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International Science and Technology Cooperation in the EU's 7th Framework Programme: the specific programme

'Cooperation'

and its thematic areas

Main Report

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International Science and Technology Cooperation in the EU's 7th Framework Programme: the specific programme 'Cooperation' and its thematic areas

Main Report

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GLOSSARY

AC	Associated Country
ACP	African, Caribbean and Pacific States party to the Lomé Convention
ASEAN countries	Brunei, Cambodia, Indonesia, Lao PDR, Malaysia, Myanmar, Philippine, Singapore, Thailand and Vietnam
BRICS	Association of five major emerging national economies: Brazil, Russia, India, China and South Africa
BSG-CSO	Research for the Benefit of Specific Groups - Civil Society Organisations (BSG-CSO)
CORDIS	Community Research and Development Information Service
CP	Collaborative project
CP-CSA	Combined Collaborative Project (Large-scale integrating project) and Coordination and Support Action
CP-FP	Small or medium-scale focused research actions
CP-FP-INFSO	Small or medium-scale focused research project INFSO (STREP)
CP-FP-INFSO-FET	Small or medium-scale focused research project INFSO-FET
CP-FP-SICA	Small or medium-scale focused research project for specific cooperation actions dedicated to International Cooperation Partner Countries (SICA)
CP-IP	Large-scale integrating project
CP-IP-INFSO-FET	Large-scale integrating project INFSO-FET
CP-IP-SICA	Large-scale integrating project for specific cooperation actions dedicated to International Cooperation Partner Countries (SICA)
CP-SICA	Collaborative project for specific cooperation actions dedicated to International Cooperation Partner Countries (SICA)
CP-SICA-INFSO	Collaborative Project Specific International Cooperation Actions (SICA)
CP-TP	Collaborative Project targeted to a special group (such as SMEs)
CSA	Coordination and Support Action
CSA-CA	Coordinating action
CSA-CA-INFSO-FET	Coordination (or networking) actions INFSO-FET
CSA-ERANET	ERANET
CSA-ERA-PLUS	ERANET Plus
CSA-SA	Supporting action
CSA-SA-INFSO-FET	Support actions INFSO-FET

CSLF	Carbon Sequestration Leadership Forum
CSP	Concentrating Solar Power
DG	Directorate-General
EBTC	European Business and Tech Centre
EDCTP	European and Developing Countries Clinical Trials Partnership
EECA	Eastern Europe/Central Asia
ERA	European Research Area
ESA	European Space Agency
EU	European Union
EUEI	EU Energy Initiative for poverty eradication and sustainable development
FDI	Foreign direct investment
FET	Future and Emerging Technologies
FP	Framework Programme
GDP	Gross domestic product
GEO	Group on Earth Observation
GEOSS	Global Earth Observation System of Systems
GIS	Geographic information system
GMES	Global Monitoring for Environment and Security
HFSP(O)	Human Frontier Science Programme (Organisation)
ICPC	International Co-operation Partner Countries
ICT	Information and Communication Technologies
IEA	International Energy Agency
IMS	Intelligent Manufacturing Systems
INCO	International Cooperation
IPHE	International Partnership for the Hydrogen Economy
JRC	Joint Research Centre
JREC	Johannesburg Renewable Energy Coalition
KBBE	Knowledge-Based Bio-Economy
LAC	Latin America and Caribbean
MDG	Millennium Development Goal
MPCs	Mediterranean Partner Countries

MS	EU Member State
NCP	National Contact Point
NMP	Nanosciences, Nanotechnologies, Materials and new Production Technologies
NoE	Network of Excellence
NSF	National Science Foundation
PPP	Public-Private Partnership
R&D	Research and development
R&I	Research and innovation
S&T	Science and technology
SE	Socio-Economic
SICA	Specific International Cooperation Action
SME	Small and medium-sized enterprise
SSH	Socio-economic sciences and humanities
STI	Science, Technology & Innovation
SWOT analysis	Strengths, Weaknesses, Opportunities and Threats
TIERS	The abbreviation TIERS has been directly taken up from the eCORDA database. It is directly related to the scope of the present study, which targets international cooperation with countries outside the EU and with countries not associated with the Seventh Framework Programme
UN	United Nations
WP	Work Programme
WSSD	World Summit on Sustainable Development

1 STUDY OBJECTIVES AND METHODOLOGIES

The purpose of this study on the international cooperation in the European Union's (EU) Seventh Framework Programme (FP7) is to identify, analyse and assess the practices of international research and innovation (R&I) cooperation with third countries ([1]), specifically targeting the 'Cooperation' specific programme and its ten distinct research themes. The study focuses on all FP7 R&I activities developed together with the EU's third country partners, i.e. countries not belonging to the EU and not associated with the Framework Programme (FP).

The study aims to provide a comprehensive picture and assess approaches used in designing and implementing international cooperation, both thematically and geographically, taking into account the **policy objectives and expectations against which impacts, benefits and limitations** of the increasingly 'mainstreamed' and decentralised international R&I cooperation policy can be assessed. The **comparative assessment of the effectiveness of FP7 international cooperation instruments** will form the basis for a number of policy recommendations for their optimisation.

These recommendations relate to the **further development of** international R&I cooperation in Horizon 2020. They intend to provide a contribution to how EU action can achieve appropriate scale and scope, ensuring sufficient critical mass and avoiding fragmentation of effort.

The review and assessment of international cooperation in FP7 is based on a number of **research and assessment criteria**, considering:

- the relevance of international cooperation activities in relation to the general strategy and the specific thematic objectives of international cooperation in FP7, specifically addressing:
  - the size of the activities, in relation to programme expectations;
  - correspondence of the international cooperation portfolio with policies and themes;
  - specific (bottom-up and top-down) technology-based drivers;
  - the overall societal drivers, the grand challenges of international cooperation;
  - the outliers in international R&I cooperation: themes, instrument, type of relation, continuity of relations, etc.;
- programme efficiency and effectiveness:
  - rules and procedures, and how these affect international cooperation projects and their efficiency and effectiveness;
  - the consequences of integrating international cooperation within the themes of FP7, as opposed to a separated, top-down design and implementation;
  - the effects of a bottom-up design and set-up of international cooperation;
  - best practice approaches to design and implementation;
- programme impacts:
  - the outputs, benefits and impacts of international cooperation on the different dimensions addressed by R&I activities;
  - the consequences on the main geographical directions of international cooperation, in R&I terms, and in terms of joint support to knowledge growth.
- The study aims to:
  - contribute to an increased understanding of how international cooperation has worked in the 'Cooperation' specific programme of FP7;
  - examine the experience from several perspectives: the fulfilment of the thematic goals, the geographical directions, the programme design, the management, the critical mass, the third country partner participation, and the participation experience of EU partners;

([1]) See http://cordis.europa.eu/fp7/capacities/international-cooperation_en.html online.

- assess the integration of international cooperation in the programme, and its direct and overall policy strategies;
- assess resource efficiency and the thematic and geographical focus;
- review the effectiveness of the FP7 instruments for international cooperation;
- develop recommendations for further development of international cooperation in future FPs.

- The study is based on a set of activities, tools and methodologies, aimed at providing different perspectives on the international cooperation experience in FP7:
  - reconstruction of the international cooperation strategy in the FP;
  - structural analysis of activities and instruments, based on the programme documents and the specific policies;
  - statistical analysis of the data on international cooperation in FP7;
  - third country participants' evaluation and assessment survey;
  - EU participants' (coordinators') evaluation and assessment survey;
  - thematic National Contact Points' (NCPs') analysis and assessment survey;
  - interviews of policy officers in European Commission thematic units (the Directorate-General (DG) for Research and Innovation, DG Communication Networks, Content and Technology, and DG Enterprise and Industry);
  - three geographical case studies.

1.1 FINAL REPORT STRUCTURE

The present final report aims at providing a comprehensive overview of the results of the different empirical research lines that have been taken during the course of the study. It is complex in nature, due to the large amount of qualitative and quantitative evidence, which helps portray a comprehensive picture of international cooperation in FP7.

For this reason, we are presenting the main text of the final report as a concise document on international cooperation in FP7. The related evidence, in the forms of figures and tables, is found in two annexes: one internal annex providing the most significant elements of evidence; and one external annex from which readers can retrieve the qualitative and quantitative data defining the picture of our investigation.

A concise executive summary conveys the main messages on international cooperation.

The main report comprises the following

- A glossary, explaining all abbreviations used in the text.
- Section 1 covers study objectives, an outline of the empirical research, and the methodologies applied for desk research, statistical analysis, individual and the group interviews and surveys, as well as case studies.
- Section 2 focuses on desk research on the overall international cooperation set-up in FP7, specifically in the 'Cooperation' specific programme across its 10 thematic areas. It highlights the key points as identified both in the legal and the key policy documents.
- Section 3 presents the different funding instruments available in the FP for international cooperation.
- Section 4 explains the approach to the thematic set-up of international cooperation by European Commission services, addressing design, implementation, management, integration and assessment.
- Section 5 showcases the statistical analysis emerging from the eCORDA database, which gathers all the information on individual projects across all of FP7.

- Section 6 presents the three surveys, their analysis and assessment, and the emerging highlights.
- Section 7 covers the three country case studies (on India, Tunisia and the United States), and compares them with emerging facts from other areas of the empirical research.
- Section 8 proposes best practice towards achieving the objectives of international cooperation in R&I.
- Section 9 presents conclusions and recommendations for international cooperation in R&I.
- The main quantitative facts are found in the annex to the main report; the greater part is presented in a separate document, available along with the main report.

1.2 THE METHODOLOGICAL APPROACH

The present study that collects factual evidence for policymaking at EU level is founded on an articulate methodological structure, based on sound approaches. A specific methodological approach has been developed for each of the different stages of the empirical research, as explained below.

Reconstruction of the international cooperation strategy in the FP7 'Cooperation' programme, and structural analysis of activities and instruments

This research activity created the conceptual and strategic policy foundation for the study. It was based on an extensive review of the legal basis, the strategic foundations and the programme documents of the EU's FP7, of the 'Cooperation' specific programme and of the 10 thematic programmes. This review created the basis for understanding the overall international cooperation approach, implementation strategies and key elements of the specific support provided to research teams.

This extensive review links the different set-up and implementation levels, and draws up a number of synoptic tables; these were included in the study's interim report ([2]) and are presented in the current final report.

Statistical analysis of eCORDA data on international cooperation in FP7

One of the important analytical perspectives on international R&I cooperation is the quantitative one. The purpose is to present the fundamental quantitative dimensions of the international cooperation experience in the FP7 Cooperation programme. Our analysis has considered a great number of projects, levels of funding, size of consortia and many other variables for international cooperation activities across different thematic areas. In particular, we have compared international R&I cooperation with the core EU-centred research and innovation activities in each thematic area.

The principal source of information for the quantitative analysis is the eCORDA statistical database: a full-scale set of data on all FP7 R&I projects, segmented by individual participants. We have used a full extraction of the database, covering all FP7 calls until July 2013. eCORDA provides a very large set of variables, including programme call, project start, value of research activities, level of funding and participant type. The study consortium has processed the data under a full non-disclosure agreement and has worked on aggregated data; this means that it is impossible to refer to the information, data and opinions of any individual.

The key methodological steps included an initial data cleansing and tagging sweep, and processing with SPSS™. We produced descriptive statistics accordingly and calculated absolute values and relative values for the variables. The tables and charts were produced with MS Excel™ and geographic information system (GIS) charts for the geographical representation of the data.

([2]) Please see the Study Interim Report, Final version, 25.09.2013.

Interviews

The interviews were an important element that helped get a feeling for the perspective of the European Commission on international cooperation; both from a general policy point of view and from the specific thematic point of view.

Interviews proved a useful research technique when investigating personal opinions and when obtaining information from experts with direct insight into international cooperation in the R&I thematic areas.

The group interview involved nine policy officers from different Directorates-General (DGs) of the European Commission and from different units. We posed a number of questions to policy officers: subjects were the strategic set-up of international cooperation, the thematic strategies, the implementation policies and relevant results and outcomes, the effectiveness of the grant management process, sustainability, and the overall outcomes of international R&I cooperation.

The interviewees provided interactive responses on several topics: the real desirability and feasibility of international cooperation in R&I, the relevance of the policies and instruments to overall international cooperation, consistency between the more general FP7 international cooperation strategy and the specific thematic objectives, planning of international cooperation and its integration in the mainstream activities; and the priority setting.

Individual interviewees were from selected DGs (for Research and Innovation; for Communication Networks, Content and Technology; and for Enterprise and Industry) and from a wide selection of thematic and horizontal units supporting international cooperation activities.

The individual interviews were aimed at gathering in-depth information on the international cooperation process at thematic level. We interviewed 12 European Commission officials from different DGs, and reviewed the following elements: the 'weight' of international cooperation in the officers' thematic area; how international cooperation is embedded in specific work programmes, and how priorities in themes and budgets are set; impacts in terms of overall science and technology goals; the 'success' of international cooperation in relation to expected participation dimensions and R&I outputs, and sustainability, and small and medium-sized enterprise (SME) participation; the interest in specific 'geographical directions' for international cooperation in R&I; the efficiency and effectiveness of the management and administration of these international cooperation projects in the overall FP7 context; and the supporting role of National Contact Points (NCPs).

The interviews proved to be a very effective empirical research activity, revealing a strong consistency across the approaches, assessments and judgments of European Commission officers on international R&I cooperation.

Surveys

Surveys are a key tool for empirical research to collect data from large or very large panels of experts. Surveys allow the production of statistically meaningful evidence on information owned by respondents, and on their opinions. The surveys are deeply rooted in the conceptual framework of the study, which was used to define the key investigation questions for each survey target. In other words, the conceptual framework, the desk and document research, the group interviews and the individual interviews contributed to the shaping of the questionnaires. They were sent to:

- European Commission project coordinators involved with international third country partners;
- international third country partners participating in FP7 international cooperation projects;
- thematic NCPs in third partner countries.

In addition to these surveys, the study team cooperated with the Technopolis Group ([3]) in a sister study on "European Added Value of EU Science, Technology and Innovation actions and EU–Member State partnership in international cooperation" (2014). INTRASOFT International SA and

([3]) Lot 3, 'Measuring European Added Value of the EU-Member State Partnership in International Science & Technology Cooperation'.

Technopolis Group together developed two additional questionnaires aimed at NCPs with a focus on international cooperation in the EU and in third partner countries.

The surveys were designed using our customised open-source online survey tool, and provided each individual respondent with a personal ID and password, so they could respond online. The survey targets were drafted using, firstly, the full-scale panel extracted from the eCORDA database, including both EU partners and third country partners, and secondly, the full set of NCPs in third partner countries. Table 1 presents an overview of the survey panels, the respondents and the response rate.

Table 1 Breakdown of survey panels and survey respondents

	Respondents	Panel	Response Rate
European Commission coordinators	312	872	35.8%
Third country participants	834	2 352	35.5%
INCO NCP survey (non-EU NCP)	23	72	31.9%
INCO NCP survey (EU NCP)	27	56	48.2%
INCO NCP (thematic programme NCP)	108	365	29.6%

The data strings produced by the online survey tool were cleansed and processed with SPSS™ to produce cross-tabulations, to calculate location and dispersion descriptive statistics (mean, median and standard deviations). The descriptive statistics calculations were then processed with Excel™ to produce tables and charts to be used for the assessment. The full set of descriptive statistics has been delivered in a separate document ([4]).

The descriptive statistics of the surveys were presented in a self-standing report ([5]) and then integrated into the present final report.

Case studies

The case studies were designed for the analysis of international R&I cooperation from the perspective of three different countries. It should be noted that the viewpoint is that of the country's experience rather than of a specific project's experience. Case study countries were selected based on the degree of overall economic and industrial development, and the related level of Science and Technology (S&T) and R&I activities. One secondary dimension was the geographical location. The countries, which were selected together with the European Commission project officers, were India (a fast-growing country with a developing S&T base), Tunisia (a Mediterranean partner country) and the United States (a developed economy and a strong player in S&T).

The purpose of the case studies is to provide a comprehensive view of country representatives on the multifaceted issues of international R&I cooperation, and in particular concerning the EU FP. They are constructed to build on and complement the quantitative and qualitative analyses, and include EU project coordinators, project partners, NCPs and policymakers of the three countries.

The value added element of each case study is to provide expert perspectives on the country-to-country relationships, rather than the point of view of an individual with project-related experience. This has broadened the perspective, further integrated information collected through the surveys and the interviews, and allowed an additional combination with the facts emerging from the eCORDA data. The section on the case studies in this report presents a comprehensive picture of the country-to-country relationships and integrates them with the overall facts emerging from the other areas of the empirical research.

([4]) Internal Deliverables: eCORDA analysis v3, 04.08.2013.
([5]) Internal Deliverables: International Cooperation survey third country respondents rev 1_0; International Cooperation survey Thematic NCPs rev 1_0; International Cooperation survey EU respondents rev 1_0; International Cooperation survey EU respondents vs Third country respondents rev 1_0.

The United States is the largest EU partner in absolute dimensional terms, with 343 projects in FP7; India is a partner in 190 projects; and Tunisia in 55. The three selected countries all have bilateral S&T agreements ([6]) with the EU; a framework and a privileged forum to identify common interests, priorities, policy dialogue, and the necessary tools for S&T collaboration. Moreover, the United States and India are partners in specific actions in selected thematic areas. The case study section unfolds the relevant policy context, focusing on S&T agreements and on cooperation agreements in thematic areas, as well as on funding agreements.

The case studies process included fundamental desk research, and a number of interviews with R&I players, NCPs and policymakers. The desk research covered the policy context and policy dialogue, S&T agreements, thematic Cooperation agreements and funding agreements. The case study interviewees were mainly identified through the survey respondents. Consistently with the study design, we conducted 3 interviews with EU project coordinators, 10 with project partners from the case study countries, and 5 with policymakers, NCPs or representatives of EU delegations in the 3 countries ([7]).

The interviews followed a semi-structured interview protocol, covering the following topics:

- respondent demographics, i.e. the respondent's affiliation and background;
- the scope of international R&I cooperation with the EU and the FP;
- motivation for international R&I cooperation;
- national strategies and interlinkages with FP7;
- effectiveness, outputs, outcomes, impacts (overall cooperation; not referred to projects);
- management and efficiency of the project;
- experiences and room for improvement;
- future challenges and opportunities.

The case study interviewees were extracted from the eCORDA database according to the following criteria:

- third country R&I players who took part in at least three FP7 R&I projects;
- EU project coordinators participating in at least five projects, in collaboration with third country partners;
- the Community Research and Development Information Service (CORDIS) database provided the information on NCPs in India, Tunisia and the United States.

The case study section presents the outcomes of the interviews, which are matched with the basic framework analysis and the relevant facts emerging from the interviews, the surveys and the statistical analysis of the eCORDA database. The latter in particular was used to illustrate international cooperation patterns of the three case study countries. The survey responses provided input to the issues of implementation and project realisation.

We interviewed three EU project coordinators engaged in international cooperation projects: one from Germany, one from Denmark and one from Belgium. Furthermore, we worked with four project partner representatives from India, four project partner representatives from Tunisia and four project partner representatives from the United States. The interviews with policymakers, EU delegations and NCPs included two representatives from India, two from Tunisia and one from the United States. It should be noted that there are no NCPs in the United States. The interviews were integrated with the survey responses of the three countries to provide additional information on design, implementation and impacts of international cooperation activities. We considered the responses of 24 American survey respondents, 54 Indian respondents and 15 Tunisian respondents. In spite of the relatively small size of the specific groups of survey respondents, the results proved to be helpful in illustrating country-specific patterns ([8]).

([6]) See http://ec.europa.eu/research/iscp/index.cfm?pg=countries online.
([7]) Final Report: Statistical and Graphical Annex. Table 68.
([8]) Final Report: Statistical and Graphical Annex. Figure 83 to Figure 99.

The case study interviews took place via telephone or Skype, between the months of October and December 2013, and lasted between 25 and 105 minutes.

2 POLICY FRAME FOR INTERNATIONAL COOPERATION IN FP7: OVERALL AND SPECIFIC THEMATIC OBJECTIVES

The EU's Framework Programme (FP) recognises that science and technological development (S&T) has always been international by nature. The increasing internationalisation of industry and services and the migration of industrial and technological development towards fast-growing emerging economies and their increasing integration with the 'western economies' is a powerful driver of global knowledge production and knowledge-sharing. Grand global challenges (such as climate change, poverty, infectious diseases, threats to energy, food and water supply, citizen security, network security and the digital divide) urge for effective global Science and Technology (S&T) cooperation in the name of sustainable development.

These global challenges and the globalisation of industry, services and trade call for an awareness of the impacts on science, technology and innovation, and possibly a new approach to international cooperation in research and innovation (R&I).

Another important goal for the global operations in R&I is the development of the European Research Area (ERA). The growth of ERA through greater integration and cross-border coordination of research investments and activities positively impacts the competitiveness and attractiveness of research and innovation ([9]). It is, however, vital that the growth of the ERA goes 'hand in hand with widening it, through enhanced cooperation with international partners' ([10]). An international R&I policy is necessary to create a competitive role for Europe in the world.

The main objective of international cooperation in FP7 has been to integrate European excellence in R&I into the global science and innovation context. Since the share of R&I funding provided by the EU is relatively small in respect to the overall R&I investment made by Member States, it is necessary to strengthen the partnership between Member States and the EU to sustain the general international cooperation strategy of European Research. The international actions carried out under the different programmes within FP7 are implemented in the context of an overall International Cooperation Strategy. This international policy has three interdependent objectives ([11]) ([12]):

- **to establish strategic partnerships with international partner countries in selected fields** of science, so as to support European scientific and economic development, and to engage the best international partner country scientists to work in and with Europe;
- **to focus S&T activities on specific problems** of international partner countries or of global character;
- **to improve access to global research,** and facilitate contacts with international partners ([13]).

In this context, the following principles underlie EU S&T international cooperation ([14]).

- Widening the ERA and making it more open to the world: promoting collaboration between public and private research organisations and funding agencies, facilitating work across borders and competition for excellence.

([9]) See Communication from the Commission to the Council and the European Parliament: A Strategic European Framework for International Science and Technology Cooperation, Brussels, 24.09.2008.
([10]) Ibid.
([11]) Decision No 1982/2006/EC of the European Parliament and of the Council of 18 December 2006 concerning the Seventh Framework Programme of the European Community for research, technological development and demonstration activities (2007–13), 30.12.2006.
([12]) International cooperation actions within the Cooperation programme support the first two objectives.
([13]) Ibid.
([14]) Communication from the Commission to the Council and the European Parliament: A Strategic European Framework for International Science and Technology Cooperation, Brussels, 24.09.2008.

- Ensuring greater coherence between research activities and other EU policies and funding instruments, in order to strengthen the impact and influence of S&T on these policies.
- Enhancing the attractiveness of Europe as a research partner: improved competitive and institutional research-funding, world-class infrastructures, greater researcher mobility and good management of intellectual property rights.
- The EU and Member States working together to optimise S&T achievements and better coordination.
- Fostering strategic S&T cooperation with key international partner countries, taking into consideration that there are significant differences between advanced partners and countries developing their science bases, while underlining that both types of cooperation are needed.

In 2012, the Commission communication "*Enhancing and focusing EU international cooperation in research and innovation: a Strategic approach*" defined new principles ([15]). It is accompanied by a Staff Working Document, which presents background information, facts and data to demonstrate how the global picture in research and innovation is changing, and how Europe is positioned within the international context, thereby underpinning the need for a more strategic approach to international cooperation in research and innovation in Europe. It also reflects how international cooperation in research and innovation has been developed at Union level over recent years under FP7, through S&T agreements, and with the help of funding provided through the Union's external instruments. It also provides an overview of international cooperation activities developed by the Member States, as part of their own policies and programmes.

The International Cooperation strategy indicates that in order to achieve high-level results based on the above principles, the first goal needs to be a **stronger international dimension of the ERA** and **the improvement of framework conditions for international S&T cooperation**.

The stronger international dimension of the ERA should be achieved through:

- integration of neighbouring countries into the ERA (particular attention is paid to Egypt, Morocco, Russia, Tunisia and Ukraine);
- fostering strategic cooperation with key international partner countries, using geographic and thematic targeting.

The key aspects to improve the framework conditions for international S&T cooperation are:

- joint development of and access to research infrastructures to tackle scientific challenges;
- fostering researchers' mobility and their global networking;
- further opening up of research programmes;
- managing intellectual property issues.

FP7 addresses international cooperation differently from the previous FPs. In FP7, international cooperation is embedded in all European Union research support. The FP7 set-up makes a clear reference to international cooperation in its introductory sections, focusing on both R&I and science in general, but also on the specific domain of ICT.

International cooperation activities are developed according to three basic principles, explained below.

- **Programming**, which includes both:
  - a broad opening of international research collaboration in both programmes and in research themes;
  - programming of specific priorities for international partner countries and regions in different calls for proposals across the thematic work programmes.

([15]) Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions. 'Enhancing and focusing EU international cooperation in research and innovation: A strategic approach'. Brussels, 14.9.2012 COM(2012) 497 final.

- **Targeting**: specific actions for collaboration with international partner countries and regions are embedded in each of the thematic programmes of FP7, allocating budgets at the level of the relevant calls for proposals.
- **Partnership and dialogue**: introducing the focused principle of partnership in Specific International Cooperation Actions (SICAs), guaranteeing a fair level of participation for third country partners in cooperation with EU partners.

International activities in FP7 are complementary and synergetic. The 'Cooperation' specific programme was intended to enable the cooperation of different global research partners with European researchers.

Procedures have been simplified: unique registration facility, reduced evaluation criteria, simplified forms, etc. to facilitate potential participation from international partner countries, less familiar with the FP.

2.1 INTERNATIONAL COOPERATION IN THE WORK PROGRAMMES

It is useful to explain the structure of the EU's FP7 for research and innovation: the overall framework is set by the FP, which is proposed by the European Commission and adopted by the European Parliament and the Council of the European Union.

The FP7 is structured in several specific sub-programmes, with specific R&I policy support objectives: the present study focuses on the 'Cooperation' specific programme, which is flanked by four others: 'Ideas', 'People' and 'Capacities', and Nuclear Research ([16]). The work programme of the specific programme 'Cooperation' is, in turn, arranged into 10 thematic programmes, covering different S&T areas: Health; Food, Agriculture and Fisheries, Biotechnology; Information and Communication Technologies; Nanosciences, Nanotechnologies, Materials and new Production Technologies; Energy; Environment; Transport; Socio-economic Sciences and Humanities; Space; and Security. The international cooperation activities of the individual thematic programmes are discussed below.

2.1.1 Ten thematic areas: analysis

Health

The objective of the Health thematic programme is to improve the health of European citizens and increase the competitiveness and innovative capacity of European health-related industries and businesses, while addressing global health issues, including emerging epidemics.

International cooperation is very important in this theme. Specific International Cooperation Actions (SICAs) have been developed across almost the whole FP7 period (except for 2013). Thematically, they mostly concern diseases, especially neglected infectious diseases and international public health and health systems. The geographical focus is mainly on developing countries including International Cooperation Partner Countries (ICPCs), the Eastern Europe/Central Asia (EECA) region, the Western Balkans, the African, Caribbean and Pacific States party to the Lomé Convention (ACP), the Mediterranean Partner Countries, Asia and Latin America. In 2012 and 2013, efforts were shifted to programme-level collaborations: in rare diseases with the United States, in innovative therapies with Australia, and with the United States and Canada in the field of brain injury. The focus is on ensuring complementarity and coherence with international efforts in addressing global health problems. To this end, a number of topics were developed that

([16]) The specific programmes constitute the five major building blocks of FP7:
- 'Cooperation' fosters collaborative research across Europe and other partner countries through projects by transnational consortia of industry and academia;
- 'Ideas' supports 'frontier research' solely on the basis of scientific excellence;
- 'People' provides support for researcher mobility and career development, both for researchers inside the European Union and internationally;
- 'Capacities' strengthens research capacities, for Europe to become a thriving knowledge-based economy;
- Nuclear Research comprises research, technological development, international cooperation, dissemination of technical information, and exploitation activities, as well as training.

supported actions aimed at structuring the European contribution towards and collaborating with international initiatives, in areas such as rare diseases, brain and brain-related diseases and large-scale data gathering. Such topics were mainly presented in the latest work programmes (2012–2013).

Food, Agriculture and Fisheries, Biotechnology (KBBE)

The objective of this thematic programme is to help build a European Knowledge-Based Bio-Economy (KBBE) by bringing together science, industry and other stakeholders, in order to exploit new and emerging research opportunities that address social, environmental and economic challenges. The KBBE theme has a strong emphasis on international cooperation. Apart from special actions to enhance international cooperation developed throughout all the WPs (including SICAs, coordinated calls, twinning of projects, and topics specifically highlighted as being research areas which are particularly well suited for international cooperation), all topics are open to international partner countries.

One of the major topics of international cooperation across the whole period was the contribution to the UN Millennium Development Goals by eradicating extreme poverty and hunger, and to ensure environmental sustainability. Since 2011, priority has also been given to cooperation with industrialised countries. Cooperation of this kind focuses on emerging new scientific fields through development of topics specifically highlighted as research areas that are particularly suited for international cooperation with these countries. In the same period, priorities of the Strategic Forum for International Science and Technology Cooperation (SFIC) have been recognised in the KBBE Work Programmes (WPs), through fostering bilateral programme-level cooperation with India and China.

Information and Communication Technologies (ICT)

The main objective of the ICT thematic programme is to help 'improve the competitiveness of European industry and [enable] Europe to master and shape future developments in ICT so that the demands of its society and economy are met'. The ICT programme activities will continue to strengthen Europe's scientific and technology base and ensure its global leadership in ICT, and help drive and stimulate production, services and process innovation and creativity through ICT use and value creation in Europe. The activities will ensure that ICT innovations are rapidly transformed into jobs and growth for the benefits of Europe's citizens, businesses, industry and governments.

The international cooperation dimension is important throughout all the ICT WPs and aims to support European competitiveness and to jointly address, with other regions of the world, issues of common interest and mutual benefit. In general, the majority of topics dedicated to or encouraging international cooperation focus on high-income countries, followed by Brazil, Russia, India, China and South Africa (BRICS) and Latin American and Caribbean (LAC) countries. Brazil, Russia and Japan are the countries particularly targeted in the 2011–2013 WPs.

Throughout the whole period, a number of topics (objectives) in support of the Future and Emerging Technologies (FET) schemes have been developed, taking into consideration the international cooperation dimension.

Nanosciences, Nanotechnologies, Materials and new Production Technologies (NMP)

The NMP theme mainly focuses on smart and sustainable growth for a greener industry, with its three constituent activities being tools rather than ends in themselves. It covers the whole range of industrial research activities. Its central objective is to improve the competitiveness of European industry and generate knowledge to ensure its transformation from a resource-intensive to a knowledge-intensive industry, by generating step changes in knowledge and implementing decisive knowledge for new applications at the crossroads between different technologies and disciplines. This will benefit both new, high-tech industries and higher-value, knowledge-based traditional industries; there is a focus on the appropriate dissemination of RTD results to SMEs.

