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**REPORT FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE
COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE
COMMITTEE OF THE REGIONS**

**Report on the implementation of the strategy for international cooperation in research
and innovation**

{SWD(2014) 276 final}

1. CONTEXT

In September 2012 the Commission adopted a Communication on 'Enhancing and focusing EU international cooperation in research and innovation: a strategic approach'¹. The Communication was welcomed by the European Parliament², the Council³, the European Economic and Social Committee⁴ and the Committee of the Regions⁵.

The Communication underlined that global challenges call for global responses and are drivers for international cooperation in research and innovation. Engaging in international cooperation is also essential to attract talent, access knowledge and markets, thus increasing the EU's competitiveness.

Strengthened cooperation of the EU with its international partners is therefore needed to build critical mass, pool knowledge and identify innovative solutions. This requires a strategy encompassing all dimensions of international cooperation in research and innovation. It should step up cooperation at bilateral and regional level, as well as through multilateral fora, but also create synergies with the EU's external policies and with Member States.

Therefore, the Communication underlined that enhancing and focusing EU international cooperation requires an approach which fully captures the global dimension of research and innovation in all its aspects. This is embedded in Horizon 2020, with its stronger focus on international cooperation. Furthermore, beyond Horizon 2020 the strategy also focused on strengthening the innovation dimension of international cooperation, developing adequate principles and framework conditions for it, strengthening the engagement with multilateral initiatives and enhancing the synergies with the EU's external⁶ policies and the activities of the Member States.

The Commission committed to reporting on progress in the implementation of the strategy in 2014. This document provides a report on the state of play.

2. THE INTERNATIONAL DIMENSION OF HORIZON 2020

Developing the international dimension of Horizon 2020⁷ and the Euratom programme⁸, and in particular their first work programmes, has been an important field of activity during the first two years of implementation of the strategy.

The Horizon 2020⁹ legislation underscores the importance of international cooperation as a cross-cutting priority. A dual approach focusing on general opening and targeted international cooperation was adopted to make Horizon 2020 contribute to reaching the objectives of the 2012 Communication.

¹ COM(2012) 497

² On 9 October 2012 Commissioner Geoghegan-Quinn presented the Communication to the European Parliament's ITRE committee

³ CSST/2013/10405

⁴ CESE/20122081

⁵ CDR/2012/2076

⁶ Including development and humanitarian policies

⁷ Regulation (EU) No 1291/2013 of the European Parliament and of the Council of 11 December 2013

⁸ Council Regulation (Euratom) No 1314/2013 of 16 December 2013

⁹ When reference is made to Horizon 2020, this is understood to include the Euratom programme

Through the general opening, legal entities from across the world can participate in Horizon 2020¹⁰. It is an important tool for enhancing international cooperation and will be essential for those parts of Horizon 2020 which work primarily on a bottom-up basis, although these also undertake specific activities to develop an international dimension.

Grants provided by the European Research Council are increasingly recognised as awards for scientific excellence. Researchers from anywhere in the world can apply for a grant, provided their research is carried out in a Member State or Associated Country.

Participation in the Knowledge and Innovation Communities (KICs) of the European Institute for Innovation and Technology is open to legal entities from across the world. The three existing KICs in the areas of climate change, sustainable energy and ICT are collaborating with third country entities.

e-Infrastructures have a strong international dimension. The aim of the activities is to further develop the global reach of GÉANT and related EU e-infrastructures to provide access to data and enable remote collaboration between scientists anywhere in the world.

The Marie Skłodowska-Curie actions (MSCA) will, during Horizon 2020 enable around 15 000 researchers from outside Europe to start or pursue their careers in Europe. In addition, secondments of researchers from Europe to elsewhere in the world are encouraged. It is expected that more than 3 500 non-European organisations will have participated in MSCA by 2020.

Complementing the general opening, targeted international cooperation activities are included across Horizon 2020. For these activities, themes and partners for cooperation are identified upfront and they concern areas where cooperating with international partners creates win-win situations.

