EUROPEAN UNION

**EUROPEAN RESEARCH AREA
AND INNOVATION COMMITTEE**
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**– ERAC –
Secretariat**

**Brussels, 8 September 2017
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ERAC 1208/17

NOTE

From:	ERAC Secretariat
To:	ERAC delegations
Subject:	ERAC 2016 Annual Report

Delegations will find annexed to this Note the ERAC 2016 Annual Report as adopted by written procedure.

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THE EUROPEAN RESEARCH AREA AND INNOVATION COMMITTEE (ERAC)

2016 ANNUAL REPORT

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THE EUROPEAN RESEARCH AREA AND INNOVATION COMMITTEE (ERAC)

2016 ANNUAL REPORT

1.   **KEY POINTS**

Below are the key points and achievements from 2016 for the Council to note:

- There has been positive progress against all of the key indicators for the ERA Roadmap.

- The main structural changes agreed by the Council in December 2015 were successfully implemented, and the process of bringing the ERA-related groups under the Council's remit was begun.

- A new group was set up on open science and innovation, to address Priority 5.

- There is a substantial amount of mutual learning going on within all groups, supporting member states in managing their national research and innovation system more effectively. For example, most National Roadmaps on research infrastructures adopt methodologies consistent with the ESFRI exercise. Almost all National Roadmaps provide confirmative feedback to ESFRI as they contain the national participation in ESFRI infrastructures among the top priorities.

- Several important documents were published during 2016 that make a practical reality of this collaborative approach, notably the ESFRI Roadmap for research infrastructure and a strengthened Charter and Code on researcher mobility.

- The work is dynamic – several groups updated their work programmes in 2016 to reflect pressing current issues. For example GPC adopted a new Work Programme 2016-2018 following the recommendations of the Hernani Report on the Evaluation of joint Programming to address Societal Challenges, and the Helsinki Group adopted a new Work Programme 2016-2017 in line with the Council Conclusions on Advancing gender equality in the ERA of 1 December 2015.

- All groups recognise the need to continue to build capacity in new member states.

- All groups contributed to the preparation of the ERAC Opinion on the Interim Evaluation of H2020/next Framework Programme.

ERAC Co-Chairs:	*Robert-Jan Smits and David Wilson*
GPC Chair:	*Leonidas Antoniou*
ESFRI Chair:	*Giorgio Rossi*
SGHRM Chair:	*Conor O'Carroll*
Helsinki Group Co-Chairs:	*Marcela Linkova and Ana Arana Antelo*
SWG Open Science and Innovation Chair:	*Clara Eugenia García García*
SFIC Chair:	*Dan Andrée*
	Rozenn Saunier from 15 Oct 2016

2.   __INTRODUCTION__

ERAC is a strategic policy advisory committee whose principal mission is to provide timely strategic input to the Council, the Commission and Member States on research and innovation issues that are relevant to the development of the European Research Area (ERA).

Throughout 2016, for each of ERA's six priorities, the ERA-related groups took responsibility for specific development and implementation and reported to ERAC. This Annual Report[1] has been prepared by ERAC and summarises challenges faced by the ERA-related groups and their achievements in 2016 as well as plans for 2017 and beyond.

The main achievements of the ERA-related groups are summarised below. Full individual reports from each of the groups are presented in **Annex A**.

It should be noted that this Annual Report adds to the findings of the European Commission's 2016 ERA Progress Report[2] published on 26 January 2016 which showed impressive ERA growth in key sectors.
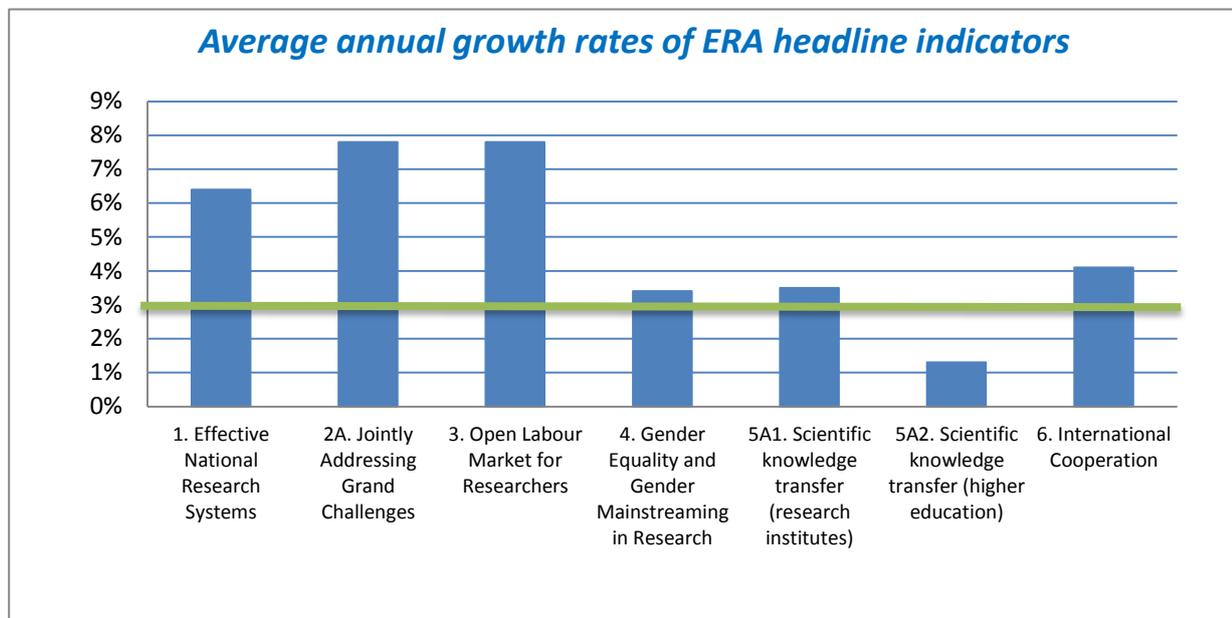
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1   The Council conclusions on the review of the ERA advisory structure, adopted on 1 December 2015, state that the ERA-related groups 'will provide a short annual update to ERAC on progress and impact against the ERA Roadmap and that ERAC will annually report to the Council to ensure that Council is regularly and comprehensively sighted on progress'.

2   The 2016 ERA Progress Report and supporting documents can be found on this website: http://ec.europa.eu/research/era/eraprogress_en.htm

3. ERAC INDICATORS AND PROGRESS

The table below shows average progress of the ERAC Indicators as published in the ERA Progress Report 2016.

Average annual growth rates of ERA headline indicators

Indicator	Growth rate
1. Effective National Research Systems	~6.4%
2A. Jointly Addressing Grand Challenges	~7.8%
3. Open Labour Market for Researchers	~7.8%
4. Gender Equality and Gender Mainstreaming in Research	~3.5%
5A1. Scientific knowledge transfer (research institutes)	~3.5%
5A2. Scientific knowledge transfer (higher education)	~1.3%
6. International Cooperation	~4.1%

When using qualitative analysis, a growth rate of 3% and above is considered as very good progress. On this basis, the graph above indicates consistent growth in progress[3] on all ERAC priorities. For indicator 5A2, it is too early to assess more accurately as recently released raw data needs thorough analysis.

