Review of S&T cooperation
Agreement between the
European Union and Government
of the Republic of India

2007-2011

A report by independent experts:
Elisabetta Basile and Philippe Régnier
EUROPE DIRECT is a service to help you find answers to your questions about the European Union

Freephone number (*):

00 800 6 7 8 9 10 11

(*) Certain mobile telephone operators do not allow access to 00 800 numbers or these calls may be billed

LEGAL NOTICE

Neither the European Commission nor any person acting on behalf of the Commission is responsible for the use which might be made of the following information.


Cataloguing data can be found at the end of this publication.


ISSN 1831-9424
doi 10.2777/12336

© European Union, 2012
Reproduction is authorised provided the source is acknowledged.

Images on the cover page (from top left to bottom right) © daboost, #42099891; © sellingpix, #42058108; © Sebastian Duda, #16197093; © white, #29988368, 2012. Source: Fotolia.com
Abstract

The report by two independent experts presents the findings of their review of the last five years of implementing the EU-India Science and Technology Cooperation Agreement (2007-2011). It contextualises the agreement in the wider institutional and policy developments in India and the European Union during the review period. Suggestions are put forward for strengthening and enhancing mutually beneficial scientific and technological cooperation in the future.
INDIA REVIEW (2007-2011) - FINAL REPORT

Contents

Executive summary

1. The EU-India Agreement on S&T Cooperation: principles, regulation and context
   1.1. The Agreement
   1.2. Towards the renewal of the Agreement
   1.3. From the renewal of the Agreement to the Joint Declaration (February 2012)

2. The EU-India Agreement on S&T Cooperation: governance and impact
   2.1. Towards an increasing role of the Steering Committee
   2.2. EU-India cooperative activities

3. The working of EU-India S&T Cooperation
   3.1. Overlapping and segmentation
   3.2. The role of the private sector

4. A critical assessment of the EU-India Agreement on S&T Cooperation
   4.1. The weaknesses of the Agreement
   4.2. Overcoming the asymmetric interests of the EU and India

5. Recommendations

Boxes

Box 1 – India’s Decade of Innovation
Box 2 – India’s participation in FP7 open calls
Box 3 – UK-India bilateral partnership
Box 4 – The Philips Innovation Campus in Bangalore
Box 5 – The Confederation of Indian Industry
Box 6 – Adverse selection in EU-India FP7 calls

Annexes:

1. Statistical Tables
2. An Integrated Strategy for the EU-India Cooperation in S&T
3. Contacted Institutions
4. Bibliography
5. Official document
Executive summary

The Report assesses the impact of the Agreement on Science and Technology Cooperation (henceforth S&T Cooperation Agreement or simply the Agreement) between the European Union (henceforth EU) and the Republic of India. It covers the 5-year period after the second renewal of the Agreement in 2007 and was commissioned to the Authors in view of the third renewal (as indicated by art 11 (b) of the Agreement).

The Report reflects the personal opinion of the Authors, who, in writing it, have relied on: i) their academic knowledge and experience; ii) academic literature and official documents; iii) statistical information; and iv) interviews in the EU and in India.

The Report is organised in 5 sections. Section 1 introduces the Agreement and reviews the context in which it has been renewed in 2007. Section 2 focuses on the institutional tools of the Agreement and section 3 explores its working. Section 4 presents a critical assessment of India-EU S&T cooperation over the period 2007-2011. Finally, section 5 reviews the main recommendations emerging from the assessment. This executive summary points out the main issues covered in the analysis.

i) The EU-India Agreement in S&T Cooperation

1. With the adoption of the European Research Area Vision 2020 – and the key role ascribed to innovation in the Europe 2020 Strategy – and with the launch of the India’s decade of innovation, EU-India relations in S&T have become strategic, both for the EU and India. A major evidence of their common interest in cooperative research in S&T is provided by the renewal of the EU-India Cooperation Agreement in 2007.

2. The Agreement establishes that EU-India S&T cooperation relies on reciprocity and symmetry. Cooperative activities include: the participation of Indian institutions and scholars in the projects funded by the Framework Programme (henceforth FP), joint projects, the pooling of projects, the mobility of researchers and the exchange of information and equipment.

3. The joint EU-India Steering Committee is in charge of the implementation of the Agreement. Since 2007, its role has been progressively increasing with the proposal and launch of coordinate calls for projects jointly funded on the basis of the symmetry principle. In the period 2007-2011, coordinated calls on Computational Material Science, New & Renewable Energy, Solar Energy have been launched and new proposals have been announced in the fields of biotechnological waste water treatments and reuse in agronomical systems, research & development of deployable solutions on water-related challenges, and neuro-degenerative diseases and cancer.
4. By October 2011, EU-India cooperative activity included 166 research projects: 11 under the coordinated calls, 152 under the open calls and 3 under International Cooperation Initiatives. The largest number of projects was in Health (34), in Information and Communication Technologies (19), in Environment (including Climate Change) (19), and in Food, Agriculture and Fisheries (14). 22 projects were in the category of Marie Curie International Research Staff Exchange Scheme.

ii) Agreement’s weaknesses

1. The Reports argues that the Agreement is only partially adequate to enhance EU-India S&T partnership and that internal and context weaknesses need to be addressed.
2. The Agreement does not establish the funding of the EU-India S&T cooperation, mentioning India’s possible participation in FP calls. However, the FP is a EU-driven programme: the symmetry and reciprocity principles established in the Agreement are not applied, and the FP is widely perceived (on the Indian side) as an initiative de facto outside the Agreement itself.
3. FP application procedures show notable complexity, and many months of work and a large amount of experience are required.
4. This inadequacy has led to the launch of the coordinated calls, which are identified, funded, and managed on a parity basis. This represents a major shift of paradigm in the EU-India S&T cooperation.
5. The evidence provided by the CORDIS database shows that, while the vast majority of FP7 projects have an individual website, the deliverables are available online only for the 20% of them and only for 24% some documents and intermediary reports are accessible. The list of deliverables is presented only by 24%. The tentative conclusion is drawn in the Report that there is a notable lack of ‘transparency’ for 2/3 of the projects in relation to their results.
6. Significant discrepancies exist in the ways the impact of research and innovation on economy and society is analysed in EU and India’s official documents. Socio-economic phenomena and processes, such as innovation and growth, small- and medium-sized enterprises and clusters are inadequately conceptualized and there is a discrepancy in the meaning of the concepts. This discrepancy is largely rooted in the lack of mutual knowledge of India and the EU.
7. The presence and activity in S&T cooperation with India is not evenly distributed among Member States (henceforth MS), while in some cases bilateral EU-MS cooperation is very strong and dynamic.
iii) Consequences

1. Owing to the complexity of FP procedures, public and private institutions with an interest in EU-India S&T cooperation, both in India and the EU, turn to alternative sources of funding (bilateral cooperation and/or state/federal funding). This situation leads to an adverse selection in the applications to the EU calls, as the application to the FP is largely confined to institutions which are excluded from ‘easier’ sources of funding.

2. A major discrepancy between open calls and coordinated calls refers to Indian participation. While in the latter the same number of EU and India’s institutions is involved, in the former the Indian participation is rather limited. The vast majority of the projects involve only one Indian institution, and only in 20 projects Indian participation weighs more than 1/3 of the total number of partners. These projects deal with topics highly related to India’s development needs – such as Health and Environment – and with the ones in which India has a well-known comparative advantages, such as ICTs.

3. Project monitoring and evaluation (beyond the evaluation of proposals) is inadequate. The already existing mid-term review and final evaluation for each project is primarily meant to control the governance and the financial management by the leading institution, while no evaluation of the results is available. This lack of information might hinder the transfer of research into innovation.

4. With the shift from research to innovation, a special emphasis is on the private sector seen as the environment supporting the transformation of the outcomes of research into innovation. Yet, the participation of the private sector is low. Owing to the heavy procedures for the submission of projects, FP7 open calls are scarcely attractive for the private sector and research institutions and companies tend to turn to bilateral cooperation with more accessible application procedures.

5. Bilateral cooperation might reduce the effectiveness of the Agreement giving birth to the overlapping and fragmentation of initiatives, which imply a reduction of the potential amount of resources that the EU, as a whole, could mobilize for the S&T cooperation with India.

iv) Addressing the weaknesses

1. The evidence shows that there is a wide room for improvement.

2. Mutual knowledge may be improved by means of several types of courses (including e-learning) directed to the actors of the EU-India S&T partnership.

3. Solid and rigorous monitoring and ex-post evaluation of EU-India projects in S&T should be considered as a priority.
4. Coordinated calls might be enhanced by creating joint funding schemes with the participation of the EU and MS. The action of the India Group of the Strategic Forum for International S&T Cooperation should be supported to enhance EU-MS coordination.

3. The EU and India should mobilize stakeholders to produce viable innovations and new technologies through joint projects. EU, MS and India’s public funding can play a facilitating but subsidiary role, leaving the private sector as main driver.

4. The EU and India may join in the promotion of inclusive technology in order to find common solutions to sustainable development needs, both in the EU and in India.

5. The gap between science and industry – and between research and innovation – can be addressed by enhancing the involvement of the private sector in EU-India S&T partnership. Field interviews have provided evidence of interesting initiatives which might promote the collaboration between India and EU’s enterprises.
1. The EU-India Agreement on S&T Cooperation: principles, regulation and context

This section is entirely devoted to the EU-India Cooperation Agreement. First, the main Articles are introduced with the aim of pointing out the principles that regulate EU-India S&T cooperation. Second, the context in which the Agreement has been renewed is described and a special attention is paid to the changes in the EU research policy. Finally, the main steps in EU-India relations are reviewed in order to emphasise how the new contents of the EU-India partnership have been emerging.

1.1. The Agreement

The Agreement signed in 2001 and renewed in 2007 regulates EU-India S&T cooperation by means of 12 articles defining purpose, principles and instruments.

The main purpose is presented in Art. 1, which states that the EU and India ‘shall encourage and facilitate cooperative research and development activities in science and technology fields of common interest….’. EU-India S&T cooperation relies on 4 principles which refer to i) mutual benefits, ii) reciprocal access to cooperative activities, iii) exchange of information between partners, and iv) the protection of property rights (Art. 3). The forms of cooperative activities are listed in Art. 5, and include: i) the participation of Indian research institutions and scholars in the projects, funded by the Framework Programme (FP)¹, ii) joint projects, iii) the pooling of projects, and iv) the mobility of researchers and the exchange of information and equipment. The ‘executive agents’ of the Agreement are India’s Ministry of Science and Technology (Department of Science and Technology) and the European Commission of the European Communities (Directorate General for Science, Research and Development). According to Art. 6, the ‘executive agents’ establish a bilateral Steering Committee, which is in charge of the coordination and facilitation of the cooperative activities, identifying new priorities and recommending joint initiatives.