Based on the number of topics with an international cooperation dimension, WPs from 2007 to 2013 mainly focused on high-income countries and the BRIC region. Moreover, with the aim of supporting the international initiative of Intelligent Manufacturing Systems (IMS), a number of the

topics promoted are particularly suitable for international collaboration under the IMS scheme ([17]). Project partnerships that include independent organisations from regions participating in the IMS initiative have therefore been encouraged (currently, these include the EU, Korea, Mexico, Switzerland and the United States).

In 2007, initial contact was established with international partner countries such as China, India and Russia. Since 2008, Coordinated Calls have been announced with China, India, Mexico, Russia and the United States. Russia and Japan seem to hold major interest for international cooperation in Nanotechnologies and Materials respectively; there have been two Coordinated Calls with Russia (2009 and 2011) and Japan (2011 and 2013) in these areas.

In order to pave the way for a common understanding of regulatory needs by policymakers globally, WPs have supported initiatives aiming to coordinate and exchange research data mainly in the fields of environmental, safety and health issues for nanotechnologies.

Energy

The objective of the Energy thematic programme is to help further adapt the current energy system into a more sustainable one, so as to be less dependent on imported fuels and more based on a diverse mix of energy sources, in particular renewable energy carriers and non-polluting sources. It also aims at enhancing energy efficiency, including by rationalising the use and storage of energy, and addressing the pressing challenges of security of supply and climate change, whilst increasing the competitiveness of Europe's industries.

International Cooperation constitutes an important dimension in the Energy WP across the whole programming period. Particular attention is paid to supporting important strategic bilateral agreements and dialogues, as well as multilateral cooperation initiatives. One such example is the Carbon Sequestration Leadership Forum (CSLF), with many topics encouraging the participation of the relevant partners from the CSLF (in particular Canada, China and the United States), and the International Partnership for the Hydrogen Economy (IPHE) countries.

Several instruments are used to promote international cooperation: opening up all activities to international participants; SICAs developed in several WPs; Coordinated Calls launched from 2008 to 2011 and targeting Brazil, India, Japan and Russia; initiatives for collaboration between projects targeting Australia, China and Japan and industrialised/emerging economies as a whole; as well as a pilot activity to support the exchange of researchers with Japan and the United States in the domain of energy research, which was implemented in 2011.

In addition, across the whole period, the WPs secured resources to make annual financial contributions required to participate in **the International Energy Agency (IEA),** where the EU participates in activities in certain areas of energy research.

Environment (including Climate Change)

The objective of this theme is the sustainable management of the environment and its resources by advancing our knowledge of the interactions between the climate, biosphere, ecosystems and human activities, and developing new technologies, tools and services in order to address in an integrated way of resolving global environmental issues. Emphasis is placed on prediction of climate, ecological, earth and ocean systems changes; on tools and on technologies for monitoring, prevention, mitigation of, and adaptation to environmental pressures and risks including on health; as well as the sustainability of the natural and man-made environment.

International cooperation with participants from international partner countries is strongly supported and encouraged throughout all areas and all the WPs in the Environment theme. The strategic approach for international cooperation of EU environmental research includes an annual identification of major cooperation countries and/or regions.

SICAs and Coordination and Support Actions (CSAs) in topics highlighted as being particularly suited for international cooperation have been developed since the beginning of the programming period. The main countries/regions targeted in the former include developing countries, ACP,

([17]) Intelligent Manufacturing Systems (IMS) is an industry-led, global, collaborative research and development programme; it started in 1995 as the world's only multilateral collaborative R&D framework: see http://www.ims.org online.

Africa, Asia, the Black Sea Basin, China, India, the Mediterranean Partner Countries (MPCs), the Middle East, South America and the Caribbean. In the latter, many topics are open to all the ICPCs ([18]). When the geographical orientation is defined, particular emphasis (based on the number of relevant topics) is given to the Mediterranean region, Latin America, North Africa and the United States.

Cooperation with Africa, Latin America (on various topics) and India (on water technologies and management) was particularly emphasised in 2010, 2011 and 2012 in SICAs and CSAs following the relevant international commitments or/and multinational initiatives. Cooperation with the United States is also highly supported throughout the WPs.

Transport (including Aeronautics)

Based on technological and operational advances and on the European transport policy, the objectives set by the Transport thematic programme include the development of integrated, safer, 'greener' and 'smarter' pan-European transport systems for the benefit of all citizens and climate policy, respecting the environment and natural resources; and securing and further developing the competitiveness attained by the European industries in the global market.

The WP TRAN 2007–2013 mainly targeted Russia, China and Japan, and to a lesser extent Latin America, India and industrialised countries. There is much variety in the funding schemes used: these include SICAs, CSAs, ERA-NETs and coordinated calls. Apart from special schemes to enhance international cooperation, all topics are open to international partner countries. Moreover, a systematic approach on how to use the funding schemes seems to be in place. CSAs are used to stimulate actions (networking events, workshops, etc.) to mobilise the research community to participate in FP7. Within the current programme period covered by Horizon 2020, SICAs will be launched using specific international cooperation actions for these countries. For some countries (China, Japan and Russia), coordinated calls were developed at the end of the 2007-2013 programming period.

In general, programmes with a focus on industrialised countries like the United States or Japan are used for joint development of knowledge and technology for the implementation of common methodologies and tools.

Socio-economic Sciences and Humanities (SSH)

The field of SSH enables people to understand the way in which societies are organised and governed, and how they evolve and change. The SSH thematic programme aims at the production of new interdisciplinary knowledge, developing the interface of needs and expectations of policymakers and other interested stakeholders, and strengthening the capability of the SSH to contribute to social cohesion. In the beginning of the FP7 programming period, there were no SICAs; there was only a selection of topics that were potentially interesting for international cooperation. While all topics are open for international participants, since 2009, each WP has been launching SICAs.

The geographical range is broad. Every work programme covered the regions of Africa, Asia, the Caribbean, Latin America and the Mediterranean countries. However, Latin America, China and India were the most frequently targeted regions. Industrialised countries have not been a focal point.

Typical topics are the development of cities, poverty research, scarcity of resources (food and water), social changes and political transformation. In order to encourage effective, structured and coherent international scientific cooperation in the SSH at global level, the aim is to align research agendas and enhance closer cooperation between national programmes of Member States, Associated Countries and international partner countries.

Throughout the entire programming period, the priorities for international cooperation have changed: from 'normal' research topics to 'challenge-driven research topics' contributing to Europe 2020, and finally to more 'innovation-oriented research topics'. In other terms, the SSH programme developed from the support to Research and Development (R&D) and knowledge production to an integrated instrument which seeks to address the grand challenges of modern

([18]) The International Cooperation Partner Countries are specified in the guidelines for participating in FP7.

society: climate change, depletion of natural resources, population growth and migration, globalisation and multiculturalism.

Space

The objective of the FP7 Space work programme is to support a European Space Policy focusing on applications such as Monitoring for Environment and Security (GMES), with benefits for citizens, but also other space foundation areas for the competitiveness of the European space industry and scientific community. This will help meet the overall objectives of the European Space Policy, complementing efforts of Member States and of other key players, including the European Space Agency (ESA).

The significance of the international cooperation dimension in the Space theme is apparent in both the general openness of the activities to participants from ICPC and industrialised countries, and the relevant crosscutting actions (significantly targeting the defined geographical areas) included across almost the whole period. For several topics, inclusion of international participants has been referred to as particularly advantageous.

International cooperation with international partner countries has been supported in view of expanding the use of earth observation data and the corresponding data-processing and management methods in these countries. Enhancing relations with established space powers is also important in order to facilitate broader space research alliances.

Among the developing regions, Africa has been targeted across the whole period as focal region for international cooperation, mainly in terms of supporting the 'GMES for Africa' initiative.

Security

The objective of the Security theme is to develop the technologies and generate the knowledge needed to protect citizens from threats such as terrorism, natural disasters and crime, while respecting fundamental human rights including privacy. It further aims at ensuring the optimal and concerted use of available and evolving technologies to the benefit of civil European security; to stimulate the cooperation of providers and users for civil security solutions; improving the competitiveness of the European security industry; and delivering mission-oriented research results to reduce security gaps.

Each WP (2007-2013) emphasises that all actions of the Security theme were open to international co-operation including both industrialized countries and ICPC countries. The only requirement mentioned in the WPs is that the proposal including international participant(s) should clearly explain to what extent the contribution of the international partner(s) is essential in order to allow a better assessment of their potential co-funding.

Until 2012 there was no specific activity for international cooperation. Only during the last two years several topics were earmarked for an enhanced international cooperation. Focus was given to Security of infrastructures and utilities area, and US American homeland security research entities were recognised as major international research partners.

No SICAs were developed during the whole FP7 period, despite the fact that the aforementioned Council Decision had foreseen the development of SICAs 'where there is mutual benefit, such as research relating to security activities of global applicability, e.g. management of large-scale disasters'.

2.2 THE COMPARISON OF BUDGETS

Table 2 presents a comparison of the budgets of the themes of the 'Cooperation' programme, in respect of the allocation of budget to international cooperation. Some themes have a significantly higher share of budget dedicated to international cooperation, compared to the overall 'Cooperation' programme budget:

- Health
- Food, Agriculture, Fisheries and Biotechnology (KBBE)

- Environment.

For some areas, the budget share of international cooperation is about as high as the share in the overall 'Cooperation' programme:

- Transport (including Aeronautics)
- SSH

A number of areas have a budget for international cooperation, which is slightly lower than the general share of the Cooperation budget:

- Nanosciences, Nanotechnologies, Materials and new Production Technologies
- Space
- Security.

And finally, there is ICT, where international cooperation has a significantly lower share in international cooperation than in the overall 'Cooperation' programme.

The statistics also show that the overall share of international cooperation in the 'Cooperation' programme budget is about 23%. In four areas, the share is significantly higher:

- Health: 31.87%
- Food, Agriculture and Fisheries, Biotechnology: 42.33%
- Environment (including Climate Change): 44.13%
- SSH: 34.83%.

These are the areas in which the international cooperation strategy of FP7 is particularly well developed, and the thematic work programmes are very specific about this type of R&I activity involving international third partner countries.

Table 2 Budget shares dedicated to International Cooperation, compared to overall shares of the 'Cooperation' programme budget

	Budget allocation		Budget allocation		Share
	(million EUR)		(share)		Intl. Coop. of 'Cooperation'
	Overall 'Cooperation'	International Cooperation	Overall 'Cooperation'	International Cooperation	
Health	6 100.00	1 944.00	18.82%	26.01%	31.87%
Food, Agriculture and Fisheries, Biotechnology	1 935.00	819.00	5.97%	10.96%	42.33%
Information and Communication Technologies (ICT)	9 050.00	1 316.00	27.92%	17.61%	14.54%
Nanosciences, Nanotechnologies, Materials and new Production Technologies	3 475.00	650.00	10.72%	8.70%	18.71%
Energy	2 350.00	469.00	7.25%	6.28%	19.96%
Environment (including Climate Change)	1 890.00	834.00	5.83%	11.16%	44.13%
Transport (including Aeronautics)	4 160.00	894.00	12.83%	11.96%	21.49%
Socio-Economic Sciences and the Humanities	623.00	217.00	1.92%	2.90%	34.83%
Space	1 430.00	250.00	4.41%	3.34%	17.48%
Security	1 400.00	81.00	4.32%	1.08%	5.79%
FP7 Cooperation programme budget allocation (2007–13)	32 413.00	7 474.00	100.00%	100.00%	23.06%

3 INSTRUMENTS

This chapter provides a qualitative overview of the instruments available for international cooperation in FP7, as presented in Table 1 of the interim report ([19]). Quantitative aspects of the use of instruments are presented in **Table 5** (Section 10) of this document.

3.1 OVERVIEW OF THE INSTRUMENTS

3.1.1 Collaborative Projects

Collaborative Projects in FP7 have specific purposes in R&I support, and specific characteristics, features and rules of operation to meet these purposes:

- support to research projects aimed at developing new knowledge, new technology, products or common resources for research;
- size, scope and internal organisation of projects can vary (small or medium-scale focused research actions to larger integrating projects);
- projects should also target special groups such as SMEs and other smaller actors;
- characteristics of Collaborative Projects:
  - small or medium-scale focused research actions (STREPs), CP-FP;
  - Large-scale Integrating Projects (IPs), CP-IP;
  - Collaborative Project targeting specific groups (such as SMEs), CP-TP;
  - CP-CSA, which involves a combination of Collaborative Projects and Coordination and Support Action (CP-CSA) funding schemes;
- implementation aspects:
  - general opening of all themes to international partner countries;
  - targeted opening;
  - specific cooperation action dedicated to international cooperation (CP-FP-SICA);
  - coordinated calls;
  - twinning of projects

3.1.2 Coordination and Support Actions (CSAs)

CSAs have an important role in international cooperation, as they help direct and shape international cooperation activities. One of their functions in international cooperation in FP7 has been to provide an evidence base for international cooperation decisions in thematic areas. CSAs may include:

- coordination and networking activities, dissemination and use of knowledge;
- studies or expert groups assisting the implementation of the FP;
- support for transnational access to major research infrastructures;
- actions to stimulate the participation of SMEs, civil society and their networks;
- characteristics of CSAs:
  - Coordinating or networking actions (CAs);
  - (Specific) Support Actions (SSAs or SAs);
- implementation aspects:

([19]) Please see Study Interim Report, Final version, 25.09.2013.

- used in the form of stimulation actions for development of partnerships between communities of scholars, research institutions and agencies in the EU, and Associated Countries in the FP and other world regions.

3.1.3 Networks of Excellence (NoEs)

NoEs fund activities to connect, share and disseminate knowledge and R&I actions by EU S&T players, i.e. universities, research organisations, enterprises and SMEs. They establish links between these players under a common theme, and support the networking activities. Their specifications include the following:

- support of integration of activities/joint teams;
- characteristics of NoEs:
  - projects require minimum participation of three EU Member States, but are usually expected to involve at least six countries;
  - projects are provided grants for a maximum of seven years;
  - the budget granted by the Commission is between EUR 1 million and 6 million per year, depending on the number of researchers involved;
- implementation aspects:
  - if NoEs are open for international cooperation, third countries can participate;
  - NoEs are used only in a few thematic programmes.

3.2 USE OF INSTRUMENTS IN FP7

A statistical analysis of the eCORDA database and comparison with quantitative data covering the FP overall are presented in Section 5. An interesting comparison concerns the share of projects and the budget shares between the overall 'Cooperation' thematic areas and the specific numbers of projects and budget allocation for international cooperation. The full data set is shown in Table 3 and Table 4 of the present report.

- Collaborative Projects are approximately the same in international cooperation projects and in the overall projects in the 'Cooperation' programme (79.68% vs 81.10%). The distribution among thematic areas is, however, different:
  - Food, Agriculture and Biotech, Healthcare and Environment have a higher share of international Collaborative Projects than the FP average;
  - ICT, Nanosciences, Transport and Security have a significantly lower share of international cooperation projects;
- CSAs have also about the same share in the overall 'Cooperation' programme as in international cooperation projects, even if the share in the latter is slightly higher. This can be explained by the use of CSAs to make thematic and geographic feasibility assessments. The only themes which are slightly lower in international cooperation are Nanosciences, Transport, and Security.
- As concerns NoEs and research for the benefit of specific groups, their share is very low in the overall 'Cooperation' programme; analysis does not yield much meaningful information.

4 INTERNATIONAL COOPERATION: THEMATIC SET-UP AND MANAGEMENT IN THE EUROPEAN COMMISSION

4.1 OVERVIEW

The European Commission is one of the key players in international cooperation in FP7. It has the responsibility to guide, design and manage international cooperation activities, from both the thematic and the geographic point of view.

In this study, interviews were carried out with European Commission policy officers in thematic and horizontal units, as well as with officials in charge of the overall strategic coordination of international research and innovation cooperation activities. The interviews provided direct information on the principles of strategic set-up and operation of international cooperation in the European Commission.

The EU's international R&I cooperation involves many bodies, entities and institutions. Interaction between these bodies is not linear, but rather circular and interactive, as shown by the following chart.

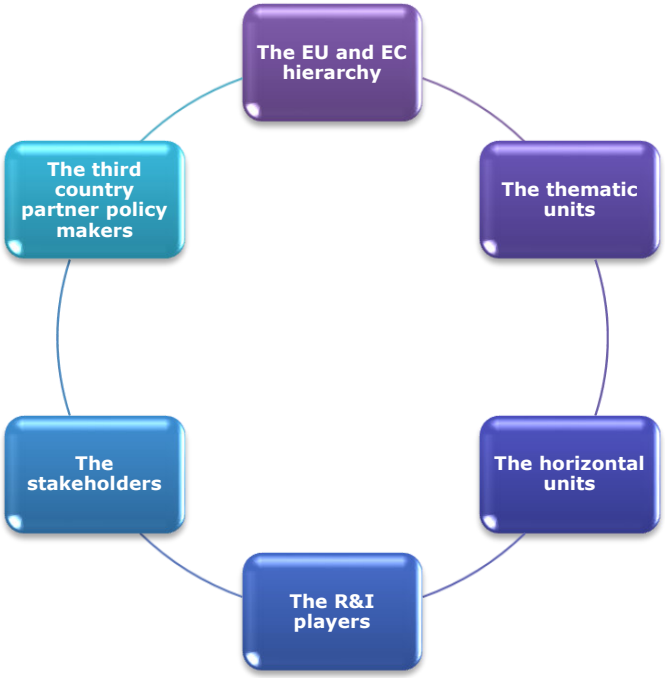

Figure 1: The Interactive relationships between international cooperation players

A number of entities, bodies and institutions are involved in international R&I cooperation. They interact in a circular and interactive way. In FP7 the initiative is frequently of the European Commission (EC): the EU and EC hierarchy defines the overall strategic and policy framework for R&I and the international cooperation in the Framework Programme. The hierarchy provides strategic input to the entities in charge of design and implementation of international cooperation activities, and is also the recipient of feedback from the reporting, monitoring, evaluation and impact assessment activities.

The main EU institutions involved in the research and innovation policy are the European Commission, the European Parliament and the Council of the European Union. The present study focuses on the Commission, which is the operational body of the EU, and acts upon different types of mandate in International Cooperation and with different responsibilities. The two key Directorate-Generals (DG) in the Commission in Research and Innovation are DG Research and Innovation (RTD) and DG Communication Networks, Content and Technology (Connect), even if some other Directorate-Generals may be involved as well. The DGs are structured in different directorates. The directorates are in turn structured into units. These units are either at the level of policy development or implementation. Some Units responsible for research are in charge of

specific themes, e.g. as of December 2013, the "Aeronautics" theme was under the responsibility of Unit 3 of Directorate H of Directorate General RTD and the horizontal unit Evidence-based Programming of Research and Innovation Actions was under Directorate F of Directorate General CONNECT.

The thematic units are in charge of the implementation of the strategic policy, working inside the general policy mandate and the specific thematic area to design and implement support measures. The horizontal units, which operate inside the different Directorate-Generals and can have specific thematic responsibilities, are responsible for general support to international cooperation activities, guiding programme design and implementation and the evaluation of specific thematic and geographic actions.

Whichever set-up we consider, R&I players (academia, public and private research organisations, individual researchers, enterprises and their research departments and SMEs) remain the key actors in the R&I cooperation process, since they support the concrete discussion, design and set-up of international cooperation research themes. They support the thematic units in defining priorities, and in working together with third country partners to define the detailed objectives of international cooperation activities.

The research and innovation stakeholders are all the bodies, entities and individuals who, in this context, have an interest in the design of international cooperation activities. They are scientific bodies, institutions, industrial bodies and civil society organisations which are consulted to provide input to the international policymaking process.

The third country partner policymakers are a key player in the joint design and implementation of international cooperation activities, harmonising S&T policies, creating common umbrellas and supporting the joint implementation. Third country policymakers have a key role in working with the EU and European Commission hierarchy to drive the international cooperation framework and to make it work. There are two levels of partner country policymakers; those dealing with the high-level policy design, and those in charge of the implementation level design.

There are also National Contact Points (NCPs) in third partner countries and EU delegations in third countries which have the responsibility to act as bridges and antennas, as well as facilitators for cooperation activities with the EU.

It is important to emphasise that interaction between these players is rarely hierarchical; it is mostly circular and interactive in structuring developing processes to optimise output.

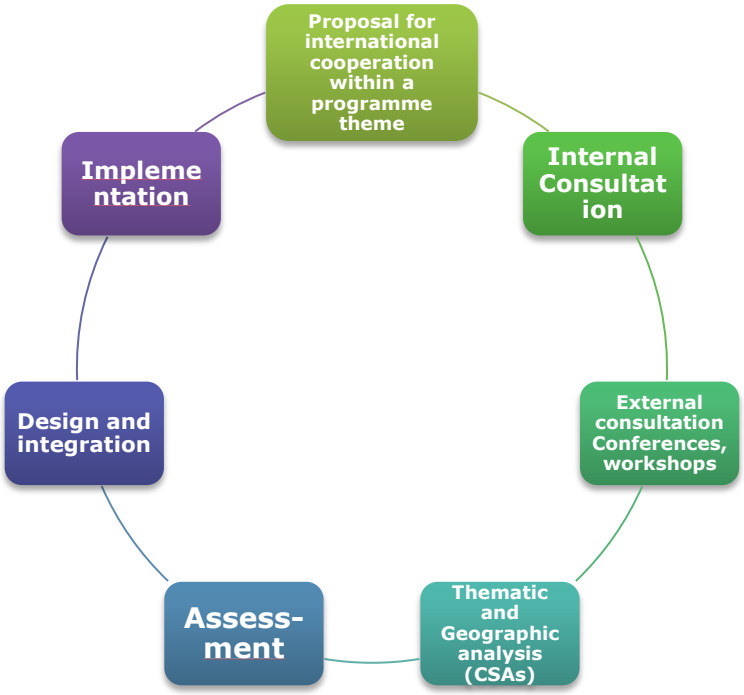

Figure 2: International Cooperation project phases

Figure 2 highlights the overall process of the design of international cooperation activities. It is a circular process comprising consultations, dissemination and knowledge-sharing activities, where *ex ante* assessment plays an important role and *ex post* evaluation feeds into the future process. Each activity can be assessed, and supports subsequent ones.

4.2 THE INTERNATIONAL COOPERATION PROCESS IN FP7

The typical international cooperation process in FP7 stems from the overall strategic and framework set-up, which clearly indicates the need of international cooperation with third partner countries in S&T, and specifically in the themes of the FP. The decisions on the FP, the set-up of the sub-programmes and the design of the different thematic areas provide the legal basis as well as the guidelines for actions of international R&I cooperation.

The FP already embeds the policy and legal basis for international cooperation, and in most cases, the outline is already present for international R&I cooperation activities in each programme theme. The proposal for international cooperation can emerge from high-level policy agreements, from thematic level initiatives, or from policy-level requests. In other terms, different hierarchical levels in the EU may be initiators of an international cooperation initiative in R&I. The proposal initiates an internal consultation process in the European Commission, which leads to the internal feasibility assessment of the proposal, to the evaluation of the opportunity, and to the definition of the necessary resources. The internal consultation process involves the thematic units as well as the horizontal international cooperation units, which are supposed to provide the overall support to the activity and its assessment.

The internal consultation then moves outside the European Commission, growing into an external consultation process, which sets the key principles of the approach and involves R&I players and external stakeholders and policymakers in the decision-making process. The consultation activity may directly concern S&T design and implementation, or focus on policy relevant issues as well. In many cases, CSAs are launched to explain and facilitate the international cooperation assessment, development and roadmap prior to the design and launch of international cooperation actions.

The outcome of these phases is an assessment document, addressing the thematic and geographical issues related to international cooperation activities.

Once the overall framework of the international cooperation action is defined, the process moves on to design and integration. This can be pretty simple in case of plain openings, or may take more time if designing common support tools, as seen in twinnings, coordinated calls, or joint calls. The completed design and integration phase is never conducted in isolation, and involves the interested parties. The final stage is the implementation, with the classic rigorous process of proposal selection and grant award.

The horizontal units here have a particularly important role in supporting the decision-making process and in facilitating a decision on the way forward. Last, but not least, there is the evaluation of what has been achieved, and an impact assessment. The interviews highlighted several experiences across thematic areas, where the horizontal coordination unit is taking action: (a) to standardise the approach through templates, and (b) to maintain the necessary flexibility required for R&I support.

It is confirmed that the main driver of international cooperation is a top-down process integrated with a bottom-up check with players and stakeholders, which allows, in certain cases, the start of work towards joint implementation. The thematic units elaborate their programmes according to the overall legal basis. The thematic priorities are set according to the dynamics in the S&T area, the external scenarios (the grand challenges) and the preliminary assessment of opportunities. The bottom-up input focuses on the results of CSAs and the general input from the S&T community and stakeholders.

The thematic units of the European Commission's Directorates-General (DGs) play a very important role in the process:

- they maintain links with the S&T community;
- they monitor the development and trends in their S&T areas;
- they ensure consistency with the overall policy umbrella and with the strategic guidelines;
- they monitor the main trends and developments at the global scene that could affect international cooperation activities;
- they launch and manage CSAs to acquire deeper and broader insights into opportunities, risks and success/failure factors;
- they undertake the preliminary assessment of the opportunities, in coordination and cooperation with the horizontal units in charge of support activities;
- they reason and negotiate on the actions launched and on the necessary lines and resources;
- they design, launch and manage the specific calls, targeted at international cooperation with partner requirements.

4.3 ISSUES FOR SUCCESSFUL INTERNATIONAL R&I COOPERATION

In general, the interviewed European Commission officials agree on the absolute importance of the priority setting, covering the political, thematic and geographical aspects of cooperation. Resource allocation necessarily needs to be selective to maintain a positive cost–benefit ratio, in keeping with the interests of the EU in the medium and long term. Country strategic papers with Strengths, Weaknesses, Opportunities and Threats (SWOT) analyses and benefit assessments are an important decision-making and sharing tool, ensuring the connection of the thematic units with other services, allowing design and management best practice to be properly shared. Another indication concerns the fact that not all international cooperation activities are undertaken by one single DG, and that it might be advisable to establish communication mechanisms on approaches and experiences.

The assessment is related to time, effort (and cost) to implement international cooperation, the level and effectiveness. In several cases, the horizontal units of different DGs have developed or are developing methods for a cost–benefit analysis and templates for the assessment of international cooperation activities embedded in thematic areas.

Normally, the budget allocation to international R&I cooperation activities is quite low in respect to the overall programme budget availability. There is therefore no particular competition between

international cooperation support and the in-EU grants to R&I projects and initiatives. At the same time, officials confirm that budgetary critical mass is not the determinant, but rather the focus of the action and the benefits in sight (for both parties). In some cases, international cooperation activities in FP7 were integrated with previously established initiatives.

International cooperation is considered a necessary trajectory in the FP, and is fully feasible with the available instruments. Political will has made the FP7 the most open support programme. The key wish of the interviewed officers, both from horizontal units and from thematic units, is that Commission-internal communication and cooperation be further developed so as to allow an explicit link between the different policy levels (R&I policy guidelines, Common Foreign and Security Policy, Socio-Economic development and trade policies), and thus between the different hierarchical levels in charge.

The all-encompassing framework should include all policy levels: R&I, the socioeconomic dimension and science diplomacy.

In general, the Commission officials' assessment of the SICA dialogue is positive. European Commission officials confirm the need for activity monitoring and measurement against concrete objectives, to allow for important feedback. There are some limitations to the 'regional' approach to international cooperation, due to the cultural differences between countries. There is a positive combination of the bottom-up initiative with top-down political action, and an encouragement of the increased activity by NCPs. The interviewed officials indicate that S&T cooperation should always be kept within a formal dialogue. It is formal dialogue which allows the definition of research and innovation cooperation support, possibly to synchronised or joint calls. In most cases, all these joint activities require long preparatory activities whose purpose is not only the set-up, but also to establish the necessary trust relationships to make the relationships work. In some cases, bottom-up initiatives work autonomously, but in other cases, it is very helpful to have a political umbrella.

These points will be further elaborated in the subsequent sections covering conclusions and recommendations.

5 ANALYSIS OF ECORDA DATA ON INTERNATIONAL COOPERATION

eCORDA is the database of all variables on R&I projects in FP7. The purpose of our analysis is to provide a quantitative overview of the single projects, particularly from the thematic and geographic perspective, and to combine these perspectives with the main dimensions of international cooperation projects.

The statistical analysis has several aims: to identify specific patterns of international cooperation implementation, to draw general conclusions from the analysis, and to present policy and implementation choices from the thematic and geographical points of view.

5.1 MAIN DIMENSIONS

The following segmentation variables are available in the eCORDA database and have been considered for the analysis of FP7 international cooperation participation:

- the thematic area;
- the geographic aggregation of international partner countries (LAC, ASEAN, etc.)
- the overall value of activities and the share of funding;
- the type of instrument (Specific Targeted Research Projects - STREPs, IPs, CSAs, including types of contract);
- the number of partners;
- the number of participants;

- the coordinating partner country/partner region;
- the project duration.

5.2 KEY FEATURES EMERGING FROM THE ECORDA DATABASE

The largest priority area for the 'Cooperation' programme, both in terms of number of projects and participants, is the **ICT area**, which is more than twice the size of the second largest, Health.

A total of 1 319 projects with at least 1 international partner were funded under the 'Cooperation' programme in the period from 2007 to 2013. The highest share of projects was under the priority area Health (286 projects), followed by ICT (260 projects) and Environment (including Climate Change) (171 projects). Food, Agriculture and Biotechnology followed with 168 projects. Among the 1 319 projects, the distribution of international participation per priority area is pretty similar: 21.88% is in the Health programme, 17.06% in Environment (including Climate Change), 16.42% in Food, Agriculture and Biotechnology and 16.11% in ICT. Environment (including Climate Change) is the priority area with the most projects with international partner participation in respect to all 'Cooperation' projects (40.1%), followed by Food, Agriculture and Biotechnology (39.5%). The Health priority area comes third with 33%. Data show that even though the ICT thematic area has twice as many international cooperation projects as Health, the Health thematic area has the largest share of international partner country participants in FP7, meaning that in the Health area, projects often involve more than one international country partner. In terms of relative importance of participation in specific priority areas, Energy and Environment (including Climate Change) as well as Food Agriculture and Biotechnology have the highest shares of international participants, involving more than one international partner. On the other hand, the share of international participants in all ICT projects was only 14% (see **Table 5** in the Annex of the present report).

Analysis of R&I project budgets by thematic area shows that areas with a relatively higher share of international cooperation in respect to overall FP distribution (as shown in **Table 6** in the Annex of the present report) are:

- Health
- Food
- Environment
- Space

Thematic areas with a lower budget share in international cooperation are:

- ICT
- Nanotechnologies
- Transport

The highest share of Collaborative Projects as shown in **Table 5** in the Annex of the present report is in the areas of Health, ICT and Environment (including Climate Change); most CSAs are in ICT.

Considering the total cost of the project in international cooperation and the relevant European Commission contribution (see **Table 6** and **Table 7** in the Annex of the present report), the following is noted.

