Mutual Learning Exercise
Alignment and Interoperability of National Research Programmes

NATIONAL COORDINATION

Horizon 2020 Policy Support Facility
EUROPEAN COMMISSION

Directorate-General for Research and Innovation

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Mutual Learning Exercise
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Horizon 2020 Policy Support Facility

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Directorate-General for Research and Innovation

2017 EN
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Print    ISBN [number]    ISSN [number]    doi:[number]    [Catalogue number]
PDF      ISBN [number]    ISSN [number]    doi:[number]    [Catalogue number]
EPUB     ISBN [number]    ISSN [number]    doi:[number]    [Catalogue number]

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1 EXECUTIVE SUMMARY

Horizon 2020, the EU programme to support research and innovation, has a dedicated instrument called the Policy Support Facility (PSF). This includes the possibility for Member States (and countries associated to Horizon 2020) to participate together in a Mutual Learning Exercise (MLE) to address a specific research and innovation policy challenge.

This new opportunity was taken up by the ERAC High Level Group for Joint Programming Group (GPC), which proposed an MLE to help address the need to foster better Alignment and Interoperability of National Research Programmes. The MLE took place as a follow-up to the Lund Declaration, thereby ensuring momentum for a stronger alignment of national research programmes aimed to address societal challenges.

The MLE was designed to identify opportunities and good practices to overcome national challenges that hinder stronger participation in the Joint Programming Process (JPP). The main assumption behind the MLE is that improving the design and implementation of national R&I programmes towards societal challenges will contribute to the overall European alignment and interoperability as a main objective of the JPP.

Launched in July 2016, the MLE brought together representatives from Austria, Denmark, Estonia, France, Norway, Portugal, Romania, Slovenia, Sweden and Turkey with Germany participating as an observing country.

The participating countries agreed to address the challenge in three steps: i) looking at national preconditions for participation in JPP, ii) national governance structures and iii) communication flows and visibility. The topics were to be addressed in series and explored during dedicated country visits, each accompanied by a report on the specific topics.

To support the countries in the analysis of the national situations and communicate opportunities for improvement in a structured manner, a learning tool (self-assessment framework) was elaborated. The tool (which is Annexed to this report) is based on 16 Key Factors for alignment and interoperability of national research programmes. It allowed the participants to make an assessment of the degree of alignment on one side and the degree of difficulty to improve a particular Factor on the other. This provided a framework not only for thinking about scope for improvement but also helping to be realistic about the barriers to change.

The structured discussion, brought about by the assessment tool, led to the identification of a number of transferable lessons, which are presented in this report structured along the key phases of the R&I programming cycle - planning, strategy, funding, implementation, dissemination & uptake and evaluation & reporting. Under each phase, the key success factors are presented, alongside the good examples from the participating countries that took part in the MLE. The most relevant ones are mentioned below to illustrate some of the transferable lessons.

The issue of increasing political commitment, in particular beyond the research ministry, was considered important by many participants. A good example was provided by Germany, where the R&D ministry worked very closely with the German Parliament and eventually obtained strong political support for its overall ERA strategy, including its commitment to joint programming. This helped to also motivate other ministries to look at opportunities from participation in the JPP.

As the number of opportunities to participate in JPP networks increases so does the need to have a systematic process for deciding on which ones to join. This subject has become increasingly important and valuable examples of selection criteria were presented by Austria, Slovenia and Portugal.

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1 The GPC working Group had defined alignment as “the strategic approach taken by Member States to modify their national programmes, priorities or activities as a consequence of the adoption of joint research priorities in the context of Joint Programming with a view to implementing changes to improve efficiency of investment in research at the level of Member States and ERA”.

The importance of increasing engagement with other ministries was also highlighted by many. To this end, a good practice was provided by Estonia, where each sectoral ministry now has a Scientific Counsellor, which is partly financed by the Ministry of Education and Research with the aim of improving communication and engagement. These, and Scientific Ambassadors (well-known researchers), help the research ministry to promote the JPP and opportunities for participation to the sectoral ministries with the intention that the communication will become two-way.

Considering the funding, an innovative approach was provided by Sweden, which uses the central budget to leverage co-funding from sectoral ministries and/or funding agencies. A similar approach has been adopted in Estonia and Slovenia. Another example is Romania, which had introduced a dedicated budget for joint programming into the National Plan for RD&I (2015-2020).

In the implementation phase, the governance model, which includes various stakeholders is of particular importance. One example of a good practices that some Member States hope to replicate is the system in France, where each individual JPI has a national ‘Mirror Group’, which supports the work of the two French representatives in the JPI Governing Boards. Similarly, Austria has established several ‘Strategic Networking Platform’ pilots to bring communities of stakeholders together (not just researchers) in interdisciplinary areas of research, while Denmark has a strong informal networking between stakeholders in a thematic area (Strategic Reference Groups). Another innovative example is Portugal, which has recently introduced Public Participation Laboratories, an initiative aiming at the involvement of citizens, local and regional actors, public and private entities in the development of thematic research & innovation agendas contributing to new models of public policies design.

In addition to the funding, interoperability is considered important. Since full participation in joint programming is regarded as instrumental for the national RDI system in Turkey, the rules are being redesigned to create a more flexible funding framework for participation.

A systematic monitoring and evaluation of outcomes and impacts from participation in JPP networks is considered one of the key success factors. However, a majority of MLE countries see this as a main weakness of their national system, linked with serious methodological and practical barriers to tackle this weakness. The participants have identified the evolving work of ERA-LEARN on developing common frameworks and learning tools to help JPP networks with impact assessment as an opportunity to reduce the barriers to improvement.

This report summarises the main results of the MLE, with a particular focus on sharing the learning. To this end, it also contains country fiches, which briefly summarise the present situation in each participating country, its strengths and weaknesses and list of potential actions to be implemented at national level as identified by the national representatives during the course of the MLE. More comprehensive information on the activities and results can be found in the three detailed reports on preconditions, governance and communications. These three accompanying reports can be found at the Policy Support Facility portal.

More time is needed to test the feasibility of the proposed actions and so the national representatives are keen to reconvene in a year's time, to discuss the progress made based on the identified weaknesses.

This MLE on Alignment and Interoperability of National Research Programmes is one of the first to implement the new MLE approach developed in the context of the Horizon 2020 Policy Support Facility. A strong focus throughout the exercise was therefore paid on whether it met the expectations of the country experts. Their personal testimonies, expressed throughout the country fiches, convey a very positive attitude towards the MLE. They emphasise the importance of the self-assessment tool, the good practices and the reports, but also the value of the face-to-face discussions, and the personal contacts with their peers, established during the exercise. It was particularly this positive, friendly atmosphere based on trust, that largely contributed to the success of the exercise.

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2 **Introduction**

This is the final report of the Mutual Learning Exercise (MLE) on ‘**Alignment and Interoperability of National Research Programmes: Sequence 1 - National Coordination**’, which was carried out in the second half of 2016 and the first half of 2017.

The MLE is one of three instruments that are available under the overarching Policy Support Facility (PSF), which was set up by the European Commission within Horizon 2020 (H2020). The aim of the PSF is to give EU Member States (and countries associated to H2020) practical support to design, implement and evaluate reforms that enhance the quality of their research and innovation investments, policies and systems.

2.1 **Background**

The High Level Group for Joint Programming (GPC) expressed initial interest in a Mutual Learning Exercise on alignment and interoperability in the summer of 2015. It was considered that this would offer a timely framework to follow up on the GPC Implementation Group on the same subject (GPC/IG2).

The preparation for the MLE began with a workshop in February 2016 involving representatives of 16 countries. This meeting considered the potential scope of the MLE and concluded that the range of issues were too broad for a single MLE. It was therefore agreed that a sequential approach would be appropriate for an MLE on alignment and interoperability with the 1st sequence addressing the important subject of **National Coordination**. It was further agreed that this should include three topics: national preconditions for participation in JPP/JPI, national governance structures and communication flows and visibility. There followed an open invitation to express interest in participating in this 1st sequence of the MLE and provide feedback on the three topics to help in drafting the scope of the MLE.

A draft ‘Modus Operandi’ was prepared and discussed at the formal kick-off meeting of the MLE on 7 July 2016. This set out the scope, objectives/outcomes, time schedule, working approach/methodology, distribution of work, meetings, reports and deadlines. The final version was produced shortly after the meeting and used to guide the implementation of the MLE.

