

Foresight evaluation for EU-Russia S&T collaboration: lessons from EU policy support projects

Karel Haegeman (EC*)

Karel-herman.haegeman@ec.europa.eu

* The views expressed are purely those of the authors and may not in any circumstances be regarded as stating an official position of the European Commission.



30 January 2014

Moscow

Joint Research Centre (JRC)

The European Commission's in-house science service. Serving society, stimulating innovation, supporting legislation.

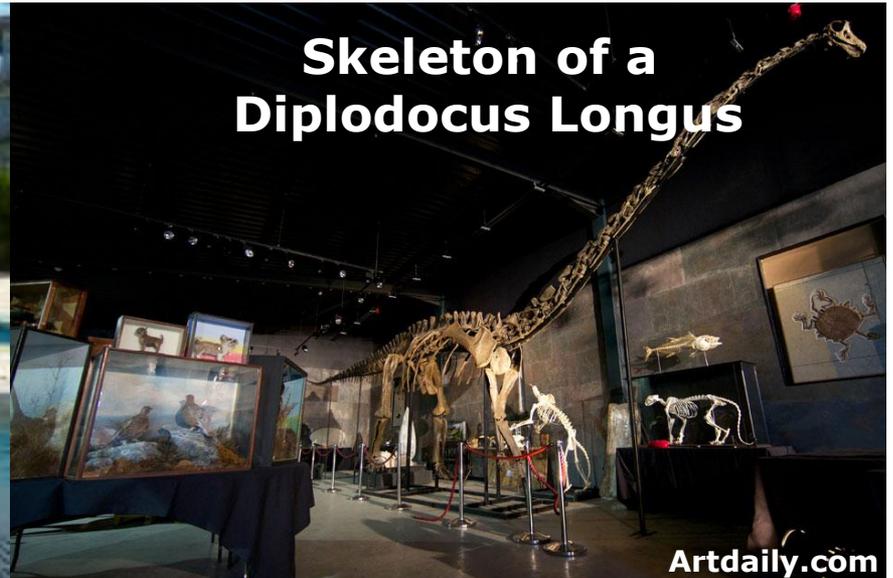
Institute for Prospective Technological Studies (IPTS) – Seville

Developing science-based responses to policy-challenges

<http://ipts.jrc.ec.europa.eu>

**Suppose you win €400.000 with
the lottery.**

How would you spend it?



2 million lifesaving measles-
containing vaccines

unicef 

(UNICEF & WHO, 2012)

500 students on Erasmus
for 3 months

erasmus 



Ways to spend €400.000

Conduct

a

foresight

exercise

Evaluating a foresight exercise for EU-Russia S&T collaboration

What should be the focus?



Typology for evaluating foresight
(Georghiou & Keenan, 2004)

Eight-step framework for evaluation
(For-Learn)

6 functions of foresight for policy-making
(For-Learn)

Foresight knowledge assessment
(Pereira et al, 2007)

4 directions for the future of foresight
(Havas et al, 2010)

Dynamic foresight evaluation
(Miles, 2012)

Foresight and the sociology of expectations
(Van Lente, 2012)

STI policy for the future
(Meissner et al, 2013)

An integrated approach for foresight evaluation
(Sokolova, 2013)

Scientific criteria for evaluation in foresight studies
(Peperhove & Luoto, 2013)

Scientific criteria for evaluation in foresight studies
(Peperhove & Luoto, 2013)



ERANET RUS

Some relevant questions...



When is a foresight exercise for EU-Russia collaboration successful?

If it changes
the way priorities are set?



When is a foresight exercise for EU-Russia collaboration successful?

If it contributes to addressing barriers to implementation of joint international research programmes?



If it contributes to completing the ERA?

When is a foresight exercise for EU-Russia collaboration successful?



When is a foresight exercise for EU-Russia collaboration successful?

If it contributes to addressing societal challenges in a better way?



If it contributes to
competitiveness and growth?

**When is a foresight exercise for EU-Russia
collaboration successful?**



When is a foresight exercise for EU-Russia collaboration successful?

If it contributes to 'good governance'?



When is a foresight exercise for EU-Russia collaboration successful?

If it supports community building between EU and Russia?



If it contributes to better R&I systems?

When is a foresight exercise for EU-Russia collaboration successful?



When is a foresight exercise for EU-Russia collaboration successful?

