USING SCIENCE FOR/IN DIPLOMACY
FOR ADDRESSING GLOBAL CHALLENGES

S4D4C EUROPEAN SCIENCE DIPLOMACY ONLINE COURSE

MODULE 4

How Does the European Union Practice Science Diplomacy?

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Practical information

This module takes a minimum of 3 hours

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USING SCIENCE FOR/IN DIPLOMACY FOR ADDRESSING GLOBAL CHALLENGES

S4D4C EUROPEAN SCIENCE DIPLOMACY ONLINE COURSE MODULE 4 – HOW DOES THE EUROPEAN UNION PRACTICE SCIENCE DIPLOMACY?

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4.1 Introduction to the Module

4.1.1 Learning Objectives and Experts' Preliminary Insights

Learning objectives

This module shows how the European Union (EU) carries out the practice of science diplomacy and the bi-directional impact in/from Member States' science diplomacy strategies. The objective here is not to present a mere chronological collection of facts but to understand the setting and the importance of the major developments of the EU in the field.

Throughout this module, we will give you answers to the following questions:

- What is the EU? What is the EU institutional framework? Where is the EU as a global actor in the world?
- How is the EU science and innovation system articulated?
- How does European science diplomacy work?

Also, we will provide:

- An historical overview of the EU science system so you can put the previous modules into context.
- Information about the EU science diplomacy vision and values in the ecosystem, as well as different examples of research projects and practices.

What the experts think

We have invited a group of experts to give us some preliminary insights about the question "Why is science diplomacy so high in the European agenda?" Their explanations will be useful to establish the foundations on which we will build up your knowledge.

	**Léonard Laborie** Research Fellow, Centre National de la Recherche Scientifique (CNRS), and Deputy Coordinator for the H2020-funded consortium "Inventing a shared science diplomacy for Europe (InsSciDe)"
	Why is science diplomacy so high on the European agenda? Video Link to YouTube

	**Elke Dall** Senior Researcher and Project Manager, Centre for Social Innovation (ZSI) and Project Coordinator for the H2020-funded consortium "Using science for/in diplomacy for addressing global challenges (S4D4C)"
	Why is science diplomacy so high in the European agenda? Video Link to YouTube

Some Questions to reflect on after watching the videos

These questions are posed for you to reflect individually about the main messages put by our experts in science diplomacy. Please, take some time to think about them.

- Do you think science diplomacy is a priority for the EU? If so, why?
- Do you think that European science diplomacy could contribute to tackling global challenges?

4.2 The European Union

You may already know that the European Union (EU) is a **political and economic union of 27 member states** that are located in the European continent. The Members States, all having different cultures, societies and languages, are sharing part of their sovereignty for peace and prosperity of the continent (as the **motto** states *In varietate Concordia* by its Latin-language version).

The EU Flag

The main goals of the EU are to promote peace, particular shared values and the well-being of its citizens. The EU's **fundamental values** are **respect for human dignity and human rights, freedom, democracy, equality and the rule of law**. Any country must recognise these values to belong to the Union (EU Parliament, http://europarlamentti.info/en/values-and-objectives/values/).

These values form the basis of the EU and are laid out in the Lisbon Treaty and the EU Charter of Fundamental Rights and are clearly stated.

The module will continue with a brief overview of the history of the EU, the EU institutional framework and the recently launched new Green Deal.

Read more about European goals and values in the link below:

https://europa.eu/european-union/about-eu/eu-in-brief_en

4.2.1 The History of the European Union: a Cooperation and Integration Process

After the **Second World War (WWII)**, in 1945, Europe was destroyed. The **United Nations founding Charter** was signed in San Francisco that year. Many people believed that a more united Europe could be envisioned, and started to work on the **first pro European movement** as a new model for peace in the region. The concept of European unity was a barricade against the return of WWII nationalism. The idea was finally achieved and in 1949, the **Council of Europe** was founded in London by 10 countries at the first pan European assembly promoting democracy and human rights.

By that time, Europe was heavily affected by the **Cold War**, a long period of international tension (1945-1991) between the "Western Bloc" (with the leadership of the United States of America) and "Eastern Bloc" (headed by the Soviet Union). The two superpowers had completely different political and economic approaches (capitalist democracy versus communism) dividing Europe in two areas of influence. Military alliances were formed: NATO (North Atlantic Treaty Organization) for the West and the Warsaw Pact (Warsaw Treaty Organization) for the East.

France and Germany pushed to establish an economic alliance and in **1951** the **European Coal and Steel Community** was created in Paris by **France, Germany, Italy, the Netherlands, Belgium and Luxemburg**. Driven by this attainment, the 6 countries decided to extend the economic deal to other economic sectors and in **1957** the **Treaty of Rome** was signed, creating the **European Economic Community (EEC).** It was also in 1957 that the Euratom Treaty was established by the European Atomic Energy Community. The initial purpose of the Treaty was to create a specialist market for nuclear power in Europe. The foundation of Europe was set.

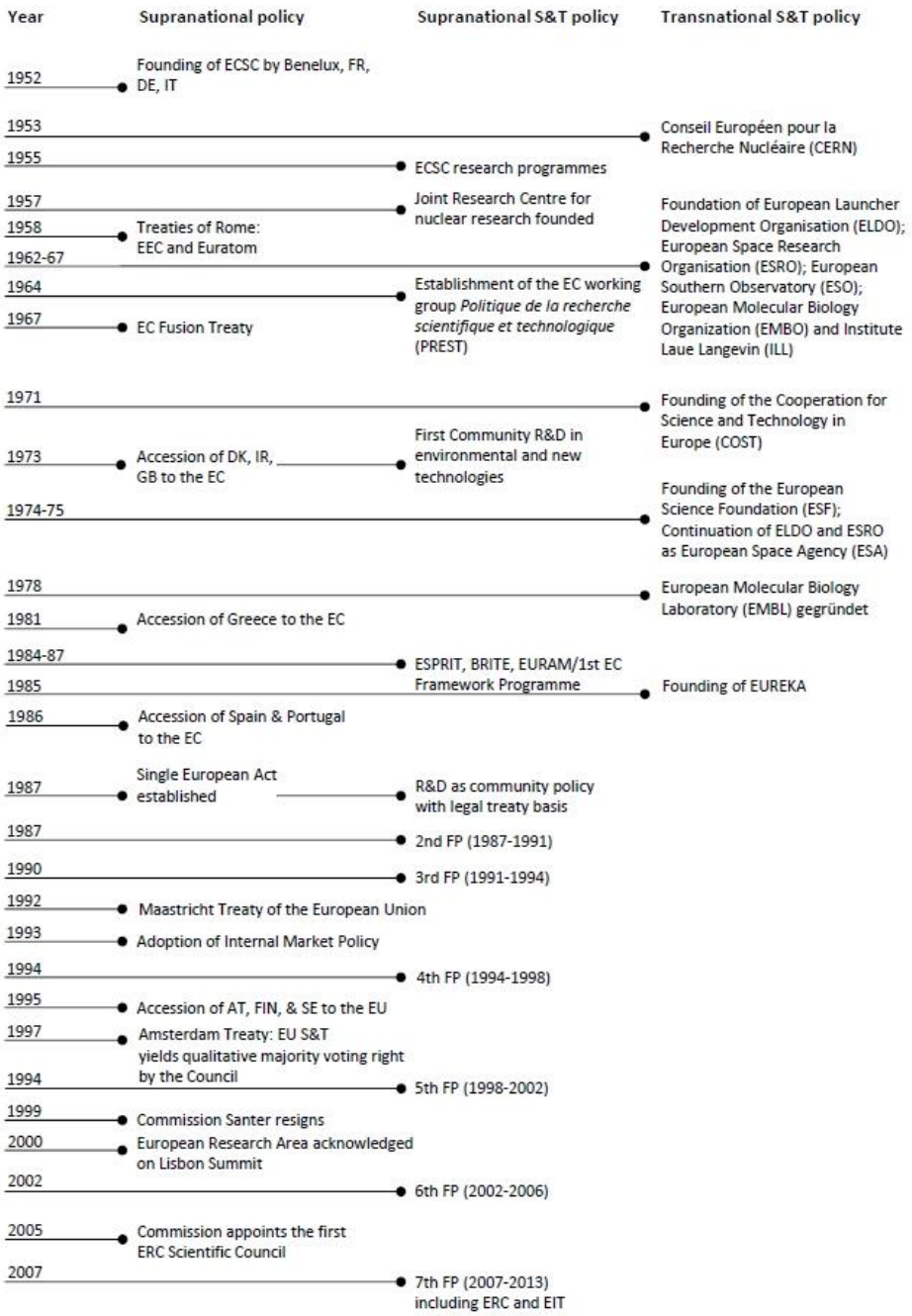
The **common European project was also open to other countries** in order to build peace and prosperity in Europe. In the **1970s**, **Denmark, Ireland and the United Kingdom** joined the common project. In the **1980s** the European Economic Community (EEC) opened its doors to the **emerging democracies of Southern Europe** (Greece in 1981 and Spain and Portugal in 1986).

This enlargement of the EEC triggered political stability and economic development in Europe's Mediterranean region. **New policies to face regional inequalities** were also created. Finally in 1992, the **European Union (EU)** was shaped (treaty signed in Maastricht) launching the single internal market.

The **second big enlargement** period of the EU was during the 90s and early 2000s. In 1995 Austria, Finland and Sweden joined the EU, and then in 2004 the **countries of Central and Eastern Europe** (the Czech Republic, Estonia, Hungary, Latvia, Lithuania,

Poland, Slovakia, and Slovenia) plus Malta and Cyprus as a result of profound social and economic reforms performed.

Rules were also set in **2001** (**Treaty of Nice**) for those countries, like **Turkey**, that wanted to join the EU. In December 2007, after the entrance of Bulgaria and Romania, the **Treaty of Lisbon** was accepted by all Member States (MS) and entered into force on 1 December 2009 after national ratification processes in the 27 Member States (https://europa.eu/european-union/about-eu/countries_en) being held. Finally, in 2013, the last country joining the EU until today was Croatia.



Source: (Flink 2016)

The EU has suffered a **wave of different crises over the last decade**. The economic and **euro crisis, the Brexit crisis, the migration crisis, the COVID-19 crisis** and the rise of **Euroscepticism**, have altogether altered the EU integration process and rule-based multilateralism, which may have shifted instead towards a **de-facto multi-speeds approach between MS,** rather than an ever closer Union.

However, more than 50 years after its first steps, the **EU is a unique global example of real integration of different states**, a reality that includes 450 million people living in 27 countries. This dynamic integration has involved the establishment of **supranational EU structures** and the alignment of a wide array of policies among MS: **economics, agriculture, energy, monetary, foreign policy and defence, and also in science, technology and innovation**. European integration in a time of **global challenges requires adaptation of the EU** and consolidation of this endeavour for prosperity and peace.

You may learn from this short video how the EU was built:

Eureka: Building the European Union

Home - en (h2020eureka.eu)

Read more!

- Flink, Tim (2016): Die Entsethung des Europäischen Forschungsrates, Marktimperative, Geostrategie, Frontier Research [The Institutionalisation of the European Research Council. On Market Imperatives, Geostrategy, and Frontier Research]. Weilerswist: Velbrück Wissenschaft, p. 61.

Additional information about the process of building the EU can be found on:

- Historical events in the European integration process (1945-2014), CVCE, University of Luxembourg (Link)

4.2.2 The European Union Institutional Framework I

In this topic, we will explore the European Union Institutional Framework. Three central institutions are the core of the EU: **The European Commission, the European Parliament and the Council of the European Union**

The EU is sustained by an **institutional ecosystem**: the European Council, the European Central Bank, the European Courts, the Court of Auditors, the Economic and Social Committee and the Committee of the Regions. Within the content of this module, we will also cover the **European External Action Service (EEAS)**.

The European Union has a very **unique institutional set up**, it is neither an international organisation nor a country, but a supranational body where member states share part of

their political and economic sovereignty. Therefore, EU institutions are different from institutions that can be found at a national level and it is difficult sometimes to compare.

The European Commission, the European Parliament and the Council of the European Union are **interdependent** institutions during the **legislative process**. All three play an important role in the decision-making process of the EU.

The European Commission

The European Commission: represents the general interest of the EU by proposing and enforcing legislation as well as by managing policies and the EU budget. The Commission also represents the EU internationally. It is also therefore a fundamental executive body of the EU.

The current President of the European Commission is **Ursula Von der Leyen** and she defines the policy direction for the Commission. This leadership enables her and her team composed by a "**College of Commissioners**" (27 commissioners, one per each country) to decide strategic objectives and draft an annual work programme. The different commissioners structure their departments (Directorates-general) responsible for certain policies. This strategic decision-making is a collective process where consensus is the rule but where votes can also take place.

The European Parliament

The European Parliament represents the general interests of European citizens. The EU parliament is a directly-elected EU body with legislative, supervisory and budgetary responsibilities.

The President of the European Parliament is elected for a renewable term of two and a half years. The current President is **David-Maria Sassoli**.

