

EU scientific cooperation with third countries

SUMMARY

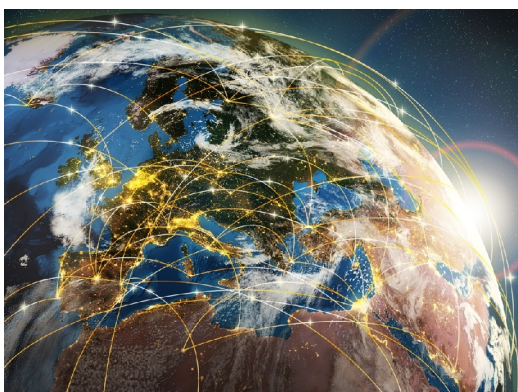
Scientific cooperation with third countries aims to strengthen the European Union's attractiveness and competitiveness, tackle global societal challenges and support EU external policies. Science diplomacy is also an increasingly important tool to ease cooperation with third countries.

The EU strategy for international scientific cooperation focuses on two dimensions. First, the research programmes carried out by the EU are open to participation by research institutions and researchers worldwide. Second, the EU is developing targeted strategies – multiannual roadmaps – with selected countries in order to achieve specific objectives.

To support scientific cooperation, the EU has signed international agreements with 20 countries to provide a framework for bilateral cooperation. It has also sent science counsellors to third countries to strengthen dialogue and cooperation.

Cooperation mainly takes place through the framework programme for research and innovation (known as 'Horizon 2020'). Through their association with Horizon 2020, 13 non-EU countries enjoy the same conditions for participation as Member States, and EU funds can be provided to third countries through targeted calls for proposals. However, industrialised and BRIC countries are usually required to fund their institutions' participation.

The Directorate for International Cooperation within the European Commission's Directorate-General for Research and Innovation manages the preparation and implementation of the EU strategy for scientific cooperation. The Strategic Forum for International Science and Technology Cooperation (SFIC) provides a platform for Member States to establish a common strategy for scientific cooperation with selected countries, and advises the Council and the Commission.



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Objectives of scientific cooperation

Scientific cooperation has been an important dimension in the development of European integration. The European Organisation for Nuclear Research (CERN) was established in 1954, the European Commission's Joint Research Centre in 1957, the COST programme¹ in 1971 and Eureka² in 1985. Since 1984, the Framework Programmes for research aim to foster scientific cooperation among Member States.

Cooperation in the scientific field with non-Community countries began in 1983, with the Science and Technology for Development programme,³ and was mentioned for the first time in the [Single European Act](#) in 1986, in the title on research and technological development added to the Treaty at that time. As research and innovation activities are increasingly international, EU scientific cooperation with third countries aims to:

- strengthen EU excellence and attractiveness in research and innovation as well as its economic and industrial competitiveness;
- tackle global societal challenges;
- support [EU external policies](#) with science diplomacy as a soft power tool.

Main players in scientific cooperation with third countries at EU level

European Commission – Directorate-General for Research and Innovation (DG RTD), Directorate for International Cooperation

This [Directorate](#) promotes and facilitates coherent and strategic development of EU international policy in research and innovation. It organises and supervises policy dialogues with key third countries and coordinates international cooperation activities. The Directorate works in coordination with the [European External Action Service](#) (EEAS).

Council – Strategic Forum for International Science and Technology Cooperation (SFIC)

In 2008, the Council [established](#) SFIC as a dedicated configuration of the European Research Area and Innovation Committee ([ERAC](#)), which advises the Council and the Commission. SFIC members represent the Member States and the Commission.⁴ SFIC offers a platform for Member States to share information and identify common priorities for developing the international dimension of the European Research Area (ERA). Its opinions are communicated to ERAC, the Member States and the Commission.

EU strategy for scientific cooperation

In 2012,⁵ the Commission proposed an [EU strategy](#) for scientific cooperation with third countries, based on a dual approach: openness and targeted activities. This strategy was distinct from the strategy related to the ERA [published](#) earlier that year. The Council criticised this approach, [stating](#) that 'the external dimension is a vital, cross-cutting and integral part of the ERA' and should be added to the ERA's priorities.