- Some priority areas are allocated or require more resources than others. The Health priority area is receiving by far the largest financial contribution from the European Commission (almost twice the average European Commission contribution).
- For the Health priority area, the ratio of European Commission financial contribution to all participants against the European Commission financial contribution to international participants is the lowest (1.6) compared to the average of 2.2, demonstrating that the rules do not allow full funding of international partners.

- Comparing the value of R&I activities of international partners and the contribution received, data show that the cost share of international partners is about 10% of the total cost, vis-à-vis an EU financial contribution of 8.7%. International R&I cooperation rules require that part of the funding to international partner countries be granted by sources other than the European Commission.
- International partners represent 18.9% of all participants in the projects in which they take part.

The patterns of funding of the overall 'Cooperation' programme in all areas except Health are similar to projects including international partners (**Table 6** in the Annex of the present report).

In the 'Cooperation' programme overall, the number of participants in the ICT theme is almost double that of participants in Health and Nanosciences, although the number of projects is similar (**Table 6** and **Table 7** in the Annex of the present report).

Considering the total costs of projects per thematic priority of the overall 'Cooperation' programme and the respective European Commission financial contribution, ICT has the highest cost and receives the highest contribution, followed by the Health, Nanosciences and Transport thematic areas (**Table 6** in the Annex). Looking at the available budget per thematic priority of the overall 'Cooperation' programme presented in **Table 7** in the Annex, we see that the ICT priority area receives the highest available budget in the 'Cooperation' programme in terms of total cost of the projects selected for funding and the respective European Commission contribution. There have been 3446 international participants under the 'Cooperation' programme (2007–2013). Most participation was under the calls published in 2011. Since then, international participants have been decreasingly active (see **Table 8** in the Annex of the present report).

5.3 ANALYSIS OF PROJECTS WITH THIRD COUNTRY PARTICIPANTS AND THEIR COORDINATORS

The Health area provides the highest European Commission financial contribution to international cooperation — almost 41% of the total — followed by Environment (including Climate Change) with 13.68%, and Food, Agriculture and Biotechnology with 12.44% (**Table 9** in the Annex of the present report).

It is worth examining the distribution of international partner country participants by income class (industrialised countries/overseas territories, low income, lower middle income and upper middle income) and by thematic area and region (Figure 12 and Figure 13 in the Annex). The data show that low-income countries have the highest share of funding in the Health theme and also in the Environment area. Lower-middle-income countries' participants have received the most funding in the Food priority area, while funding was also quite high for ICT.

As expected, data show that industrialised country participants are mostly attracted by the ICT and Security priorities, probably because of the equal levels of participation with EU partners.

With regard to the distribution of international partners by **thematic area**, **geographic classification** and **European Commission financial contribution**, the analysis reveals the following points.

- In the **Health** priority area, industrialised countries (29.2%) and ACP African countries (28.5%) have the highest participation rate, followed by Asian (17.6%) and Latin American countries (11%). In terms of distribution of the European Commission financial contribution, ACP African countries have received 33.8%, industrialised countries have received 26.6% and Asian countries have received 19.1% (Figure 14 and Figure 15 in the Annex).
- In the **Food** priority area, Asian countries (21.2%) have the highest participation, followed by African (20.3%) and industrialised countries (19.3%). The European Commission financial contribution was mainly received by the ACP African countries (27.3%), the Asian countries (22%) and the Latin American countries (19.4%) (and Figure 16 and Figure 17 in the Annex).
- In the **ICT** priority area, industrialised countries have the highest participation rate by far (34.2%), followed by Asian (16.10%), Latin American (16%) and EECA countries (14.1%). As

for European Commission financial contribution, most is allocated to industrialised countries (32.1%). The EECA countries come next with 20.5% of the European Commission financial contribution for the ICT priority area. Asian and Latin American countries follow with similar allocation (16.1% and 16.7% respectively) (Figure 18 and Figure 19 in the Annex).

- In the **Nanotechnologies** priority area, EECA countries have the highest participation rate (28.1%) followed by Latin American (26.4%) and industrialised countries (25.5%). The pattern for European Commission financial contribution is a bit different. EECA countries received 43.4%, Latin American received 26.3% and Asian countries received 19.4%. Industrialised countries only received 2.6% of the European Commission financial contribution for this priority area (Figure 20 and Figure 21 in the Annex).
- In the **Energy** priority area, industrialised countries, EECA and Asian countries have an almost equal participation rate: around 22%. Latin American countries follow with 17%. In terms of European Commission financial contribution allocation, industrialised countries have received the most (27.3%). Asian countries follow with 24.8% and then Latin American countries with 16.9% (Figure 22 and Figure 23 in the Annex).
- In the **Environment** priority area, ACP African countries have the highest participation rate (23.6%), followed by Asian (20.6%) and Latin American countries (16%). Industrialised countries' rate is 14.3%. The European Commission financial contribution is mainly allocated to the ACP African countries (28.5%), the Latin American countries (23.4%) and the Asian countries (20.6%). Mediterranean countries have a share of 8.9% while industrialised countries received 4.2% of the European Commission financial contribution for the Environment priority area (Figure 24 and Figure 25 in the Annex).
- In the **Transport** priority area, EECA countries have the highest participation rate (39.4%), followed by Asian countries (21.3%) and industrialised countries (14.2%). In terms of European Commission financial contribution received, EECA countries have the highest share with 67.5% followed by Asian countries (13.20%) (Figure 26 and Figure 27 and in the Annex).
- In the **Social Sciences and Humanities** (SSH) priority area, Asian countries (23.6%) hold the highest participation rate, followed by Latin American (20.2%) and ACP African countries (16.9%). Most of the European Commission financial contribution is allocated to the Latin American countries (26.8%), followed by ACP African countries (19.7%) and Asian countries (17.5%). The share of industrialised countries in the European Commission financial contribution allocation for the SSH priority area is 14.6% (Figure 28 and Figure 29 and in the Annex).
- In the **Space** priority area, EECA countries hold the highest participation rate (41.3%), followed by ACP African (24.7%) and industrialised countries (16.7%). In terms of European Commission financial contribution, EECA countries hold the largest share (49.3%), followed by ACP African (19.7%) and industrialised countries (16.6%) (Figure 30 and Figure 31 in the Annex).
- In the **Security** priority area, industrialised countries have the highest participation rate by far (64.7%). ACP African, EECA and Mediterranean countries have a similar participation rate (11.8% each). The European Commission financial contribution for the Security priority area is mainly allocated to the industrialised countries (80.1%). The rest of it is distributed to EECA countries (13.1%), Mediterranean countries (4.1%) and ACP African countries (2.1%) (Figure 32 and Figure 33 in the Annex).

The overall European Commission financial contribution towards international partners for the 'Cooperation' programme shows that ACP African countries have received the largest share, followed by industrialised countries, Asian countries, EECA countries and Latin American countries (in the Annex).

On average, the highest contribution was received by the participants from countries and overseas territories (PTOM) ([20]), followed by the ACP Pacific countries' participants and the ACP African countries' participants.

In terms of individual country participation, Russia is first, with 356 instances of participation (10.33% of the overall international partners' participation), followed by the United States with 343 instances of participation (9.95%). China is next (255 instances), followed by India (196

([20]) Pays et Territoires d'Outre-Mer.

instances), Brazil (172 instances), South Africa (171), Canada (134), Australia (120), Ukraine (112) and Mexico (91). Other countries with high participation are Argentina (86), Morocco (74), Japan (70), Egypt (68), Kenya (56), Tunisia (55), Ghana (46), Tanzania (44), Chile (42) and Vietnam (41) (Table 11 in the Annex of the present report).

When it comes to the share of European Commission financial contribution received by each country, the United States holds the largest share (12.77%), followed by Russia (11.47%) and India (6.98%).

In our analysis of the preferences of the top 10 participants in terms of priority areas selected for participation, we can conclude that Russia focuses more on Transport whereas the American participations are mainly in the Health and ICT areas. The same applies to Australia, which focuses also on Food, Agriculture, and Biotechnology. China focuses on Food, Agriculture, and Biotechnology, ICT and Environment, and the same applies to Brazil. India has a clear focus on Health and a lesser focus on Environment (Table 12 in the Annex of the present report).

According to our analysis, most projects with international partner country involvement are coordinated by the United Kingdom (17%) and Germany (16.3%). As expected, there are a few cases where the participant of an international partner country has been the coordinator (nine participants from eight countries ([21]) (see Figure 34 in the Annex).

The United Kingdom, Germany, France, Italy, Spain and the Netherlands represent 70% of all coordinators. There also exist patterns of cooperation with specific international partners. British organisations cooperate mostly with China, the United States and Russia, whereas Germany cooperates with Russia, the United States and China. In fact, no large differences are evident for the cooperation pattern of the United Kingdom, Germany, Italy, France and the Netherlands. Of course, it is crucial to acknowledge that for both Germany and Italy, cooperation with Russia is very important (18.5% and 13.1% respectively).

The situation regarding cooperation with other countries changes only in the case of Spain, which, as anticipated, cooperates mostly with Latin American countries (Argentina, Brazil and Mexico) (see Table 13 in the Annex of the present report).

6 SURVEYS

The following section presents a comprehensive overview of international cooperation in the FP7 'Cooperation' programme. The online survey targeting EU and third country partners and NCPs serves as the information base for this section. We have used a full-scale survey sample drawn from the eCORDA database for FP7 project participants and a full sample of the thematic NCPs in third partner countries. Chapter 6 will analyse the perceptions, motivations and judgments of R&I project participants in the EU's FP.

Figure 3 presents an overview of the different opinions of EU coordinators of international cooperation projects, compared to the opinions of international third country partners. The figure shows the core structure of the investigation, indicating the key investigation areas of the survey:

- the characterisation of international cooperation projects;
- the role of FP7 funding for the initiation and set-up of the project;
- management-related issues;
- impact;
- sustainability.

Please note that Figure 3 presents firstly the percentage of choices of respondents on a Likert scale, where the left figures refer to the option on the left, and the right choices to the options on the right. For example, third country partners indicate that most international cooperation projects

([21]) These are two participants from the United States, one from Australia, one from Brazil, one from Cameroon, one from Kenya, one from Monaco, one from Russia and finally one from South Africa.

are of high technological complexity, shown by the sum of the blue and dark blue portions of the bars, which total 64.60% of the responses. Since the respondents had only one option, the sum of the bar values is 100%. The share of EU coordinators indicating that 'international cooperation projects are of very high technological complexity' is slightly lower.

When the survey considers commercial risk, the shares of the answers are about the same for EU coordinator respondents and international third country partners.

Furthermore, Figure 3 shows the opinion of respondents on diverse other issues such as the importance of FP funding for international cooperation. In fact, a higher share of EU coordinators than international third country partners indicates that FP funding is essential for the set-up and implementation of international cooperation projects. In this case, the left side of the chart represents 'low importance', and the right side of the chart 'high importance'; it could also mean 'untrue' on the left side and 'true' on the right side.

Intuitively, the other scales always increase from left to right, considering 'non-applicability' vs 'high applicability', or rather 'untrue' vs 'true'.

As the legend explains, green represents neutral value, blue represents positive or agreement values, and red indicates negative value or disagreement.

The chart has been divided into two parts (I and II), for the sake of visual clarity. The second chart – Figure 4 - concerns the issues of impact and sustainability from the perspective of the EU project coordinators and the third country partners. Impacts are assessed considering different variables, while asking respondents to express opinions on the value of impact indicators such as peer-reviewed publications and patents.

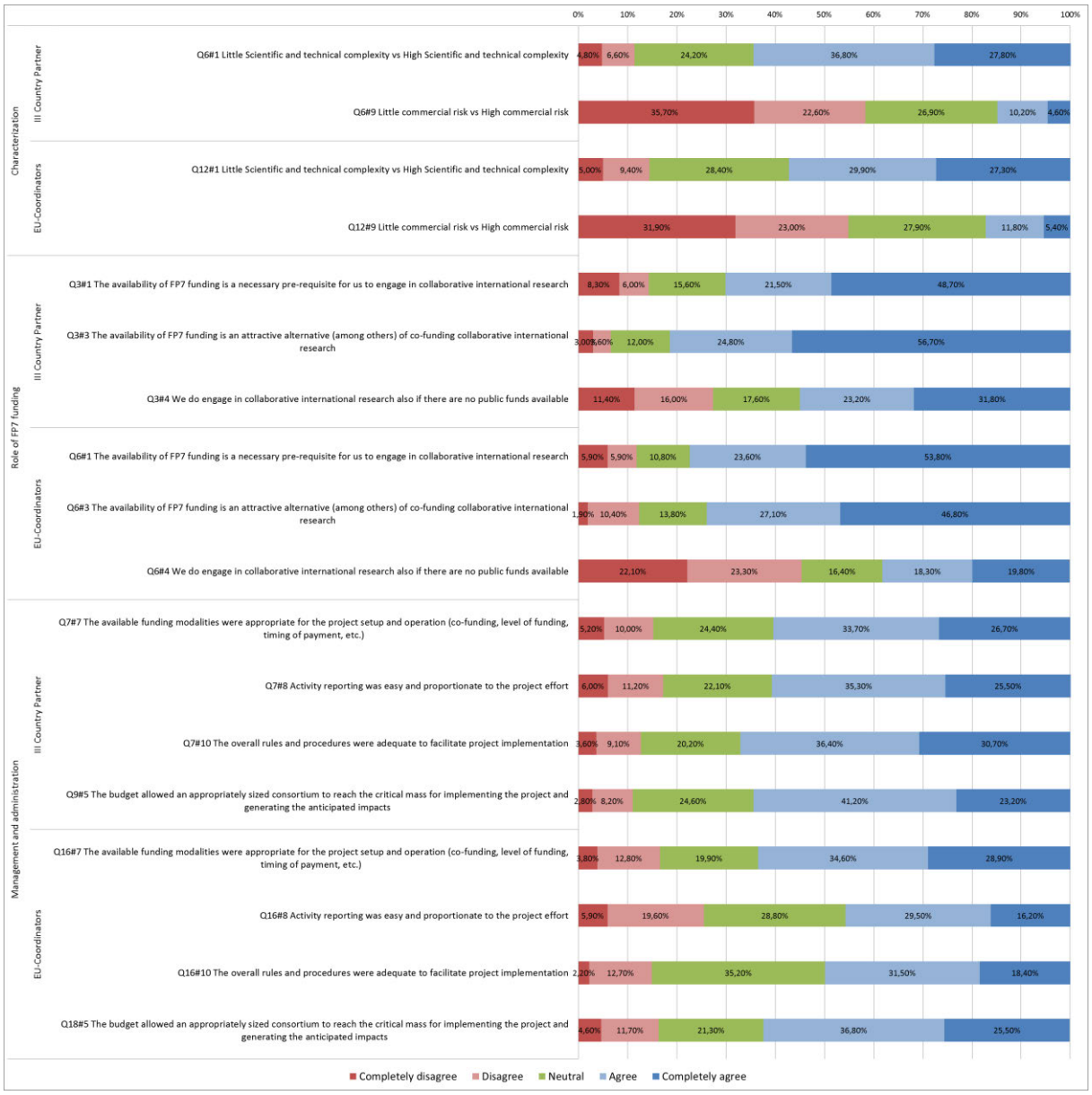

Figure 3: Opinions of EU project coordinators and of third country partners on International Cooperation projects in FP7 (I)

Figure 4 shows that international third country partners indicate a significant impact on peer-reviewed publications and a relatively limited impact on new or improved products and processes, however, the impact on patents, licences and other IPRs and on market-oriented knowledge creation is much larger.

The perception of the impacts of EU coordinators is slightly different when considering peer-reviewed publications, products and processes, and significantly different when considering patents, licences and other IPR issues.

In general, the opinion of EU coordinators on impacts seems slightly more positive than those expressed by third country partners, which could depend on the type of involvement. International cooperation projects seem to produce a more concrete type of impact, while the 'academic' type of impact seems more limited.

In general, the opinions of international third country partners on sustainability tend to be slightly more negative than those of EU coordinators.

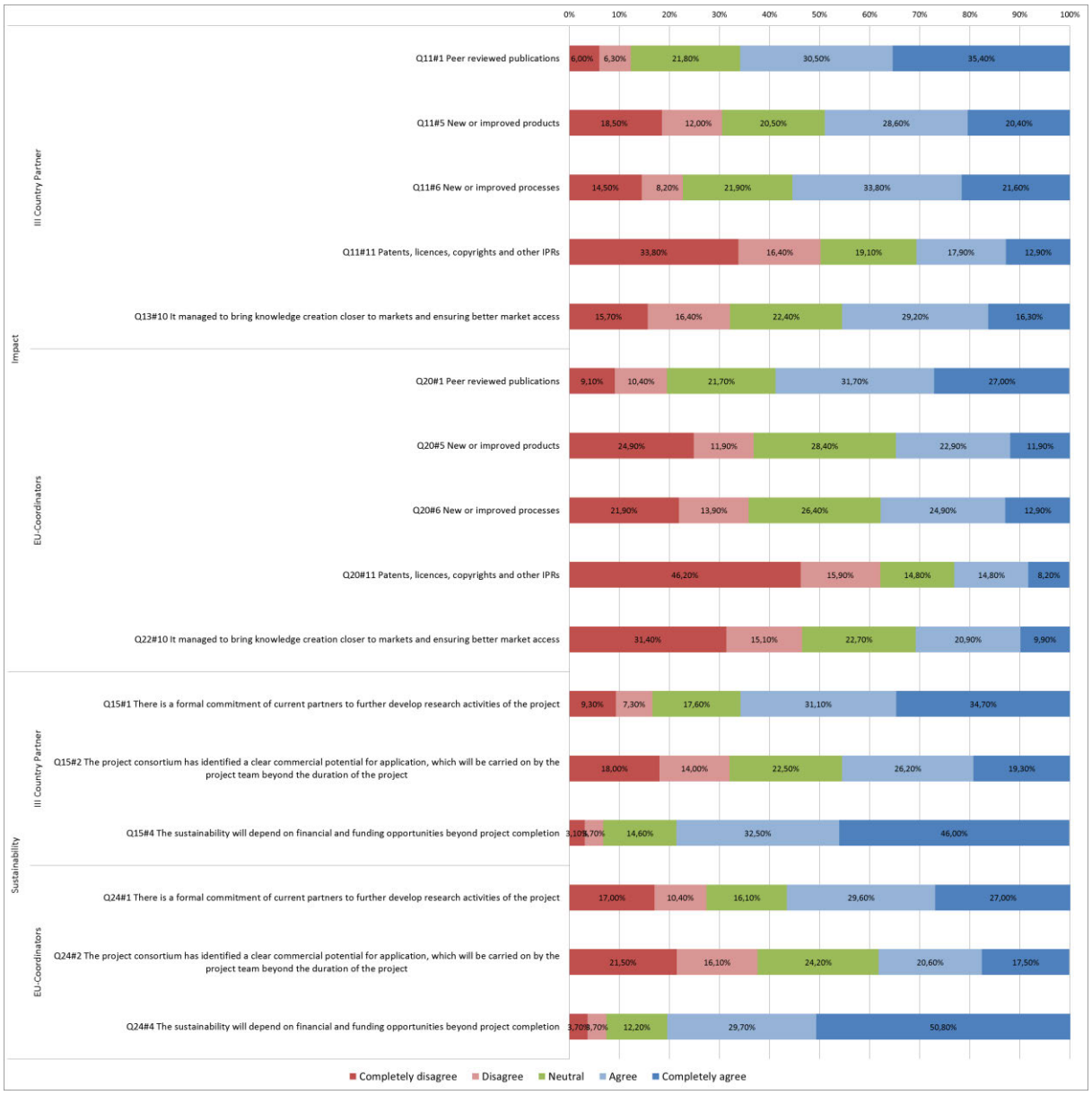

Figure 4 Opinions of EU project coordinators and of third country partners on the impacts and sustainability of International Cooperation projects in FP7 (II)

6.1 GENERAL MOTIVATIONS AND FRAMEWORK CONDITIONS, AND HAMPERING FACTORS OF INTERNATIONAL R&D COOPERATION

One of the basic and widely accepted purposes of the European FP is to support international research and innovation (R&I) cooperation. Reasons why the FP should be open for third country participation are presented below; these reasons emerge from different types of empirical research. Figure 5 gives a graphic presentation showing the set of potential motivations driving EU coordinators when they include third country partners in FP7 projects.

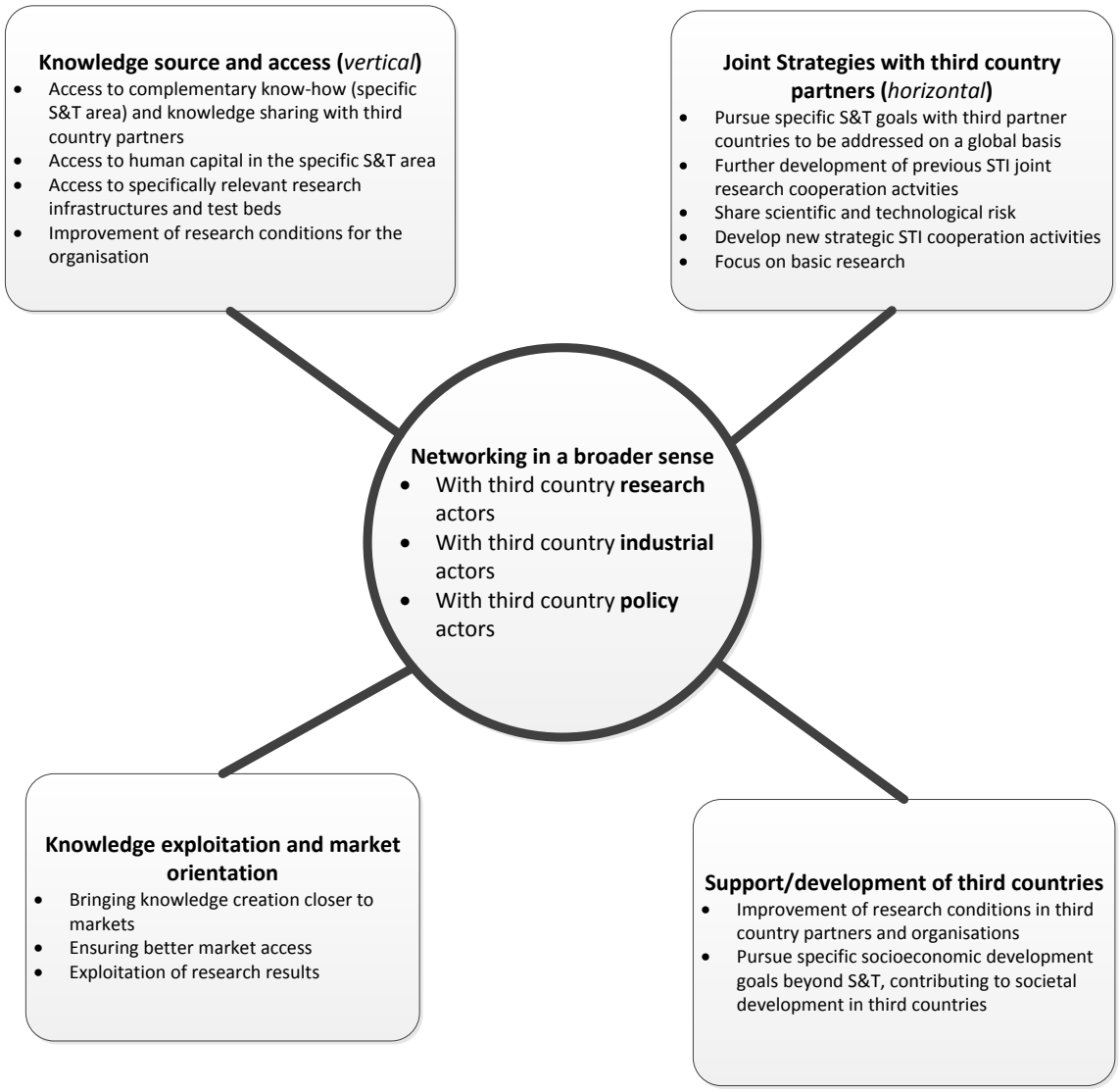

Figure 5 Motivations behind international R&D cooperation

The online survey provides deeper insights concerning the specific relevance of the motivations ([22]).
The main reasons for EU coordinators to include a third country partner are access to complementary know-how, to pursue specific S&T goals, and access to specialised human capital. Empirical research shows that the purpose of setting up an international R&D project in FP7 was not to share scientific risks, nor was it to respond to market issues.

The main purpose for joint projects seems to have been scientific knowledge, more than anything else. The EU R&I players, i.e. academics and public and private researchers, frequently indicate that one of their aims is also to support the local creation of an S&T base in the third partner country.

Science, and not innovation, motivates international cooperation. This is also demonstrated by the fact that the participation of enterprises in FP international R&I cooperation is significantly lower than in the overall FP 'Cooperation' programme (see

Table 14 and Figure 36 in the Annex). This is shown firstly in the statistical overview of FP7 projects: the distribution of international cooperation participants clearly indicates an underrepresentation of industry. The players are mainly academics and researchers who develop

([22]) Final Report: Statistical and Graphic Annex. Figure 31.

long-term scientific cooperation relationships with third country partners, building important trust relationships which facilitate the identification of common research interests, the setting and design of project goals and the organisation of research consortia.

In some cases, the information gathered indicates that international partners were involved merely in order to satisfy the access requirements of the calls for thematic international cooperation. In such cases, which are less frequent, the leading project designers define an appropriate role for the third country partner following the specifications of the call, rather than build on joint project design activities.

Our empirical research also differentiated the points of view expressed by different types of third country partners, i.e. industrialised countries, emerging economies, and less developed countries ([23]). EU project coordinators have a strong interest in accessing complementary know-how when they cooperate with industrialised countries. The research results clearly show that this is not the case when EU researchers and academics cooperate with emerging or less developed countries ([24]).

Most EU researchers indicate that they cooperate with industrialised third country partners to access research infrastructures and test beds relevant to their work, while the majority of EU project coordinators working with emerging economies or developing countries declare the explicit purpose to be the boosting of research capacity and the transfer of knowledge to less developed countries or regions (cohesion and local development) ([25]).Trust and the length of the previous experience are important elements for engagement in joint research activities. Therefore, constructing international consortia often builds on existing relations.

The main objective of international cooperation in FP7 has been to integrate the European excellence in R&I into the global science and innovation context. To achieve this on a broad scale, third country cooperation covers and builds on the full range of FP7 instruments and their application.

A discussion of the typical features of third country cooperation projects follows. This shows clear parallels to conventional FP7 projects when compared with other (non-FP7) mainly nationally funded R&I activities of participating organisations. In essence, the differences emphasised by EU project coordinators and third country partners reflect differences between larger, cooperative and application-oriented FP7 projects, and smaller nationally funded projects (including a broader range from basic research to industrial development).

FP7 third country cooperation is characterised by a higher (technical) need of external cooperation with external partners, higher scientific and technical complexity, long-term R&I orientation and a stronger focus on applied research. However, international cooperation projects are perceived to present less commercial risk and less scientific and technical risk than a typical research project ([26]).

6.2 THE ROLE OF SPECIFIC INSTRUMENTS PER THEME

6.2.1 Importance of cooperation activities

Collaborative R&I projects represent just one (but — as we will see — the most important) variant from a broad spectrum of different means of international cooperation. Figure 6 shows the typical means and strategies of international cooperation. This includes forms of cooperation that are easily accessible for individual researchers, like publication activities, conferences or visiting fellowships, but also forms of cooperation requiring far more organisational effort and capabilities, like collaborative research projects or joint use of infrastructures. The online survey provides

([23]) Final Report: Statistical and Graphic Annex. Figure 1, Figure 2, Figure 3.

([24]) Final Report: Statistical and Graphic Annex. Table 1, Table 2, Table 3.
([25]) Final Report: Statistical and Graphic Annex. Table 4, Figure 4.
([26]) Final Report: Statistical and Graphic Annex. Table 5, Figure 5.

deeper insights concerning the relevance of these forms and strategies of international cooperation ([27]).

For both third country partners and EU coordinators, the empirical work (the survey but also the eCORDA data analysis) shows that **collaborative research projects** are the most important form of international S&T cooperation. Furthermore, among less complex forms of international cooperation, **networking activities and conferences/joint workshops** are of high relevance.

Other forms of international cooperation, like joint graduate schools and PhD courses, the development of local S&T applications or the joint use of infrastructures, are considered to be of comparatively lower importance.

Our empirical research also differentiated the points of view expressed by cooperation partners with different countries. We could observe differences; however, they do not significantly correspond to a certain type of third country: i.e. industrialised countries, emerging economies or less developed countries. Our empirical investigation did not come across any significant thematic differences concerning the ways of cooperation that could explain the observed country-specific differences.

The joint use of infrastructures is of higher importance for EU coordinators. This indicates that S&T cooperation with emerging countries in Latin America (excluding Brazil), but also highly industrialised Japan, is important, whereas it is less so for respondents who have important cooperation with India, the United States and Canada.

As a matter of course, local S&T applications' development is of less relevance for international cooperation with industrialised countries. However they are relevant for S&T cooperation with emerging economies in Latin America (excluding Brazil) and India (a less developed country).

The significantly higher relevance of **dissemination and publication activities** for EU coordinators from Spain and Portugal who have S&T cooperation with Latin American countries (excluding Brazil) can be explained by the common languages' publication formats.

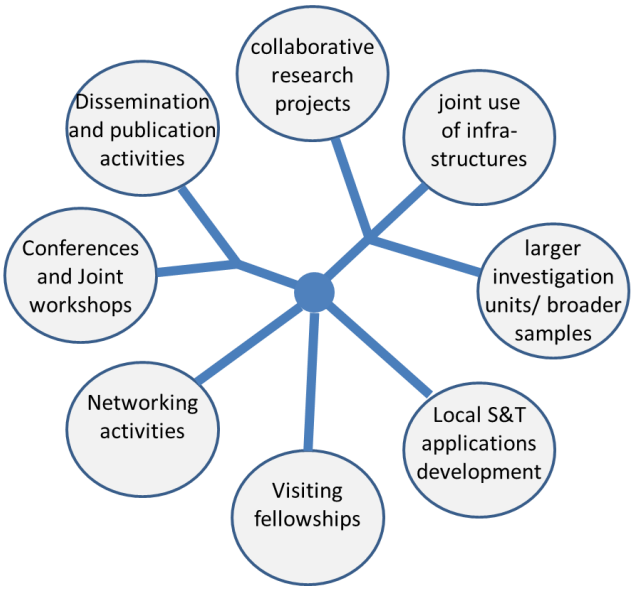

Figure 6: Different ways of international co-operation

6.2.2 Importance and modalities of FP7 funding in the light of other funding sources for international R&I collaboration

Our empirical research provides good arguments that affirm the high attractiveness of FP7 funding for international cooperation. Excessively so, the availability of FP7 funding is a necessary prerequisite to engaging in collaborative international research for most of the third country participants and EU coordinators ([28]). This is especially the case for international R&I cooperation in the thematic area with the highest share of budget compared to the overall 'Cooperation' budget — Health — but also for projects in the thematic area ICT.

