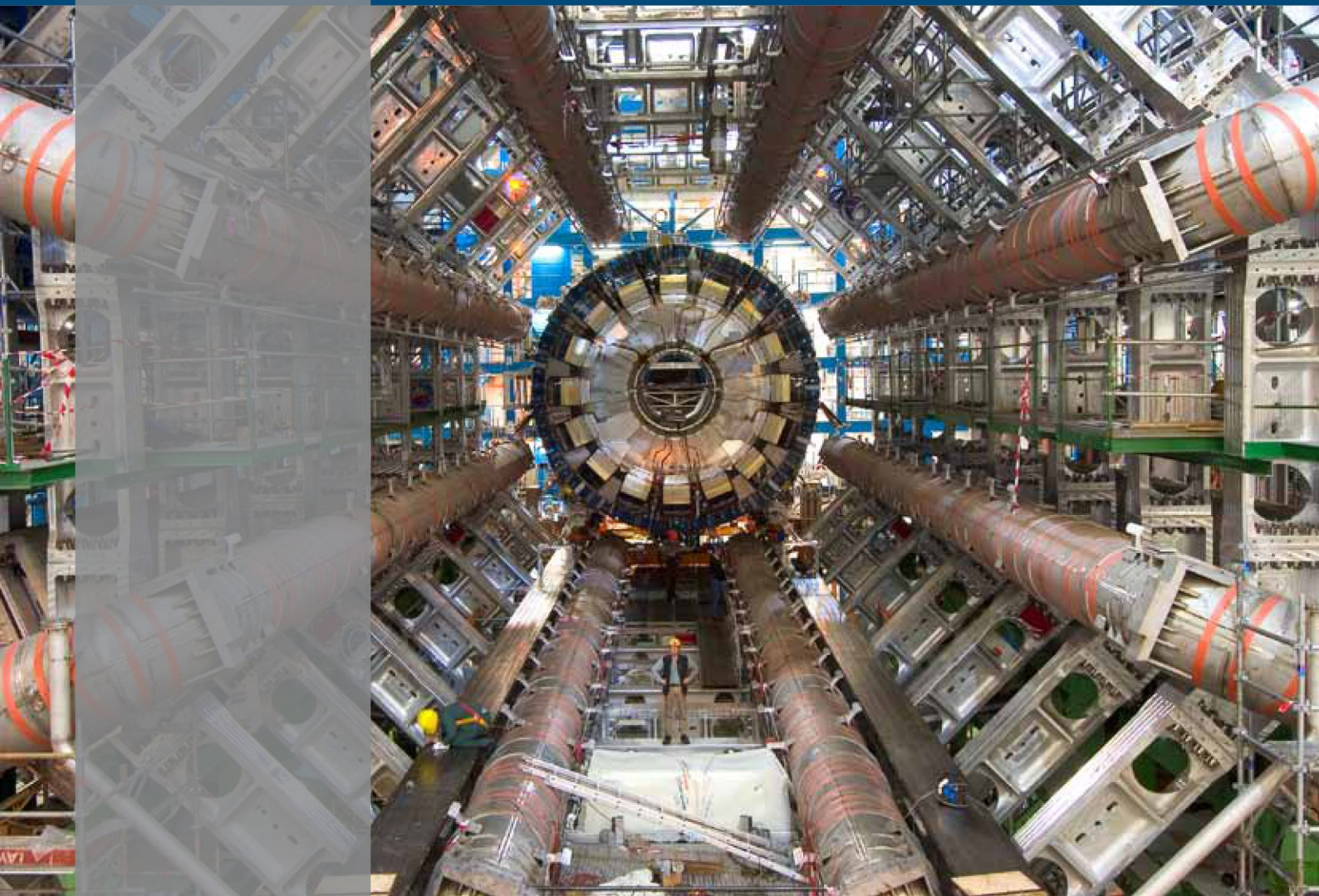


# REPORT

2013



## Science Diplomacy for France

Directorate-General  
of Global Affairs,  
Development  
and Partnerships



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The growing interest in science as a component of a State's foreign policy is closely linked to globalization, the new economic stakes and increase in global challenges such as the emerging diseases, energy shortages, climate change, biodiversity loss, water resource availability, natural disaster management and food security. To improve our understanding of these global issues and address them, we need to engage the research stakeholders and foster their involvement in international cooperation networks. Moreover, science must contribute to informing international debates on these issues through globalized or multilateral scientific bodies.