Identifying suitable themes and partners for targeted international cooperation activities was part of the preparation of the first Horizon 2020 work programmes. A full list of international cooperation topics included in the work programmes is available on the Participant Portal¹¹. About 20% of all topics in the first work programme are flagged as relevant for international cooperation, which is higher than in the final year of FP7 (about 12%). However, there has been a shift towards using softer ways of stimulating international cooperation with fewer coordinated calls¹² and topics where participation from third country entities is an eligibility criterion. International cooperation is mostly encouraged in general terms.

Most importantly, there is a clear trend towards defining international cooperation in global terms, going beyond merely stimulating direct participation of third country researchers in signed grant agreements, with a shift taking place towards stimulating international cooperation through contributing to multilateral initiatives.

¹⁰ Being allowed to participate does not necessarily imply receiving funding from the Horizon 2020 budget. The rules as regards funding of third country participants are provided in part A of the Annex on General Conditions to the Horizon 2020 work programme 2014-15.

¹¹ <http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/index.html>

¹² A coordinated call consists of two calls being launched in parallel by the EU and the partner country respectively. Both calls invite project proposals requiring cooperation with entities from the other side. The same proposal is submitted on both sides. Each side signs a contract only with its own participants and provides funding only to these.

An example of how the strategy was put into practice is provided by the implementation of the Galway declaration¹³ on the launch of a Transatlantic Ocean Research Alliance, together with the USA and Canada, through the Blue Growth call.

The Fusion research part under the Euratom work programme also includes a very strong component of international cooperation, in particular connected to the European Fusion Roadmap and embodied by the flagship project ITER.

Horizontal international cooperation activities are funded through the challenge 'Europe as a global actor: inclusive, innovative and reflective societies'. They support international cooperation in Horizon 2020, but also include activities which go beyond Horizon 2020, such as stimulating the policy dialogue with the EU's international partners.

The Joint Research Centre contributes to international cooperation through specific activities with key partners.

3. DEVELOPING COMMON PRINCIPLES AND FRAMEWORK CONDITIONS FOR ENGAGING IN INTERNATIONAL COOPERATION

A strategic approach to international cooperation requires developing common principles and adequate framework conditions for engaging in cooperation. This is needed to create a level playing field for researchers from across the world to cooperate with each other. These principles concern issues such as responsible research and innovation, research integrity, evaluation of proposals on the basis of peer review, promotion of the role of women in science and the gender dimension in research, research careers¹⁴, fair and equitable treatment of IPR, access to research data and infrastructures, and open access.

To reach this goal, the Commission has supported the activities of the Global Research Council (GRC)¹⁵, a voluntary, informal organisation of heads of research councils. As key achievements within this forum, at its 2012 meeting, the participants endorsed a high-level Statement of Principles for Scientific Merit Review, whilst the 2013 meeting endorsed statements on Open Access and Research Integrity. The 2014 meeting issued a statement on how to support the next generation of researchers.

In the context of the policy dialogues with partner countries and regions growing attention is devoted to address framework conditions for engaging in international cooperation. These conditions include funding mechanisms for cooperation in partner countries, eligibility of foreign companies to participate in national R&D programmes, IPR systems, access to public procurement and venture capital, and regulations on data access and ownership.

In this context, identifying and removing obstacles to the participation of third country entities in the EU's funding programmes is a crucial element as one of the main problems third country organisations face is securing funding to cover their participation. This is particularly relevant for those countries which are not automatically eligible to receive funding from the Horizon 2020 budget, a group of countries which now also includes Brazil, China, India, Mexico and Russia. These countries have been urged to set up mechanisms to fund the participation of their researchers in Horizon 2020.

