

**Mutual Learning Exercise**  
**Performance-based Research Funding Systems (PRFS)**

Horizon 2020 Policy Support Facility

**Modus Operandi**

---

1.	CONTEXT .....	2
2.	BACKGROUND INFORMATION .....	3
3.	SCOPE OF THE MLE.....	4
4.	OBJECTIVES AND OUTCOMES .....	6
5.	WORKING APPROACH AND METHODOLOGY .....	6
6.	DISTRIBUTION OF WORK .....	7
7.	TIME SCHEDULE, MEETINGS AND REPORTS .....	8

## 1. CONTEXT

### 1.1. Policy Support Facility

To support countries in reforming their research and innovation (R&I) systems, DG Research and Innovation has set up a 'Policy Support Facility' (PSF) under Horizon 2020, aimed at "improving the design, implementation and evaluation of R&I policies". The PSF provides best practice, leading expertise and guidance to Member States and Associated Countries (on a voluntary basis) through a broad range of services to address their specific needs.

In this way, the Horizon 2020 Policy Support Facility responds to the strong need expressed by the Member States (i.e. ERAC consultations) to offer customer-oriented services to support evidence-based policymaking.

There are three main services offered by the Horizon 2020 PSF to the Member States and Associated Countries:

- ✓ Peer reviews of national R&I systems which are in-depth assessments of a country's R&I system carried out by a panel of experts and leading to concrete recommendations to the national authorities on reforms necessary to strengthen their R&I system.
- ✓ Specific support to countries which can take form of 'pre-peer review' (providing a solid evidence-base and focus areas for a subsequent full peer review), 'post peer review' (providing concrete advice on how to adjust and strengthen the implementation of peer review recommendations) and 'ad-hoc requests' (providing a set of concrete recommendations on how to tackle a specific issue R&I policy issue and how to implement the accompanying reforms).
- ✓ Mutual learning exercises which are demand-oriented, focused on specific R&I topics of interest to several volunteering countries, more hands-on, and translated into a project-based exchange of good practice.

### 1.2. Performance-based research funding systems

The efficiency of funding in terms of the capability to meet policy goals in a cost-effective way has become increasingly important. The introduction of performance-based research funding systems (PRFS) is one of the central mechanisms through which many EU Member States have tried to increase the effectiveness and performance of their public-sector research systems, in line with ERA Priority 1.

Performance-based funding refers to the component in the organisational level (institutional) funding system that is allocated on a competitive basis, as opposed to block funding or core grants (in some cases based on performance contracts/agreements). It aims to incentivise those governance/ decision/ behavioural processes within the research organisations able to stimulate and achieve high(erre) performance in relation to a number of selected criteria (for instance by increasing the volume or quality of research output, prioritising certain fields of research, developing greater interaction with industry, fostering internationalisation or improving gender balance). It may also be a means to concentrate resources in the best performing organisations.

Many EU Member States have implemented some forms of performance-based research funding over the past decade(s) and the share of organisational level funding which is allocated competitively based on performance assessments has increased in many countries.

The nature of the systems and the methodologies used in the allocation of funding varies considerably among Member States:

- ✓ Some countries use a funding formula partially based on the quantitative assessment of research outputs. This is the case for Belgium (Flanders), Czech Republic, Denmark, Estonia, Finland, Poland, Sweden and Slovakia.
- ✓ Another set of countries base their funding on evaluations of research output through peer review. This category can be separated into ‘informed’ peer review (ie the peers base their judgments also on metrics) and ‘pure’ peer review. This is the case for France, Italy, Portugal, Lithuania and the United Kingdom.

Some other countries have implemented a limited PRFS. This is the case of Austria, Germany and Netherlands. Other countries such as Bulgaria, Cyprus, Greece, Hungary, Ireland, Malta, Romania, Slovenia and Latvia have not implemented a performance-based funding system yet –but in several cases, they are in the process of introducing it. This can be often explained by the small size of the country or resistance from the academic community.

