

# U.S. SCIENCE AND TECHNOLOGY COOPERATION AGREEMENTS WITH EUROPE: SURVEY & ANALYSIS

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## **EXECUTIVE SUMMARY**

The European Union (EU) and the United States (U.S.) first signed an umbrella science and technology cooperation agreement (S&T Agreement) that entered into force in 1998 and was renewed in 2004 and 2009. In addition, as of March 2010, 17 EU Member States and Associated Countries have individual S&T Agreements with the United States. These S&T Agreements provide the formal framework in which government-to-government S&T cooperation is undertaken. A survey of the current agreements between the EU, and its Member States and Associated Countries, and the United States was undertaken.

These S&T Agreements demonstrate extensive government-to-government interest and opportunities in scientific and technological cooperation between the United States and Europe. The agreements that were surveyed showed there is a general commonality of elements and content. The overall principles espoused – mutual interest and benefit, reciprocal opportunities, and equitable and fair treatment, the forms of cooperation, mechanism for coordination, entry of personnel and equipment, intellectual property rights (IPR), and security obligations are addressed similarly across the agreements. The reciprocity principle is reflected in the manner that cooperation take place, whether they be joint or coordinated activities or exchanges of information or personnel. Funding for each government's participation in any cooperative activity is typically the responsibility of each side. Variations in the S&T Agreements primarily manifest themselves in the specific areas of cooperation, some 38 areas across the 17 agreements.

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## OBJECTIVE

The European Union (EU) and the United States (U.S.) first signed an umbrella science and technology cooperation agreement (S&T Agreement) that entered into force in 1998 and was renewed in 2004 and 2009. In addition, as of March 2010, 17 EU Member States and Associated Countries have individual S&T Agreements directly with the United States.

The main objective of the survey and analysis of the current S&T Agreements between the EU, and its Member States and Associated Countries, and the United States described in this report is to elucidate reciprocity conditions of the agreements. The report also includes:

- Overview of S&T Agreements,
- A Summary of Common Elements,
- Highlights of Uncommon Elements, and
- Implementing Arrangements between Specific U.S. S&T Agencies and the EU

## METHODOLOGY

The agreements were collected from electronic sources available on public websites, published documents, and direct interviews with relevant government agency representatives. In the EU, the National Contact Point (NCP) networks were also utilized.

The following information was collected for each cooperation agreement:

1. Basic Information
  - a. Entry Date
  - b. End Date
  - c. Renewal Date, if any
  - d. Date of Last Joint Consultative Group Meeting (JCM)
2. Contact Information
  - a. in the European Commission or European Country
  - b. in the United States
3. Reciprocity Conditions
4. Areas of Cooperative Activities

- a. Key Areas of Cooperative Activities
- b. Coordinated Activities in each Area with Recent Examples
  - i. Themes
  - ii. Sub-themes
  - iii. Implementing Arrangement, if any

## RESULTS

### OVERVIEW OF S&T AGREEMENTS

#### Purpose of Bilateral Umbrella S&T Agreements

Bilateral umbrella S&T agreements establish a formal legal framework to enable governments to broadly cooperate with each other on mutual areas of interest in S&T. S&T Agreements address such issues as the facilitation of the exchange of scientific results, taxation, protection and allocation of intellectual property rights and benefit sharing, facilitation of access for researchers, and response to issues associated with economic development, regional stability, and domestic security.<sup>1</sup> As they only provide a framework for cooperation, U.S. S&T Agreements on their own do not often indicate specific programs of cooperative activities but often rely on subsequent implementing arrangements with individual U.S. S&T Agencies (e.g., National Science Foundation (NSF) and the Environmental Protection Agency (EPA)). Moreover, the absence of an S&T Agreement does not necessarily preclude inter-governmental cooperation on S&T issues, though the trend is for the conclusion of an agreement prior to specific cooperation.

#### Summary List of S&T Agreements with the United States

The survey included the U.S.-EU S&T Agreement as well as all the agreements between the United States and individual EU Member States and Associated Countries, as of March 2010. The following are the 18 S&T Agreements:

Bulgaria	Italy
Croatia	Macedonia <sup>2</sup>
Denmark	Poland
European Union	Romania

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<sup>1</sup> U.S. Department of State, "Science & Technology Cooperation" 2010. Visited on 7 March 2010. Available at: [www.state.gov/g/oes/stc/](http://www.state.gov/g/oes/stc/)

<sup>2</sup> The S&T Agreement with Macedonia was signed on 26 January 2006 as indicated in footnote 1. However no documentation of the agreement or information concerning its contents were found.