The Agreement does not decide the resources for S&T cooperation. According to Art. 7, ‘cooperative activities shall be subject to the availability of appropriate funds and to the laws and regulations’ in each Party. It also states that i) the costs for cooperative activities are to be shared between partners without transfer of funds, and ii) the EU development activities involving India are excluded from this regulation. Art. 8 emphasises the need to assist the entry of researchers and equipment in EU and India’s territory, while Articles 9 and 10 regulate the diffusion and utilisation of information and the territorial application of the Agreement. Article 11 establishes the entry into force and termination of the Agreement.

¹ The FP is the main EU funding instrument for research. While being a EU programme, it is open to third countries on a bottom-up basis with the aim of promoting excellence in research.
1.2. Towards the renewal of the Agreement

While the EU-India Agreement for S&T cooperation is a major outcome of the launch of the European Research Area (ERA) at the Lisbon European Council in 2000, its renewal in 2007 occurs in a context largely imprinted by the Ljubljana Process. With the adoption of the ERA Vision 2020, research is seen as a major driver of EU competitiveness with the aim of providing a ‘seamless area of freedom and opportunities for dialogue, exchange and interaction open to the world’. A major ingredient of this vision is its ‘international dimension’, which aims at the ‘modernisation’ of the knowledge triangle – education, research, and innovation – by promoting strategic cooperation with third countries. In addition to enhancing competitiveness, other aims are explicitly considered, such as promoting growth and employment and meeting societal needs.

Jointly, the Competitiveness Council, the Commission and the Scientific and the Technical Research Committee (CREST)\(^2\) play a major role in the enhancement of the ERA. A key step in the activity by the CREST is the set up in 2008 of the Strategic Forum for International S&T Cooperation (SFIC): an advisory body with the mandate of the development, implementation and monitoring of the international dimension of the ERA by the sharing of information and consultation between Member States (henceforth MS) to identify common priorities which could lead to joint initiatives with third countries and in international arenas.

Among the main reasons for setting up the SFIC, there are: the increasing globalisation which leads to the emergence of new powers in S&T, the increasing role played by small- and medium-sized enterprises (henceforth SMEs), the increasing importance of knowledge in international competition, the fragmentation and duplication of S&T activities and resources in the EU and MS. As part of its mandate, the SFIC develops pilot initiatives with China, India and the USA, promoting the coordination of joint EU-MS actions\(^3\).

Another important signal of the increasing role of S&T is the inclusion of the Innovation Union among the flagship initiatives of the Europe 2020 Strategy with the target of investing the 3% of EU's GDP (public and private combined) in research & development (henceforth R&D)/innovation.\(^4\)

Competitiveness and innovation are seen as privileged keys to enhance growth and employment and to address the inadequate EU performance and productivity. According to the *Innovation Union Competitiveness Report 2011*, the EU is slowly moving towards the 2020 target of 3% of GDP devoted to R&D. There is still a widening gap between the EU and

\(^2\) In 2010 the CREST changes its name in ERA Committee (ERAC).
\(^3\) The role of SFIC in the recent evolution of EU-India S&T cooperation is reviewed in section 1.3.
\(^4\) It is interesting to note that, to take into account these policy developments, the EC's DG Research and Development officially became DG for Research and Innovation since January 2011. However, in EC websites DG Research and Innovation remains abbreviated as ‘DG RTD’ (Research and Technological Development).
its global competitors owing to weaker business-oriented investment in R&D. Between 1995 and 2008 total research investment in real terms rose by 50% in the EU against 60% in USA, 75% for Japan, South Korea, Singapore and Taiwan, 145% for the BRIS countries (Brazil, Russia, India, South-Africa), and even 855% in the case of China. Relative to GDP, the private sector invests twice more in Japan or in South Korea than in Europe, while, since 2000, R&D intensity in China has been growing 30 times quicker than in Europe. The economic crisis has had a stronger impact on private R&D investment than on public funding. R&D spending by EU firms fell in 2009 but less than by US firms (-2.6% and -5.1% respectively).

Yet, there is a large amount of skilled human resources in S&T not fully and optimally utilised in Europe. 54% of EU researchers work in the public sector against 46% in the private sector. The share of researchers employed by the private sector is much higher within EU’s main competitors (69% in China, 73% in Japan and 80% in the United States.)

Europe is losing ground also for the exploitation of research results. While the EU is the first producer of peer-reviewed scientific publications in the world, with 29% world production in 2009, ahead of the United States (22%), China (17%) and Japan (5%), the United States is still performing one third better than Europe in terms of R&D excellence. Also the knowledge transfer in Europe remains weak. In terms of development of competitive technology, Europe is losing ground in a context of increased competition: the number of joint publications between private and public actors (in relation to the population) in the EU is half that of the United States and one third lower than in Japan (but it is higher in a number of MS, such as Sweden, Denmark, Finland, and the Netherlands).

Finally, the European research landscape is very complex with: i) many actors: research funding organisations (public & private), universities, R&T organisations, firms; ii) conflicting needs: society and economy; EU and MS; producers and consumers; universities and public/private organisations involved in R&T; iii) several aims: making Europe an attractive research partner in order to increase competitiveness, to meet societal needs, and to enhance European integration. This complexity is explicitly addressed in the Europe 2020 Strategy.

1.3. From the renewal of the Agreement to the Joint Declaration (February 2012)

The broad legislative framework for EU-India overall cooperation is defined by the Joint Political Statement of 1993 and by the Cooperation Agreement of 1994, to which, more recently, other official documents should be added, such as the Joint Action Plan (2005 and 2008), the Country Strategy Paper for India (2007-2013), and the Memorandum of Understanding on the Multi-Annual Indicative Programme (2011-2013). The common interest
The New Delhi Communiqué (India-EU Ministerial Science Conference, February 2007) addresses the main economic and social issues facing India and the EU, recognises the importance of S&T cooperation, both for India and the EU, and agrees on win-win, equal partnership, and public acceptance on both sides as basic principles of S&T cooperation. Energy, environment, global change, and human health are identified as fields of common interest.

The conclusions of the Conference recommend the guidelines for cooperation: i) the importance of ‘principles of symmetry, reciprocity, mutual benefit and … the co-investment of resources in joint actions’; ii) the necessity of reducing the barriers to international mobility of researchers; iii) the opportunity of increasing investment in research and joint calls; iv) the necessity to support scientific contacts and collaboration; v) the usefulness of bilateral dialogue through institutions, such as the EU-India Steering Committee of S&T Cooperation Agreement; and vi) the building of collaborating networks.

Box 1 – India’s Decade of Innovation

The Government of India has declared 2010-2020 the ‘Decade of innovation’. With the aim of building an Indian model of innovation, the National Council of Innovation provides recommendations and methodologies to boost innovation performance. The key concept is inclusive growth: a pattern of growth able to ensure income and livelihood to all strata of population, despite the multiple forms of social stratification and discrimination that cross India’s society. Innovation is defined as a process which produces inventions that have an impact on economy and society, fulfilling needs not yet met. The emphasis is on frugal innovation created by frugal engineering, which produces quality goods and services affordable by more people at low level of income. Main key words are: access, affordability, sustainability, quality, and inclusiveness. While paying a special attention to competitiveness on a global scale, this approach intends to induce a change in consumption patterns and lifestyles. Innovations should be finalised to the needs and not to demand, goods and services should be durable and not disposable, local needs and process are relevant, the nature is nurture and should not be over-exploited. The aim is to redefine India’s innovation paradigm beyond the logic of R&D.
Another key step in the evolution of EU-India S&T cooperation is the set up of the SFIC India Group (December 2009). SFIC’s mandate is to implement the India Pilot Initiative (IPI) on water related challenges with two aims: i) to coordinate the action of MS, increasing the effectiveness of existing initiatives; and ii) to combine existing MS and EU instruments, resources and expertise to implement joint and coordinated activities among SFIC members. The IPI is intended to establish the basis for a common long-term MS/EU-India research agenda to generate added value for SFIC members.

The IPI is based on the active participation of the EU and MS (on a 'variable geometry' principle) as well of Indian institutions. The actors involved identify and provide the necessary resources for carrying out the proposed activities through an active engagement of national research funding agencies and research institutions. While the focus is on research, the innovation component is also addressed in order to boost competitiveness in the EU and in India. The involvement of industrial partners, SMEs and technology centres is explicitly considered as important. The IPI conducts several types of activities, from the organisation of meetings and workshops, to the creation of synergies, synchronised and coordinated calls, and the promotion of European research centres in India. A key role is played by the New Indigo, an ERA-Net funded by the FP7 with the aim of fostering India-EU/MS partnership.

Another important step in enhancing EU-India S&T cooperation is the Conference on India-EU and MS Partnership for a Strategic Roadmap in Research and Innovation, jointly organised by the EU Commission (DG Research and DG Enterprise and Industry, and the MS in the context of the SFIC) and by the Indian Ministry for S&T (Delhi, November 2010). With a focus on water challenges, the Conference explores the main issues in EU-India S&T cooperation. The joint declaration explicitly recalls the Delhi Communiqué and underlines the necessity of establishing a ‘comprehensive and coherent India-EU and MS dialogue to implement coordinated and joint actions based on complementarities and synergies’. The joint declaration sets up the conditions for the drafting of the EU/MS-India Strategic Agenda for Research proposed by the SFIC and discussed by the India Group (late 2011/early 2012). These documents are explicitly recalled in the Joint Declaration on Research and Innovation Cooperation signed in New Delhi, 10 February 2012, in which the EU and India affirm their intention of defining a strategic Indo-European Research and Innovation Partnership by the end of 2012 with the aim of finding solutions to the common societal challenges.
2. The EU-India Cooperation Agreement: governance and impact

This section explores the nature of the Agreement and reviews its impact in terms of number and type of EU-India research projects. First, it explores the governance of the Agreement, focusing on the changes in the directions imprinted by the Steering Committee. Then, it provides a snapshot of EU-India S&T cooperation at the end of 2011, presenting and commenting the available quantitative and qualitative evidence on the projects on the basis of official sources (CORDIS website and the Catalogue of projects with Indian Partners available in the EU website).

2.1. Towards an increasing role of the Steering Committee

As said, the Agreement is rather vague about the funding of EU-India cooperative activities in S&T. While it points out that EU-India cooperation is subject to ‘the availability of appropriate funds’, it does not identify a precise amount of resources; moreover, it refers to the possibility that India’s research institutions and scientists participate in the projects funded under the FP.