¹³ <http://www.innovation.ca/sites/default/files/Rome2013/files/Canada-EU-US%20Galway%20Statement%20on%20Atlantic%20Research%20Cooperation%202013.pdf>

¹⁴ E.g. Council is currently negotiating a recast of Directive 2005/71/EC on a specific procedure for admitting third country nationals for the purposes of scientific research

¹⁵ <http://www.globalresearchcouncil.org/>

To tackle this crucial issue, Mexico has created a complementary matching funding mechanism¹⁶, which provides a source of financing to Mexican partners in successful Horizon 2020 projects and could serve as a model to inspire similar initiatives in other partner countries. As another example, New Zealand has put in place a co-funding mechanism specifically for Research and Innovation Staff Exchange projects funded as part of MSCA.

Difficulties in the granting and the enforcement of IPR constitute an obstacle to international cooperation. On this point, the EU-Brazil IPR dialogue has witnessed improvements in the protection of IPR in Brazil. For the USA, innovation framework conditions are tackled through the Transatlantic Trade and Investment Partnership (TTIP) discussions. Framework conditions for cooperation with India are on the whole satisfactory, yet its patent regime should be strengthened. In South Africa, significant progress has been achieved through several relevant pieces of legislation touching upon IPR.

European researchers willing to participate in programmes in partner countries are facing several difficulties, not least the limited number of calls for proposals open to European participation. Access to information, language barriers, as well as financial, administrative and logistical procedures are often *de facto* reducing the opportunities for effective cooperation.

The National Contact Points set up in partner countries can also play a crucial role, particularly through the coordinated actions of the international network of NCPs. They can contribute to increasing the visibility of Horizon 2020 and to gather feedback on international activities of research institutions in partner countries.

4. WORKING TOGETHER WITH INTERNATIONAL ORGANISATIONS AND MULTILATERAL INITIATIVES

For global challenges in critical areas, international cooperation is better implemented through an increased engagement with international organisations and multilateral initiatives. Thus the Commission has also enhanced support to multilateral initiatives in the field of research and innovation, which is also reflected in the first Horizon 2020 work programmes.

Climate change, resource scarcity and biodiversity loss are no doubt among the greatest environmental, social and economic challenges of the 21st century that require multilateral research efforts in which Europe has played and continues to play a key role. In this vein, the challenge of Horizon 2020 called ‘Climate action, Environment, resource efficiency and raw materials’ supports the work of the Belmont Forum¹⁷, an informal high level group of the world's funders (including the Commission) of global environmental change research, which coordinates funding for collaborative research. The Belmont Forum is also promoting the setting up of ‘Future Earth’, the international programme on Global Sustainability that is integrating and enhancing existing international programmes¹⁸. The Commission is also one of the co-chairs of the Group on Earth Observations (GEO)¹⁹, a voluntary partnership of governments and international organisations which coordinates efforts to build a Global Earth Observation System of Systems (GEOSS). Support is also provided to the Intergovernmental

¹⁶ <http://www.conacyt.mx/index.php/el-conacyt/convocatorias-y-resultados-conacyt/convocatoria-conacyt-horizon2020>

¹⁷ <http://igfagr.org>

¹⁸ Including WCRP (World Climate Research Programme), IGBP (International Geosphere and Biosphere Programme), DIVERSITAS (international programme of biodiversity science) and IHDP (International Human Dimension Programme)

¹⁹ 89 countries and the Commission are members of GEO (<http://www.earthobservations.org>)

Panel for Climate Change (IPCC)²⁰, the leading international body for the assessment of climate change and a scientific body operating under the auspices of the United Nations.

The Health challenge aims at actively supporting the implementation of GLOPID-R, the initiative for the Global Research Collaboration for Infectious Diseases Preparedness²¹. Similar initiatives are also supported, such as the International Rare Diseases Research Consortium²² and the Global Alliance for Chronic Diseases²³.

e-Infrastructures is another domain where Europe is active at multilateral level, e.g. in the context of GÉANT or the Research Data Alliance²⁴.