Finland	Slovakia
France	Slovenia
Germany	Spain
Greece	Sweden
Hungary	Switzerland

## **SUMMARY OF COMMON ELEMENTS OF S&T AGREEMENTS**

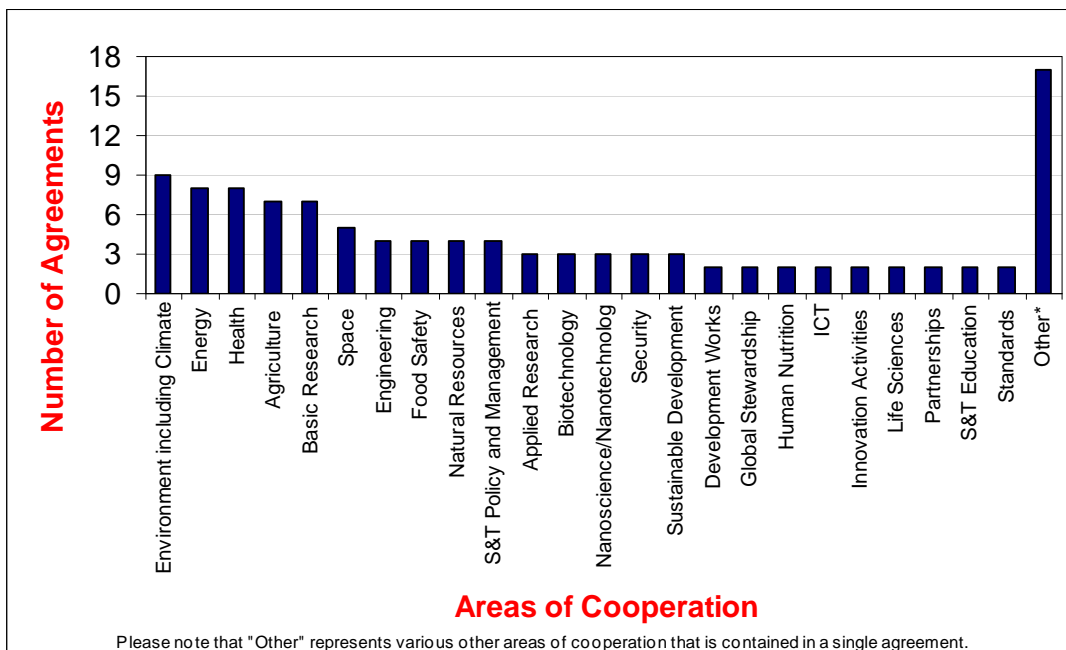
The S&T Agreements surveyed shared many common elements. The most substantive ones are discussed below.

### **Areas of Cooperation**

Each individual S&T Agreement is unique regarding the areas of cooperation. There is not a standard set of thematic areas indicated in all 17 S&T Agreements (minus the one with Macedonia) with the United States. Out of 17, 13 S&T Agreements indicated areas of cooperation.

Nevertheless, agriculture, basic research, energy, health, and the environment (including climate change) are the most common areas of cooperation. Of the 13 S&T Agreements indicating specific areas, seven list agriculture and basic research, eight list energy and health, and nine list the environment, including climate change, as key areas of cooperation, as seen in Figure 1. In total, there are approximately 38 different cooperative areas indicated within the 13 S&T Agreements (see Annex II for summary).

**Figure 1. Overview of Areas of Cooperation and Frequency in S&T Agreements**



Unsurprisingly, the most commonly indicated areas reflect U.S. priorities in key areas of cooperation. Specifically, the U.S. State Department lists: agricultural and industrial biotechnology research, health sciences, marine research, natural products chemistry, environment and energy research.<sup>3</sup>

### Forms of Cooperative Activities

In all the S&T Agreements<sup>4</sup>, the same basic forms of cooperative activities are listed. The six basic forms indicated are:

- Coordinated research projects
- Joint task forces
- Joint studies
- Joint organization of science workshops, conferences, seminars, and symposia
- Visits and exchanges of S&T information and documentation as well as scientists, specialists, and/or researchers
- Exchange or sharing of equipment or materials

Other forms of cooperation that are included in several agreements are joint task forces and training of scientists and technical experts.