There is an ongoing debate regarding the benefits and disadvantages of each PRFS, and there are detractors of the mere principle of using PRFS mechanisms. While PRFS aim at increasing the performance of the public research system, they have also the potential to generate perverse effects. The costs involved in setting up different types of assessment are also a factor to consider.

As EU Member States have implemented PRFS with different characteristics, there is a large potential to explore how different systems work, what can be learned from their experience and how these lessons can be used to improve the various systems.

## 2. BACKGROUND INFORMATION

The European Research and Innovation Committee (ERAC) expressed an initial interest in undertaking a Mutual Learning Exercise via Horizon 2020 Policy Support Facility in 2015.

A call for interest was launched in June 2016 asking ERAC delegates who wished to participate to an MLE on Performance-based Research Funding Systems to express their interest and to briefly describe the major challenge(s) they wished to address and their expectations.

Responses to the Scoping Paper were received from seven countries (Czech Republic, Austria, Cyprus, Estonia, Portugal, Italy and Norway) who signalled the following:

- **On major challenges:**

In their responses, the Member States indicated they expect the MLE to address:

- ✓ Evidence of the benefits/advantages and drawbacks of different funding models: metrics based, peer review, combined (i.e. informed peer review). How each country deals with them and how they try to overcome (or just accept) those drawbacks.
- ✓ Assessments of the impact of differences in funding allocation systems on the performance of research systems.
- ✓ The potential perverse incentives or unintended consequences which different methodologies can generate.
- ✓ The shortcomings and limitations of performance based funding based on quantitative indicators: a) for which goals it is not an appropriate instrument, b) how to stimulate quality development (not merely increased production/output), c) system’s design: simplicity vs.

complexity: at what point is "indicator-overload" reached? Mirroring question can be addressed for qualitative indicators.

- ✓ The optimal ratio of performance-based and block funding. How to balance the proportion between basic funding (funds annually transferred to evaluated institutions) and the competitive funding (attributed to fund R&D projects in national calls for proposals).
- ✓ The costs of implementing and maintaining/optimising different funding models. Cost-benefit analysis of PRFS in general and of metric-based systems in particular, looking at the general costs sustained to implement the system (in terms of budget and human resources).
- ✓ Experiences on prioritising certain fields of research through RPBF systems.
- ✓ The utility of the PRFS in small countries with limited number of research organisations.
- ✓ Performance indicators used in PRFS and evaluation components. **Data sources**, data quality and exploitation methods. They influence the granularity of the PRFS and their benchmarking potential (data availability, quality, transparency and accessibility).
- ✓ The balance between components, period for assessment, terms for the use of funds, the definition of the target group, etc....
- ✓ Relevance of contextual factors. How the different PRFS were created taking into consideration not only the existing national R&D system, its institutions, history and practices, but also the political views on the future of that national R&D system.
- ✓ Criteria that should be used to evaluate the R&D institutions – assuming that they must go beyond the simple output analysis
- ✓ How the different systems can reward the best but also stimulate the average.
- ✓ Matching theoretical concepts with realities of performance-based funding systems

- **Key expectations:**

The Member States expect the MLE to deliver:

- ✓ Open, frank and confidential knowledge exchanges of experiences and best practices of other countries using PRFS.
- ✓ Policy options and tools for fine-tuning, updating and improving the national design of the current systems and their implementation. A possible option could be a "User guide" on PRFS, based on the best practices adopted by member states. The user guide would help member states in setting up their own performance-based research funding system, making the European research area more integrated and harmonised in terms of funding strategies.
- ✓ Knowledge supply from the experts and from the Commission's services and tools.
- ✓ Gaining in depth knowledge on selective aspects.
- ✓ External benchmarking and better reflection of own practices in the light of experiences from other countries and experts, and the discussions in the group.

### 3. SCOPE OF THE MLE

Building on the answers received from the participating countries to the ERAC scoping paper, a Scoping Workshop was organised on 7 September 2016 to agree on the scope, objectives and potential outcomes of this MLE.