([27]) Final Report: Statistical and Graphic Annex. Figure 9.
([28]) Final Report: Statistical and Graphic Annex. Figure 10, Figure 11, Figure 15.

The majority of researchers involved indicate that FP7 is an attractive alternative (among others) to co-funding international S&T cooperation, but also that the availability of other public funding is a necessary condition for engaging in collaborative international research

FP7 provides the most important funding source for international cooperation, both for third country partners and EU coordinators. As a matter of course, third country respondents show a much higher willingness to engage in collaborative international research (even if there are no public funds available) than EU project coordinators. Third country partners from industrialised countries like the United States do not receive any automatic EU funding when collaborating with FP7 ([29]).

According to the principal category of respondents' organisations, several differences can be observed: the share of respondents confirming the relevance of FP7 funding but also other public funding as a necessary prerequisite for collaborative international research is higher for public research organisations and higher education institutions, compared to other types of applicants. On the other hand, the responding private firms in the manufacturing sector confirm that they will engage in collaborative international research, even if there are no public funds available.

International cooperation should be principally open to all third country partners, but differentiate according to the allocation of EU funding. The political and geographical aspects of cooperation are very important. EU funding is essential for developing economies and emerging economies to participate in collaborative R&I projects. Roughly half of the EU coordinators are reluctant to propose that all (even partners from industrialised third countries) should receive funding for participation ([30]).

The FP aims at establishing strategic partnerships with international partner countries within its entire instrumental and thematic spectrum. Third country cooperation should not be separated or restricted to specific instruments and calls.

This approach is broadly accepted; however, the majority supports the idea that EU-supported international R&I cooperation activities require (complementary) specifically targeted calls within the European FPs, due to their specific nature. This could be combined with a bottom-up definition considering the interests and points of view of third country partners, as indicated by some third country representatives interviewed for country-specific case studies ([31]).

6.2.3 Effectiveness of EU-level mechanisms supporting STI cooperation objectives

The network of National Contact Points (NCPs) for international cooperation related to FP7, part of which has been recently established, supports the creation of new project consortia and the integration of new R&I players. In EU countries but also in third countries, NCPs are national structures established and financed by national governments. The NCP systems can vary from one country to another, and involve a number of very different actors: ministries, universities, research centres, special agencies and private consulting companies. NCPs are familiar with the EU mechanisms and rules that support international cooperation and provide personalised support to (potential) participants at national level. In this study, third country NCPs have been asked to assess the effectiveness of mechanisms implemented at EU level to support STI cooperation objectives. Discussing effectiveness of mechanisms means focusing on outputs and results ([32]) ([33]).

The general feedback of NCPs on mechanisms established by the EU was very positive. The collected NCP statements related to why researchers/organisations in their country might prefer EU FP7 mechanisms over national mechanisms, and vice versa ([34]), are in line with previous results.

([29]) Final Report: Statistical and Graphic Annex. Figure 12, Figure 13.
([30]) Final Report: Statistical and Graphic Annex. Figure 39, Figure 40.
([31]) See Final Report, Chapter 7.
([32]) The following specific measures were assessed by survey respondents: support for communication activities and dialogue, networking; support for establishing STI agreement, specific regulation; support for establishing an information service, learning platform, observatory; support for joint programmes or projects; support for the establishment of joint institutes; research funding scheme; the mobility scheme; and finally, support for setting up foreign branches.
([33]) Final Report: Statistical and Graphic Annex. Figure 21.
([34]) Final Report: Statistical and Graphic Annex. Figure 22, Figure 23.

Table 3 provides a short overview of this comparison.

Table 3 FP7 mechanisms compared to national mechanisms

The following NCP arguments in favour of EU FP7 mechanisms are the most important	The following NCP arguments in favour of national mechanisms are the most important
Easier access to **international research community**/network (90%) Provide a better **connection with leading minds in the field** (87%) Provide a **better reputation**, position and status for participating researchers/organisations (83%) Provide **leverage of available funding**/extra funding They can better ensure the establishment **of international consortia** (79%)	Provide better **national visibility** (71%) Are considered **less time-consuming** to apply for (68%) Are better **tailored to the existing national barriers and opportunities** (64%)

6.3 THE SCOPE OF FP7 ACTIVITIES (ANALYSIS OF OUTCOMES)

FP7 international cooperation includes a broad range of strategic and operative objectives. The results from the eCORDA data analysis and the survey analysis are consistent. These results clearly show that the geographic scope of international cooperation is based on existing relations, knowledge and perceived potentials. Furthermore, it reminds us that FP7 and international cooperation within FP7 is initiated and coordinated to a considerable extent by academic research.

In order to assess the achievements of policy objectives of FP7, NCPs were encouraged to express their opinions on diverse issues related to international cooperation ([35]). Most of the NCPs confirm the positive effects of FP7 international cooperation, according to nearly all objectives ([36]) oriented towards European players' interests.

These include the following:

- collaboration between European researchers and third country scientists and research infrastructures has been facilitated;
- exchanges of best practice in S&T and research support policy have produced more efficient and effective activities with the EU;
- the integration of Europe's neighbours in the ERA has increased;
- Europe's attractiveness as a STI partner has been raised;
- access to knowledge, resources and markets worldwide has been facilitated;
- the coordination of EU Member States and European Commission actions in strategic S&T cooperation and information society dialogues with third countries has improved;
- the coherence and effectiveness of international cooperation in STI has increased over the course of FP7;
- the overall scientific level of STI cooperation activities has increased over the course of FP7.

([35]) Coordination of EU Member States and European Commission actions in strategic S&T cooperation and information society dialogues with third countries; improvement of framework conditions for cooperation between third countries and EU players in research; international coherence and effectiveness of international cooperation; raising Europe's attractiveness as an STI partner; facilitation of access to knowledge, resources and markets worldwide; increasing thematic correspondence of FP7 STI international cooperation activities with national priority themes; lowering barriers to international cooperation activities with third countries; raising of the overall scientific level of STI cooperation activities; knowledge spill-overs from third partner countries to the EU partners and vice versa; the integration of Europe's neighbours in the ERA; sharing of S&T and research support policy best practice; facilitation of international cooperation with the best scientists and research infrastructures in the world.

([36]) Final Report: Statistical and Graphic Annex. Figure 6, Figure 7.

However, NCPs also raised some criticism concerning objectives oriented towards third country partners' interests. Generally speaking, NCPs expect the benefit to be mutual. Highly developed countries in particular feel there is an imbalance in benefit allocation.

Specific objectives that are perceived as not achieved are:

- facilitation of third country participation;
- reduction of barriers to enter FP7 consortia;
- good integration between national management procedures and EU FP7 STI management procedures.

6.4 COOPERATION, SELECTION AND ROLE OF PARTNERS

FP7 international cooperation is demanding and usually builds on previous relations, if not on long-term R&I cooperation then at least on other pre-existing relations. However, 30% of third country partners entered a completely new cooperation relationship, affirming the principal openness of FP7 to international cooperation. To **cement relationships** for FP7 projects ([37]), EU coordinators (63%) **contacted the third country partner directly**. Sometimes, third countries are involved through another EU partner. A structured competence-based selection process to ensure the optimal qualification of the consortium is very rarely used. Only one EU coordinator was aware of the supportive and integrative role of NCPs, which shows the limited and low awareness of the role and activities of NCPs.

We have learned from the analysis of the eCORDA data that third countries **have been project coordinators** only in nine cases, whereas they have been participants in 3 437 cases. The overall feedback of EU project coordinators concerning the role of third country partners was mostly positive ([38]). A majority of EU project coordinators agrees that it was easy to match their own STI interests with FP7 international cooperation requirements, and to coordinate and match the research interests of the third country partner with the interests of the consortium.

To understand the barriers to international cooperation, NCPs were asked about serious impediments in their country for researchers and stakeholders wishing to engage in international STI cooperation with non-EU countries, that can most effectively be tackled at European level ([39]). Contrary to what one might expect, low importance is awarded to geographical distance and cultural and language barriers.

The most important barriers indicated by NCPs are as follows.

- Lack of knowledge and information about the other country's strengths and complementarities.
- Lack of financial means to support and co-fund mutual research undertakings (e.g. investments in research infrastructures, joint institutes).
- The administrative burden of organising STI cooperation.
- Lack of networks and trustworthy relations.
- Lack of a legal framework for cooperation.
- Political barriers do exist in some countries. However in most countries, these barriers seem to be of low importance.

([37]) Final Report: Statistical and Graphic Annex. Figure 35.
([38]) Final Report: Statistical and Graphic Annex. Figure 36.
([39]) Final Report: Statistical and Graphic Annex. Figure 37.

6.5 EFFICIENCY AND MANAGEMENT

In recognition of some formal facilitation requirements of programme management, funding administration but also participation in FPs did not decrease over the years. Our empirical research shows a positive feedback on the evaluation process, contract negotiation and funding modalities. As affirmed by EU coordinators and third country partners ([40]), available **funding modalities** are appropriate for the project set-up and operation. **Proposal evaluation** and contract negotiation were timely and transparent, and **clear information was given on the evaluation process**. Furthermore, project review procedures of FP7 international cooperation are considered appropriate and easy to follow, Finally, the overall rules and procedures were adequate to facilitate project implementation, and flexible enough to facilitate management of unexpected outcomes.

One of the major challenges of programme coordination and implementation is communication and dissemination of information, which is dealt with in a positive manner in FP7. Survey respondents indicated that aspects of international cooperation were explicitly mentioned in the work programme and the call documentation. Specific international cooperation programme objectives were made easily available and were understandable, and proposed guidelines were comprehensive and clear. As affirmed by respondents, the available international cooperation information and the contact with the Commission services were useful for designing the project.

However, the majority of EU coordinators see potential to improve and simplify formalities and reduce the administrative burden([41]); by streamlining and optimising specific call documents and formalities, simplifying contract negotiation documents, and also simplifying reporting, evaluation and auditing documents.

This feedback should be taken seriously, but interpreted carefully. Generally speaking, all R&I funding programmes (EU and national) are confronted with an increasing administrative burden (evaluation, documentation, control mechanisms, etc.), both for programme administration and for applicants. Furthermore, previous experience has showed that both programme administration and applicants become more efficient over time (the administrative learning curve). This argument is supported by the fact that almost 70% of third country partners ([42]) saw a need for significant streamlining, optimisation and simplification.

Most EU researchers indicate that the level of funding was appropriate; that the **budget allowed an appropriately sized consortium** to reach the critical mass for implementing the project and generating the anticipated results. The feedback concerning the available level (volume) of funding was cautiously positive ([43]). In contrast, the argument that programme rules could have led to a complex project size with significant transaction costs did not find broad agreement.

6.5.1 Assessment of effectiveness of the NCP system

As mentioned above, the European Commission set up a network of National Contact Points (NCPs) across Europe to raise awareness and provide support to FP applicants in their native language. A parallel network of NCPs has been set up in third countries. The following paragraphs primarily refer to third country NCPs that face very different political and budgetary framework conditions.

When assessing the role of the NCPs in facilitating the project and disseminating information, third country partners ([44]) tend to evaluate NCPs more positively compared to EU project coordinators ([45]). This makes sense when one takes into account that EU project coordinators usually do not interact directly with third country NCPs. Figure 7 provides a quick overview over the main statements concerning the role of NCPs. For convenience, we have indicated the percentages of «*agreement*» and «*full agreement*» of EU project coordinators and third country partners.

([40]) Final Report: Statistical and Graphic Annex. Figure 42, Figure 43.
([41]) Final Report: Statistical and Graphic Annex. Figure 47.
([42]) Final Report: Statistical and Graphic Annex. Figure 46.
([43]) Final Report: Statistical and Graphic Annex. Figure 49, Figure 51.
([44]) Final Report: Statistical and Graphic Annex. Figure 52.
([45]) Final Report: Statistical and Graphic Annex. Figure 53.

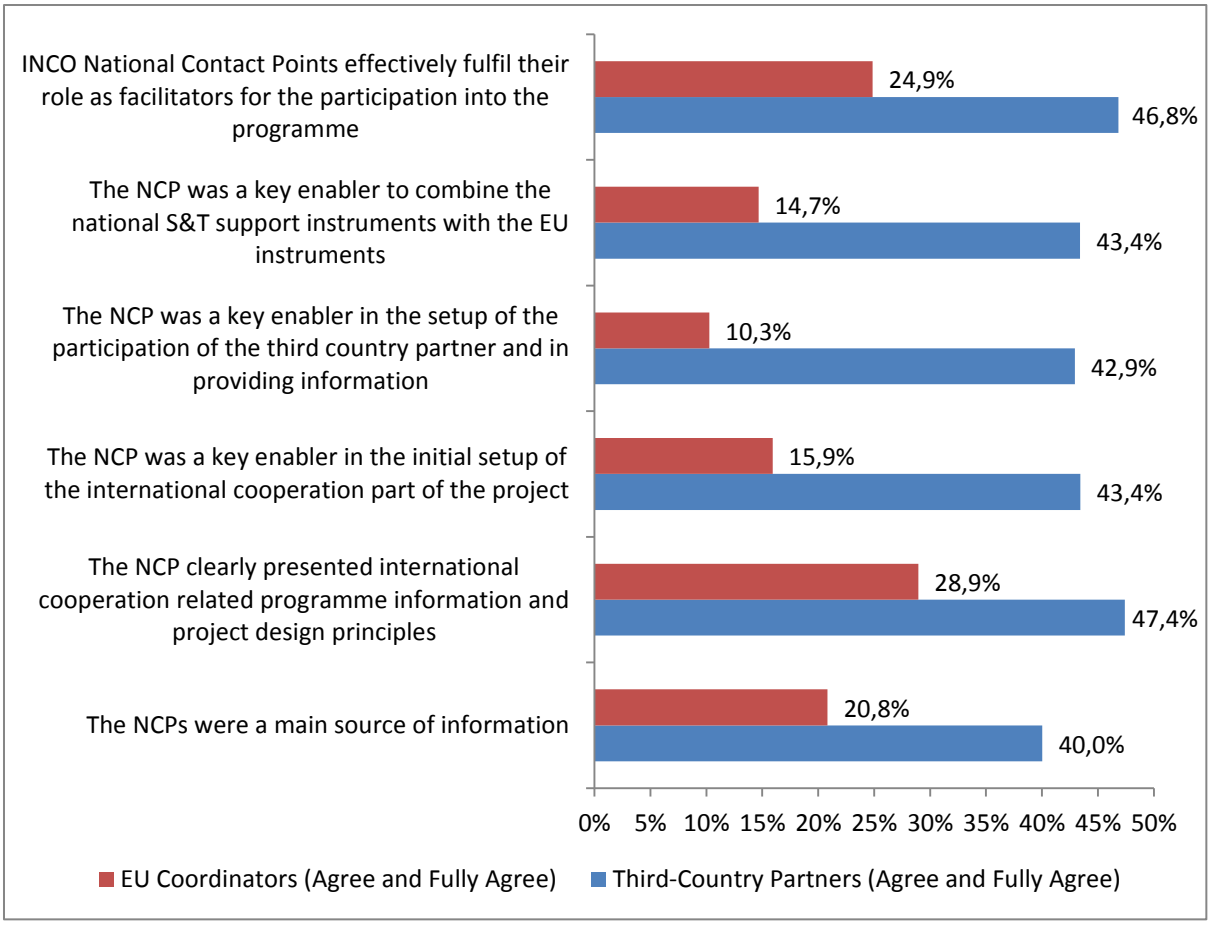

Figure 7 The role of NCPs

NCPs were introduced to combine national STI support instruments with the FP7 funding scheme. Thus NCPs have been asked to indicate whether FP7 international STI cooperation rules and management approaches match the corresponding rules and instruments in their own country ([46]). Generally speaking, notwithstanding the more sophisticated management approach, FP7 international STI cooperation rules are seen as largely compatible with conventional national instruments.

Figure 8 shows how the situations of national frameworks in third countries compare with EU instruments. There is a good match of «Project evaluation rules», of «Administrative rules», of «Project design rules», of «Contract amendment rules», and of «Contract setup rules».

([46]) Final Report: Statistical and Graphic Annex. Figure 54.

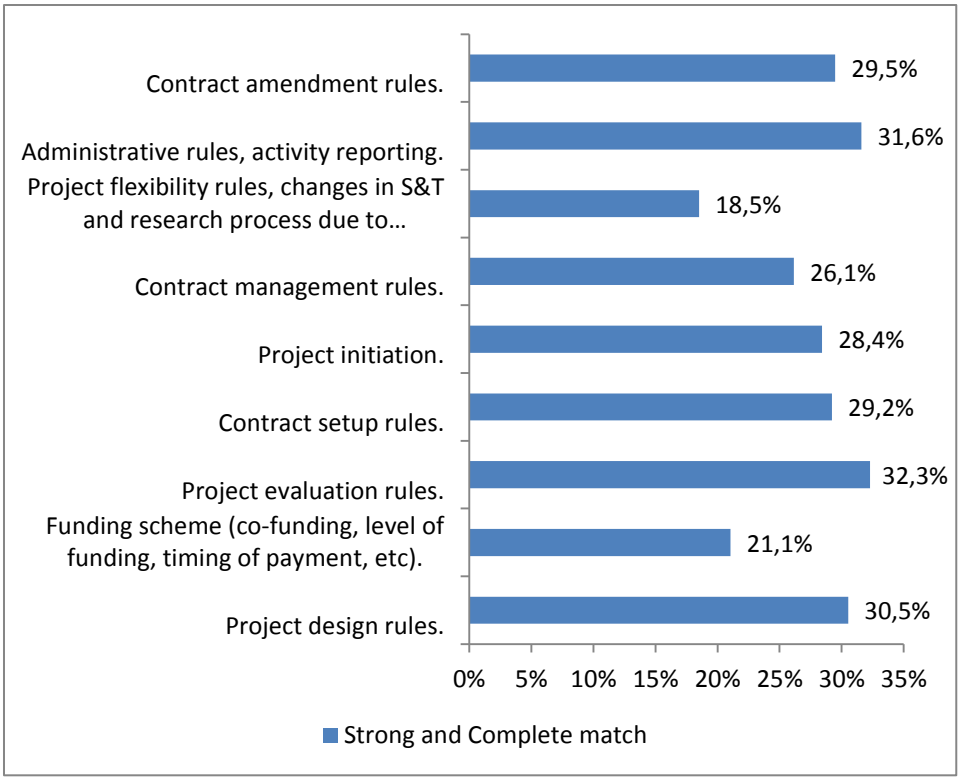

Figure 8: NCPs' opinion on correspondence between national R&I support instruments and EU FP instruments

A limited number of NCP respondents stated that the applicable FP7 international STI management rules and approaches are suitable for international STI cooperation activities in their country ([47]). Some NCPs see room for improvement on contract amendment, rule drafting and time to contract, including negotiation with the European Commission. On the whole, the survey shows a limited feedback on this particular aspect, which seems to be indicative of the still limited influence and mandate of third country NCPs, which has also been mentioned in interviews with third country NCPs.

NCPs have also been asked to assess the general appropriateness of FP7 international STI management rules and approaches ([48]). The majority of NCPs gave positive feedback concerning the level and amount of funding, the purposes of international cooperation projects and the structure of funding schemes. However, NCPs also emphasised that there is significant room for reducing the administrative burden related to FP7 STI international cooperation.

Policy cooperation between the EU and international third partner countries in order to support the progress of discussions of global issues is seen in a positive light as well. However, qualitative analyses indicate that the current top-down policymaking process should be complemented by an integrated bottom-up approach that includes third country interests.

6.5.2 Assessment of effectiveness by NCPs

The online survey of NCPs also provides deeper insights concerning the effectiveness of the international STI cooperation policy in FP7 ([49]). The majority of NCPs assess the design of FP7 international STI cooperation policies positively, in the sense that they are appropriate for:

- effective strategic and policy cooperation;
- scientific and technological thematic cooperation.

([47]) Final Report: Statistical and Graphic Annex. Figure 55.
([48]) Final Report: Statistical and Graphic Annex. Figure 56.
([49]) Final Report: Statistical and Graphic Annex. Figure 57.

NCPs' feedback on the **effectiveness of the operation of the NCP system and on interaction with the European Commission ([50])** indicates relative high satisfaction with the information flow from the European Commission. The European Commission is regarded as an efficient partner for promoting FP research in the NCP countries. More than half the NCPs affirm that the network of NCPs is appropriately structured and organised, and that cooperation with NCPs in other countries has positive effects. Considering the programme management of the European Commission ([51]), about half of responding NCPs indicate that they agree that contact with the Commission services, and that information provided was easily understood and effective.

However, it should be mentioned that NCP structures are quite heterogeneous. They include NCPs which do not receive sufficient support and financial resources at national level. For almost a quarter of NCPs, cooperation with NCPs in other countries is not seen as facilitated or being effective. A quarter is also unaware of data and information originating from the European Commission.

6.6 OUTCOMES AND IMPACTS

The main objective of the survey analysis is to present a topical picture of the current situation of FP7 international cooperation. However, its main focus is not on outcome and impact analysis.

Researchers ([52]) gave their views on selected indications of impact of participation of third country partners and partners from the EU. In general, international cooperation seems to have fared well; however, once again, third country partners are more positive than EU project coordinators.

FP7 international R&I cooperation shows positive effects on scientific publications, for both third country partners and EU researchers. Furthermore, FP7 international R&I cooperation has had positive effects on innovation. For more than half of responding third country partners, the participation of the EU partner had also significant impact on new or improved processes.

FP7 international cooperation helped open up new markets, develop new knowledge and make contacts. More than two-thirds of third country partners ([53]) and far more than half of the EU project coordinators ([54]) state that it supported the development of various new skills, in terms of applications of scientific tools and methods or R&I project management, and the adaptation of product development to local needs.

Third country partners and EU project coordinators share some criticism concerning impacts of FP7 cooperation on the improvement of health or safety of employees, new market entries, increased market shares or the achievement of specific socioeconomic development goals beyond S&T. Bearing in mind the discussion on main motivations and objectives of international cooperation, it should be noted that about one-third of third country partners and almost 40% of EU coordinators did not perceive improvements in networking with EU and third country industrial actors. This does not mean that there is no room for better integration of industrial partners from both EU and third countries.

However, major impacts of FP7 international cooperation concern scientific capability-building and integration into the scientific community. The vast majority of researchers, both from EU and third countries ([55]), perceive positive impacts of the FP7 international cooperation on their respective organisations and the organisations' strategies ([56]).

Concretely, FP7 international cooperation supported:

- further development of previous joint research activities, based on previous STI cooperation activities;

([50]) Final Report: Statistical and Graphic Annex. Figure 58.
([51]) Final Report: Statistical and Graphic Annex. Figure 59.
([52]) Final Report: Statistical and Graphic Annex. Figure 60, Figure 61.
([53]) Final Report: Statistical and Graphic Annex. Figure 62.
([54]) Final Report: Statistical and Graphic Annex. Figure 63.
([55]) Final Report: Statistical and Graphic Annex. Figure 64, Figure 65.
([56]) Final Report: Statistical and Graphic Annex. Figure 66, Figure 67.

- improved access to complementary know-how in their specific S&T area, and knowledge-sharing with the respective partner;
- the achievement of specific S&T goals with specific partners from third countries/EU partners, which need to be addressed on a global basis;
- the improvement of networking with third country/EU research actors.

Furthermore, about 70% of third country partners affirm that the international cooperation project facilitated the scientific exploitation of research results. They also note that it raised the ability to disseminate and exploit technological knowledge, and that it allowed the development of new strategic STI cooperation.

6.7 SUSTAINABILITY

Sustainability of a project can mean various things: further development according to the innovation chain, the maintenance of capacities build-up, and follow-up projects. The following section covers different interpretations of the sustainability of FP7 international cooperation.

6.7.1 Overall sustainability

The vast majority of both EU and third country partners ([57]) are convinced that applications developed within the specific projects are likely to have further deployment potential in the near future, concerning additional funding opportunities on the basis of the FP7 reference, the attraction of additional R&I investment and the commitment of current partners.

At least a third of third country partners and about 40% of EU project coordinators state that the project consortium has identified a clear commercial potential for applications, which will be carried further by the project team beyond the duration of the project.

The majority of researchers affirm a formal commitment of current partners to further develop research activities of the project ([58]), and indicate that project partners including the third country partner already set up a follow-up project, in order to further develop project activities.

The main position of survey respondents is that R&I follow-up activities beyond project completion should be mainly funded by EU-supported R&I programmes ([59]).

Some 27% of third country partners and 24% of EU project coordinators confirm the purpose of developing innovation activities, while only 7% aim at commercialisation and market access activities.

In a nutshell, FP7 international cooperation is expected to show clear additionality and impacts on international integration of scientific research that is of higher quality, continuity and sustainability. Direct impacts on participating organisations and their structures and capabilities can be expected. Potential impacts on innovation, international science industry linkages, market development or competitiveness are not excluded, but usually are not seen as a direct outcome of FP7 international cooperation.

([57]) Final Report: Statistical and Graphic Annex. Figure 70, Figure 71.
([58]) Final Report: Statistical and Graphic Annex. Figure 72, Figure 75.
([59]) Final Report: Statistical and Graphic Annex. Figure 73, Figure 76.

7 CASE STUDIES

The case studies have the purpose of describing three international cooperation experiences in three different geographic areas: one industrialised country, the United States; one emerging economy, India; and one Mediterranean partner country, Tunisia. The case studies provide deeper insights into international cooperation in S&T in the EU's FP7 programme from the third country perspective. They build on and complement the previous quantitative and qualitative analyses.

7.1 THE BACKGROUND TO THE THREE COUNTRY CASE STUDIES

7.1.1 India ([60])

India is a fast-developing country. After achieving an average **economic growth rate** of 8.8% between 2003 and 2008, it declined slightly to 7.6% between 2009 and 2012. In PPP terms, India is the fourth largest economy of the world ([61]) and the world's second most populated country. Its R&I expenditure increased from 0.81% to 0.88% of the gross domestic product (GDP) from 2002 to 2012. India has moved from being a technology borrower to a technology producer. It has also been able to attract a good share of foreign direct investment (FDI) in R&I in recent years, and currently over 470 foreign firms have opened up R&I centres in India.

The EU is India's largest trading partner, and the EU has been the biggest investor in India, with a cumulated EUR 20.0 billion since 2000. India has become the **fourth largest international partner for the EU** under the FP7. The EU 2013 'Cooperation' work programme included the EU–India SSH Platforms, the 'Capacities' work programme a number of actions under ERA-NET and ERA-NET+, and overall there has been an increased coordination of international cooperation activities of the EU Member States and Associated Countries towards India ([62]). The European Commission has issued a number of **coordinated calls** for proposals, co-funded by India, in areas of computational materials science, food and nutrition research, solar energy research and water-related challenges, with a total budget of EUR 60 million. Indian researchers have participated actively in the FP7 and EU Member States and the European Commission have been working since 2009 on an India pilot initiative on water and bioresources. A **Joint Declaration on Research and Innovation** was signed at the EU–India Summit of 10 February 2012 ([63]). There is an EU–India S&T agreement ([64]).

Besides cooperation with the EU, Indian **R&I cooperation relationships are growing at global level**. India has signed bilateral S&T agreements with 45 countries around the world, and set up joint laboratories with Germany and France, and joint programmes with Australia, Belgium, Sweden, the United Kingdom and the United States, and several other countries.

India has a **strong public-sector drive in R&I**. The Indian president declared the **decade of innovation (2010–2020),** and the government set up a National Innovation Council in charge of a road map for the promotion of innovation throughout industry, society and the broader economy ([65]). The **12th Indian Five-Year Plan** (2012–2017), adopted at the end of 2012, provides the key policy guidelines for Indian S&T. The key strategic objectives are increasing funding for R&I, gaining access to large global R&I infrastructures and working with international partners ([66]).

([60]) Except for specially marked phrases, the source of the text is from http://erawatch.jrc.ec.europa.eu/erawatch/export/sites/default/galleries/generic_files/file_0441.pdf and http://erawatch.jrc.ec.europa.eu/erawatch/export/sites/default/galleries/generic_files/file_0347.pdf online.
([61]) See http://erawatch.jrc.ec.europa.eu/erawatch/opencms/information/country_pages/in/country?section=Overview&subsection=Overview online.
([62]) See http://ec.europa.eu/research/iscp/pdf/india_comm.pdf online.
([63]) See http://ec.europa.eu/research/iscp/index.cfm?pg=india online.
([64]) See http://ec.europa.eu/research/iscp/index.cfm?pg=countries online.
([65]) See http://erawatch.jrc.ec.europa.eu/erawatch/opencms/information/country_pages/in/country?section=Overview&subsection=Overview online.
([66]) See http://ec.europa.eu/research/iscp/pdf/india_comm.pdf online

7.1.2 Tunisia ([67])

Tunisia is a developing country; however, the Tunisian per capita GDP (PPP) is one of the highest in Africa. Tunisia scored an average annual growth of 5% over the last decade. The country has a diversified **economy,** with a growing industrial base. The agricultural sector stands for 8% of the GDP, industry for 32% (including extractive industries like phosphate, petroleum and gas) and services for 60%. The main drivers of growth — tourism and the phosphate industry — continue to face difficulties. Tunisia suffers from high unemployment, especially among young people. **Human resources** are a key challenge, since a mere 36.9% of the population aged between 18 and 24 have completed tertiary education. Tunisia became the cradle of the '**Arab spring**' (2011-2012). Foreign-owned enterprises have continued to leave Tunisia since then.

To build an effective national system of innovation has been one of the core policy goals since the late 1990s. However, the **R&I** share on GDP of 0.71% in 2009 is relatively low (although it is high compared to other countries of the Middle East and Africa). Private and public investment in R&I is limited; the main actors are public research organisations and university research with over 80% of government appropriations. The target of the government is to raise the GERD to 1.5% of the GDP by the end of 2016. External funding of R&I mainly comes from the EU FP and bilateral cooperation programmes. The low technology profile of SMEs is the most important barrier to R&I investment. The lack of framework conditions hampers commercialisation of research.

The relationships between the EU and Tunisia are close. The EU and Tunisia have signed a **Euro-Med Association Agreement,** and the EU remains Tunisia's main trading partner. Tunisia participates in the **European Neighbourhood Policy**. A **Scientific and Technological cooperation agreement** between the EU and Tunisia was signed in June 2003, and entered into force in April 2004. By 2010, Tunisia had signed eight **bilateral S&T agreements** with EU Member States ([68]).

7.1.3 United States ([69])

The United States is an industrialised country with the largest **economy** in the world, with GDP (purchasing power parity) of around EUR 12.2 trillion (USD 15.2 trillion) or EUR 38 800 on a per capita basis (USD 48 111) in 2012. The American economy suffered from a GDP downturn in 2008 and 2009. The American **population** of 315.1 million ([70]) is the third largest in the world. The United States has a huge science base. **Human resources** measures indicate that the share of the population aged between 30 and 34, and having completed tertiary education, accounts for 29.9%. The number of employees engaged in knowledge-intensive manufacturing and services sectors and the share of the S&T workforce has increased. The United States has a large **R&I sector,** representing more than EUR 320 billion (USD 406.7 billion) in 2011. The private sector funds more than 60% of all R&I, and performs nearly 70% all R&I. American public R&I funding is mainly performed by higher educational institutions, leaving a mere 12% to government agencies.