The **705 Members of the EU Parliament (MEPs)** are elected in the 27 member states for a five-year period by **proportional representation elections**. In the last election, more than a third of MEPs were women. It is worth noting that MEPs are grouped by political affinity, not nationality.

There are currently 7 **political groups in the European Parliament** (25 MEPs are needed to form a political group):

- **Group of the European People's Party (Christian Democrats)**
- **Group of the Progressive Alliance of Socialists and Democrats in the European Parliament**
- **Renew Europe Group**
- **Group of the Greens/European Free Alliance**
- **Identity and Democracy Group**
- **European Conservatives and Reformists Group**
- **Confederal Group of the European United Left - Nordic Green Left**

The MEPs are organised in different **committees** (there are 20 specialised parliamentary committees) which includes a chair, a bureau and a secretariat. It is important to note that their debates are public meetings (and also streamed online). Sub-committees can also be set up for special issues. The MEPs can join different delegations of the EU Parliament and exchange information with other non EU parliaments.

In the short videos shown in the two following links you will learn how the committees are organised and the functions of the President of the EU Parliament

- Explanation of the committees of the EU Parliament (Link)
- Representing you: President of the European parliament (Link)

The Council of the European Union

The Council of the European Union (or the Council) represents the general interests of the governments of the 27 member states. Each EU country holds the 6 month presidency (on a rotating basis for all MS). The current presidency is held by the **French Government until June 2022**.

The Council is an essential **co-decision-body together with the EU parliament** (on the basis of proposals submitted by the EU Commission). The Council members (different government ministries focussed on particular subject areas) organise meetings depending on the policy area discussed.

The Council also has the task of coordinating member states' policies in different sectors (economy, education, employment, science, etc.) and to develop the EU's common foreign and security policy (CFSP) together with the High Representative of the Union for Foreign Affairs and Security Policy. Finally, the Council is also responsible for adopting, together with the EU Parliament, the EU Budget for each fiscal year.

Read more!

- Official website of EU institutions and bodies (Link).

Have a look at the statistical portrait of the EU in the world 2018:

- European Union (2018): *The EU in the World. 2018 Edition,* Luxembourg: Publications Office of the European Union, doi: 10.2785/990579, (Link)

4.2.3 The European Union Institutional Framework II

In addition to the core institutional bodies, there is a **rich institutional ecosystem in place**. A brief overview of these other institutions and bodies is presented below:

The European Council

The European Council—be careful here! Do not mistake with the Council of the EU—conveys together with the heads of state or government of the 27 EU member states, the Council President and the President of the European Commission. The High Representative of the Union for Foreign Affairs and Security Policy also takes part in European Council meetings when foreign affairs issues are discussed.

The current President (**Charles Michel**) is elected for a term of two and a half years, which is renewable once. The European Council defines the EU's overall political direction and priorities. It does not exercise any legislative function.

The European Central Bank

The European Central Bank (in Frankfurt am Main, Germany) defines and implements monetary policy in the **euro area countries** (19 countries fulfilled the convergence criteria prior adopting the euro). Together with the national central banks of the Member States, the European Central Bank is in charge of price stability in the euro area and thus protects the value of the euro.

In order to contribute to the safety of the banking system and the stability of the financial system within the EU, the European Central Bank is responsible for the supervision of bank institutions located in the euro area (within the Single Supervisory Mechanism, which also comprises the national competent authorities).

The Court of Justice of the European Union

The Court of Justice of the European Union ensures that the law is interpreted and enforced in the same way in every EU country. The headquarters of the Court of Justice of the European Union are in Luxembourg

It comprises two courts: the Court of Justice and the General Court.

- **The Court of Justice** (one judge from each Member State plus 11 advocates general).
  Its main tasks are:
  - To review the legality of acts of the EU institutions
  - To ensure that Member States comply with the treaties
  - To interpret EU law at the request of national judges
  - To ensure the uniform application of the law in the member states

- **The General Court** (two judges from each Member State).
  Its main task is:
  - To handle cases brought by companies or individuals directly affected by acts of the EU institutions

The European Court of Auditors

The European Court of Auditors audits the Union's finances. The members (one member from each member state) are **independent** and take no instructions from their home countries.

The Economic and Social Committee

The Economic and Social Committee gives the means to civil society organisations from the member states to express their opinions. Its views are forwarded to the Council, the European Commission and the European Parliament. It is a **consultative body** not an executive one. The committee has 350 members chosen from economic and social interest groups in Europe and the members are nominated by national governments.

The Committee of the Regions

The Committee of the Regions allows the **regions** and **cities** of the European Union (EU) to have a **voice at the EU level**. The Committee represents local and regional authorities across the European Union. It could also advise on new laws that have an impact on regions and local entities.

Learn from this short video how the committee of Regions works

- "Our Political priorities 2015-2020: Committee of the Regions": Click link.

The European External Action Service (EEAS)

Finally, we would like to highlight the importance of a particular stakeholder, the **European Union's diplomatic service**: **The European External Action Service (EEAS)**, whose role is to make sure that the **EU is a relevant actor in the world**.

The EU foreign affairs chief is the **High Representative for Foreign Affairs and Security Policy**, who is also a vice-president of the European Commission. The EEAS is headed by Josep Borrell from 2019 to 2024.

The EEAS helps the EU's foreign affairs chief aforementioned carry out the Union's Common Foreign and Security Policy and runs the EU delegations worldwide.

More information about the EEAS will be explained in the topic **4.4.1 The EU Science Diplomacy Ecosystem**.

4.2.4 Euroscepticism on the Rise

In 2012, the **EU was awarded the Nobel Peace Prize** for advancing the causes of peace, reconciliation, democracy and human rights in Europe.

However, the existing complaints about the **democratic deficit in the EU** (Follesdal and Hix 2006) may have got worse since the economic crisis in 2008. Different institutions were at the epicentre of these critiques such as the unelected European Commission and the European Central Bank. Also involved was the informal Eurogroup, which consists of the finance ministers of the Eurozone member states, as they were imposing structural policies with significant economic, social and political consequences on countries such as Greece, Spain or Portugal (Armingeon and Guthmann 2014).

Across Europe, people report a **sense of distrust in political institutions** — according to Eurobarometer, only 42% of people trust the EU; and only 34% trust their national government (Eurobarometer 2018). In relation to this, **Brexit** can be understood as one of the biggest consequences of Euroscepticism as well as of economic crisis (Hobolt 2016).

Among the solutions proposed for going forward in the EU process of integration, more **transparency and European parliamentary connection with citizens** will undoubtedly play an important role (European Union Committee of the Regions 2014).

Read more!

- Armingeon, Klaus; and Kai Guthmann (2014): "The handling of the Eurozone crisis has undermined confidence in democracy across Europe." In: *Democratic Audit Blog*, The London School of Economics (08 April 2014). Website: Link.
- Directorate-General for Communication, European Commission. Standard Eurobarometer 89 (2018), "Public opinion in the European Union", March
- EU Committee of the Regions (2014): *Challenges at the Horizon 2025*. DOI: 10.2863/98258. (Link)
- Follesdal, Andreas; and Simon Hix (2006). "Why there is a democratic deficit in the EU: A Response to Majone and Moravsik." *JCMS. Journal of Common Market Studies*, vol 44, no 3, pp 533-562.
- Hobolt, S. (2016): "The Brexit Vote: a Divided Nation, a Divided Continent." *Journal of European Public Policy*, Vol. 23, núm. 9, pp 1259-1277.

4.2.5 The European Green Deal

In 2019, the European Union launched a **European Green Deal Communication** in response to the climate and environmental challenges Europe and its citizens are experiencing.

This **unprecedented policy effort by the EU** is informed by the conclusions and recommendations of the **Intergovernmental Panel on Climate Change (IPCC)** (for more information about this panel, see Topic **3.3.4 Global Networks**) about the changes we are facing: the atmosphere is warming and more than 8 million species on the planet are at risk (IPCC 2019).

To see how climate change is affecting European countries, one can notice how the annual average temperatures for 45 European countries have changed from 1850 to 2018 using data from the UK Met Office (see Figure 1).

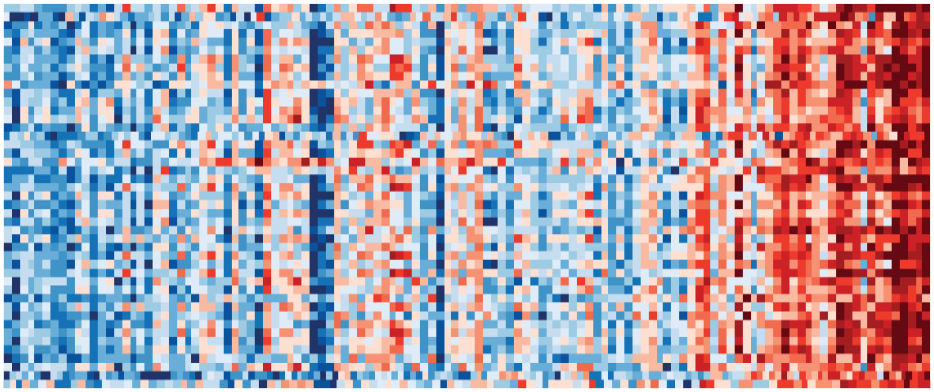


Figure 1. The European Warming Stripes: Annual average temperatures for 45 European countries from 1850-2018 using data from UK Met Office - Source: Ed Hawkins, Berkeley Earth, NOAA, UK Met Office, MeteoSwiss, DWD

In an **extraordinary effort to lead the world on climate action**, the EU set a target of net-zero carbon by 2050 and halving emissions by 2030. With this transversal policy, the EU aimed to address the root problems that contribute to carbon emissions and pollution. The **contribution of research and innovation to this central priority** is **fundamental**. Research and innovation are one of the main drivers to provide concrete solutions (Figure 2).

Figure 2. The European Green Deal **-** Source: European Commission

The European Green Deal is a major European mission for transforming the EU's economy for a sustainable future and involves many policy implementations across many fields: energy, industry, agriculture, mobility, environment, financing, etc.(Figure 2). By accomplishing these, the EU is expected to become the first climate-neutral continent and a global leader.

Read more about the European Green Deal in the links below

- European Commission (2019). *The European Green Deal*. Communication from the Commission to the European Parliament, the European Council, the Council, the European Economic and Social Committee and the Committee of the Regions. COM(2019) 640 final. Brussels, 11/12/2019. Available on: https://ec.europa.eu/info/sites/info/files/european-green-deal-communication_en.pdf
- Adler, David; Pawel Wargan, and Sona Prakash. *Blueprint for Europe's Just Transition – Edition II*. Available on: https://report.gndforeurope.com/
- Intergovernmental Panel on Climate Change (IPCC) (2018): *Global Warming of 1.5ºC. Summary for Policymakers*. Switzerland: IPCC. ISBN: 978-92-9169-151-7. Available on: Summary for Policymakers — Global Warming of 1.5 ºC (ipcc.ch)

4.2.6 Recovery plan for Europe after COVID-19

In order to help repair the economic and social damage caused by the coronavirus pandemic, the European Commission, the European Parliament and EU leaders have agreed on a recovery plan that will lead the way out of the crisis and lay the foundations for a modern and more sustainable Europe.

NextGeneration EU is a €750 billion temporary recovery instrument that reinforces the Multiannual Financial Framework 2021-2027 of the EU. Together, both instruments become the largest stimulus package ever financed through the EU budget. A total of €1.8 trillion will help rebuild a post-COVID-19 Europe. It will be a greener, more digital and more resilient Europe.

More than 50% of the budget will support modernisation through different means such as research and innovation (via Horizon Europe), fair climate and digital transitions (via the Just Transition Fund and the Digital Europe Programme), and preparedness, recovery and resilience, via the Recovery and Resilience Facility, rescEU and a new health programme, EU4Health.

4.2.7 The Global Gateway

In 2021 the President of the European Commission, Ursula von der Leyen introduced a new European strategy, the Global Gateway, that aims to to boost smart, clean and secure links in digital, energy and transport sectors and to strengthen health, education and research systems across the world. Between 2021 and 2027, the EU institutions and EU Member States will mobilise up to 300 billion Euros of investments in fields such as digital, climate and energy, transport, health, education and research. T

The Global Gateway will deliver sustainable and high-quality projects, taking into account the needs of partner countries and ensuring lasting benefits for local communities. This will allow EU's partners to develop their societies and economies, but also create opportunities for the EU Member States' private sector to invest and remain competitive, whilst ensuring the highest environmental and labour standards, as well as sound financial management.