The workshop was attended by 11 Member States or Associated Countries: Czech Republic, Turkey, Cyprus, Estonia, Norway, Spain, Slovenia, Sweden, Portugal, Spain and Italy.

Participants agreed on the following:

The MLE will be looking at national or regional funding systems based on methods to assess and measure research performance.

The scope will be limited to institutional funding of research in universities (albeit allowing for more granular analyses within universities) that is the result of (but not limited to) retrospective evaluation based on peer review and/or metrics. The MLE will pay particular attention to the inclusion of third stream activities and organisational practices in PRFS. Also within the scope of the MLE are the methodologies or techniques that can be used for an economic analysis of the impact of PRFS as well as the issues pertaining to the supporting data infrastructure that is needed to manage performance-based research funding systems.

Within this scope, it should be understood the following:

- ✓ MLE is limited to institutional funding for research: In some countries, institutional funding is called ‘baseline funding’. As the term may have different meanings in different contexts, the delegates agreed to develop first a glossary of precise definitions of funding sources/systems and agree on a common terminology. Competitive project funding is excluded from the remit of the group.
- ✓ MLE is limited to Higher Education Institutions as the unit of analysis: Universities are to be the primary unit of analysis for the MLE. However, it was also agreed that the MLE should not exclude the possibility to address institutional funding issues at finer levels of granularity within institutions themselves.
- ✓ MLE is primarily focused on but not limited to retrospective evaluation: Delegates agreed that although the focus of the MLE should primarily be based on funding for research in universities based on retrospective evaluation, prospective evaluation should not be excluded from the scope of the MLE. Some evaluations are both retrospective and prospective. In addition, performance contracts based on prospective analysis are in some countries complementary to performance-based funding systems.
- ✓ MLE will look at the major methodological options and performance dimensions on which to base the allocation systems supporting the policy ambitions: After a thorough discussion it was decided that the MLE would think broader than bibliometrics and peer review to include systems that combine both. It will also address the inclusion of third stream activities in PRFS, as well as organisational (contextual such as infrastructure, staffing, systems, etc....) and experimental dimensions (which will be collapsed with the other categories if needed).

DIMENSION	Quantitative	Qualitative
BIBLIOMETRICS IN PRFS	X	
PEER REVIEW IN PRFS	X	X
3RD STREAM METRICS IN PRFS	X	X
ORGANISATIONAL ISSUES	X	X
EXPERIMENTAL APPROACHES	X	X

- ✓ MLE will look at relevant data issues needed for the functioning of PRFS: type, quality, accessibility, management, maintenance, evolution of data sources and platforms. The data infrastructure and IT systems (including systems underpinning evaluation process) concerns will be addressed as part of the necessary enablers of PRFS.
- ✓ MLE comprises an understanding of the economics of performance-based research funding systems: Although it is difficult to conduct analyses in order to determine whether PRFS actually have a positive impact (as evidence is undeniably hard to find), there are certainly techniques that may allow doing that. It was agreed that methods or techniques assessing the economics of PRFS (benefits, quality, knowledge, professional organisation, etc....), taking into account both direct and indirect costs, would constitute a final element within the scope of the MLE.

#### **4. OBJECTIVES AND OUTCOMES**

The final aim of this MLE is to support MS in designing, implementing and/or evaluating different Performance-based Research Funding Systems (PRFS) by:

- ✓ Better understanding the various PRFS designs developed and/or deployed in our members state panel;
- ✓ Understanding how they are linked to policy ambitions and underpinned by the various performance dimensions;
- ✓ Understanding and monitoring expected and realised impact as well as unintended consequences
- ✓ Coming up with an overview of relevant insights on PRFS through combination of sharing practice and expert input regarding:
  - Policy ambitions driving PRFS and their evolution over time
  - Dimensions of PRFS and their link to evolving policy ambitions, both intended and unintended
  - Indicators and data underpinning the dimensions
  - Methods and techniques for the assessment of economics in various PRFS

The exercise will adopt a hands-on "learning by doing" approach supported by external expertise.