2.2 **Participating countries**

The MLE attracted strong interest and 11 countries (Austria, Denmark, Estonia, France, Germany (as observer), Norway, Portugal, Romania, Slovenia, Sweden and Turkey) participated actively in the MLE. Their experience and feedback is summarised in Section 5 of this report.
3 Methodology

The overall methodology was defined in the modus operandi. This acknowledges that an MLE should be a Member State driven and policy challenge based activity to promote mutual learning between the participating countries. Implicit within this is that the methodology should remain flexible from milestone to milestone in order to maximise added value and policy learning. The distribution of work involved five parties:

- The participating countries, which were required to appoint at least one participant with sufficient experience of the policy challenge to contribute effectively to the MLE.
- A group of four independent experts who played a facilitating and supporting role.
- Representatives from DG for Research & Innovation of the Commission including Unit A4 (Analysis and monitoring of national research and innovation policies) and Unit B2 (Open Science and ERA Policy).
- A Rapporteur to the GPC.
- The Policy Support Facility Contractor, which would provide operational and logistics support to the Chair and Rapporteur.

The MLE was implemented through an iterative series of workshops, interim reports and self-assessment activities.

3.1 Workshops and Reports

Besides the Kick off and Final meeting, four workshops were organised, each with a specific topic.

- Workshop on the overall subject of 'national coordination' hosted by the Commission (Brussels, 3 October 2016)
- Workshop on the overall subject of 'national preconditions' hosted by the Austrian Research Promotion Agency (Vienna, 13 October 2016)
- Workshop on the overall subject of 'national governance structures' hosted by the Slovenian Ministry of Education, Science and Sport (Ljubljana, 15 December 2016)
- Workshop on the overall subject of 'communication flows and visibility of JPP' hosted by the Research Council of Norway (Oslo, 16-17 February 2017)

In each case, the independent experts prepared a Background/Challenge paper as the main input for discussion to the workshop. A subsequent intermediate report on each topic was delivered with the learnings and transferable lessons identified in the workshops.

All MLE Intermediate Reports (Report No 1 on National Coordination\(^4\), Report No 2 on National Preconditions\(^5\), Report No 3 on National Governance Structures\(^6\) and Report No 4 on Communication Flows and Visibility of JPP\(^7\)) as well as other MLE materials are available at the PSF portal.\(^8\)

3.2 Self-Assessments

The workshops were designed to be interactive and participants were encouraged throughout to be very open about the strengths & weaknesses of their national system so that the whole group could offer suggestions for improvement. To complement this group learning process, the experts developed a self-assessment and reporting framework (Appendix). This allowed each country participant to carry out a customised analysis from the triangular perspective of preconditions, governance and communication. The self-assessment framework allowed them to:

\(^4\) MLE Report No 1: National Coordination, November 2016
\(^5\) MLE Report No 2: National Preconditions, February 2017
\(^6\) MLE Report No 3: National Governance Structures, March 2017
\(^7\) MLE Report No 4: Communication Flows and Visibility of JPP, April 2017
\(^8\) https://rio.jrc.ec.europa.eu/en/policy-support-facility
- Describe the current national situation and rate its degree of alignment with each of 16 key factors encompassing preconditions, governance and communication.
- Consider the barriers to improvement, for each key factor, and the degree of difficulty in overcoming them.
- Propose opportunities for improvement based on the self-assessment and peer learning.

The individual self-assessment scores were presented and discussed at the workshops in Vienna, Ljubljana and Oslo. An example of this is shown in Section 4.6 of this report.

The self-assessment methodology and the (anonymous) results are included in Reports No 2, 3 and 4 of the MLE and are available from the PSF portal.
4 Transferable Lessons

As mentioned in Section 3 above, the MLE workshops, self-assessment activities and interim reports were segmented into three pre-defined topics i.e.

- National preconditions
- National governance structures
- Communication flows and visibility of JPP

This was helpful in that it allowed the participants to consider their national situation, and how it could be improved, from three different perspectives. As the MLE progressed, however, it became clear that the three topics were not mutually exclusive and this created some difficulties for the participants in the classification of ideas for improvement actions.

This section, on transferable lessons, therefore attempts to consolidate the main lessons by using a single framework: *The research programming cycle*. It draws on the work of ERA-LEARN 2020\(^9\), which developed a typology of alignment actions and instruments across the research programming cycle from the perspective of the JPP networks. A simplified version of this is shown below.

\[ 
\begin{align*}
\text{Planning} & \quad \text{Strategy} & \quad \text{Implementation} \\
\text{Evaluation & Reporting} & \quad \text{Funding} & \quad \text{Dissemination & Uptake}
\end{align*}
\]

This recognises that the programming of research & innovation activities, whether they be national or international, should not be a linear process but more cyclic where the strategy is adapted based on feedback from the results and outcomes/impacts. Each of these six elements is discussed below using the results from the topic-specific reports and the associated good practice examples. More detailed elaboration of the transferable lessons and specific national examples can be found in the previous, topic-specific reports.

4.1 Planning

There are a couple of obvious factors that should be considered for any national administration willing to engage in joint programming and, in particular, where it concerns 'Jointly Addressing Societal Challenges' (national ERA Roadmaps, Priority 2A). These are:

- There should be an ERA (or at least an international cooperation) element within the national R&I strategy
- The national research & innovation policy and priorities should include societal challenge research and involve all relevant ministries

It is clear from the work of the MLE, and other evidence, that transnational research activities tend to be an add-on to the national research & innovation strategies. Countries like Germany and Norway offer

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examples of a more integrated approach that takes both national priorities and the EU Framework programme into account.

The Ministry of Education and Research in Norway published a ‘Strategy for research and innovation cooperation with the EU’ in 2014 that encompassed Horizon 2020 and ERA in parallel with its ‘Long-term plan for research and higher education 2015-2024’, including/encompassing thematic priorities.

In February 2017, the Federal Government in Germany adopted a new ‘internationalisation strategy for education, research and innovation’. The European dimension is integral part of this strategy, with a strong focus on the internationalisation of Joint Programming as an overarching objective of the German federal government. In order to improve cross-ministerial cooperation in general, but also in Joint Programming more specifically, regular coordination meetings between the ministries on state secretary level have been introduced with the new strategy.

The concept of increased alignment and/or interoperability between the strategic agendas of national, transnational and EU research programming means that societal challenge research needs to be embedded in the policy and priorities of national programming. This was the exception rather than the norm at the beginning of Horizon 2020 but there are signs that it is starting to influence the subsequent updates of the more recent strategy updates in at least some countries.

Austria established a specific research programme for societal challenge oriented research in 2017. It is called ‘MissionERA’ and is covering so far four JPIs. The programme is designed to be open for the inclusion of more mission oriented topics and gives the flexibility in terms of budget allocation and implementation instruments.

In a few months the Danish Agency for Science and Higher Education will complete its latest five-year update of the research foresight catalogue (Forsk2025). This provides a consolidated overview of the most important research for Denmark in the future based on consultations with industry, knowledge institutions, ministries and other stakeholders. The aim of the catalogue is to guide decisions on prioritisation of research investment decisions at both the policy level and for participation in international cooperation opportunities.

The Estonian Research and Development and Innovation Strategy 2014-2020 (Knowledge-based Estonia) has four priorities including societal challenges.

France published a national research strategy in 2015 (France-Europe 2020) that focusses on 10 societal challenges with a strong synergy to those of Horizon 2020.

The research system in Portugal has a strong EU and international orientation. The evolving influence of Horizon 2020 and the JPP means that both policy makers and the research community are now more engaged in societal challenge research priorities that are relevant to the national context.

Romania has set up dedicated sub-programmes to support the Joint Programming Process (JPIs, ERA NET Cofund, Article 185 initiatives) within the current National Plan for RD&I (2015-2020).

The issue of increasing political commitment, in particular beyond the research ministry, featured in many of the ideas for improvement that were developed during the MLE. This is certainly a difficult task but Chapter 5 (Evidence of Learning) demonstrates that there was no shortage of ideas on initial steps that could be taken in this direction.
4.2 Strategy

Assuming that the political commitment is in place to ensure that joint programming is fully embedded within the national programming cycle, and societal challenge research is on the agenda, the next stage is to ensure a strategy and processes for effective participation in JPP activities. This should include:

- A formal process/criteria for decisions on participation in JPP networks
- A coordinated framework for the management of all European R&I activities

As the number of opportunities to participate in JPP networks increases so does the need to have a systematic process for deciding on which ones to join. This subject has become increasingly important and a number of interesting examples were highlighted during the MLE.