The American **research system** is large and decentralised. Policy is bottom-up driven by departments and agencies. The current administration has placed greater emphasis on increasing R&I as a percentage of GDP beyond the 3% mark, and has also focused attention on linking research focus areas to economic development goals. Addressing the **economic downturn and budget deficits** remains an ongoing concern of American policy. The current administration has initiated several cross-agency programmes over the past three years, to foster greater linkages between R&I policy. Nevertheless, continued uncertainties prompted by the economic downturn and sluggish recovery have been a major barrier to private R&I investments in the United States.

The United States does not have a national strategy concerning participation in EU FPs. Typically, participation is based on decisions of individuals or groups of researchers. **Umbrella agreements** exist with the EU — the S&T agreement with the EU ([71]) — and 15 Member States ([72]). These

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([67]) Except for specially marked phrases, the source of the text is http://erawatch.jrc.ec.europa.eu/erawatch/export/sites/default/galleries/generic_files/file_0432.pdf online.
([68]) These are Belgium, France, Germany, Greece, Italy, Portugal, Spain and Norway.
([69]) Except for specially marked phrases, the source of the text is http://erawatch.jrc.ec.europa.eu/erawatch/export/sites/default/galleries/generic_files/file_0417.pdf and http://erawatch.jrc.ec.europa.eu/erawatch/opencms/information/country_pages/us/country?section=Overview&subsection=BasicChar online.
([70]) See http://erawatch.jrc.ec.europa.eu/erawatch/opencms/information/country_pages/us/country?section=Overview online.
([71]) See http://ec.europa.eu/research/iscp/index.cfm?pg=countries online.

agreements provide frameworks for S&T cooperation, intellectual property protection, research access and related topics, but usually do not indicate explicit fields for cooperation. There are also **networks** that promote United States–Europe scientific cooperation and S&T presence within diplomatic offices, academic exchange programmes, and cooperative actions of individual organisations and researchers. The United States has umbrella S&T agreements with 38 non-EU countries.

7.2 CASE STUDY RESEARCH

7.2.1 FP7 international cooperation activities in three case-study countries

Analysis of the eCORDA data shows that the United States accounts for 343 instances of participation in the FP7 'Cooperation' programme (almost 10% of all participation); India accounts for 196 instances of participation (almost 6% of all participation), and Tunisia for 55 instances of participation (1.6% of all participation). Almost half the American participants are higher education establishments, while research organisations are the main participants from India and Tunisia ([73]). Considering the type of participation, one-fifth of the American participants in the 'Cooperation' programme are private commercial organisations, something most likely related to the large weight of the private sector in R&I in the United States. On the other hand, one-fifth of Tunisian participation is from public research centres, and only 11% is from private research organisations; this could be interpreted as a possible indication of the need to further develop the local R&I system.

The case studies have shown that the United States and India are partners of high interest to European R&I players in several thematic areas, as explained below.

- The United States is a particularly important partner in the following thematic areas.
  - Health, in the fields of rare diseases and brain injury. More than one-third of American projects and participation is in the thematic area Health, which is consistent with the American knowledge base in health care and related technologies, as well as with the level of American health expenditure and investment in R&I.
  - ICT, sharing the advanced knowledge-bases.
  - Nanosciences, where in several cases, coordinated calls for R&I grants have been launched.
  - Energy, in the field of solar energy and in the field of energy research.
  - Transport. The United States is a cooperation partner in the domain of ship safety in Arctic conditions and safe flights under icing conditions. There is a focus on population aging and access to transport services.
  - Security, where cooperation is particularly advanced on international security research efforts and the development of synergies between civil, security and defence research and the relevant infrastructures.
  - Socio-economics, in particular through the transatlantic Social Sciences and Humanities (SSH) platform (focus on Canada, the United States, Mexico and Brazil).
- India is a major partner country in several thematic areas.
  - Knowledge-Based Bio-Economy (KBBE). Cooperation on a bilateral programme level.
  - Joint research activities via coordinated calls in Nanosciences.
  - In Energy, cooperation is developed in the field of solar energy as well as within actions addressing environmental issues of energy policies, energy supply interdependency, technology transfer and capacity-building.

([72]) These are Bulgaria, the Czech Republic, Denmark, Germany, Greece, Spain, France, Italy, Hungary, Poland, Romania, Slovenia, Slovakia, Finland and Sweden.
([73]) Final Report: Statistical and Graphic Annex. Table 67.

- Environment, in particular for joint research on international commitments, especially in water technologies and management.
- Transport, for knowledge-sharing, particularly in alternative fuels research.
- In Socio-economics, for the development of the EU–India SSH platform.

The eCORDA data ([74]) provide further information on India–EU cooperation activity, showing that Health accounts for most of the participation. Indian policymakers confirm that there is strong interest in the development of cooperation activities with the EU in the Health area. ICT knowledge is very important in India, and the country has significant interest in cooperating with Europe. In addition, European R&I players have a strong interest in cooperation in Transport, Environment and KBBE.

The areas where **Tunisian** researchers cooperate with European players are principally Food, Agriculture and Biotechnology ([75]). Key areas of interest are Health and Environment. In the interviews, it was mentioned that Tunisia has a great number of researchers, old and traditional labs and organisations in Health, Biotechnology and Agriculture. In themes such as Energy and ICT, the scientific community is not yet well structured.

7.2.2 Why do researchers in case-study countries aim to work with Europe?

The case studies present a multifaceted picture of the motivation behind international cooperation with EU countries.

In general, all three case-study interviewees confirm that the main motivations for international cooperation activities are:

- collaboration and exchange with top researchers worldwide;
- improvement of knowledge and experience;
- design of cross-border research tasks to enhance data access, scientific information, use of research facilities and sharing of research results;
- technological and scientific networking with international scientists;
- production and sharing of scientific knowledge.

The points above are the key motivations from the perspective of all three case studies. However, additional interesting information and viewpoints are provided by different interviewees:

- Indian interviewees indicate that mutual benefits in relationships with the EU are very important. Indian project partners indicate that the design of the R&I cooperation activities should meet their needs and produce solutions for Indian society and the Indian market. Concerning funding, Indian case study participants indicate that it is 'nice to have' in the case of basic research. The absence of funding, on the other hand, would be a serious obstacle to international cooperation with the EU. Funding by the FP is essential for long-term projects, according to the Indian interviewees.
- One of the key motivations for francophone Tunisia is to enlarge the research networks, in particular toward English-speaking countries, and to increase opportunities for developing R&I relationships to enhance the S&T base. Access to more opportunities for research is another motivation. For Tunisia, FP funding is particularly important to enable participation in large projects with significant impact, to internationalise CVs, and to be recognised in the international scientific community.
- American interviewees indicate that FP7 international cooperation activities are a good opportunity to support mobility and exchanges through network building, conferences and student exchange, especially for the benefit of junior researchers and students. One key position emerging from the American case study is that, since the FP rules do not allow automatic funding of American researchers and R&I organisations, international cooperation activities with the EU do not necessarily use the FP. The availability of funding together with a substantial benefit from international cooperation projects is essential for the commitment of

([74]) Ibid.
([75]) Ibid.

American partners. Otherwise, American R&I organisations prefer to use bilateral agreements with European countries and organisations.

The motivations of the case study participants are supported by the survey results regarding the importance of the availability of FP funding to third partner countries ([76]). However, the share of respondents differs: availability of FP7 funding is a necessary prerequisite to engaging in collaborative international research for 86% of Tunisian survey respondents, vs 70% of Indian respondents, and 60% of American respondents. Considering the availability of other funding sources, the shares are reversed: only 53% of Tunisian respondents indicate that availability of other funding is a necessary prerequisite to engaging in collaborative international research, vs 65% of Indian survey respondents and 70% of American respondents. Slightly over 40% of American survey respondents indicate that they would engage in international research, even if there were no public funds available, and this percentage increases to over 60% of Tunisian and Indian survey respondents. Here, an inconsistency is evident between the responses in the case studies and the responses to the survey.

There seems to be a high correlation between countries with consolidated R&I funding systems and the importance of 'external' funding, such as that provided by the EU FP for research and innovation ([77]). Tunisian R&I players indicate that the FP and the EU development programmes are of high importance; a relatively low share indicates that national R&I programmes are important. The explanation is probably that the national programmes in Tunisia are relatively less developed than those in India, and less than the American R&I support programmes. Actually, American R&I players indicate that national R&I and development programmes are of relatively high importance, while EU R&I and development programmes are of much lower importance. Indian policymakers confirm that the EU international cooperation programmes are of similar importance to national programmes and they confirm that the EU FP is the main instrument of cooperation, and is deployed for almost all S&T fields.

7.2.3 Specific interest in FP7 international cooperation

Through the case studies, we have specifically investigated the motivations and importance of international cooperation for third country partners, who have clearly confirmed the importance of the nature and benefits of international cooperation activities carried out. Most of the Indian and Tunisian survey respondents confirm the low or very low scientific, technical or commercial risk of research activities carried out under FP international cooperation ([78]). American respondents in general are more critical: they indicate that international cooperation projects are rather short-term oriented, and that they are loosely connected to other in-house projects, even if they are normally situated in a core technology area of the organisation.

Overall, stakeholders of the three countries confirm that these projects are of higher scientific or technical complexity. In general, it seems that the United States uses international cooperation more for specific projects where external collaborators are needed or specific output is expected, whereas Indian and Tunisian partners — also because of the different funding situation — value international cooperation activities for reasons of exchange and joint knowledge-building.

7.2.4 Instruments supporting international cooperation

On the one hand, the case studies and general eCORDA analysis indicates that there are quite consistent patterns of use of the different instruments in the 'Cooperation' programme: Collaborative Projects and Coordination and Support Actions (CSAs) have the same share, and the other instruments' share is negligible ([79]). However, a more focused analysis of the case studies indicates that CSAs are used more in countries like India and Tunisia, and much less for the United States. This has several possible explanations: international cooperation with the United States is based more on bilateral agreements and is marked by the fact that there is no single contact point for these activities, but rather, several bodies and institutions in charge of R&I and science development. Also, the FP does not make any funding available to American organisations, and thus the bottom-up and bilateral approach might be preferred to a structured approach, based on structured analyses in selected S&T themes. The eCORDA statistics show that for India, about 30%

([76]) Final Report: Statistical and Graphic Annex. Figure 84.
([77]) Final Report: Statistical and Graphic Annex. Figure 85.
([78]) Case study interviews.
([79]) Final Report: Statistical and Graphic Annex. Table 67.

of the projects are CSAs, and for Tunisia, 36% are CSAs. In the United States, only 15% of the projects are CSAs; the others are mainly cooperative projects.

The case studies show a clear correlation of the S&T level of a country and the history of relationships in R&I, and the need to undertake targeted exploration initiatives like those funded by CSAs. However, it should be noted that three of the overall 26 Networks of Excellence (NoEs) are with American partners.

The American case study confirms that Collaborative Projects are of high importance, as are dissemination activities and conferences/joint workshops ([80]). American stakeholders from academia, research and policymaking also indicate that visiting fellowships and exchanges for third country researchers are of high importance. In any case, American case study interviewees confirm their interest in developing relationships with European organisations and institutions as well as their expectation to become more involved in Collaborative Projects, which are considered a good opportunity for young researchers. It should also be emphasised that there are some incompatibilities between the FP contractual and project administration rules, and some of the rules applicable in the United States, which have, in some cases, led to the withdrawal of the American partner.

According to Tunisian case study participants, Collaborative Projects and networking activities are nearly of equal importance, and (confirming eCORDA data), the main cooperation activities are Collaborative Projects (research and S&T) as well as Support and Coordination actions. Tunisian stakeholders place a great deal of importance on networking, dissemination and information sharing. The Indian case study confirms that the most important activity concerns Collaborative Projects.

7.2.5 Role of third country partners and set-up of S&T initiatives and projects

In general, the statistical analysis of eCORDA shows that in most cases, third country partners play a participant role ([81]). In fact, only 9 projects of 3 446 were led by a third country partner. In two of the nine cases, the coordinator comes from the United States; in the other cases, they were from Australia, Brazil, Cameroon, Kenya, Monaco, Russia and South Africa.

The Tunisian interviewees in the case study confirm that most FP international cooperation proposals were built on previously established relationships. Both Tunisian and Indian case study participants confirm that in most cases, project participants had a long history of cooperation or that they shared a positive reputation in the scientific community. In all cases, the EU project coordinator made a contact based on the reputation of the prospective third country participant and their visibility in the field.

The Tunisian NCPs participating in the case studies indicate that connections between organisations are often established when Tunisian researchers present their work and project ideas in European networks or use partner search sources ('CORDIS', the ICT Partner Search Network 'Ideal-ist', requests to NCP). American case study participants indicate that they get in contact via European contacts and networks. Participation in the project can be problematic when there is no prior knowledge of the prospective partner by the EU coordinator. Interviewees emphasise the issue of knowledge and trust, which requires personal contacts and joint activities. EU coordinators also highlight problems arising when the third country partner does not receive any EU funding, which sometimes makes it difficult to get the necessary results.

7.2.6 Expected impacts related to policy objectives

The Indian policymakers participating in the case studies indicate that international cooperation with European institutions is a great priority for Indian policymakers and project participants. India is willing to increase exchange and mutual cooperation and contribute with their share of financial resources to create partnerships for mutual input, control and benefit. From the Indian perspective, global partnerships are the fundamental way forward to find solutions for global and especially for Indian grand challenges in health, agriculture and environment.

([80]) Final Report: Statistical and Graphic Annex. Figure 115.
([81]) Final Report: Statistical and Graphic Annex. Table 67.

The interviews confirm the common effort of EU and Indian policymakers towards the grand challenges, which are of great interest to India as well. Cooperating in international consortia is therefore seen as an opportunity for Indian scientists to become familiar with European knowledge, and with solutions that can be adapted to the Indian context to generate favourable economic, social, and societal impact. At the same time, Indian policymakers confirm that European players have the chance to access the local market and to cooperate with Indian partners. The main criterion adopted by Indian S&T when selecting projects for funding, is that of excellence rather than according to geographical targeting.

The Tunisian NCPs and R&I players have indicated the main policy objectives behind international cooperation: (1) promote the integration of Tunisian researchers into the European scientific and societal system, (2) promote the S&T standing of Tunisia to the EU research community, (3) improve the integration and adaptation of global challenges to the specific priorities of the country, and (4) improve the economic attractiveness for technology investments in Tunisia. The key thematic priorities for Tunisia are sustainability of natural resources and safety of food and food security; Tunisian policy aims to integrate these interests with the EU approaches. Tunisian NCPs play an effective role in coordinating and aligning national STI policies with European Commission priorities. Tunisia has launched a programme to promote R&I, which will run from 2011 to 2014, with a EUR 12 million fund provided from the EU. The resources will be used to build strong scientific partnerships between Tunisian researchers and their counterparts in the EU through joint scientific research projects.

It is mentioned in the ERAWATCH profile that R&I linkages between the United States and Europe are deep, multiple, and long-standing, and this is reflected in an array of research policy activities involving multiple programmes and actors. American S&T policy encourages the further strengthening of ties with European counterparts ([82]). Policymakers and project participants in our case study have confirmed that there is no FP equivalent in the United States. Funding is driven by objectives and priorities of specific departments and funding agencies, such as the National Science Foundation (NSF). There is no direct relationship between the funding criteria of the EU FP and of the American funding agencies. Cooperation between the NSF and the European Commission is thematically driven, and is more at programme officer or organisation level than at project level. The evaluations of the NSF are mainly oriented towards the American policy principles and the United States and agency interests. The United States also looks for cooperation with the EU to leverage funding to address the grand challenges. The approach of the United States, and in particular, of the NSF to the grand challenges is different from the EU approach. While the NSF is more a basic research-funding organisation, the European Commission's 'Cooperation' specific programme is perceived as more top-down focused and focused on applied sciences. In general, American funding agencies are interested in developing cooperation with the EU, and in particular as part of Horizon 2020. They can see its opportunities and consider cooperating inside the framework, and confirm the coherence between the United States and EU thematic priority setting.

7.2.7 Effectiveness, outputs, sustainability and impacts

Indian and Tunisian survey respondents indicate more often than American participants that the output impacts of international cooperation activities with EU researchers is significant. According to American respondents, the most important impacts concern peer-reviewed publications, but also the development of new skills in the application of scientific tools and methods, and in some cases, expanding market knowledge and contacts.

Also, the Indian case study participants confirm that their participation in FP-supported international cooperation activities have significant impact on peer-reviewed publications, and 80% see a very significant or significant impact on other scientific publications. They also agree that international cooperation often opens up new market knowledge and contacts, and allows development of new skills in the application of scientific tools and methods as well as new skills in adapting product development and local needs; it also supports the development of new skills in engineering/applied sciences.

([82]) See http://erawatch.jrc.ec.europa.eu/erawatch/opencms/information/country_pages/us/country?section=InternationalisationOfSTCooperation&subsection=Orientation online.

The Tunisian case study confirms the positive impacts of international cooperation activities. The vast majority of Tunisian respondents see a very significant or significant impact on peer-reviewed publications, on new or improved services and on organisational innovations, and agree that the most important projects support the development of new skills in the application of scientific tools and methods, and the development of new skills in managing R&I projects.

All three case-study country participants agree that international cooperation in FP7 improved networking with EU research actors ([83]). It also allowed them to achieve specific global S&T goals together with EU partners, and improved access to complementary know-how in the specific S&T area.

The American case study shows that joint activities allowed further development of previous joint initiatives based on previous STI cooperation projects.

For over 78% of Tunisian respondents, international cooperation in FP7 improved research conditions in the third country partner organisation, and for 73% of Indian respondents, it facilitated exploitation of research results.

The survey results are confirmed by the qualitative case study interviews: Indian and Tunisian interviewees consider projects as successes and appreciate the exchange of expertise and information, and the building of strong partnerships. Indian stakeholders, however, mention that in some cases, it appears that the core output of a joint project is just a presentation at a conference, which can be achieved through other means. There is an expectation of more concrete results.

Indian stakeholders also indicate that more concrete outputs would be useful for SMEs, including pilot and demonstration projects. The Tunisian interviewees also confirm that advances in technological knowledge remain rather limited, probably also due to the mainly scientific character of FP international cooperation activities. They also indicate that the knowledge acquired remains within European laboratories.

Also, EU coordinators indicate that the main outcomes of FP international cooperation activities concern networking and standardisation, and thus are not aimed at mere knowledge production and producing concrete results. The case study participants also complain that there is no dissemination budget after project completion.

In respect to the sustainability of international cooperation projects ([84]), only about half of Indian and American survey respondents agree that there is a formal commitment of current partners to further develop research activities of the project, while 80% of the Tunisian respondents agree with this statement. For Indian respondents, sustainability depends for most respondents (88%) on the attraction of additional R&I investment, and for most Tunisian respondents (84%), on the commitment of the current partners to sustain the project.

The case study interviews confirm the general sustainability of projects. The key criteria for sustainability are diverse.

- Indian interviewees indicate that they plan to cooperate in further projects with consortium partners in the future. In specific cases, national programmes would make available additional funding.
- Tunisian project partners are preparing new projects with partners, although they mention that they always need funding (from Europe, the World Bank, the United Nations (UN) or their university). An important aspect for sustainability for project partners is the integration into research networks.
- American participants indicate that partnerships with consortium partners are in general sustainable, but that it is mostly due to the pre-existing and stable relationships within consortia. In general, FP international cooperation projects were an excellent means to build up further relationships, but it is quite likely that future initiatives and projects will be based on bilateral agreements between organisations or countries, and will not necessarily involve EU programmes.

([83]) Final Report: Statistical and Graphic Annex. Figure 118.
([84]) Final Report: Statistical and Graphic Annex. Figure 119.

Indian interviewees indicate that the FP is not highly relevant for large companies, which are well equipped to directly tackle their R&I issues. These companies have their own R&I budget to fund developments themselves, and are therefore not dependent on FP7 funding, which from their perspective has a time to market that is too long. It is not easy for European SMEs to work in the Indian market, since they lack contacts and human and financial resources. One of the strategic goals of international cooperation activities in FP7 should, according to the interviewees, be support for SMEs in accessing the Indian market, for example by cooperating with the European Business and Tech Centre Delhi (EBTC), which connects SME clusters in Europe with Indian clusters and supports SME participation in work programmes. SMEs would also benefit from pilot and demonstration projects leading to demonstration and capacity-building. The focus should be on the actual development of products (important for firms — they need applicable results). Indian stakeholders and policymakers indicate that it takes more time to see the output for SMEs (in terms of products and market), than for larger enterprises. They also mention conflicting interests in managing intellectual property rights between universities (who aim at publications) and firms (who want to protect the outputs through patents, and to produce applicable results).

Tunisian case study participants consider that participating in FP7 will greatly increase their chances of attracting industry.

7.2.8 Management and efficiency

In terms of management and efficiency, the interviews and survey results ([85]) from India, Tunisia and the United States show the following.

- Indian respondents evaluate management and efficiency much more positively than American respondents. Some 70% of Indian survey respondents agree to positive statements regarding FP7 programme management and administration. American respondents are much more critical in this respect.
- The vast majority of all three country respondents agree (to a different extent) on the simplification and optimisation of administrative requirements. Indian and Tunisian respondents agree on the appropriateness of the level of funding and project budget, while American respondents are much less positive about this aspect (they do not receive automatic EU funding).
- Interviewees from all three case-study countries agree on the need for activity reporting; however, the efficiency of FP management related to this is criticised. EU coordinators indicate that application guidelines and reporting are reasonable, although organisational and administrative tasks are demanding for coordinators. There can be tensions in management budgets for coordinators taking on the role for the first time and having to support third country partners who are not familiar with European bureaucracy and regulations. For this purpose, EU coordinators suggest less synthetic and clear guidelines.
- Besides the demanding administrative requirements, Indian project partners mention problems regarding travelling and mobility. They indicate that the aim of mobility should be taken seriously, and consider that diplomatic channels need to be sensitised to reduce bureaucratic issues when travelling (expiration of visas). Student exchanges from Europe to India should be stimulated. In general, Indian policymakers state that there might be problems finding Indian funds to match European requirements. R&D policy design should take account of different cultures in planning and (financial) reporting.
- Tunisian case study participants highlight slow and sluggish administrative procedures — mainly from the Tunisian side — and propose training on administration and management after the project starts. Interviews with NCPs revealed that overly complicated regulations and administrative requirements within FP7 led to a denial of participation within FP7.
- According to American interviewees, rigid accounting requirements are problematic. Complex and bureaucratic application requirements — even when there is no funding possibility for American partners — hamper cooperation. The United States' and the European Commission's reporting systems have different requirements. American institutions set up and maintain American government–approved reporting systems (e.g. effort reporting) to comply with American government regulations and allow the receipt of American government funds.

([85]) Final Report: Statistical and Graphic Annex. Figure 122 and Figure 123.

Therefore, European Commission FP programme requirements are often not feasible or allowed. Many FP grants require an annual external audit by an EU certified firm, which certifies that American institutions are meeting EU funding and reporting requirements. For American institutions, this can be problematic, since they do not operate with EU-approved systems, and the cost of the audit would be prohibitive. American policymakers indicate that American project participants need to fulfil American regulations and meet American reporting requirements when they get funding from the American agency — requirements to meet European Commission standards therefore place a double burden on them.

7.2.9 Role of NCPs

Regarding the role of NCPs in third countries, experts in the workshop ([86]) highlight the need for awareness that third partner country NCPs often have a different history to EU and associated countries' NCPs, and that most of them have been very recently established. Statements from interview partners further spotlight the problem when NCPs in third countries are not funded by the European Commission.

NCPs therefore often need to be involved in projects, which limits resources for NCP-related activities. Experts in the workshop confirm that the role of NCPs should be strengthened. All experts agree that investment in third partner thematic NCPs should be better leveraged. In general, the role of NCPs needs time to develop, since almost all of them are relatively new. The interviews and survey results ([87]) from India, Tunisia and the United States indicate the following.

- The Indian case study confirms that NCPs are helpful in accessing the EU FP. However, most of the Indian respondents are critical in respect to the effectiveness of NCPs.
- Interviews with Indian policymakers indicate that since India is a big country, the NCP's role is limited, since it is not well utilised. A neutral agency, fully in charge of information dissemination, could have higher impact.
- Also, Tunisian NCPs are primary engaged in other activities. However, in contrast to India, where only two NCPs have been established, Tunisia has eight on a much smaller geographical scale. Tunisian stakeholders generally indicate that the NCP was a key enabler in combining national S&T support instruments with EU instruments, and that the INCO NCP effectively fulfils its role as facilitator for participation in the programme. The Tunisian case study participants indicate that the NCPs were a main source of information, organising meetings with other research centres to exchange experiences and challenges in FPs. The NCP clearly presented programme information and it was a key enabler in the initial set-up of the project. Furthermore, Tunisian NCPs try to represent Tunisia globally, and organise events to connect and promote dialogue between the European Commission and the research community. To improve Tunisian participation in the FP, interviewees suggest a closer exchange of experiences with EU NCPs.

7.2.10 Challenges and room for improvement

All three case studies confirm that there are challenges concerning the administrative and management requirements of international cooperation in the FP. The interviewees mention issues related to funding instruments and availability of funding to third country partners.

Indian interviewees indicate that there is a strong will to foster cooperation with Europe, and that there are three major challenges related to this.

- Fighting fragmentation: India is not only a partner to the European Commission as manager of the FP, but also to most EU Member States. This means while there is much cooperation with India, it is too fragmented and uncoordinated, leading to financial constraints and problems of efficiency. To avoid duplication of efforts and to gain a critical mass, coordination and unity of the Member States is needed. The 'EU/MS-India meeting of the Group of Senior Officials' (GSO, 8 October 2013) is mentioned as one possibility for jointly identifying areas of common

([86]) Internal Deliverable: Workshop with Experts and European Commission Officials, Report, 20.11.2013.
([87]) Final Report: Statistical and Graphic Annex. Figure 121.

interest and priorities in working together. The following steps will investigate actual implementation, and identify gaps and necessary actions. A large joint information campaign was organised in 2011 and 2012, with the purpose of illustrating unity and maintaining diversity, since India expects a strategic scale of cooperation.

- Mutual cooperation among equals in R&I: the perception of Indian policymakers and players is of a mainly EU-centric design of international cooperation activities of the FP. There is willingness to facilitate real cooperation, and to convert cooperation to joint cooperation, including joint funding and joint decisions about regulations, objectives, modalities (accounting for cultural differences), evaluation processes, etc. to improve the situation of both sides, but this needs to be done according to the principle of mutual interest.
- Flexibility of funding modalities: Indian policymakers indicate that new and more flexible models of funding are needed. On the one hand, this means that applications of different funding models could be decided from case to case (e.g. Joint Centres of Excellence, NoEs, etc.). On the other hand, it also means that funding modalities and financial rules should not be too rigid. There is an issue with conversion rates changing from the time financial forms are submitted and the grant's funds are received.

Tunisian interviewees are closely affected by the very uncertain social situation in Tunisia. The key issues raised in the case study concern firstly the coordination of R&I policy programming, and secondly the funding modalities:

- Concerning the coordination of programming, Tunisian case study participants mention the importance of specific calls with incentives to involve them as third country partners and to coordinate them with national programmes.
- With reference to the funding modalities, interviewees mention the issue of low funding of Tunisian partners.

The general attitude of American case study participants is favourable in respect to international cooperation with the EU, and the cooperation with EU research institutions is in general very important. The interviewees, however, face two main issues:

- The compatibility of administrative requirements. Administrative requirements pose significant obstacles to the participation of American bodies, also due to conflicting regulations and requirements, which impose a double administrative burden on them, at the very least.
- The funding modalities. Interviewees indicate that they would expect to be funded when American partners offer a service within a consortium (the same way a European project partner would be funded for the same service). They also indicate that participation of American players is not always permitted in all thematic programmes. Rigid funding modalities are a further obstacle.

8 OVERVIEW AND BEST PRACTICE TOWARDS ACHIEVING OBJECTIVES

The study has examined international cooperation in the EU's FP7 with a particular focus on the 'Cooperation' specific programme, from different perspectives and using different methodological approaches to capture various viewpoints on EU R&I cooperation with third countries not associated with FP7.

The review of the FP7 legal basis and of the strategic and implementation programmes confirms that S&T development has always been international in nature. Policymakers are very much aware of the need to address the grand societal challenges, leveraging R&I cooperation at global level. The FP7 takes into account the increasing internationalisation of industry and services and the migration of industrial and technological developments towards fast-growing emerging economies, and the need to integrate them with the 'western economies'; a powerful driver of global knowledge production and knowledge sharing.

In fact, the grand global challenges (such as climate change, poverty, infectious diseases, threats to energy, food and water supply, citizen security, network security and the digital divide) call for effective global S&T cooperation for sustainable development, and the FP is increasingly focused on these objectives. The main objective of international cooperation in FP7 has been to integrate European excellence in R&I into the global science and innovation context, establishing strategic

partnerships with international partner countries in selected fields of science, focusing S&T activities on specific problems of international partner countries or of global character, and improving access to global research, facilitating contact with international partners.

The study clearly shows that within FP7, international cooperation activities are developed according to the basic principles of programming, targeting, and partnership and dialogue. They are not developed as a stand-alone activity, but are complementary and synergetic with FP research activities overall. The European Commission is working hard to simplify procedures and reduce the administrative burden for participants, while at the same time safeguarding monitoring and public expenditure accountability.

The 'Cooperation' specific programme in FP7 is structured into 10 thematic areas, all of which have an international cooperation strategy: Health; Food, Agriculture and Fisheries and Biotechnology (KBBE); ICT; Nanosciences, Nanotechnologies, Materials and New Production Technologies (NMP); Energy; Environment (including Climate Change); Transport (including Aeronautics); Social Sciences and Humanities (SSH); Space; and Security.

Among these themes, Health, Food, Agriculture, Fisheries and Biotechnology, and Environment have a significantly higher budget share dedicated to international cooperation, compared to the overall 'Cooperation' programme budget. For Transport (including Aeronautics) and SSH, the budget share of international cooperation is about as high as the share in the overall 'Cooperation' programme. Nanosciences, Nanotechnologies, Materials and new Production Technologies, and Space and Security have an international cooperation budget that is slightly lower than the general 'Cooperation' share.

Among the FP funding instruments, the most frequently used for international cooperation are Collaborative Projects and Coordination and Support Actions (CSAs); the former for the actual research activities, and the latter for the set-up and design of international cooperation activities.

As expected, the European Commission is one of the key players in international cooperation in FP7 and has the responsibility to guide, design and manage international cooperation activities from a thematic and geographic perspective.

