Session II:
Discussion of results and implications

„Development of impact measures for e-infrastructures“: mutual learning with the RIFI project

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RIFI: An overview

RIFI	Research Infrastructures: Foresight and Impact
Goal	Develop a comprehensive methodological framework for assessing socio-economic impacts of future RI projects on hosting regions and communities
Result	FenRIAM tool (www.fenriam.eu)

Part 1: Context Analysis

Module A: RI Profile

A.1: General Description
A.2: Site Requirements

Module B: Regional Profile

B.1: Ecological and Geographic Environment
B.2: Political Environment
B.3: Legal Framework Conditions
B.4: Infrastructures and Services
B.5: Labour Market
B.6: Regional Economy
B.7: Research Environment
B.8: Networking and Clustering
B.9: Education
B.10: Social Environment

Module C: Business Model

C.1: Siting Conditions
C.2: Fit with Strategies / Agendas
C.3: Financial Management
C.4: Technical / Operational Management
C.5: Procurement / Supply Management
C.6: Management of External Relations
C.7: Human Resources Management

Module D: Risk Analysis

Module E: SWOT Analysis

Part 2: SE Impact Analysis

Module F: Economy & Innovation System

F.1: Macroeconomic Study
F.2: Microeconomic Study
F.3: Micro-Model on Experimental Shadow Value

Module G: Population and Labour Market

G.1: Labour Market
G.2: Long-term Impacts on the Labour Market
G.3: Long-term Impacts on the Population

Module H: Infrastructures and Services

Module I: Environment, Culture, and Quality of Life

I.1: Study by Expert Opinions and Reference Sample
I.2: Study by Foresight Techniques

Module J: Networking & Cohesion

J.1: Networking
J.2: Progress towards Political Agenda Goals
J.3: Social Cohesion

Module K: Foresight and Long-term Impacts

K.1: Expert Panel for G.2
K.2: Expert Panel for G.3
K.3: Expert Panel for I.2
K.4: Expert Panel for J.3

Part 3: Reporting Template

Limitation in comparability

Nature	FenRIAM is originally directed at assessing the impact of (single) sited RIs ≠ e-RIs. Relevant indicators for single sited RIs might not be adequate for e-RIs and vice-versa.
Time	FenRIAM does not have as primary goal to achieve systematic monitoring
Method	FenRIAM can compare the output selection with this e-infrastructure project. However, altough it offers several methods, it does not use a comparable monitoring tool (composite indicators)

Common Issues

Data	Lack of data Heterogeneity of sample: scientific fields covered, size, etc.
General.	Inference from a sample to the set of all RIs hardly feasible
Users	Hard to assess the scientific / technological use of research infrastructures

Comparison: Overlap

Questions	Meaningful result	Further use	FenRIAM use?	If ≠, why?	If Yes, detail
Accessibility					
Domain High Speed Networks					
How many users are linked through the project?	no		Yes	Nature dif	User Services
How many new users join the project per month (on average)?	no		No	Not relevant	
How many partners are associated with the project?	yes		Yes		Networking and Collaboration
How many other networks are connected with the network?	no		No	Not relevant	
How many countries (in and globally) does the project reach/link? (in and worldwide)	yes		Yes		User Services
Domain High Performance Computing (HPC)					
How many new projects utilise the HPC infrastructure per year?	no		Yes	Data availability	User Services
Can you identify different research projects which utilise the infrastructure?	no		Yes	Data availability	User Services
If yes, where do the projects stem from geographically: (EU, non EU, multiple answers possible)	yes		Yes		User Services
If yes, do these projects originate from: (Science, University, industry, government, multiple answers possible)	yes		Yes		User Services
If the infrastructure is used from scientific or university projects which disciplines are those users from: (natural sciences, engineering, social sciences, the arts, medicine/healthcare, others)	yes		Yes		User Services
Domain Global Virtual Research Communities (GVRC) / E-Science Environments					
How many proposals have applied for using the infrastructure since the start of funding?	no		Yes	Data availability	User Services
How many new proposals apply per year (on average)?	no		Yes	Data availability	User Services
What is the acceptance rate for proposals in %?	yes	yes	Yes		User Services

Outputs comparability

For about 50% questions no relevance for FenRIAM due to the difference in nature between RI versus e-RIs OR common data problems

However, relevant for FenRIAM tool in 50 cases

- User services FenRIAM category (30)
- Scientific outcomes (12)
- Networking, impact on industrial users and suppliers, and innovation (8)
- AND in 5 cases, questions might be considered for a future version of FenRIAM

How FenRIAM benefits from e-infrastructrure results

Indication on the feasibility of questions for e-infrastructure assessment...and relative overlap with FenRIAM

Confirms the possibility of a future common impact assessment tool for all RIs

Opens reflection on monitoring the evolution of those effects over time by concentrating on a few key indicators

Annex: „to be considered questions“

- Is it possible to get a science-degree (e. g. M. Sc., Ph. D.) based on work/research in the project?
- Could the users of the infrastructure address research questions which were not solvable without access to the infrastructure?
- If universities are involved, are project researches, results or developments used for teaching?
- How much has the number of proposal applications improved (on average) in % since project start per year?
- Does the project management set its own goal/benchmark for the increase of available performance (e. g. reduced downtimes, increased number of software packages up-scaled, increased capacity)?