In the area of Priority 2b – Research Infrastructures also a significant progress has been made as by the end of 2016 as many as 21 Member States and 3 Associated Countries have adopted national roadmaps for research infrastructures of which 13 have been introduced or updated since 2014.

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3   Headline indicators used for measuring growth for the ERA priorities are:
1.   Research Excellence
2A.   Transnational cooperation
3.   Euraxess postings
4.   Female grade A professors
5A1 Public private cooperation with research institutes
5A2. Public private cooperation with higher education institutes
6.   Co-publications with non-ERA countries

A description of the indicators used above is included in the statistical ERA Monitoring Handbook which accompanies the Science-Metrix report 'Data gathering and information for the 2016 ERA monitoring'. The Handbook and other documents can be accessed on this website: http://ec.europa.eu/research/era/eraprogress_en.htm.

4. KEY ACHIEVEMENTS BY ERAC AND ERA-RELATED GROUPS

1. *Cross-cutting issues*

There was significant progress on the changes in governance agreed by the Council in order to ensure a more efficient and effective advisory structure for the implementation of the ERA. All ERA-related Groups are now members of the ERAC Steering Board and this has already helped dialogue, mutual understanding and co-ordination between the groups. In order to increase the transparency of its operations, the Steering Board has also agreed arrangements for ERAC delegations to observe meetings.

The Council Conclusions of December 2015 asked that all ERA-related groups should be brought under the oversight of the Council before the first scheduled review of ERA governance in 2018. The Strategic Group on Human Resource Management and the Helsinki Group (both previously Commission expert groups) took this step in late 2016 and will accordingly take up their new status in mid-2017.

Work was also undertaken to coordinate and streamline the ERA-related group's vis-à-vis Commission expert groups. A survey was launched with the aim of identifying any potential overlaps, gaps, resource or coordination issues and examining whether the groups reflected delegations' priorities. An ERAC Opinion on the issue was adopted on 7 November 2016. Some of the ERAC recommendations on streamlining and coordination have started to be implemented during 2017, and will consequently be described in the next Annual Report.

ERAC emphasised that optimising Europe's innovation potential depends not only on an adequate set of instruments in support of research and innovation but also on positive framework conditions across sectors and levels of governance.

2. *ERA Priority 1 – More effective national research systems, led by ERAC*

- ERAC focussed on how best to achieve top actions as defined in the ERA Roadmap. In partnership with ERAC Member States, most ERA national action plans were finalised during 2016.

- During the second half of 2016, through workshops and plenary meetings, ERAC identified a practical way forward on the implementation and monitoring the impact of the ERA national action plans. Members agreed that the ERA national plans would be used in learning exercises where best practice would be shared and that this would result in increasing the efficiency of research systems. Next steps include regular workshops at ERAC plenary meetings when held in the country of the Presidency in office.

- As part of its role as strategic policy advisor to the Council, the Commission and the Member States, ERAC adopted an Opinion on the idea of a European Innovation Council in July 2016. In its Opinion, ERAC supported the idea of an EIC that focuses on market-creating innovation, simplifying and filling gaps in existing innovation support, in particular for scaling up, and including non-financial support such as mentoring. An EIC should complement and add value to support provided at local, national and inter-governmental levels and thus contribute to a seamless innovation ecosystem in Europe.

- Following a workshop organised by the Commission in November 2015 on methodologies for evaluating the impacts of the 7th Framework Programme, it was decided to establish an ERAC Ad-hoc Working Group to exchange experiences and share good practices on the evaluation of impact of EU Framework Programmes at national level. The ERAC Ad-hoc group on Measuring the Impact of EU Framework Programmes for Research and Innovation was established in March 2016 for 9 months. In December 2016, its mandate was extended for 6 months, until 30 June 2017.

3. *ERA Priority 2a – Optimal transnational cooperation and competition, led by the High Level Group for Joint Programming (GPC)*

*   Following the recommendations of the Hernani Report[4] (March 2016) on the Evaluation of Joint Programming to address Grand Societal Challenges a new work programme (2016-18) with seven main priorities was adopted by GPC during 2016.

*   It continued to make progress by adopting recommendations from three of its Implementation Groups relating to fostering relationships among Joint Programme Initiatives (JPI) and the GPC, improving alignment and interoperability, and monitoring and evaluation of new and existing JPIs.

*   New sub-groups (working and task force) have been set up to implement the new GPC Work Programme. These groups are working towards providing findings and recommendations on the Long Term Strategy of Joint Programing, the GPC Opinion on the interim evaluation of H2020 and the next FP, the JPIs' input on the last WP of H2020, Migrants/Migrations – Integration Challenge, and Participation of low-performing countries in JPIs.

*   Other activities include a mutual learning exercise on alignment and interoperability of research programme, exchanging information on best practices (ERA roadmaps) and preparing a position paper on EIC.

4. *Priority 2b – Research infrastructures, led by European Strategy Forum on Research Infrastructures (ESFRI)*

*   Throughout 2016 ESFRI continued to strengthen the European Research Area by fostering more effective coordination of national and European investments in research infrastructures (RIs).

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4   Produced by the Expert Group that was established by the European Commission (EC) to carry out the evaluation of Joint Programming to address grand societal challenges.

- In March 2016 ESFRI presented the Roadmap 2016 in a highly renovated format considering the whole life cycle of Research Infrastructures. The Roadmap includes the list of 21 ESFRI Projects, which are strategic RIs in the development stage and 29 ESFRI Landmarks, which are already implemented pan-European RIs. The Roadmap is accompanied by a Landscape Analysis of the overall availability of operational RIs in Europe.

- In October 2016 ESFRI launched the process for the update of the Roadmap in 2018, for which ESFRI further refined its evaluation process, developed the methodology for the Monitoring of the Roadmap Projects and launched a Pilot Review of the Landmarks in order to address the progress towards implementation and the performance during operation and long term strategy, respectively. ESFRI put in place a Monitoring System (MOS) that updates continuously the status of national engagement in the Projects and Landmarks therefore providing reliable data for the EMM indicators.

- In addition to this, ESFRI published a report on how to strengthen the impact of RIs on industry and innovation prepared a recommendation on better coordination of Member States' investment strategies in e-infrastructures and established a working group to address the challenges of long-term sustainability of research infrastructures.

- ESFRI started publication of ESFRI-Scripta books that result from the work of ad-hoc Expert Working Groups on issues concerning the policy of research infrastructures in Europe. The first ESFRI Scripta analyses the expected evolution of availability of neutron sources for analytical studies in the next decades, as a result of international and national decisions on construction and decommissioning of different facilities.