However, international cooperation can be driven by different bodies:

- the high policymaking level deals with top-level agreements with third country partners and with the definition of umbrella cooperation agreements; R&I cooperation is part of such agreements;
- the thematic units in the Commission DGs are in charge of designing areas of the 'Cooperation' Work programme;
- the horizontal units in the Commission provide support to the international cooperation design and implementation activity, at the level of both DG and thematic area.

Important support for design and implementation is provided by:

- R&I players
- policymakers in partner countries;
- agencies in charge of R&I policy implementation
- other stakeholders such as user groups.

8.1 BEST PRACTICE IN INTERNATIONAL COOPERATION POLICY DESIGN

While there may be different 'drivers' of international R&I cooperation in the FP, the 'modus operandi' of the European Commission is very similar across the different DGs and thematic units, which have in place a flexible and articulate process to design and manage international cooperation. Independently from the input received, European Commission services undertake an **international cooperation feasibility study**, often through the horizontal international cooperation units. This study analyses the key aspects of the possible international cooperation action, and it is significantly enhanced by the units launching specific CSAs to examine the opportunities of a specific S&T area with a specific geographical direction.

The key principle adopted by the Commission is that international cooperation requires a careful analysis of costs and benefits, and that a rational allocation of resources is necessary. Many of the horizontal units are developing **standard templates** to design the feasibility studies. In FP7, the European Commission has been developing common standardised approaches focusing on a clear priority setting, and on the clear definition of the S&T benefits and the associated costs. The political, thematic and geographical aspects of cooperation are very important, and the allocation of resources needs necessarily to be selective and to relate to the interests of the EU in the medium and long term. The priority setting includes both the thematic and the geographical dimensions.

The thematic units responsible for the practical design and implementation of international cooperation activities (under CSAs or independently) normally launch a number of **assessment** and **information dissemination initiatives** to explore certain thematic subject matters and to involve experts, R&I players and stakeholders from the EU and from international partner countries. These can take the form of workshops, seminars or other communication activities that bring together experts and R&I organisations and institutions with common interests. The output of this S&T dialogue might relate to the overall policy level, or to specific implementation issues for common or coordinated activities.

Even when international cooperation feasibility studies can embed a cost–benefit analysis, budget allocation to these R&I projects is relatively low, and the key decision-making elements and the benefits are the focus of the action (for both parties), while critical mass is not as important.

In some cases, experts have suggested producing country and thematic strategic papers with a SWOT analysis and cost–benefit assessment systematically. However, there is a serious risk of detaching these papers from the reality of a certain thematic area in a specific country. It is likely that such an effort, when carried out on all possible S&T areas and for all geographic areas, will be too rigid and effort-consuming, and will lead to some gaps.

As a matter of fact, there are some R&I and knowledge areas in which global-scale test beds are very important, in order to actually validate the finding of the research activities. In other areas, where the EU as a test bed is sufficient, there is no reason to expand these specific initiatives beyond the EU.

One very important aspect in the current set-up of international cooperation in the FP is retaining the **necessary flexibility** of a combined bottom-up approach with an adequate policy umbrella. It responds flexibly to top-level policy requirements and to the needs of the specific thematic units, and it is the most efficient approach for handling the investigation and assessment needs of international cooperation in the FPs. It would probably be useful to implement structured internal communication mechanisms to share approaches across the European Commission services.

Another best practice adopted in some of the R&I managing units is retaining the continuity of activities, integrating them with previously established initiatives and embedding them in pre-existing networks. In other words, international R&I cooperation is kept on a consistently developing path.

All thematic units have confirmed that they are used to cooperate intensively with EU representations in third partner countries, while collaboration with NCPs and their networks is somewhat patchy. In some cases, there is very intense cooperation inside and across thematic units to design and structure international cooperation activities. Given the important investment of the EU in NCPs, it would be advisable to leverage their capabilities and networks better.

Thematic units and horizontal units are used to intensively collaborate.

8.2 QUANTITATIVE ANALYSIS

The policy documents of the FP7 place an explicit emphasis on international cooperation; this is confirmed by the statistical review. Some areas have a greater weight in FP7 'Cooperation' international activities in terms of number of projects: Health, Food, Environment and Space. The analysis also shows that there are some priority areas that receive more resources than others: the Health area is one such example.

The statistics show that although the overall work programme for 'Cooperation' (from 2007 to 2013) had a stable trend, international cooperation activities increased sharply from 2007 to 2009, remained stable in 2009 and 2010, increased again in 2011 and dropped in 2012, and then sharply rose in 2013.

FP7 international R&I cooperation projects in the Health area prevailingly involve industrialised countries and African partners, and to a slightly lesser degree, Asian and Latin American countries. The financial contribution in Health is highest for African partners and quite high for industrialised country partners. It is slightly lower for the Asian region. Research in Food is about equal in industrialised countries and in African and in Asian countries, and slightly lower in Latin America. The largest financial contribution in Food goes to Africa; this is followed by Asia and Latin America.

The highest share of ICT projects is given to industrialised international partner countries, followed at a distance by EECA countries. The highest share of nanotechnology projects lies with EECA countries, followed by the Latin American region and industrialised countries in general. The highest financial contribution goes to EECA countries.

The most important partners for FP7 international cooperation are Russia, the United States, China, India, Brazil and South Africa. These 6 countries have a cumulated number of 1 493 projects (43.3% of the total) and a financial contribution of over EUR 223 million (48.33% of the total). The United Kingdom, Germany, France, Italy, Spain and the Netherlands represent 70% of all coordinators. The project and funding statistics show that they work mainly with Argentina, Brazil, China, India and Mexico.

It should be noted that all types of participant organisations, higher education establishments, research organisations and private commercial entities are about equally represented in the FP 'Cooperation' Work programme. However, international cooperation R&I projects have a very high share of higher education establishments and public research organisations, and a quite limited share of private sector R&I bodies.

The statistical review offers a clear picture of the type of activities carried out, showing a well-defined process and also the allocation of resources to themes and to international partner countries.

8.3 THE SURVEYS

The surveys focused on the perception of EU project coordinators, international country partners, and NCPs. They provide deeper insights concerning the specific relevance of different motivations to international R&I cooperation. International cooperation is here seen as important for accessing complementary know-how, for pursuing specific S&T goals, and for developing new STI cooperation. Third country cooperation builds on the full range and application of FP7 instruments. In essence, the differences emphasised by EU project coordinators and third country partners reflect differences between larger, cooperative and application-oriented FP7 projects and smaller, nationally funded projects.

The surveys investigated a vast range of issues related to FP7 international cooperation: survey respondents indicate that collaborative research projects are the most important S&T cooperation activity. Survey respondents noted a number of advantages of FP7 international cooperation compared to national funding mechanisms:

- easier access to the international research community/network;
- better connection with leading minds in the field;

- a better reputation, position and status for participating researchers/organisations;
- better leverage of available funding/extra funding;
- better for ensuring the establishment of international consortia.

The survey results clearly indicate that the geographic direction of international cooperation is based on existing relationships between research actors and on the development of relationships through communication and dissemination activities. They also reflect clearly that in FP7, international cooperation was initiated and coordinated mainly by academia.

The survey also shows that the work of NCPs that favours international cooperation needs to be brought to the fore and better integrated into the overall design and implementation process: NCPs are key for broader participation of new R&I players not necessarily related to pre-existing research networks. It must also be noted that many NCPs in international partner countries have only recently been established. According to survey respondents, one of the main challenges successfully handled by the European Commission concerns programme coordination and implementation, and the related communication and dissemination of information.

Survey participants are quite critical of the administrative burden connected with European Commission international cooperation. However, this feedback needs to be interpreted carefully in the light of the continuous effort of the European Commission to simplify and speed up administrative procedures of R&I funding. It also seems implicit that a certain level of bureaucracy be involved in the expenditure of public funds and the associated needs to monitor and review R&I policies; this generates administrative burdens (evaluation, documentation, control mechanisms, etc.) for the programme administrators and applicants.

In general, R&I actors in third countries have a very positive view of NCPs as relates to the EU project coordinators engaged in international R&I projects. Also the case study interviews, subject matter of the next section, indicate that EU coordinators communicate with their international country partners directly. They also indicate that NCPs play a very important role in disseminating the 'FP culture' at local level, mobilising R&I players in third partner countries and improving their knowledge of and participation in EU funding. The general indication is that NCPs need to be further integrated and leveraged to improve the overall impact of FP international cooperation.

The surveys have also addressed the issue of sustainability of international cooperation projects. In fact, the vast majority of international country partners believe that the applications developed within the specific projects are likely to have a further deployment potential in the near future. Consortium partners are normally committed to further develop project research activities. However, over one-third of international country partners and about 40% of EU project coordinators indicate that the project consortium has not identified a clear commercial potential for applications and that exploitation activities will be carried out after project completion. We must highlight the prevalence of academic partners in international R&I cooperation: this limits exploitation possibilities through innovation. The issue of sustainability is a critical one, since most of the respondents in this study, but also in other assessment initiatives, are bound to public (and probably also EU) funding for the continuation of their projects. The overall experience in FP assessment shows that only a small number are really sustainable projects with autonomous follow-ups.

In general, the survey demonstrates that international cooperation seems to have fared well in FP7. The participating players are quite satisfied, and most criticisms are consistent with the remarks generally made on EU-level R&I programmes.

This holds true in particular for:

- the administrative burden
- the circulation of information
- the sustainability of projects.

The impact of international cooperation projects and programmes can be improved through a more integrated approach that maintains the necessary flexibility, but deals with the selection and assessment procedures. To this end, the Support Actions are extremely important, because they provide an additional benchmark for the evaluation and auditing process of international cooperation projects.

8.4 THE CASE STUDIES

The case studies provided a more direct and open insight into the perspectives of three different types of international partner countries: a Mediterranean partner country, Tunisia; a high growth country, India; and an industrialised country, the United States.

The case studies confirm that all involved stakeholders, policymakers, NCPs and R&I players are strongly interested in international cooperation activities with the EU.

Many case study participants indicate that the benefit needs to be mutual. Fast-developing and developed countries convey a feeling of an imbalance in benefit allocation. There is a clear request for a more integrated bottom-up approach to be merged with the top-down policymaking process, i.e. ensuring that the interests and points of view of international country partners are increasingly taken into account when designing the activities and setting up the projects.

The Indian interviewees confirm that they are committed to provide co-funding for joint India-EU projects, and their strong preference for the FP as an international cooperation policy instrument. They also confirm that there is a limited scope for involving large enterprises, since these handle international cooperation in R&I on their own. India also indicates that the NCP network needs to be better supported, since there are only two NCPs covering the immense territory of India. All case-study participants from the three countries indicate that it is necessary to deal with the fragmentation of international cooperation activities: the European Commission is not the only counterpart — so are most of the individual Member States.

All countries indicate that funding from the FP is essential to allow for participation. This holds particularly true for Tunisia, which has a developing R&I system and needs support from the EU but also from the United States. Further analysing the different points of view in the three different partner countries reveals that:

- Tunisia requires support and help, both for the development of its R&I system and manage the procedures involved in successfully participating in international cooperation activities with the EU;
- India takes a peer approach, addressing common interest, balancing benefits and tailoring administrative rules to the specificities of the local situation;
- the United States highlight the complexities (and sometimes, incompatibilities) of the administrative and reporting requirements, which impose and unduly burden American participants, if they not impede their participation at all;
- in some cases, stakeholders like the Tunisian interviewees stress their desire for more streamlined administrative procedures and an increased 'cultural' integration of accounting and administrative requirements;
- in Tunisia in particular, the current socio-political situation hampers policymaking and administration functions, making interaction with the EU more difficult.

The United States does not have a national strategy in respect to the FP. Thematic policies are managed by single agencies or government departments, and in spite of this, Americans remain important participants in FP international cooperation. Interviewees remark that the absence of funding does not incentivise the participation of American players, and a vast majority of case study participants indicate that the availability of funding is a necessary prerequisite.

More generally, the key messages emerging from the case studies are that international partner countries require a better balancing of mutual benefits, and improvement of integration, policy coordination and implementation integration. In some cases, the timeframe of FP international cooperation projects is too short to achieve the targeted objectives. In all cases, networking is important to case study participants: they search for workshops and conferences, and for opportunities to build mutual trust. In general, trust-building is extremely important for the success of cooperative R&I activities, both in general and specifically in international cooperation.

The case study participants indicated that it is very important to establish, consolidate and maintain global partnerships for the grand challenges; international cooperation is one of the key elements needed to deal with these challenges. Another key aspect concerns SMEs: their position is not very easy, and they must overcome many obstacles owing to their limited size. All players,

but especially Tunisian and Indian interviewees, note that the role of SMEs in international cooperation should be supported and their access to benefits improved.

One last important element concerns the bureaucratic requirements for mobility: a joint diplomatic effort is necessary to allow the issuing and renewal of researchers' visas.

8.5 RECOMMENDATIONS

This study on international R&I cooperation in FP7 is based on an extensive review of empirical evidence. Different sources have been used, providing qualitative and quantitative data and information on how international cooperation in R&I is designed and implemented and on its results.

The emerging picture is that of a sound and rational approach which combines the flexibility requirements of S&T development with the accountability needs of public policies. However, several recommendations can be made to further improve good practice in international cooperation activities in EU FPs.

- The European Commission has a leading role in proposing an integrated and holistic approach to design and implementation, but effectiveness and performance seem in some cases to be restricted to a specific thematic area and the initiative of individuals. Increased communication across European Commission DGs and between Commission units can spread the benefits of best practice in this area.
- There are European Commission services that have developed best practice approaches to design and implement international cooperation activities: the assessment of international cooperation opportunities following specific templates is noted, in particular. These templates, with flexible implementation guidelines could be spread across the different Commission services, including both horizontal units and vertical thematic units.
- In general, there is a wide range of international cooperation activities across the European Commission. Using a flexible approach, a centralised sharing and coordination of approaches, would allow sharing of best practice and tools developed across different services. This coordination function, which needs to be very 'lean', could span across all DGs and act as an information-sharing facility on feasibility studies and on the use of a common template for international cooperation on geographic and thematic directions and design of CSAs.
- Since the international cooperation policy design process requires continuous feedback to improve policymaking and policy implementation, coordination at European Commission level could include the development of templates to describe international R&I cooperation results and impacts, which could be shared internally.
- On the other hand, the study shows that R&I, and especially international cooperation in R&I, requires a particularly flexible approach. It is therefore not recommended that a SWOT analysis and cost-benefit assessment for S&T themes and geographic directions be carried out systematically; instead, these could be left to the initiative of the services holding the subject-matter expertise.
- R&I stems from a combination of research-driven knowledge creation and demand-driven development of scientific and technological solutions. The coordination process of international R&I cooperation should ensure that both 'supply-driven' and the 'demand-driven' research equally contribute to the shaping and design of R&I activities. This is supported by the policy design of the Horizon 2020 FP: it is moving from a 'science-and-society' approach towards 'science-in-society' and 'responsible research and innovation', taking particular account of the societal grand challenges.
- There are certain thematic areas, such as ICT and health care, which hold a notable status in particular within international R&I cooperation, since they are especially concerned with international competition. European Commission coordination should consider this aspect in particular, in the design of thematic and geographic research activities.
- The Commission has been working to optimise the administrative burden for R&I support programmes. There are still margins for improvement in FP research administration, as indicated by the difficulty experienced by international third country partners in familiarising

themselves with the rules. Another area of improvement concerns the differences in contractual and accounting rules, for example between the EU and the United States; an issue that could be addressed by the Commission to avoid it turning into an obstructive factor to third country participation in the FP.

- The European Commission involves EU representatives in the design of the international cooperation process. However, involvement of NCPs in international third partner countries is still uneven. The reasons probably lie in the relatively recent establishment of many international NCPs, and the need to improve their set-up and range of operations. The study shows that R&I players strongly support the activities of NCPs, and that the assessment is very positive. The developing approach to international R&I cooperation could increasingly leverage the capabilities, skills and resources of NCPs in international partner countries.

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10 ANNEX

Table 4 FP7 Cooperation programme projects, by priority area and participant number

Priority area	Total number of Cooperation projects in eCORDA	Distribution of all Cooperation projects by priority area	Total number of participants of Cooperation projects in eCORDA	Distribution of all participations by priority area	Projects with intl. partner participation	Distribution of projects with intl. partner participation by Priority area	Projects with intl. partner participations. no of international partner participants	Distribution of intl. partner participants by Priority Area	% of projects with intl. partner participation in respect to all Cooperation projects in the priority area	% of international partner participants/ total Cooperation participants	Avg. no of international partner participants per project with international partner participation
Health	**866**	14.72%	**9 554**	14.32%	**286**	21.68%	**754**	21.88%	**33.0%**	**7.9%**	2,64
Food, Agriculture, and Biotechnology	**425**	7.22%	**6 303**	9.44%	**168**	12.74%	**566**	16.42%	**39.5%**	**9.0%**	3,37
Information and Communication Technologies	**1 865**	31.70%	**17 929**	26.87%	**260**	19.71%	**555**	16.11%	**13.9%**	**3.1%**	2,13
Nanosciences, Nanotechnologies, Materials and new Production Technologies	**683**	11.61%	**8 527**	12.78%	**107**	8.11%	**231**	6.70%	**15.7%**	**2.7%**	2,16
Energy	**311**	5.29%	**3 433**	5.14%	**71**	5.38%	**153**	4.44%	**22.8%**	**4.5%**	2,15
Environment (including Climate Change)	**426**	7.24%	**5 935**	8.89%	**171**	12.96%	**588**	17.06%	**40.1%**	**9.9%**	3,44
Transport (including Aeronautics)	**640**	10.88%	**7 833**	11.74%	**110**	8.34%	**254**	7.37%	**17.2%**	**3.2%**	2,31
Socio-economic Sciences and Humanities	**209**	3.55%	**2 229**	3.34%	**63**	4.78%	**178**	5.17%	**30.1%**	**8.0%**	2,83
Space	**211**	3.59%	**2 146**	3.22%	**69**	5.23%	**150**	4.35%	**32.7%**	**7.0%**	2,17
Security	**222**	3.77%	**2 667**	4.00%	**14**	1.06%	**17**	0.49%	**6.3%**	**0.6%**	1,21
General Activities (Annex IV)	**26**	0.44%	**179**	0.27%	**0**						
Total	**5 884**	100.00%	**66 735**	100.00%	**1 319**	100.00%	**3 446**	100.00%	**22.4%**	**5.2%**	2,61

Source: eCORDA.

Table 5 Projects by project funding scheme (projects with international partner participation, compared to all projects of the Cooperation programme)

Funding instrument and thematic area	Intl. partner participations % thematic area by group	Cooperation programme % thematic area by group
CPs (Collaborative Projects)	**79.68%**	**81.10%**
Health	18.57%	12.61%
Food, Agriculture, and Biotechnology	9.78%	5.56%
Information and Communication Technologies	14.03%	25.93%
Nanosciences, Nanotechnologies, Materials and new Production Technologies	6.90%	9.99%
Energy	4.62%	4.55%
Environment (including Climate Change)	10.08%	5.32%
Transport (including Aeronautics)	6.75%	8.21%
Socio-economic Sciences and Humanities	3.94%	3.01%
Space	4.55%	2.97%
Security	0.45%	2.94%
CSA (Coordination and Support Action)	**18.73%**	**17.81%**
Health	2.88%	1.99%
Food, Agriculture, and Biotechnology	2.88%	1.63%
Information and Communication Technologies	5.23%	5.10%
Nanosciences, Nanotechnologies, Materials and new Production Technologies	1.21%	1.61%
Energy	0.76%	0.73%
Environment (including Climate Change)	2.35%	1.75%
Transport (including Aeronautics)	1.59%	2.67%
Socio-economic Sciences and Humanities	0.68%	0.51%
Space	0.68%	0.61%
Security	0.45%	0.76%
General Activities (Annex IV)		0.44%
NoE (Network of Excellence)	**0.91%**	**0.88%**
BSG (Research for the benefit of specific groups)	**0.68%**	**0.20%**

Table 6 Projects with international partner participation by Priority Area, Project Total Cost and Project EU Financial Contribution

Priority area	Intl. partner participations					All participants of projects with intl. partner participation (1319 projects)				Excluding intl. partners
	No of Projects	No of intl. partner participants	Only intl. partners - participants total cost (EUR)	Only intl. partners- participants EU financial contribution (EUR)	Average intl. partners EU financial contribution (EUR)	No of total participants	'All' participants - project total cost (EUR)	All participants - project EU financial contribution (EUR)	Average project EU financial contribution (EUR)	avg. project EU financial contribution (EUR)
Health	286	754	278 530 510.40	189 219 017.26	250 953.60	3 617	1 944 079 032.49	1 431 019 038.58	395 637.00	433 740.84
Food, Agriculture, and Biotechnology	168	566	94 447 759.85	57 451 603.66	101 504.60	2 663	819 346 770.41	597 460 325.00	224 356.11	257 514.89
Information and Communication Technologies	260	555	84 233 011.00	42 501 805.00	76 579.83	3 125	1 316 559 370.00	920 454 559.00	294 545.46	341 615.86
Nanosciences, Nanotechnologies, Materials and new Production Technologies	107	231	50 765 191.82	21 085 856.55	91 280.76	1 549	650 204 004.85	440 037 974.60	284 078.74	317 869.59
Energy	71	153	41 836 972.57	23 563 377.83	154 009.01	883	469 236 700.68	296 366 522.86	335 635.93	373 702.94
Environment (including Climate Change)	171	588	94 182 633.45	63 185 491.03	107 458.32	2 755	834 631 547.36	625 943 275.95	227 202.64	259 694.41
Transport (including Aeronautics)	110	254	54 582 051.24	27 749 086.80	109 248.37	1 850	894 068 053.86	568 443 330.30	307 266.67	338 780.85
Socio-economic Sciences and Humanities	63	178	28 916 213.02	22 114 627.66	124 239.48	775	216 452 975.93	166 530 495.77	214 878.06	241 902.63
Space	69	150	19 052 516.26	12 855 652.65	85 704.35	718	250 117 881.79	174 737 516.67	243 367.01	285 003.28
Security	14	17	3 124 898.92	2 008 049.46	118 120.56	259	80 842 376.79	61 040 236.37	235 676.59	243 934.66
General Activities (Annex IV)										
TOTAL	1 319	3 446	749 671 758.53	461 734 567.90	133 991.46	18 194	7 475 538 714.16	5 282 033 275.10	290 317.32	326 844.23

Table 7 All Projects of the Cooperation programme by Priority Area, Project Total Cost and Project EU Financial Contribution

Priority area	Total budget per thematic priority (million EUR)	All - number of projects	All - number of participants	All - project total cost (EUR)	All - participants total cost (EUR)	All - project EU financial contribution (EUR)	All - participants EU financial contribution (EUR)	Average project EU financial contribution/number of all participants (EUR)
Health	6.1	866	9 554	5 404 630 838.59	5 404 632 362.99	4 001 678 765.58	4 001 678 765.18	418 848.52
Food, Agriculture, and Biotechnology	1.935	425	6 303	1 942 481 097.45	1 943 089 201.85	1 433 585 248.35	1 433 855 924.35	227 487.85
Information and Communication Technologies	9.05	1 865	17 929	9 000 235 106.88	9 000 235 108.88	6 302 348 651.00	6 302 348 649.00	351 517.02
Nanosciences, Nanotechnologies, Materials and new Production Technologies	3.475	683	8 527	3 841 664 654.13	3 841 729 085.72	2 655 282 152.42	2 655 282 152.42	311 396.99
Energy	2.35	311	3 433	2 183 657 588.87	2 171 614 070.07	1 357 589 033.28	1 351 512 533.28	393 682.65
Environment (including Climate Change)	1.89	426	5 935	1 828 448 402.41	1 828 448 402.42	1 372 575 873.56	1 372 575 874.66	231 268.05
Transport (including Aeronautics)	4.16	640	7 833	3 055 366 024.01	3 055 654 394.61	2 002 142 599.42	2 002 142 599.42	255 603.55
Socio-economic Sciences and Humanities	0.62	209	2 229	615 070 296.29	615 070 298.72	454 003 336.08	454 003 336.08	203 680.28
Space	1.43	211	2 146	790 581 600.39	790 581 601.89	569 320 891.36	569 320 891.36	265 293.98
Security	1.4	222	2 667	1 244 417 507.94	1 244 417 511.54	874 831 995.38	874 831 994.87	328 021.00
General Activities (Annex IV)	-	26	179	389 880 185.30	389 880 185.30	269 287 984.13	269 287 984.13	1 504 402.15
Total		5 884	66 735	30 296 433 302.26	30 285 352 223.99	21 292 646 530.56	21 286 840 704.75	318 975.66

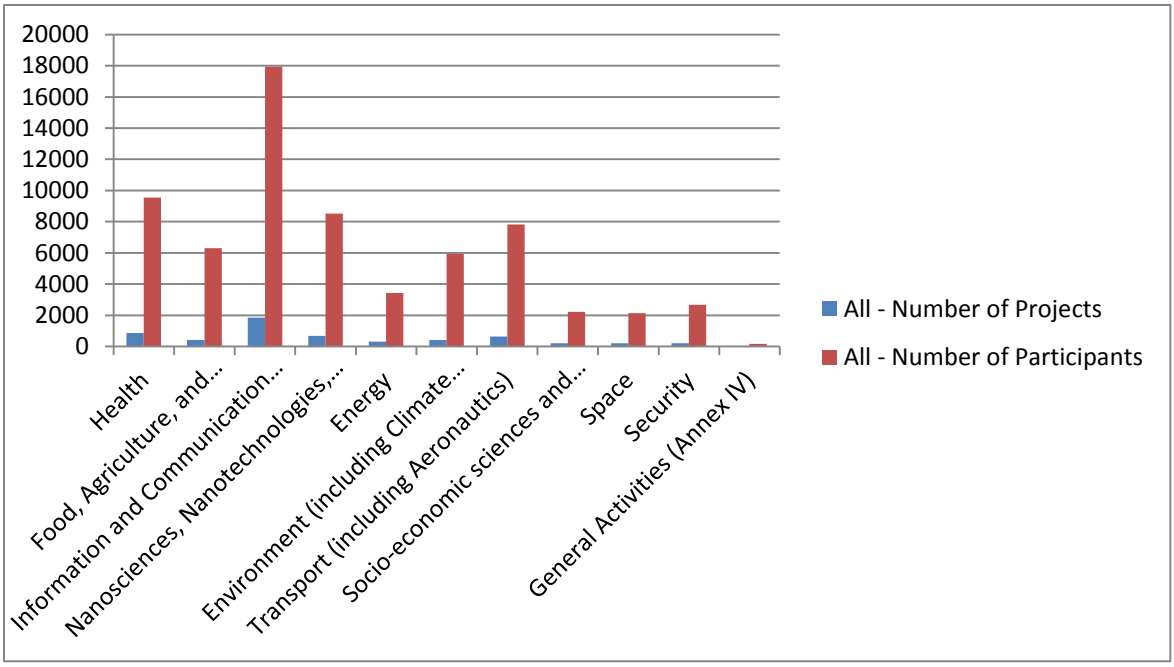

Figure 9 Number of projects and of participants, per thematic priority

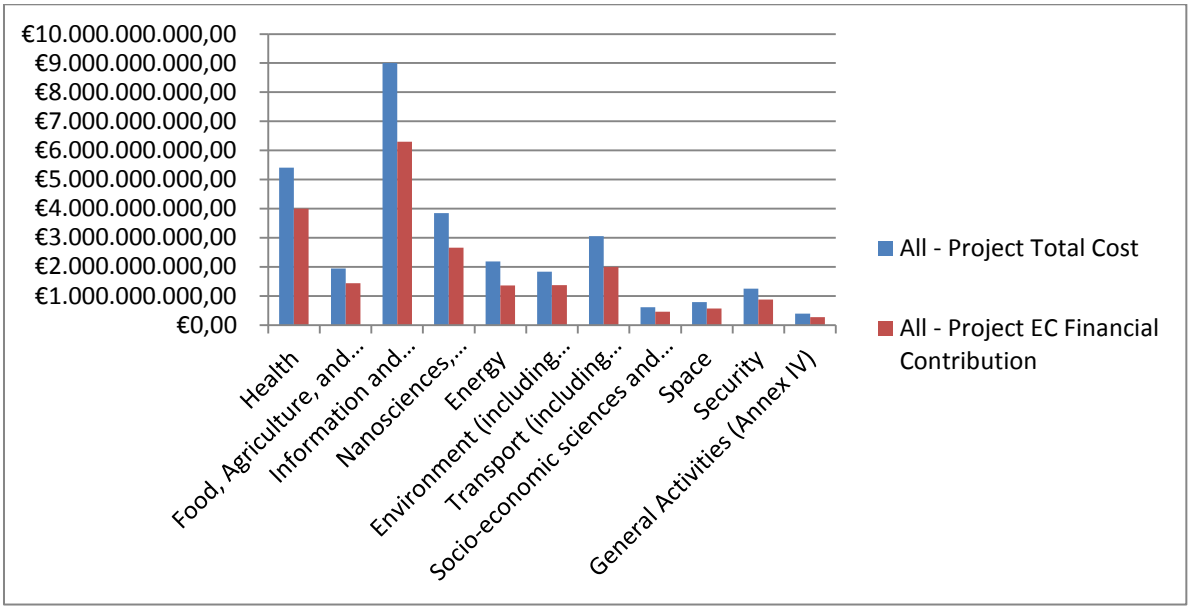

Figure 10 Total projects' cost and EU financial contribution, per thematic priority

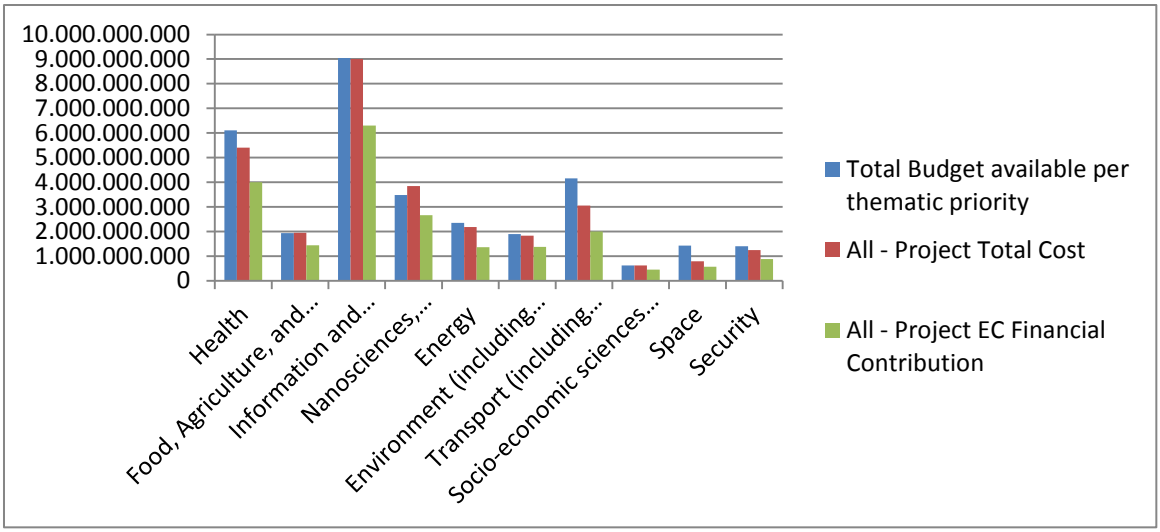

Figure 11. Total budget available per thematic priority, against total project cost and EU financial contribution