If it enhances our capacity to live
in an unpredictable world
(increasing resilience)



Changing the way priorities are set



E-mail coordination process

among the involved partners

Priority setting in the foresight study



Thematic versus structural priorities	Thematic and structural issues	Fixed ex-ante
User-based, institutional or political	Institutional and user-based at the start. Political validation through vision paper	Fixed ex-ante
Specialisation versus diversification	Aiming to strike a balance	
Narrow versus broad priorities	Narrow topics	Fixed ex-ante
Choice of the targeted stage of the STI process	Aiming to strike a balance	
Supply-led versus demand-led	Wider topic selection rather supply-led, specific topic selection more demand-led	
Short term versus long term	Structural priorities both long-term and short-term. Thematic priorities short-term and medium-term.	
Low versus high available budgets	Focus on low budgets	
Bottom-up versus top-down	Aiming to strike a balance	Fixed ex-ante
Focus on existing capacities versus building new ones	Thematic focus on existing capacities, structural foresight also on building new ones	
New themes versus validation of existing ones	Wider topics focus on existing ones, specific topics aim to complement existing programmes	
Variable geometry versus consensus	Mainly focus on consensus	
Technology-oriented versus challenge-oriented	Combination, both in wider priority areas and in specific ones	Fixed ex-ante



Addressing barriers to implementing joint international research programmes



Systemic coordination

- Mapping of the current national R&I systems and their differences, current thematic priorities, etc.
- Structural foresight including elements related to (current and future) national R&I systems and how this affects cooperation

Vertical coordination

- Mapping of ongoing and recent activities at different levels
- European nomenclature and challenges (Horizon 2020) setting of national R&I
- Involvement of EC

Horizontal coordination

- Structural foresight focusing on wider issues than
- Thematic foresight from interdisciplinary challenges
- Expertise in variety of scientific fields
- Thematic workshops coordinated by non-thematic experts

Temporal coordination

- Structural foresight focusing on medium & long term, thematic foresight focusing on short & medium term
- Structural foresight addresses the issue of sustainability of S&T cooperation over time
- Differences in policy cycles addressed

Multilateral coordination

- Bilingual delphi questionnaires and attention to semantic differences
- Multilateral and multilevel voting
- Action plan addresses actions from multilevel and multilateral actors

What we did

What we did not do

- Regional level systemic issues not integrated
- Some delphi respondents suggested to include more questions on the overall state and prospects of Russian education, science and innovation spheres

- Regional level was not integrated in the foresight

- Involvement of other ministries at national level not part of the foresight
- Delphi instrument was limited to research

- Mapping of duration of current national programmes in selected thematic areas could have been relevant

- More variable geometry thematic cooperation alternatives between different non-hierarchical governance levels could be interesting to explore (e.g. a MS, a region of an AC, and Russia)

Assessment of current approach

Assessment of alternative approach

(Based on Könnölä & Haegeman (2012) and Haegeman et al. (2013))



Contributing to completing the ERA

Contribution of a selection of ERA-NETs to different



dimensions of ERA



(Based on Haegeman et al. (2014))



Contributing to addressing societal challenges

Europe 2020 assigns two roles to R&D



Solving societal challenges

Increasing competitiveness

Reduce

But: high fragmentation in public R&D funding and in setting priorities for societal challenges => Coordination instruments aim to:



create critical mass

avoid duplication

identify gaps



**Joint
Programming
Initiatives**

Europe 2020

Horizon 2020

Where are priorities being set towards societal challenges in European public R&D funding?

**Knowledge and
Innovation
Communities**

**Regional
strategies**

**European
Innovation
Partnerships**

**National
strategies**

**Universities and
PRO's**



Addressing societal challenges

Research priorities targeting societal challenges at different levels

European level				National level		Regional level	Resulting priority societal challenges for the EU
Europe 2020 (3)	Horizon 2020 (7)	KICs (3+6)	EIPs (3+2)	JPIs (10)	National strategies	Regional strategies	
Inclusive growth	Health, demographic change and wellbeing	Innovation for healthy living and active ageing	Active & healthy ageing	Neurodegenerative Diseases A Healthy Diet for a Healthy Life More Years, Better Lives Antimicrobial Resistance			Health & well-being
Sustainable growth	Food security, sustainable agriculture, marine and maritime research, and the bio-economy	Food4Future	Agricultural sustainability & productivity Water	Agriculture, Food Security & CC Water Challenges for a Changing World Healthy and Productive Seas and Oceans			Food, agriculture, water
Sustainable growth	Secure, clean and efficient energy	Inno-Energy					Energy
Sustainable growth	Smart, green and integrated transport	Urban Mobility	Smart cities & communities	Urban Europe			Transport & cities
Sustainable growth	Climate action, resource efficiency and raw materials	Climate		Connecting Climate Knowledge for Europe			Climate change
Inclusive growth	Inclusive, innovative and reflexive societies			Cultural Heritage and Global Change			Inclusiveness & learning from history
	Secure societies	Secure societies					Security
		Raw materials	Raw Materials				Raw materials
Smart growth		Added Value Manufacturing					Manufacturing