5. *Priority 3 – Open labour market for researchers, led by the Steering Group on Human Resources and Mobility (SGHRM)*

- SGHRM contributed by strengthening the Human Resources in Research Area that included practical means for research performing organisations to ensure the recruitment of researchers is open, transparent and based on merit.

- A report on Intersectoral Mobility of Researchers, their Conditions and their Competences identified the main barriers for researcher mobility.

- A report on Innovative Transnational Research Mobility and Welcoming Researchers to Europe was published.

- The recommendations in the above reports contribute to researcher career development and working towards a truly open labour marked for researchers.

- Members of the SGHRM and specialised experts strengthened the principles of Charter and Code (HRS4R). Universities and research organisations have implemented strengthened HRS4R procedures in the applications for the 'HR excellence in research' award.

6. *Priority 4 – Gender equality and mainstreaming in research, led by the Helsinki Group (HG)*

- The Helsinki Group advanced the implementation of the ERA Priority 4 with its four subgroups; in line with the December 2015 Council Conclusions on Advancing gender equality in the ERA.

  Started preparations together with SFIC, for developing joint guidelines on a gender perspective for international cooperation in Science, Technology and Innovation (STI), following the December 2015 Council Conclusions on Advancing gender equality in the ERA.

- Started work on guidance on gender balance in decision-making for professors and leadership positions.

- Drafted recommendations on cooperation between the Helsinki Group and the National Contact Points as regards gender equality in Horizon 2020, which will feed into the interim evaluation of H2020 and the preparation of the next Framework Programme.

- Started the preparations for guidelines on a gender perspective in international cooperation in Science, Technology and Innovation.

- Coordinated work on mutual learning on National Action Plans and contributed to the ERA monitoring mechanism.

- Adopted a position paper in view of the ERAC Opinion on the European Innovation Council.

7. *Priority 5 – Optimal circulation, access to and transfer of scientific knowledge, led by the ERAC Standing Working Group (SWG) on Open Science and Innovation*

- This is a new group set up in May 2016 and is responsible for advising on development and polices for Open Science and Open Innovation.

- It elected a Chair and Vice Chair (October) and adopted the Rules of Procedure and the Work Programme 2016-17. The focus will be on five thematic priorities including open research data and infrastructures; open access to publications: models, costs, and metrics; research and researchers' incentives, evaluation and impact assessment, innovation; training and skills.

- It will build on the work carried out by the ERAC Task Force on Open Access to Research Data and the former ERAC Working Group on Knowledge Transfer.

- The group was explicitly tasked by the Council [5] to perform this progress review and embarked on preparatory work to assess the proposed actions on the Amsterdam Call for Action (on Open Science) and will report on it in due course.

- They undertook a stocktake of existing and on-going work groups to aid assessment of the Amsterdam Call for Action and will develop initial recommendations by mid-2017.

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5   *Council conclusions, May 2016*

8. *Priority 6 – International Cooperation, led by Strategic Forum on International Cooperation (SFIC)*

- SFIC started the work on monitoring and implementation of international cooperation. This work to continue into 2017.

- Started preparations together with the Helsinki Group, for developing joint guidelines on a gender perspective for international cooperation in Science, Technology and Innovation (STI), following the December 2015 Council Conclusions on Advancing gender equality in the ERA.

- Carried out an exchange of views (June and September) on the form and availability of national Roadmaps and recommended that implantation is dependent on national priorities as laid out in the individual Roadmaps.

- SFIC's working group on 'Toolbox for international cooperation' held stakeholder workshops and is collecting data for the development of an overview on the implementation of international STI agreements and cooperation activities at bilateral and multilateral level. This work will continue in 2017.

- Contributed to the on-going work on 'indicators' to analyse and measure the impact of the external dimension of ERA.

- Working closely with ERAC and ERA-related groups.

- Adopted an opinion on the strategic research and innovation agenda (SRIA) with Russia. This activity contributed to the EU's roadmap for STI cooperation with Russia.

5. ANNEX A

Full reports from each ERA-related Group

ERA Priority	ERA Priority	Group responsible for the ERA Priority	Page
1	More effective national research systems	ERAC	
2a	Optimal transnational cooperation and competition	GPC	
2b	Research infrastructures	ESFRI	
3	Open labour market for researchers	SGHRM	
4	Gender equality and mainstreaming in research	Helsinki Group on Gender in R&I	
5	Optimal circulation, access to and transfer of scientific knowledge	ERAC Standing Working Group on Open Science and Innovation	
6	International cooperation	SFIC	

PRIORITY 1: MORE EFFECTIVE NATIONAL RESEARCH SYSTEMS

ERAC is responsible for Priority 1 of the ERA Roadmap. The top action priority corresponding to ERA Priority 1 is 'strengthening the evaluation of research and innovation policies and seeking complementarities between, and rationalisation of, instruments at EU and national levels'.

ERAC focussed on how best to achieve the top actions defined in the ERA Roadmap and adopted by the Council in May 2015. The main objective in the first half of the year was the preparation and finalisation of the ERA national action plans in which ERAC was an active partner. The main objective of the second half of the year was to define how to follow-up on the implementation and the monitoring of the impact of the ERA national action plans in order to achieve a fully operational ERA.

Most ERA countries submitted their ERA national action plans and strategies by 1 May, and on 27 May a discussion on these action plans and strategies took place during a Ministerial lunch organised by the Commission. Following this, an ERA workshop was organised on 15 September in Bratislava back-to-back with the ERAC plenary meeting. At the workshop it was agreed that the follow-up on the implementation and monitoring of the national action plans should be done as learning exercises for the ERA countries, in which they could learn from each other and share best practices. The aim of such exercises would be to increase the efficiency of the research policies and actions in all the ERA Countries. Ideally, the workshops should take place on a regular basis back-to-back with the ERAC plenary meetings held in the country of the Presidency in office.

As part of its role as strategic policy advisor to the Council, the Commission and Member States, ERAC adopted an Opinion on 3 February 2016 on Open Research Data. The core of this Opinion, which was a first step in raising awareness in the complex field of open research data, data sharing and the reuse of research data, consisted of 11 relevant recommendations. As regards the next steps, the most important issue was to consider the prospective difficulties of open research data, data sharing and the reuse of data in relation to public-private cooperation, including data management plans. The Opinion also served as ERAC's input to the European Open Science Cloud initiative of the Commission and as the basis for the work of the ERAC Standing Working Group on Open Science and Innovation established in 2016.

ERAC contributed to the discussions held in 2016 on the need for improvement of Europe's innovation capacity via a possible European Innovation Council (EIC). In its Opinion adopted on 14 July 2016, ERAC presented its preliminary input to the further discussions on an EIC and underlined the importance of innovation as an integral part of the ERAC agenda. ERAC also expressed its determination to contribute to the overall strategic discussions on the European innovation challenge and looked forward to being further involved in the work ahead.