For years France has made **scientific cooperation and research** a key element in her effort to exert influence on the international stage. This cooperation ensures the **promotion of our country's image of scientific and technological excellence** and helps to reach out to foreign researchers. It creates the conditions for establishing, over the long term, networks and partnerships offering French researchers opportunities for international career development. It also contributes to **raising the profile of French scientific research** and **maintaining its performances in cutting-edge sectors** and, more generally, **supports French companies' export competitiveness**.

More recently, the French Government has set itself the objectives of increasing the contribution of French research to world science, strengthening its commitment to take up the **global challenges relating to global public goods**, mobilizing scientists to engage in **research geared to furthering development**, encouraging the increase in **researchers' mobility** and **deployment of the innovation policy in support of French companies' international strategies**.

France, who for many decades has viewed scientific cooperation as contributing to the dialogue between peoples and a means of developing and strengthening national excellence, sees her approach bolstered by the emergence of the "science diplomacy" concept. Developed in the United States and widely disseminated in the English-speaking world, it has been defined as "the use and application of science cooperation to help build bridges and enhance relationships between and amongst societies, with a particular interest in working in areas where there might not be other mechanisms for engagement at an official level."<sup>1</sup> In the United States, this policy shift has been reflected notably by the appointment of science envoys tasked with resuming a dialogue with the elites in the Muslim world (Middle East, Africa, and South-East Asia) and offering them opportunities<sup>2</sup>.

<sup>2</sup>

The use of science as a way of exerting influence, one of various components of soft power,

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<sup>1</sup> Definition of Dr V. Vaughan Turekian, Director of the Center for Science Diplomacy set up in 2009 by the American Association for the Advancement of Science.

<sup>2</sup> Cf. President Obama's speech in Cairo on 4 June 2009: announcements of the creation of an innovation fund and centres of excellence, launch of a \$1.6 million university cooperation programme with Africa (Africa US Higher Education Initiative)

cannot, however, be the sole *raison d'être* for international scientific cooperation. Its primary justification is the increase in knowledge it can bring. Furthermore, a recent World Bank report on constructing knowledge societies<sup>3</sup> suggests that **the main contributor to economic and social development is, today, the promotion and application of knowledge**. The European Union has taken this on board, adopting a growth strategy with the target of 3% of European GDP invested in R&D by 2020<sup>4</sup>. Thus science diplomacy contributes to a “smart” approach of our political, economic and cultural influence associated with the growing importance of global issues.

Our major partners' recognition of the role of science in diplomatic action encourages us to reaffirm the exemplary nature of our approach and look at how to increase interaction between France's scientific community and her diplomatic network in order to:

- **support the status of our researchers and companies in international competition**

- **involve the science world more closely with foreign policy objectives, and in particular,**

- **raise researchers' awareness in development issues, by building and leveraging the Global South's scientific capabilities.**

## **I.. France, a player in international science**

Like all its Western counterparts, French research, ranked fifth in 2009 in the world in terms of spending (€42.7 billion, i.e. 2.26% of GDP) and 6<sup>th</sup> for publications (with 4,1% of publications worldwide), is up against tougher international competition. While developed countries accounted for 83% of R&D spending in the G20 in 2002, their share had fallen to just 76% in 2007<sup>5</sup>. The spectacular breakthrough by not only the emerging countries, particularly the BRICS (Brazil–Russia–India–China–South Africa), but also the CIVETs (Colombia–Indonesia–Vietnam–Egypt–Turkey), is reconfiguring the global science landscape. The scientific capabilities of these countries, which are putting significant amounts of money into public policies to promote research and innovation, have clearly increased: between 2002 and 2008, the contribution of China alone to global scientific publications doubled from 5.2% to 10.6%<sup>6</sup>, and the country is now ranked third in the world in terms of research spending (\$102 billion) after the United States and Japan.

**In this context, and at a time when States' economic growth is increasingly based**

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<sup>3</sup> Construct Knowledge Societies: New Challenges of Tertiary Education — <http://redirectix.bulletins-electroniques.com/dKhXc> (in French)

<sup>4</sup> Europe 2020: a European Strategy for Smart, Sustainable and Inclusive Growth"

<sup>5</sup> Source: UNESCO Science Report 2010

<sup>6</sup> Compared with 6.4% and 5.8% for France

**on building knowledge societies, public administration support for internationalizing French research and strengthening the attractiveness of France and national research institutions for international researchers is crucial.** Promotion of French research abroad and of its interests must figure among French diplomacy's main tasks, just like the defence of the nation's other interests. While research has not waited for State action before building bridges for the international circulation of knowledge, it is still essential to have structures to support and coordinate the French initiatives at a time when other States are developing an aggressive policy to capture talent and knowledge.