As regards other multilateral fora, the Commission led the process which renewed the Human Frontier Science Programme's²⁵ financial framework. It also played an active role in the updating of the European strategy for particle physics²⁶ led by CERN. The partnership between the Commission and EIROforum²⁷ has been strengthened. The Commission played an active role in the development of the EUREKA 2020 Strategic Roadmap.

A multilateral approach has proven to be a best practice in addressing nano-safety. The project Nanoreg, developed in the context of the OECD Working Party on Manufactured nano-materials, benefits from multilateral financing from FP7 (EUR 10 million), Member States (EUR 30 million) and industry (EUR 10 million).

The Commission has been an active participant in various OECD bodies dealing with research and innovation policy, as well as energy issues, notably the Global Science Forum (GSF), the Committee for Science and Technology Policy (CSTP), the Working Group on Technology and Innovation Policy (TIP), the committees under the Nuclear Energy Agency (NEA) and the International Energy Agency (IEA). The EU plays a key role in the context of the ITER international organisation and in the Generation IV International Forum.

The EU was represented by the Commission at the G8 Science Ministers Meeting that took place in London on 12 June 2013, where the continuing work of the Group of Senior Officials on global research infrastructures was endorsed, together with important resolutions on global challenges and open scientific data.

The Rio+20 Summit called for the preparation of a post-2015 development agenda with sustainable development at its core. This will include the development of a set of universally applicable Sustainable Development Goals, also based on a review of progress towards the achievement of the Millennium Development Goals.

5. COMMUNICATION

A precondition for the successful implementation of the 2012 Communication is working at ensuring global awareness of the EU's strengths and its role in international cooperation in research and innovation. To achieve this, the Commission designed a communication strategy

²⁰ <http://www.ipcc.ch>

²¹ <http://glopidr.globe-network.org/>

²² <http://www.irdirc.org>

²³ <http://www.gacd.org>

²⁴ <https://rd-alliance.org/>

²⁵ <http://www.hfsp.org>

²⁶ <http://council.web.cern.ch/council/en/EuropeanStrategy/ESParticlePhysics.html>

²⁷ <http://www.eiroforum.org>

that carefully targets all stakeholders both internationally in partner countries and multilateral fora and within Member States.

As part of this, the Commission launched a communication campaign using as the key message 'Horizon 2020 – Open to the world'. Beyond its focus on Horizon 2020, the communication strategy also includes elements aiming at increasing the visibility of the EU's research and innovation policy and the role of international cooperation within it, and at raising the profile of the EU as a centre of excellence and knowledge.

The role of the NCPs, both within the EU and in partner countries, is vital to promote Horizon 2020. Similarly, the Commission network of Research and Innovation Counsellors and staff in EU delegations dealing with research and innovation is playing a very active role not only in promoting Horizon 2020, but also in networking with Member States' Science Counsellors, local and regional governments and other actors. All EU Delegations have also been mobilised to help in reaching out to research organisations. Finally, the bilateral projects with partner countries play an important role in raising the awareness of participation possibilities in Horizon 2020.

Science diplomacy is an important tool for implementing the communication strategy. This is done, for example, by using the opportunities provided by high level meetings to raise awareness of international research cooperation as a core element of external policies and to promote Horizon 2020.

To support the implementation of this communication strategy, the Commission made available a large range of material including postcards, leaflets, power-point presentations, the newsletter International Research Update, websites on international cooperation and a video explaining the international dimension of Horizon 2020 and the importance of international cooperation in research and innovation. Some of this material is available in partner countries' languages such as Russian and Chinese. The presence on social media has also been strengthened.

6. STRENGTHENING THE SYNERGIES WITH THE EU'S EXTERNAL POLICIES AND THE ACTIVITIES OF THE MEMBER STATES

A global approach to international cooperation in research and innovation also entails strengthening synergies with other policies with a strong global dimension and in particular with the EU's external policies, including development, and with the activities of the Member States.