Moreover, as a follow-up to an ERAC Opinion of April 2014 and the Council conclusions of December 2015 on the review of the ERA advisory structure, a survey was launched and a workshop organised in November 2016 to start preparations for the ERAC Opinion on Streamlining the Research and Innovation Monitoring and Reporting Landscape. The Opinion was approved by ERAC in 2017 and details will consequently be given in the next Annual Report.

Finally, at its plenary meeting on 2 December, ERAC decided to give strategic advice to the Commission and the Council in 2017 in the context of the Horizon 2020 Interim Evaluation and the preparations of the next Framework Programme for Research and Innovation.

PRIORITY 2A: OPTIMAL TRANSNATIONAL COOPERATION AND COMPETITION

High Level Group for Joint Programming (GPC) is responsible for Priority 2a of the ERA Roadmap: Jointly addressing grand challenges.

The main activities of the GPC are promoted through the work done by Working Groups (WG), Implementation Groups (IG), Task Forces (TF) and Rapporteurs (RA). During 2016, the GPC adopted the suggestions prepared by some groups which were set up in 2015. In addition, new working groups were set up in 2016, in view of the implementation of the New Work Programme of the GPC for the period 2016-2018.

When undertaking its activities, presented below, the GPC sought to contribute to the progress of ERA in general and more specifically of the Priority 2a, both at national and European level.

1. Fostering Relationships among the JPIs and the GPC

The work of the IG on *'Fostering Relationships among the JPIs and the GPC'* focused on the role of the actors (JPIs, GPC and the EC) of the Joint Programming Process (JPP) and led to a set of recommendations that was adopted by the GPC. The main conclusions of the IG are: (i) a much stronger interplay between the actors of the JPP is needed to further advance JP and the JPIs and (ii) GPC shall have a much more active role in the future and shall be supportive in creating a favourable environment for the implementation of JPIs.

This led to the decision of inviting, wherever possible, the JPIs' representatives to the meetings of the GPC and the WGs and the participation of GPC Chairs in JPIs' Chairs meetings. This improves the smooth information flow and strengthens the cooperation between the GPC and the JPIs.

2. Improving Alignment and Interoperability

The IG on *'Improving Alignment and Interoperability'* was given the task to develop strategies, instruments and methods to boost alignment from both the JPIs and the MS&AC, the EC and other stakeholders. The IG performed an alignment mapping exercise, with all relevant stakeholders, which highlighted the importance of a high level national commitment, of an overarching inclusive national strategy, and of using the national budget as an instrument for promoting alignment.

Interestingly, also the national governance of the JPP was explored, which led to a set of recommendations providing guidance for national processes to make MS better prepared for international alignment and interoperability.

3. Monitoring and Evaluation

The IG on *'Monitoring and Evaluating JPIs'* mainly focused its work on the development of minimum conditions for the assessment of new and existing JPIs. In order to assess new and existing JPIs, the IG developed a multi-dimensional set of criteria on which the JPIs have to provide sufficient information to the GPC to compose an informed advice to the Competitiveness Council on whether to start a new JPI or maintain an existing one. The criteria and minimum conditions are arranged in assessment process differentiating between new and existing JPIs.

This had an effect at European level by opening formally the possibility to select new JPIs. It also provides a set of criteria to be used from national authorities in order to decide about supporting ideas for new JPIs and participating in existing initiatives.

4. Long Term Strategy of Joint Programming

Following the recommendations of the Hernani Report (March 2016), the GPC established (Apr. 2016) a WG with three main tasks: (i) to organize a systematic process allowing the JPIs to provide input to the Work Programmes of H2020, (ii) to prepare JPIs' Long Term Strategies (LTS), and (iii) to prepare an Opinion of the GPC on the future of joint programming in the context of the preparation for the next Framework Programme (FP). The tasks are implemented through a fruitful collaboration between the GPC, the ten JPIs and the EC.

The first task was completed in late 2016 and the JPIs' Strategic Plans 2018-2020 were presented and discussed in the GPC plenary and subsequently submitted by the GPC to the EC, as a contribution to the preparation of the last WPs of H2020.

The WG has also prepared a commonly agreed template for preparing the JPIs' LTS and each one of the JPIs is currently working on this task, following its internal procedures.

As far as the last task is concerned, the WG has established an open dialogue and has organised two Workshops in Brussels with the participation of a broad spectrum of national and international stakeholders. The main output of this procedure is expected to be a general framework for JP long-term strategy which will serve as a basis for GPC Opinion regarding the future of JP in the next FP.

5. Mutual Learning Exercise

The GPC decided to launch a Mutual Learning Exercise (MLE) on '*Alignment and Interoperability of Research Programmes*' through the Horizon 2020 Policy Support Facility. The MLE builds on the work of the IG on 'Improving Alignment and Interoperability' and started in 2016. The MLE is expected to enhance the alignment process for the participating countries by developing solutions for increased MS/AC and EC commitment to the joint programming process and to the JPIs. This includes enhancing the alignment of strategies and programmes and improving interoperability among MS/AC instruments and EC instruments.

6. Migrants, Migrations and Integration (MMI) Challenge

A number of GPC Delegations propose to the attention of the GPC plenary a concept note on the MMI challenge, aiming at initiating an exchange of views among all the GPC Delegations. As a result of the discussion held in the plenary, the GPC decided to set up an ad hoc TF with the aim of exploring the possibilities, as well as pros and cons, of establishing a JPI in the field of MMI. The TF prepared a report on the feasibility of a JPI on MMI that was presented to the GPC plenary in the last two GPC meetings of 2016. A final decision on the steps to follow will be taken at the next GPC meetings.

7.   Widening Participation

The Inclusiveness TF aims to examine the participation of low-performing countries in all 10 JPIs and assess the relevance of the best practices used for involving low-performing countries. The mandate of the TF involves (i) consultation with various stakeholders representing the MS, the EC, GPC, JPIs, P2P initiatives, as well as scientists, and funding agencies, (ii) analysis of major bottlenecks for participation of low-performing countries, (ii) motivations and benefits of inclusiveness strategies and (iii) preparation of practical recommendations. The TF started its operation in the last quarter of 2016 and is expected to complete its work in 2017.

8.   National Action Plans - ERA roadmap

The GPC started to work on this process by inviting the MS/AC to present their objectives for the Priority 2a, in order to exchange information and potentially help MS to add best practices regarding JPP in their national roadmaps, in order to ensure national commitment for the JPIs.

9.   EIC Statement

The GPC prepared a statement on the JP aspects in the EIC which emphasised the need to promote innovation, concrete solutions and products in order to overcome societal challenges and secure successful implementation of both the JPIs and the priority 2a of the ERA.

10.   New GPC Work Programme

Following a written consultation for the GPC priorities and an extended discussion during the plenary, the GPC adopted the new Work Programme (2016-2017). The new GPC WP includes seven main priorities.

11.   Revised GPC Mandate

The revised GPC mandate was adopted by the GPC (Feb. 2016) and the Council (Apr. 2016). The revised mandate was accomplished according to the main concept that 'the focus of the GPC activity should shift from the JPIs to the JPP'.