The League of European Research Universities (LERU) [suggested](#), in 2011, that the international dimension of the ERA should be a key priority. At the same time, the European University Association [called](#) for consistency between EU and national strategies for cooperation in science and technology. In 2014, LERU [requested](#) that ERA be anchored in a strong international strategy. In the [ERA roadmap](#) adopted in May 2015, the Council added 'International Cooperation' as a sixth ERA priority. Eureka [supported](#) this emphasis on the international dimension as an integral part of the ERA.

In 2014, the Commission [reported](#) on the implementation of the 2012 strategy. The report calls for the development of common principles and framework conditions for

engaging in international cooperation. It also reaffirms the importance of engaging in multilateral initiatives and of strengthening synergies with EU external policies.

Openness

The principle of openness allows EU researchers to engage with their counterparts worldwide, without restrictions. Researchers and institutions from third countries are invited to take part in EU initiatives, mainly Horizon 2020. However, participation does not mean automatic eligibility for EU funding.

Targeted cooperation activities

Focused cooperation activities are developed with key partners, based on scientific, economic and political criteria. Tackling global challenges, opening access to specific research infrastructure, and contributing to the Union's international commitments are various reasons to establish cooperation activities with selected third countries, and require the development of specific strategies and objectives.

Table 1 – EU objectives in scientific cooperation with targeted third countries

Targeted third countries	Objectives
EFTA countries and EU enlargement countries	Integration into the ERA
Countries covered by the European Neighbourhood Policy (ENP)	Develop a ' Common Knowledge and Innovation Space '
Industrial countries and emerging economies	Maintain EU competitiveness
Developing countries	Complement EU external policies

Data Source: [European Commission](#).

The Commission published, along with the 2014 report on the strategy, 11 [multiannual roadmaps](#) (MARs) for scientific cooperation with industrialised countries ([Canada](#), [South Korea](#), [USA](#), [Japan](#)); emerging scientific powers ([Brazil](#), [Russia](#), [India](#), [China](#), [South Africa](#)); and the ENP countries in two groups ([Eastern Partnership](#) and [Southern Mediterranean](#)). Each roadmap presents the state of cooperation with the EU, and defines thematic priorities for future cooperation in research and innovation activities.

The 'science diplomacy' aspect of this cooperation is [emphasised](#) at EU level to facilitate interactions with third countries,⁶ as well as to increase the EU's soft power. Hence, scientific cooperation helps to maintain or establish links with targeted countries where other diplomatic options may have been unsuccessful.

Coordination between the EU and the Member States

SFIC is active in improving the coordination of Member State activities with third countries, to increase [European added value](#) in scientific cooperation.⁷ SFIC began working on cooperation with selected countries in 2010, with [India](#) being the first chosen. China, USA, Brazil and Russia were subsequently added. SFIC works on developing common EU-Member State strategic research and innovation agendas with these countries.