_Slovenia has adopted a ‘Procedure’ for integration into European initiatives that has four criteria._

_In Austria, FFG the agency for industrial research and development, generated a common set of selection criteria for prioritisation of JPP network participation. So far, this has been used in a voluntary way._

_Portugal also has a set of criteria, which can be used to prepare the decision to enter international collaboration activities, or not._

Participation in joint programming activities at the European level requires a significant commitment of human resources, well beyond what is required for national programming. This is especially the case for societal challenge research & innovation activities that need to involve stakeholders outside the traditional research community. The governance structure for JPI participation that has been established in Norway is considered to be a good example.

_Norway is one example of a research-intensive country that has implemented a national structure and processes for efficient and effective participation in the JPP. The Research Council of Norway (RCN) acts as the implementing agency on behalf of the ministries that provide funding for societal challenge research. RCN and the relevant ministry are involved in JPI Governing Boards with the Ministry of Education and Research taking an overall coordinating role. Each JPI has an advisory board with a broad set of stakeholder groups involved._

The research budgets in Norway are distributed across the sectoral ministries so this model is more difficult to replicate in countries that have a centralised research funding system. In this situation, the other ministries may need to be encouraged such as in the case of Estonia.

_In Estonia each sectoral ministry now has a Scientific Counsellor, which is partly financed by the Ministry of Education and Research with the aim of improving communication and engagement. These, and Scientific Ambassadors (well-known researchers), help the research ministry to promote the JPP and opportunities for participation to the sectoral ministries with the intention that the communication will become two-way. For some topics – e.g. marine science – the relevant JPP networks are the only option for thematic research._

The MLE has highlighted useful ideas to involve a wider group of national stakeholders in the development and implementation of national strategies for joint programming that reflect the particular national situation. One example of such an initiative is the development of a national theses paper on alignment in Austria.
Whilst there are some interesting examples above it is always important to remember the golden rule that "strategy-should-follow-situation" and so a customised approach to the national strategy for joint programming will always be necessary.

### 4.3 Funding

The availability of funding for joint programming is a major issue for most countries. Even the larger, and more research-intensive, countries are reporting funding constraints due either to austerity measures and/or competing priorities both at home and from wide range of ERA options. Other factors include funding imbalances between countries participating in joint calls, adequate funding of management resource and restrictions on type of research and/or beneficiaries that can be funded.

Two main factors have been highlighted during the MLE.

- Pre-allocation of (at least nominal) budgets for JPP (or international) research activities
- Flexible, or coordinated, funding model that enables unrestricted participation in selected JPP networks

One innovative approach that has been shared during the MLE is the selective use of a central budget to leverage co-funding from sectoral ministries and/or agencies. Romania and Sweden offers good examples of this approach.

**Romania** has a dedicated programme (and budget) for international cooperation within its National RDI Plan for 2015-2020.

**Sweden** has a dedicated budget for participation in joint programming that is under the control of the managing organisation for the research councils. This budget tops-up the contribution from each research council for participating in various JPPs. The managing organisation decides which JPI/P2P collaborations to finance depending on policy considerations and financial commitments from the individual research councils.

Sweden is a very research-intensive country and the use of such a central budget will clearly be more difficult for the smaller countries and those with more limited national research budgets. Estonia and Slovenia have demonstrated that the leverage effect can be even more powerful in such cases.

**Estonia** does not have thematic research programmes but has developed a co-funding model to enable participation in the joint calls of ERA-NETs that overlap with national priorities (as defined in the RDI Strategy for 2014-2020). The Research Council will provide central funding, and coordination support, for specific joint calls if the relevant sectoral ministry is willing to co-fund. This has led to a higher Estonian participation in transnational R&D projects.

**Slovenia** provided another example of inter-ministerial collaboration to address the funding and human resource barriers to effective participation in P2P joint calls at the MLE workshop in Ljubljana. This involved a coordinated approach by the research and agriculture ministries, which combined forces to enable more Slovenian researchers to secure funding through the joint calls of two ERA-NETs (SUMFOREST and ARIMNET2).
In some cases, the problem is not so much about availability of national funding for joint programming but the restrictions on how this can be used. These could include the type of research, and/or beneficiaries, that can be funded. Most also find it difficult to contribute to a common fund, even at a relatively low level such as for central management costs.

**Turkey** is at a stage of developing a stronger focus on thematic priorities such as energy, water and food in The National Science, Technology and Innovation Strategy. Since full participation in joint programming is regarded as critical for the national RDI system, the rules are being redesigned to create a more flexible funding framework for participation.

**France** has been able to overcome some of the funding restrictions of the national research agency, for example to contribute to the central management costs of JPIs, by involving some of the public research institutes that have more flexibility.

### 4.4 Implementation

The implementation of joint programming is not simply about co-funding transnational research & innovation projects, especially for JPIs and other JPP networks that are aimed at addressing societal challenges. A variety of governance and communication systems are needed to participate effectively including:

- Clear governance structures with sufficient resources for participation
- Cross-ministerial framework for each JPP network
- Two-way communication framework with national research & innovation stakeholders

One of the national models that were considered to offer transferable lessons in good governance and communication was the 'mirror groups' that have been established in France to align with the JPIs.

**In France**, each individual JPI has a national ‘Mirror Group’ that typically meets twice per year. These support the work of the two French representatives in the JPI Governing Boards (one from ANR, the other from the relevant national research Alliance). The JPI Mirror Groups are coordinated by the Ministry for Higher Education and Research (MESR). They include representatives from the relevant sectoral Ministries (Health, Environment, Agriculture, Culture), selected research performing organisations (RPOs) and, in some cases, other funders or private sector representatives. They are for information sharing and to agree on the position of ANR as the voting representative of France in JPI Governing Boards. Some Mirror Groups, such as for Environment, do not only cover JPIs but all European initiatives in its thematic area (with a goal of priority setting and dedicating budgets to transnational calls).

Another is the Norwegian framework for JPI participation that has already been mentioned in Section 4.2 above. Each JPI in Norway has an advisory board organised by the Research Council, and the plan is that all JPIs will have inter-ministerial groups.

Several other countries have also established stakeholder groups or networks to support the implementation of joint programming activities and many of the others consider this to be an area for improvement.
The various implementation issues and systems that have been uncovered during the MLE are discussed in more detail in the prior topical reports on Governance (Report No 3) and Communication (Report No 4).

4.5 Dissemination & Uptake

Dissemination and uptake of the exploitable results from joint programming activities is essential if the socio-economic benefits of the collective investments are to be realised. There are two main priorities:

- A systematic process for outreach to end-users and other stakeholders
- Regular communication of case-based evidence to relevant policy decision makers

The fruits of joint programming can either be exploited through innovative new solutions or by providing better evidence for policy decisions. It is therefore important that stakeholder engagement is a two-way continuous process and not just something that is done at the end of research projects. This is an area where there are some interesting developments and ideas for improvement.

Of course, there is also a need to demonstrate that the investment in joint programming is worthwhile to maintain and/or increase the political commitment at a time of severe competition for both financial and human resources in public administrations.

4.6 Evaluation & Reporting

In order to complete the research programming cycle it is necessary to review what is being achieved and, if appropriate, to make adjustments to the strategy. This means that there is a need for:
A systematic process for monitoring & evaluation of outcomes and impacts from participation in JPP networks

The multi-factor, self-assessment exercises that were carried out during the course of the MLE showed that the participating countries display a mix of relative strengths & weaknesses with regard to alignment and interoperability with the joint programming process. The main exception to this was that virtually all considered that their country was relatively weak (low degree of alignment) with respect to ‘measuring impacts and dissemination of results’. Also, most considered that there were significant difficulties (major barriers to change) in improving the situation.

Some of the participants were aware that the H2020 ERA-LEARN project has been developing common frameworks and learning tools to help JPP networks with the increasingly important subject of impact assessment. The evolving work of ERA-LEARN could be an opportunity to reduce the perceived barriers to improvement.

The ERA-LEARN 2020 project consortium has been developing common frameworks and learning tools to help JPP networks with the increasingly important subject of impact assessment. This is currently being extended to the development of a central process for systematically gathering information on outcomes and impacts from the beneficiaries of co-funded projects.