12. Indicators for ERA Priority 2a

In view of the preparation of the 2016 ERA Progress Report the GPC delegations participated in the process of identifying the 3 (outcome, input and output) indicators for ERA Priority 2a contributing with their expertise.

13. Other progress

Early in 2016 Mr Leonidas Antoniou (CY) and Mr Emmanuel Pasco-Viel (FR) were unanimously elected for the positions of the Chair and the Vice-Chair respectively for a period of 3 years running from 8 March 2016.

During 2016, the GPC Chairs promoted the goals and activities of the GPC in several occasions, such as the ERAC plenary, the ERAC Steering Board, the ERA-LEARN 2020 Advisory Board, the Governing Boards meeting of JPIs, the annual Conference of Joint Programming, the workshop 'JPIs on the Global Stage', the PLATFORM Annual Event etc.

PRIORITY 2B: RESEARCH INFRASTRUCTURES

European Strategy Forum on Research Infrastructures (ESFRI) is responsible for the implementation of the Priority 2b of the ERA Roadmap: Making optimal use of public investments in Research Infrastructures.

Key achievements supporting the implementation of the ERA Priority 2b

ESFRI addresses ERA Priority 2b, which aims at strengthening the European Research Area in the field of research infrastructures, by:

• supporting a coherent and strategy–led approach to policy making on research infrastructures in Europe, as it gives national authorities constantly updated information on the existing landscape of research infrastructures and new opportunities for international and national initiatives for strengthening European science competitiveness (without implications of a priori commitments)

• facilitating multilateral initiatives leading to a better use and development of research infrastructures acting as an incubator for pan-European and global research infrastructures by fostering a dialogue between national governments, the science stakeholders, the EC and the relevant players at regional, national and international level

• establishing and updating a European Roadmap for research infrastructures (new and major upgrades, pan- European interest) for the coming 10-20 years continuously refining the selection and assessment methodology and stimulating the implementation of these facilities

• monitoring of research infrastructures listed in the ESFRI Roadmap. ESFRI is implementing a Monitoring System (MOS) that updates continuously the status of national engagement in the Projects and Landmarks therefore providing reliable data for the EMM indicators.

In 2016 ESFRI supported the development of the ERA primarily through the following activities:

- Finalisation and publishing of the ESFRI Roadmap 2016;

- Developing a refined procedure for the 2018 ESFRI Roadmap update;

- Preparing recommendations for the Competitiveness Council on better coordination of Member States' investment strategies in e-infrastructures;

- Establishing a Working Group on long-term sustainability of research infrastructures.

ESFRI Roadmap 2016

In the beginning of the year, ESFRI finalised its 2016 Roadmap, whose launch took place on the 10th of March during a one-day conference organised in association with the Dutch Presidency in Amsterdam by the Royal Netherlands Academy of Arts and Sciences (KNAW), in close cooperation with ESFRI, the European Commission and the Dutch Ministry of Education, Culture and Science. The event, also broadcasted on the web, provided an overview of the Roadmap 2016, which was distributed in hard copies as well as published in the internet.

The Roadmap process stimulated the dialogue between ERA countries, science stakeholders, the European Commission and the relevant players at regional, national and international level, which contributes to fostering scientific excellence and competitiveness of the ERA. With the 2016 Roadmap, ESFRI has developed and applied a lifecycle approach to investments in research infrastructures (RI), supporting Member States and Associated Countries in coordination of their national strategies and funding decisions. ESFRI has had a positive impact on structuring the ERA also by supporting a more optimal interplay between regional, national and European RI funding instruments.

The Roadmap contains **21 ESFRI Projects** whose development is considered of strategic importance for the future competitiveness of the European Research Area. It also includes **29 ESFRI Landmarks** representing research infrastructures, which were listed in the previous editions of the ESFRI Roadmap, which have been implemented or are under construction.

The Roadmap is complemented with a **Landscape Analysis**, which provides an overview of the European RI ecosystem by identifying the main RIs operating transnational access in Europe and major new or on-going projects with an outlook to the global landscape of relevance. This includes national, regional and international facilities as well as consortia that offer integrated services and transnational access to state-of-the-art resources for research. The Landscape Analysis is an indicative reference document and does not represent in any way the view or prioritisation of ESFRI or any national financial and political commitment. ESFRI produces the Landscape Analysis as a way to respond to the invitation by the Competitiveness Council to broaden the view of ESFRI beyond its Roadmap. The thorough knowledge of the RI Landscape and of its dynamics is a prerequisite for developing optimal strategies in the field of RI aimed at strengthening the competitiveness and value (excellence and impact) of European research.

2018 ESFRI Roadmap update

Following the publication of the ESFRI Roadmap 2016, the Forum refined its roadmap update process and methodology, reinforcing further the life-cycle approach and providing a more effective framework for further coordination of national investments in research infrastructures across the ERA.

Continuing its incubator role, ESFRI will organise the **Selection of new proposals**, leading to the identification of additional RIs of strategic importance for Europe. New Research Infrastructures/major upgrades on the Roadmap will be selected with respect to the quality of their scientific case and their advanced degree of maturity which includes a completed feasibility study, commitment of a multinational consortium, as well as support of at least three governments.

At the same time, ESFRI developed a comprehensive methodology for **monitoring of ESFRI Projects** already on the Roadmap. The monitoring process involves an evaluation of the evolution and actualisation of the scientific case as well as an assessment of the progress of the projects towards implementation, including the commitment of an established international consortium of owners, agreement on the budget for the construction phase and a solid concept for the governance model and financing the whole lifecycle of the infrastructure. Those projects that fail to achieve implementation within the ten-year period will be removed from the Roadmap, fostering further prioritisation of RI investments in Europe.

In addition to this, responding to the invitation of the Competitiveness Council, ESFRI also launched a pilot exercise with four ESFRI Landmarks to explore the ways of effective monitoring of RIs that are already implemented or under construction. The **Pilot Review of the ESFRI Landmarks** addresses the evolution and actualisation of the scientific case and the RI implementation, at the same time identifying their main long-term sustainability challenges. This exercise will help in developing a comprehensive and robust methodology for the periodic review applicable to all Landmarks for future updates of the Roadmap together with clear and well accepted criteria.

The position of all the ESFRI research infrastructures in the European research landscape will be outlined or presented in the framework of the updated **Landscape Analysis** – with global perspective – across the science domains.

ESFRI officially launched the process that will lead to the Roadmap 2018 on 4 October 2016, with a presentation event during the International Conference on Research Infrastructures in Cape-Town. The presentation was followed-up on 17-18 January 2017 with a dedicated Info-Day on submission and selection of new proposals and an Exchange of Experience Workshop explaining the monitoring initiative of ESFRI Projects and the pilot review of the ESFRI Landmarks.

The ESFRI Roadmap process now incorporates the necessary steps to further strengthen the RI ecosystem in the years to come. ESFRI will continue to update its roadmap periodically, offering opportunities to new projects in all fields of science.