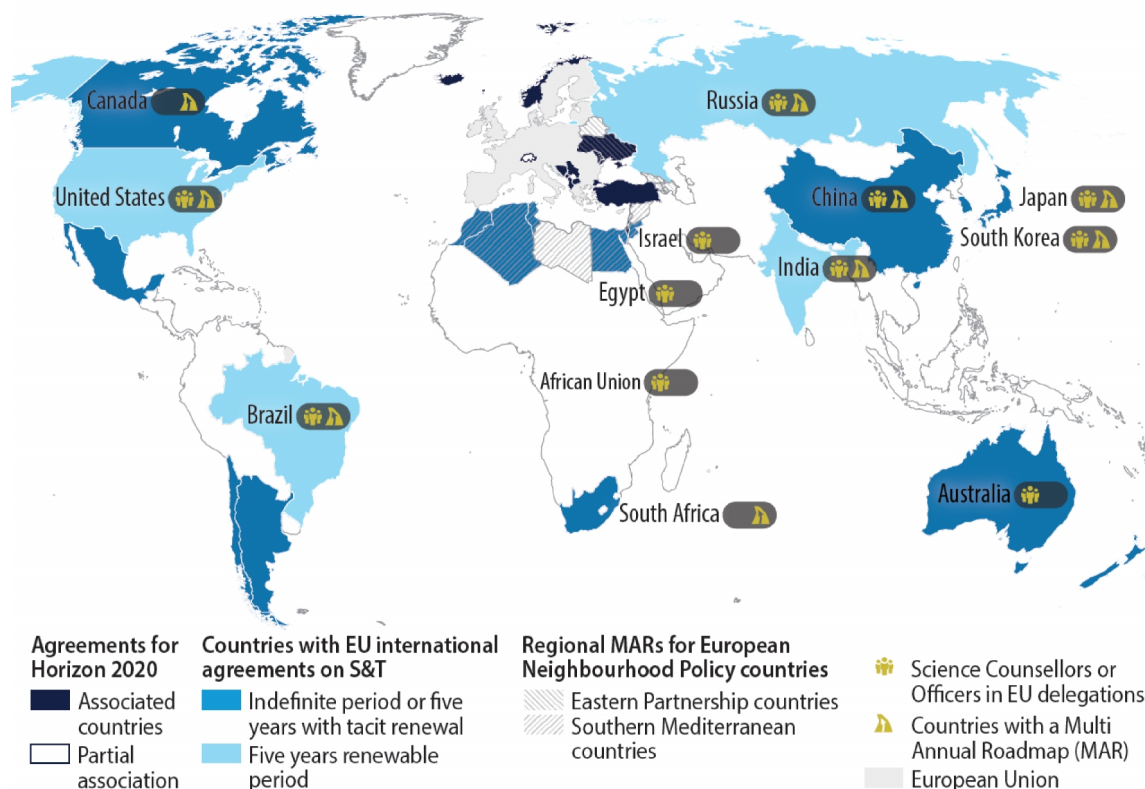
SFIC was consulted in the preparation of the MARs. However, SFIC's ambition is for the MARs to be translated into [operational activities](#). The working groups⁸ established by SFIC in June 2014 for [Brazil](#) and the [USA](#) are expected to prepare action plans for EU Member States to implement the roadmaps. SFIC calls for a [joint approach](#), to foster synergies between the EU and Member States when selecting third countries on which to focus and in defining strategies.

SFIC also set up a working group on [common principles](#) for the conduct of international cooperation in research and innovation. The conclusions of the working group were presented to SFIC on 9 June 2015.

EU instruments supporting scientific cooperation

The following map⁹ presents an overview of EU international scientific cooperation through the main instruments used to promote scientific cooperation with non-EU countries: international agreements, science counsellors and cooperation schemes.

Figure 1 – EU scientific cooperation with third countries



Data source: [DG Research and Innovation](#); [EEAS](#); [European Commission](#).

International agreements

Since 1994, the EU has signed international agreements for scientific and technological cooperation with [20 countries](#). These agreements offer a framework for scientific cooperation between the EU and third countries. DG RTD is the executive agent implementing the agreements on the EU side. Most of the agreements are concluded for an indefinite period, or for five years with tacit renewal. Only the agreements with Brazil, India, Russia, Ukraine and the US need to be formally renewed every five years.

The activities promoted by the agreements range from participation in joint projects, to the organisation of seminars, exchanges of researchers, and sharing research facilities. The management of intellectual property rights (IPR) is also an important dimension. The agreements establish steering committees, usually in charge of defining priorities for cooperation, reporting annually on activities and reviewing the agreement in advance of its renewal.

Intellectual property rights in international science, technology and innovation agreements

In 2014, a European Commission [study](#) found that EU international agreements on science, technology and innovation (STI) covered IPR more extensively than Member States' agreements, but that the US has a more elaborate approach, adapting IPR arrangements to the characteristics of the third country. However, the report notes that IPR arrangements in international agreements seem to be of little relevance in practice. The study recommends that any sort of IPR arrangement in an STI agreement should be kept to a minimum.

