieves more through coordinated work, scientific cooperation, and facilitated knowledge-sharing</i>
Policy influence	Service providers	<i>With support from public and intergovernmental organisations, there is greater uptake of best practices in service provision</i>
Public awareness	Service providers, funders	<i>The research infrastructure is more visible to, understood by, and/or valued by the wider public</i>

# Useful resources & upcoming events

- Enrol for the ELIXIR Impact mailing list: [https://lists.elixir-europe.org/mailman/listinfo/Impact\\_elixir-europe.org](https://lists.elixir-europe.org/mailman/listinfo/Impact_elixir-europe.org)
- Access useful materials on the ELIXIR Intranet group: <https://elixir-europe.org/intranet/impact>
- Impact & Innovation mini-symposium at the ELIXIR All Hands (09 June 2019):
  - Showcasing examples of where ELIXIR has had an impact, i.e. where ELIXIR enabled, supported, funded a change for the better, which might not have happened otherwise
- Co-located Impact & Industry workshops
  - 15-16 December 2020, Genome Campus, Hinxton, UK
- Questions? Guidance? Advice?
  - [corinne.martin@elixir-europe.org](mailto:corinne.martin@elixir-europe.org)



The screenshot shows the ELIXIR Intranet interface. The top navigation bar includes links for ABOUT US, SERVICES, PLATFORMS, COMMUNITIES, EVENTS, NEWS, INTRANET, and LOG OUT. The main heading is 'Socio-Economic Impact documents'. Below this, there are tabs for View, Edit, Delete, Members, Documents, Tasks, and Events. A search bar is present with the text 'Search by document name'. The main content area displays a table of documents with two columns: 'Name' and 'Direct link'. The table lists various documents related to ELIXIR's socio-economic impact, including project websites, workshop reports, impact assessments, and publications.

Name	Direct link
ELIXIR is a case study in the EU funded RI-PATHS project	Project website, Project poster, Project deliverables
First ELIXIR-hosted RI-PATHS workshop (December 2018)	Event detail, Registration, Agenda, Background note, Slides, Workshop report
Second ELIXIR-hosted RI-PATHS workshop (May 2019)	Information on the event, Slides, Workshop report, List of participants (on request), Indicator list for inspiration during the workshop
Impact discussion (Birds of a feather) at the ELIXIR All Hands 2019	Agenda, notes and action points, Session description, Registration
Impact workshop at the ELIXIR All Hands 2018	Summary and slides of the impact workshop, ELIXIR All Hands 2018 (programme, slides, photos)
ELIXIR and the OECD cooperate on impact assessment	Assessing the socio-economic impact of research infrastructures (OECD workshop, Paris, France, 19-20 March 2018), Reference framework for assessing the scientific and socio-economic impact of research infrastructures (2019)
Impact assessment of the European Bioinformatics Institute (EMBL-EBI)	Press release, Full report, Executive summary
Two ELIXIR services are featured in a study on the impact of biological data	Original article in F1000 Research, News item
CSIRO's impact evaluation guide	Evaluating our impact, Evaluation guide (2015)
ELIXIR Finland showcases its impact on research and innovation	Finnish Use Cases (2018), News release
ESFRI is developing KPIs to monitor its research infrastructures	Draft Report - ESFRI WG on Monitoring of RI Performance (September 2019), incl. Data sheets, Draft list of KPIs (02 July 2019), Draft data sheets for each KPI (02 July 2019), ESFRI's Ad-hoc Working Group on the Monitoring of research infrastructures
Useful resources to address 'Impact and Innovation' in H2020 grants	Session abstract, Agenda, Addressing impact in H2020 proposals, Innovation management in H2020 projects
Cost-benefit analysis for research infrastructures	Project Preparation and CBA of Research Development & Innovation Infrastructure Projects (2013), Economic Analysis of Research Infrastructure Projects in the Programming Period 2014-2020 (2017)
Cost-benefit analysis for FAIR research data (EU Publications, 2018)	Access the report
Monitoring the impact of EU Framework Programmes (EU Publications, 2018)	Access the report
The Economic Impacts of Open Science (2019)	Article (open access), Related blog, Infographic (summary of findings), Infographic (mission of RIs)
Publication is not enough, to generate impact you need to campaign	Blog, Infographic
Milan Summer School on Cost-Benefit Analysis of Investment projects	Course details, Lectures, Exploring cost-benefit analysis of Research, Development and Innovation Infrastructures (Florio et al, 2016), Assessing the Socioeconomic Impact of Research Infrastructures (Giffoni et al, 2019)



# Thank you!

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