Read more about the Global Gateway

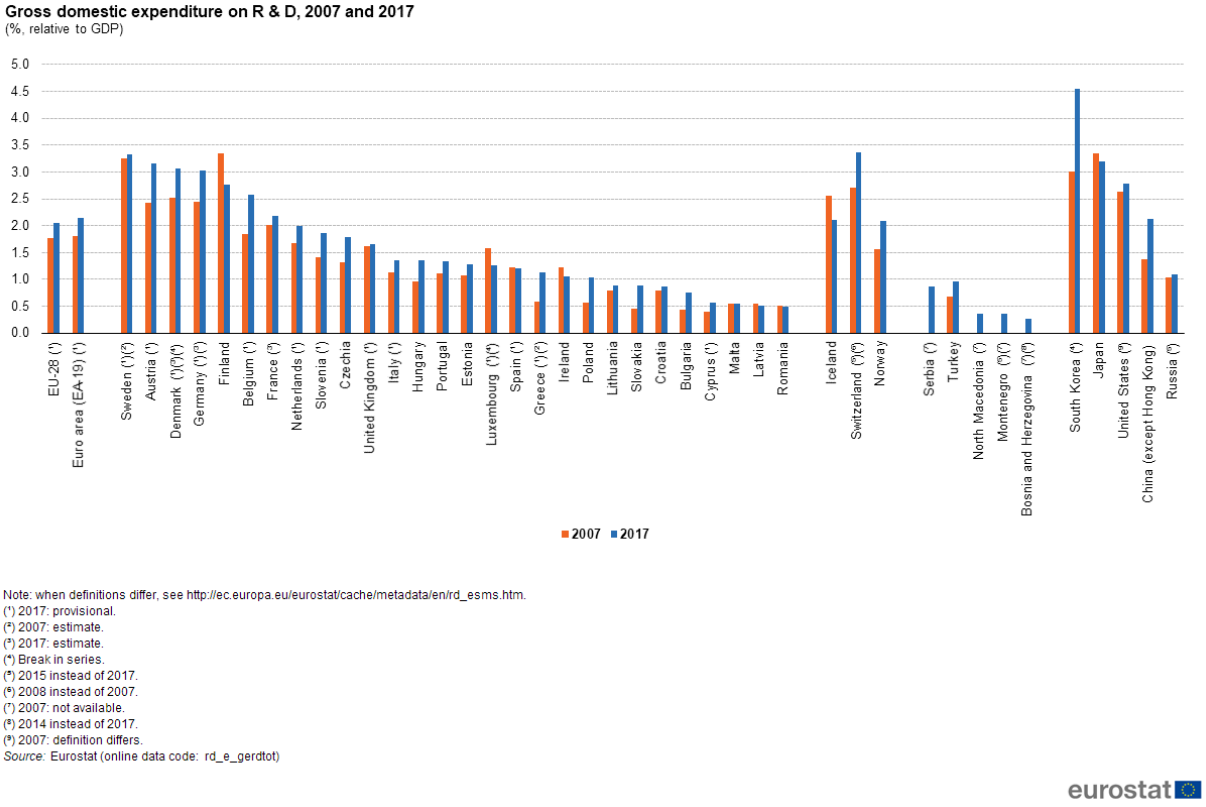
- European Commission (2021). *The Global Gateway*. Joint Communication to the European Parliament, the Council, the European Economic and Social Committee, the Committee of the Regions and the European Investment Bank. JOIN(2021) 30 final. Brussels, 1/12/2021. Available on: joint_communication_global_gateway.pdf (europa.eu)

4.3 The European Science and Innovation System

In this section, we will familiarise you with the European Science and Innovation system. **Research and innovation are key drivers to make a better and more sustainable European Union**. They can improve people's lives through better healthcare, security, transport, digital services and contribute to the fight against pandemics, climate crisis and combat poverty and social exclusion.

All **member states** have their own **research policies** and **funding schemes**, with important differences existing among countries and regions in the EU with respect to the R&D as percentage of gross domestic product and performance (Figure 3) (Eurostat 2019).

The **role of the European Commission** and its interaction with member states and regions is **defining R&D&I European policies** and funding to work better together. Also, it aims to understand, respect and tap into the diversity of the national, including regional, research and innovation systems. Moreover, it aims to achieve a more **synchronised** co-evolution of R&I systems, to **strengthen their quality** and excellence, to **reduce** the existing **inequalities** and fragmentation and to foster connectivity, collaboration and complementarities, thus maximizing the effectiveness of the ERA at all levels (ERAC 2020).



Note: when definitions differ, see http://ec.europa.eu/eurostat/cache/metadata/en/rd_esms.htm.
(1) 2017: provisional.
(2) 2007: estimate.
(3) 2017: estimate.
(4) Break in series.
(5) 2015 instead of 2017.
(6) 2008 instead of 2007.
(7) 2007: not available.
(8) 2014 instead of 2017.
(9) 2007: definition differs.
Source: Eurostat (online data code: rd_e_gerdtot)

eurostat

Figure 3. Gross domestic expenditure on Research and Development between 2007 and 2017 in the EU-28 and all Member States – Source: Eurostat 2019.

The EU fosters **Responsible Research and Innovation (RRI)** where researchers, citizens, policy makers, business, and third sector organisations work together during the whole research and innovation process in order to design **inclusive and sustainable research and innovation**. Public engagement, open access, gender equality, ethics and science education are at the core of this transversal European policy.

We will explore briefly the EU research and innovation landscape, the framework programmes and the European Research Area

Read more!

- Eurostat (2019). Eurostat Statistics Explained. R&D expenditure. Available on: Link.
- NextGenerationEU (2021). Available on: Link

4.3.1 Framework Programmes and the European Research Area

The Research and Innovation Framework Programmes

A brief overview of EU research policy shows that as far back as the 1950s provisions for research were included in the European Coal and Steel Community and the European Atomic Energy Community (Euratom) treaties.

But we have to wait until **1984** to have in place the **first** "**framework programme (FP)**". This will become the **main funding instrument for research and innovation**. Since then, the European Union has run its research and innovation policy and funding on the basis of multiannual framework programmes (7 years each). Eight framework programmes (**FP1–FP8**) have run between **1984 and 2020**, all of them approved by EU Member State governments and the European Parliament. The second to last one, Horizon 2020, had a budget of almost **€80 billion** designed for implementing the **Innovation Union** and to establish the EU as a leading **knowledge-based economy** and was based on three pillars: **excellent science, industrial leadership and tackling societal challenges.**

The current FP: Horizon Europe

Horizon Europe is the EU's **research framework programme for the 2021 - 2027 period**. The programme was conceived to strengthen Europe's research and innovation leadership by fostering European networks of research excellence and social impact. Pending formal approval by the European Parliament and Council, the new EU research and innovation programme has a budget of around €95.5 billion for 2021-2027 that includes €5.4 billion from NextGenerationEU **(**the EU recovery fund aimed at repairing immediate economic and social damage brought about by the coronavirus pandemic) to boost our recovery and make the EU more resilient for the future. This represents a 30% increase vis-à-vis the previous research and innovation programme, Horizon 2020 and makes it the most ambitious research and innovation programme in the world (read more here)

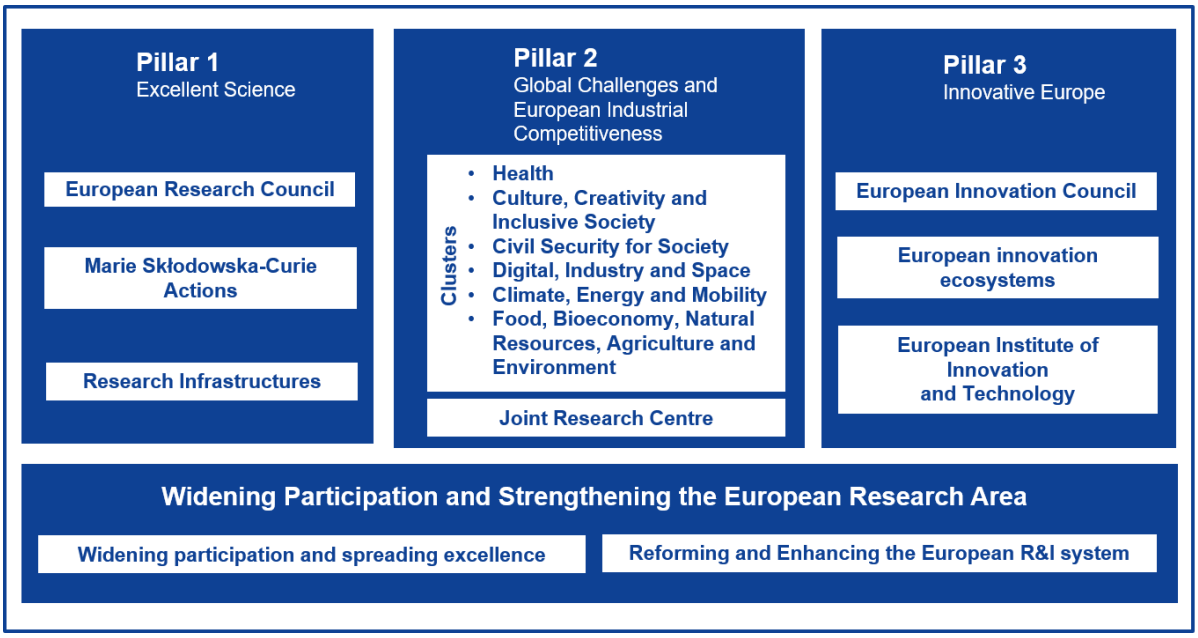


Figure 4. Preliminary structure of Horizon Europe (Read more, here)

The ambitious EU research and innovation framework programme aspires:

- to strengthen the EU's scientific and technological bases and the European Research Area (ERA)
- to boost Europe's innovation capacity, competitiveness and jobs
- to deliver on citizens' priorities and sustain our socioeconomic model and values

As a cross-cutting issue of broad relevance, social sciences and humanities research is fully integrated into each of the general objectives of Horizon Europe.

R&I Missions is an integral part of the Horizon Europe framework programme that began in 2021. The European **5** missions' **areas** focus on ambitious, time-bound and achievable goals to deliver on common European goods (Figure 5). They aim at achieving by 2030 3 million lives saved from cancer diseases, 100 climate neutral cities, healthy oceans, seas and internal waters, healthy soils and food, and regions resilient to climate changes.

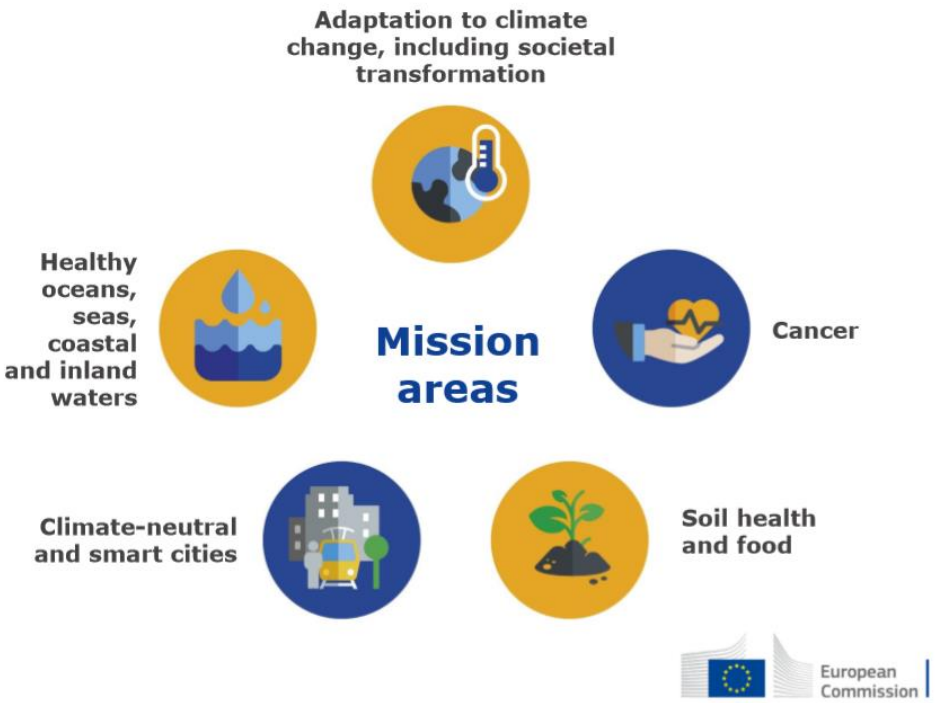


Figure 5. The Horizon Europe Mission's areas. Source: European Commission

Addressing the big challenges of the 21st century, such as climate change, the increasing loss of biodiversity and environmental quality, demographic changes, shaping the industrial and digital transitions as well as ensuring the long-term sustainability of the European quality of life requires a new ambition for European science.

It is assumed that only at the level of the EU, with its long experience of operating within a **multilevel governance system**, can the scale and diversity of talent and ideas be found to make real progress against global challenges. A new way of working is also necessary, with **scientific disciplines joining forces** to bring holistic responses.

Lastly, **training and career development** helps produce leading researchers prepared to **face global challenges**. The EU offers support through **Marie Skłodowska-Curie actions** to early-career and experienced researchers through training or periods of placement in another country or in the private sector, providing them with opportunities to gain new knowledge and experience, allowing them to reach their full potential.

You may watch the following videos to learn more about Horizon Europe and the R&D Missions.

- Horizon Europe – the next EU research and innovation programme (2021-2027). Video Link to YouTube
- Missions in Horizon Europe (Link)

Read more!