<u>Permanent Working Groups of ESFRI</u>

ESFRI has five Strategy Working Groups which support the Forum with scientific expertise across all the areas covered by the Forum. They include:

- Strategy Working Group on Energy

- Strategy Working Group on Environment

- Strategy Working Group on Health and Food

- Strategy Working Group on Physical Sciences and Engineering

- Strategy Working Group on Social and Cultural Innovation

The expertise gathered in the Groups is essential in the preparation of the Landscape Analysis for the ESFRI Roadmap as well in the scientific evaluation of new RI proposals and monitoring of on-going ESFRI projects.

ESFRI also has a permanent Working Group on Implementation which is responsible for the assessment of maturity of new RI proposals and the monitoring of progress in implementation of on-going ESFRI projects.

ESFRI report on strengthening the relations between research infrastructures and industry and innovation

Following up on the invitation of May 2011 from the Council of the EU to ESFRI to '*contribute towards supporting the implementation and monitoring of progress of the Innovation Union initiative*', ESFRI established in 2013 a dedicated Working Group with the aim to contribute to the development of a strategy aimed to strengthen and improve relations between Research Infrastructures and Industry and to promote the potential for innovation of Research Infrastructures.

The final report from the Group was adopted by ESFRI in April 2016. The report provides a comprehensive analysis of the role and place of research infrastructures in the innovation chain identifying the different forms of RI-industry interactions and relationships. It discusses the role of industry as suppliers of equipment and services for RIs, and as users of RIs. The report also considers research infrastructures as data generators and identifies the broader socio-economic impacts of RIs.

The report proposed a comprehensive set of recommendations to all actors and stakeholders, including the RIs, public authorities at regional, national and European level, as well as to the business sector, on how to strengthen the impact of RIs on industry and innovation in order to fully exploit the potential of RIs to address societal challenges.

ESFRI recommendation on better coordination of Member States' investment strategies in e-infrastructures

In the meeting of the Competitiveness Council of 28-29 May 2015, the Council adopted conclusions on open, data- intensive and networked research, which invited ESFRI to explore mechanisms for better coordination of Member States' investment strategies in e-infrastructures, covering also HPC, distributed computing, scientific data and networks. To respond to the invitation by the Council, ESFRI established a dedicated Working Group. Based on the report from the Working Group, ESFRI adopted the recommendation during its 59th meeting on 9 December 2016 in Brussels.

In this recommendation, ESFRI advises to establish urgently a convergent policy of funding mechanisms for e-Infrastructures at the various levels (institutional, regional, national, European). Such policy could include support and financing of e-Infrastructures for scientific users, providing incentives to researchers to generate FAIR (Findable, Accessible, Interoperable, and Re-usable) and reproducible (+R) data, as well as the development of enabling e-tools/e- technologies and the mainstreaming of support actions addressing e-needs of all levels of intervention. ESFRI also suggested acting as strategy forum of funders of e-Infrastructures for European science as a key element of support of a coherent approach to policy-making on research infrastructure in Europe. ESFRI recognizes that funding of HPC Tier-Zero facilities bears challenges similar to more centralized large-scale Research Infrastructure facilities with direct industrial implications and should be dealt with accordingly.

Working Group on Long-Term Sustainability of Research Infrastructures

In the meeting of 27 May 2016, the Competitiveness Council discussed the ESFRI 2016 Roadmap and the long-term sustainability (LTS) issue. In this context, the Competitiveness Council underlined the importance of ensuring long-term sustainability of Research Infrastructures and invited the Commission to prepare together with ESFRI and relevant stakeholders a targeted action plan.

In order to comprehensively respond to the Council conclusions, covering the full spectrum of the LTS debate, ESFRI set up a dedicated Working Group. The work focuses on the pre-conditions identified by the consultation launched by the Commission in December 2015. These pre-conditions include funding and governance aspects of RIs, socio-economic impact as well as the management and exploitation of data and the innovation potential of RIs.

The objective of this WG is to provide a consolidated input to the European Commission for the preparation of the action plan mentioned in the Council conclusions, addressing the long-term sustainability of Research Infrastructures.

PRIORITY 3: OPEN LABOUR MARKET FOR RESEARCHERS

The Steering Group on Human Resources and Mobility (SGHRM) is responsible for Priority 3 of the ERA Roadmap: An open labour market for researchers.

In 2016, the SGHRM established two further working groups focusing on specific topics related to ERA Priority 3 and working to an agreed mandate under the chair, with membership of the SGHRM, including selected external experts and major European stakeholder organisations (e.g. EUA, LERU). As a general rule, such groups are expected to report back within a defined timeline, usually 6 months. These 2 working groups focused on 'intersectoral mobility, asymmetric mobility and skills' chaired by J. Weideman, NO Delegate and ' Innovative Transnational Research Mobility and Welcoming Researchers to Europe[6] ' to Europe C Cabello-Valdes and A. Skarmeta ES Delegate (linked to the EURAXESS initiative of 'Science for Refugees'). Both of these groups presented their reports that were finalised and agreed by the SGHRM in December 2016.

Strengthening the procedure implementing the principles of Charter and Code (HRS4R)

There were a number of initiatives taken by the SGHRM in 2016 towards realising Priority 3. The Human Resources in Research award saw a strengthening of this process and the inclusion of the recommendations of the SGHRM working group report on Open Transparent and Merit based Recruitment (OTM-R)[7]. A group composed of members of the SGHRM and specialised experts tackled the issue of strengthening the implementation of the Charter and Code principles in research institutions. This group was set up in follow-up of a feasibility study which presented the issue of strengthening as the best option. The strengthened HRS4R implementation procedure to obtain the 'HR excellence in research' award now incorporates elements of earlier internationalisation, open recruitment, international peer review and reinforced monitoring while moving from measuring progress towards quality, thus remaining a flexible, but essential tool for institutions engaged in the

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6   https://cdn3.euraxess.org/sites/default/files/policy_library/sghrm_intersectoral_mobility_final_report_0.pdf

7   https://euraxess.ec.europa.eu/useful-information/policy-library

HRS4R process. This strengthened HRS4R implementation procedure incorporates the recommendations of the report of the SGHRM working group on Open and Transparent Merit based Recruitment (OTM-R) with practical initiatives to ensure Open recruitment in institutions willing to address the issue. For example, in the strengthened procedure for the HRS4R is now integrated into the evaluation at European level of proposals for the award. Also, universities and research organisations are now including the strengthened procedures in their applications for the award. This means that they are strengthening their procedures for the recruitment of researchers in an open, transparent manner based on merit, Priority 3.

SGHRM Working Group Report on Innovative Transnational Research Mobility and Welcoming Researchers to Europe.

This report contains an overview of measures and innovative transnational mobility initiatives in order to take into account the asymmetry of researcher mobility brain drain within Europe including the issue of Diaspora researchers. The report address aspects like virtual mobility as mechanism to support inclusion, e.g. of researchers with disabilities, equal opportunities for researchers from less favoured regions and reduce the brain drain in some areas. The potential of approaches like Innovation hubs, innovation centres accelerators for sharing of best practices between the academic and business players and facilitate the researchers' attraction.