### **I.1. Diplomacy must help French research get organized beyond its borders, become structured at the international level and successfully compete with the major researchproducing countries**

Scientific cooperation must develop so that we can exchange ideas and innovative methods, acquire new skills or testing grounds unavailable in France, create networks for researchers and high-level cooperation and mobilize funding.

*Thanks to the Commission on Archaeological Excavations and Missions, created in the French Ministry of Foreign Affairs (MAE – Ministère des Affaires étrangères) at the request of the National Center for Scientific Research (CNRS) in July 1945, French archaeology, whose excellence is internationally recognized, has sites in each of the world's main cultural areas and receives support from our embassies. The training and participation of local archaeologists in French archaeological programmes and, more recently, the development of jointly-financed European archaeological cooperation projects (collaborative Franco-German call for proposals between ANR and DFG) provide French archaeology with a very high-level international research network. In 2012, the MAE financed 161 archaeological missions recommended by the Commission for Archaeological Research Abroad, at a total cost of €2.6 M (excluding salaries). In 2011, external co-financing, showcasing the vitality of the French archaeological network in the world, raised nearly €2.2 M (i.e. 45 % of the total budget for archaeological missions outside France).*

Liaising directly with the Ministry for Higher Education and Research (MESR - *Ministère de l'Enseignement supérieur et de la Recherche*), **the MAE participates through its network, in the deployment abroad** of the thematic (health and biotechnologies, environmental and ecotechnological emergencies, ICT and nanotechnology) and geographic (BRICS, Japan and South Korea) priorities **of France's National Research and Innovation Strategy (SNRI – *Stratégie nationale de recherche et d'innovation*)**. These priorities are reflected in the cooperation projects implemented by **embassies' science departments**. In daily contact with contributors to research and innovation in their countries of residence and aware of their needs and spheres of excellence, these departments **ensure that account is taken both of the partner countries' expectations and of the segments which our laboratories and companies can capitalize on**. The MAE's role is to drive and promote abroad the different

**components of France's attractiveness policy** and at interministerial level ensure the **coherence of our international scientific cooperation**, both between French research and higher education players and vis-à-vis all our policies with regard to the countries involved. It focuses above all on the **rationale for influence** and **international cooperation for development**.

In this respect, the MAE's action complements the MESR's efforts to improve, through the current reforms, the quality of the academic and research sector and **optimize** the structural factors which make France an attractive country for research activities (quality of research infrastructures and facilities, excellent reputation and international ranking of institutions, employment conditions for researchers, etc.).

The remit of the Directorate-General of Global Affairs, Development and Partnerships (DGM - *Direction générale de la Mondialisation, du Développement et des Partenariats*) and current restructuring of the organization of its operators in France and abroad stem from this approach. Within this Directorate-General, the Mobility and Attractiveness Policy Directorate implements this "science diplomacy", managing and mobilizing a **network composed in 2012, of 255 expatriate staff** (counsellors, science attachés and international volunteers), **around sixty technical assistants, 27 French social sciences and humanities research institutes** bringing together 146 researchers, **161 archaeological missions** abroad, a hundred or so scientific cooperation and research programmes subsidized by the MAE.

Through its extensive knowledge of the research landscape in France and the host countries, the network of counsellors and science attachés provides an **entry point for the cooperation partners**, advising them on the relevant operators and encouraging them to structure and place their exchanges on a long-term basis in the framework of cooperation agreements between establishments or agencies. This network also provides a highly-rated **science and technology watch service**. The product of the watch carried out by French Embassy science departments and personnel (electronic newsletters and reports) is circulated, through the French Agency for the Dissemination of Technological Information (ADIT - *Agence pour la Diffusion de l'information technologique*) to public and private French research bodies, companies and competitiveness clusters in order to help them develop their international strategies. The watch also extends to protection of France's scientific and technological assets. Every year, 7.5 million people visit ADIT's website, 231,000 of whom subscribe to the electronic newsletters sent out by the embassies.

Finally, in order to reach a wider public, the "*Institut français*", France's cultural agency, **disseminates scientific knowledge and culture** by organizing educational activities (exhibitions, festivals, conferences, workshops, etc.) showcasing French science and research

for the general public and particularly young people and thus helping to enhance France's image as a modern and attractive country.