- Mazzucato, Mariana (2019). *Governing Missions in the European Union*. Luxembourg: Publications Office of the European Union. ISBN 978-92-76-08744-1. Doi: 10.2777/014023. Available on: https://ec.europa.eu/info/publications/governing-missions-governing-missions-european-union_en

The European Research Area vision

In 2000, the Treaty of Lisbon strengthened European Union action in research and agreed to work towards a **European Research Area (ERA)** meant to be a unified research area open to the world and based on an internal market in which researchers, scientific knowledge and technology can circulate freely (read more, here). Since 2009, achieving the ERA became an explicit Treaty objective.

In 2000 six priorities of the ERA were set:

- more effective national research systems
- optimal transnational cooperation and competition, including optimal transnational cooperation and competition and research infrastructures
- an open labour market for researchers
- gender equality and gender mainstreaming in research
- optimal circulation, access to and transfer of scientific knowledge including knowledge circulation and open access
- international cooperation

The European Research: 20 years on

Since 2000, significant progress has been made in achieving the ERA objectives. The European Strategy Forum on Research Infrastructures (ESFRI) resulted in the development of different European Research Infrastructures across all fields of science, the coordination and pooling of resources to jointly addressing common challenges through research programmes is a reality, progress has been made in removing geographical and cultural barriers to researchers mobility in Europe and the Open Science initiatives have enhanced access to open, free of charge, re-usable scientific information.

However, according to the European Commission, more progress should be expected in key areas such as the EU research and development investment % of its Gross Domestic Product, a more even distribution of science quality or innovation activity within the Union, a better translation of R&I results into the economy or full gender equality in research and innovation.

A New ERA for Research and Innovation

In 2020, the European Commission issued a new Recommendation in which the European Research Area vision, priorities and objectives are set within a new context. This context includes deep societal, ecological and economic challenges, aggravated by the coronavirus crisis, and where delivering on Europe's recovery is crucial, while the green and digital transitions (twin transition) are expected to become fundamental.

Thus, the EC proposes a partnership with Member States in order to achieve a new vision based on the following strategic objectives:

1. Prioritising investments and reforms: to accelerate the green and digital transformation and to increase competitiveness as well as the speed and depth of the recovery.

2. Improving access to excellence: towards more excellence and stronger R&I systems across the whole of the EU where best practice is disseminated faster across Europe.

3. Translating R&I results into the economy: R&I policies should aim at boosting the resilience and competitiveness of our economies and societies.

4. Deepening the ERA: to further progress on the free circulation of knowledge in an upgraded, efficient and effective R&I system, in particular by moving from the level of coordination between national policies towards deeper integration.

4.3.2 European Scientific and Innovation Organisations

Several organisations and institutions articulate the **European Union scientific and technology landscape**. These institutions complement other funding activities in Europe such as those of the national research funding agencies. Let's briefly go through some of them.

Directorate General for Research and Innovation, EC

This Directorate General falls under the responsibility of the **Commissioner for Innovation, Research, Culture, Education and Youth**. The department is in charge of EU policy on research, science and innovation, with a view to help create growth and jobs and tackle our biggest societal challenges.

Although the whole directorate is embracing **science diplomacy as a key dimension** of their work, **the International Cooperation Unit** is crucial for defining and deploying the European science diplomacy strategy. The unit is in charge of fostering international cooperation as it allows:

- access to the latest **knowledge and the best talent** worldwide,
- to tackle **global societal challenges** more effectively,
- to **create business opportunities** in new and emerging markets, and
- to use **science diplomacy** as an influential instrument of external policy.

The European Research Council, ERC

The **European Research Council** (ERC) focuses on **frontier research** (new and emerging fields). This may be cross-disciplinary and involve unconventional approaches. ERC promotes "bottom up" or **"investigator-driven" research** allowing researchers

themselves to identify new opportunities and funding competitive grants for scientific excellence. The ERC operates as an autonomous science-led funding body.

ERC opportunities are open to researchers of any nationality and at different stages of their careers who intend to conduct their research activity in any EU country or associated country (countries that have signed agreements with the EU can be seen in this list).

The European Commission Joint Research Centre, JRC

The **European Commission Joint Research Centre (JRC)** is the **science and knowledge service for the EU Commission**. The JRC employs scientists to carry out research in order to provide independent scientific advice and support to EU policymakers. The Joint Research Centre and partner European Commission services manage and operate six Knowledge Centres:

- Knowledge Centre for Food Fraud and Quality
- Knowledge Centre for Territorial Policies
- Knowledge Centre on Migration and Demography
- Knowledge Centre for Disaster Risk Management
- Knowledge Centre for Bioeconomy
- Knowledge Centre for Global Food Security

European Institute of Innovation and Technology, EIT

The **European Institute of Innovation and Technology (EIT)** is based in Budapest and aims to strengthen the innovation capacity of European Union countries by integrating higher education, research and innovation and promoting synergies and cooperation between them.

The EIT relies on **Knowledge and innovation communities (KICs)**. KICs are strategic networks or independent partnerships of higher education establishments, research institutes, companies and other stakeholders in the innovation process. The KICs are funded by the EIT and are selected via calls for proposals and they have a great degree of freedom to define their legal form and composition.

The European Innovation Council, EIC

The **EU Innovation Council (EIC)** is a key novelty of Horizon Europe and represents the most ambitious innovation initiative that Europe has taken, with a budget of €10 billion for the period 2021-2027. The EIC has a mission to identify, develop and scale-up breakthrough technologies and disruptive innovations and in this way scale up potential projects that are too risky for private investors (70% of the budget of the EIC earmarked for SMEs)

4.3.3 European Research Infrastructures

Research infrastructures are **key facilities in providing the necessary data and services for European scientists** to conduct **cutting-edge research** in a variety of scientific fields. They also provide an excellent setting for European business to develop new products and services.

The European Research Infrastructures form **the pillar of EU competitiveness** in science and innovation, accelerating access to new knowledge to tackle the challenges we face.

They may be **single-sited, distributed, or virtual** and they might include major scientific equipment or sets of instruments, collections, archives or scientific data, computing systems and communication networks or any other research and innovation infrastructure of a unique nature which is open to external users.

They foster the development of **new types of materials** enabling their analysis down to molecular level and testing in extreme conditions. They enable the development of **new technologies** for exploiting various energy sources, developing new treatments for illnesses or making our cities more liveable. They give us tools to better understand our universe, our planet and ourselves as humans.

EU shared investments in Research Infrastructures in the last decades allow the scientific community to harness the full potential of these infrastructures to deal with complex questions and serve society more effectively.

The **European Strategy Forum on Research Infrastructures** (ESFRI) is a joint meeting composed of national delegates nominated by research ministers of EU countries and countries associated with Horizon 2020 and a Commission representative in charge to establish a European **Roadmap for Research Infrastructures**. The specific legal form that facilitates the establishment and operation of Research Infrastructures (European joint-venture that also allows the participation of countries from outside Europe) is led by the **European Research Infrastructure Consortium (ERIC)**.

What the experts think

The following expert will explain the role of research infrastructures in the EU.

<table>
<tr><td rowspan="2">  </td><td>Wolfgang Eberhardt
Advisor to the Synchrotron DESY, Council Member of the Synchrotron SESAME, and Former Director of the Synchrotron BESSY</td></tr>
<tr><td>How can research infrastructures contribute to the European Union?
Video Link to YouTube</td></tr>
</table>

Read more!

European Commission (2020). "Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the committee of the regions. Available on: Link

You may find different examples of EU Research Infrastructures in the Roadmap 2018 – Strategy Report on Research Infrastructures available on: https://ec.europa.eu/info/sites/info/files/research_and_innovation/esfri-roadmap-2018.pdf.

4.3.4 European Scientific Collaborations with the World

The EU is a major player in the international science and innovation arena, and leads many areas such as renewable energy and environmental protection. The EU accounts for almost a quarter of global science and technology production in the world.

In 2003, the EU produced one-third of the world's paper, but in 2018 that proportion is one quarter (more weight for emerging countries like China) (Figure 6).

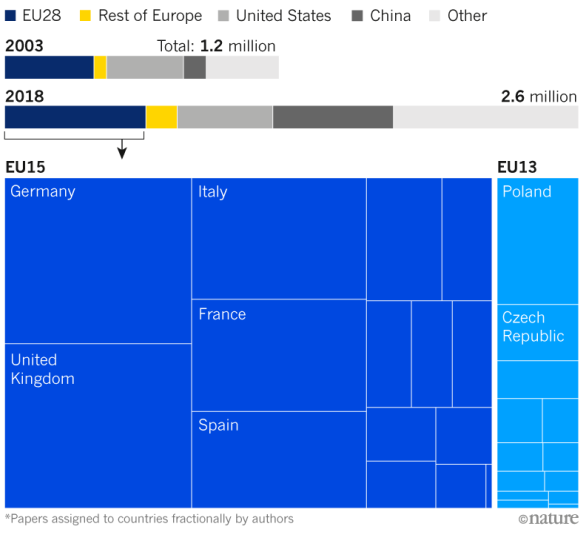


Figure 6. Scientific production in the world and in the EU15
Source: (Van Noorden and Butler 2019)

In an emblematic declaration in **2015**, **Carlos Moedas, Research and Innovation Commissioner** at that time, set three goals for EU research and innovation policy: Open Innovation, Open Science and **Open to the World**.

"We need to be Open to the World! Europe is a global leader in science, and this should translate into a leading voice in global debates. To remain relevant and competitive, we

need to engage more in science diplomacy and global scientific collaboration. It is not sufficient to only support collaborative projects; we need to enable partnerships between regions and countries. Challenges in areas like energy, health, food and water are global challenges. And Europe should be leading the way in developing global research partnerships to address these challenges."

Commissioner Carlos Moedas
"A new start for Europe: Opening to an ERA of Innovation"
Brussels, 22 June 2015

The main priority of the last **international S&T cooperation strategy** (from 2012) was to foster international cooperation in research and innovation for the European Union. This connection with so called third countries (neither member states nor associated with a research framework programme) allows:

- to access to the latest **knowledge and the best talent worldwide,**
- to tackle global societal challenges more effectively,
- to create business opportunities in new and emerging markets, and
- to use science diplomacy as an influential instrument of external policy

"Making Europe stronger in the world" is also one of the six priorities of the European Commissioner in charge of Innovation, Research, Culture, Education and Youth, **Mariya Gabriel**. An update to the international cooperation strategy was presented as part of the European Commission communication on a "Global approach to research and innovation - Europe's strategy for international cooperation in a changing world".

The communication acknowledges the relevance of international cooperation for the research and innovation systems of the EU and its Member States as well as Europe's intention to keep a leading position in International R&I cooperation, consistent with/aligned with Europe's priority principles, values and interests. The European Commission has stated the following four key messages regarding the Communication:

1. The continuing spirit of openness while at the same time focusing on safeguarding European interests.

2. Research and innovation are tools to promote European values and reciprocity and a levelplaying field with international partners are pre-conditions for a successful cooperation

3. An increased focus on rules-based multilateralism and global partnerships along the key EU priorities green transition, digitalisation and health.

4. A modulated, tailor-made approach to the cooperation with different countries and world regions, based on three categories (industrialised countries and emerging economies; developing countries; countries in the neighbourhood)

This new international cooperation strategic approach should also stimulate member states and the EU to ensure **responsible global leadership to advance EU values** and promote and protect Europe's interest and contribution to solving societal and global

challenges. **Science Diplomacy** in this context plays a key role in addressing complex transnational matters.

In recent years, the EU has signed **several international agreements for scientific and technological cooperation** with different governments and states including Algeria, Argentina, Australia, Brazil, Canada, Chile, China, Egypt, India, Japan, Jordan, Korea, Mexico, Morocco, New Zealand, Russia, South Africa, Tunisia, Ukraine and the United States. You may see the list of countries that have an international agreement with the EU on science and technology, the entry and renewal dates, in this link.

These agreements establish a **formal framework for cooperation**, and aim to encourage, develop and facilitate activities in the areas of science and technology between the EU and the signing country.

The EU is also participating in the **Partnership for Research and Innovation in the Mediterranean Area (PRIMA,** https://prima-med.org/), an initiative involving a number of EU countries as well as several countries in the **Mediterranean area** to build research and innovation capacities and develop knowledge and joint innovative solutions for **agro-food and water systems**.

What the experts think

You may learn from the following science diplomacy expert how the EU collaborates with other regions in the world.

<table>
<tr><td rowspan="2">  </td><td>Martina Hartl
Deputy Head of Unit for International Research Cooperation, Ministry of Education, Science and Research, Austria; and Member of the Strategic Forum for International Research Cooperation (SFIC)</td></tr>
<tr><td>How does Europe collaborate with the other regions in the world?
Video Link to YouTube</td></tr>
</table>

Read more!

- Moedas, Carlos (2015). *A new start for Europe: Opening up to an ERA of Innovation*. Brussels, 22 June 2015. Available on: https://ec.europa.eu/commission/presscorner/detail/de/SPEECH_15_5243.
- Van Noorden, Richard; and Declan Butler (2019): "Science in Europe: by the numbers." *Nature,* 569, 23 May, 470-471 (Link).

4.3.5 Freedom of scientific research

What is it?