There is also a discussion of welcoming issues on a European level and exchange of best practices and strategies of the Member States. Minimum standards and operational recommendations are issued for countries as well as research organisations welcoming Third country researchers. It is recognised that different approaches are needed for the two distinct groups, Voluntary - researchers who are attracted to universities/research centres in Europe and Involuntary - researchers who come to Europe as refugees.

Suggestions and strategies for implementation: these were addressed at different levels (for example: EU, MS, Euraxess, RPOs, etc.) and in specific circumstances (science4refugees)

- Difficult to 'return' to academia after substantial career in business

- Regulations / legal framework / administrative barriers

- Few opportunities for transferable skills development through practice (learning by doing) (for students and researchers)

- Academic staff are not equipped to help/stimulate mobility and transferable skills development

- Create programs to attract first-class researchers who want to collaborate, but do not want to leave their main position or family for a longer period.

SGHRM Working Group Report on Intersectoral Mobility of Researchers, their Conditions and their Competences

This report defines the main barriers for researcher mobility between Higher Education Institutions (HEIs) and public research institutes (PRI's) on the one hand and other sectors of the labour market on the other. It proposes recommendations to the main stakeholders as to how the defined barriers may be overcome. The report also refers good practice examples from European countries that may provide ideas for practical solutions on how to overcome the barriers.

The basis for the report is formed by the responses to a questionnaire sent to member state representatives of the Steering Group of Human Resources and Mobility (SGHRM). The respondents were asked to prioritise the main barriers to mobility on the basis of a list provided by the working group. There were 20 countries that responded to the survey and according to their responses; the six most important barriers were defined:

- Overall lack of R&D development in certain countries/regions

- Researchers consider academia the best place to work

- Difficult to 'return' to academia after substantial career in business

- Regulations / legal framework / administrative barriers

- Few opportunities for transferable skills development through practice (learning by doing) for students and researchers

- Academic staff are not equipped to help/stimulate mobility and transferable skills development

In all of the actions described above there were recommendations targeted specifically at European level and at national level.

PRIORITY 4: GENDER EQUALITY AND MAINSTREAMING IN RESEARCH

The Helsinki Group (HG) is responsible for Priority 4 of the ERA Roadmap: Gender equality and gender mainstreaming in research.

During 2016, in the framework of ERA Priority 4, the following actions of the Helsinki Group contributed to the progress of ERA:

1.   **Recommendation to Commission and Member States on the inclusion of gender equality and gender mainstreaming in NCP activities**

     In 2016, the HG carried out a second survey on cooperation between the HG and the NCPs as regards gender equality in Horizon 2020, and drafted recommendations. The report was presented by the Commission to the Science with and for Society (SwafS) Working Group of the Strategic configuration of the Horizon 2020 Programme Committee on 23 November 2016. The results of this work and the recommendations will be reflected in the Interim evaluation of H2020 and the preparation of the next FP.

2.   **Best practice exchange and mutual learning on implementation of NAPS**

     In preparation of its 34th meeting in April 2016, HG members completed an overview document, detailing their actions in Priority 4. At the two 2016 meetings the HG organised a tour de table to present country developments and actions, and country presentations were delivered by HG members at each of the meetings to facilitate best practice exchange and learning. These presentations focused both on the content as well as process.

3. **Guidance on gender balance in decision-making**

In line with the Council Conclusions on advancing gender equality in the ERA, a subgroup was formed on gender balance in decision-making, to carry out this work in cooperation with the Commission. A survey was performed among MS and AC on targets and quotas in decision-making, for professors and leadership positions, a preliminary analysis of the NAPs was carried out with respect to gender balance in decision making, and best practices were collected. Following this initial work, a first draft of the guidance was drafted by the subgroup. A final draft of the guidance will be established in the first half of 2017 in accordance with the Work Plan.

4. **Guidelines Gender perspective in dialogue with third countries on gender in international cooperation in STI**

In line with the Council Conclusions on advancing gender equality in the ERA, was formed on cooperation with other ERA-related groups to draft the guidelines, in cooperation with SFIC. Following a preliminary discussion at the meeting of SFIC and HG where the chair of SFIC attended, rapporteurs were appointed and a first discussion paper was prepared.

5. **ERA governance and HG operation**

In view of the Council Conclusions on the Review of the ERA Advisory Structure, the HG revised its mandate to include the common clauses, revised its Rules of Procedure and prepared Work Programme 2016-2017. These were adopted at the April 2016 meeting of the HG. Furthermore, in order to fulfil the adopted Work Programme in line with the Council Conclusions on Advancing gender equality in the ERA of 1 December 2015, the HG set up four subgroups (subgroup on ERA governance, on European funding systems, on gender balance in decision-making and on cooperation with other ERA-related groups). The HG contributed regularly to the ERAC Steering Board, and presented its work at the ERAC Plenary.

The Helsinki Group contributed to the top action priority it is responsible for at national level as follows:

1. **Contribution to the development of the NAPs in Priority 4 at national level**

    HG delegates are involved in the development of the national ERA Roadmaps and Action Plans. The adoption of NAPs fostered cooperation and coordination at the national level between HG delegates, national ERAC delegates and delegates in the other ERA-related groups. In order to further develop the ERA governance at national level, the HG also provided other national delegates with examples of good practice regarding effective structures and working methods to implement an effective ERA governance (AT, BE, CZ, LU). The expansion of these examples will be discussed at HG's next meetings in order to maintain an overall picture of the ERA governance in the Member States and Associated States, and to stimulate improvements where necessary.

2. **Cooperation with relevant stakeholders in Priority 4 at national level**

    Many HG members initiated networking with relevant stakeholders at Priority 4 at national level to exchange information on activities and recommendations of the HG and vice versa. In some cases, these stakeholders were directly involved in the development of the NAPs.

In addition to the actions featured among key achievements, the HG contributed to achieving Priority 4 in the following ways:

1. **EIC opinion**

    The HG adopted a position paper on the gender aspects in the EIC which concentrated both on gender balance and organisational issues as well as the gendered innovations and the inclusion of the gender dimension in innovation. The HG also submitted comments on the two drafts of the EIC opinion.

2. **EIGE- RTD online tool on institutional change for gender equality (GEAR Tool)**

The HG contributed to the elaboration of the online tool by reviewing and, where needed, supplementing country fiches drafted by the national experts contracted for the tender. The HG also disseminated information about the EIGE- RTD tool at national level through various relevant communication channels.

3. **ERA indicators**

The HG contributed with its expertise in the selection of indicators for priority 4 which resulted in agreement on the following outcome, input- and output-indicators:

- Outcome (high level indicator): proportion of women in grade A level in HES (SF&MS/NCP),

- Input indicator: proportion of female PhD graduates (Eurostat) or gender dimension in research content (NCP/MS – She Figures 2003, She Figures 2009, She Figures 2012 and She Figures 2015);

- Output indicator: share of RPOs which have gender equality plans or gender balance in decision making: share of women heads of RPOs (questionnaire) or percentage of women in research boards of Research organisations (SF&MS/NPC).