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5 Evidence of Learning

The previous section indicates that, whilst the situation and framework conditions are different in every country, there are many transferable lessons from this MLE. This section provides the personal reflections from those individuals that participated on behalf of their country and demonstrates the power of the MLE to make a real difference. It also summarises, country-by-country, the contextual situation and specific actions that have been proposed by the participants to address particular issues, as a result of the MLE. The intention is that these will be presented and discussed with national stakeholders in the coming months using the various Intermediate MLE reports as the evidence for the proposed actions.

5.1 Austria

"Realising that other countries are facing similar problems but apply different solutions is a big added value of the MLE."

The Austrian representative was Thomas Zergoi from the Austrian Research Promotion Agency (FFG). He is also a member of the Austrian delegation to the GPC.

He found the MLE to be very relevant, particularly the country-specific workshops, and it enabled him to identify a broad range of ideas for improvement of the Austrian situation. One of them is to prepare a national roadmap on challenge driven research involving all ministries and exploring how to increase the commitment of the autonomous universities. This might include applying some of the approaches used in Estonia to involve other ministries such as ambassadors, scientific counsellors and co-funding. Thomas intends to present these ideas and start discussions in relevant national groups like e.g. Austrian JP Group after the conclusion of the MLE.

- National context in Austria

Austria has both a relatively high share of public expenditure on R&D (GBOARD) and associated investment in transnational programmes. This includes seven JPIs, two A185s and a wide variety of ERA-NET and other transnational initiatives. Exemplarily Austria is involved in 43 networks since the beginning of H2020, participating in more than 270 calls\(^\text{11}\). This implies Austria’s commitment to joint initiatives and the big amount of national funding money invested so far.

Its participation in joint programming involves a number of different ministries and agencies. This includes mostly the Federal Ministry for Science, Research and Economy (BMWFW); the Federal Ministry for Transport, Innovation and Technology (BMVIT); and the Federal Ministry of Agriculture, Forestry, Environment and Water Management (BMLFUW). Other sectoral ministries are rarely involved. The research funding budget is either distributed directly (e.g. a large proportion of the BMWFW research budget goes to the autonomous universities) or via competitive funding programmes. Some of these national funding programmes are co-financing Joint programmes like in the case of JPI Urban Europe, which is coordinated by Austria. A big share of the competitive funding is managed by two agencies (FFG and FWF), which focus on industrial and basic research respectively. There is no overall, national prioritisation of investment in joint programming. Each ministry makes its own decisions, based on strategic and/or financial aspects.

One of the initiatives to improve national coordination of joint programming in Austria is the preparation of a national theses paper on ‘Alignment’. This was produced in 2016 by a working group from the different ministries and agencies. It involved extensive stakeholder consultation and concluded with 18 hypotheses on the status of alignment in Austria. The paper was presented at the country-specific MLE workshop in Austria and the slides are available at the MLE portal. It will be used to support the work of the Austrian ERA Roadmap working group on Topic 2A.

\(^\text{11}\)https://www.era-learn.eu/network-information/countries/at/@country-report
Another initiative to improve alignment, and widen stakeholder participation, is the establishment of ‘Strategic Networking Platforms’ for societal challenge research. Three pilots have been launched and will be evaluated in 2018.

Since the beginning of 2017 there is also a national funding programme (Mission ERA) covering all transnational calls of four JPIs.

**Actions proposed by the national representative based on the mutual learning**

The situation analysis that was carried out during the MLE highlighted a number of areas for improvement in Austria. This includes a more systematic overall approach for prioritising (and evaluating) investment in joint programming, increasing the commitment of the autonomous universities towards societal challenge research, broadening the involvement of sectoral ministries and improving the overall coordination amongst the relevant ministries/agencies. The following ideas emerged throughout the exchanges of good practices and information sharing during the MLE process:

- Consider preparing a national roadmap on challenge driven research involving all ministries or adopting a ‘Strategy for research and innovation cooperation with the EU’, which outlines the country’s ways of active participation in the ERA including JPP (like Norway)
- Consider whether the scientific counsellor and co-funding approaches in Estonia would be an option to create better coordination links with the sectoral ministries
- Try to raise joint programming on the agenda of the Austrian Council for Science and Technology to increase political commitment and visibility
- Identify well known researchers or Austrian Members of Parliament that could become influential JPI Ambassadors
- Design possible incentives for universities to increase their commitment to societal challenge research.
- Increase the level of communication to policy makers through several activities including short policy briefs showing the added value of JPIs and organising policy events
- Establish close contact between the Austrian JPI group and the experts in the ministerial cabinets.
- Explore whether the ERA-LEARN work on evaluation and impact assessment could be utilised in Austria to support commitment and prioritisation

These will be presented and discussed with the key ministry and agency stakeholders after the conclusion of the MLE.

*For further information on the Austrian situation and plans please contact Thomas Zergoi at Thomas.Zergoi@ffg.at.*
5.2 Denmark

“Participation in an MLE is specifically helpful if the topic discussed with other countries is high on the agenda of your organisation.”

The Danish representative was Lisbet Elming from the Ministry of Higher Education and Science. Lisbet found the MLE to be partly relevant to her present work. The MLE allowed her to foster closer ties to colleagues from other countries, whom she might have met before but only now got a chance to engage with in a thorough manner.

Through the MLE, Lisbeth became aware of the importance of governance structures for a more effective participation in joint programming. This would be high on the agenda, should Denmark decide to get more involved in JPP work. The MLE provided specific ideas, in particular from Sweden, on which the country could draw in the future.

- National context in Denmark

Denmark has a relatively high share of public expenditure on R&D (around 3% in 2015). It participates in all but one joint programming initiative (Cultural Heritage) as well as all of the A185 initiatives.

While Denmark has no national R&I strategy, the RESEARCH2020 (Forsk2020) catalogue identifies the most promising areas for research investment. The document, which is currently being updated to 2025 (Forsk2025), will also have a stronger emphasis on the European dimension. The catalogue serves as a basis for budgetary decision-making by parliament. It follows a societal challenge approach and identifies four priority areas for research.

Whilst Denmark has quite a flexible system that enables participation in joint programming, and prioritises societal challenge research, there is increasing competition for funding between national and international priorities. International collaboration involves a number of ministries and agencies. Some of these are primarily shaping research policies and some are primarily funding the Danish participation in P2Ps. For these activities the Ministry of Higher Education and Science established a ‘Strategic Reference group’ in 2016 with relevant representatives from universities, ministries and industry. A number of professionally specialized reference groups have been used for some years to supplement Danish participation in the Horizon 2020 programme committees. Moreover, the ministry is mapping the Danish participation in Horizon 2020, including in co-financed instruments. Based on this mapping a strategy and an action plan for future Danish participation in the EU Framework Programme for Research and Innovation will be developed.

- Actions proposed by the national representative based on the mutual learning

The situation analysis conducted during the MLE highlighted that despite all these efforts, there seems still to be a potential for a more coordinated approach for the public funding of the Danish participation in P2Ps. The areas for improvement in Denmark include issues of governance and communication. The following ideas, which emerged during the MLE process, include:

- Development of a better common approach and explicit decision making process across all Ministries to help prioritization. A meeting of the Strategic Reference Group is planned for mid-2017, which will certainly have a positive impact on the communication flows too. Here it would be important to agree on regular information and feedback to the Ministry of Higher Education and Science.
- Follow up on the mapping of different measures will be looked into in order to further a common approach to the participation in the P2Ps.
- Mapping Danish participation in joint programming as part of a larger mapping of Danish participation and Danish success in Horizon 2020 (in spring 2017)
- Consider how JPIs could be encouraged to play a more active role in the communication with other sectoral ministries

For further information on the Danish situation and plans please contact Lisbet Elming at lel@ufm.dk.
5.3 **Estonia**

“From all the working groups I joined, this one has been the most beneficial. It gave very specific recommendations. The good thing was that the MLE was not only about the participation in the workshops but that it encouraged us to start the national discussions on how to implement things.”

The Estonian representative was Ülle Napa from the Estonian Research Council, which is a foundation financed by the Ministry for Education and Research.

Ülle found the MLE to be very relevant for her work. It was particularly helpful for her to get detailed positive feedback on the unique aspects of the Estonian approach, the Scientific Counsellors and the co-founding. Ülle also appreciated the country visits with their very practical examples, which would have been more difficult to achieve if the meetings had been held only in Brussels.