Research plays a fundamental role in to increasing knowledge and promote the health, prosperity and security of mankind and the protection of the environment. The freedom of scientific research (also scientific freedom or academic freedom) is the main requirement for this. The concept legitimizes scientific and research actors (individuals and institutions) to decide freely what and how research is to be conducted and how the results are to be interpreted. The concept also implies that science and research are not instrumentalized, for example, by political or profit-oriented interests[1].

Why is it important for Science Diplomacy?

Values play an important role in the context of science diplomacy. Mostly political and diplomatic values are seen to be effective, but scientific values do also play an important role. This matters especially because science diplomacy brings hitherto unexpected values to the sphere of international politics, i.e. values from the social system of science[2].

A transversal analysis of science diplomacy case studies showed that values like (scientific) freedom matter because they enable actors to make sense of their practices, but very often they are internalized and implicit[3].

What happens in the EU with regard to freedom of scientific research?

The idea of scientific freedom stems from European traditions and has a long history of scientists struggling for liberty. Over the last two centuries, the idea of scientific freedom has become an accepted precondition for producing excellent knowledge. In some parts of Europe though, "academic freedom is no longer self-evident, with grave consequences for scholars, science, and society"[4]. The European Union states the freedom of scientific research to be a key principle for success and sustainability, especially for the European Research Area.[5] Hence, an important step towards the reinforcement of these values was the adaption of the Bonn Declaration for scientific freedom [Link einfügen] in October 2020, it was endorsed by the research ministers of the European member states. The signatories to the Bonn Declaration undertake to protect the critical discourse and condemn violations of freedom of scientific research. This entails the protection of researchers by government institutions and safeguarding against government intervention in the freedom of research. The Guild of European Research-Intense Universities for example wrote in its statement: "What researchers focus on should be determined by scientific questions, subject to universal ethical

[1] DHR Forschung: Scientific freedom, what is it? (uni-koeln.de)
[2] The 'Matters' of Science Diplomacy: Values – EU Science Diplomacy (s4d4c.eu)
[3] Young, Mitchell et al. "The 'Matters' of Science Diplomacy: Transversal Analysis of the S4D4C Case Studies, S4D4C, 2020
[4] https://scienceeurope.org/our-priorities/academic-freedom/
[5] https://scienceeurope.org/news/bonn-declaration/

boundaries that should be strongly aligned with the European values articulated in Art.2 TEU[6] , and with a global commitment to research integrity."[7]

Recently, the European Commission published a Staff Working Document on tackling R&I foreign interference, a topic that links closely to that of scientific freedom as "foreign interference occurs when activities are carried out by, or on behalf of, a foreign state-level actor, which are coercive, covert, deceptive, or corrupting and are contrary to the sovereignty, values, and interests of the European Union (EU)."[8] The document lists a number of mitigating measures against foreign interference and underlines the Commissions position.

The Academic Freedom Index

Most states and universities around the world have pledged to safeguard academic freedom. But in many places, it is far from being a matter of course. Against this background, a group a scholars[9], including Scholars at Risk (SAR) has developed the Academic Freedom Index (AFI). It provides data on the global development of academic freedom since 1900. The index was first published in 2019 and is updated annually. The current data are freely available; an online visualization tool is also offered. The report can be downloaded from **Free Universities: Putting the Academic Freedom Index Into Action (pdf)**.[10]

4.4 EU Science Diplomacy

Having described the EU institutions and the EU science and innovation system in the previous module lessons, it is time to focus on how the EU approaches science diplomacy.

Throughout this lesson, you will learn about:

- The main institutions operating in the EU science diplomacy ecosystem both at the European and Member State levels
- The vision of EU science diplomacy outlined by the European Commission through their reports and commissioners' public speeches
- An analysis of the current state-of-the-art of EU science diplomacy

[6] Art. 2 TEU: 'The Union is founded on the values of respect for human dignity, freedom, democracy, equality, the rule of law and respect for human rights, including the rights of persons belonging to minorities. These values are common to the Member States in a society in which pluralism, non-discrimination, tolerance, justice, solidarity and equality between women and men prevail

[7] https://www.the-guild.eu/publications/statements/the-guild_statement-on-academic-freedom_june-2021

[8] Tackling R&I foreign interference - Publications Office of the EU (europa.eu)

[9] The AIF was developed by the Global Public Policy Institute, the Friedrich-Alexander University Erlangen-Nürnberg, Scholars at Risk and the V-Dem Institute and funded in part by a grant from the Higher Education Support Programme of the Open Society Foundations and benefited from previous grants by the Fritz Thyssen Foundation and the Volkswagen Foundation.

[10] KinzelbachEtAl_2021_Free_Universities_AFi-2020.pdf (gppi.net)

- A detailed look at the EU science diplomacy cluster, a group of three H2020-funded projects that have undertaken complementary research and policy work around EU science diplomacy

4.4.1 The EU Science Diplomacy Ecosystem I: EU Level

As we are describing throughout this module, the **European Science Diplomacy Ecosystem** enshrines the already complex ecosystem of **stakeholders** this area has worldwide with the **multi-layered governance system** of the European Union. In the current and following topics, we are going to identify **the main stakeholders with a say in the European Science diplomacy at the EU and the MS level** (see **4.4.2 The EU Science Diplomacy Ecosystem II: Member States Level**).

We will mainly focus on the governmental actors, but keep in mind that the science diplomacy ecosystem cannot be understood without other relevant stakeholders coming from the research and academic sector, international organisations, industry, civil society and other NGO actors (see **Module 3. Who Are the Science Diplomacy Stakeholders?**). In the current analysis, we have not considered subnational levels of governance such as regions and cities, whose importance in the field is also growing (as noted in Topics **3.2.1 Governmental Stakeholders – Subnational Government Stakeholders** or **3.3.1 Local Networks**).

At the EU level ecosystem, these are the key stakeholders that need to be taken into consideration when analysing EU science diplomacy responsibilities.

The European External Action Service (EEAS)

As mentioned in Topic **4.2.3 The European Union Institutional Framework II**, the EEAS is the European Union's diplomatic service. It helps the EU's foreign affairs chief – the High Representative for Foreign Affairs and Security Policy – carry out the Union's Common Foreign and Security Policy. The service needs to work closely with the foreign and defence ministries of the Member States of the EU and other EU institutions, such as the European Commission, Council and Parliament.

The EEAS has its **headquarters in Brussels** and over 140 delegations all over the world. It is headed by the EU's High Representative for Foreign Affairs and Security Policy/Vice-President of the European Commission (HR/VP), Josep Borrell (2019-2024). The EEAS is divided into both geographical and thematic directorates:

- Five large departments **cover different areas of the world** – Asia-Pacific, Africa, Europe and Central Asia, the Greater Middle East and the Americas.

- Separate departments **cover global and multilateral issues** which include, for example, human rights, democracy support, migration, development, response to crises and administrative and financial matters.

- The EEAS also has important **Common Security and Defence Policy (CSDP)** planning and crisis response departments. The EU Military Staff is the source of collective military expertise within the EEAS and also advises the High Representative/Vice-President on military and security issues.

Following the Treaty of Lisbon, the EEAS is responsible for the running of **EU Delegations and Offices around the world**. Their main role is to represent the EU in the country where they are based and to promote the values and interests of the EU. They are responsible for all policy areas of the relationship between the EU and the host country – be they **political, economic, trade, science or on human rights** and in building relationships with partners in civil society. In addition they analyse and report on political developments in their host country. They also fund development cooperation through projects and grants. A fundamental aspect of Delegations is their public **diplomatic role which consists of increasing the visibility, awareness and understanding of the EU**.

The EU is also represented in **international organisations** (UNESCO, OECD, African Union, ASEAN – Association of Southeast Asian Nations-, World trade Organisation and United nations).

The **European External Action Service plays a crucial role in deploying the European Union science diplomacy strategy worldwide**.

Directorate General for Research and Innovation (DG RTD)

As mentioned in Topic **4.3.2 European Scientific and Innovation Organisations**, this Directorate General currently falls under the responsibility of the **Commissioner for Innovation, Research, Culture, Education and Youth**. The department is in charge of EU policy on research, science and innovation, with a view to help create growth and jobs and tackle our biggest societal challenges.

The fostering of international cooperation has a number of strands such as:

- Horizon 2020, the EU´s framework programme for research and innovation to be fully open to participants from across the world

- The EC is leading the expansion of **global research partnerships**

- Finally, the EC is also contributing to the construction of the so called **"Global Research Area"**, a worldwide research space where researchers all over the world can work together smoothly despite geographical borders. This is done by ensuring fair and equitable framework conditions (reciprocal access to programmes, mechanisms for co-funding, mutual access to resources and efficient and fair intellectual property rights systems).

DG RTD plays a crucial role in deploying the European Union science diplomacy strategy worldwide through its International Cooperation Unit.

Strategic Forum for International Cooperation (SFIC)

SFIC is **an advisory forum** where **international scientific cooperation** is discussed among the European Commission, all EU Member States and several non-EU countries as observers. The Secretariat is provided by the General Secretariat of the Council of the EU and is chaired by an EU Member State, designated for a period of 2 years.

These are its main tasks:

- Systematically **sharing and structuring information on science and technology (S&T) cooperation** activities and objectives (whether ongoing or planned) of the various partners
- Pooling **relevant knowledge concerning third countries**, in particular analyses of their S&T resources and capabilities
- Ensuring **regular consultation** between partners in order to identify their respective objectives and common priorities in terms of S&T cooperation with third countries ("what and with whom?")
- Where appropriate, **coordinating activities of a similar nature implemented by Member States and the European Union** (with variable geometry)
- If necessary, **proposing initiatives** to be implemented with appropriate processes
- **Networking of Member States' and the Commission's scientific advisors** in key third countries

SFIC plays a crucial role by discussing how EU science diplomacy could be advanced with targeted actions and improved coordination. In fact, SFIC established a **Task Force on Science Diplomacy** from 2019 to 2021. In early 2020, an **input paper** was adopted on Science Diplomacy, entitled **"Advancing the impact of Science Diplomacy at EU and Member States level through targeted support and improved coordination"** (SFIC 2020a).

Among the rationale to foster European Science Diplomacy, this paper highlights:

- Making Europe stronger in the world: one of six priorities of the European Commission
- Great capital for EU: science diplomacy is not fully exploited
- EU Science diplomacy approach with new actors beyond the governmental level
- SDGs: addressing complex transnational matters

Also, among the SFIC proposals, it is worth nothing the following:

- Inclusion of **Science Diplomacy in the new EU STI International Cooperation Strategy**
- Creation of a **EU Platform for Science Diplomacy**
- Supporting the development of **training activities in the area of Science Diplomacy** / Science Advice as well as the creation of Science Diplomacy networks
- Development of an overall **Science Diplomacy Roadmap** including EU Commission, the EEAS and the Member States
- Organisation of an **Annual European Science Diplomacy Conference** including a European Science Diplomacy Award
- Fostering the integration of **Science Diplomacy aspects in national STI strategies**

In September 2020 another **working paper** entitled "**Anchoring science diplomacy in Horizon Europe developing specific subjects and activities" (SFIC 2020b),** in which **current topics on Science Diplomacy** that could also be relevant for integration in the Work Programmes of Horizon Europe are outlined.

Following the structure proposed for Horizon Europe, activities for different pillars and clusters are outlined as well as key objectives such as supporting dialogue between scientists, diplomats and policy-makers, engagement of civil society in science advice.

SFIC Task Force Science Diplomacy also launched in 2021 a "Survey Analysis On Science Diplomacy Strategies, Activities And Actors Of EU Member States And Associated Countries" (SFIC 2021a) to further work on deepening our understanding on how Science Diplomacy strategies, actions, plans and practises at sub-national and national levels in the Member States / Associated Countries work. Such an analysis allowed for a more effective alignment of interests and a more efficient coordination of resources.

Finally, the recently adopted Council Conclusions on the "Global approach to research and innovation" (12301/21) underlined the importance of Science Diplomacy and "call on the Commission and the European External Action Service to develop a European Science Diplomacy Agenda and to present it to the Council". In addition, the Council Conclusions on the "Future governance of the European Research Area (ERA)" repeated this call to develop a European Science Diplomacy Agenda.

SFIC Science Diplomacy Task Force provided a concrete input to the task developing a brainstorming exercise to develop a "European Union Science Diplomacy Agenda" along a roadmap and impact pathway. The richness of the method is that the stakeholders (scientific community, policymakers, diplomats, civil society, etc.) have a strong influence on the impact pathway. It is important to mention, that this exercise was based on the co-creation, dynamic and join process coming from different spheres of influence (SFIC 2021b).

The strategic objectives are to 1) reinforce understanding and respect for EU values and principles in the world, 2) connect research, innovation, diplomacy and policy 3) provide interdisciplinary scientific and technological evidence for diplomacy and policymaking in support of tackling global challenges 4) improve integration and cooperation between Member States (MS) and the EU.

