Mutual Learning Exercise (MLE) on Alignment and Interoperability of Research Programmes
(Sequence 1: National Coordination)

Report No 1
National Coordination

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1 Introduction

This Report on National Coordination is the 1st of five that will be prepared as the main deliverables from the Mutual Learning Exercise (MLE) on Alignment and Interoperability of Research Programmes (Sequence 1: National Coordination).

It builds on an informal Background/Challenge Paper that was produced in advance of the working meeting in Brussels on 3 October 2016. This included insights gained from interviews with representatives of 10 countries (Austria, Denmark, Estonia, France, Norway, Portugal, Romania, Slovenia, Sweden and Turkey) as well as a review of background information.

Three more specific Reports (on national preconditions, national governance structures and communication flows and visibility) will be produced following the Country Visit workshops in Austria, Slovenia and Norway. These will take a deeper look at each of the three topics and build on available evidence from interviews/surveys, the GPC/IG2 Report and emerging national ERA Roadmaps.

A final report will then be produced that summarises the overall results and conclusions of this MLE.
2 Background

Since the initial concept of an MLE on ‘national coordination’ was proposed in the middle of 2015, three important publications have made recommendations on what should be done to improve things at the national level.

2.1 Lund Declaration 2015

In 2009, the original Lund Declaration called upon Member States and European institutions to “focus research on the grand societal challenges of our times by moving beyond rigid thematic approaches and aligning European and national strategies and instruments”.

In December 2015, an updated Lund Declaration stated that “Europe must speed up solutions to tackle grand challenges through alignment, research, global cooperation and achieving impact”. Four priority actions were highlighted including 1) provide high-level political support; 2) step-up efforts to align national strategies, instruments, resources and actors; 3) improve the framework conditions and speed up necessary structural change in Member States; and 4) agree on a common approach and design a process for ‘smart alignment’ that allows Member States to jointly identify and address new challenges.

The proposed national ERA roadmaps were also mentioned within the text as a framework for each country to declare how they would increase interoperability and openness of their programmes.

2.2 Report of the Expert Group for the Evaluation of Joint Programming

Early in 2016, the Commission published the report of this Expert Group. It included both short and longer term recommendations for Member and Associated States.

In the short term, Member and Associated States were urged to:

1. Ensure that the current process of developing national ERA Roadmaps (Priority 2A: Jointly addressing Grand Challenges) takes full account of the need to address weaknesses in national alignment structures/processes and increases political commitment and levels of investment. This should include due consideration of the Lund Declaration 2015.

2. For those countries that do not already have one, establish a national coordination system for Joint Programming with the following features:

   - A national coordinator for the Joint Programming Process who should also be the national delegate to the GPC
   - A process, coordinated by the Research Ministry, to involve other relevant ministries in appropriate stages of the Joint Programming life cycle through the JPIs
   - A means of involving national/regional funding agencies in the process of engaging with JPIs

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2 This has since become GPC policy and Slovenia, for example, is one of the countries that has made such a change
3. For those countries that are marginal or selective players in the JPIs (Group B and C countries), explore the potential synergies with their Smart Specialisation Strategies to enable more strategic participation and/or complementary actions. The Expert Group report concludes with the statement that “the Joint Programming Process does not yet have sufficient ‘commitment’ from national stakeholders to achieve its potential” and there is a need to “put the onus on the national stakeholders to decide which of the societal domains are most appropriate for them to make serious commitments to joint programming...”.

2.3 Final Report of the GPC/IG2 on Alignment and Improving Interoperability

This report was submitted to the GPC in April 2016. It was the culmination of a joint work programme that started in February 2015. The group, which includes a number of the MLE participants, was therefore able to take account of the above Lund 2015 and Expert Group outputs.

The report includes three main deliverables:

- An analysis of survey responses from 22 countries (alignment mapping)
- A summary of good practice lessons from seven countries
- A Guide on the ‘Governance of the national JPI process’

Some of the conclusions have been used, along with other inputs, to inform the following sections on National Coordination Challenges (Section 3) and elaboration of the Potential Framework for Learning and Improvement (Section 4). However, the GPC/IG2 report will also provide a valuable source of more detailed insights for the specific reports on preconditions, governance and communications.

2.4 National ERA Roadmaps

Some, but by no means all, of the national ERA Roadmaps mentioned in Sections 2.1 and 2.2 above have been produced. Also some are still in the national language.

As far as this MLE is concerned the most relevant part of these Roadmaps is Priority 2A (Jointly addressing Grand Challenges). Some insights on what policy actions various countries are proposing is possible by reviewing the extracts in Annex B. They will be considered in the deeper analysis within the subsequent topic-specific reports.
3 MLE on Alignment and Interoperability

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. This offered a framework to follow up on the recommendations of its Working Group on alignment, which had proposed the following definition:

Alignment is 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 ERA-LEARN 2020 project has also provided some contributions to the state-of-the-art on alignment including a 2015 report on the Definition and Typology of Alignment and a number of more recent case studies3.

A Mutual Learning Exercise (MLE) therefore offered a timely opportunity to build on this work and act on the emerging conclusions of the Lund Declaration 2015, the Expert Group for the Evaluation of Joint Programming and the GPC Implementation Group on 'alignment and improving interoperability'.

As alignment and interoperability are broad issues, a 1st workshop to narrow down the scope of the MLE was organised on 11 February 2016 and 16 MS/AC representatives participated. The conclusion was that there are three main blocks of common issues:

- efficient/effective national coordination
- efficient/effective activities at national level
- resources needed for efficient/effective participation in JPP

The GPC therefore proposed to implement the MLE in a sequential manner and launched a survey (April 2016) to prioritise blocks and related issues.

This led to the decision that the 1st Sequence of the MLE would address the subject of National Coordination and focus on three topics:

- National preconditions for participation in JPP/JPI
- National governance structures
- Communication flows and visibility

Seven countries (Austria, Estonia, France, Norway, Portugal, Slovenia and Sweden) then provided specific input to help draft the scope of this 1st Sequence of the MLE. Three additional countries (Denmark, Lithuania and Turkey) and two observers (Germany and Romania) agreed to join the MLE. Representatives from 10 of these 12 countries participated in the kick-off meeting hosted by the Commission on 7 July.