IPR arrangements in international agreements provide a global framework, but specific arrangements have to be defined by the partners in each research project. The [rules](#) of participation in Horizon 2020 provide the main guidelines for IPR arrangements. As a basic and default rule, the results are owned by the participants generating them. Specific arrangements can be put forward by the partners in a project when preparing the grant agreement. The [European IPR Helpdesk](#) supports SMEs and participants in European projects (from Europe or third countries) to prepare their international IPR arrangements.

EU Science counsellors and officers

To strengthen scientific cooperation with third countries, the EU has developed a network of science counsellors and officers. Reporting to DG RTD and working in cooperation with the EEAS, their role encompasses:

- Policy analysis: gathering and analysis of relevant information on science and technology policy and activities;
- Policy development: contributing to EU policy development; promoting EU policy objectives; identifying opportunities for cooperation; supporting the implementation of bilateral agreements;
- Representation and communication: establishing connections and networks with stakeholders; promoting Horizon 2020 and other activities of DG RTD; Promoting cooperation between EU Member States' counsellors in the host country.

Participation in the framework programme for research

From an operational viewpoint, scientific cooperation with third countries is implemented through cooperation schemes under the umbrella of the framework programme for research, currently Horizon 2020.

Associated countries

'Associated country' status offers a third country the same status as a Member State for the framework programme. This opportunity is offered to EFTA countries and to acceding, candidate and potential candidate countries to the EU ([Article 7](#) of Horizon 2020 Regulation). Associated national institutions and researchers can apply and participate in all areas of Horizon 2020, and receive EU funding. As a counterpart, the associated country contributes financially to the programme,¹⁰ increasing its overall budget. So far, [13 countries](#) have signed an agreement to be an associated country¹¹ within the Horizon 2020 Framework programme for research and innovation.

Other third countries

Institutions and researchers from non-associated third countries can apply and participate in the framework programme, under the '[openness](#)' strategy. However, institutions from some high-income countries¹² cannot receive EU funds for their participation in collaborative projects unless their contribution is recognised as essential to the research project.

These countries are required to set up match-funding mechanisms to finance their own institutions' and researchers' participation. Brazil, China, India, Mexico and Russia now

belong to this group under Horizon 2020, and are no longer eligible to receive automatic funding. This new status created [a drop](#) in participation from these five countries, as the matching funds are not yet effective in all of these countries.¹³

Targeted schemes and calls for proposals

Under the Seventh Framework programme, specific schemes targeted cooperation with third countries under the '[capacities](#)' pillar. The [INCO-NET](#) scheme supported policy dialogue with large regions ([south-east Asia](#), the [Mediterranean](#) and [Latin America](#) for example), and established a worldwide [network](#) of national contact points for EU international scientific cooperation activities. The [BILAT](#) scheme supported bilateral contacts with countries with which the EU had scientific agreements, to improve scientific collaboration and define priority actions. Specific schemes¹⁴ supporting joint calls for proposals between Member States and third countries, such as [ERANETMED](#) for the Mediterranean region, were used to implement regional or bilateral cooperation.

Under Horizon 2020, 20% of the calls for proposals in the 2014-15 work programme were flagged as relevant to [international cooperation](#). Third-country participation can be suggested or required. The [staff working document](#) presenting the MARs lists the target calls in the 2014-15 work programme for each country. Some of the targeted calls for proposals provide direct implementation of strategic priorities with a country, for example cyber-infrastructure with Brazil, or the future of the internet with Japan.

Outside the direct scope of Horizon 2020, the European and Developing Countries Clinical Trials Partnership ([EDCTP](#)) is an example of joint programming¹⁵ between Member States, including the participation of third countries.

Non-EU researcher mobility

At the individual level, specific schemes support international mobility for non-EU researchers. A [European Research Council grant](#) is available to researchers, provided they spend at least half of the grant duration in the EU or an associated country. Marie Skłodowska-Curie [Individual Fellowships](#) are also open to individual researchers, regardless of their nationality, allowing them to conduct research projects in the EU and associated countries. The [Research and Innovation Staff Exchange](#) scheme also promotes researcher mobility between Member States and third countries.