The Scientific Exchanges and Research Department is tasked with devising and implementing this strategy and ensuring its consistency with the MAE's other strategies (health strategy, strategy on EU ODA, etc.) as well as managing the network (regional meetings, circulation of reference documents, instructions, dialogue management on programming and financing of cross-cutting action).

Expertise is guaranteed by our relations with partners of excellence and especially the *Académie des sciences*, *Académie des Inscriptions et Belles lettres* and *Académie des technologies*.

Finally, the remit of the **Ambassador Delegate for Science, Technology and Innovation**, Professor Catherine Bréchnignac, Perpetual Secretary of the *Académie des Sciences*, is to promote French scientific and technological excellence, assist in managing the network of counsellors and science Attachés and support the work of the French research bodies and funding agencies. She plays an important role of intermediation between the relevant authorities and players with the aim of promoting development of international scientific cooperation.

## **I. 2. Scientific cooperation plays a leading role in promoting France among foreign researchers and establishing partnerships of excellence**

Liaising with the MESR and the research agencies, the French cooperation network promotes France's attractiveness to foreign researchers with a view to creating, over the long term, **networks of influence**. It helps identify the institutions and leading figures of interest to France and bring them closer to our country. In this respect, priority has to go to cooperation with the most important countries in terms of scientific and technological production (OECD and emerging countries) by targeting high-level institutions and partnerships in both **fundamental research** and as regards **innovation**. Indeed, thanks to the establishment of joint funds with the biggest American research institutions (Stanford, Massachusetts Institute of Technology, Berkeley and the University of Chicago) we have been able to forge long-term links with them. There is also a need to encourage the training of scientific elites in the Southern countries.

The introduction of a "**scientific residence permit**" (*titre de séjour scientifique* - special residence permit granted for the purpose of carrying out scientific research) updated in 2008, issued on the basis of a hosting agreement signed by the relevant scientific establishment or research body, was designed to simplify the admission arrangements for foreign researchers in France. All in all, over 48,000 foreign researchers are employed annually in France, including around 25,000 PhD

students.

Concurrently, the MAE supports the mobility of French researchers abroad, particularly young researchers, expecting them to establish the contacts needed by their home institutions to build structured international cooperation projects (cooperation agreements, creation of international research networks, International Associated Laboratories (*laboratoires internationaux associés*), joint international research units (*unités mixtes internationales*, etc.), to be funded by other instruments. To this end, the MAE finances many competitive research programmes (“**Hubert Curien**” **bilateral programmes**, ICT-Asia, BIO-Asia, ICTAmSud and Math-AmSud, ENVI-Med regional programmes, ARCUS programme (regional action for academic and scientific cooperation), etc.). Likewise, it also encourages additional training for French researchers (postdoctoral positions), in universities and research centres of excellence abroad. Hence the network of **French research institutes abroad (IFRE)**, co-run by the MAE and CNRS, regularly hosts PhD and postdoc researchers and enables them to carry out field research and/or integrate international research communities. For example, the *Maison Française d’Oxford* (MFO) is the only non-British research institution based within Oxford University, one of the most prestigious in the world. Finally, the French cooperation network maintains relations with French researchers working abroad and contributes on an *ad hoc* basis to incentive **policies to encourage the return** of young expatriate researchers to France.

### **I.3. France’s policy vis-à-vis large-scale research infrastructures is also an essential component of the effort to enhance our country’s influence abroad**

The importance France has attached, for over fifty years, to developing **major physics and astronomy research facilities** and, very recently, data bases, libraries and shared scientific computing networks, like GANIL (National Large Heavy Ion Accelerator) at the national level, or the European Organisation for Nuclear Research (CERN) and European Southern Observatory (ESO) at the European level, or the International Thermonuclear Experimental Reactor (ITER) and Atacama Large Millimetre Array (ALMA) at the global level, is an **essential asset for maintaining the high quality and competitiveness of our research and our economy**.

Indeed, the hosting of a major research instrument in France (cf. CERN and ITER) creates a hub for international scientific elites and provides opportunities to boost academic cooperation.

Ensuring access by French stakeholders to the major instruments located abroad is also essential.

To serve this purpose, with the support of our embassies, the CEA (French Alternative Energies and Atomic Energy Commission) and CNRS signed agreements formalizing France’s



involvement in the European Spallation Source (ESS) project with Sweden and the Extreme Light Infrastructure (ELI) project sited in Romania. Over the whole ESS construction period, €150-500 billion worth of industrial contracts will be up for grabs.