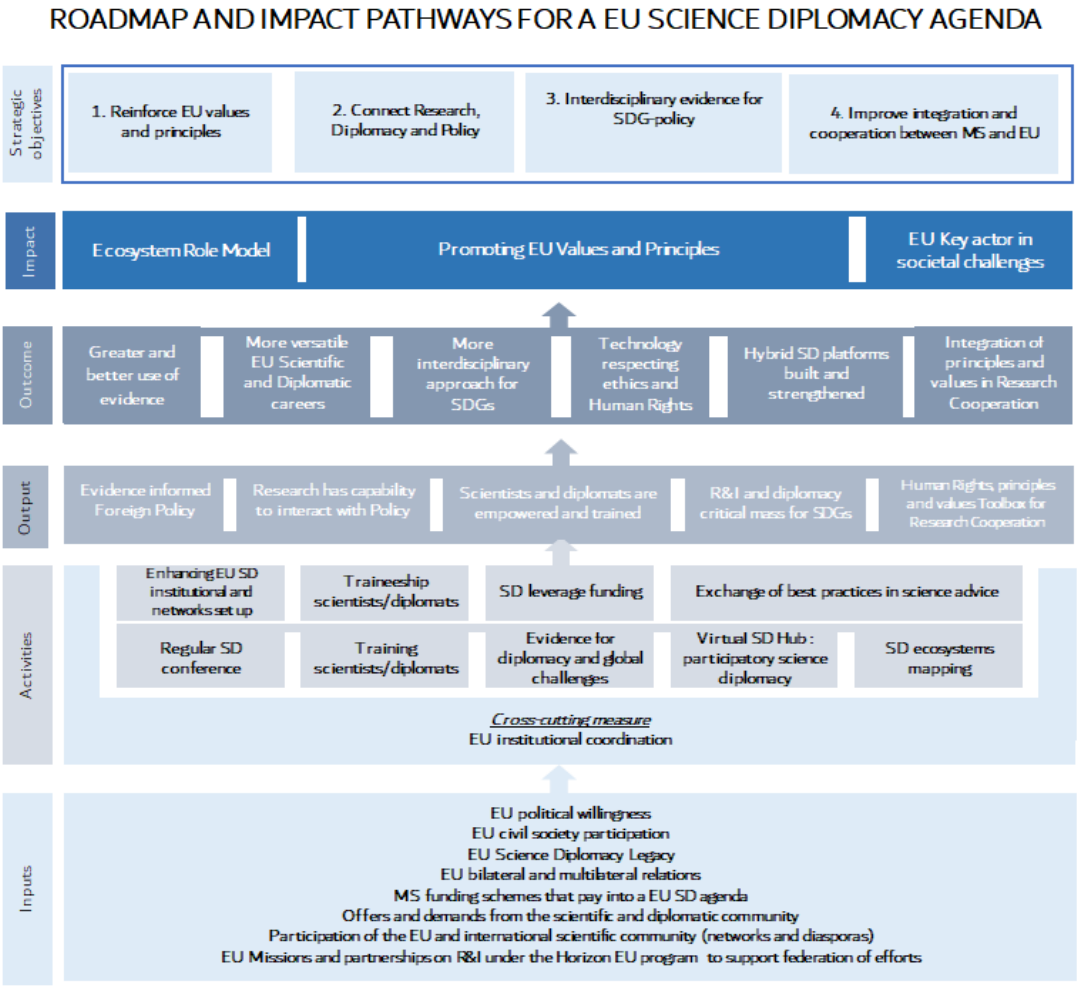


Figure 5. Roadmap and impact pathways for a EU Science Diplomacy Agenda
Source: (SFIC 2021b)

What the experts think

Learn more about SFIC by watching the following video.

	**Martina Hartl** Deputy Head of Unit for International Research Cooperation, Ministry of Education, Science and Research, Austria; and Member of the Strategic Forum for International Research Cooperation (SFIC)
	What is SFIC? Video Link to YouTube

Read more!

- SFIC (2020a). *Input paper by the SFIC Science Diplomacy Task Force*. ERAC-SFIC 1352/20, Brussels, 3 March 2020. Available on: https://data.consilium.europa.eu/doc/document/ST-1352-2020-INIT/en/pdf
- SFIC (2020b). *Working paper by the SFIC Science Diplomacy Task Force*. ERAC-SFIC 1357/20. Brussels, 21 September 2020. Available on: https://data.consilium.europa.eu/doc/document/ST-1357-2020-INIT/en/pdf
- SFIC (2021a). SFIC Task Force Science Diplomacy: "Survey Analysis On Science Diplomacy Strategies, Activities And Actors Of EU Member States And Associated Countries. ERAC-SFIC 1354/21, Brussels, 27 May 2021. Available on: SFIC Africa Task Force Strategic Report (link)
- SFIC (2021b). Roadmap and impact pathways for a EU Science Diplomacy Agenda (Link)

Scientific Advice Mechanism (SAM)

The Scientific Advice Mechanism (SAM) to the European Commission has the mandate to give **independent scientific advice to the European Commission to inform policy making**. Although SAM's mandate goes beyond the science diplomacy realm, we understand science advice to diplomacy and foreign affairs as a fundamental dimension of science diplomacy.

SAM consists of:

- **Seven Chief Scientific Advisors**, appointed in their personal capacity and who act independently and in the public interest
- The **Scientific Advice for Policy by European Academies** (SAPEA) consortium, which gathers expertise in engineering, humanities, medicine, natural and social sciences from over 100 academies and societies across Europe.
- A **secretariat** in the Commission's research and innovation department

SAM was established in 2015 and it provides **independent, high-quality, timely scientific advice to the European Commission** for a variety of complex challenges so that policy making and legislation can be better informed with scientific evidence. The process is expected to render better policy outcomes for European citizens.

The European Commission Joint Research Centre (JRC)

As already described in Topic **4.3.2 European Scientific and Innovation Organisations**, the Joint Research Centre is the European Commission's science and knowledge service which employs scientists to carry out research in order to provide independent scientific advice and support to EU policy throughout the whole policy cycle.

The JRC has six sites: Brussels, Geel, Ispra, Karlsruhe, Petten, and Seville.

The JRC employs over 3000 people from EU countries and candidate countries to EU membership.

Both their research capacity and their expertise in bridging the gap between research, knowledge and policies put them in a privileged place to be part of a lively European Science Diplomacy ecosystem.

EURAXESS Worldwide

EURAXESS-Researchers is a **pan-European initiative** delivering information and support services to researchers and supports the European Research Area, which enables free circulation of researchers, scientific knowledge and technology. Backed by the European Union, Member States and Associated countries, it supports researcher mobility and career development, while enhancing scientific collaboration between Europe and the world.

As part of this service, EURAXESS offers EURAXESS worldwide, with dedicated teams in the following countries and regions: **ASEAN** (focus on Singapore, Thailand, Indonesia, Malaysia, and Vietnam), **Latin America and the Caribbean** (LAC, focus on Brazil, Argentina, Chile, Mexico, and Colombia), **China, India, Japan, North America** (US and Canada). Additionally, a EURAXESS information website for **Australia** and **New Zealand** went online in June 2018.

EURAXESS worldwide offers the chance to interact on a global scale and it is a networking tool to support researchers working outside Europe who wish to connect or stay connected with Europe. The researchers themselves also become a fundamental tool of European science diplomacy.

4.4.2 The EU Science Diplomacy Ecosystem II: Member States Level

As stressed throughout the course in general and this module in particular, European science diplomacy needs to be understood in a **multi-level governance framework** in which Member States hold and share responsibilities and where, some of them, have taken the lead in developing science diplomacy strategies.

In an effort of simplification, below are some of the **governmental stakeholders that put science diplomacy in action** but more information can be found in Lesson **2.3 What Kind of Science Diplomats Are There?**; Topics **3.2.1 Governmental Stakeholders**

and **3.3.2 National Networks**; and Module **5. What are the National, Regional, and Thematic Approaches for Science Diplomacy?**

Science and technology advisory boards to governments and ministries

A number of member states have science and technology advisory boards or science advice structures to inform governments (in the same fashion the European Commission is supported by the Scientific Advice Mechanism).

These boards can take many forms and those boards advising foreign affairs policies are a classic example of science diplomacy.

Science advisers attached to embassies

A number of MS have science and technology counsellors, attachés or advisers not only in third countries but also within their own countries, as scientific cooperation within the EU is extremely fruitful.

A detailed description of the different formulas used in some of these countries is given in Topic **2.3.3 Science Counsellors, Attachés, Advisers and Envoys in Embassies**, as well as in Module **5. What are the National, Regional, and Thematic Approaches for Science Diplomacy?**

Higher education, research performing and research funding organisations offices abroad

Some of the most relevant European universities and research performing organisations have either liaison offices in other Member States and third countries if not joint centres where scientific cooperation is key.

What the experts think

Find out some insights about how member states and the European Union relate to each other in terms of science diplomacy.

<table>
<tr><td rowspan="2">  </td><td>Pierre-Bruno Ruffini
Professor of International Economics, Faculty of International Affairs, University of Le Havre (France). Former Counsellor for Science and Technology at the Embassy of France in Russia (2007-2010) and Italy (2010-2013). Research fellow in the H2020-funded project InsSciDe</td></tr>
<tr><td>How do member states of the European Union relate to science diplomacy?
Video Link to YouTube</td></tr>
</table>

4.4.3 The EU Science Diplomacy Vision

In the last years, the European Commission has strongly embraced **science diplomacy** as a **fundamental tool of external relations**. Although the EU has been engaged in international scientific cooperation since the first research and development framework programme in 1984, it is around 2016 when both the **European External Action Service** and the **General Directorate for Research and Innovation** started identifying science as a **fundamental asset for Europe's foreign policy** (de San Román and Schunz 2017).

As mentioned before in this module, one of the most relevant **champions** of current European science diplomacy at the executive level has been **Carlos Moedas**, Commissioner for research, science and innovation until 2019. As part as a wider policy framework, "The EU as a stronger global actor" (Junker 2018; European Commission 2019a), Moedas envisioned science diplomacy as a crucial means **to foster international cooperation in global challenges and to use the universal language of science** as a way to reach a common understanding in those problems that are often highly politicized and culturally sensitive.

In his vision, science diplomacy played a crucial role in post second world war Europe (with prominent examples such as the construction of the **European Organization for Nuclear Research (CERN)**). Also, the values and commitment to scientific endeavour enshrined at the EU guiding treaties prove how science is at the core of the integration process. In contemporary Europe, European research is an important resource for exercising the EU's collective responsibility in a spirit of international solidarity, as part of its efforts to work with **international partners to solve common and complex global challenges** (Moedas 2016)

This science diplomacy approach to EU research and innovation was substantiated in the last of the three policy goals that have guided Moedas's mandate: Open Science, Open Innovation, and Open to the World (Moedas 2015; European Commission, 2016):

- **Open Innovation:** in spite of the EU being a research powerhouse, Europe too rarely succeeds in turning research into innovation, in getting research results to market. And here's where the open innovation concept comes into play: opening up the innovation process to all active players so that knowledge can circulate more freely and be transformed into products and services that create new markets, fostering a stronger culture of entrepreneurship.

- **Open Science:** it represents a new approach to the scientific process based on cooperative work and new ways of diffusing knowledge by using digital technologies and new collaborative tools. The idea captures a systemic change to the way science and research have been carried out for the last fifty years: shifting from the standard practices of publishing research results in scientific publications towards sharing and using all available knowledge at an earlier stage in the research process.

- **Open to the world:** it means striving to ensure that EU research and innovation can work at a global level for all of us. Whether mobilising EU funding for a rapid

and effective global research response to outbreaks like Coronavirus or Zika; contributing to the evidence base for the International Panel on Climate Change and COP21 negotiations as over a thousand results from EU-funded research projects have done; benchmarking innovative European solutions for green urban mobility in Latin America, or promoting scientific cooperation in the Middle East through the SESAME project. In other words: it means science diplomacy.

In order to explore how this vision could be implemented long term, the Commissioner for Research, Science and Innovation set up the **Research, Innovation and Science Expert group (RISE)**. The RISE report clearly identifies an opportunity to increase the European Union's influence in the current nature of the challenges of the 21st Century (European Commission 2017, 2019b). It identifies, however, three major challenges:

1. how to carve out a specific role for the **EU that complements the Science Diplomacy policies of its Member States**;

2. how to draw together the **scientific resources of the EU in support of the EU's various externally facing policies**, such as trade or development; and

3. how to integrate that role in the overall **EU's Global Strategy for Foreign and Security Policy driven by EEAS**.

Among their recommendations for the development of a EU science diplomacy, we can highlight:

- The need to build capacity to give and receive science advice

- Better coordination between the European Commission and EEAS that would enable more active exploitation of the science-based assets of EU soft power in relation to other countries and other regions of the world

- The European Commission acting as a pioneer of S&T on the international stage by establishing strategic S&T bilateral agreements and high-level policy dialogues at the country and regional levels in the context of a Global Research Area

The current Commissioner for Innovation, Research, Culture, Education and Youth, **Mariya Gabriel**, published in 2020 a blog piece for S4D4C in which she highlights the importance of science diplomacy for the European Commission in crucial challenges such as COVID-19. Also, she argues on the importance of science and technology in the global arena and uses the Japan-European Commission letter of intent to strengthen the S&T collaboration and the relevance of science and technology issues in the European Union Cooperation with Africa as example (Gabriel 2020).