These contrasting directions are at the origin of a major anomaly that has influenced the evolution of EU-India cooperation: on the one side, the Agreement involves EU and India on a parity basis; on the other, the cooperation activity is largely funded by means of the FP which is a EU programme open to international competition. As a consequence, the FP is attributed two distinct aims – i.e. the promotion of excellence in international research and the enhancement of EU-India S&T cooperation – which might be conflicting. It follows that EU-India cooperation might be seriously under-funded unless emerging funding needs are specifically addressed.

This anomaly was already perceived when the Agreement was first signed. To face this situation (and relying on Art. 6), the Steering Committee (SC) brought about the proposal for coordinated (joint) calls. The first coordinated call on Computational Material Science (with an allocation of 5 + 5 million Euros contributed by EU and India on the basis of the symmetry principle) was approved by the 4th SC meeting (November 2007) with the funding of 10 joint projects. Under the discussion for the Agreement renewal, the idea of a coordinated call on New & Renewable Energy was put forward in 2008/2009, and at the 5th SC meeting (October 2008) the partners reaffirm the necessity to develop EU-India relations on the basis of the principles of symmetry.

As the available documents show, the action of the SC becomes more incisive in 2009, 2010 and 2011 with specific reference to the issue of coordinated calls. In 2010 the coordinated call on Solar Energy is launched, while at the 6th SC meeting (March 2010) also the need of

---

5 As EU-India research projects may not always meet international standards of excellence.
building up a joint evaluation process emerges and an agreement is reached on the necessity to propose specific scientific norms for the evaluation in future coordinated calls. Other initiatives promoted by the SC include the India-EU Thematic Workshop on Research, Technology and Innovation Partnerships in Water (Bangalore, 2010), the workshop on Collaborative Research in Cancer & Neurosciences (New Delhi, 2010) and the programme of cooperation in animal vaccines and diagnostics & bio waste (to be developed in 2010-2011).

The increasing rhythm of EU-India S&T cooperation emerges very clearly in the 7th SC meeting (April 2011): new coordinated calls are announced on biotechnological waste water treatments and reuse in agronomical systems and on research & development of deployable solutions on water-related challenges. In the same SC meeting, a new coordinated call is announced on neuro-degenerative diseases and cancer, and two other joint initiatives are discussed: i) the promotion of the EU-India Research and Innovation Cluster Cooperation; and ii) the EU-India cooperation under the Joint Research Centre. Finally, for the first time, the 7th SC meeting manifests its intention to cooperate with the SFIC India Group for the preparation of a White Paper on an India-EU Strategic Research & Innovation Partnership to be possibly endorsed at the EU/MS-India Ministerial Conference on S&T (31 May - 1 June 2012).

2.2. EU-India cooperative activities

The size and composition of the EU-India cooperative activity in research is presented in Tables 1 and 2 (Annex 1) in which the projects with at least one Indian participant funded by 2011 are listed. The projects funded under the coordinated calls are distinct from the ones funded under the open calls; the projects funded under the Specific Activities on International Cooperation are also pointed out. Overall, 166 projects are included, of which 11 under the coordinated calls, 152 under the open calls and 3 under International Cooperation Initiatives. The largest number of projects is in Health (34), in ICTs (19), in Environment (including Climate Change) (19), and in Food, Agriculture and Fisheries (14). 22 projects are in the category of Marie Curie International Research Staff Exchange Scheme.

The major – and predictable – discrepancy between open calls and coordinated calls is found in relation to Indian participation. While (broadly) in the coordinated calls EU and India have the same number of involved institutions (as a consequence of the way in which the calls are designed), the situation is very different in the case of open calls. Overall, 252 research institutions from India are involved, while 420 are from other non-EU countries and 1227 from the EU. In average, India’s presence weights about 60% of the presence of the other

---

6 Other Marie Curies Actions are funded by the FP. However, the information on these Actions in CORDIS cannot be easily classified.
Box 2 – India’s participation in FP7 open calls
The participation of Indian research institutions and scientists in FP7 open calls is rather limited. Only in 20 research projects more than 1/3 of the total partners are Indian institutions, while in 107 projects only one Indian institution is included (Tables 6 in Annex 1).

Out of the 20 projects with the highest participation of Indian institutions, 6 are in Health, 5 are in ICTs, and 3 are in Environment (including Climate Change). By contrast, in Transport (including Aeronautics), Space, and Science in Society the participation of Indian institutions is well below the 30% of the overall partners. Moreover, in spite of the importance of research on Food, Agriculture and Fisheries, and Biotechnology, both in the EU and in India, only one project shows a significant Indian participation.

Among the projects showing the highest participation of Indian institutions, there is a very strong concentration on topics highly related to India’s development needs and the ones in which India shows a comparative advantage. So, in Health, the CBHI India focuses on community based micro health insurance, HIVIND on HIV drugs, KALADRUG-R on leishmaniasis, and NATT on tuberculosis; in ICTs, the main aim is the construction of networks involving India and EU as in the case of EUCLID, EUROINDIA, EUINCOOP, SYNCHRONISER; in Environment (including Climate Change) the attention is on water, as in the case of SAPH PANI, which focuses on treatments for safe and sustainable water in India, and in the case of HIGHNOON, which explores the consequences of glacier retreat in the Himalayas and changing monsoon pattern on water availability (Table 7 in Annex 1).

The projects under the open calls have been funded with over € 400 million, and it can be estimated that around the 13% of this amount has gone to Indian partners. The average amount for EU participant is 20% higher in the case of coordinated calls (Table 2).

The projects (coordinated calls + open calls) are listed according to the country of the coordinating institution in Table 3 (Annex 1). The UK is the EU country with the largest number of FP7 projects, followed by Italy. Yet, Italy has the highest number of Indian partners, which is nevertheless only 15% of her total partners (around 11% for the UK) (Table 4). Also Germany, France and the Netherlands show a notable Indian participation, but the vast majority of the remaining countries only have just one project or very few. Negligible for the number of funded projects, but interesting for the large involvement of Indian partners, is the case of Norway, Ireland, Hungary, and Poland (showing that EU funded projects may help some MS with no traditional linkages with India to establish scientific collaborations). It is worth noting the case of the Netherlands, where, over a respectable number of funded projects, about 20% of the partners are Indian institutions.

Relying on the information available on the web (on the basis of the CORDIS database), Table 5 (Annex 1) presents a picture of the availability of information about the funded

non–EU countries. With the significant exceptions of Health, ICTs and Infrastructures, in the remaining groups of projects India’s participation is much less than the one of the other non-EU countries.
projects and their results. Despite the fact that the vast majority have an individual website (97%), the deliverables are available online only for the 20% of the projects. For 24% some documents and intermediary reports are accessible, and the list of deliverables is presented only by 24%. While one should be careful in commenting it – owing to the variable quality and quantity of the available information – Table 5 suggests a significant lack of ‘transparency’ for 2/3 of the projects in relation to their results.

3. The working of EU-India S&T cooperation

This section explores the working of the EU-India partnership in S&T. It focuses on two issues which will influence future developments: i) the overlapping and segmentation of EU and MS in S&T cooperation with India, which is taken as a factor that might reduce the effectiveness of the Agreement; and ii) the role of the private sector, which is seen as a potential key agent in the transformation of research into innovation.

3.1. Overlapping and segmentation

The presence and activity in S&T cooperation with India is not evenly distributed among MS. While some MS are virtually absent, other MS have accumulated major bilateral experience in S&T partnership over the years.

Box 3 – UK-India bilateral partnership

Interviews with UK officials in India suggest that a bilateral pattern of S&T cooperation is perpetuated by UK scientific institutions in spite of the signature of the Agreement in 2001 and its renewal in 2007. This occurs for several reasons. i) The deep involvement of British companies in India allows them to explore patterns of cooperation independently from EU channels. A similar situation applies to British universities where the selection of research partners is a science-led process in which personal linkages and previous contacts are more important that the EU-India Agreement. British research institutions tend to avoid the constraints of the Agreement and of the FP, and select their partners on the basis of the affinity in approaches and methods. ii) In recent decades India has been showing an increasing capacity of funding research and UK research institutions have access to these funds through bilateral channels. (iii) Further complications may emerge from the private sector that benefits from well-established bilateral cooperation and therefore might not appreciate the multilateral competition which results from the EU-India Agreement on S&T.

A possible way to reduce the tension between competition and cooperation would be to approach EU-India S&T cooperation from a socio-economic perspective. In spite of India’s high rate of growth over the last two decades, poverty and human development are still important issues as far as the pattern of development is concerned. In principle, the UK would be happy to participate in a large research project on social aspects of India’s sustainable development in which the involvement of the private sector is marginal, and therefore the competition is lower.
In principle, MS bilateral cooperation represents an important asset in terms of networks and linkages with deep socio-economic roots. However, in the lack of coordination between EU and MS research policy, bilateral cooperation might reduce the effectiveness of the Agreement giving birth to the overlapping and fragmentation of initiatives. Both overlapping and fragmentation imply a reduction of the potential amount of resources that the EU, as a whole, might mobilize for the S&T cooperation with India: a reduction which might erode the credibility of EU cooperation policy when compared with the size of India’s economy and of the societal challenges that the country meets on her road to growth.

The risk of fragmentation and overlapping in EU S&T cooperation with India is acknowledged in various official documents, and the mandate of the SFIC is precisely to pool and coordinate the cooperation efforts among MS and the EU in the absence of any EU supranational competence in S&T. Yet, the effort of coordination needs to take into account that the position of MS in relation to India is highly heterogeneous.

Among the MS with strong cooperation activities with India in S&T, two distinct situations should to be considered. Some MS – a major example is the UK – have strict and increasing bilateral linkages with India which go back to the colonial period, and tend to prefer the bilateral approach. Other MS, such as Germany and France, have built a strong public and private partnership in S&T with India since Independence. In both cases, the effectiveness and impact of the EU-India Agreement tend to be reduced by an increase of MS bilateral cooperation. On the contrary, other MS with loose linkages with India might benefit from the Agreement on a selective basis. Scandinavian and Eastern European MS are good examples (Table 3).

However, MS need to be aware that the Government of India – through the DST and other departments – gives priority under the 12th Five Year Plan up to 20 major scientific and technology global partners, and lists only the EU and the first leading European economies (Germany, France, UK, Italy) among them. Therefore, some MS that are not direct interlocutors of India can only benefit (indirectly) from collective initiatives which involve the EU as a whole. A major example is the first joint EU-MS S&T information and promotion campaign launched all over India by the EU Delegation on 13-24 June 2011, which will be repeated in autumn 2012.