Moreover, the MAE contributes to hosting in France science-based **international organizations** such as UNESCO, the International Bureau of Weights and Measures and CERN, through the management of headquarters agreements and maintaining the dialogue with these organizations. These organizations can generate significant economic and financial spin-offs for the local employment areas, such as in the Rhône-Alpes region where CERN is located and, more broadly, for the French companies working for the organization.

## II. Science as a vehicle for France's foreign policy

Through its advocacy of universality and sharing, scientific cooperation has quite obviously a potential for generating extremely positive images which States can take advantage of by drawing on the networks forged by the scientists and encouraging them. Here, we need to find the point of balance in our scientific cooperation strategies where the interests of science and diplomacy converge.

### II.1. Research can be an effective channel of political dialogue and contribute to developing or maintaining inter-State relations when traditional diplomacy has reached its limits

In this respect, archaeological research can be viewed as a precursor of this approach. This discipline, which by its very nature is greatly appreciated by host countries for heritage and historical reasons, is less sensitive than other research sectors, allowing the establishment of genuine projects which can showcase territorial enhancement programmes. Hence it proves particularly helpful when it comes to resuming or maintaining communications in the framework of delicate bilateral relations. Indeed, going beyond the political ups and downs, it is thanks to the permanence of France's archaeological missions supported by the MAE that a channel for dialogue has been maintained with, for example, Libya, where excavations have progressively resumed after their interruption in 2012. Today, archaeology remains a channel for contact with countries like Iran and Uzbekistan when the other spheres of cooperation are becoming increasingly difficult.

Archaeology can also play a pioneering role in resuming cooperation in the case of States emerging from crises. Under UNESCO auspices, the French Archaeological Delegation in Afghanistan (DAGA - *Délégation archéologique française en Afghanistan*, the only permanent international archaeological institution in that country, has forged an archaeology partnership with the local authorities with the aim of bringing development and greater security.

More generally, science and technology agreements are particularly appropriate instruments for engendering or maintaining exchanges between civil societies and sharing knowledge capable of developing mutual understanding and common interests conducive to establishing or reactivating a political dialogue.

## **II.2. Research is a crucial constituent for regional integration projects supported by France at political level.**

Drawing on her experience of the process of European building, in which science has played a significant role thanks to the progressive pooling of programmes (creation in 1984 of the Framework Programme for Research and Development, FP1) and major research infrastructures and organizations (European Space Agency), France is intent on supporting the consolidation of the regional organizations and informal trans-regional coalitions through scientific exchanges.

France acts *inter alia* by:

- **contributing to the building of the European Research Area (ERA)** by encouraging a bigger French presence in the **European research and innovation networks**. This necessitates developing a monitoring system for European policies and programmes, working with French players in the science-based European institutions. Hence, prior to the start of negotiations on the future European research framework, the MAE is helping prepare the French position and relaying this position to Brussels through France's Permanent Representation to the EU.

Furthermore, the bilateral cooperation projects put in place by France, and in particular the "Hubert Curien Partnerships" scheme operated with the other EU member States, are paving the way for opening up the cooperation to other European and foreign partners in the framework of responses to European calls for tenders. This necessitates raising awareness of the benefits of European influence engineering among the MAE's cooperation network.

Finally, the MAE has a particular role to play in developing the ERA's attractiveness to the best international researchers and promoting cooperation with third countries outside the EU, on the basis of mutual interest and reciprocity (e.g. with the United States in a European, intergovernmental initiative to combat Alzheimer's disease).

The long history, diversity and richness of the scientific collaboration projects developed with third countries give France the possibility of providing them with an entry point into the ERA. French presence in European programmes, either designed to encourage better coordination of bilateral scientific cooperation projects between member States or conducted with third countries (ERANET, INCO-NET, INCO-LAB, etc.), plays an important role in setting up such networkabouts. The<sub>10</sub>

MAE informs diplomatic posts about these programmes and supports French agencies' participation in them.

-supporting the building of a Euro-Mediterranean Research Area prompted by the desire to strengthen the Barcelona Process's scientific dimensions with, inter alia, the setting-up, under the Inter-academic Group for Development's auspices, of a portal dedicated to disseminating and sharing information, implementation of a regional watch on the projects with a view to identifying possible synergies with our cooperation programmes and support for building networks of Mediterranean research communities. France is working on establishing the core of broader cooperation programmes (cf. €2.4 million project funded by the Priority Solidarity Fund<sup>7</sup> carried out between 2005 and 2010 to develop social sciences and humanities networks in the Maghreb; a regional call in 2010 for projects within the Hubert Curien Partnership (PHC) programme in the Maghreb; mobilization of French research institutes abroad around the Mediterranean rim, working in a network and in cooperation with the "Ecoles françaises à l'étranger" (French schools abroad), on Euro-Mediterranean projects of common interest; creation of the cross-establishment programme "Mistrals" (Mediterranean Integrated Studies at Regional and Local Scales) coordinated by the CNRS and IRD (Development Research Institute) and launch of the regional ENVI-MED programme which brings all the Mediterranean partners together for decision-making, from defining the priority themes to the final projects selection.