PRIORITY 5: OPTIMAL CIRCULATION, ACCESS TO AND TRANSFER OF SCIENTIFIC KNOWLEDGE

The ERAC Standing Working Group (SWG) on Open Science and Innovation is responsible for Priority 5: optimal circulation, access to and transfer of scientific knowledge of the ERA Roadmap.

During 2016, in the framework of its specific ERA Priority, the following actions of the ERAC SWG on Open Science and Innovation contributed to the progress of ERA:

The ERAC SWG on Open Science and Innovation was set up in mid-2016 following ERAC's adoption of the group's Mandate on 4 May 2016. The overall objective of the Working Group is to advise, in the context of open science and open innovation, on the development and implementation of policies and initiatives to enhance access to scientific information, and the circulation and use of knowledge for research and innovation for the benefit of scientists, research institutions, education, businesses, citizens and society at large, with the issues being considered primarily from the perspective of these end-users.

The first meeting of the group was held on 17 June and a second one on 6 October, where organisational and procedural matters were decided upon, including the election of the Chair and Vice-Chair, the adoption of the Rules of Procedure and of the Work Programme 2016-2017, building on the work carried out by the ERAC Task Force on Open Access to Research Data and the former ERAC Working Group on Knowledge Transfer.

Based on its mission and Mandate, the **Work Programme** focuses on five thematic priorities:

- Open Research Data and Infrastructures

- Open Access to publications: models, costs and metrics

- Research and researchers' incentives, evaluation and impact assessment

- Innovation

- Training and skills

Furthermore, *Innovation* – including Open Innovation, Knowledge Transfer and Intellectual Property Rights - as well as *Training and skills* have been identified as representing not only crucial thematic priorities in themselves, but also crosscutting dimensions embedded across all the thematic areas, and will be properly addressed in any activity conducted by the SWG within its Work Programme 2016-2017.

The SWG has focused to start with, on the actions related to open research data and infrastructures and open access to publications. In this context, the SWG started in Q4 2016 preparatory work 'to assess the proposed actions on the **Amsterdam Call for Action [on Open Science]** on feasibility, effectiveness and prioritisation, and to report on this;' as invited to do by the Council through its Council conclusions on the transition towards an Open Science system adopted on 27 May 2016. The SWG also started off in Q4 2016 a stock-taking exercise of existing and on-going work groups, recommendations, suggested actions and other relevant information, with particular emphasis on the two first thematic priorities identified by the SWG (open research data and infrastructures, and open access to publications) in order to help the group to provide the assessment of the Amsterdam Call for Action and deliver on the task requested by ERAC to develop initial recommendations on ERA Priority 5 by mid-2017.

It is too early to assess how the SWG has contributed to the ERA Priority 5 given its short existence. However, sharing of good practice and mutual learning across Member States and Associated Countries on open science and innovation issues will be part of the working process and methodological approach to properly address policy recommendations. A proper assessment of the SWG's contribution to Priority 5 will be provided for the ERAC Annual Report 2017.

PRIORITY 6: INTERNATIONAL COOPERATION (SFIC)

SFIC, as ERA-related Group responsible for ERA Roadmap Priority 6 - International cooperation, has during 2016 contributed both to the setup of the ERA Roadmap implementation and monitoring process as well as to the external dimension of ERA[8].

In line with SFIC's objective to facilitate the further development, implementation and monitoring of the international dimension of ERA, it contributes actively to the implementation of the ERA Roadmap through all its activities. In 2016 SFIC has started the work on monitoring the implementation of Priority 6 - International cooperation. This work is on-going and will continue in 2017.

A strategic approach was developed in 2015, in close dialogue with ERAC and the other ERA-related groups, on how to **strengthen and streamline the external dimension of ERA in line with the ERA Roadmap**. Based on this, SFIC collected all available national ERA roadmaps relating to international collaboration. SFIC also conducted in June and September 2016 an exchange of views on the form and availability of national roadmaps. SFIC agreed that its role on Priority 6 implementation should depend on national priorities, which are in national roadmaps.

In particular, SFIC provided written and oral input to the Commission during the preparation of the second progress **report on international cooperation** and commented on the draft report. A formal SFIC opinion on the final report on how the insights from the progress report could be used to foster international R&I cooperation will be issued in 2017.

The SFIC working group on **Toolbox for international cooperation** has the objective to develop a practical overview on the implementation of international STI agreements and STI cooperation activities at bilateral and multilateral level. It has been actively collecting all necessary data and organised stakeholder workshops in 2016. Its work will continue during 2017 also with a view to working with the newly established Service Facility of the Commission.

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8   It is worth noting that SFIC's contribution to ERA Roadmap Priority 6 is not the exclusive remit of SFIC's activities, as many initiatives are covering areas of action not specifically touched upon by the ERA Roadmap (e.g. initiatives by SFIC country-specific working groups).

SFIC has contributed to the on-going work on **indicators** to analyse and measure the impact of the external dimension of the ERA, in close collaboration with the Commission and the work in the context of the ERA Monitoring Mechanism and the R&I Observatory. Based on discussion since 2015, synergies with the INCO Service Facility might be utilised in the future creation of a composite indicator.

Over the last years, coordination and cooperation among ERAC and ERA-related groups has been steadily increasing. SFIC addressed ERA-developments through increasing cooperation with ERAC and ERA-related groups by means of various activities. Of particular pertinence in this context is a joint opinion currently being prepared with the Helsinki group on the gender dimension in international S&T cooperation.

SFIC has also contributed - in line with its mandate - to the ERAC report in 2016. SFIC will also contribute to the ERAC opinion on the interim evaluation of Horizon 2020 in 2017, building on the work done in 2016.

From an operational point of view, SFIC revised its mandate in 2016 in line with the 'standard clauses' agreed by ERAC and Council and as required by the revised ERAC mandate and now expressly identifies this cooperation as a main activity for SFIC.

SFIC has provided sound and timely advice to the Council and the Commission via an opinion on the Commission's **'Open to the World'** agenda in March 2016[9]. In it, SFIC considers that strengthening the external dimension of the European Research Area (ERA) is a key element towards a more coherent and efficient interaction in research and innovation at a global level, expresses its belief that Europe, its Member States and Associated Countries should benefit from and engage more in already existing or planned specific R&I initiatives and clarifies that SFIC is ready to continue to play an active role by supporting external policy.

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9   ERAC-SFIC 1354/16

SFIC also adopted an opinion containing a strategic research and innovation agenda (**SRIA**) with Russia.[10] This paper drew on the experience in conducting R&I activities with Russia and proposed a strategic research and innovation agenda. With this activity the WG also contributed to the EU's roadmap for STI cooperation with Russia.

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10   ERAC-SFIC 1356/16