In addition to the tacit learning, in the end there will be a written report drawing lessons for policy design/implementation/evaluation.

In line with the expectations of participant countries (section 2), the report will identify good practices, include a set of concrete operational recommendations, lessons learned and success factors – wherever possible based on robust evidence available to the participants about the impacts of the measures and the contextual factors that may explain them.

#### **5. WORKING APPROACH AND METHODOLOGY**

The MLE will follow the standard methodology for conducting Mutual Learning Exercises in the context of the Horizon 2020 Policy Support Facility "Mutual Learning Exercise- a new methodology"<sup>1</sup>.

---

<sup>1</sup> Mutual Learning Exercises in the context of the Horizon 2020 Policy Support Facility "Mutual Learning Exercise- a new methodology, Terttu Luukkonen, DG RTD

As a Member State driven and policy challenge-based activity the MLE will promote mutual learning between the participating countries.

The participating countries will get together to explore the best ways to tackle the identified challenges acknowledging a need of change or optimisation in the design and/or implementation of policy instruments and wishing to learn from experiences in other countries.

It will take the form of a project-type of collaboration for a set period of time, in principle, up to 7-8 months, with defined resources and goals.

Each participating country is expected to gain tailored information and expertise from the process, and it is also open to other participants to learn from their circumstances/experiences.

Thus, the project is based on open, frank, and confidential knowledge exchange among the participating countries. All participating countries are expected to participate actively, in a forthright manner, and to collect and synthesise the necessary empirical evidence in a timely manner and provide friendly peer support for mutual learning.

The specific knowledge interests around the identified policy challenges may vary to some extent between the participating MS, but they are sufficiently close in order that the process can benefit all participants and that learning is mutual. This process is called *peer-supported learning*.

## **6. DISTRIBUTION OF WORK**

MLE on Performance Based Funding Systems will require:

- ✓ Participating countries: Armenia, Austria, Croatia, Cyprus, Czech Republic, Estonia, Italy, Moldova, Norway, Portugal, Slovenia, Spain, Sweden, and Turkey. Participating countries will appoint a sufficiently high-level person with experience and knowledge on the policy challenge, providing resources -in terms of labour- to contribute, provide data and information as the process require, allotting time to attend meetings and potential country visits, among others.
- ✓ Independent Experts: The MLE will be supported by 5 independent experts: a Chair (Professor Koenraad Debackere), a Rapporteur (Professor Erik Arnold) and 3 more experts: Dorothea Sturn, Gunnar Sivertsen and Jack Spaapen.
- ✓ Commission services. The Directorate General for Research & Innovation will actively support the work of this MLE. The contact person is Marta Truco Calbet, Unit A4 – ‘Analysis and monitoring of national research policies’.
- ✓ PSF Contractor: The role of the PSF contractor is defined in the framework contract. In line with its provisions, the PSF contractor will provide full support to the Chair and the Rapporteur, and notably be in charge of the operational and logistic tasks in relation to the organisation of meetings, country visits and overall development of the MLE. Moreover, full deployment by the PSF contractor of very substantial quality control measures at all stages (including the final proofreading, editing and formatting) will be crucial for the success of this

exercise. After the approval of the Commission, all official and working (non-confidential) documents will be prepared for upload on the RIO/PSF website by the contractor. An e-book version of the final report will also be prepared by the contractor. In addition, the contractor will also prepare short informative summaries of the kick-off and final meetings for the general audience (not disclosing any confidential information), to be uploaded on the RIO/PSF website, as well as prepare an article about this activity and its findings for the RIO/PSF website (after the approval of the final report by the Commission).

## 7. TIME SCHEDULE, MEETINGS AND REPORTS

The **final dates for the meetings** are indicated in the diagrams and tables below, based upon the discussions and decisions taken during the Kick-off meeting.