There are also clear signals that some MS are willing to explore new mechanisms to combine national and EU resources to gain more scientific critical mass and wider outreach in India. One relevant example is the Indo-French Centre for the Promotion of Advanced Research (IFCPAR) established in India in 1987, and seeking cooperation with the EU and Germany among others. Another example is FinNode India (Finland), which has already decided to establish its office for innovation promotion in the same building as the European Business
and Technology Centre in New Delhi. Even Germany will be open for dialogue once its new business and technology centre will have taken off in about two years.

3.2. The role of the private sector

The involvement of the private sector is a major aim for EU-India partnership in S&T since the signing of the Agreement. Yet, the importance of this aim has been strongly increasing with the adoption of the Europe 2020 Strategy, which focuses on innovation as a key instrument to face societal challenges and emphasises the role of the private sector as environment supporting the transformation of the outcome of research into innovation. Within the private sector, a specific attention is paid to SMEs for the role they might play in terms of employment and income generation, both in the EU and in India.

Yet, the participation of the private sector in the FP7 projects including Indian scientific institutions is low, while it is still early to assess whether the adoption of private sector participation quotas under the first EU-India coordinated calls will be more successful (yet, the interviews already revealed some doubts).

The FP7 open calls seem to be scarcely attractive for large EU corporations active in India, and paradoxically also for those who are not yet present – even to those participating in various EU sponsored programmes within the EU. Also European SMEs complain about the hazardous thematic formulation and rigid timing of FP7 calls, and about their lack of internal staff and resources to handle heavy procedures and delays in the submission of projects.

Similar complaints are widespread among Indian companies, for whom ‘money is not an issue’ owing to India’s increasing public and private capacity of funding research and especially applied technology. Even leading institutes, like the Indian Institutes of Technology (IITs) or the Indian Institutes of Science (IISs), which are close to the Government of India and to the private sector – and also to the Confederation of Indian Industry – tend to ignore EU-funded projects, owing to submission procedures which are seen as too complex. This occurs even when they are involved in research centres directly supported by MS.

---

Box 4 – The Philips Innovation Campus in Bangalore

The Philips Innovation Campus (PIC) in Bangalore is an innovation hub for health and well-being. There, Philips collects extensive know-how and expertise in technology. While not being directly involved in the EU-India S&T cooperation (and in the FP7), the PIC represents a very interesting example how the concept of frugal or inclusive innovation can be applied in research. The interviews revealed Philips’ strong interests in the social impact of innovation, together with a clear perception of the importance of the beneficiaries and of the economic and social context in which they live and work.
The low participation of the private sector also indicates a major gap between science and industry in the orientation and exploitation of research for innovation. Moreover, business culture in Europe and India largely differs, in particular in the field of appropriate and applied technologies to address development problems or to access market opportunities.

Enhancing the participation of the private sector

The gap between science and industry, and between research and innovation, can be addressed by enhancing the involvement of the private sector in the EU-India S&T partnership. Field interviews have provided evidence on the ways in which this gap might be addressed. In particular, two initiatives provide a major evidence of the ways in which the collaboration between Indian and European enterprises may be supported. These initiatives are introduced below.

i) The European Business and Technology Centre

Based on a FP7 Environment and Climate Change grant 2008-2017 (in a sequence of 3 phases) contracted by the Euro-Chambers, the European Business and Technology Centre (EBTC) has become operational in 2010 after a few initial difficulties. With 25 staff in 4 regional offices (Delhi, Calcutta, Bangalore and Mumbai), the EBTC focuses on four key sectors: clean tech, biotech, energy, and transport. This tentative specialization is to give EBTC a clear profile not competing with MS Embassies and their commercial and scientific sections. By 2017, the EBTC is expected to become self-financed through the sale of its business services, following the example of the American Business Centre in Delhi. In the context of the 12th Five Year Plan of India, the EBTC is exploring a partnership with the CII.
under the Global Innovation and Technology Alliance (GITA) launched by the CII (51% of its equity) and the Department for Science and Technology (49%). The GITA is seeking private funded partnerships with a first series of foreign counterparts (Canada, Israel, ASEAN countries). Based on the results of a first SME cluster symposium held in Delhi in 2010, the EBTC is also supposed to enhance SME cluster cooperation with India under a mandate from the DG Enterprise in Brussels. The inscription of the cluster business model in the 12th Five Year Plan of India starting in April 2012 may open new opportunities for EU-India SME cooperation, not only with the Ministry of Micro, Small, and Medium Enterprises but also with major sectoral ministries and the Technology Development Board.

ii) The European Business Group
Established in 1997 with the support of the EU Delegation in Delhi, the European Business Group (EBG) has the aim of creating a favourable environment for European enterprises in India. The members are European companies and their Indian affiliates. The EBG is supposed to play an important role in fostering economic cooperation between Europe and India by means of the involvement of the private sector. Yet, according to the interviews, its role in enhancing EU-India S&T cooperation has been so far rather marginal owing to the prevalence of MS business partnership.

4. A critical assessment of the EU-India Agreement on S&T cooperation
This section focuses on the critical aspects that have been constraining the effectiveness of the Agreement on EU-India S&T cooperation and that need to be addressed in enhancing EU-India partnership in the future. We deal first with the ‘internal’ weaknesses of the Agreement, and then we explore the influence of EU-India conflicting interests on S&T cooperation.

4.1. The weaknesses of the Agreement
Official documents and field interviews point to a number of features of the Agreement that impact on its working, eroding its effectiveness. These refer partly to the nature of the Agreement and partly to the problems related to the translation of research into innovation.

i) A Cooperation Agreement or a Memorandum of Understanding?
The Agreement does not establish the funding of the EU-India S&T cooperation. It only mentions India’s possible participation in FP calls and vaguely refers to other possible modes of cooperation. Due to the absence of a precise bilateral cooperation agenda and its funding, the Agreement looks as a generic Memorandum of Understanding. This affects its credibility and visibility among Indian potential partners.
Box 6 – Adverse selection in EU-India FP7 calls

There is a major contradiction between the picture of the EU-India cooperation described by the EU-India projects funded under FP7 calls and the situation emerging from field analysis. While field analysis points to UK, Germany and, to a lesser extent, also France as the MS with strong and increasing linkages with India in S&T and with increasing involvement of the private sector, the distribution of FP7 projects suggests a different situation. In terms of number of projects UK, Germany and France rank quite high. However, the Indian participation in these projects is notably lower than in the case of other countries with lesser bilateral linkages with India. The case of Italy is emblematic: while the country does show a very high participation of Indian institutions in FP7 projects, her bilateral cooperation in S&T with India has been so far rather limited (yet the situation might change rapidly in the coming years). This contrast between the situation described by the FP7 projects and the reality of bilateral India-MS cooperation in S&T needs to be accounted for. This contrast might imply a differential between EU-India cooperation and MS-India cooperation in terms of translation of research into innovation, as the EU-funded cooperation may have a weaker performance than the cooperation funded by MS with strong bilateral linkages and involvement of their private sector.

The FP is a EU-driven programme: it is entirely funded by the EU, and EU scientific institutions lead all project consortia. In the average, in the majority of the projects only one Indian institution participates. Furthermore, the FP is widely perceived as a mechanism which tends to deviate Indian researchers – already in limited numbers – from national research and public funded priorities related to urgent domestic development issues and problems. Indian authorities are not consulted on the scientific themes and calls announced by the EU: the widespread perception is that the selected Indian institutions do provide work primarily to feed a EU research agenda. A major implication is that the symmetry and reciprocity principles established in the Agreement are not applied and the limited participation delivers marginal impact on India. In this sense, the FP is perceived as an initiative de facto outside the field of EU-India cooperation, and in particular outside the Agreement signed in 2001 and renewed in 2007.

Also the mobility of EU and Indian scientists is perceived as not satisfactory. The Marie Curie Actions programme is seen as a tool individually designed by the EU, which is inadequate to
promote the mobility of human resources in an FP multilateral perspective. Also the well-known problem of visa (both for the EU and India) needs to be addressed here.

The FP application procedure shows notable complexity, and applications require months of work and a large amount of experience. Such difficulties prevent the participation of Indian research institutions, including the leading ones like the IITs, and in particular from the private sector. They turn either to Indian federal or state funding or to bilateral cooperation with MS, which they know well and whose procedures are more accessible.

This situation leads to an adverse selection in the applications to the EU calls, as the application to the FP is largely confined to institutions which are excluded from ‘better’ (i.e. ‘easier’) sources of funding. As a consequence of adverse selection, the level of competition among applicants might decrease, together with the quality of applications. A possible implication could be the reduction of the expected excellence in research and innovation.

**ii) FP7 open calls versus coordinated calls**

This inadequacy of the FP open calls as a tool for the enhancement of EU-India S&T cooperation is widely perceived both in the EU and in India. This perception has induced a process of institutional change – jointly carried out by India and by the EU since the renewal of the Agreement – which is progressively adapting EU-India S&T cooperation to the emerging needs of multilateral cooperation (so far only partially addressed). This process is a long-term endeavour still difficult to assess, but the main issues implying some change can be summarized as follows:

1. The FP appears to be inadequate as an instrument for S&T cooperation: it is a EU instrument and the principles of symmetry and reciprocity vis-à-vis third countries are not ensured.
2. The Steering Committee is the main driver of the recent EU-India joint thematic initiatives and defines their respective roadmap.
3. Coordinated joint calls appear to be the right instrument for S&T cooperation being identified, funded, and managed on a parity basis. This represents a major shift of paradigm in the EU-India S&T cooperation.

**iii) The need for harmonisation of conceptualisation and concepts**

With the adoption of the Europe 2020 Strategy and with the launch of India’s Decade of Innovation, the impact of research and innovation on economy and society has been widely stressed both in the EU and in India. Yet, despite the relevance of this issue in designing EU-India partnership in S&T, significant discrepancies exist in the ways the issue is analysed and conceptualised in official documents.
Two orders of problems are observed. The first refers to the inadequate conceptualisation of socio-economic phenomena. The case of ‘innovation’ is significant. Innovations – resulting from the application of science to production of goods and services – differ according to their use and the production of innovations meets the needs expressed by the society. In this sense, questions such as which innovation and innovation for whom and for what purpose should be at the centre of the innovation policy, as it should be the nature of the obstacles preventing the adoption of innovations by specific individuals and groups. Also the conceptualisation of growth is inadequate. If the aim of innovation policy is the improvement of living standards – as it is in the case of EU-India S&T cooperation, according to official documents – then what matters is not only growth as such, but rather the impact of technical change on growth, as well as the impact of growth on society. This is the issue of the quality of development, which needs to be assessed in relation to the distribution of the gains from growth in relation to: i) gender, religion, ethnicity, and class; ii) the quantity and quality of employment generated by economic change; iii) the impact of innovations on the sustainability of growth.