3 https://www.era-learn.eu/alignment
4 National Coordination Challenges

The scale and diversity of the countries that are participating in this MLE provides the basis to gain a better understanding of the challenges, how these are influenced by the national situations and specific examples that offer learning opportunities.

This overview starts (Section 4.1) by reflecting on the preliminary inputs from some of the countries and the subsequent analysis that preceded the MLE kick-off meeting. This is followed by a short summary of the main conclusions from interviews with national participants from 10 countries (Austria, Denmark, Estonia, France, Norway, Portugal, Romania, Slovenia, Sweden and Turkey).

A comprehensive set of Alignment Factors is then proposed (Section 4.3) based on a synthesis of the insights from the background papers, interviews and awareness of the experts. These are segmented with respect to the three specific topics for this MLE in Section 4.3.1 (preconditions), Section 4.3.2 (governance) and Section 4.3.3 (communication). Clearly, these three topics are not mutually exclusive and Section 4.4 attempts to show the interdependency between them at the level of the Alignment Factors. This will also be explored in more detail in the topic-specific reports. Finally, the important subject of Situational Factors, which influence both the degree of existing alignment and the barriers to change in a particular country, is introduced (Section 4.5).

The Alignment and Situational Factors together provide the basis for the potential learning & improvement framework that is presented in Section 5.

4.1 Pre-MLE Analysis

As mentioned in Section 3 above, the GPC agreed on 29 April to implement a sequential approach with the first MLE addressing three priority topics. Interested countries were then asked to provide their input to further define the scope of the MLE and six countries (Austria, Estonia, France, Portugal, Slovenia and Sweden) submitted their contributions.

These provided the basis for the list of main issues that were presented by the Commission at the MLE kick-off meeting on 7 July and summarised in the table below.

<table>
<thead>
<tr>
<th>National Preconditions</th>
<th>National Governance Structures</th>
<th>Communication Flows &amp; Visibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Insights into decision making process and selection criteria applied - national added value v EU added value (AT/EE/PT)</td>
<td>Inter-ministerial coordination and joint JPP monitoring and IA (AT/FR/SE)</td>
<td>Science-Society communication and (potential) role of JPP/JPIs (SE)</td>
</tr>
<tr>
<td>National JPP framework, overall strategy on international cooperation and JPP position here (AT/NO)</td>
<td>Division of labour between government, funding agencies, research community and their incentives for JPP participation (FR/AT)</td>
<td>Outreach measures towards end-users in industry (AT)</td>
</tr>
<tr>
<td>Compatibility: Articulation between national programmes/funding systems and SRIAs and with smart specialisation (SI/NO)</td>
<td>Embedding: Involvement of society, industry and regional policy makers (smart specialisation) (AT/SI)</td>
<td>Visibility and Commitment: Communication flows of JPP/JPIs towards policy community (AT)</td>
</tr>
<tr>
<td>Balance between bottom-up programmes and top-down JPP and corresponding funding structures (FR/SE)</td>
<td>Resource provisions; Financial commitments and funding of JPI governance and networking structures (SI/AT)</td>
<td>Measures and instruments to raise visibility of JPP/JPIs, including acknowledgements and branding (AT)</td>
</tr>
<tr>
<td>Scope: Articulation between competitive and institutional programming on societal challenges, including underlying sectorial policies (SI)</td>
<td>Position of JPIs SRIAs with H2020 governance and planning structures (AT)</td>
<td>Provision of resources for outreach and communication</td>
</tr>
</tbody>
</table>

The participants agreed that these provided a good overview of the main challenges and issues.
4.2 Feedback on learning & improvement priorities

After the kick-off meeting the Experts organised a series of individual telephone interviews with most of the national representatives. These included a discussion on what they expected to learn from the MLE and the pattern of interest (i.e. learning & improvement priorities).

This indicated that there are two main areas that seemed to be of common interest to many of the participants in terms of peer learning:

1. How to decide on participation in P2Ps
2. Inter-ministerial coordination

The first of these is clearly a ‘governance‘ question, whilst the second is a mix of preconditions, governance and communication.

**How to decide on participation in P2Ps:** This seems to be on the agenda of many countries. It is not just for JPIs as those who are most concerned about this mention other P2P (public-to-public) networks including the Horizon 2020 instruments (i.e. Article 185 Initiatives and ERA-NET Cofund Actions).

- Austria currently has a working group from different ministries/agencies that has been preparing a common policy position on ‘alignment’
- Denmark wants to take inspiration from other countries on how to build an effective decision-making process when it comes to participation (or not) in JPIs
- Estonia wants to learn generally about best practice in national coordination including how other countries decide about participation
- France is interested in how to decide priorities from a top-down perspective, not just for JPIs but all types of P2Ps
- Portugal is interested in learning more from others on their decision making processes for participation in JPI/P2Ps – how do they decide to participate, or not

Surprisingly, very few indicate that their country or funding ministries/agencies have formally evaluated the impact of past participation in P2P initiatives although several are planning to do so.

**Inter-ministerial coordination** was highlighted by many during the interviews as an area with scope for improvement. Some of this is clearly related to situational factors (which are considered in Section 4.5 below) whilst others are more generic.

- France is interested in how to improve connections between the federal ministries within a centralised research funding system.
- Portugal, likewise, has a centralised funding system and so is keen to improve the national governance structure through better engagement with other ministries.
- Romania also has a centralised approach to research funding, which is bottom up with no specific topics. There is a desire to create some kind of inter-ministerial structure for JPP/JPIs.
- Slovenia has a research funding system that involves mostly competitive calls but there is a need to increase cross-ministry political commitment to invest in societal challenge research.
- Sweden mainly participates in the JPIs via its funding agencies and there is a desire to increase commitment and participation of the ministries. The main initiative to achieve this is to set up a joint policy group involving the ministries and JPI representatives.
An interesting example is the case of Estonia, which is implementing several measures to build ownership and commitment between the ministries that have (or should have) an interest in societal challenge research. The Estonian Research Council is funding ‘scientific counsellor’ posts in each of the ministries. It also allocates national top-up for P2P Joint Calls to ministries that are willing to make a contribution to the national funding.