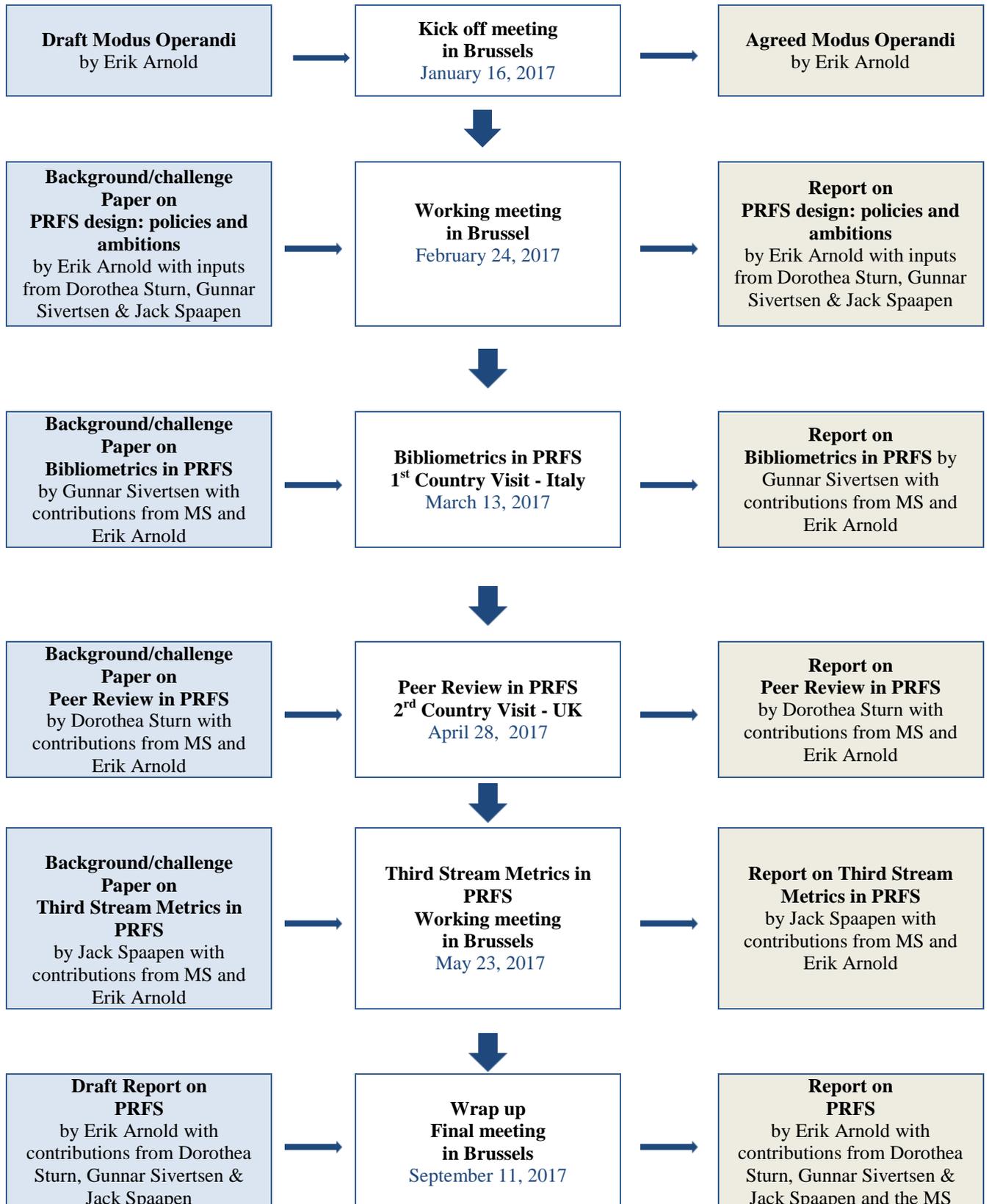
Two **country visits** are foreseen and agreed upon with the hosting countries: one to the UK with HEFCE as hosting organisation, and one to Italy where ANVUR will act as host.