The MLE also worked as a kind of catalyst for what the Ministry and the Research Council had planned to put in place. While Ülle and her colleagues had a vision before the MLE started, the exercise helped them to start thinking systematically and strategically about joint programming. It also helped them to identify weaknesses of the current system, for example to first build a JPP community and to address the question of who in the government takes ultimately responsibility for joint programming. All in all the MLE has enabled the Research Council to provide better advice and support to the Ministry for all issues concerning joint programming.

- **National context in Estonia**

Estonia spends about 1.5% of its GDP on R&D (2015), a figure that has increased significantly since 2005. The country participates in three JPIs and is an observer in four more. It also contributes to the A185 BONUS programme, as well as a number of ERA-NETs.

Estonia’s participation in joint programming involves a number of different ministries, generating interest across government through a specific co-funding model that has already proven its success. The Estonian Research Council finances directly or indirectly some of the of the JPP research activities. In order to secure sufficient national funding for ERA-NET participation for topics that overlap with national priorities (defined in the RDI strategy Knowledge Based Estonia 2014-2020), the Estonian Research Council has involved the relevant sectoral ministries by offering co-funding for ERA-NETs provided that the sectoral ministry also allocates funding to the ERA-NET. In addition, the Council supports management activities such as organising a joint call, while the other sectoral ministry is responsible for concluding contracts directly with Estonian scientific groups of funded projects.

An aspect that gained considerable interest among MLE-participants from other countries was the so-called “Scientific Counsellors”. In each Ministry the Counsellor works together with the Research Council to articulate the potential need and interests (= overlaps with sectoral R&D plans/strategy) of the sectoral Ministry. This is expected to help define the key research topics that are of interest to Estonia. Currently, eight ministries from eleven have joined with this scheme.

- **Actions proposed by the national representative based on the mutual learning**

The MLE catalyzed the thinking about joint programming in Estonia. While the Research Council had developed a broad vision before, the MLE helped to spell it out. More specifically, Estonia made the first steps to forge a JPP community, simply by creating a mailing list to regularly inform and to connect all relevant actors, and to address fundamental issues of governance. Moreover, a first meeting in the Research Council was held to discuss ways of improving communication about joint programming at national and international levels. In particular, the Research Council intends to seize opportunities presented by Estonia’s presidency of the Council of the EU (July-December 2017) and the wider political debate about Estonia’s involvement in European science initiatives.

During the MLE, Estonia was particularly active and devised a number of specific measures to improve on the current situation, which include the following:
Encourage, support and propose scientific counsellors to take strategic actions in the ministries

Prepare a list of strategic actions (Estonian Ministry of Education and Research and Estonian Research Council), which could be implemented by counsellors, including items such as develop/review R&D strategy for their ministry, make/order analysis of synergy mapping of the priorities set in "Knowledge-based Estonia" and in P2Ps for the sectoral ministry.

Bring different parties (Ministry of Education and Research, Estonian Research Council, GPC delegates etc.) together to build consensus on how to divide the work and define the official responsible body for JPP coordination at national level

Engage other ministries in a series of meetings to discuss how to best communicate about joint programming towards the different stakeholder groups and which tools to use, as well as about sharing best practices

Map the P2P related events in Estonia with the target groups (ask input from different ministries, Estonian Research Council, main universities)

Start discussion about measuring impacts of joint programming with scientific counsellors in the future. During the interim evaluation of H2020, feedback from sectoral ministries and other organisations about different initiatives was collected. The analysis of the results is in progress.

Demonstrate the importance of joint programming during a conference to be held by the Estonian Parliament in Autumn 2017 under the general topic "Introduction of scientific initiatives/programmes where Estonia is involved"

Involve national stakeholders in the preparation of the Informal Meeting of Ministers Responsible for Competitiveness (Research), which will be held during Estonia’s presidency of the Council of the EU

For further information on the Estonian situation and plans please contact Ülle Napa at Ulle.Napa@etag.ee.
5.4 France

“Where do we go from here? We now need to disseminate the MLE results. At some other level e.g. the GPC, we need to take the most important elements of the five reports and encourage other countries that did not take part in the MLE, to do more about joint programming.”

The French representative was Emmanuel Pasco-Viel from the Ministry of Higher Education and Research.

Emmanuel found the MLE to be useful for his work. In particular, he valued the possibility to have in-depth exchange about practical issues and potential solutions. He was specifically interested in elaborating questions of communication to impact other sectoral policies and in ideas to measure and demonstrate the impact joint programming has at national level.

While Emmanuel considers the group size to be optimal, he would like to provide the opportunity for countries that have not taken part in the MLE to benefit from the results of the joint work. Through his position in the GPC, Emmanuel will seek to encourage those countries to consider the lessons learned for the development of their national approach to joint programming.

- National context in France

France spends well above 2% of its GDP on R&D (2015), a figure that has increased considerably since 2005. The country participates in all JPIs.

While in France decision-making on joint programming is centralized in the Ministry of Higher Education and Research, a sophisticated system ensures consultation across government departments and the involvement of important stakeholder groups. Each individual Joint Programming Initiative (JPI) has, alongside the official JPI Governing Board (GB), a Mirror Group. The JPI Mirror Groups are chaired by the JPI Governing Board members, coordinated by the Ministry for Higher Education and Research (MESR), and include experts from H2020, representatives from other sectoral Ministries (Health, Environment, Agriculture, Culture), specific RPOs, and in some cases, other funders or private sector representatives. The main function of the Mirror Group is to share information and agree on the position of ANR (The French National Research Agency) as the voting representative of France in JPI GB. In addition to communication, the Mirror Group also allows for the involvement of other Ministries in the discussion on priority research topics and interesting outcomes of research projects.

- Actions proposed by the national representative based on the mutual learning

Any measures to improve alignment would build on this governance structure. The objective would be to give other ministries more ownership, so that they would consider JPIs less of a Ministry of Research-issue, thereby increasing the chances for impact on policy making in other sectors.

Another issue, raised in the discussions during the MLE, concern the logic and measurement of impact that joint programming may have at national and European level. Here conceptual and empirical work needs to be done, which can then also serve as a basis for focused improvement in the future.

Finally, the MLE addressed the issue of visibility of joint programming. In this context, the idea of an annual forum presenting societal challenges and how they are addressed through research was developed. While such a forum may offer an opportunity to raise the visibility of joint programming by addressing a variety of stakeholders, it still needs to be detailed and e.g. be seen whether this should be organised by each JPP network or ‘centrally’ for all of them.

The situation analysis that was carried out during the MLE highlighted two areas for improvement in France, focusing in particular on issues of communication:

- Continue to improve the coordination process with Mirror Groups, especially regarding the involvement of other ministries (the level of commitment being variable among them) as well as...
representatives of the private sector (in the Mirror Groups that are already involving them, they have difficulties to see their added value)

- Explore the possibility of setting up an inter-ministerial structure for societal challenges
- Explore the format and scope for presenting societal challenges and how they are addressed through research
- Develop a framework on the impact of joint programming, especially in view of enhancing the inputs to sectoral ministries for sound, evidence-based public policy making

For further information on the French situation and plans please contact Emmanuel Pasco-Viel at emmanuel.pasco-viel@recherche.gouv.fr.
5.5 Norway

“I recommend other countries to participate in a Mutual Learning Exercise. It is a very useful arena where you get to know people, and can exchange information, and check out if you are on the right track. I am impressed about the professional team of experts, their leadership, and good methods of cooperation, which include the European Commission. Governance is a key in this MLE. It would be very interesting to have the same discussions on governance when we know how the P2Ps/JPIs will fit into FP9. Hopefully they will play a major role!”

The feedback from Norway was provided by Torill Engen Skaugen and Ingunn Borlaug Lid from the Research Council. Ingunn has been involved in the GPC for a number of years and had some personal experience of the situation in other countries from the prior work of the GPC Implementation Group on the same subject.

Both Ingunn and her colleagues (including Kristine Naterstad from the Ministry of Education and Research, who is delegate to GPC) found the MLE to be very relevant and useful.

Ingunn considered that the MLE had really made a difference and had enabled a more open dialogue than before. The Norwegian participants appreciated the whole mutual learning process and were also pleased that other countries had been inspired by the governance system in Norway.