Various other priorities were mentioned by individual participants, e.g. what is best practice in using Structural Funds for P2Ps, how to engage with stakeholders and how to align national/ERA and H2020 activities.

The experts considered a number of options to develop an analytical framework that will be helpful for national stakeholders when considering the complex range of alignment/interoperability options and scope for improvement. The following three sections are derived from an extensive review of the background information and the insights provided on the situation in different countries. This led to a 1st draft set of Alignment Factors for each of the three topics for discussion at the working meeting on 3 October. These factors were designed to consider the relative position of their country and guide learning & improvement actions. They are summarised below (Section 4.3) and will be elaborated in more detail in the topic-specific reports on preconditions, governance and communications.

4.3 Synthesis of Alignment Factors

The Experts reviewed the evidence that had been provided and considered how the four background/challenge papers, and the meetings, could be structured to promote both group and individual learning. This led to the concept of ‘Alignment Factors’ that could be the basis for a ‘Learning and Improvement’ framework. A draft set of Alignment Factors for each of the three topics are presented below and briefly discussed (these will be elaborated in more detail within the three topic-specific reports). The proposed framework is introduced in Section 5.

4.3.1 National Preconditions for participation in JPP/JPI

The synthesis of evidence suggests that there are five main ‘national preconditions’ that enable alignment and interoperability.

**Political commitment to the JPP (P1):** This was clearly highlighted as the single most important issue by the Expert Group for the 2015/16 Evaluation of the Joint Programming Process. Ideally, the rationale and scope for P2P, and other international, activities should be an integral part of the national RDI strategy along with actions to address any obstacles to participation such as funding rules.

**A national research & innovation system that prioritises societal challenges (P2):** In many countries there is a disconnection between those ministries that have the policy lead for particular societal challenges and those ministries/agencies that hold the research and/or innovation budgets. A more integrated and inclusive approach is needed to both prioritise societal challenge research and ensure that the outputs are exploited by both policy stakeholders and the market.

**Dedicated budget for participation in JPP/P2P activities (P3):** A number of the MLE participants indicated that their country’s ability to participate actively in particular JPIs and/or other P2Ps is dependent on whether the national stakeholder has a budget or not. A dedicated central budget that is allocated in a transparent way, based on national
priorities and potential impacts, is considered by some of the participants to be a better way.

**Lead ministry/agency with dedicated human resources to enable effective participation (P4):** Participation in P2P activities at the European level requires a significant level of human resources and this can be difficult for smaller countries in particular. It is clear that this is a major bottleneck for some.

**Flexible funding for participation in JPP/P2Ps (P5):** This factor covers several issues including both the national funding instruments and limitations that are embedded in the funding rules of national institutions and/or programmes. For example, some find it relatively easy to allocate substantial funding for joint research projects but cannot co-invest in other joint activities or JPI infrastructure. Also, there are often restrictions in types of research and/or beneficiaries that can be funded by a particular ministry or agency.

The above Alignment Factors were presented, discussed and (where appropriate) refined at the first working meeting in Brussels. Moreover, issues and good examples were collected to help planning for the topic-specific workshop on ‘National Preconditions’ during the Country Visit to Austria on 13 October.

### 4.3.2 National Governance Structures

Six main Alignment Factors can be identified with respect to the specific topic of ‘national governance structures’:

**Strategic decision making on P2P priorities (G1):** This was one of the two dominant priorities mentioned during the interviews with MLE participants. Several countries allow funding agencies and/or ministries to participate in P2P initiatives without any systematic criteria that are aligned with national priorities or resources. This also applies to the termination of participation.

**Coordination between Ministries across policy domains (G2):** The interviews with MLE participants clearly highlighted some differences in national research funding governance models. Some are highly centralised with the science, or research, ministry having responsibility for both policy and funding. There are also examples of decentralised, or hybrid, models where other ministries have substantial research budgets and maybe even their own research institutes.

**Coordination between Ministries and Agencies (G3):** there is a wide variety of organisational models that characterise the relationships, and division of labour, between ministries and their agencies. In some countries, the agencies have a strong policy role whilst in other they are governed by the policy of the ministry. In the context of the JPP it is important that the governance model is sufficiently flexible to participate effectively.

**Mobilising financial resources for P2P activities (G4):** The availability of a dedicated funding for participation in P2P activities has been highlighted (Precondition No 3) as one option to mobilise national funding. Such a situation may be difficult to achieve depending on the degree of budget centralisation and balance in allocation between institutional and competitive funding. Clearly there are other ways to mobilise such funding but the challenge is to do it in a way that is both efficient and effective.
**Involvement of stakeholders (G5):** This is quite an active area for many of the MLE participants and there are some interesting models including JPI mirror groups, thematic advisory boards and cross-JPI policy groups. This factor has a strong overlap with at least one of the communications topics in Section 3.4 below.

**Measuring impacts and making them visible (G6):** Whilst there are some strongly held views about the benefits of more coordination of societal challenge research across Europe there is a lack of evidence of any systematic approaches to the measurement of impacts. This is particularly the case for policy-level impacts and this is an important factor in relation to communication flows and visibility. It is also the main theme for the 2016 Annual Joint Programming Conference.²

The above Alignment Factors were presented, discussed and (where appropriate) refined at the first working meeting in Brussels. Moreover, issues and good examples were collected to help planning for the topic-specific workshop on ‘National Governance Structures’ during the Country Visit to Slovenia in December 2016.

### 4.3.3 Communication Flows and Visibility

Six main Alignment Factors are apparent with respect to ‘communication flows and visibility’:

**Communication within the JPI-community (C1):** It is clear from the report of the JPP Expert Group Report (Ref 1) and the embedded Statement of the 10 JPI Chairs⁵ that they would welcome a situation where all participating countries would have an effective two-way communication structure with national stakeholders and towards EU institutions such as the European Commission and Parliament. This would also include sharing of experience and best practice amongst those national players that participate in JPIs.

**Alignment of research activities (C2):** Even in those countries that have a strong commitment to the JPP it appears to be quite common that alignment with JPI/SRIAs is considered after the design of national research programmes/activities rather than in parallel. An ideal situation would be a communication system that enables the strategic alignment of evolutionary national research activities with both ERA and H2020 priorities.