The **sequence of the topics** covered in the meetings is in line with the most interesting features of the PRFS implemented in those countries for the purpose of this MLE.

A brief overview of the indicative time schedule is shown in the table below.

Indicative time schedule		
Date	Main topic	Place
January 16, 2017	Kick-off meeting with MS and independent experts	Brussels
February 24, 2017	PRFS design: policies and ambitions	Brussels
March 13, 2017	Bibliometrics in PRFS	Rome (Italy)
April 28, 2017	Peer review in PRFS	London (UK)
May 23, 2017	Third-stream metrics in PRFS	Brussels
September 11, 2017	Wrap up	Brussels

The indicative flow of meetings and reports is as follows:



The table below sets out the **indicative time schedule for the reports**. The time schedule is based on the following premises:

- ✓ Each background/ challenge paper needs to be ready and disseminated at least one week before the meeting where the related topic will be discussed
- ✓ The thematic reports are to be delivered as follow-ups of the working meetings or country visits, indicatively within 10 working days

<b>Indicative time schedule for the reports</b>		
<b>Date</b>	<b>Reports</b>	<b>Main author</b>
January 30	Agreed Modus Operandi	Erik Arnold
February 17	Background / challenge paper on PRFS design: policies and ambitions	Erik Arnold
March 24	Report on PRFS design: policies and ambitions	Erik Arnold
March 6	Background/challenge Paper on Bibliometrics in PRFS	Gunnar Sivertsen
April 10	Report on Bibliometrics in PRFS	Gunnar Sivertsen
April 21	Background/challenge Paper on Peer Review in PRFS	Dorothea Sturn
May 26	Report on Peer Review in PRFS	Dorothea Sturn
May 16	Background/challenge Paper on Third Stream Metrics in PRFS	Jack Spaapen
June 19	Report on Third Stream Metrics in PRFS	Jack Spaapen
September 4	Draft Report on PRFS	Erik Arnold with Gunnar Sivertsen, Jack Spaapen and Dorothea Sturn
October 9	Final report on PRFS	Erik Arnold with Gunnar Sivertsen, Jack Spaapen and Dorothea Sturn

The expected content of the reports as indicated in the Terms of Reference is as follows:

- ✓ The Background / challenge paper on ‘PRFS design: policies and ambitions’: the main policy challenge and those practices and instruments in place in participating countries. It may suggest preliminary assessment of their validity and relevance.
- ✓ The report on ‘PRFS design: policies and ambitions’: an overview of the overall challenge, identified good practices, lessons learned and success factors – wherever possible based on robust evidence about the impacts of the measures available to the participants
- ✓ The Background / challenge paper on ‘Bibliometrics in PRFS’: the main policy challenge and those practices and instruments (including related data issues) in place in participating countries. It may suggest preliminary assessment of their validity and relevance.
- ✓ The report on “Bibliometrics in PRFS”: good practices, relevant emerging practices, lessons learned and success factors based on robust evidence about the impacts of the measures
- ✓ The background / challenge paper on ‘Peer review in PRFS’: the main policy challenge and those practices and instruments in place in participating countries. It may suggest preliminary assessment of their validity and relevance
- ✓ The report on ‘Peer review in PRFS’: good practices, relevant emerging practices, lessons learned and success factors based on robust evidence about the impacts of the measures for peer review, in connection with PRFS
- ✓ The background / challenge paper on ‘Third Stream Metrics in PRFS’: the main policy challenge and those practices and instruments in place in participating countries. It may suggest preliminary assessment of their validity and relevance
- ✓ The report on ‘Third Stream Metrics in PRFS’: good practices, emerging practices, lessons learned and success factors based on robust evidence about the impacts of the measures.
- ✓ The Draft and final Report on the MLE Performance-based Research Funding Systems: good practices, lessons learned and success factors – wherever possible based on robust evidence about the impacts of the measures available to the participants.