European Parliament

The European Parliament has long supported scientific cooperation with third countries. In 1991, the Parliament adopted two resolutions on the issue. At that time, scientific cooperation was seen as 'one of the best means of supporting and speeding up Europe's economic progress and integration' of European [non-member](#) countries. For scientific cooperation with [non-European](#) third countries, Parliament disagreed with the Commission and the Council and called for a more open attitude.

This position of openness is also found in Parliament's 2008 [resolution](#) on the ERA. The European Parliament considered that countries that are more aligned with EU geopolitical priorities should be encouraged to participate in the ERA, through further promotion of scientific and technological cooperation agreements. Parliament further expressed the wish to see coordination schemes, knowledge-sharing principles and researcher mobility extended beyond the strict boundaries of the EU and its associated countries and into neighbourhood countries. In 2011, the European Parliament [called](#) for an intensification of international cooperation with the strategic partners of the EU, on a reciprocal basis, in order to better tackle global challenges.

Under the Lisbon Treaty, international agreements for scientific cooperation – new or renewed – now fall under the consent procedure. The European Parliament has [expressed](#) its 'intention to request the Council, where appropriate, not to open negotiations on international agreements until Parliament has stated its position'.

Main references

European Commission, Enhancing and focusing EU international cooperation in research and innovation: A strategic approach, [COM\(2012\) 497](#) and [SWD\(2012\) 258](#), 14 September 2012.

European Commission, Report on the implementation of the strategy for international cooperation in research and innovation, [COM\(2014\) 567](#) & [SWD\(2014\) 276](#), 11 September 2014.

Endnotes

- ¹ The [COST programme](#) supports the creation of pan-European networks of researchers across all fields of science.
- ² [Eureka](#) supports the creation of pan-European networks involving small and large industrial firms, research institutes and universities, to foster innovation-driven entrepreneurship.
- ³ In 1992, the STD Programme was integrated into the Fourth Research Framework Programme (1994-98) as the International Cooperation Programme (INCO).
- ⁴ Countries associated to Horizon 2020 participate as observers.
- ⁵ A first [strategic European framework](#) for international science and technology cooperation was published in 2008.
- ⁶ The [SESAME project](#) aiming at building a synchrotron in the Middle-East is an example.
- ⁷ A [European Added Value report](#) on EU-Member State partnership in international scientific cooperation was published by the Commission in 2014.
- ⁸ The working groups [were established](#) to follow the new [rules of procedures](#) of the SFIC. They continue the work of previous steering committees. Two other working groups were established for China and Russia.
- ⁹ Ukraine has also signed an international agreement for scientific cooperation for a five-year renewable period. Its associated country status was signed in March 2015, and is pending ratification by the Ukrainian parliament.
- ¹⁰ The financial contribution of an associated country to Horizon 2020 is based on its GDP.
- ¹¹ The agreement with Switzerland currently provides only for partial association (mainly for Pillar One) until the end of 2016; extension for the remainder of Horizon 2020 depends on Switzerland's ratification of the Protocol to the agreement on free movement concerning Croatia joining the EU. The [agreement](#) for Ukraine to become an associated country to Horizon 2020 was signed in March 2015 and is pending ratification by the Ukrainian parliament. The signature of an association agreement with Georgia is expected by the end of 2015, to take effect from 1 January 2016.
- ¹² Mainly Australia, Canada, Japan, South Korea, New Zealand, Singapore, the USA, Saudi Arabia, Bahrain, Kuwait, Qatar and the United Arab Emirates.
- ¹³ Mexico was the first country to set up a matching fund mechanism. Brazil, China and Russia are in the process of establishing them. India has not yet taken the first steps to establishing such a mechanism.
- ¹⁴ [ERA-NETs](#) support joint transnational calls between Member States and third countries with EU co-funding.
- ¹⁵ The EDCTP is a joint programming structure established under Article 185 TFEU between 15 Member States, Norway, Switzerland and 13 sub-Saharan African countries.

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