**Communication with researchers to increase interest and participation (C3):** In some countries it remains a challenge to generate sufficient interest among researchers to take part in P2P activities. Whilst almost all countries provide information via websites or flyers, there is ample evidence in some countries that they are reaching out to the research community in a more comprehensive way, e.g. via workshops and conferences.

**Communication with other ministries to shape societal policies (C4):** The formation and implementation of socio-economic policies in most countries seems to be detached from the JPP, which is aimed at helping to address grand societal challenges. This is clearly an important area of interest for most of the MLE participants.

**Outreach to industry and other stakeholders to enable participation (C5):** Both the JPIs and the governing science ministries tend to have relatively weak connections with industry, end-users and other national stakeholders that could benefit from applying the

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³ Statement of the 10 Chairs of Joint Programming Initiatives for the LUND Conference 2015
results of JPI research. An obvious area for improvement is to establish communication channels with those that are implementing smart specialisation strategies and engaging with industrial players that can deliver new solutions to market based on the fruits of JPI research. This may also apply to public administrations and public services (e.g. city authorities, hospitals, etc.) that need new solutions to address their challenges.

**Information for policy makers to garner support (C6):** This factor has a strong synergy with one of the preconditions (political commitment to the JPP) and one of the governance factors (measuring impacts and making them visible). It is clearly a fundamental challenge as building awareness and political support, in particular among the political level of all ministries as well as member of national parliaments, for the JPP/JPI should be high on the agenda for all countries.

The above Alignment Factors were presented, discussed and (where appropriate) refined at the first working meeting in Brussels. Moreover, issues and good example were collected to help planning for the topic-specific workshop on ‘Communication Flows and Visibility’ during the Country Visit to Norway in early 2017.

### 4.4 Inter-related Alignment Factors

At the kick-off meeting on 7 July there was some discussion on the question about overlaps between the three topics of this MLE (i.e. preconditions, governance and communication). For example, the table in section 4.1 above implies that the issue of ‘selection criteria’ is related to preconditions but the synthesis of Alignment Factor suggests that it is a governance issue (G1). These inter-relationships are clearer at the level of Alignment Factors as shown in the mapping diagram below.

These inter-relationships will be discussed in more detail in the topic-specific reports.

### 4.5 Situational Factors

One issue that is very clear from the MLE participant interviews is that the opportunities and barriers to improve national alignment/interoperability, and therefore the priorities for learning & improvement, are quite dependent on what could be called the ‘situational factors’ in a particular country. For example, some national research funding
structures are highly centralised (e.g. the Ministry of Research in France controls most of the national budget) whilst others are less so (e.g. in Norway the other Ministries control most of the research funding, which is allocated according to their thematic priorities). Another important situational factor is the balance between competitive and institutional funding. The latter can be a significant share of the national research budget in many countries and, in particular, for societal challenge research.

Thus, there can be no ‘one-size-fits-all’ approach to what each country can do to improve their Alignment Factors. The barriers to change are influenced by a variety of country-specific factors and this has also been considered in developing the proposed Learning and Improvement Framework in Section 5 of this paper.
5 Framework for Learning and Improvement

The concept of ‘Alignment’ and ‘Situational’ Factors (introduced in Section 4 above) provides the basis for a learning tool that can be used for self-assessment by individual countries and give them a framework to communicate opportunities for improvement at the national level. This was developed by the experts and refined following initial feedback from the participants. It includes a separate self-assessment table for each of the three topics (Annex A). The tables give national stakeholders a systematic way of considering areas for learning and options to improve national alignment and/or interoperability. This has two dimensions, namely:

- A scoring system to subjectively assess the **Degree of Alignment**. For each Factor, the national situation is described and the degree of alignment is given a score from 1 (very low) to 5 (very high). The table also includes indicative criteria to distinguish between very low and very high scores.
- A complementary assessment of the **Degree of Difficulty** to improve a particular Alignment Factor. This is based on consideration of the barriers to improvement of the current situation. Describing the barriers and ranking them (very high, high, medium, low or very low) is a useful way of thinking about options for improvement. The self-assessment scores can then be combined to position each of the Alignment Factors in terms of both degree of alignment and barriers to improvement as shown in the two-dimensional grid below.

![Diagram](attachment:image.png)

Of course, it is important that such an assessment framework is used as a learning tool, to help individual countries consider where and how they can improve alignment and interoperability. It is specifically not intended to be a means of carrying out any kind of
comparative evaluation as the scoring system is very subjective and subject to individual judgements. The self-assessment conclusions would therefore normally be regarded as confidential within the closed sessions of the MLE.

This provides a more holistic basis for thinking not only about scope for improvement but also to be realistic about the barriers to change. In some cases, the barriers to change could be within the sphere of influence of those national representatives that are directly involved in this MLE. For others, there may be need for a fundamental change in political commitment to alignment and interoperability in order to enable effective participation in the Joint Programming Process.

The self-assessment tables will be used by MLE participants to prepare for the three topic-specific workshops in Austria, Slovenia and Norway. They will be shared within the group and help to inform both peer learning and group input to individual action planning activities after the workshops.
### ANNEX A: Framework to guide Learning/Improvement Options