**-contributing to implementation of regional cooperation and integration projects in Africa, Asia and Latin America, and promoting South-South cooperation.** The aim is to facilitate links between experts from different countries or different communities so that they can discover the possibilities of joint activities which could lay the foundations of solid, long-term regional cooperation. The networked research programmes in information and communication science and technology, life sciences and mathematics in Asia, South America (P2R, ICT-Amsud, MATH-Amsud, BIO-Asia, ICT-Asia, etc.) and the Maghreb, along with projects funded by the Priority Solidarity Fund implemented in Africa are creating the conditions for strengthening regional cooperation to promote development and scientific excellence.

Furthermore, France intends building closer relations with new sponsors to encourage South-South cooperation for the benefit of Africa.

### **II.3. Research for development, a major area of French cooperation**

France considers that research for development is an **integral part of public development aid**. Indeed, the trajectory of the emerging countries shows that ownership of knowledge and the strengthening of academic and research systems are key to development. Moreover, it is in the South that the global challenges faced by our planet (climate change, desertification, emerging diseases, etc.) are most acute. This is why, **as part of the solidarity effort to help developing countries, priority is given to strengthening Southern countries'**

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<sup>7</sup> Priority Solidarity Fund: funds allocated to assist countries in the ZSP — Zone de solidarité prioritaire — a group of countries eligible for bilateral French official assistance

**scientific capabilities**, including the training of young researchers, development of local team autonomy and their integration in regional and international scientific communities and expert networks.

We cannot do this simply by welcoming an elite to France and providing training, but we must create the conditions for building endogenous research capabilities with the formulation of common research strategies. Moreover, the Southern countries (including China) now account for 38% of the world's researchers.<sup>8</sup> This development is reflected by new requests from our Southern partners, who are increasingly less willing to accept cooperation in the higher education sphere without a research and technology transfer component.

The establishment, with MAE support, of cooperation structures abroad, particularly in the medical sphere (network of Pasteur Institutes and the National Agency for AIDS Research (ANRS – *Agence nationale de recherches sur le sida et les hépatites virales*), the Franceville International Centre for Medical Research in Gabon, Medical and Health Research Centre in Niger, Muraz Centre in Burkina Faso, etc.), where France, thanks to these cooperation projects, has internationally recognized expertise in tropical diseases, aims to create the conditions for the emergence of young teams, ensure the stability of scientists in proven teams and form the core of regionally-based centres of excellence. Indeed, the presence of science platforms equipped with modern technology is crucial to combat the offshoring of research teams.

Moreover, discrepancies in scientific potential among countries in the same region argues in favour of a strategy prioritizing the regional scale by encouraging projects' complementarity and supporting infrastructure pooling.

There are two French institutions dedicated to research for development, the Development Research Institute (IRD) and the International Centre for Agricultural Research for Development (CIRAD - *Centre International pour la Recherche Agronomique et le Développement*), which are both very active on the ground, as well as university research teams whose activity is, however, sometimes less well known. The Inter-agency Institute for Research on Development (AIRD - *Agence inter-établissements de recherche pour le développement*) was set up to improve coordination of the action of the various bodies involved in research for development and encourage them to pool their resources in regional research platforms. The MAE supervision of both IRD and CIRAD and the networking with development experts in MAE and French Development Agency (AFD – *Agence Française de Développement*), help in this effort to achieve consistency and coordination.

Finally, French cooperation programmes seek to contribute to strengthening and structuring Southern countries' national research systems and to foster implementation in their public

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<sup>8</sup> In 2007 China on her own had 19.7% of the world's researchers

policies of the research and innovation concepts as essential links in the economic development chain. To this end they draw on instruments such as Priority Solidarity Fund programmes and the assignment of international technical experts to local research platforms or local authorities in order to provide them with qualified expertise to help in the shaping and assessment of their public policies.

The French cooperation effort has achieved excellent results, but the action will be completely successful only with the availability of far greater resources, obtainable from a greater international mobilization which would, at the very least, reflect stronger Euro-African cooperation.