Through science diplomacy international cooperation in research and innovation can be used as an instrument of soft power and as a mechanism for improving relations with key countries and regions. Equally, good international relations facilitate effective cooperation in research and innovation. Science diplomacy can be a support to the EU efforts in crisis management and peace building. For example, research infrastructures such as the synchrotron facility SESAME²⁸ and projects on issues such as the impact of climate change and implications for human security²⁹ can facilitate dialogue between researchers and stakeholders in the Middle East.

To underscore the strategic importance of international cooperation at the highest level, research and innovation are increasingly part of the general policy dialogue with the EU's international partners, as reflected in the conclusions of recent Summits (Brazil, China, Japan,

²⁸ <http://www.sesame.org.jo/sesame/>

²⁹ <http://www.cliwasec.eu>

US and Africa) and other high level meetings (e.g. Canada and New Zealand) in 2013 and 2014.

Research and innovation and trade policies are closely intertwined. Negotiations on free trade agreements such as the Transatlantic Trade and Investment Partnership (TTIP) between the EU and the USA are an opportunity for improving framework conditions for cooperation in innovation.

Research and innovation policies can have a positive impact on the EU's development cooperation policies. The Communication "Increasing the impact of EU Development Policy: an Agenda for Change"³⁰ calls for development policy geared towards putting in place innovation policies to allow developing countries to harness the opportunities offered by globally integrated markets.

Innovation is also a relevant dimension of the EU's humanitarian policy. The Communication 'The EU Approach to Resilience – Learning from Food Crises'³¹ calls for the promotion of innovative approaches to risk management.

Synergies with external policy instruments were boosted by having them support, where appropriate, the increase of research and innovation capacities. For example, under the 2007-2013 Development Cooperation Instrument, EUR 30 million was allocated to an Innovation for Poverty Alleviation Programme in South Africa. The African Union Research Grants Programme supports the implementation of the African Union's S&T policy. The 11th European Development Fund (EDF) earmarked EUR 35 million for 'Knowledge for Development'. The European Neighbourhood Policy Instrument (2007-2013) included the East-Invest regional programme covering the six Eastern Partnership countries as well as bilateral programmes on capacity building in the Southern Neighbourhood. Enlargement countries are involved in research and innovation actions under the Danube Strategy, as well as the EU Strategy for the Adriatic and Ionian Region. Under the Instrument for Pre-accession Assistance specific attention is being given to strengthening their research capacity.

Attention has also been paid to achieving closer coordination between the activities of the Member States and Associated Countries and those of the EU. This has been pursued in particular through the Strategic Forum for International S&T Cooperation (SFIC)³². SFIC has worked towards achieving its objectives by providing strategic advice on the development and implementation of the new strategy for international cooperation in research and innovation. SFIC also prepared guidelines for enhancing its contribution to summits and bi-regional dialogues and set up a working group to discuss common principles. Joint initiatives with key partners such as India, Brazil, China and the USA have been developed. SFIC contributed to the strategic planning of priorities for future cooperation, in particular through a dedicated workshop held on 26 March 2014³³.

Another dimension of cooperation with Member States and Associated Countries is where these join forces to design and implement joint activities. The Article 185 instrument was used to set up the European Developing Countries Clinical Trial Partnership³⁴ and work is on-going towards a renewed Euro-Mediterranean research and innovation cooperation. The Commission is also exploring strengthening international cooperation through the Joint Programming Initiatives (JPIs), such as the JPI on water for India.

³⁰ COM(2011) 637

³¹ COM(2012)586

³² <http://www.consilium.europa.eu/policies/era/sfic>

³³ ERAC-SFIC 1359/14

³⁴ <http://www.edctp.org>

7. PRIORITIES FOR FUTURE COOPERATION

7.1. Strategic planning

Developing a strategic planning of priorities for future cooperation was a central element of the 2012 Communication. Its purpose is to allow for an earlier identification of cooperation initiatives with appropriate scale and scope and for their inclusion in the Horizon 2020 work programmes.