<table>
<thead>
<tr>
<th>Alignment Factors</th>
<th>Degree of Alignment</th>
<th>Self Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PRECONDITIONS</strong></td>
<td><strong>1</strong></td>
<td><strong>2</strong></td>
</tr>
<tr>
<td><strong>P1</strong> Political commitment to JPP</td>
<td>Political culture that favours only national RDI activities</td>
<td>Clear commitment and targets within national RDI strategy and ERA Roadmap</td>
</tr>
<tr>
<td><strong>P2</strong> A national research &amp; innovation system that prioritises societal challenges</td>
<td>Societal research is not on the agenda of either the funding organisations or the researchers</td>
<td>Societal challenge research is prioritised and relevant ministries are involved</td>
</tr>
<tr>
<td><strong>P3</strong> Dedicated budget for participation in JPP/P2P activities</td>
<td>Funding options depend on availability of suitable budget and commitment of budget holder</td>
<td>A substantial budget is ring-fenced for P2P activities and allocated using robust criteria</td>
</tr>
<tr>
<td><strong>P4</strong> Lead ministry/agency with dedicated human resources to enable effective participation</td>
<td>Individuals do not have any dedicated time or budget to lead P2P participation</td>
<td>Lead organisation has sufficient resources/authority to represent the country</td>
</tr>
<tr>
<td><strong>P5</strong> Flexible funding instruments for participation in JPP/P2Ps</td>
<td>Participation is inhibited by traditional rules and restrictions</td>
<td>Existing rules are sufficiently flexible or specific instruments have been introduced</td>
</tr>
<tr>
<td>Alignment Factors</td>
<td>Degree of Alignment</td>
<td>National Situation</td>
</tr>
<tr>
<td>-------------------</td>
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<td>--------------------</td>
</tr>
<tr>
<td><strong>GOVERNANCE</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>G1 Strategic decision making on P2P priorities</td>
<td>Ad hoc decision making on participation</td>
<td>Systematic criteria that governs national decision on P2P entry and exit</td>
</tr>
<tr>
<td>G2 Coordination between Ministries across policy domains</td>
<td>No coordination processes or structures</td>
<td>All relevant policy and funding actors for the P2P domain are involved</td>
</tr>
<tr>
<td>G3 Coordination between Ministries and Agencies</td>
<td>Lack of formal rules on national governance of P2P participation</td>
<td>There is top-down coordination that defines organisational role &amp; responsibility</td>
</tr>
<tr>
<td>G4 Mobilising financial resources for P2P activities</td>
<td>Funding is committed to joint calls if available from national budgets</td>
<td>Dedicated central funding pot for P2P participation with transparent rules for distribution</td>
</tr>
<tr>
<td>G5 Involvement of stakeholders</td>
<td>No processes or structures to involve others outside the participating organisation</td>
<td>Formal frameworks with systematic processes to involve relevant stakeholders</td>
</tr>
<tr>
<td>G6 Measuring impacts and making them visible</td>
<td>There is no evidence of the tangible benefits of national investments in P2Ps</td>
<td>A systematic process is in place to monitor &amp; evaluate the benefits and impacts</td>
</tr>
<tr>
<td>Alignment Factors</td>
<td>Degree of Alignment</td>
<td>Self Assessment</td>
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<tr>
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<tr>
<td><strong>COMMUNICATIONS</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C1 Communication within the P2P-policy community</td>
<td>No forum of exchange among the members of the P2P community</td>
<td>One or several fora involving the entire P2P community</td>
</tr>
<tr>
<td>C2 Alignment of research activities</td>
<td>No process to communicate about research activities</td>
<td>Processes and structures to ensure strategic alignment of research activities</td>
</tr>
<tr>
<td>C3 Communication with researchers to increase interest and participation</td>
<td>Basic information only</td>
<td>Effective means of communication to ensure high degree of participation</td>
</tr>
<tr>
<td>C4 Communication with other initiatives to shape societal policies</td>
<td>No, or only sporadic/frequent, communication among relevant ministries</td>
<td>Regular and systematic communication and consultation with all relevant ministries</td>
</tr>
<tr>
<td>C5 Outreach to industry and other stakeholders to enable application</td>
<td>No contact with industry and other stakeholders</td>
<td>Regular and systematic engagement with industry and other stakeholders</td>
</tr>
<tr>
<td>C6 Information for policy makers to garner support</td>
<td>No contact with policy makers</td>
<td>Regular and systematic dissemination to, and engagement with, policy makers</td>
</tr>
</tbody>
</table>
ANNEX B: Extracts from national ERA Roadmaps

The following extracts from the national ERA Roadmaps provide some insights from those that include specific policy actions under Priority 2A (Jointly Addressing Societal Challenges). These include examples of actions that will span the three topics for this MLE (i.e. preconditions, governance and communications) and will provide a broader, and forward looking, perspective from a broader range of countries.

<table>
<thead>
<tr>
<th>Country</th>
<th>Specific Policy Actions under Priority 2A of the national ERA Roadmaps</th>
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</table>
| Austria               | Initiative for strategic cooperation/networking along the GCs, in consideration / by integration of existing network structures (10 strategic networking platforms to be introduced from 2016).  
                        | Outcome-oriented linkage between science, societal stakeholders, the business sector and the political sector (Systemic impact networks: pilot project “Demographic Change”).  
                        | Alignment of the Austrian strategies/measures/programmes with jointly prepared strategies at European level – (Austrian positioning on Alignment (Theses paper)).                                                                                                                                 |
| Belgium               | A formal coordination between the EWI Department and its RFOs should be implemented to come to an overall strategy, vision and decision framework with an independent selection committee using objective criteria and a qualitative analysis on how Flanders will position itself (based on its strengths) with respect to the ERA and its policies and instruments regarding the joint programming process as a result of a participatory process with the stakeholders (through the existing stakeholder platforms). An optimal balance must be struck between bottom-up and top-down initiatives that ensures sustainability and critical mass. This exercise needs to be repeated at regular intervals. The EWI Department will start to prepare proposals for such a process in 2016.  
                        | Additional funding for joint programming and addressing grand societal challenges (JPIs, art.185, …) is needed and is in line with the intention of the Flemish government to reach the 3% R&D intensity level by 2020. A long-term financial plan will set out the commitments of Flanders in the Joint Programming process. The EWI Department will start to prepare proposals for such a plan in 2016.  
                        | In the immediate future the EWI Department will focus on strategy and policy related Joint Programming horizontal issues and selected agenda items of the High Level Group for Joint Programming during the meetings of the relevant working group of its stakeholder platform. A particular information item is the establishment of structural overviews of the participation of Flanders/Belgium in the Peer to Peers networks (P2Ps).  
                        | In European Union (EU) committees and high level policy groups, Flanders will, through the Belgian delegation and on the request of the Flemish stakeholders continue to support the position:  
                        | • that long-term funding of JPIs, JTIs, ERA-NETs Co-Fund etc. is to be added to the common pot of the EU Framework Programme / Horizon 2020, as this has the advantage of being a single, transparent and open competition, instead of a multitude of programmes. An additional advantage is a single system or, alternatively, greater uniformity in submission and selection procedures and management systems.  
                        | • not to extend the number of JPIs in “too light” a manner. On the contrary, existing ones should be evaluated and, depending on the outcome, be continued, stopped or integrated. Also, the multitude of submission and evaluation forms and procedures is to be reduced.  
                        | When performing an analysis of the Flemish policy mix and instrument mix (cf. also priority 1), care should be taken not to block categories of research actors from participating in ERA-NET CoFund or JPI calls.  
                        | Wallonia and Wallonia-Brussels Government                                                                                                                                                                                                 |
Establish a track record of participation (currently underway)
Integrate proposals by researchers from the Wallonia-Brussels Federation as part of these European networks in the electronic submission system of the F.R.S.-FNRS (rollout mid-2016)
Maintain the financial resources to be able to continue to meet the needs of researchers.
A review of Walloon participation in joint programming initiatives is underway and will be available in late summer 2016