In spite of the excellent governance system in Norway, the MLE has inspired the participants to explore areas for further improvement such as inter-ministerial groups for each JPI. It also highlighted the need to better understand how to measure the impacts. Another less obvious benefit of such an MLE is that it provides the participants with tangible evidence of good practice that can be very helpful in communicating the opportunities for improvement to national stakeholders.

“MLE is an excellent tool to learn from good practices in other countries! To share experience with ministries and RFOs from other countries on how to organize national research systems for best possible national coordination of resources, e.g. on topics spanning several sectors, as well as for optimal trans- and international cooperation, is valuable. I have seen countries with huge differences in research and innovation systems. That countries work in organizing and enhancing transnational cooperation through JPIs amazes me even more after the MLE. The JPIs are going up important paths for transnational cooperation and coordination, and I have realized that the JPIs are increasingly becoming a gateway to the MS and AC’s policymakers on their societal challenges.”

- National context in Norway

Norway is a research-intensive country and very active in joint programming. This includes all 10 JPIs, the SET-plan (Strategic Energy Technology Plan) and a wide variety of ERA-NETs and A185 initiatives. As well as a long term research strategy, which includes research and innovation for societal challenges, the Ministry of Education and Research has also published a ‘Strategy for research and innovation cooperation with the EU’ that covers both Horizon 2020 and ERA.

It has an excellent framework for participation in joint programming and especially for the JPIs. This involves both the sectoral ministries (which have the responsibility for a research strategy and funding, some also have research institutes within their remit) and the Research Council of Norway (RCN), which manages the national programmes on behalf of the Ministries. Each JPI Governing Board includes two Norwegian representatives; one from RCN and one from the responsible ministry. The RCN representatives meet monthly and produce an annual report for each JPI. The leader of this group represents Norway on the GPC (the expert) together with the representative from the Ministry of
Education and Research (the national delegate). Participation in other joint programming networks, such as ERA-NETs, is normally delegated to the RCN.

- **Actions proposed by the national representatives based on the mutual learning**

Although the RCN provides the focal point for national coordination there is a culture of continuous improvement. For example, RCN has developed guidance on how to organize and manage JPIs and the SET-plan (Strategic Energy Technology Plan) at national level, and work on implementation is in progress. As part of this guidance it has been agreed that every JPI should have a national mirror/external advisory group and also try to increase the involvement of those institutes that receive core research funding (institutional funding). Another important part of this guidance is to develop a common model for the ministries’ management and funding of Joint Programming Initiatives, as all the different responsible ministries do not have inter-ministerial groups. The Ministry of Education and Research is in charge of this. The following main ideas for improvement have been highlighted during the MLE:

- Consider how to measure the impacts from P2Ps such as using some of the emerging tools from the ERA-LEARN platform
- Implement an overall holistic strategy with relevance for all societal challenges on P2P priorities on national level
- Complete the establishment of the mirror/external advisory groups for all JPIs and get them into an operational phase. The same goes for the inter-ministerial groups.
- Improve the communication of lessons learned on good practice and good examples on impacts to those who are responsible for the relevant national research programmes to share the overall work load and be aware of the potential international collaboration that lies in the JPPs/P2Ps.

Norway is also keen to help other countries to increase their commitment to the joint programming process and associated joint calls/activities.

*For further information on the Norwegian situation and plans please contact Ingunn Borlaug Lid at il@forskningsradet.no.*
5.6 Portugal

The Portuguese representatives were Madalena Antunes Pereira and Rui Durão, both from the Fundação para a Ciência e Tecnologia (Ministry of Science, Technology and Higher Education).

"The MLE is a good opportunity to share experience and to identify the issues that exist in structures and processes and to have a mutual reflection about the entire topic. Already during the MLE the internal coordination has been improved and organisational structures and procedure will do so in the future."

Madalena and Rui think that the MLE offered an “extraordinary opportunity” to learn and discuss in real time the advantages and challenges of each country model/process and particular measures for participation in JP. This helped them with a swift assessment of what could be implemented in Portugal. Moreover, they valued the intensive face-to-face discussions with their colleagues from other countries, which are needed to fully absorb ideas in a similar way. Finally, the MLE allowed them to develop and analyse ideas for procedures and measures that could be put into place immediately and independently of a lengthy policy process.

Through the MLE, Madalena and Rui had the opportunity to mature their knowledge of the JPP, namely, reinforcing their recognition of the importance of inter-ministerial coordination in the strategic decision making process as well as of impact assessment and of visibility of results. While countries like France and Norway may follow rather different approaches in this regard, the discussion revealed the strengths and challenges coming with each model. Similarly, the set of decision-making criteria developed in Austria inspired their thinking about a systematic approach to an interministerial involvement in the decision making process for participation in joint programming instruments.

“While we have always had close contacts at institutional level with other countries, the MLE brought us in touch with a new set of people to talk to. With them we share a common understanding and experience, which allows us to take the discussion further and into much greater detail. This is a very useful instrument.”

• National context in Portugal

Portugal spends about 1.3% of its GDP on R&D (2015), a figure that has increased sharply since 2005. It participates in various European collaborative instruments for joint programming, namely, four JPIs and is an observer in one more JPI, four Article 185 initiatives, three EJPs and membership of more than 40 ERA-NETs in diverse scientific areas.

The Portuguese innovation system is by its very structure internationally oriented. International collaboration has been part of the system since the 1960s due to geographical dimension, size and political will.

One consequence is that visibility of joint programming across government has been rather high and there is political commitment to participate in these instruments. The Ministry for Science, Technology and Higher Education makes the decisions on international collaboration taking into account the national priorities. While other Ministries have so far not been formally involved in the policy formulation and decision-making processes, the Research Agency, which is preparing the proposals for Portugal’s participation in joint programming, has at working level communicated with other ministries on an ad-hoc basis. Similarly, the research community is included in a consultative manner.

• Actions proposed by the national representatives based on the mutual learning

One of the ideas to improve alignment in Portugal that was presented during the MLE concerns a stronger involvement of other Ministries, as well as other stakeholders. Regarding the latter the pilot project of Public Participation Laboratories recently introduced in Portugal has been presented and analysed as a
Another issue raised during the MLE concerned the need for a measurement of the impacts of JPP research. It is not only required to assess the benefits and cost of participation in joint programming but would also help in the communication and engagement with stakeholders and politicians. To this end a validated methodology needs to be developed and applied.

The situation analysis and discussions during the MLE revealed several areas for improvement in Portugal and include the following:

- Introduce the subject ‘Joint Programming Process’ in the agenda of the Council of Ministers as a means to make it visible and create/improve the political commitment of other stakeholders
- Conduct a similar study on Alignment to the one developed by Austria could be an opportunity to ‘capture’ the participation of other policy makers in joint programming
- Involve other Ministries in the JPP. In the short term, more regular meetings with other Ministries could help improve their understanding of joint programming and they could be involved in defining common S&T policies, as well as the allocation of funds for JPP activities
- Consider how the recently introduced and implemented Public Participation Laboratories could integrate joint programming within the communication strategy
- Develop and validate a methodology for impact assessment of JPP activities

For further information on the Portuguese situation and plans please contact Madalena Antunes Pereira at Madalena.Pereira@fct.pt or Rui Durão at Rui.Durao@fct.pt.
5.7 Romania

“The MLE was an enriching experience for all those who would like to have in-depth knowledge about practical models used for JPI implementation.”

The Romanian representative was Ioana Ispas from the Ministry of Research and Innovation (MCI). There she works as the European Affairs Advisor. She is also a member of Romanian delegation in the GPC.

Ioanna considered the MLE to be very relevant. The aspect she appreciated most was the chance to discuss with those colleagues who are implementing JPIs in different countries and discuss the problems stemming from practical implementation and their solution.

The concept of the French ‘Mirror Groups’ and the Estonian schemes, in which policy Ministries co-fund JPP activities drew her attention. During the MLE, Ioanna started to explore possibilities of adapting these elements to the Romanian situation. To this end she and her colleagues started to think about a potential update of the legislation for the National Research Programme 2015-2020.

• National context in Romania

Romania has a limited R&D budget and spends only about 0.5% of its GDP on research and development. The country takes part in nine JPIs and a variety of ERA-NET, A185s and other transnational initiatives.

Currently, all funding and decision-making about joint programming is centralized in the Ministry of Research and Innovation, without any other Ministry being involved in the preparation of the funding decisions.