The second order of problems refers to the discrepancy in the meaning of concepts widely employed in meetings and documents. Terms as ‘growth’ and ‘development’ are often used as synonyms, with or without adjectives – such as ‘inclusive’ and ‘sustainable’ – that deeply change their meaning. It is not clear whether or not (and to what extent) the concept of sustainability includes also equity. It is not always clear if, in particularly for the EU, the concept of inclusiveness also contains poverty reduction and the improvement of the quality of labour among its aims.

The involvement of the private sector – in particular of the SMEs – is an explicit aim of EU-India partnership. Yet, there is a huge difference between the nature and organisation of SMEs in the EU and in India. Moreover, India’s non-corporate private sector, largely made of very small and micro firms unregistered and informally organised, strongly differs from the private sector in the EU. Similarly, the concepts of cluster and industrial district, often employed in official documents, refer to different situations. In the EU, SMEs in clusters/industrial districts invest and innovate exploiting the external economies generated by geographical agglomeration. The situation is very different in India. While few important exceptions exist, small and micro firms are usually aggregated in artisan-based clusters in which low capital-intensive production techniques and low capacity of innovate are widespread.

The need for the harmonisation of concepts and conceptualisation is then a consequence of the differences in socio-economic organisation and in the level of development in the EU and in India. This need should be explicitly addressed as inadequate S&T policies may follow from the improper use of terms and concepts.
iv) Transforming research into innovation

Field interviews emphasise a number of problems related to the transfer of research into innovation. A major problem is found in the inadequate project monitoring and evaluation beyond the evaluation of project proposals. There is already a mid-term review and final evaluation for each individual project, but this is primarily meant to control the governance and the financial management by the leading institution. A robust and rigorous monitoring and ex-post evaluation of the deliverables and results would enhance the scientific reputation and attractiveness of the EU calls, leading to innovation and new technologies.

Until the recent change of name and mandate of the DG R&I, the EU has not made much of a distinction – at least under FP7– between fundamental research and applied research (the later being more conducive to innovation and technological applications). The proposed monitoring and evaluation exercise is imperative in the case of applied research projects if one aims at the exploitation of final results into innovation and technology (see Annex 2).

In addition, the EU-India cooperation in S&T does not conceptually and operationally makes a clear distinction among the different actors involved in research and scientific progress and the ones involved in the incubation of innovations and the production and commercialization of new technologies. Moreover, innovations are seldom carried to the market place by innovators and investors themselves, but through the public-private or fully private facilitation of industrial, technical, servicing and financial intermediaries. So far, only the EBTC could be perhaps used together with appropriate partnership between Euro-Chambers and the CII as a possible catalyst.

4.2. Overcoming the asymmetric interests of EU and India

While the EU is still in a position of global economic and scientific leadership, being a first ranking global trading power and still one of the three major centres of research and development, India is one of the major emerging economies. However, field interviews have questioned whether the EU has yet visualized the full dimension of India’s economic growth and sustainable development challenges into the XXI century. In the DG R&I and other visited DGs, the average knowledge and exposure to India is limited. It would help both the EU and MS Delegations, EBTC and other public-private institutions established in India to work towards better awareness within Europe of the scope and size of economic, scientific and technology competitive transformations taking place in India and of her interests in the global political scene.
i) The lack of articulation between EU policy in S&T and EU trade policy

Interviews in India and Europe have shown that S&T policy and trade policy are elaborated and implemented separately. It has been underlined that the successful preparation of the Joint Declaration on S&T at the EU-Summit in Delhi (February 2012) has been incubated in isolation from the difficult and unresolved negotiations of the EU-India FTA leading to resistances and anti-FTA demonstrations in Delhi during the Summit. For instance, one major difficulty resides in different interpretations of intellectual property rights (henceforth IPRs) and India’s business law obligations and rights in the pharmaceutical sector and in the access to health care. IPRs are closely associated to the protection of scientific and technology knowledge, and therefore should be addressed through EU-India cooperation in S&T. It is quite challenging to observe that the FP7 has financed projects showing that EU and India have converging interests not only in high tech pharmaceutical products but also in the manufacturing of generics, whereas the 2012 Summit showed a confrontation between EU and Indian business interests in the health sector, which also exists in some other sectors.

ii) Inclusive technology

The Joint Declaration on S&T adopted in February 2012 provides the basis for overcoming sensitive difficulties regarding bilateral trade, FDI and outsourcing, and the transfer of know-how. This aim can be achieved under the two priorities established in the Joint Declaration. The first refers to the usual definitions and modes of cooperation in S&T, which should stimulate a high level of excellence in research, sciences, and technologies in order to contribute to growth and competitiveness on the global scene. The second innovative priority refers to the joint promotion of inclusive technology in order to find common solutions to sustainable development problems becoming acute both in Europe and India (from social exclusion and inequalities, to banking and financial crises, climate change and environmental risk management, and ageing society). These priorities indicate that the private sector in the EU and in India is already seeking market opportunities at all levels of society.

The second priority illustrates the orientations of the 12th Five Year Plan of India, which underlines that technology must be accessible to the bottom of the pyramid in order to reduce poverty and social inequalities. Some leading schools of management in Europe, the USA and India have already created research chairs on inclusive technology for the study of the new modes of production and marketing of low cost Western products, such as the US$ 2500 Nano car (by Tata Motors together with Fiat), portable computers below US$ 300, cheap but quality cosmetics for rural-based women, and access to health care and affordable generics. A research project piloted by Nokia together with Finish FinNode Innovation Network and the International Management School of India in Delhi is exploring a new mobile phone system.
that can give access to health services to the rural illiterate poor. It may inspire Finland to promote a national research programme in S& inclusive T.

**iii) Catching-up and partnering with the private sector**

The EU Commission and its DGs in charge of S&T and external economic relations need to be aware that scientific research in emerging economies like India is becoming less and less a monopoly of public universities and research centres. Furthermore, it should not be confused with private driven R&D. Both in the EU and in India, the private sector is the main driver of innovations and new technologies, which mobilize actors, tools and resources completely different from those involved in pure scientific research. Only very recently, with the change of its name, the DG R&I has become aware of such realities starting to diversify its staff profiles and to forge more collaborations with DG enterprise and other sectoral DGs. However, as this review has revealed, there is still a lack of joint decision-making mechanisms and public-private partnerships involving the European and Indian private sectors as main drivers of innovations and new technologies.

First, there is a high concentration of public-private partnerships in S&T involving large corporations and SMEs within the EU which should be selectively scrutinized and exploited for their externalization potentials vis-à-vis emerging giants like India. Secondly, the EU and MS could learn from those European firms and leading SMEs, which have already established innovative and strategic technological alliances with Indian counterparts to reach domestic and global markets, not only in OECD countries (reverse technology and exports) but also in the developing and emerging ones as the new growth frontiers the XXI century.

**5. Recommendations**

This Report has pointed out that EU-India S&T cooperation may play a major role in designing and enhancing future development strategies in the EU and in India. Relying on the Europe 2020 Strategy and India’s Decade of Innovation, both the EU and India emphasise that innovation is a key instrument in supporting competitiveness and in promoting efficiency in the use of resources to meet societal needs; and both focus on EU-India S&T partnership with the aim of enhancing the excellence in research. This report has shown that, while providing an effective institutional framework for the enhancement of the EU-India partnership, the EU-India Agreement in S&T Cooperation appears to be only partially adequate to the task and there is room for significant improvements which refer to the working of the Agreement itself and to the external context which influences its effectiveness. These improvements appear to be particular cogent owing to the strategic role that R&I have
come to play. This Report points out three complementary directions along which the effectiveness of the Agreement might be improved.

1. **Improving EU-India mutual knowledge**
   1.1. Economy and society of the EU and India show a different structure and organisation, and face different development challenges. The mutual knowledge and information on India and the EU should be improved in several ways.
   1.2. Short e-learning courses, knowledge sharing and training materials on India and the EU should be designed and implemented, with a focus on industries and services, science and innovation, education and research. These courses should be directed also to EU and India officials involved in the implementation of the Agreement and to actors in private sector’s institutions and networks in order to foster EU-India dialogue.
   1.3. The DG R&I together with the DG Enterprise and relevant private sector stakeholders should cooperate in designing strategic concepts and business models for the promotion of innovation and new technologies through European and Indian public-private partnerships.
   1.4. In cooperation with European and Indian leading schools of engineering and management, the EU and MS could launch a EU-India competition for proposals in inclusive, frugal and reverse technologies to provide sustainable solutions to various economic and social problems, both in India and Europe. The creation of 8 new IITs could give an excellent opportunity for a EU-India flagship campaign in S&T.

2. **Addressing internal and context weaknesses of EU-India S&T Cooperation Agreement**
   2.1. Solid and rigorous monitoring and ex-post evaluation of EU-India projects in S&T should be considered as a priority.
   2.2. EU-India coordinated calls should be enhanced as an instrument of EU-India S&T partnership as they ensure symmetry and reciprocity.
   2.3. Under Horizon 2020, the EU and MS leading institutions providing scientific research funding should create joint funding schemes for S&T cooperation with India.
   2.4. The EU should review its various programs sponsoring enterprise, sectoral and regional development, and selectively encourage some of its beneficiaries (large firms, SMEs, clusters, etc) to pool together and explore new S&T ventures together with Indian partners.
   2.5. The EU (DG R&I and DG Enterprise) and the Eurochambers/EBTC in India, together with major European firms active in India, should promote the matching between European SME clusters and Indian SME clusters as underlined by the 12th Five Year Plan of the Government of India and by the CII private sector strategy. A SME clean technology and
environmental management cluster should also be included to address the needs of India’s large cities and industrial areas.

2.6. The EU and India should mobilize the appropriate stakeholders to produce viable innovations and new technologies through joint projects. EU, MS and India’s public funding can play a facilitating but subsidiary role, and leave the private sector to be the main driver.

3. Overcoming asymmetric interests

3.1. More effective reciprocity between EU and India is necessary to overcome asymmetric interests. A joint working group should be created under the Steering Committee with the aim of proposing a joint call for projects reviewing the EU and India’s converging/diverging interests in S&T and in other relevant fields.

3.2. The EU-India policy in S&T should integrate European and Indian private sector interests (trade, outsourcing, FDI, technology transfers, IPRs and licensing).

3.3. Being a major obstacle to the conclusion of the EU-India FTA, EU-India scientific and business interests in the pharmaceutical sector and IPRs should be dealt with.