In that perspective, French diplomacy supports the Global South's interests together with Europe, within the Framework Programme for Research and Development or the programmes under article 185 such as the European and Developing Countries Clinical Trials Partnership (EDCTP), the most important EU project to combat HIV/AIDS in Africa. France has thus volunteered to coordinate, under IRD responsibility, the 8th EU-Africa partnership dedicated to research and innovation and played a driving role in establishing an ERA-Net programme to support this initiative.

#### **II.4. At multilateral level, research can also help forge international consensus on global issues**

The creation at the G7's request of the Intergovernmental Panel on Climate Change (IPCC) in 1998 marks the eruption of science onto the political agenda of the main international fora and events. Recognizing the need to pool significant scientific resources in order to address new complex global problems, the creation of international groups such as the IPCC and the IPBES (Intergovernmental science-policy Platform on Biodiversity and Ecosystem Services) on biodiversity, tasked with summing up the discussion and formalizing the global scientific consensus in order to inform politicians' debates, creates a totally new relationship between science and diplomacy.

**In this new context, it is essential for French scientific expertise to be reflected in the work of such groups, which directly influence the direction of discussion in the negotiations. In this respect, the decision to site the Consultative Group on International Agricultural Research (CGIAR) in Montpellier bolsters our country's place in agricultural research.**

Thanks to the incorporation into the Directorate-General of Global Affairs of departments responsible for monitoring scientific cooperation, for preparing major multilateral meetings and diplomatic negotiations on economic and development matters, and managing global public goods, the MAE has the means to help promote the presence of French scientists in these fora and ensure their analyses are heard in international negotiations on global issues (climate, biodiversity, food security, migrations, development, etc.).

### III. A cooperation and monitoring instrument for providing expertise to promote development and innovation and address global challenges: guidelines for the future

#### III.1. Contribute to increasing France's attractiveness, together with the MESR (Ministry for Higher Education and Research) and the research community

The first priority of our science diplomacy is to **bolster France's reputation for excellence on the international stage**. The MAE is contributing to this by promoting the major French research bodies and supporting networks such as the Pasteur Institutes across the world and the science agencies working on the major scientific priorities for France (ANRS – *Agence nationale de recherches sur le sida et les hépatites virales*, France's National Agency for Research on AIDS and Viral Hepatitis).

The MAE identifies, through thanks to its diplomatic posts, **areas of scientific excellence and innovative initiatives abroad** so as to encourage French teams to develop promising areas of collaboration. The science departments in our Embassies are also encouraged to maintain with the relevant institutions in their countries of residence a regular institutional dialogue, at both supervisor and operator level, on our respective research strategies and priorities, as well as on cross-cutting issues such as protecting intellectual property and innovation.

This priority is reflected in 5 objectives:

1/ **Enhance perception of the French research system abroad**: the leading role of specialised scientific institutions within the public research sector in France needs to be explained to our partners. The network sends out information on related developments to local partners and encourages the international presence of French universities as well as thematic research alliances. Moreover, the French research bodies (CNRS, IRD, INSERM, EFEO, etc.) have their own, i.e. not joint, representative offices abroad presenting a fragmented picture of our research instruments and centres, despite our diplomatic posts' coordination efforts. We could explore the idea of establishing common platforms, or even a unique entry point and resource center. The communication activities of embassy science departments also warrant being stepped up and encouraged.

2/ **Improve admission conditions and facilities for foreign researchers in France**, working with all those involved: despite the introduction of the scientific residence permit, we still see a lack of harmonization of the residence conditions of foreign researchers in France, particularly PhD students, who can obtain either a student permit or a scientific residence permit. The MAE suggests undertaking discussions at interministerial level on simplifying and coordinating the different mechanisms and providing foreign researchers and cooperation offices with better

information beforehand to enable resolution of some of the difficulties foreign researchers face when they apply for a visa or change of status.

**3/ Enhance France's science and technology image in the general public's eyes by promoting a culture of science and technology:** the resources devoted to measures to promote a culture of science and technology have risen substantially since these became the responsibility of the *Institut français* (creation of new instruments: call for proposals, plans for assisting in the publication and translation of French layman's science books and programme for great French researchers to visit foreign countries). Joint discussions are taking place on ways to export French know-how in the fields of scientific pedagogy and museography, financing major scientific exhibitions and systematically including a scientific dimension in the French presence in the major international exhibitions.