<sup>3</sup> See footnote 1.

<sup>4</sup> See footnote 2 regarding the U.S.-Macedonia S&T Agreement.

### **Coordination of the Agreement**

A mechanism to coordinate the implementation of the S&T Agreement is established, typically as a joint committee (e.g., Joint Consultative Group or Joint Committee) comprising representatives of the signatory governments. These committees are organized by an executive agent or coordinator on each side. The U.S. executive agent resides in the U.S. Department of State and is staffed by the Office of Science & Technology Cooperation in the Bureau of Oceans and International Environmental and Scientific Affairs (OES/STC).<sup>5</sup> These committees meet, “Joint Committee Meeting on S&T Cooperation” or “Joint Consultative Group Meeting” (JCM’s), annually or at some other interval to review progress on cooperation and discuss areas of cooperation.

### **Entry of Personnel and Equipment**

The language used regarding the entry of personnel and equipment is very similar from agreement to agreement. Generally a government is expected to take all reasonable steps, within the appropriate laws and regulations of the respective government, to assist in facilitating the entry and exit of persons, data, material, and equipment related to activities under the S&T Agreement.

### **IPR Annex**

Common to all S&T Agreements with the United States is an annex on Intellectual Property Rights (IPR). Two main topics are addressed: the Allocation of Rights and Business Confidential Information. For each, similar language is used in the agreement.

### **Security Obligations**

Security obligations are included in all S&T Agreements, except the EU-U.S. agreement, that relates to sensitive information or equipment and unclassified export-controlled information or equipment transferred under the agreement.

The obligations consist of two parts. The first is protecting information regarding the interests of national defense, foreign relations, or classified information, of either Party, in line with applicable national regulations and laws. The second part discusses technology transfer. Similar to protecting information, the transfer of export-controlled equipment and information between the two countries must comply with relevant national regulations and laws to prevent the unauthorized transfer or retransfer of information.

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<sup>5</sup> OES/STC is responsible for coordinating the U.S. Government negotiations of S&T Agreements. International agreements in general may not be signed or concluded on behalf of the U.S. Government without prior consultation with the Secretary of State.



## **HIGHLIGHTS OF UNCOMMON ELEMENTS IN S&T AGREEMENTS**

### **Implementing Cooperative Areas and Activities**

The S&T Agreement between the United States and Germany, the newest (signed February 2010) of the agreements surveyed, stipulates that one key goal of the agreement is to facilitate access to National Waters for research purposes. This specific language is not found in any of the other agreements surveyed.

### **Other Additions to Cooperative Activities**

While the co-use of instruments and facilities is fairly standard within S&T Agreements, the agreement between Italy and the United States discusses joint construction and ownership of instruments and facilities.

With Denmark, training of Ph.D. students, scientists, engineers or other appropriate personnel is indicated as a key area of cooperation. This training is not linked to any particular thematic area.

### **Renewal Process**

There is no set duration for each agreement. Some agreements must undergo a specific renewal process when an agreement ends, while others are automatically renewed. Out of the 15 agreements that indicated the end date and previous renewals, four were automatically renewed, while 11 were not. There was no information on the France, Sweden and Macedonia agreements regarding this issue.

## **RECIPROCITY CONDITIONS**

### **S&T Agreements**

Reciprocity conditions are indicated in three basic ways within the agreements, and they are stated very generally. First, the goal of an agreement is to form “reciprocal opportunities to engage in cooperative activities.” Second, possible areas of cooperative activities are indicated, subject to the respective regulations and laws. Finally, with regards to funding, unless otherwise provided for in an implementing arrangement, each respective government shall bear the costs of its participation in JCM’s and that of its personnel engaged in cooperative activities under the agreement. Overall, the language used in the S&T Agreements to describe reciprocity is not specific regarding any exact form of reciprocity and tend to emphasize general principles.