3.4. A pilot scheme could be envisaged under Horizon 2020 to explore triangular S&T cooperation between EU, India and developing countries.
### ANNEX 1: Statistical Tables

**Table 1 – EU-India projects funded under FP7 open calls**  
(funding and number of projects and partners by type of call)

<table>
<thead>
<tr>
<th>Areas</th>
<th>Projects</th>
<th>Partners</th>
<th>Indian Partners</th>
<th>European Partners</th>
<th>Partners from Other Countries</th>
<th>000 €</th>
<th>000 € per Partner</th>
</tr>
</thead>
<tbody>
<tr>
<td>− Health</td>
<td>34</td>
<td>361</td>
<td>57</td>
<td>241</td>
<td>63</td>
<td>131,528</td>
<td>364,3</td>
</tr>
<tr>
<td>− Food, Agriculture and Fisheries, and Biotechnology</td>
<td>14</td>
<td>231</td>
<td>15</td>
<td>145</td>
<td>71</td>
<td>49,913</td>
<td>216,1</td>
</tr>
<tr>
<td>− Information and Communication Technologies</td>
<td>19</td>
<td>227</td>
<td>34</td>
<td>157</td>
<td>36</td>
<td>41,306</td>
<td>182,0</td>
</tr>
<tr>
<td>− Nanosciences, Nanotechnologies, Materials and New Production Processes</td>
<td>6</td>
<td>118</td>
<td>10</td>
<td>91</td>
<td>17</td>
<td>22,984</td>
<td>194,8</td>
</tr>
<tr>
<td>− Energy</td>
<td>7</td>
<td>90</td>
<td>10</td>
<td>67</td>
<td>11</td>
<td>24,362</td>
<td>270,7</td>
</tr>
<tr>
<td>− Environment (including climate change)</td>
<td>19</td>
<td>272</td>
<td>36</td>
<td>177</td>
<td>61</td>
<td>58,961</td>
<td>213,6</td>
</tr>
<tr>
<td>− Transport (including Aeronautics)</td>
<td>7</td>
<td>110</td>
<td>10</td>
<td>77</td>
<td>24</td>
<td>17,971</td>
<td>163,4</td>
</tr>
<tr>
<td>− Socio-economic Sciences and Humanities</td>
<td>8</td>
<td>87</td>
<td>13</td>
<td>55</td>
<td>19</td>
<td>15,950</td>
<td>183,3</td>
</tr>
<tr>
<td>− Space</td>
<td>3</td>
<td>42</td>
<td>3</td>
<td>33</td>
<td>6</td>
<td>6,775</td>
<td>161,3</td>
</tr>
<tr>
<td>− Marie Curie International Research Staff Exchange Scheme</td>
<td>22</td>
<td>189</td>
<td>31</td>
<td>87</td>
<td>71</td>
<td>10,641</td>
<td>56,3</td>
</tr>
<tr>
<td>− Research Infrastructures</td>
<td>6</td>
<td>87</td>
<td>18</td>
<td>56</td>
<td>12</td>
<td>13,690</td>
<td>157,4</td>
</tr>
<tr>
<td>− Science in Society</td>
<td>7</td>
<td>77</td>
<td>8</td>
<td>41</td>
<td>28</td>
<td>9,272</td>
<td>120,4</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>152</strong></td>
<td><strong>1,891</strong></td>
<td><strong>245</strong></td>
<td><strong>1,227</strong></td>
<td><strong>419</strong></td>
<td><strong>403,335</strong></td>
<td><strong>213,3</strong></td>
</tr>
<tr>
<td>− Specific Activities on International Cooperation</td>
<td>3</td>
<td>25</td>
<td>7</td>
<td>17</td>
<td>1</td>
<td>3,490</td>
<td>139,6</td>
</tr>
<tr>
<td>− EU INEC (HU)</td>
<td>1</td>
<td>4</td>
<td>2</td>
<td>2</td>
<td>0</td>
<td>500</td>
<td>125,0</td>
</tr>
<tr>
<td>− INDIA GATE (I)</td>
<td>1</td>
<td>7</td>
<td>3</td>
<td>4</td>
<td>0</td>
<td>500</td>
<td>71,4</td>
</tr>
<tr>
<td>− NEW INDIGO (F)</td>
<td>1</td>
<td>14</td>
<td>2</td>
<td>11</td>
<td>1</td>
<td>2,490</td>
<td>177,9</td>
</tr>
<tr>
<td><strong>Total (EU calls)</strong></td>
<td><strong>155</strong></td>
<td><strong>1,916</strong></td>
<td><strong>252</strong></td>
<td><strong>1,244</strong></td>
<td><strong>420</strong></td>
<td><strong>406,843</strong></td>
<td><strong>212,3</strong></td>
</tr>
<tr>
<td>− Coordinated Call on Food and Nutrition Research</td>
<td>2</td>
<td>20</td>
<td>8</td>
<td>12</td>
<td>0</td>
<td>2,998</td>
<td>149,9</td>
</tr>
<tr>
<td>− Coordinated Call on Computational Materials</td>
<td>6</td>
<td>49</td>
<td>25</td>
<td>24</td>
<td>0</td>
<td>5,000</td>
<td>102,0</td>
</tr>
<tr>
<td>− Coordinated Call on Solar Energy Systems</td>
<td>3</td>
<td>26</td>
<td>13</td>
<td>12</td>
<td>0</td>
<td>4,695</td>
<td>180,6</td>
</tr>
<tr>
<td><strong>Total (Coordinated calls)</strong></td>
<td><strong>11</strong></td>
<td><strong>95</strong></td>
<td><strong>46</strong></td>
<td><strong>48</strong></td>
<td><strong>0</strong></td>
<td><strong>12,693</strong></td>
<td><strong>133,6</strong></td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>166</strong></td>
<td><strong>2,011</strong></td>
<td><strong>298</strong></td>
<td><strong>1,292</strong></td>
<td><strong>420</strong></td>
<td><strong>419,536</strong></td>
<td><strong>208,6</strong></td>
</tr>
</tbody>
</table>

**Source:** Calculated on the basis of information from:  
- EU Community Research and Development Information Service (CORDIS) online at http://cordis.europa.eu/
<table>
<thead>
<tr>
<th>Areas</th>
<th>Projects</th>
<th>Partners</th>
<th>Indian Partners</th>
<th>European Partners</th>
<th>Partners from Other Countries</th>
<th>000 €</th>
<th>000 € per Partner *</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coordinated Call on Food and Nutrition Research</td>
<td>2</td>
<td>20</td>
<td>8</td>
<td>12</td>
<td>0</td>
<td>2,998</td>
<td>249.8</td>
</tr>
<tr>
<td>Coordinated Call on Computational Materials</td>
<td>6</td>
<td>49</td>
<td>25</td>
<td>24</td>
<td>0</td>
<td>5,000</td>
<td>208.3</td>
</tr>
<tr>
<td>Coordinated Call on Solar Energy Systems</td>
<td>3</td>
<td>26</td>
<td>13</td>
<td>12</td>
<td>0</td>
<td>4,695</td>
<td>391.2</td>
</tr>
<tr>
<td><strong>Total (Coordinated calls)</strong></td>
<td>11</td>
<td>95</td>
<td>46</td>
<td>48</td>
<td>0</td>
<td>12,693</td>
<td>264.4</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>166</td>
<td>2,011</td>
<td>298</td>
<td>1,292</td>
<td>420</td>
<td>419,536</td>
<td>208.6</td>
</tr>
</tbody>
</table>

* The funding per participant has been calculated only for EU consortia.
Source: see Table 1.
Table 3 – EU-India projects funded under the FP7
(funding and number of projects and partners by country of the Coordinator)

<table>
<thead>
<tr>
<th>Projects</th>
<th>Partners</th>
<th>Indian Partners</th>
<th>European Partners</th>
<th>Partners from Other Countries</th>
<th>000 €</th>
<th>Projects</th>
</tr>
</thead>
<tbody>
<tr>
<td>UK</td>
<td>31</td>
<td>383</td>
<td>44</td>
<td>241</td>
<td>96</td>
<td>79,941</td>
</tr>
<tr>
<td>I</td>
<td>26</td>
<td>334</td>
<td>51</td>
<td>199</td>
<td>82</td>
<td>58,947</td>
</tr>
<tr>
<td>D</td>
<td>23</td>
<td>315</td>
<td>34</td>
<td>221</td>
<td>60</td>
<td>62,948</td>
</tr>
<tr>
<td>F</td>
<td>18</td>
<td>220</td>
<td>31</td>
<td>155</td>
<td>34</td>
<td>56,115</td>
</tr>
<tr>
<td>NL</td>
<td>12</td>
<td>116</td>
<td>23</td>
<td>65</td>
<td>28</td>
<td>28,150</td>
</tr>
<tr>
<td>E</td>
<td>11</td>
<td>111</td>
<td>16</td>
<td>61</td>
<td>34</td>
<td>19,209</td>
</tr>
<tr>
<td>B</td>
<td>10</td>
<td>113</td>
<td>17</td>
<td>67</td>
<td>29</td>
<td>27,265</td>
</tr>
<tr>
<td>S</td>
<td>10</td>
<td>104</td>
<td>27</td>
<td>61</td>
<td>16</td>
<td>29,673</td>
</tr>
<tr>
<td>CH</td>
<td>5</td>
<td>79</td>
<td>20</td>
<td>52</td>
<td>7</td>
<td>21,868</td>
</tr>
<tr>
<td>HE</td>
<td>4</td>
<td>42</td>
<td>9</td>
<td>27</td>
<td>6</td>
<td>5,560</td>
</tr>
<tr>
<td>A</td>
<td>3</td>
<td>60</td>
<td>4</td>
<td>48</td>
<td>8</td>
<td>9,787</td>
</tr>
<tr>
<td>DN</td>
<td>3</td>
<td>25</td>
<td>5</td>
<td>16</td>
<td>4</td>
<td>1,709</td>
</tr>
<tr>
<td>FL</td>
<td>2</td>
<td>27</td>
<td>2</td>
<td>19</td>
<td>6</td>
<td>7,500</td>
</tr>
<tr>
<td>RO</td>
<td>1</td>
<td>30</td>
<td>1</td>
<td>25</td>
<td>4</td>
<td>3,182</td>
</tr>
<tr>
<td>ISR</td>
<td>1</td>
<td>16</td>
<td>1</td>
<td>10</td>
<td>5</td>
<td>1,100</td>
</tr>
<tr>
<td>L</td>
<td>1</td>
<td>12</td>
<td>1</td>
<td>11</td>
<td>0</td>
<td>2,540</td>
</tr>
<tr>
<td>NO</td>
<td>1</td>
<td>10</td>
<td>5</td>
<td>5</td>
<td>0</td>
<td>2,366</td>
</tr>
<tr>
<td>IRL</td>
<td>1</td>
<td>6</td>
<td>3</td>
<td>3</td>
<td>0</td>
<td>850</td>
</tr>
<tr>
<td>N</td>
<td>1</td>
<td>5</td>
<td>1</td>
<td>3</td>
<td>1</td>
<td>283</td>
</tr>
<tr>
<td>HU</td>
<td>1</td>
<td>4</td>
<td>2</td>
<td>2</td>
<td>0</td>
<td>500</td>
</tr>
<tr>
<td>P</td>
<td>1</td>
<td>3</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td>43</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>166</strong></td>
<td><strong>2011</strong></td>
<td><strong>298</strong></td>
<td><strong>1293</strong></td>
<td><strong>420</strong></td>
<td><strong>419,536</strong></td>
</tr>
</tbody>
</table>