What the experts think

We have asked two representatives of the EU science diplomacy cluster to share their visions for European science diplomacy.

Alexander Degelsegger-Márquez

Head of Digital Health and Innovation at Gesundheit Österreich GmbH (Austrian Public Health Institute). Former S4D4C project coordinator

What is your vision on European diplomacy? What objectives should it have?

Video Link to YouTube

Léonard Laborie

Research Fellow, Centre National de la Recherche Scientifique (CNRS), and Deputy Coordinator for the H2020-funded consortium "Inventing a shared science diplomacy for Europe (InsSciDe)"

What is your vision for the European science diplomacy?

Video Link to YouTube

Read more!

- de San Román, Alea; and Simon Schunz (2017): "Understanding European Union Science Diplomacy." *Journal of Common Market Studies, 56(2), 247-266*. https://doi.org/10.1111/jcms.12582
- European Commission (2016): *Open Innovation, Open Science, Open to the World – a vision for Europe*. Directorate-General for Research and Innovation. Brusselsdoi:10.2777/061652. Available on: https://ec.europa.eu/digital-single-market/en/news/open-innovation-open-science-open-world-vision-europe
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- Gabriel, Mariya (2020). "Towards Science Diplomacy in the European Union". S4D4C Stakeholders' Voice, 29th October. Available on: https://www.s4d4c.eu/insights-from-commissioner-mariya-gabriel-towards-the-european-union-science-diplomacy/
- Juncker, Claude (2018). "State of the Union 2018: Making the EU a stronger global actor – European Commission proposes more efficient decision-making in CFSP". *The EU as a stronger global actor. Towards a more united, stronger and more democratic union*, Press Release, Brussels: 12 September 2018. Available on: https://ec.europa.eu/commission/presscorner/detail/en/IP_18_5683.
- Moedas, Carlos (2015). *A new start for Europe: Opening up to an ERA of Innovation*. Brussels, 22 June 2015. Available on: https://ec.europa.eu/commission/presscorner/detail/de/SPEECH_15_5243

- Moedas, Carlos (2016). "Science Diplomacy in the European Union." *Science & Diplomacy*, Vol. 5, No. 1 (March 2016). Available on: http://www.sciencediplomacy.org/perspective/2016/science-diplomacy-in-european-union

4.4.4 From Vision to Implementation: The EU Science Diplomacy State-of-the-Art

In this topic, we will try to give you an overview of the current practical development of **science diplomacy in the European Union**. As you know, the EU is a complex multi-governance, supranational structure that adds diversity yet complexity to its policies. It is impossible to understand EU science diplomacy without understanding the role of member states. However, this topic will focus mainly on the **EU level and its interactions and the bi-directional impact in/from member states science diplomacy strategies**. You will be able to find some relevant EU member states science diplomacy strategies in Module **5. What are the National, Regional and Thematic Approaches of Science Diplomacy?**.

Science, foreign affairs and science diplomacy policies at the EU: different multi governance frameworks

Policy coordination in the EU ranges from strong integration on a supranational level to purely intergovernmental approaches. According to Rüffin (2019), both science and foreign policies could be understood as stable multilevel governance approaches at the EU level (with the EU, member states, and regions having their own competences) **with clear defined responsibilities and jurisdictions**.

As for science policy, the European Commission has taken the lead in a number of very important issues such as significantly boosting the 7th Research and Development Framework programme budget, launching the European Research Council or establishing coordination mechanisms with Member States. However, member states still hold authority when it comes to their own research and innovation programmes.

In the same fashion, the High Representative for Foreign Affairs and Security Policy (a figure acting as the EU's Commissioner for Foreign Affairs) and the **European External Action Service**, both created in the Treaty of Lisbon in 2009, **do not replace or rule national foreign offices and services**. Again, the functioning of the service, with most staff being temporarily assigned from national foreign ministries, and some officers recruited from the Commission's administration, illustrate the multilevel governance framework of the EU. Sometimes, this coexistence of Member States' and EU's foreign policy has been criticised because of European Diplomacy only attending topics of lesser importance or delicacy (Rüffin, 2019).

Because of **science diplomacy being at the intersection of science and foreign policies**, there is general agreement that it has to be seen as a **shared responsibility among the EU and Member States** (Van Langenhove 2017). However, according to Rüffin (2019), EU science diplomacy would not fit into the scheme of clearly delineated,

defined, jurisdictions (as it is the case for science and foreign policy). This means **European science diplomacy would touch upon a number of jurisdictions**, including all communities who aim at using the term for their own purposes. In other words, science diplomacy would be better understood as a fluid concept that needs to be amended according to individual cases (Flink and Rungius 2018)

It is in this context where **EU Science Diplomacy needs to find its place** and much research and collective reflection is being done in order to try to come up with **a coherent strategy for the EU**.

What the experts think

We have chosen some videos from a number of experts to give us some different insights about the question "What's your view about European Science Diplomacy?" Their explanations will help establish the foundations on which we will build up your knowledge.

	**Angela Liberatore** Head of Unit on Social Sciences and Humanities, European Research Council Executive Agency
	What is your vision of the European science diplomacy? Video Link to YouTube

	**Léonard Laborie** Research Fellow, Centre National de la Recherche Scientifique (CNRS), and Deputy Coordinator for the H2020-funded consortium "Inventing a shared science diplomacy for Europe (InsSciDe)"
	In which way can European science diplomacy contribute to the prosperity of Europe? Video Link to YouTube

	**Elke Dall** Senior Researcher and Project Manager, Centre for Social Innovation (ZSI) and Project Coordinator for the H2020-funded consortium "Using science for/in diplomacy for addressing global challenges (S4D4C)"
	What is your vision for the European science diplomacy? Video Link to YouTube

Read more!

- Flink, Tim; and Charlotte Rungius (2018):*Science Diplomacy in the European Union: Practices and Prospects*. S4D4C Policy Brief #1 October 2018. S4D4C: Vienna. Available on: https://www.s4d4c.eu/wp-content/uploads/2018/11/S4D4C-Policy-brief-Flink-and-Rungius-2018-Science-Diplomacy-in-the-European-Union.pdf.
- Rüffin, Nicolas (2019): "EU Science Diplomacy in a Contested Space of Multi-Level Governance. Ambitions, Constraints and Options for Action." *Research Policy*, advance access, 27.08.2019, online: http://dx.doi.org/10.1016/j.respol.2019.103842.
- van Langenhoven, Luk (2017): *Tools for an EU Science Diplomacy*. European Commission – Directorate General for Research and Innovation. Luxembourg: Publications Office of the European Union. doi:10.2777/911223. Available on: https://op.europa.eu/en/publication-detail/-/publication/e668f8cf-e395-11e6-ad7c-01aa75ed71a1.

4.4.5 First Research Insights into EU Science Diplomacy

In recent years, a lively **community of policy makers, practitioners and researchers** across Europe have been trying to identify the opportunities, challenges and barriers for **EU Science Diplomacy to flourish**. Among this ecosystem, we will devote some time in the next topic to the so called **"European Science Diplomacy cluster"**, three complementary European projects that are trying to outline an EU science diplomacy strategy.

Before that, we will summarise some findings of researchers and experts on where EU science diplomacy currently stands and some recommendations around how to push it up to the next level.

For instance, Flink and Rungius (2018), identify three very concrete challenges for the EU science diplomacy:

1. Understanding of **science diplomacy as a fluid concept** as a first step to structure its governance framework that need to contain (at least) three elements: the governance arrangements, the actors' landscape, and the facto practices.
2. The **need for coordination among MS and the EC**. Some practitioners describe a competition scenario sometimes where EU and MS representatives in third countries operate in competition to one another.
3. **Capacity building and recruiting of science diplomats**. Science diplomacy calls for training to increase the skills of current and future professionals who work at the intersection of science and foreign policy.

From another perspective, some other authors reflect on how the European Commission needs to find its added value over the science diplomacy strategies of MS. For example, a **joint approach by the Commission and Member States would prevent third countries from free-riding** and cherry picking a preferred mode of collaboration, which is a situation that many interview partners find alarming at present.

In addition, smaller Member States could benefit from the EU acting as a door-opener in S&T negotiations with emerging science powers. In any case, a new independent EC

science diplomacy must accommodate for the **largely diverging agendas, claims, and resources of Member States** (Rüffin 2019).

Also interesting is the search for the **EU's motivations for developing its science diplomacy**. On the one hand, one of the motivations would be the EU aiming to be considered as a **"normative power"**, where the EU external science activities would be motivated by the desire to promote its norms and values in its attempts at co-operating with third countries. On the other hand, another motivation—not necessarily incompatible—would be the EU aiming to be considered as a **"market power"**: a large regulated market that wants other actors to adhere to levels of regulation similar to its own or to behave in ways that generally satisfy EU policies and regulations. According to San Román and Schunz (2017), the **Union clearly seems to qualify at the same time as market and normative power in the external science policy domain**.

Van Langenhove (2017) identifies **two major challenges** for the EU science diplomacy:

1. how to **carve out a specific role for the EU that complements the science diplomacy policies of its Member States** and
2. how to **integrate that role in the overall EU's Global** .

Taking these challenges into account, the author defines different strategic, operational and support tools for science diplomacy practices and two major recommendations in developing a EU science diplomacy strategy:

1. supporting the member states' science diplomacy policies and practices; and
2. supporting the EU's own Foreign and Security Policy

Finally, Melchor et al (2019) call for a committed EU integrative leadership in addressing global challenges using science diplomacy. For that to happen, they propose a vision for the EU in which science is acknowledged as an important dimension of its foreign policy and EU science and EU diplomacy join forces in order to address global challenges and apply the necessary systemic changes for success. In the report, stoppers, warnings and drivers of science, diplomacy and science diplomacy for this vision are identified. Finally, a set of recommendations around five interconnected dimensions (knowledge, governance with no silos, alliances, institutions, and people) are issued to help

the systemic change happen (Figure 7).

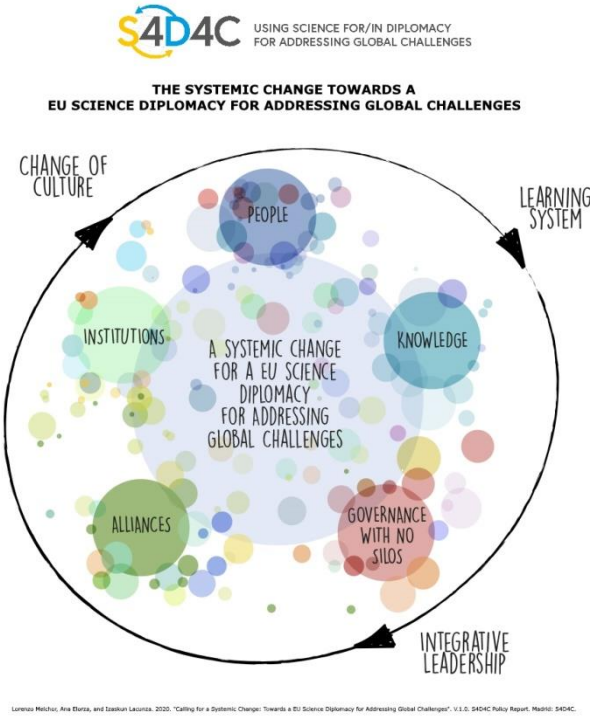

Figure 7. The Systemic Change towards a EU Science Diplomacy for Addressing Global Challenges comprises a set of five interconnected dimensions (left) comprising a total of fifteen policy recommendations (right). Source: (Melchor et al 2020).

What the experts think

Watch the video below to learn about the special perspective from one of the S4D4C research fellows!

	**Tim Flink** Postdoctoral Researcher and Lecturer in Science Policy Research and Social Studies of Science, Humboldt-Universität zu Berlin and the German Center of Higher Education Research and Science Studies (DZHW). Member of the S4D4C Research Team.
	What is your vision for the European science diplomacy of the future? How does it need to be coordinated with the member states ones? Video Link to YouTube

Read more!

- de San Román, Alea; and Simon Schunz (2017): "Understanding European Union Science Diplomacy." *Journal of Common Market Studies, 56(2), 247-266*. https://doi.org/10.1111/jcms.12582.
- Flink, Tim; and Charlotte Rungius (2018): *Science Diplomacy in the European Union: Practices and Prospects*. S4D4C Policy Brief #1 October 2018. S4D4C: Vienna. Available on: https://www.s4d4c.eu/wp-content/uploads/2018/11/S4D4C-Policy-brief-Flink-and-Rungius-2018-Science-Diplomacy-in-the-European-Union.pdf.
- Melchor, Lorenzo; Ana Elorza, and Izaskun Lacunza (2020) *Calling for a Systemic Change: Towards a European Union Science Diplomacy for Addressing Global Challenges*. V 1.0. S4D4C Policy Report, Madrid: S4D4C. Available on: https://www.s4d4c.eu/wp-content/uploads/2020/05/S4D4C-Calling-for-a-Systemic-Change-Policy-Report-v1.0-1.pdf
- Rüffin, Nicolas (2019): "EU Science Diplomacy in a Contested Space of Multi-Level Governance. Ambitions, Constraints and Options for Action." *Research Policy*, advance access, 27.08.2019, online: http://dx.doi.org/10.1016/j.respol.2019.103842.
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4.4.6 The EU Science Diplomacy Cluster

The European Union is defining its strategy for regional science diplomacy. Three complementary projects – **El-CSID**, **InsSciDE**, and **S4D4C** – funded by **Europe's Horizon 2020 Research and Innovation programme** support this endeavour, forming the first EU science diplomacy cluster.