**4/ Step up our network's efforts to encourage large-scale research facilities to be established in France and access-by French researchers to such facilities abroad.** These efforts are supported, in Paris, by increased close prospective monitoring of their programming through the MAE's participation in the French governance mechanism alongside the *Alliances*, managed by the Ministry of Higher Education and Research (Steering committee of the very large research infrastructures).

**5/ Contribute to internationalizing the French SSH (social sciences and humanities) sector:** the MAE is seeking with its CNRS partner to consolidate, through rationalization and modernization, a network of Joint research Units Abroad (UMIFRE *Unités mixtes des instituts de recherche français à l'étranger*), positioned according to the new global research landscape. These institutes are being encouraged to open up to other French research partners to form single platforms combining the skills of a variety of agencies (particularly through closer links with the "*Ecoles françaises à l'étranger*" (French schools abroad). There are ongoing efforts to showcase UMIFRE's scientific output (Internet site, electronic publications, participation in international databases and ranking of researchers, translation and improved circulation abroad).

### **III. 2. Mobilize the scientific cooperation network to take up the challenges of science diplomacy**

**1/ Strengthen the strategic mentoring of the work of France's diplomatic posts by:**

- *Producing country strategies*, which the MAE is asking the posts to draw up in the countries which are prescriptors of research at global or European level, including Germany, the United Kingdom, United States and several emerging countries.

- *Producing roadmaps for counsellors and scientific attachés*, whose letters of engagement will be radically revised. Interministerial meetings to instruct counsellors will be held. Finally, the

practice of adopting 3-year action plans and producing six-monthly or annual activity reports for Science and Technology departments will be continued.

## **2/ Increase the coordination of our bilateral cooperation with European programmes and contribute to the building of a European Research Area**

- confirm the pump-priming role of MAE-led cooperation programmes and encourage them to be opened up to European partnerships: a meeting of laureates of different European Hubert Curien Programmes could be organized in Paris or Brussels under the Permanent Representative's auspices with a view to eliciting new projects eligible for inclusion in European research framework programmes; diplomatic posts located in the EU will pursue the creation of a network linking national contact points.

- provide more information and training for posts on European programmes and alert them to local European cooperation projects, particularly so that they keep an eye on the issue of reciprocity with third countries benefiting from the Framework Programme for Research and Development and matters relating to the international governance of major European instruments and infrastructures.

## **3/ Step up our diplomatic and scientific network's support for innovation and the achievement of scientific and economic positions by our research community and French companies.** This requires *inter alia*:

- development and professionalization of its science watch and dissemination of the watch results in the diplomatic posts, with priority given to innovation and better coordination between business intelligence players (Economic missions and companies) and those carrying out the science watch; a minimum annual work schedule will be defined jointly with the relevant government departments and users;

-involvement of science departments in posts' mechanisms for improving coordination between the various French players to support France's economic diplomacy:

- support for the action of competitiveness clusters through programmes to establish contacts between parties (e.g.: COOPOL in China)

## **III. 3. Raise the profile of French action to promote research for development and bolster France's role as an international leader in this area**

Built up from an overseas presence inherited from the colonial expansion and maintained in her cooperation effort, France's action to promote research for development needs to be brought up to date, with thought given to tailoring our action to the needs of the benefiting countries. This redefinition must integrate the strategy of our traditional partner (Germany) and



emerging partners (Brazil and China), so that with a concerted approach we can simultaneously promote excellence in research for development, strengthen our scientific and political positions and optimize France's support for the enhancement of the Southern countries' scientific capacity.

Scientific cooperation must move from an approach geared to transfers of knowledge to one of transfers of skills and providing agenda-free support, taking account of the projects being carried out by the partners. It is also important both to act for the long term, which requires constancy in the different forms of support to be coordinated by the assistance providers over time, and open up the support policy to a large network of scientists and people in both North and South working in the area of scientific cooperation, focusing especially on South-South cooperation.

However, for a long time, the majority of developing countries, and particularly the least developed ones, will clearly not have sufficient research capabilities to tackle all the problems confronting them on their own. Over and above the help in strengthening and structuring research capabilities, we must therefore galvanize the developed countries' scientific communities into action on development issues, particularly in the form of partnerships with research teams from the South on **major goal-oriented programmes**.

- France will also pursue her effort to **mobilize other players to promote research in the South**, and particularly with her European partners. **New ways of financing research for development must be explored**, first of all at national level and then by raising funds from the European Union or other multilateral donors.

- Finally, the MAE will strive to establish a firm basis for the coordinating role of the Inter-institutional research agency for development (AIRD) and encourage cooperation on the ground between the players in research for development in cooperative platforms./.