The identification of jointly agreed priorities for cooperation with partner countries and regions has progressed significantly since the adoption of the Communication. The dialogues with the EU's partners have been the primary source of inspiration for this planning exercise, and in this context priorities were identified in line with the principles of common interest, mutual benefit, optimal scale and scope, partnership and synergy. More information on this process is provided in the accompanying Staff Working Document.

7.2. Bilateral cooperation

Examples of how priorities have been set with partner countries can be found in roadmaps for international cooperation with Brazil, Canada, China, Korea, Japan, India, Russia, South Africa and the US, which are provided in the accompanying Staff Working Document.

Priority setting for other countries has also progressed. Cooperation with Australia will focus on energy, resource efficiency and raw materials, health, food security and research infrastructures.

For Mexico, priority areas for future cooperation include energy and, in particular, geothermal energy research, health, and ICT.

For New Zealand, priorities for future cooperation include health and food security.

For Ukraine, cooperation will focus on ICT, new materials and processing technologies, biotechnology and transport.

Association to Horizon 2020 also progressed smoothly. Associated countries participate in Horizon 2020 on the same level as Member States. To date, association is complete for: Norway, Iceland, Albania, Bosnia and Herzegovina, Former Yugoslav Republic of Macedonia, Montenegro, Serbia, Turkey, Israel and Moldova.

7.3. Regional cooperation

Research cooperation between the EU and certain regions is also central to a global approach to international cooperation. The focus is on those regions with which there are established policy dialogues. Regional cooperation is also based on the need to address problems that cannot be tackled bilaterally, such as diseases like malaria, HIV and tuberculosis or challenges linked to environment, sustainable use of resources and climate change. Regional cooperation may also allow for the optimal use of research infrastructures, such as the Africa-European Radio-Astronomy Platform³⁵, and to facilitate access to knowledge available in the region.

Examples of how priorities have been set in a regional context can be found in the roadmaps for the Mediterranean region and for the Eastern Partnership region.

For Africa, existing areas of cooperation are: health research through the European and Developing Countries Clinical Trials Partnership (EDCTP 2), Global Earth Observation, and

³⁵ <http://www.aerap.org>

ICT, whilst for the future, the EU-Africa High Level Policy Dialogue has identified food and nutrition security and sustainable agriculture as a priority.

With the Community of Latin American and Caribbean States (CELAC), priorities for future cooperation are bio-economy, renewable energy, ICT, health and biodiversity and climate change, as well as researchers' careers.

Cooperation with the Gulf countries will focus on energy security, environment (including water and climate), health and ICT.

With ASEAN, priorities for future cooperation are food, agriculture and biotechnologies and in particular aquaculture, health, ICT and renewable energy.

8. CONCLUSIONS

While progress has been made in implementing the strategy for international cooperation in research and innovation launched in 2012, it is clear from the above that this has only been a starting point and that more needs to be done.

The international dimension of Horizon 2020 and its work programmes needs to be further strengthened through a better integration of international cooperation in the Horizon 2020 Strategic Programming and work programme development. This needs to be based on the priorities for future international cooperation which have been set through the strategic planning exercise.

Moreover, work on developing common principles and framework conditions and removing obstacles to cooperation needs to continue, as this is essential to enhance the level and quality of international cooperation activity.

Further work is also needed as regards the monitoring of the impact of the strategy through quantitative indicators. As the 2012 Communication announced, this will involve monitoring the full global dimension of international cooperation activities, in order to go beyond simple measurements of direct participation of third country entities in signed Horizon 2020 grant agreements. Given the fact that Horizon 2020 was only launched on 1 January 2014, it is premature to report on this at this stage.

The communication strategy on international cooperation will continue to be refined and implemented as this is a crucial element to create awareness and promote Horizon 2020 as open to the world. At the same time, the Commission will continue to focus on science diplomacy and strive to enhance synergies with external policies of the EU and with Member States.

More particularly, progress made in implementing the strategy will be used to further strengthen an approach which incorporates the global dimension of international cooperation in research and innovation, with a view to tackling global challenges and achieving results with a greater impact.