Through multidisciplinary research and dialogue, all three projects generate frameworks for governance, strategic advice, training modules for diplomats and scientists, and ground-breaking knowledge on science diplomacy histories and case studies. Researchers and practitioners from the three projects are in constant dialogue and exchange ideas and results.

You may find general information about this cluster on its website: http://www.science-diplomacy.eu. Below, we provide some brief information about the objectives of each of these projects.

The European Leadership in Cultural, Science and Innovation Diplomacy (EL-CSID)

Website: www.el-csid.eu

The European Leadership in Cultural, Science and Innovation Diplomacy (EL-CSID) project **analyses the relevance of cultural, science and innovation diplomacy for EU external relations**, locating developments in these fields in the evolving global context.

Cultural and science diplomacy have played an increasing role in the European diplomatic story in recent years, and the EU has made a major start articulating the relevance of culture and science for its external relations. However, as yet, an evolving strategy for the development of science and cultural diplomacy remains to be fully articulated, as do the longer-term implications of the continued development of cultural and science diplomacy in today's fast changing multipolar and digitised world.

Moreover, as innovation policy has come to be an increasingly decisive ingredient in the wider policy decisions made by countries and the world's regions, it should be recognised as part of any conversation about science and cultural diplomacy. In this context, it becomes essential to make explicit the assumptions underpinning much of the practices at work in the EU's cultural, science and innovation diplomacy work. The ambition of EL-CSID is to do precisely this by strengthening EU policy towards the use of science, culture and innovation in its wider diplomacy as well as deepening scholarly understanding of diplomacy as an abiding institution.

The EL-CSID project was coordinated at the Institute for European Studies (IES) at the Vrije Universiteit Brussel and consists of a consortium of nine partners from Belgium, Germany, Kazakhstan, Singapore, Slovenia, Turkey and the United Kingdom.

Some El-CSID outputs

EL-CSID has been extremely prolific in terms of policy briefs, reports, book chapters and other academic outputs. You can find all this knowledge at https://www.el-csid.eu/publications. Among other reasons, EL-CSID brings a unique perspective into the cluster as it has done **research about both European culture and science**, being able to compare both crucial dimensions of the European identity.

We would like to specially recommend the "Lessons learned from the EL-CSID project" report (Van Langenhove and Higgot 2018). In the report, the authors propose a number of recommendations for the EU to deploy a Science Diplomacy strategy. In their view, the EU should leave Member States to develop their own science diplomacy priorities, but it should complement them with a number of actions:

- Set up a **support function for MS and EU that monitors and stimulates Science Diplomacy** (for example, by launching a European science diplomacy observatory)
- Develop its own **Science Diplomacy strategy** on what the EU could do to take a leadership role in mobilising science for the purposes of enhancing the EU's external relations. A possible strategy for EU science diplomacy could be a triple focus:
    - EU science diplomacy as tool for building European identity
    - EU science diplomacy as a tool for increasing regional security in the EU's neighbourhood area
    - EU science diplomacy as a tool for realising the sustainable development goals.

Another report largely cited across this online course is van Langenhoven's "Tools for an EU science diplomacy" (2017) as it maps national science diplomacy tools used by MS and some other countries outside the EU, and provides recommendations for the EU to develop a EU science diplomacy strategy aligned with MS science diplomacy policies and practices and with the EU's Foreign and External Relations policy.

Read more!

- van Langenhoven, Luk (2017): *Tools for an EU Science Diplomacy*. European Commission – Directorate General for Research and Innovation. Luxembourg: Publications Office of the European Union. doi: 10.2777/911223. Available on: https://op.europa.eu/en/publication-detail/-/publication/e668f8cf-e395-11e6-ad7c-01aa75ed71a1.
- van Langenhoven, Luk; and Richard Higgott (2019): *Lessons Learned from the EL-CSID Project*. Brussels: EL-CSID. March 2019. Available on: Link.

Inventing a shared Science Diplomacy for Europe (InsSciDe)

Website: http://www.insscide.eu

The InsSciDE project aims to **create new knowledge on past and present science diplomacy in Europe**, engage stakeholders in sharing lessons learned, and deliver shared policy and training tools.

InsSciDE aims to reveal and foster Europe's capital of science diplomacy experience. Themes of historical and critical study include Heritage, Health, Security, Environment, and Space. InsSciDE also actively compiles the contemporary history of diplomats' networks and of roles played by National Academies of Science or Technology. Scientists and diplomats will meet to better understand each other and forge a common culture. Interactive seminars and summer schools provide a dozen opportunities over the course of four years (2018-2021) to network, reflect, and participate in creating shared science diplomacy for Europe.

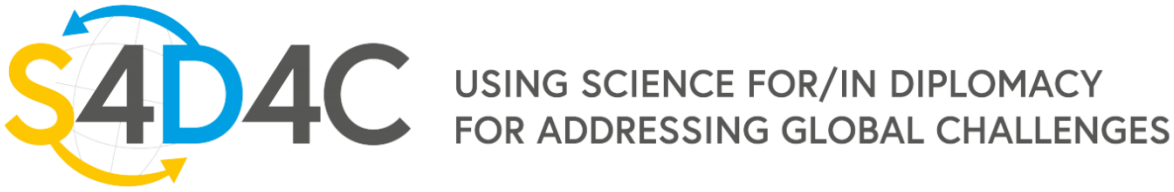
The InsSciDE project is coordinated at the Institute of Communication Science (ISCC) at the Sorbonne University and consists of a consortium of 15 partners from Sweden, Hungary, Italy, Greece, France, Poland, Austria, United Kingdom, and Portugal.

Some InsSciDe outputs

In one of their first policy reports, InsSciDe calls for an interdisciplinary European science diplomacy that should be understood at two levels. At the first level, science diplomacy is not to be understood as the mere juxtaposition of two disciplines, but rather as the holistic interexchange of knowledge and methodologies between them.

At the second level, science diplomacy should be driven by a broad and interdisciplinary understanding of science, which covers a range of disciplines from natural sciences to engineering, to social sciences and the humanities, where these disciplines form part of a cohesive model.

Using Science for/in Diplomacy for Addressing Global Challenges (S4D4C)



Website: http://www.s4d4c.eu

The **overall objective of S4D4C** is to support current and future European science diplomacy for the benefit of European capacities, EU foreign policy goals and especially the development of solutions for global challenges. S4D4C has shaped its partnership so that it can effectively address this objective from an academic as well as a practitioners' perspective. S4D4C makes use of case-based research to develop a governance framework for EU science diplomacy, training and capacity-building measures as well as online knowledge resources for science diplomats.

The task of supporting the development of EU science diplomacy is **exciting for a number of reasons**. For instance, the multi-level governance system of the EU, with its regional, national and supranational layers, offers both challenges and opportunities: coordinating Member State activities can be difficult, but the supranational EU layer can also offer added value (in certain topics, for certain groups of Member States, etc.). Besides these governance aspects, there are developments in the EU research landscape as well as in its foreign policy institutions that can be harnessed for effective science diplomacy: open science, public diplomacy, etc. S4D4C is set up to harness all these opportunities.

The S4D4C project is coordinated at the Centre for Social Innovation in Vienna (ZSI) and consists of a consortium of 10 partners from Austria, Czech Republic, France, Germany, Italy, the Netherlands, Spain, and the UK.

Some S4D4C outputs

- **European science diplomacy case studies**

S4D4C experts are investigating a range of science diplomacy cases. A mixed team of researchers have developed nine case studies. All case analyses involve an overview of the case and its background, context and governance arrangements, a description of the stakeholder landscape and a discussion of governance practices. They look at the EU level as well as selected examples from Member States, varying case to case.

These case studies examine the use of knowledge and the relations between governance levels, and provide a discussion on how the case improves or changes our understanding of science diplomacy. Some of these case studies will be covered in Module **7. Hands on! Case Studies**.

You may also download the full report **here**.

- **The Madrid Declaration on Science Diplomacy**

We have cited the declaration throughout this course and it is covered in detail on Topics **2.3.5. The Madrid Declaration on Science Diplomacy** and **3.1.2 The S4D4C Approach to Science Diplomacy: a Multi-Stakeholder Endeavour**. The declaration has been endorsed by over 125 experts and it proclaims a common vision of science diplomacy in the future, emphasising the benefits science diplomacy can bring to tackling the global challenges of our time and outlining the principles needed to foster science diplomacy worldwide.

- **Policy briefs**

S4D4C researchers and practitioners have published a number of policy briefs aiming to enlighten the current practices in European Science diplomacy and to propose a governance framework that both acknowledges and fosters its diversity and opportunities.

All S4D4C policy briefs can be found on the following link.

- **Online and offline training for science diplomats**

S4D4C believes in capacity building for professionals at the intersection of science and international relations as a fundamental need in the construction of EU science diplomacy. During the project, two physical workshops have been offered in Trieste and Vienna during 2019 and also an Open Doors programme allowed five EU scientists to spend time in government and public organisations as well as in international bodies being exposed to science diplomacy practices.

The current online training course you are taking is also provided by S4D4C.

4.4.7 The European Union Science Diplomacy Alliance

The EU Science Diplomacy Alliance is a collaborative initiative launched by the Horizon 2020 science diplomacy projects S4D4C, InsSciDE and EL-CSID to sustain and grow the networks, impact and momentum consolidated by the three projects. The activities of the Alliance will aim to further develop, maintain, and organise joint research projects, capacity building and training activities (such as open online courses, summer schools, trainings, etc.) on the topic of science diplomacy.

The Coordinators of S4D4C, InsSciDE and EL-CSID together launched the Alliance at the Final Networking Conference of S4D4C on 19 March 2021, with the support of several founding members. The Alliance is grounded in the results and networks fostered by the three projects and aims at sustaining the dialogue on EU science diplomacy and cultivating new opportunities to progress theory and practice of science diplomacy in Europe.

The Alliance emerged as a result of the S4D4C policy brief: *Nurturing the EU Science Diplomacy Community: The Launch of an EU Science Diplomacy Alliance for Addressing Global Challenges.* It will facilitate interactions and dialogue, training, institutional capacity building and coordination of grant-seeking or use of joint funding, if available. The Alliance serves as a hub for cooperative activities and voluntary coordination and relies upon the participating membership community and networks to highlight and select different areas and innovative activities to be pursued. It is hoped that a great variety of societal challenges may be addressed over time.

Objetives include:

- – Encourage project collaboration
- – Supporting information exchange and awareness raising
- – Training, education and institutional capacity building
- – Promoting and creating knowledge exchange and interaction interfaces
- – Connecting and nurturing a science, technology and innovation diplomacy community
- – Keeping track of European Union Science Diplomacy activities
- – Advising science diplomacy stakeholders

The activities of the Alliance will aim to further develop, maintain, and organise joint research projects, capacity building and training activities (such as open online courses, summer schools, training, etc.) on the topic of science diplomacy.

Coordination, planning and admission of new institutions take place in meetings convened twice a year by the chairing institution, which rotates between members every six months.

All EU SD Alliance can be found on the following link.

What the experts think

Learn from the first S4D4C Project Coordinator how S4D4C is contributing to fostering EU science diplomacy!

	**Alexander Degelsegger-Márquez** Head of Digital Health and Innovation at Gesundheit Österreich GmbH (Austrian Public Health Institute). Former S4D4C project coordinator
	How do you think S4D4C is going to contribute to fostering European Science diplomacy? Video Link to YouTube

4.5 Question Time

4.5.1 Brainstorming Questions

These questions are posed for you to reflect individually about the main messages put by our experts in science diplomacy. Please, take some time to think about them.

- What can we learn from the history of the European Union related to science diplomacy?
- Which are the relevant stakeholders in the EU for science diplomacy?
- What are the challenges for EU science diplomacy in comparison to those of individual nation states?
- Can you think of any other region in the world trying to develop a common science diplomacy strategy?
- If you had to think of a common driver for Member States and the EU to work on a joint science diplomacy strategy (while allowing room for each MS to have their specific goals), which would they be?
- What role should European values play in a EU science diplomacy strategy?
- What are the drivers and barriers to EU science diplomacy? What role should the EU and MS play?

What you should know now

After participating in this module, you should know the following:

- The main institutions of the EU and their functions
- The differences between main EU institutions and national governing bodies
- Why some voices claim democratic deficit in the EU
- The European Green Deal
- The EU science and innovation system including its framework programmes
- The EU scientific organisations and infrastructures

- The EU collaborations with third countries
- The EU main stakeholders in science diplomacy
- The vision and state-of-the-art of EU science diplomacy
- Information about the European Science Diplomacy Cluster