*Source: see Table 1.*
Table 4 – Indian Participation in EU-India projects
(number of projects according to the share of Indian Partners)

<table>
<thead>
<tr>
<th></th>
<th>Projects</th>
<th>Partners</th>
<th>Indian Partners</th>
<th>% of Indian Partners over Total Partners</th>
</tr>
</thead>
<tbody>
<tr>
<td>NO</td>
<td>1</td>
<td>10</td>
<td>5</td>
<td>50.0</td>
</tr>
<tr>
<td>IRL</td>
<td>1</td>
<td>6</td>
<td>3</td>
<td>50.0</td>
</tr>
<tr>
<td>HU</td>
<td>1</td>
<td>4</td>
<td>2</td>
<td>50.0</td>
</tr>
<tr>
<td>P</td>
<td>1</td>
<td>3</td>
<td>1</td>
<td>33.3</td>
</tr>
<tr>
<td>S</td>
<td>10</td>
<td>104</td>
<td>27</td>
<td>26.0</td>
</tr>
<tr>
<td>CH</td>
<td>5</td>
<td>79</td>
<td>20</td>
<td>25.3</td>
</tr>
<tr>
<td>HE</td>
<td>4</td>
<td>42</td>
<td>9</td>
<td>21.4</td>
</tr>
<tr>
<td>DN</td>
<td>3</td>
<td>25</td>
<td>5</td>
<td>20.0</td>
</tr>
<tr>
<td>N</td>
<td>1</td>
<td>6</td>
<td>2</td>
<td>20.0</td>
</tr>
<tr>
<td>NL</td>
<td>12</td>
<td>116</td>
<td>23</td>
<td>19.8</td>
</tr>
<tr>
<td>I</td>
<td>26</td>
<td>334</td>
<td>51</td>
<td>15.3</td>
</tr>
<tr>
<td>B</td>
<td>10</td>
<td>113</td>
<td>17</td>
<td>15.0</td>
</tr>
<tr>
<td>E</td>
<td>11</td>
<td>111</td>
<td>16</td>
<td>14.4</td>
</tr>
<tr>
<td>F</td>
<td>18</td>
<td>220</td>
<td>31</td>
<td>14.1</td>
</tr>
<tr>
<td>UK</td>
<td>31</td>
<td>383</td>
<td>44</td>
<td>11.5</td>
</tr>
<tr>
<td>D</td>
<td>23</td>
<td>315</td>
<td>34</td>
<td>10.8</td>
</tr>
<tr>
<td>L</td>
<td>1</td>
<td>12</td>
<td>1</td>
<td>8.3</td>
</tr>
<tr>
<td>FL</td>
<td>2</td>
<td>27</td>
<td>2</td>
<td>7.4</td>
</tr>
<tr>
<td>A</td>
<td>3</td>
<td>60</td>
<td>4</td>
<td>6.7</td>
</tr>
<tr>
<td>ISR</td>
<td>1</td>
<td>16</td>
<td>1</td>
<td>6.3</td>
</tr>
<tr>
<td>RO</td>
<td>1</td>
<td>30</td>
<td>1</td>
<td>3.3</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>166</td>
<td>2011</td>
<td>298</td>
<td><strong>14.3</strong></td>
</tr>
</tbody>
</table>

*Source: see Table 1.*
Tab. 5 – EU-India projects funded under the FP7: public availability of information

<table>
<thead>
<tr>
<th>Areas</th>
<th>Projects</th>
<th>Partners</th>
<th>000, €</th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
<th>(4)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health</td>
<td>34</td>
<td>361</td>
<td>131,528</td>
<td>34</td>
<td>1</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>Food, Agriculture and Fisheries, and Biotechnology</td>
<td>14</td>
<td>231</td>
<td>49,913</td>
<td>14</td>
<td>6</td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>Information and Communication Technologies</td>
<td>19</td>
<td>227</td>
<td>41,306</td>
<td>18</td>
<td>4</td>
<td>7</td>
<td>4</td>
</tr>
<tr>
<td>Nanosciences, Nanotechnologies, Materials and New Production Processes</td>
<td>6</td>
<td>118</td>
<td>22,984</td>
<td>6</td>
<td>2</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Energy</td>
<td>7</td>
<td>90</td>
<td>24,362</td>
<td>7</td>
<td>4</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Environment (including climate change)</td>
<td>19</td>
<td>272</td>
<td>58,961</td>
<td>18</td>
<td>6</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td>Transport (including Aeronautics)</td>
<td>7</td>
<td>110</td>
<td>17,971</td>
<td>7</td>
<td>3</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Socio-economic Sciences and Humanities</td>
<td>8</td>
<td>87</td>
<td>15,950</td>
<td>8</td>
<td>2</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>Space</td>
<td>3</td>
<td>42</td>
<td>6,775</td>
<td>3</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Research Infrastructures</td>
<td>6</td>
<td>87</td>
<td>13,690</td>
<td>5</td>
<td>2</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>Science in Society</td>
<td>7</td>
<td>77</td>
<td>9,272</td>
<td>7</td>
<td>3</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>Specific Activities on International Cooperation</td>
<td>3</td>
<td>25</td>
<td>3,490</td>
<td>3</td>
<td>0</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>Coordinated Call on Food and Nutrition Research</td>
<td>2</td>
<td>20</td>
<td>2,998</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Coordinated Call on Computational Materials</td>
<td>6</td>
<td>49</td>
<td>5,000</td>
<td>6</td>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Coordinated Call on Solar Energy Systems</td>
<td>3</td>
<td>26</td>
<td>4,695</td>
<td>2</td>
<td>0</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>TOTAL</td>
<td>144</td>
<td>1822</td>
<td>408,895</td>
<td>140</td>
<td>35</td>
<td>35</td>
<td>30</td>
</tr>
<tr>
<td>Marie Curie International Research Staff Exchange Scheme</td>
<td>22</td>
<td>189</td>
<td>10,641</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Legend:  
(1) Number of projects with accessible websites  
(2) Number of projects with the list of Deliverables online  
(3) Number of Projects with some documents online  
(4) Number of Projects with some Deliverables online

Source: see Table 1.
Tab. 6 – EU-India projects with more than 30% of Indian Partners*

<table>
<thead>
<tr>
<th>Project Type</th>
<th>TP</th>
<th>IP</th>
<th>EU</th>
<th>OC</th>
<th>% IPTP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health</td>
<td>8</td>
<td>4</td>
<td>2</td>
<td>2</td>
<td>50.0</td>
</tr>
<tr>
<td>CBHI INDIA</td>
<td>6</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>33.3</td>
</tr>
<tr>
<td>HEALTH INC</td>
<td>6</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>33.3</td>
</tr>
<tr>
<td>HIVIND</td>
<td>6</td>
<td>2</td>
<td>3</td>
<td>1</td>
<td>33.3</td>
</tr>
<tr>
<td>KALADRUG-R</td>
<td>10</td>
<td>3</td>
<td>6</td>
<td>1</td>
<td>30.0</td>
</tr>
<tr>
<td>MATIND</td>
<td>5</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>40.0</td>
</tr>
<tr>
<td>NATT</td>
<td>8</td>
<td>3</td>
<td>5</td>
<td>0</td>
<td>37.5</td>
</tr>
</tbody>
</table>

Food, Agriculture and Fisheries, and Biotechnology

<table>
<thead>
<tr>
<th>Project Type</th>
<th>TP</th>
<th>IP</th>
<th>EU</th>
<th>OC</th>
<th>% IPTP</th>
</tr>
</thead>
<tbody>
<tr>
<td>TAPSIM</td>
<td>6</td>
<td>2</td>
<td>4</td>
<td>0</td>
<td>33.3</td>
</tr>
</tbody>
</table>

Information and Communication Technologies

<table>
<thead>
<tr>
<th>Project Type</th>
<th>TP</th>
<th>IP</th>
<th>EU</th>
<th>OC</th>
<th>% IPTP</th>
</tr>
</thead>
<tbody>
<tr>
<td>EU-INCOOP</td>
<td>6</td>
<td>3</td>
<td>3</td>
<td>0</td>
<td>50.0</td>
</tr>
<tr>
<td>EUCLID</td>
<td>4</td>
<td>2</td>
<td>2</td>
<td>0</td>
<td>50.0</td>
</tr>
<tr>
<td>EURO-INDIA SPIRIT</td>
<td>6</td>
<td>3</td>
<td>3</td>
<td>0</td>
<td>50.0</td>
</tr>
<tr>
<td>EUROINDIA</td>
<td>6</td>
<td>2</td>
<td>4</td>
<td>0</td>
<td>33.3</td>
</tr>
<tr>
<td>SYNCHRONISER</td>
<td>7</td>
<td>4</td>
<td>3</td>
<td>0</td>
<td>57.1</td>
</tr>
</tbody>
</table>

Nanosciences, Nanotechnologies, Materials and New Production Processes

<table>
<thead>
<tr>
<th>Project Type</th>
<th>TP</th>
<th>IP</th>
<th>EU</th>
<th>OC</th>
<th>% IPTP</th>
</tr>
</thead>
<tbody>
<tr>
<td>EICOON</td>
<td>11</td>
<td>5</td>
<td>6</td>
<td>0</td>
<td>45.5</td>
</tr>
</tbody>
</table>

Energy

<table>
<thead>
<tr>
<th>Project Type</th>
<th>TP</th>
<th>IP</th>
<th>EU</th>
<th>OC</th>
<th>% IPTP</th>
</tr>
</thead>
<tbody>
<tr>
<td>OPTIMASH</td>
<td>6</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>33.3</td>
</tr>
</tbody>
</table>

ENVIRONMENT (Including Climate Change)

<table>
<thead>
<tr>
<th>Project Type</th>
<th>TP</th>
<th>IP</th>
<th>EU</th>
<th>OC</th>
<th>% IPTP</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIGHARCS</td>
<td>10</td>
<td>3</td>
<td>4</td>
<td>3</td>
<td>30.0</td>
</tr>
<tr>
<td>HIGHNOON</td>
<td>9</td>
<td>3</td>
<td>5</td>
<td>1</td>
<td>33.3</td>
</tr>
<tr>
<td>SAPH PANI</td>
<td>20</td>
<td>11</td>
<td>7</td>
<td>2</td>
<td>55.0</td>
</tr>
</tbody>
</table>