Majority of public R&D funding

Table 2. Existing Initiatives in the EU related to the topics identified for EU MS/AC – Russia S&T cooperation in the ERA.Net RUS Plus

Health	Nano	SSH	Environment and climate change
<ul style="list-style-type: none"> • AAL Art. 185 • EDCTP Art. 185 • EMRP Art. 185 • NEURON II ERA-NET • JPI Neurodegenerative diseases • EUROCOURSE • INFECT-ERA • TRANSCAN • EURANID 	<ul style="list-style-type: none"> • EMRP Art. 185 • M-era.NET 	<ul style="list-style-type: none"> • JPI Urban Europe • EIP Smart Cities • Ruragri • Cultural Heritage ERANET+ • JPI Cultural Heritage 	<ul style="list-style-type: none"> • BONUS Art. 185 • EMRP Art. 185 • BIODIVERSA2 • CIRCLE-2 • ERA-ARD-II • CRUE ERA-NET • JPI Climate Clic 'eu • CRIE ERA-NET • JPI Cultural Heritage • JPI healthy and productive seas and ocnas • JPI Water challenges • Acqueau • Seas-ERA • EIP Water Efficient Europe • ERA-MIN • JPI Urban Europe • EIP Smart Cities • MARTEC II • ERA-NET TRANSPORT II • ERA-NET AirTn

Contribution to competitiveness and growth?

Contribution of a selection of ERA-NETs to non-research related policy areas with relevance for ERA



Support to SME's

- Encourage participation of SMEs in joint calls (simple rules, 1-step selection process, training/ guidance/ templates for project development & administration)
- Support networking in small, multidisciplinary teams
- Early inclusion of SMEs in the preparation of research proposals
- Consortia obliged to include both academic and industry
- Cooperate with innovation networks (E.g. Inno-Net) that launch joint initiatives for SMEs

Transnational research programming

Contribution to societal challenges

- Include societal challenges in call topics
- Combine societal challenges with competitive customer solutions
- Input to policy agreements on societal issues, e.g. on carbon storage
- Reorient research more towards societal added value, also in MSs where this was not the case before
- Support the transformation towards a green economy

ERANET RUS structural foresight included issues related to education systems, business environment, migration policy, cultural issues, regulatory framework, etc.

Standardisation

- Disseminate results of research projects to standardisation bodies
- Align practices in academic environment with standards of industrial laboratories (compliant laboratory management, document control, good laboratory practice)
- Combine incremental development of existing standards with the development of new standards for new commodities and services
- Align research with both existing standards and those under development

Social exclusion & poverty

- Address ethical and legal issues crucial for societal acceptance of new technologies by the citizens
- Marketing & image building to support positive citizens' perception of industry
- Support economic reconversion of industry, which can create new working opportunities at local level
- Take into account specific issues (e.g. price of housing in coastal areas)

Regulatory frameworks

- Training for funded researchers on regulatory, ethical and safety issues
- Disseminate results of research projects to regulation developers
- Involving the external advisory board in ethical, regulatory and safety issues
- Organise dialogue between academics, industry, regulatory agencies & policy-makers
- Address differences in regulatory frameworks when they apply simultaneously to one product innovation: differences between application areas, between world regions, between professions
- Identify and address non-technological barriers



Contributing to good governance



Contribution of the foresight study

User involvement limited to researchers - no end-users/citizens/interest groups

Participatory

Transparent

Accountable

Effective

Equitable

(UNDP, 1997)



Supporting community building between EU and Russia



Researchers' community

Researcher funders'
community

Relevance of measuring existing community?

**Or building on experiences from the foresight
exercise?**

Policy-makers' community

Societies



Contributing to better R&I systems



Enhancing resilience



Is the vision/strategy resulting from the foresight exercise robust enough against different scenarios?

How to increase resilience?

Behavioural change: are foresight participants more alert to possible changes (disruptive or non disruptive)?

Policy-making: is there being planned for the longer term?



Is that it?

It depends on who you ask

The exercise is not finished yet:
opportunities are ahead

**When is a foresight exercise for EU-Russia
collaboration successful?**

Need to prioritise the evaluation objectives

Answer will depend on the budget



The exercise is not finished yet:
opportunities are ahead

That's it

Karel-herman.haegeman@ec.europa.eu