Bulgaria
Strategic choices on trans-national and international cooperation and better use of Bulgaria’s diasporas in research, will help to establish a Bulgarian “research brand” and achieve a broader recognition from our foreign investors, from our neighbouring countries, from our partners in the ERA and beyond.
This will decisively increase Bulgaria’s access to international research and innovation networks (e.g. ERA Joint Programming Initiatives, Joint Technology Initiatives, EIT Knowledge and Innovation Communities)

Cyprus
Involvement in the policy dialogue regarding the JPI Initiatives in the framework of the GPC and the H2020 – Programme Committee (PC)
Mapping and assessment exercise for the identification and selection of initiatives where Cyprus could participate further on the basis of national priorities and its RDTI capacity (JPI’s, COFUND, Art. 185 & 187, COST)
Budget Commitment for Joint Programming Initiatives and Art. 185 Initiatives
Strengthen the European orientation of the national R&I Funding Programmes giving emphasis to tackling Societal Challenges

Czech Republic
Public authorities will prepare, adopt and implement an Action Plan for International Cooperation of the Czech Republic in R&D and Innovation and Internationalisation of the Czech R&D and Innovation Ecosystem.

In order to keep on enabling participation of Czech research organisations and private enterprises in the COST and EUREKA programmes (that the Czech Republic is already a Member State of) the “Inter-Excellence” R&D programme will be prepared, adopted and implemented since 2016 as well as other complementary funding instruments that will preserve the Czech involvement in the EUROSTARS, EMPIR and ECSEL programmes.

Public authorities of the Czech Republic will identify barriers and develop a concrete set of coordination and funding measures, which will enable an intensified involvement of Czech research organisations and private enterprises in cross-border and international R&D initiatives and programmes based on the interoperability of national approaches and mutual recognition of evaluation procedures. In this respect particular focus will be put on participation of Czech R&D performing entities in Joint Programming Initiatives, ERA-NET, ERA-NET Co-fund schemes and the TFEU Article 185 programmes AAL (Active and Assisted Living R&D Programme), EDCTP (European & Developing Countries Clinical Trials Partnership) and PRIMA (depending on the decision of European Commission).

Public authorities of the Czech Republic will support the Czech research organisations to develop long-term international strategy partnerships established within the framework of the Horizon 2020 “Teaming” instrument. Related investment costs will be covered by using the European Structural and Investment Funds (hereinafter referred to as “ESIF”) raised within the implementation framework of the Operational Programme Research, Development and Education (hereinafter referred to as “OP RDE”).

Denmark
Danish participation in the Horizon 2020 programme committees is supplemented by a number of so-called ‘reference groups’ with relevant experts. The Ministry of Higher Education and Science will establish a strategic reference group to discuss main strategic issues concerning Danish participation in Horizon 2020, including Danish participation in co-financed instruments.

In 2016-2017, the Ministry of Higher Education and Science will map 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.