### **Implementing Arrangements**

Given the generality of the reciprocity conditions in the S&T Agreements, the implementing arrangements (IA) between four U.S. S&T Agencies and the European Commission

were also analyzed for more specific terms. Implementing arrangements are legally non-binding but serve to outline cooperative activities in specific research areas between technical agencies. The arrangements (see Annex III) between the U.S. Environmental Protection Agency and the Commission (EPA-EC IA); the National Science Foundation and the Commission (NSF-EC IA); the U.S. Department of Transportation and the Commission (DOT-EC IA); and the U.S. Department of Energy and the Commission (DOE-EC IA) were analyzed.

The EPA-EC IA outlines research areas for cooperation in the fields of environmental research and eco-informatics, including: eco-informatics and information systems; environment and sustainability indicators; formal analysis of uncertainty in environmental programs; decision support tools; environment and health; sustainable chemistry and materials; nanotechnology uses and impacts; environmental technologies; and emissions from transport and air quality management.

Similar to the S&T Agreement, the EPA-EC IA indicates forms of cooperation:

- Direct collaboration between consortia and researchers funded by the two Sides
- Exchange of information among researchers and program managers
- Joint sponsorship of conferences, workshops, or meetings
- Coordinated calls for proposals and mutual participation in peer reviews

The NSF-EC IA covers the research areas of climate change, marine science and technology, seismic risk and hazards reduction, Arctic processes, and environmental biology.

The IA indicates similar forms of cooperation as in the EPA arrangement -- exchange of information and joint organization of scientific seminars, conferences, symposia, and workshops -- but also includes the following:

- Activities to promote the opportunities provided by the IA
- Joint support of collaborative research, observational and related programs; coordinated support of complementary research, observational and related programs; supplemental support to existing grants, contracts and agreements; and funding of other related cooperative activities for mutual benefit and added value

The last point, referencing joint, coordinated, and supplemental support, is the most specific language on funding support indicated in all the S&T Agreements and IA's reviewed.

The DOT-EC IA covers the research areas of information and communication technologies (ICT) in road transport that are set out in FP7 (Intelligent Car Initiative and Challenge 6) and under the responsibility of the DOT's Research and Innovative Technology Administration. Besides cooperating by exchanging information, coordinating activities, conducting joint analyses and evaluations, and participating in working groups, both sides "are to endeavour to provide equivalent opportunities to the industry from each other's side in terms of contributing to work and access to information and results from the cooperative activities..." The specific indication of industry involvement is unique to this IA.

The DOE-EC IA focuses on broad areas of non-nuclear energy research cooperation, in particular areas of fossil energy, new and renewable energy, energy efficiency, R&D facilities sharing, and fuel cell technology (the latter was included in a 2003 amendment to the original 2001 IA). Forms of cooperation outlined in this IA are similar to the S&T Agreement, including reciprocal opportunities to participate in each side's programmes; exchange of information, people, and materials; meetings; and joint studies and projects. The IA particularly also details the responsibilities of each side in exchanges of personnel and equipment and sharing of samples and materials.

Overall in these arrangements, as with the S&T Agreement, funding for activities under the IA's depend on appropriated funds and applicable laws and regulations, policies, and programs of each agency; and all costs of the cooperation under the IA's are the responsibility of the agency that incurs them.

## **KEY FINDINGS**

S&T Agreements establish the legal framework for cooperation between governments, and as such, across the 17 agreements that were surveyed between the United States and European governments, there is a general commonality of elements and content. The overall principles espoused – mutual interest and benefit, reciprocal opportunities, and equitable and fair treatment – are similar in all agreements. The forms of cooperation, mechanism for coordination, entry of personnel and equipment, intellectual property rights (IPR), and security obligations are addressed similarly across the agreements. The reciprocity principle is reflected in the manner that cooperation take place, whether they be joint or coordinated activities or exchanges of information or personnel. Funding for each government's participation in any cooperative activity is typically the responsibility of each side. Variations in the S&T Agreements primarily manifest themselves in the specific areas of cooperation, some 38 areas across the 17 agreements.

These S&T Agreements demonstrate extensive government-to-government interest and opportunities in scientific and technological cooperation between the United States and Europe, which builds on and complements the already wide-ranging ties between American and European researchers and research organizations.