Socio-economic Sciences and Humanities

<table>
<thead>
<tr>
<th>Project Type</th>
<th>TP</th>
<th>IP</th>
<th>EU</th>
<th>OC</th>
<th>% IPTP</th>
</tr>
</thead>
<tbody>
<tr>
<td>CORE</td>
<td>10</td>
<td>5</td>
<td>5</td>
<td>0</td>
<td>50.0</td>
</tr>
</tbody>
</table>

Research Infrastructure

<table>
<thead>
<tr>
<th>Project Type</th>
<th>TP</th>
<th>IP</th>
<th>EU</th>
<th>OC</th>
<th>% IPTP</th>
</tr>
</thead>
<tbody>
<tr>
<td>6CHOICE</td>
<td>8</td>
<td>4</td>
<td>4</td>
<td>0</td>
<td>50.0</td>
</tr>
<tr>
<td>EU-INDIAGRID II</td>
<td>15</td>
<td>9</td>
<td>6</td>
<td>0</td>
<td>60.0</td>
</tr>
</tbody>
</table>

**TOTAL:**

<table>
<thead>
<tr>
<th>TP</th>
<th>IP</th>
<th>EU</th>
<th>OC</th>
<th>% IPTP</th>
</tr>
</thead>
<tbody>
<tr>
<td>167</td>
<td>74</td>
<td>78</td>
<td>15</td>
<td>44.3</td>
</tr>
</tbody>
</table>

**Legend:**

TP = Total number of Partners  
IP = Number of Indian Partners  
EU = Number of European (including CH) Partners  
OC = Number of Partners by other Countries  
% IPTP = Share of Indian Partners over total number of Partners

**Source:** see Table 1.

* Marie Curie Actions are excluded.

Tab. 7 – EU-India projects with more than 30% of Indian Partners by type of call*

<table>
<thead>
<tr>
<th>n</th>
<th>30% IP</th>
<th>%S PWIP</th>
<th>P</th>
<th>000. €</th>
</tr>
</thead>
</table>

32
<table>
<thead>
<tr>
<th>Category</th>
<th>n.</th>
<th>IP</th>
<th>%IP</th>
<th>PWIP</th>
<th>P</th>
<th>Euro</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health</td>
<td>34</td>
<td>6</td>
<td>17.6</td>
<td>361</td>
<td>131,528</td>
<td></td>
</tr>
<tr>
<td>Food, Agriculture and Fisheries, and Biotechnology</td>
<td>14</td>
<td>1</td>
<td>7.1</td>
<td>231</td>
<td>49,913</td>
<td></td>
</tr>
<tr>
<td>Information and Communication Technologies</td>
<td>19</td>
<td>5</td>
<td>26.3</td>
<td>227</td>
<td>41,306</td>
<td></td>
</tr>
<tr>
<td>Nanosciences, Nanotechnologies, Materials and New Production Processes</td>
<td>6</td>
<td>1</td>
<td>16.7</td>
<td>118</td>
<td>22,984</td>
<td></td>
</tr>
<tr>
<td>Energy</td>
<td>7</td>
<td>1</td>
<td>14.3</td>
<td>90</td>
<td>24,362</td>
<td></td>
</tr>
<tr>
<td>Environment (including climate change)</td>
<td>19</td>
<td>3</td>
<td>15.8</td>
<td>272</td>
<td>58,961</td>
<td></td>
</tr>
<tr>
<td>Transport (including Aeronautics)</td>
<td>7</td>
<td>0</td>
<td>0.0</td>
<td>110</td>
<td>17,971</td>
<td></td>
</tr>
<tr>
<td>Socio-economic Sciences and Humanities</td>
<td>8</td>
<td>1</td>
<td>12.5</td>
<td>87</td>
<td>15,950</td>
<td></td>
</tr>
<tr>
<td>Space</td>
<td>3</td>
<td>0</td>
<td>0.0</td>
<td>42</td>
<td>6,775</td>
<td></td>
</tr>
<tr>
<td>Research Infrastructures</td>
<td>6</td>
<td>2</td>
<td>33.3</td>
<td>87</td>
<td>13,690</td>
<td></td>
</tr>
<tr>
<td>Science in Society</td>
<td>7</td>
<td>0</td>
<td>0.0</td>
<td>77</td>
<td>9,272</td>
<td></td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>130</strong></td>
<td><strong>20</strong></td>
<td><strong>15.4</strong></td>
<td><strong>1702</strong></td>
<td><strong>392,712</strong></td>
<td></td>
</tr>
</tbody>
</table>

Legenda:
- n. = Total number of projects
- 30% IP = number of projects with more than 30% of Indian Partners
- %PWIP = % share of projects with more than 30% of Indian Partners
- P = Total number of partners
- 000, € = Total amount funded by the FP7 (thousand Euros)

Source: see Table 1.

* Marie Curie Actions are excluded.
ANNEX 2: An Integrated Strategy for the Eu-India Cooperation in S&T
ANNEX 3: Contacted Institutions

- Agenzia per la Promozione della Ricerca Europea (APRE), Rome.
- British High Commission, Office of the Senior Advisor, Science & Innovation, Embassy of the United Kingdom, New Delhi.
- Centre National de la Recherche Scientifique, Direction Europe de la Recherche et Coopération Internationale, Bureau du CNRS-New Delhi.
- Confederation of Indian Industry, Office of the Executive Director – Technology, New Delhi.
- Delegation of the EU to India, Department of Science and Technology, New Delhi.
- Department of Information Technology, Ministry of Communications and Information Technology, GoI, New Delhi.
- Department of Science and Technology, International Multilateral and Regional Cooperation Division and International Cooperation Division, Ministry of Science and Technology, GoI, New Delhi.
- Department of Science and Technology, Netherlands Embassy, New Delhi.
- Deutsche Forschungsgemeinschaft (DFG: German Research Community Association), DFG India Office, New Delhi
- Embassy of Switzerland, Science and Technology Section, New Delhi.
- Embassy of the Federal Republic of Germany, Science and Technology Section, New Delhi.
- Embassy of the Republic of Italy, Office of the Scientific Counsellor, New Delhi.
- Entrepreneurship Development Institute of India, Office of the Director, Ahmedabad.
- Euro-India Centre, Office of the Secretary General, New Delhi.
- European Business and Technology Centre, Director’s Office, Head Office for Operations, Environment, Energy, Science and Technology Sectors, New Delhi.
- European Business Group, Bangalore Chapter, Bangalore.
- FinNode India (FinNode Innovation Network, Finland), EBTC, New Delhi.
- Indian Council of Medical Research, Office of the Head of International Cooperation, New Delhi.
- Indian Institute of Science, International Relations Cell, Bangalore.
- Indian Institute of Technology Delhi, New Delhi.
- Indian Institute of Technology Madras, Chennai.
- Indo-French Centre for the Promotion of Advanced Research, Office of the Director, New Delhi.
Institut d’Etudes pour le Développement Economique et Social, Université de Paris I Panthéon-Sorbonne, Paris.

International Management Institute, New Delhi.

Investment Innovation & Research Alliance, Bangalore.

Jawaharlal Nehru University, School of Social Sciences, New Delhi.

Ministry for Micro- and Small Medium Sized Enterprises, GoI, New Delhi.

Ministry of Education, University, and Research, Rome.

Philips Innovation Campus, Office of the Senior Director of Philips Research Asia, Bangalore.

Research and Information System for Developing Countries (RIS), Indian Think Tank close to the Indian Ministry of Foreign Affairs, New Delhi.

Technology Development Board, Ministry of Science and Technology, GoI, New Delhi.

University of Rome “La Sapienza”, International Relations Division, Rome.
ANNEX 4. Official documents


Council of the EU (2010), *Council conclusions concerning various issues related to the development of the European research area (ERA)*, Brussels.

Council of the EU (2012), *Joint declaration on research and innovation cooperation, 12th EU-India Summit, 10 February*, Press 44, Brussels.


CREST-ERAC/SFIC India Group (2012), *Europe’s views on a draft EU/MS-India Strategic Agenda for Research and Innovation*, (Executive summary), EC of the EU, DG RDT, Brussels.

CREST-ERAC/SFIC India Group (2012), *Europe’s views on a draft EU/MS-India Strategic Agenda for Research and Innovation*, EC of the EU, DG RDT, Brussels.


EU Delegation to India (2010-2011), *EU-India Update*, Newsletter of the Delegation of the EU to India, New Delhi (various issues).


EU Delegation to India (2011), *India, the European Union and Trade* (2010), New Delhi.


European Research Area (2010), *ERA-NET: Networking the ERA: Coordination of National and Regional Research Programmes*, Series II.


ANNEX 5. Bibliography


European Business And Technology Centre (2011), *Promoting European Clean Technologies In India & Tackling Climate Change*, New Delhi.


German Development Institute (2009), *India’s Development Cooperation: Opportunities And Challenges For International Development Cooperation*, Briefing Paper.


Indo-French Centre For The Promotion Of Advanced Research (2010), Annual Report 2009-10, New Delhi


Kappel R. (2010), On The Economics Of Regional Powers: Comparing China, India, Brazil And South Africa, German Institute For Global And Area Studies, WP145


Peng Er Lam and Lim Tai Wei (Eds) (2009), The Rise Of China and India, East Asian Institute, National University of Singapore Press, Singapore.


UNNIKRISHNAN Nandan And Samir Saran, *BRIC In The New World Order: Perspectives From Brazil, China, India And Russia*, New Delhi, Macmillan India, 2010


How to obtain EU publications

**Free publications:**
- via EU Bookshop (http://bookshop.europa.eu);
- at the European Union's representations or delegations. You can obtain their contact details on the Internet (http://ec.europa.eu) or by sending a fax to +352 2929-42758.

**Priced publications:**

**Priced subscriptions (e.g. annual series of the Official Journal of the European Union and reports of cases before the Court of Justice of the European Union):**

European Commission


Luxembourg: Publications Office of the European Union

2012 — 44 pp — 21 x 29,7 cm

ISSN  1831-9424
doi  10.2777/12336
The report by two independent experts presents the findings of their review of the last five years of implementing the EU-India Science and Technology Cooperation Agreement (2007-2011). It contextualises the agreement in the wider institutional and policy developments in India and the European Union during the review period. Suggestions are put forward for strengthening and enhancing mutually beneficial scientific and technological cooperation in the future.

*Studies and reports*