In 2016, the Ministry of Higher Education and Science will establish a national ERFA network to support Danish participation in EU partnerships. The network will function as a platform for exchange of experiences and thus for building routine and capacity for Danish participation in EU partnerships, debate about best practice and coordination at practical as well as strategic levels.
| **Germany** | In 2016, the Ministry of Higher Education and Science will strengthen the EU-DK Support initiative, i.e. through targeted information activities and implementation of a funding scheme promoting outreach work targeted at new actors. In addition, support for the preparation of Horizon 2020 applications will continue through the EUopSTART scheme, just as the effort to promote Danish participation in KICS will continue. In 2016, Innovation Fund Denmark will develop an international strategy establishing the priorities for its international cooperation. The fund’s efforts include a targeted focus on international programmes, which will facilitate cooperation between Danish actors and strong international partners. This includes a specific focus on the programmes that are deemed to provide the best opportunities for creating growth, jobs and export. | **Estonia** | Ensure in inter-ministerial cooperation the participation of Estonia in initiatives of the European Research Area, coordinate between ministries the participation of Estonia in research programmes of the Member States implemented for socio-economic objectives (RDI Strategy, p.4.1) Support measures: The activity is supported by the programme for enhancing the capacity of public authorities (RITA), and the Mobilas Plus programme for supporting internationalisation, mobility and a new generation of researchers in research and higher education sector (Structural Funds). Also, from the international cooperation grants of the Estonian Research Council and the ministries (support from the Estonian state budget funded from tax revenues). |
| **Finland** | Decisions on how diminished resources can be used in the most optimal way will be made more carefully than previously The Academy of Finland will arrange national discussion and information exchange events on joint programming In addition to exchanging information, the flexibility of funding practices and different actors' long term commitment to initiatives will be increased | **France** | Strengthen the coordination of national participation in JPIs. The alignment of national programmes in the context of joint programming requires a national coordination of programmes and funding. Indeed, in France as in other countries, national programmes on societal challenges can be coordinated by various Ministries as these challenges go beyond research. Thus, funding at national level can also be fragmented. That is why the organization with 'mirror groups' that we have set up should permit the involvement of relevant ministries and help them to take into account research results coming from JPIs in view of elaborating public policies, in order to increase the impact of research on societal challenges. The participation of France in European initiatives aiming at jointly programming, in particular JPIs, will be taken into account in the international part of our national research strategy (under construction). |
| **Germany** | Strengthening the structural impact of the Joint Programming Initiatives (JPIs): In particular, this measure includes designing and implementing 'bivalent' programmes, i.e. when BMBF funding programmes are being planned, wherever possible and appropriate a European component is also to be developed that is geared in terms of content to the strategic research agendas agreed within the context of JPIs. Continuation and greater utilization of other instruments, initiatives and platforms of cross-border cooperation in the European Research Area: In addition to active participation in JPIs, European Innovation Partnerships (EIPs), ERA-NETs and ERA-NET Cofund Actions in Horizon 2020, this measure applies in particular to the two transnational European research initiatives EUREKA and COST which usefully complement the EU Framework Programme for Research and Innovation as important instruments in the European Research Area with their marked bottom-up approach, their flexibility and their lean administration. Utilization and expansion of measures in accordance with Article 185 TFEU (public-public partnerships – P2Ps), such as the successful SME research funding programme EUROSTARS implemented under the EUREKA initiative, the European Metrology Programme for Innovation and Research EMPIR implemented by EURAMET e.V., the Joint Baltic Sea Research and Development Programme BONUS and the European and Developing Countries Clinical Trials Partnership programme EDCTP carried out in close partnership between European and sub-Saharan African countries, as well as measures under Article 187 TFEU (public-private partnerships – PPPs) with the participation of German industry, such as the initiatives for biobased industries (BBI), fuel cells and hydrogen (FCH), aviation (Clean Sky 2 – CS 2 and the Single European Sky ATM Research – SESAR) or innovative medicines (IMI). In this way, important impulses are given in areas in which the market often fails (P2Ps), and, at European level, such measures are driven by industry (PPPs) in order to create a critical mass for near-market support of key technologies which are of particular importance for Europe's global competitiveness. Increasing the visibility and documentation of the European/international networking of German science: The Federal Government will work towards improving the relevant indicators, including for the purpose of data collection in the ERA Monitoring Mechanism (EMM) in accordance with Article 181 TFEU. | **Continuation, expansion and support of transnational cooperation by the science organizations:** The German Research Foundation DFG contributes at various levels and in |
various integration phases to creating a science-led environment for transnational research cooperation. At project level, the required financial resources can either be obtained through the flexible use of project funds or additionally applied for. At institutional level, the DFG cooperates with foreign partner organizations – for example within supraregional or international collaborations such as Science Europe and the Global Research Council – in order to better coordinate the research funding systems for the benefit of the scientific community, for example by working towards comparable standards and procedures. Tried and tested mechanisms of the DFG for transnational research funding such as the "Money Follows Cooperation Line", "Money Follows Researcher" and "Lead Agency" processes in Germany, Austria, Switzerland and Luxembourg as well as funding based on bilateral and multilateral agreements in the various programmes are to be continued. The development and expansion of the Lead Agency process is being trialled by means of pilot measures with other countries. The Helmholtz Association is helping to reinforce the long-term pooling of research expertise and research backing for relevant initiatives at European level with the further development of the European Energy Research Alliance (EERA) and the European Climate Research Alliance (ECRA) which also includes the activities of relevant JPIs and Knowledge and Innovation Communities (KICs) of the European Institute of Innovation and Technology (EIT). The Helmholtz Association also continues to work actively in the EU-funded Human Brain Project (a Future and Emerging Technologies (FET) Flagship) as well as in the three KICs established so far by the EIT. The German Rectors’ Conference (HRK) aims to develop a European Research Map on the basis of its national Research Map for universities; this web-based tool will make it easier to search for key research priorities of European universities and will thus improve their visibility. The HRK also maintains a database of collaborations between European universities in border regions. These collaborations form an important component of the European Research Area. With nine neighbouring countries, Germany is a key location for such cooperation. The HRK wants to create a future platform for the exchange of European experience and for developing ideas and strategies in this area.

**Greece**

The future active participation of the country (GSRT) in ERAC / GPC Commission.

The introduction/establishment of a Committee in GSRT for the evaluation of the country’s participation in joint programming actions / ERA under Horizon 2020. The selection criteria are: a) The objective, priority areas, actions’ targets and their consistency with national RIS3, b) The added value in relation to the promotion of respective national actions, c) The availability of financial resources, d) Other matters, mainly managerial capacity on behalf of GSRT. The Commission has already approved the involvement of GSRT in six international research networks between public - public sector such as ERANET Cofund actions (ERANETMED, EURONANOMED, COFASP, E-RARE, TRANSCAN, ERANET RUS PLUS), and three more international research networks ATC-ERANET COFUND, QUANTERA FET ERANET COFUND and FLAG-ERA II.

The country’s involvement in the PRIMA initiative for the Euro-Mediterranean cooperation (possible Article 185 TFEU).

Also, the participation in intergovernmental networks complementing the FP for R&I and consisting important tools for building ERA, through bottom-up approach, flexibility and their coherent governance structure, such as COST, will remain, as well as ESA programs and European Commission in space issues, also enabling networking between institutions. The continuation of participation in future calls under Eureka / Eurostars is being examined.

Incorporation in the national legislation (YPASYD) of all the possibilities offered by Regulation 1303/2013 (GRNET) on the harmonization of the research program management procedures with those applied in Horizon 2020. These relate mainly to the simplification of procedures and cost models, subject to the limitations imposed by the regulatory framework of state aid. GSRT intends to apply these processes both in co-financed projects in the context of smart specialization strategy and national programs.

**Ireland**

The potential for competitive funding mechanisms aimed at stimulating solutions-driven collaborations will be explored

Strengthen public policy and societal impact by targeting supports to cultivate interdisciplinary research and increase engagement of public entities and civic society in public policy and societal challenge-based research

Continue to act as leaders with regard to participation, engagement and investment in relevant Joint Programming Initiatives (JPIs)

The Strategic Research Agendas of relevant JPIs, developed with input from representatives of Irish RFOs, will continue to inform national research funding programmes which will in turn inform the review of national research prioritization in 2017

Continue to operate national steering groups to ensure strong stakeholder engagement with the JPIs and enhanced coordination of national activity

Convene regular meetings of the national Joint Programming Oversight Group to bring together representatives from the network of JPI steering groups to ensure effective oversight