Table 8 Participants by grant signature year and project start year, including projects both with international partner participation and of the complete Cooperation programme (Table 8 in the eCORDA report)

	Intl. partners participations				Cooperation programme			
YEAR	Grant signature	%	Project start	%	Grant signature	%	Project start	%
2007	107	3.11%	18	0.52%	3 698	5.54%	300	0.45%
2008	558	16.19%	573	16.63%	11 923	17.87%	13 996	20.97%
2009	753	21.85%	683	19.82%	11 867	17.78%	10 274	15.40%
2010	757	21.97%	731	21.21%	11 962	17.92%	12 466	18.68%
2011	834	24.20%	822	23.85%	12 784	19.16%	12 355	18.51%
2012	358	10.39%	441	12.80%	12 582	18.85%	12 790	19.17%
2013	79	2.29%	178	5.17%	1 919	2.88%	4 554	6.82%
Total	3 446	100.00%	3 446	100.00%	66 735	100.00%	66 735	100.00%

Table 9 Participants from international partner countries by Priority Area and by participants Budget (Table 9 in the eCORDA report)

Priority area	Number of intl. partners participations		Intl. partners - participants total cost (EUR)	*% of the total*	Intl. partner - participants EU financial contribution (EUR)	*% of the total*	Average intl. partners - EU financial contribution (EUR)
Health	754	*21.88%*	278 530 510.40	*37.15%*	189 219 017.26	*40.98%*	250 953.60
Food, Agriculture, and Biotechnology	566	*16.42%*	94 447 759.85	*12.60%*	57 451 603.66	*12.44%*	101 504.60
Information and communication technologies	555	*16.11%*	84 233 011.00	*11.24%*	42 501 805.00	*9.20%*	76 579.83
Nanosciences, Nanotechnologies, Materials and new Production Technologies	231	*6.70%*	50 765 191.82	*6.77%*	21 085 856.55	*4.57%*	91 280.76
Energy	153	*4.44%*	41 836 972.57	*5.58%*	23 563 377.83	*5.10%*	154 009.01
Environment (including Climate Change)	588	*17.06%*	94 182 633.45	*12.56%*	63 185 491.03	*13.68%*	107 458.32
Transport (including Aeronautics)	254	*7.37%*	54 582 051.24	*7.28%*	27 749 086.80	*6.01%*	109 248.37
Socio-economic Sciences and Humanities	178	*5.17%*	28 916 213.02	*3.86%*	22 114 627.66	*4.79%*	124 239.48
Space	150	*4.35%*	19 052 516.26	*2.54%*	12 855 652.65	*2.78%*	85 704.35
Security	17	*0.49%*	3 124 898.92	*0.42%*	2 008 049.46	*0.43%*	118 120.56
Total	3 446	*100.00%*	749 671 758.53	*100.00%*	461 734 567.90	*100.00%*	133 991.46

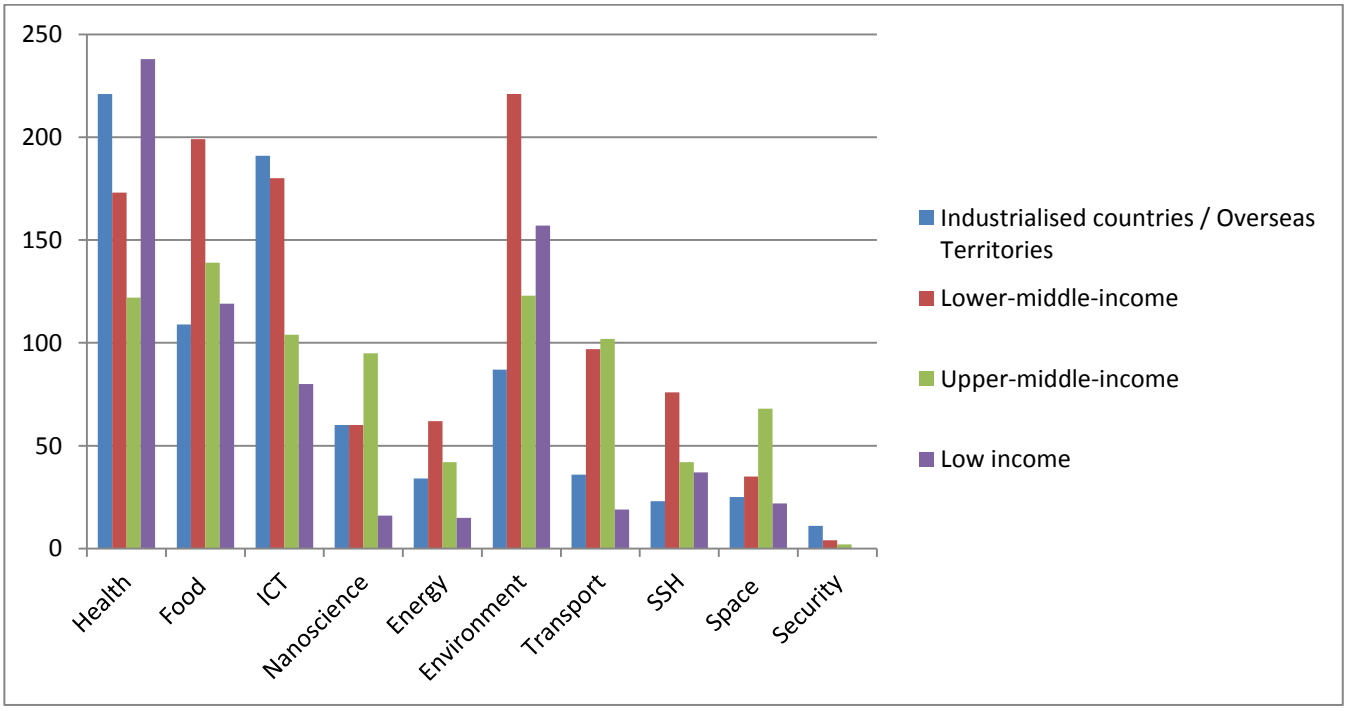

Figure 12 No of participants of international partner countries by income class, per thematic area

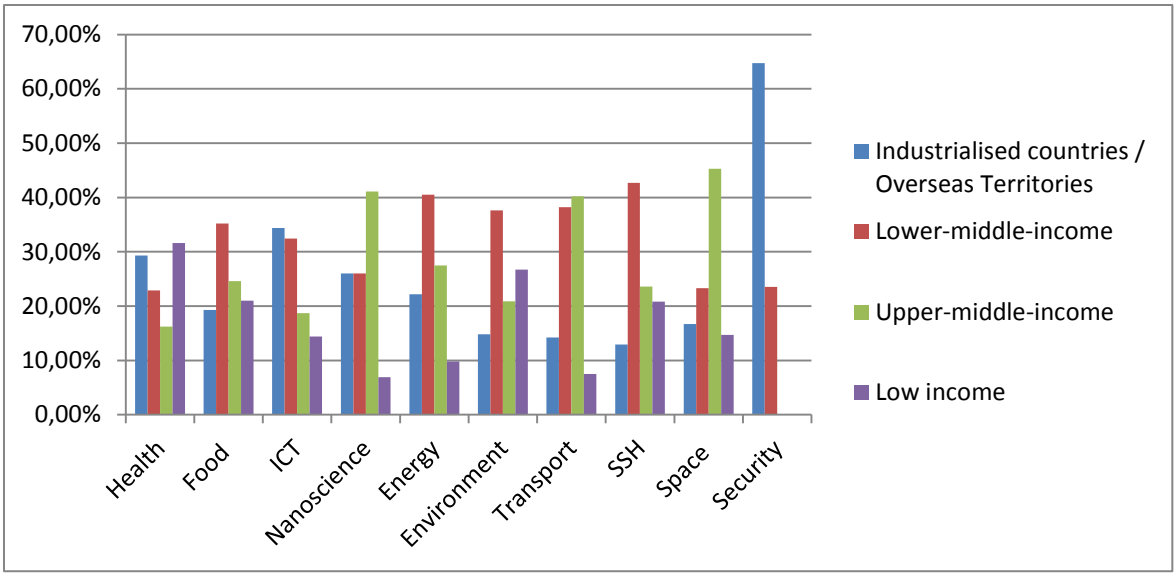

Figure 13 Percentage of participation of international partner countries by income class, per thematic area

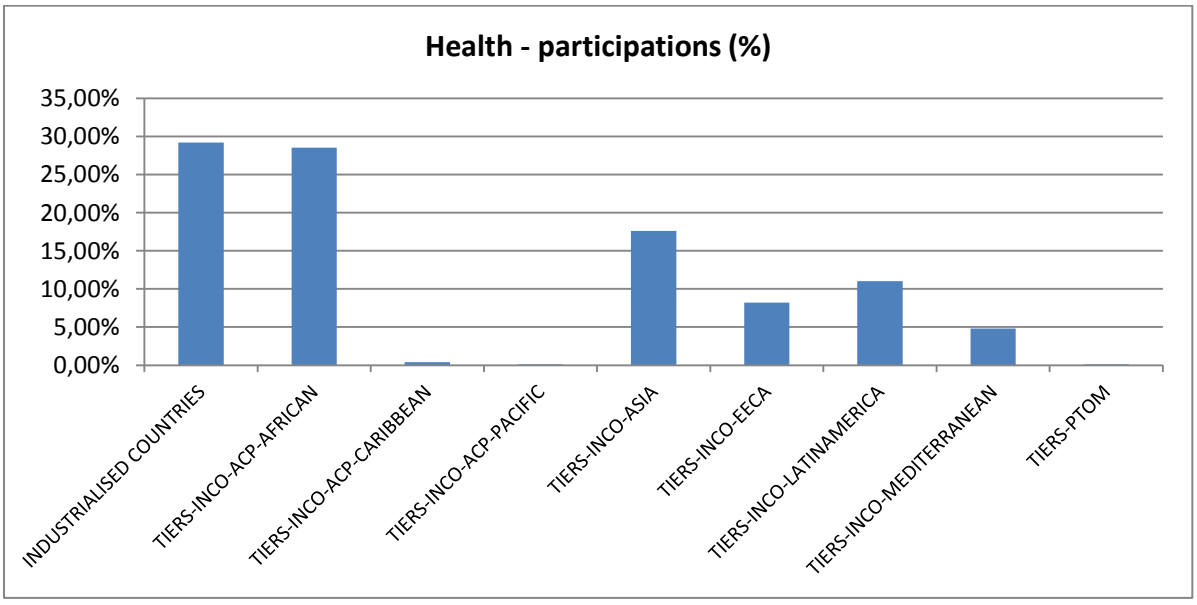

Figure 14 Thematic area Health – distribution by geographical location

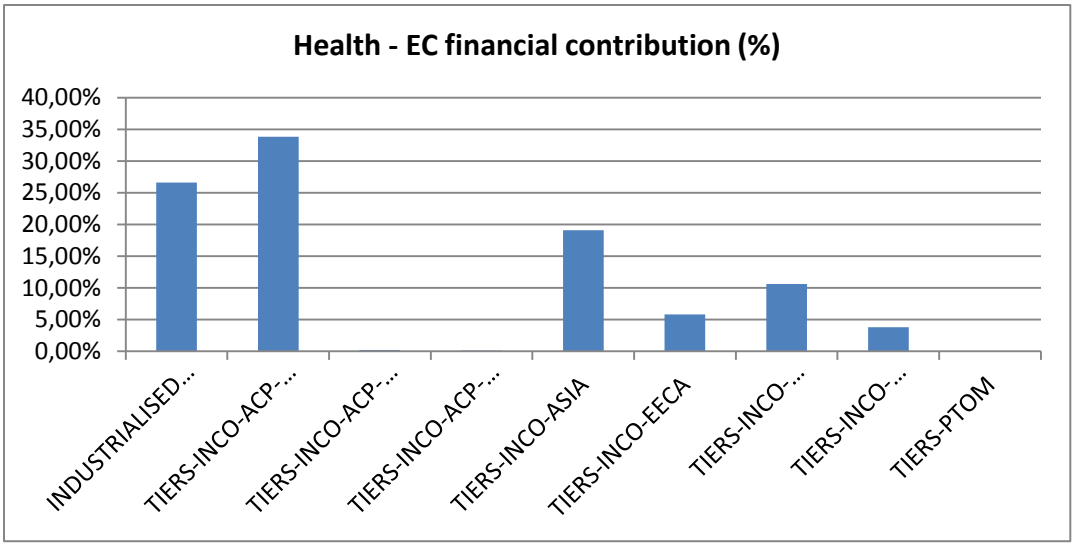

Figure 15 Thematic area Health – EU financial contribution by geographical location

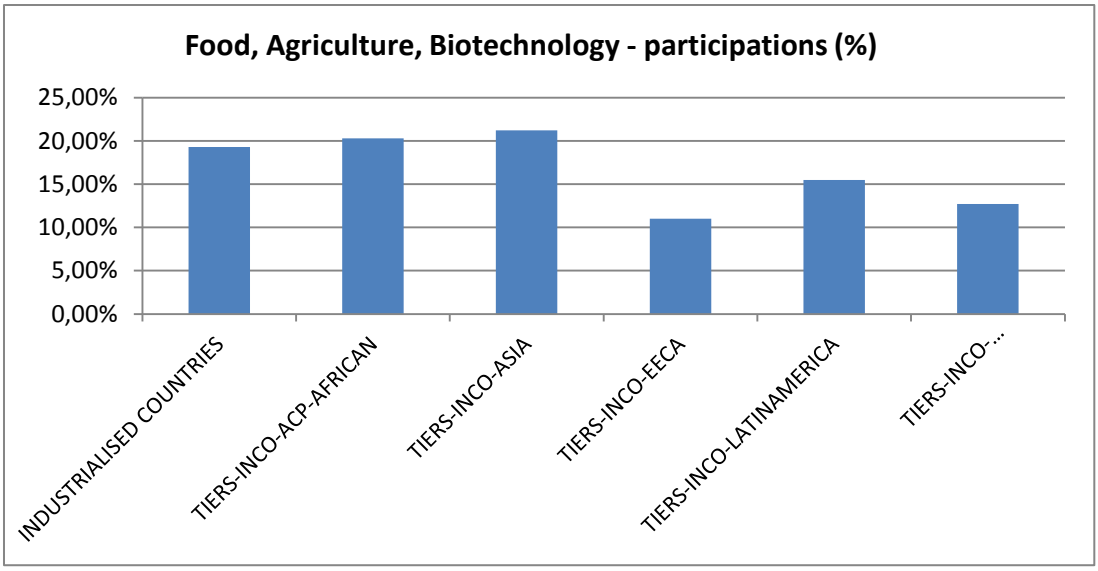

Figure 16 Thematic area Food – distribution by geographical location

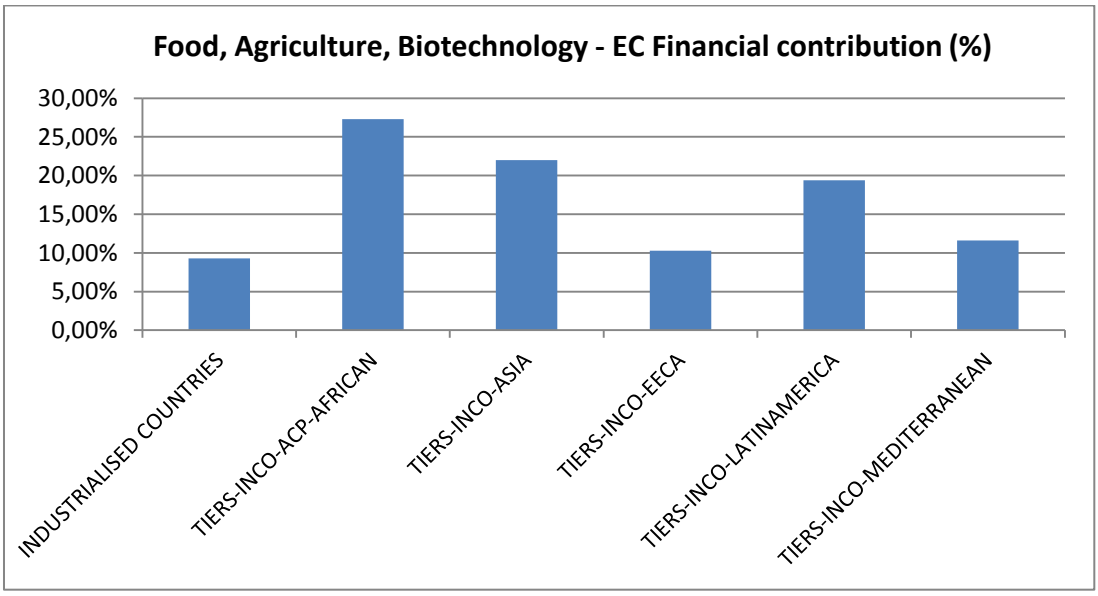

Figure 17 Thematic area Food – EU financial contribution by geographical location

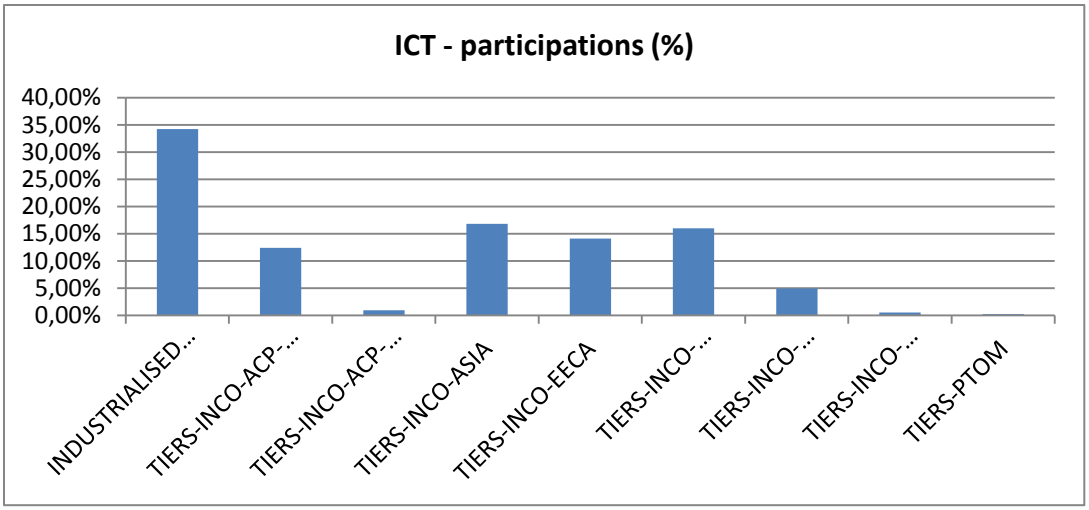

Figure 18 Thematic area ICT – distribution by geographical location

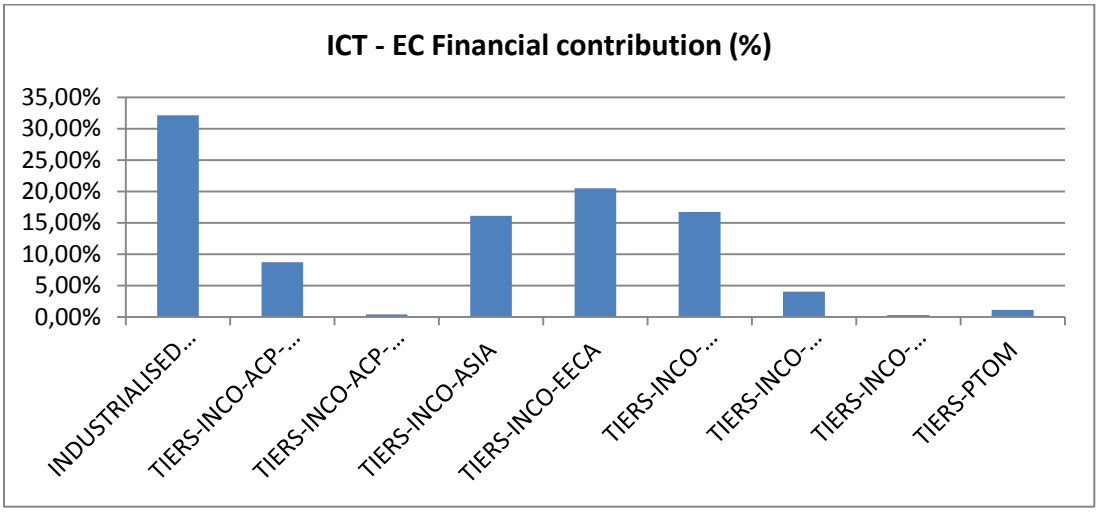

Figure 19 Thematic area ICT – EU financial contribution by geographical location

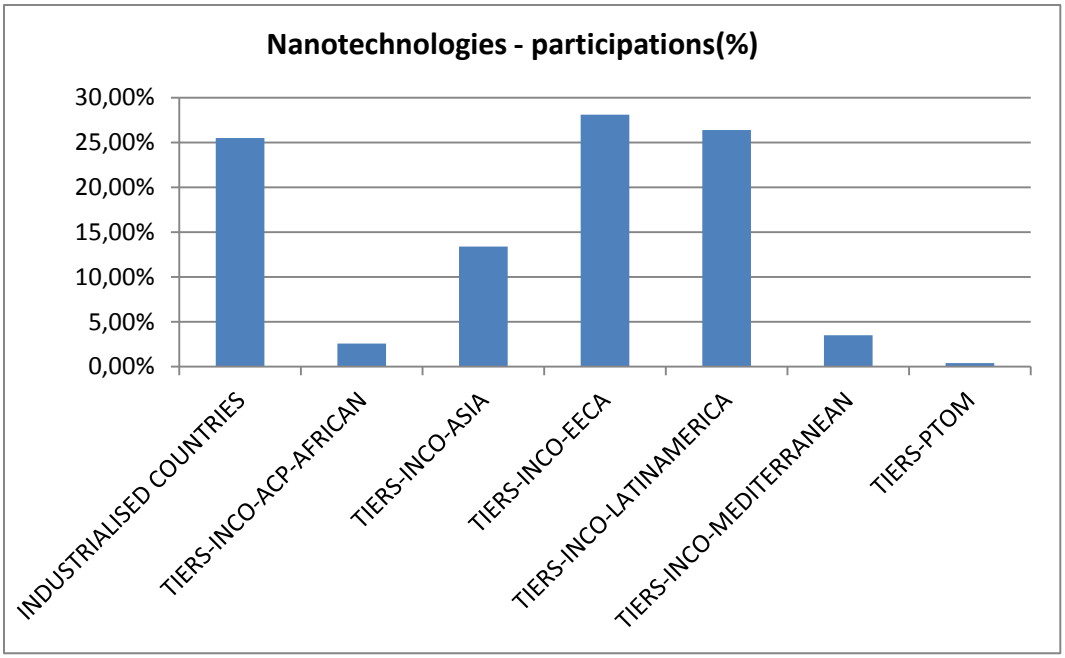

Figure 20 Thematic area Nanotechnologies – distribution by geographical location

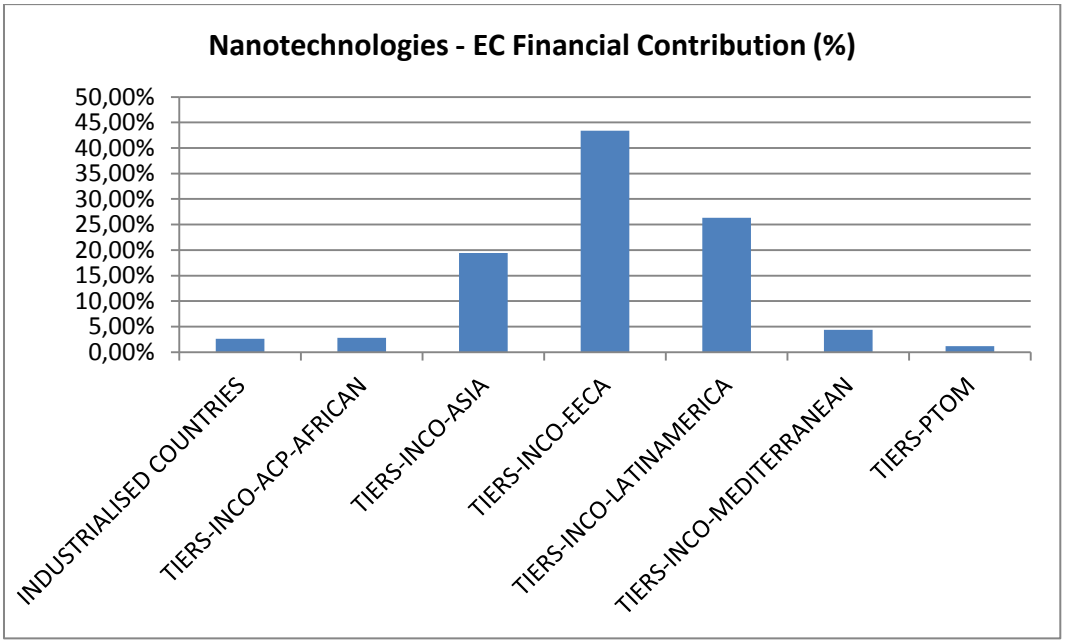

Figure 21 Thematic area Nanotechnologies – EU financial contribution by geographical location

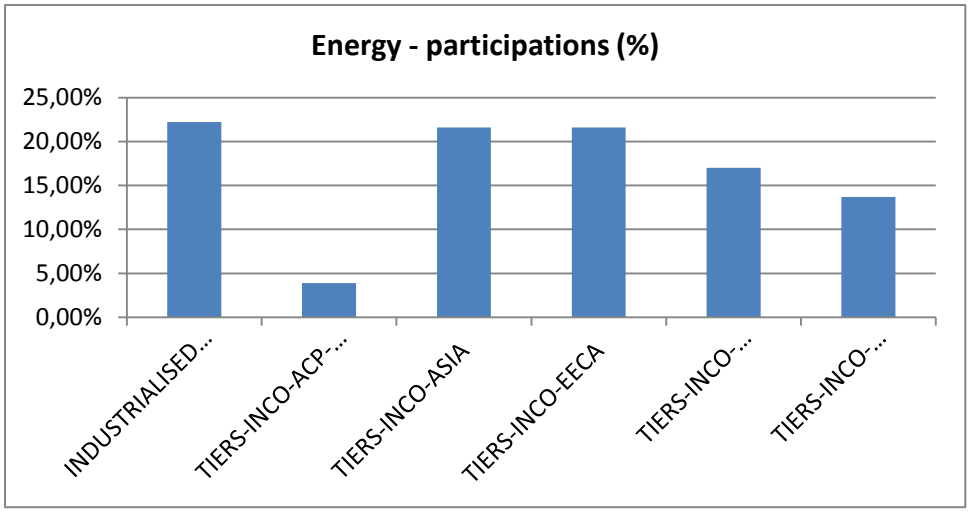

Figure 22 Thematic area Energy – distribution by geographical location

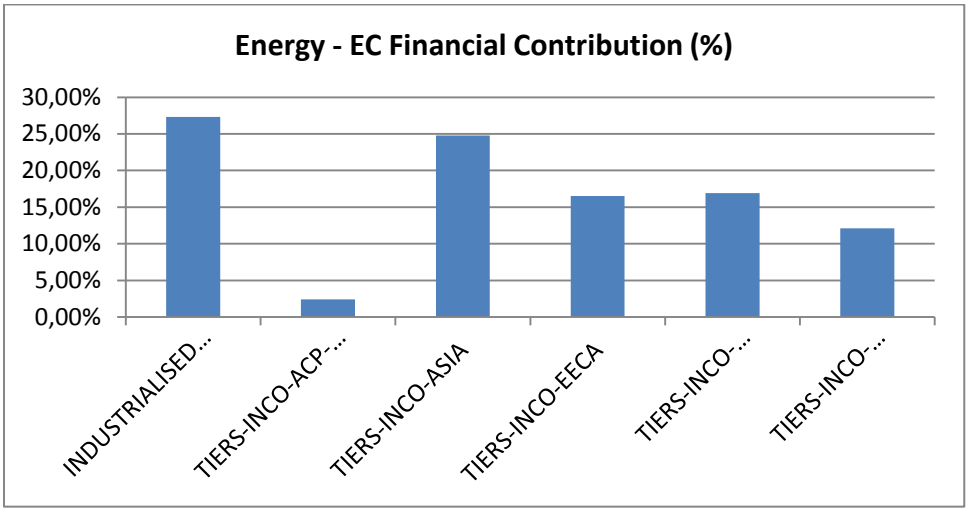

Figure 23 Thematic area Energy – EU financial contribution by geographical location

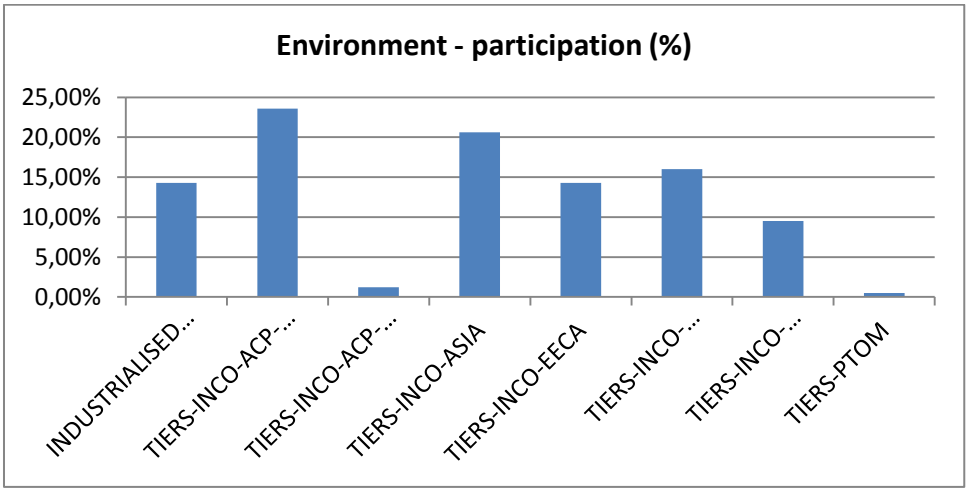

Figure 24 Thematic area Environment – distribution by geographical location

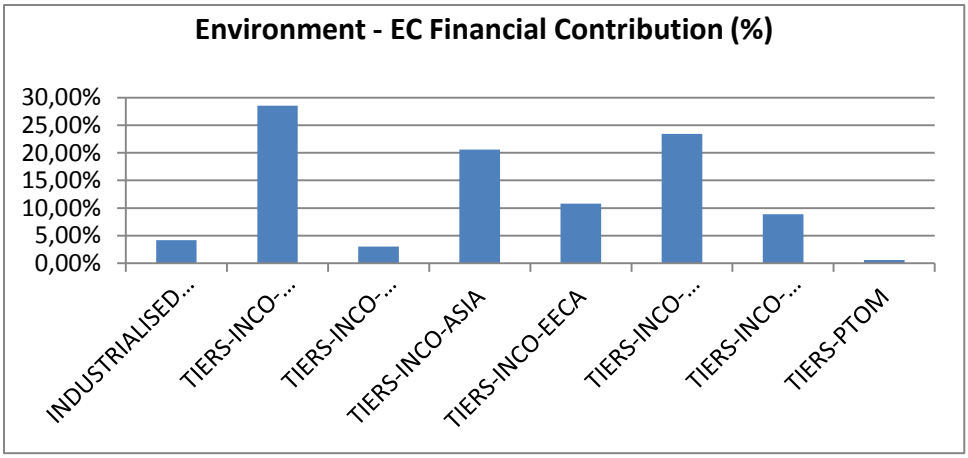

Figure 25 Thematic area Environment – EU financial contribution by geographical location