The National Research, Development and Innovation Plan in Romania for the 2015-2020 period includes a dedicated programme for international cooperation under which there exists a sub-programme for participation in JPIs. It is expected to commence in mid-2017. In particular the National Research, Development and Innovation Plan is expected to contribute to:

- strengthening governance of active participation in the implementation of strategic research and innovation agendas
- the development of a robust national structure for appropriate JPI national coordination
- the allocation of funding to support active participation in JPIs

• Actions proposed by the national representative based on the mutual learning

The interest of the Romanian participant in the MLE focused on issues of governance, which is also the area for the envisioned actions for improvement:

- Contribute to set up a cross-ministerial working group for each JPI according with the German model
- Set up national mirror groups for each JPI, a measure already planned under the ERA Roadmap.
- Create a governance structure for JPP as whole, which will help the communication within the JPP community and beyond
- Consider the involvement of Horizon 2020 NCPs, as well as of the ERA NET Cofund contact points in the communication processes
- Improve the understanding of the tools that are appropriate for communication with policy makers and the wider public, building on the experience shared through the ERA-LEARN platform

For further information on the Romanian situation and plans please contact Ioana Ispas at ioana.ispas@research.gov.ro.
5.8 Slovenia

“We were sleeping for a couple of years in the field of JPIs, we woke up, just in time for MLE. We received a great deal of ideas and direction on how to proceed, be more active and become a better ERA partner.”

The Slovenian participant in the MLE was Petra Žagar from the Ministry of Education, Science and Sport. She was appointed national delegate to the GPC in March 2015, making her the national JPI coordinator as well. Petra found the MLE to be extremely relevant and very timely for her work.

Her expectations were that it would help her to raise the status of joint programming in her country and provide direction on how to improve national governance, not just for the JPIs but for all P2Ps. She was also interested in the development of formal systems for selection, monitoring & evaluation of JPI activities as well as how to increase the cooperation between national research institutes in relation to grand challenges. The MLE has provides learning and direction for all of these.

One of the creative tactics that Petra used was to host one of the Country Workshop (on National Governance Structures) and involve the State Secretary of her ministry in the meeting. This had a positive impact on raising the profile of joint programming at the policy level and the national Research Agency will be launching a call for proposals in 2017 that will include the option for societal challenge projects.

Petra is also keen to broaden the involvement of the sectoral ministries in joint programming activities and took some inspiration from the co-funding model in Estonia, the mirror groups in France and the governance structure in Norway. She also appreciated gaining access to the Austrian work on selection criteria for prioritising participation in JPP networks as Slovenia does not have sufficient budget to participate actively in all relevant networks.

• National context in Slovenia

Slovenia is a relatively small country with limited national budgets for R&D. It only participates formally in two JPIs (observer status in three others) but is actively involved in various ERA-NETs, one EJP and four of the Article 185 initiatives (including PRIMA).

One of the main issues highlighted prior to the MLE was about how to raise the status of joint programming at higher levels of the Ministry of Education, Science and Sport and other relevant Ministries. There are no specific research programmes and so it is difficult to secure advance commitment to for P2P calls. A new procedure was implemented to formalise the decision process for participation in P2P activities. This involves the Director General of the Science Directorate, the head of the relevant scientific area and others such as the relevant H2020 programme committee delegates.

• Actions proposed by the national representative based on the mutual learning

The lack of sufficient funding and human resources continues to be a major barrier to active participation in JPIs and other P2Ps. An interesting approach on inter-ministerial cooperation was presented at the MLE workshop in Ljubljana. The Ministry of Science and the Ministry of Agriculture combined forces (money and human resource) in two ERA-NET calls with the result that a higher number of Slovenian organisations were successful in being funded in transnational projects.

A number of ideas for improvement emerged from participation in the MLE, including:

- Slovenia is a small country with limited human resources and there are financial limitations. Rather than designing its own societal challenge programmes it could address these by primarily using the EU-level instruments.
- On a limited scale, introduce societal challenges into the ‘interdisciplinary’ pillar of the calls for projects that are published by the Slovenian Research Agency
- Improve the selection procedure for participating in joint programming based on the examples from Austria and Estonia
- Promote the need for an overarching coordination structure, and coordinator, for all P2P activities in Slovenia based on the examples from Norway and Sweden

- Try to influence drafting of the national strategy for internationalisation and the new Act on research and development to include a provision that it should be the mission of all ministries to address societal challenge research

- Increase the interest of other ministries by preparing briefing material for one of the Government sessions in the autumn of 2017

The first two of these have already been achieved. In addition, high level political commitment was given during the MLE Country visit in Slovenia, during which the State Secretary dr, Tomaž Boh announced that a share of the additional funds received by the Ministry will be allocated to SC programmes and that a system of selection of SC programmes and their priorities will be significantly upgraded, also by involving various stakeholder in the process.

*For further information on the Slovenian situation and plans please contact Petra Žagar at Petra.Zagar@gov.si.*
5.9 Sweden

“Getting a larger and closer network of colleagues in Europe is in itself alignment. The exchange of knowledge, problem solving and refection on our own system and processes has been useful and encouraging.”

Karin Schmekel of the Ministry of Education and Research and Pontus Holm from the Swedish Research Council (SRC) participating in the MLE on behalf of Sweden. They also chaired the prior GPC Implementation Group on ‘Alignment and Improving Interoperability (IG2)’, which completed its report in April 2016.

They had already initiated some action based on what they had learned from the GPC/IG2 but reported that the MLE had added more depth to their knowledge about other countries. For example, the MLE allowed them to gain a practical understanding about the French mirror groups, which is an interesting model for Sweden. Another positive feature of the MLE was the number of participating countries as this provided a broad view of many different national systems.

Karin and Pontus are exploring how the national organisation structure can be enhanced to improve communication and knowledge transfer between the government offices and agencies. This could include the development of reference groups for each JPI based on the French model. Another timely opportunity is to focus on the new national research programmes that will be introduced later in 2017 to initiate new processes for mapping of stakeholders and monitoring of impact.

“A main purpose for participating in the MLE on national alignment was of course to learn of ways to improve our national system. However, it is equally important to us that fellow European countries participate to develop their systems and thus become improved collaboration partners for us.”

- National context in Sweden

Sweden is a research-intensive country and has been actively involved in a wide range of P2Ps. This includes all of the JPIs.

The Swedish research funding system includes three research councils and an innovation agency. The largest of the research councils (Swedish Research Council) covers all areas of research. The other two are focused on specific sectors (e.g. environment, health) and operate under the appropriate ministry. The Ministry for Education and Research has the overall coordinating responsibility. In general, the agencies have sufficient autonomy to participate in P2P networks including the JPIs. The Government produces a national Research Bill every four years and the most recent was introduced at the end of 2016. This has allocated more overall funding to societal challenge research and has 10 specific research programmes, several of which have direct synergy with specific JPIs.

- Actions proposed by the national representatives based on the mutual learning

A new framework is being set up to increase the communication between JPIs and the national ministries to create a more coherent policy framework for JPI engagement. At the centre is the Swedish ‘JP-group’, with representation from both ministries and research financing bodies. The meetings are chaired by the GPC delegate and have previously been used mostly for information from GPC to the JPIs. They will now evolve towards workshops dealing with actual tasks. Two additional groups will generate these tasks; the ‘interministerial group’ with representation from all concerned ministries and the ‘JPI funding group’ that has representation from all the JPIs.

Whilst Sweden has a strong involvement in joint programming there is a lack of an overall coordination framework. This includes a fragmented view of stakeholder engagement and impact of the different JPI/P2Ps. The following ideas for action will therefore be explored:
Develop a national organisational structure that encompasses the funding agencies as well as the governmental offices to create a better communication and knowledge transfer on all levels. This will also enable a higher level of coordination with working groups, development and implementation of best practice, etc.

Use the national research programmes that will be introduced in Sweden later this year for mapping of stakeholders and impact monitoring.

Encourage the national JPI actors to increase their stakeholder communication and involvement by setting up broad and inclusive reference groups.

Increase monitoring of impact of the JPIs by making use of the enhanced functionality of a newly launched application and monitoring database system.

The JPI governance system of Norway and the mirror groups of France are regarded as offering some lessons that could be adopted by Sweden.