Develop further involvement in relevant JPI activities and ERA-NET activities
<table>
<thead>
<tr>
<th>Country</th>
<th>Actions and Measures</th>
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<tbody>
<tr>
<td><strong>Italy</strong></td>
<td>Launching a joint ministerial consultation in order to set up a steering board to coordinate national and EU research programmes on Grand Societal Challenges (Tavolo di ricerca sulle Grandi Sfide della Società Contemporanea - TASSC). One of the tasks of the TASSC (see Fig. 4) will be to develop strategies and match funding schemes for shared EU priorities and national specialisations, in view of optimising transnational research and innovation investments on Grand Challenges. The TASSC will be supported by Thematic Focus Groups (Tavoli Tematici - TT) bringing together representatives from authorities responsible for national research activities and programmes, National representatives in JPIs and in the configurations of the Committee for the Specific Programme Implementing Horizon 2020, representatives from National Technology Clusters (Cluster Tecnologi Nazionali - CTN) and relevant Regional Directors. The TASSC, acting as a steering board, will be chaired by the Head of the Department for Higher Education and Research (MIUR), and its members shall include the Head of the Department for Economic Development and Social Cohesion and DGs from relevant Ministries. Setting up an Inter-Ministerial Executive Board (Gruppo Operativo Interministeriale – GOI: see Fig. 5) to coordinate Italy's participation in Joint Programming activities (especially JPIs). The Group, led by MIUR, shall include representatives from relevant Ministries and Regions. It shall support and coordinate Italy's participation in JPIs, according to guidelines set out by the TASSC (see Specific objective 2a), and shall provide output to Italian representatives in the JPI scientific and management bodies.</td>
</tr>
<tr>
<td><strong>Lithuania</strong></td>
<td>Measure: to provide support for cross-sectoral cooperation in R&amp;D. Action: to provide support for the development of the European research network and encourage institutions of research and higher education to be actively involved in that. Measure: to ensure the financing of high-level research projects oriented to solving issues of strategic importance to the public and society and projects promoting economic development.</td>
</tr>
<tr>
<td><strong>Malta</strong></td>
<td>Initially participation in the Joint Programming Initiatives was to focus on JPND and JPI Oceans, since these initiatives are clearly in line with the National R&amp;I Strategy and the smart specialisation priorities. However, due to resource constraints and the timing of the calls, a decision was taken to focus on strengthening participation in JPI Oceans. This is also due to the higher level of interest on the part of local stakeholders in this initiative. The online web-based portal PluMtTri (Platform for Maltese Research and Innovation) plumtri.org will be used to ensure more effective and targeted dissemination of information on the Joint Undertakings, Joint Programming Initiatives, COST and H2020 to the relevant stakeholders. The aim is to progress towards the setting up of online communities for each of the initiatives Malta is active in and thereby provide easier and faster access for local stakeholders to relevant information and contacts. Strengthening participation in JPI Oceans will be undertaken by mapping the full range of local stakeholders with an interest in this initiative in the public and private sectors and securing resources for effective participation. The aim is to define a more strategic approach to participation.</td>
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<tr>
<td><strong>Netherlands</strong></td>
<td>During the 2014-2017 period, the ministries of Education, Culture and Science and Economic Affairs will be making available a total of €36 million as part of a special measure to enable NWO to co-finance specific European collaborations connected with the top sector research agendas in order to stimulate the internationalisation of these top sectors and expand links with the Grand Challenges of Horizon 2020. Connecting the strategic routes of the Dutch national research agenda and European themes will open the way to substantive collaboration with international partners.</td>
</tr>
<tr>
<td><strong>Norway</strong></td>
<td>National level Implementing a common model for management and funding which will ease the administration of and communication between the different actors within and between the JPI(s) Raising the general awareness by spreading knowledge about, disseminate results from, and visualize impact of the JPIs, to speed up their implementation. Utilize different arenas (regular and irregular, new and existing) for the JPI-responsible persons to meet the end-users, public or private, both to ensure commitment and to seek new ways of approaching the societal challenge. Establish regular arenas for the JPI-responsible persons to meet to secure common learning, e.g. in foresight activities, that may pave way for innovative solutions. EU-level Contribute to increased communication between involved countries and the European Commission on how to co-operate through JPIs – spreading good practices and</td>
</tr>
<tr>
<td>Country</td>
<td>Initiative</td>
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<tr>
<td>Romania</td>
<td>Elaboration and implementation of an Action Plan for a coordinated participation in Joint Programming Process and JPIs including: strengthening the scientific expertise in JPI domains of interest for Romania; strengthening governance of active participation in the implementation of strategic research and innovation agendas; development of a robust national structure for appropriate JPIs; national coordination (National Mirror Groups for each JPI could increase Romania’s visibility, create a pool of top level experts to be promoted in various JPI activities, and increase the active involvement of stakeholders); allocation of funding to support active participation in JPIs; a dedicated sub-programme of the current National Plan for RD&amp;D to support the projects selected to be funded and to follow joint calls under JPIs (is expected to be run starting from 2017)</td>
</tr>
<tr>
<td>Slovenia</td>
<td>Targeting co-funding of transnational public research</td>
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<tr>
<td>Spain</td>
<td>Governance, strategic planning and management coordination</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>Will use the review of the Commission expert group on Joint Programming published in 2016 and Lund Declaration to engage with UK stakeholder on JPIs.</td>
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</tbody>
</table>

- Elaboration and implementation of an Action Plan for a coordinated participation in Joint Programming Process and JPIs including:
  - Strengthening the scientific expertise in JPI domains of interest for Romania;
  - Strengthening governance of active participation in the implementation of strategic research and innovation agendas;
  - Development of a robust national structure for appropriate JPIs;
  - National coordination (National Mirror Groups for each JPI could increase Romania’s visibility, create a pool of top level experts to be promoted in various JPI activities, and increase the active involvement of stakeholders);
  - Allocation of funding to support active participation in JPIs;
  - A dedicated sub-programme of the current National Plan for RD&D to support the projects selected to be funded and to follow joint calls under JPIs (is expected to be run starting from 2017).

- Targeting co-funding of transnational public research

- Governance, strategic planning and management coordination

- Will use the review of the Commission expert group on Joint Programming published in 2016 and Lund Declaration to engage with UK stakeholder on JPIs.

- Implementation of Global Challenges Research Fund (GCRF).

- Development of Dementia Research Institute.