*For further information on the Swedish situation and plans please contact Karin Schmekel at karin.schmekel@regeringskansliet.se or Pontus Holm at Pontus.Holm@vr.se.*
5.10 Turkey

“I would definitely recommend any colleague with similar duties like me to participate in such an MLE, as it provides a place to exchange knowledge and share ideas about problems we all face in our countries, albeit in different manners.”

The Turkish representative was Serhat Melik from the TUBITAK EU Framework Programmes National Coordination Office, where he works as a Knowledge Hub for JPP and is the National Contact Point for Horizon 2020 Smart, Green & Integrated Transport. He also serves as the Clean Sky 2 JTI National Representative.

Serhat found the MLE to be very relevant for his work. In particular, it was useful for him to see how his colleagues in other countries face issues similar to those he encounters in Turkey and what solutions they were developing in response. A major interest for Serhat to take part in the MLE was to learn about ways to integrate joint programming in the national research strategy. The country visit to Norway was specifically insightful, as it provided Serhat with new knowledge and ideas of how to structure the approach at home. More generally, he considered the country visits as an excellent opportunity to study “tangible examples” and to get to hear policy makers and stakeholders talk about issues from their different perspectives.

Based on the experience of the MLE, Serhat is investigating ways to adapt the ideas from other countries, such as Mirror Groups created in France or the co-funded approach used in Estonia, to the specific needs of the Turkish research and innovation system.

- National context in Turkey

Turkey spends about 1% of its GDP on R&D. The country participates in nine JPIs and two Article 185 Initiatives

Turkey has recently been engaged in a significant science, technology and innovation (STI) impetus with the vision to contribute to new knowledge and develop innovative technologies to improve the quality of life by transforming the former into products, processes and services for the benefit of the country and humanity. Turkey’s research and innovation system is still in a developing stage, which partly explains the comparatively higher growth rates of the budget. International cooperation is seen as an effective instrument to support the development of the R&I system.

The Turkish R&I system uses a centralised policy-making and governing approach for joint programming so that the communication between the National P2P communities is easy and quick. TUBITAK meets regularly under the coordination of International Cooperation Department. Similar meetings are also organized with the related departments of the Ministries (such as with the General Directorate of Agricultural Research and Policy of the Ministry of Food Agriculture and Livestock). The majority of the Ministries do not contribute to the funding

- Actions proposed by the national representative based on the mutual learning

The situation analysis conducted during the MLE highlighted that the areas for improvement in Turkey include issues of governance and communication, as the following ideas show:

- Establish better communication channels within the national JPP community, in particular the other relevant sectoral ministries and stakeholders
- Involve other sectoral ministries in the programming process early on to increase the likelihood that JPP research results will be considered for policy making
- Approach NCPs, who are in-between researchers and other stakeholders for future communication to researchers

For further information on the Turkish situation and plans please contact Serhat Melik at serhat.melik@tubitak.gov.tr.
6 Next Steps

Possible next steps as a follow up to this MLE were discussed with each of the participants during the individual exit interviews and at the final group workshop on 16 May 2017. The main concern expressed was the risk of losing momentum and so there was strong interest in a review meeting after one year.

“We should have a reunion in 12 month after the end for an update on progress. It is too easy to lose momentum.”

The group also considered whether the original plan to split the MLE into three sequences was still valid. The consensus was that the proposed Sequence No 2 (efficient/effective activities at national level) had been at least partially covered during this MLE on 'National Coordination'. Likewise the proposed 3rd Sequence (resources needed for efficient/effective participation in JPP) had been partly covered and is now considered to be rather narrow for an MLE.

One of the advantages of this MLE was that it had been sufficiently broad to appeal to everyone. The process had highlighted 16 'key factors' for national alignment and interoperability (see Appendix). This, however, also meant that it was impossible to focus on particular factors that were regarded as common areas of weakness, such as evaluation of impacts. A follow on to this MLE that focussed on those key factors that are particularly challenging would seem to be the most appropriate way forward.

“Maybe concentrate on particular common issues – e.g. impact evaluation”
APPENDIX: SELF-ASSESSMENT FRAMEWORK

A self-assessment framework was developed by the experts to ensure that the participating country representatives were able to carry out a customised analysis of their national situation and then develop ideas for improvement based on the peer learning activities. The MLE had three main phases based on the pre-agreed topics (preconditions, governance and communication) and so the self-assessment exercises were split accordingly.

A consolidated version of the framework is included below and allows the user to:

- Describe the current national situation and rate its degree of alignment with each of 16 key factors encompassing preconditions, governance and communication.
- Consider the barriers to improvement, for each key factor, and the degree of difficulty in overcoming them
- Propose opportunities for improvement based on the self-assessment and peer learning

The self-assessment starts by considering the national situation for each factor. This is described and then the user gives their country a subjective score for alignment (1-5). This is followed by a similar assessment of the barriers to improvement. The final step is for the user to answer the question: what do you think could be done to improve the national situation?

The national participants completed the self-assessment exercises in advance of the topic-specific workshops and the aggregated results were presented, factor-by-factor, at the workshop using anonymous quadrant diagrams like the one shown in Section 4.6. This allowed the group to discuss the overall pattern for each factor and for individual countries to elaborate on their assessment, thus creating a creative forum on how particular weaknesses might be addressed in particular countries.

The detailed results of the self-assessments for each key factor are included in the more detailed topic reports, namely:

- MLE Report No 2 (National Preconditions) covers five key factors: political commitment to JPP, a national research & innovation system that prioritises societal challenges, dedicated budget for participation in JPP activities, lead ministry/agency with dedicated resources to enable effective participation and flexible funding instruments for participation in JPP.
- MLE Report No 3 (National Governance Structures) covers six key factors: effective strategic decision making structures for JPPs, coordination between ministries across policy domains, mobilising financial resources for JPP activities, coordination between ministries and agencies, offering platforms for stakeholder involvement and measuring impacts and making them visible.
- MLE Report No 4 (Communication Flows and Visibility of the JPP) covers five key factors: communication within the JPP community, communication to impact on sectoral policy, communication to attract researchers, communication to reach out to end-users and other stakeholders and communication to build political support.

These reports can be found at the Policy Support Facility portal.
<table>
<thead>
<tr>
<th>Key Factors</th>
<th>Degree of Alignment</th>
<th>National Situation</th>
<th>Score for Alignment</th>
<th>Barriers to Improvement</th>
<th>Score for Barriers</th>
<th>Scope for Learning &amp; Improvement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Political commitment to JPP</td>
<td>Very low degree of alignment</td>
<td>Political culture that favours national RDI activities</td>
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<tr>
<td>Societal research &amp; innovation system that prioritises societal challenges</td>
<td>Very low degree of alignment</td>
<td>Societal research is not on the agenda of either the funding agencies or the stakeholders.</td>
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<tr>
<td>Dedicated budget for participation in JPP activities</td>
<td>Very low degree of alignment</td>
<td>Funding for JPP activities is dependent on the availability of an existing national budget.</td>
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<tr>
<td>Effective strategic decision-making structure for JPP</td>
<td>Very low degree of alignment</td>
<td>Nohkoh activities making on participation.</td>
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<tr>
<td>Coordination between Ministries across policy domains</td>
<td>Very low degree of alignment</td>
<td>Participation in JPP activities is based on bottom-up decisions.</td>
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<tr>
<td>Effective decision-making making structures for JPP</td>
<td>Very low degree of alignment</td>
<td>Participation in JPP is limited by national and sectoral constraints.</td>
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<tr>
<td>Coordination between Ministries and Agencies</td>
<td>Very low degree of alignment</td>
<td>Ad hoc decision making on participation.</td>
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<tr>
<td>Mobilising financial resources for JPP activities</td>
<td>Very low degree of alignment</td>
<td>Funding is committed by joint calls available from national budget.</td>
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</tr>
<tr>
<td>Communication within the JPP community</td>
<td>Very low degree of alignment</td>
<td>No forum of exchange among the members of the JPP community.</td>
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<tr>
<td>Communication to impact on sectoral policy</td>
<td>Very low degree of alignment</td>
<td>No, no special communication among relevant stakeholders.</td>
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</tr>
<tr>
<td>Communication to attract researchers</td>
<td>Very low degree of alignment</td>
<td>Basic information only</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Communication to reach out to end-users and other stakeholders</td>
<td>Very low degree of alignment</td>
<td>No systematic contact with relevant and other stakeholders.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Communication to build political support</td>
<td>Very low degree of alignment</td>
<td>No systematic contact with policy makers.</td>
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</tbody>
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