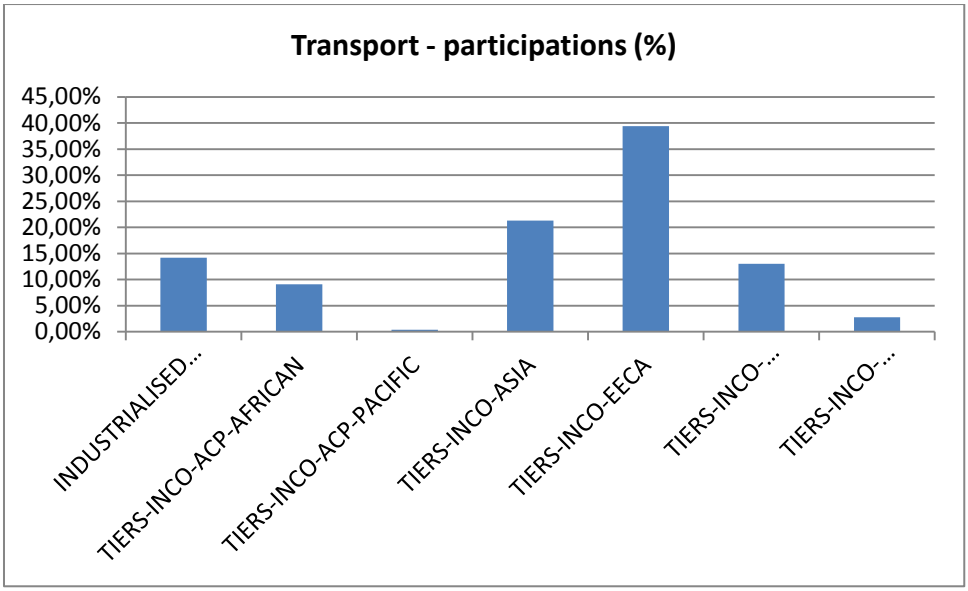

Figure 26 Thematic area Transport – distribution by geographical location

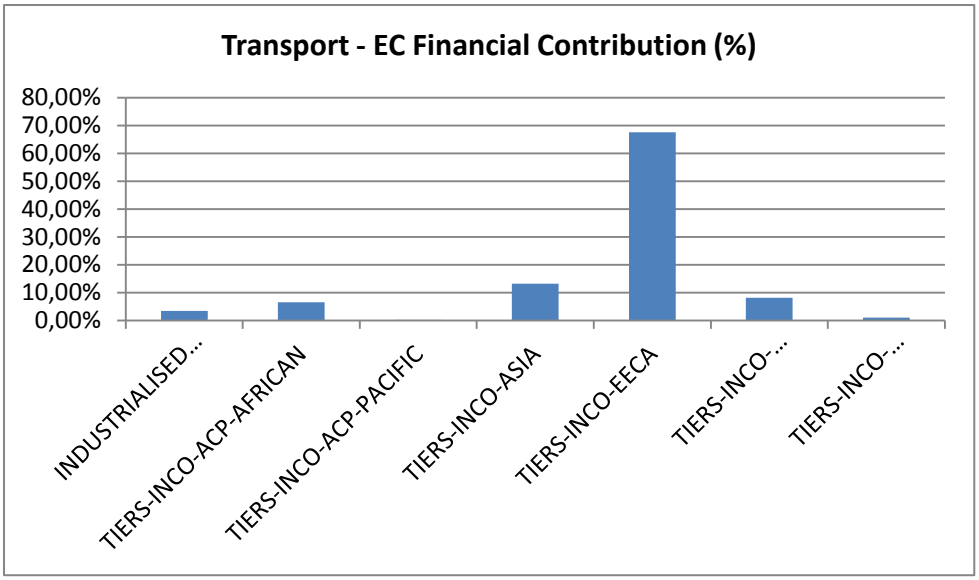

Figure 27 Thematic area Transport – EU financial contribution by geographical location

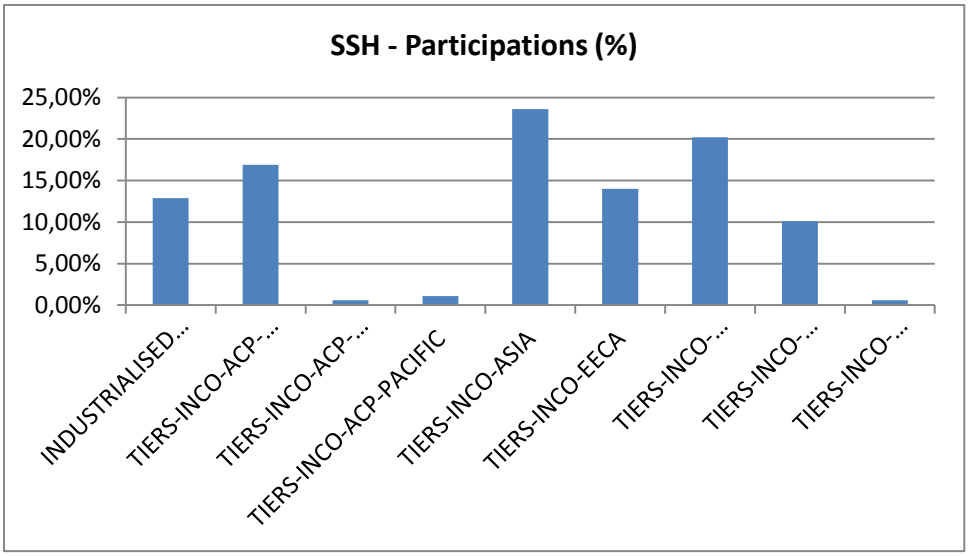

Figure 28 Thematic area SSH – distribution by geographical location

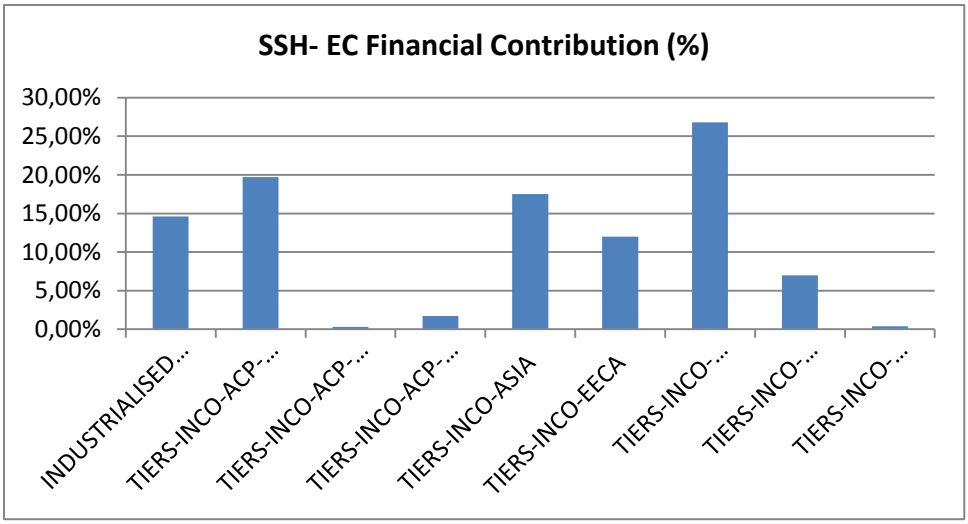

Figure 29 Thematic area SSH – EU financial contribution by geographical location

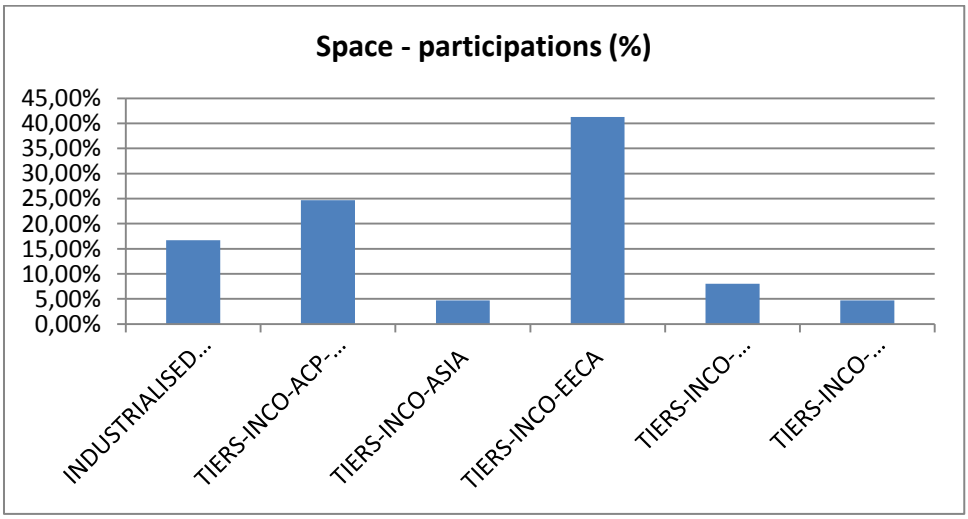

Figure 30 Thematic area Space – distribution by geographical location

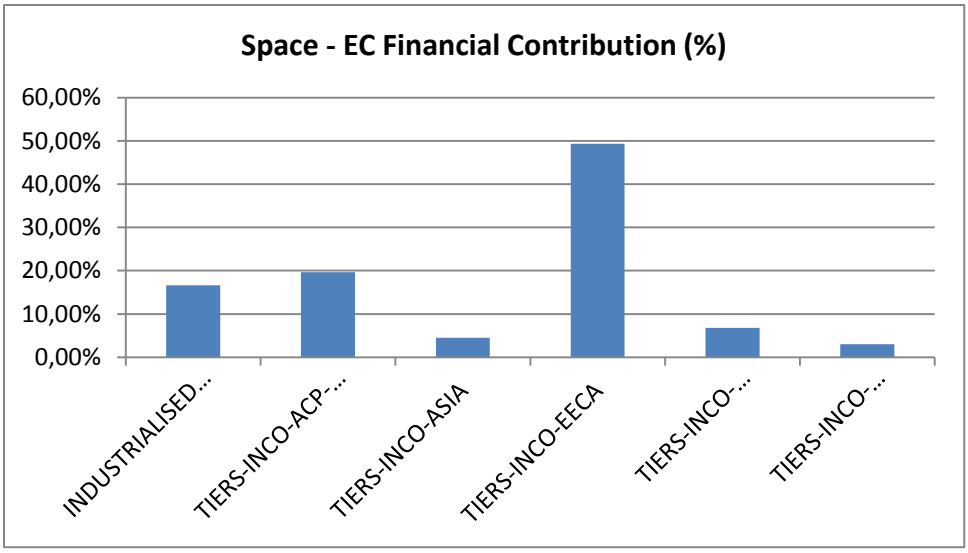

Figure 31 Thematic area Space – European Commission financial contribution by geographical location

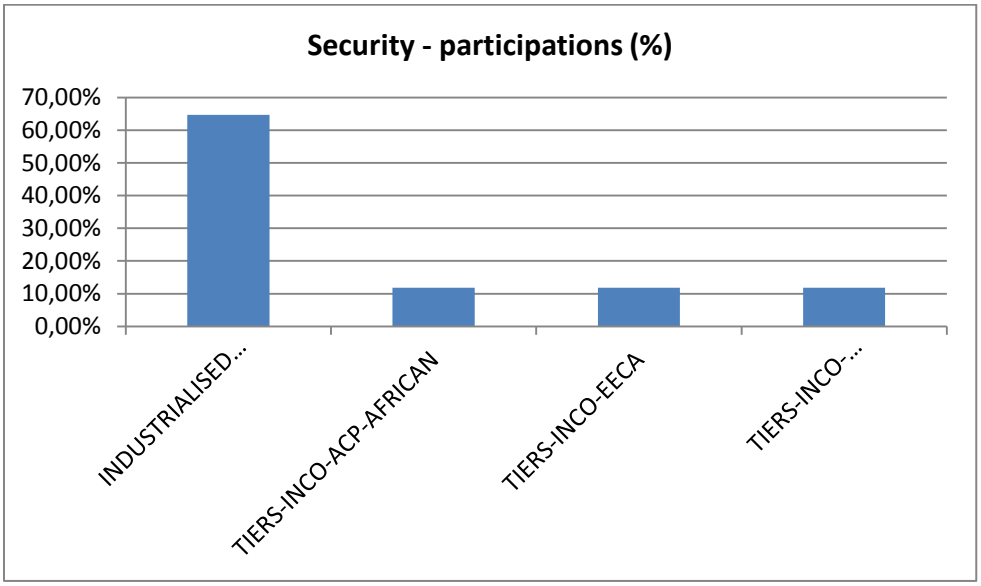

Figure 32 Thematic area Security – distribution by geographical location

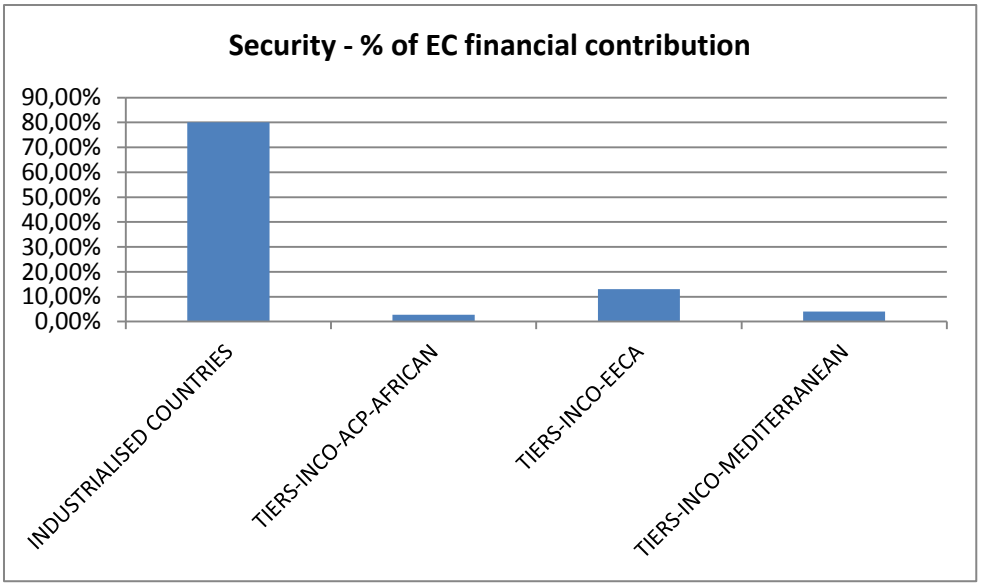

Figure 33 Thematic area Security – EU financial contribution by geographical location

Table 10 Structure of EU financial contribution, by geographical area

Country group	Participations	EU financial contribution (EUR)	Average EU contribution (EUR)
INDUSTRIALISED COUNTRIES	791	86 908 205.99	109 871.31
TIERS-INCO-ACP-AFRICAN	642	111 274 014.71	173 324.01
TIERS-INCO-ACP-CARIBBEAN	16	2 628 761.20	164 297.58
TIERS-INCO-ACP-PACIFIC	4	701 241.00	175 310.25
TIERS-INCO-ASIA	634	86 663 619.01	136 693.41
TIERS-INCO-EECA	573	73 423 248.58	128 138.30
TIERS-INCO-LATINAMERICA	522	71 669 309.50	137 297.53
TIERS-INCO-MEDITERRANEAN	254	27 178 566.91	107 002.23
TIERS-INCO-WESTERNBALKAN	4	201 675.00	50 418.75
TIERS-PTOM	6	1 085 926.00	180 987.67
Grand total	**3 446**	**461 734 567.90**	**133 991.46**

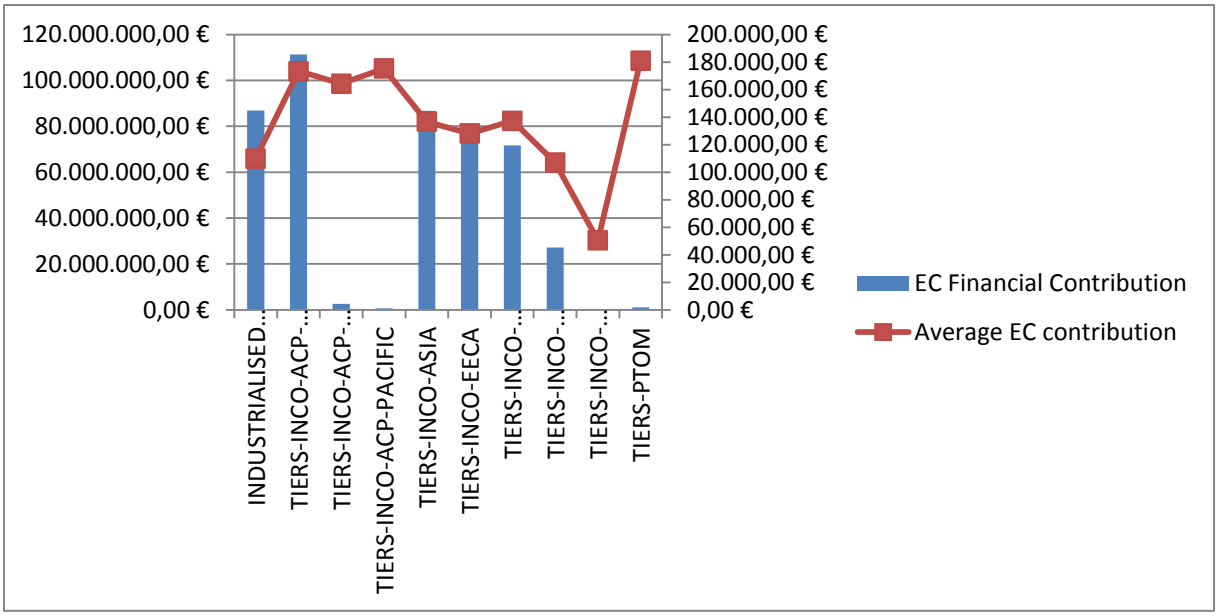

Figure 34 The EU financial contributions by geographical area

Table 11 Participants from international partners by Country (Table 13 in the eCORDA report) ([88])

			% of the total	*EUR*	*% of the total*
1.	**Russia**	356	*10.33%*	52 948 051.81	*11.47%*
2.	**United States**	343	*9.95%*	58 979 654.51	*12.77%*
3.	**China**	255	*7.40%*	26 425 936.57	*5.72%*
4.	**India**	196	*5.69%*	32 240 609.34	*6.98%*
5.	**Brazil**	172	*4.99%*	24 771 897.96	*5.36%*
6.	**South Africa**	171	*4.96%*	27 824 662.49	*6.03%*
7.	**Canada**	134	*3.89%*	7 596 137.09	*1.65%*
8.	**Australia**	120	*3.48%*	7 591 716.55	*1.64%*
9.	**Ukraine**	112	*3.25%*	13 335 371.19	*2.89%*
10.	**Mexico**	91	*2.64%*	10 211 411.73	*2.21%*
11.	**Argentina**	86	*2.50%*	11 081 938.11	*2.40%*
12.	**Morocco**	74	*2.15%*	7 641 914.37	*1.66%*
13.	**Japan**	70	*2.03%*	5 601 726.01	*1.21%*
14.	**Egypt**	68	*1.97%*	7 866 546.22	*1.70%*
15.	**Kenya**	56	*1.63%*	9 735 955.05	*2.11%*
16.	**Tunisia**	55	*1.60%*	6 028 354.73	*1.31%*
17.	**Ghana**	46	*1.33%*	7 550 862.29	*1.64%*
18.	**Tanzania (United Republic of)**	44	*1.28%*	12 352 797.42	*2.68%*
19.	**Chile**	42	*1.22%*	4 663 899.18	*1.01%*
20.	**Vietnam**	41	*1.19%*	4 905 755.10	*1.06%*

([88]) Includes EU budgets and contributions.

Table 12 Distribution of the 10 international partner countries with most participation per thematic area ([89]) (Table 14 in the eCORDA report)

Thematic area	Russia	United States	China	India	Brazil	South Africa	Canada	Australia	Ukraine	Mexico
Health	10.96%	35.57%	12.94%	28.57%	13.37%	22.81%	26.12%	26.67%	6.25%	6.59%
Food, Agriculture, and Biotechnology	11.52%	12.24%	18.04%	14.29%	15.70%	19.30%	18.66%	18.33%	11.61%	12.09%
Information and Communication Technologies	10.39%	20.12%	18.04%	14.29%	15.70%	9.36%	17.91%	24.17%	7.14%	9.89%
Nanosciences, Nanotechnologies, Materials and new Production Technologies	10.96%	8.45%	3.14%	5.61%	5.81%	2.34%	5.22%	7.50%	13.39%	34.07%
Energy	6.46%	4.66%	7.06%	5.10%	6.98%	2.92%	4.48%	5.00%	7.14%	5.49%
Environment (including Climate Change)	10.96%	7.87%	17.25%	18.37%	17.44%	19.30%	11.19%	10.00%	20.54%	17.58%
Transport (including Aeronautics)	21.91%	2.04%	14.12%	5.10%	13.95%	8.19%	8.21%	5.00%	16.96%	1.10%
Socio-economic Sciences and Humanities	3.09%	3.21%	7.84%	7.65%	6.98%	6.43%	4.48%	0.83%	6.25%	8.79%
Space	13.76%	4.66%	1.57%	1.02%	4.07%	8.19%	2.99%	0.83%	8.93%	4.40%
Security		1.17%				1.17%	0.75%	1.67%	1.79%	
Total	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**

([89]) Thematic areas with participations above 15% of the total country participations are light green; areas with participations between 15% and 25% are light brown; areas with participations above 25% are light blue.

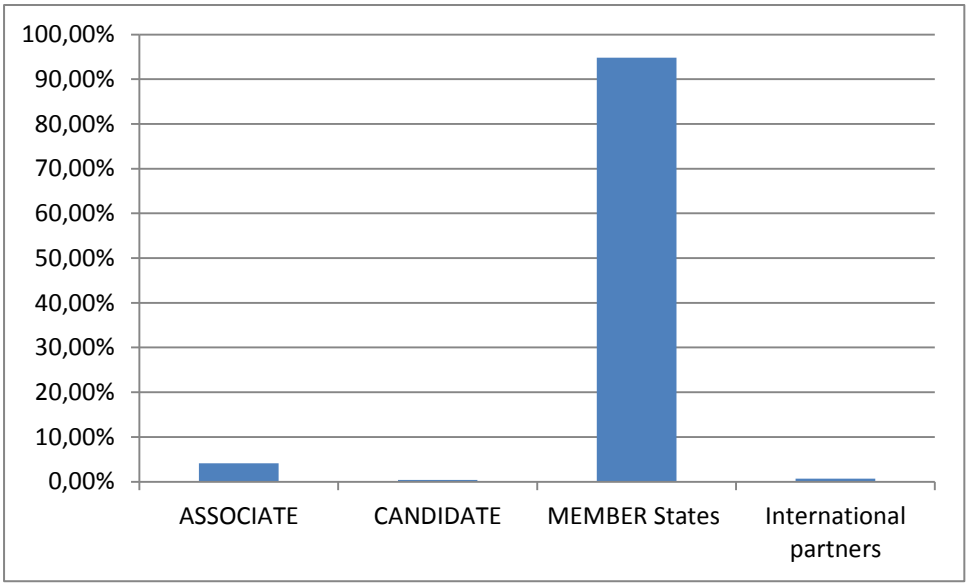

Figure 35 Coordinators of projects with international partners

Table 13 Summary table: EU-27 selected coordinators and top 10 participants (Table 16 in eCORDA report)

Rank	United Kingdom 224 projects, 598 particip.	Particip.	% of total particip	Germany 215 projects, 495 particip	particip	% of total particip	France 145 projects, 431 particip	particip	% of total particip
1	China	66	11.04%	Russia	90	18.53 %	Russia	42	9.74%
2	United States	62	10.37%	United States	66	13.39 %	China	36	8.35%
3	Russia	42	7.02%	China	26	5.58%	United States	25	5.80%

Rank	Italy 123 projects,329 Particip.	Particip	% of total partic.	Spain 117 projects, 309 Particip.	Partic ip.	% of total Partic ip.	Nether lands 101 projects, 240 particip	Partic ip	% of total Partic ip
1	Russia	43	13.07%	Argentina	28	9.06%	Russia	25	10.42 %
2	United States	39	11.85%	Brazil	24	7.77%	India	21	8.75%
3	India	26	7.90%	Mexico	22	7.12%	United States	21	8.75%

Table 14 Participants from international partner countries, per organisation activity type

Participants		International partner participants	%	Cooperation programme Participants	%
HES	Higher or secondary education est.	1 443	41.9%	22 518	33.7%
REC	Research organisations	1 054	30.6%	16 878	25.3%
PRC	Private commercial	463	13.4%	22 117	33.1%
PUB	Public body (excluding research and education)	340	9.9%	3425	5.1%
OTH	Other	146	4.2%	1 797	2.7%
Grand total		3 446	100.0%	66 735	100.0%

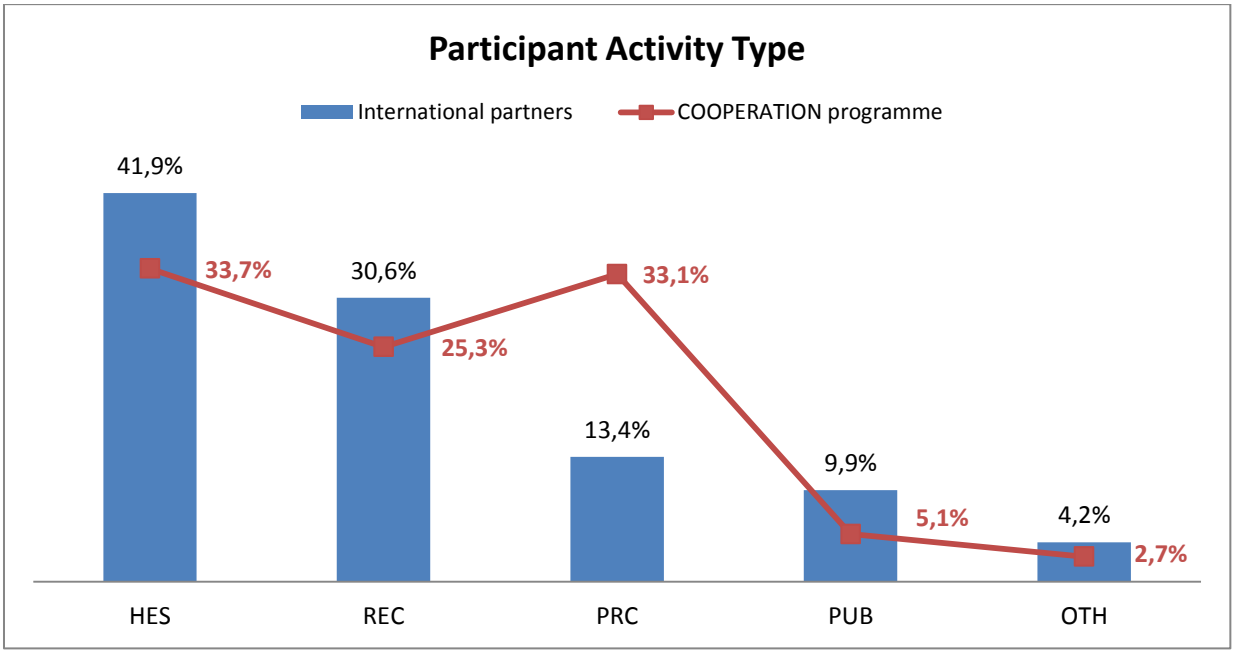

Figure 36 Participants per organisation activity type

Statistical and Graphic Annex

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GLOSSARY

AC	Associated Country
ACP	African, Caribbean and Pacific
ASEAN countries	Brunei, Cambodia, Indonesia, Lao PDR, Malaysia, Myanmar, Philippine, Singapore, Thailand and Vietnam
BRICS	Association of five major emerging national economies: Brazil, Russia, India, China and South Africa
BSG-CSO	Research for the Benefit of Specific Groups - Civil Society Organisations (BSG-CSO)
CP	Collaborative project
CP-CSA	Combined Collaborative Project (Large-scale integrating project) and Coordination and Support Action
CP-FP	Small or medium scale focused research actions
CP-FP-INFSO	Small or medium-scale focused research project INFSO (STREP)
CP-FP-INFSO-FET	Small or medium-scale focused research project INFSO - FET
CP-FP-SICA	Small or medium-scale focused research project for specific cooperation actions dedicated to international cooperation partner countries (SICA)
CP-IP	Large-scale integrating project
CP-IP-INFSO-FET	Large-scale integrating project INFSO - FET
CP-IP-SICA	Large-scale integrating project for specific cooperation actions dedicated to international cooperation partner countries (SICA)
CP-SICA	Collaborative project for specific cooperation actions dedicated to international cooperation partner countries (SICA)
CP-SICA-INFSO	Collaborative Project Specific International Cooperation Actions (SICA)
CP-TP	Collaborative Project targeted to a special group (such as SMEs)
CSA	Coordination and Support Action
CSA-CA	Coordinating action
CSA-CA-INFSO-FET	Coordination (or networking) actions INFSO - FET
CSA-ERANET	ERANET
CSA-ERA-PLUS	ERANET Plus

CSA-SA	Supporting action
CSA-SA-INFSO-FET	Support actions INFSO - FET
CSLF	Carbon Sequestration Leadership Forum
CSP	Concentrating Solar Power
EDCTP	European and Developing Countries Clinical Trials Partnership
EECA	Eastern Europe/Central Asia
ERA	European Research Area
EUEI	EU Energy Initiative for poverty eradication and sustainable development
FET	Future and Emerging Technologies
FP	Framework Programme
GEO	Group on Earth Observation
GEOSS	Global Earth Observation System of Systems
GMES	Global Monitoring for Environment and Security
HFSP(O)	Human Frontier Science Programme (Organisation)
INCO	International Cooperation
ICPC	International Co-operation Partner Countries
ICT	Information and Communication Technologies
IEA	International Energy Agency
IMS	Intelligent Manufacturing Systems
INCO	International Cooperation
IPHE	International Partnership for the Hydrogen Economy
JRC	Joint Research Centre
JREC	Johannesburg Renewable Energy Coalition
KBBE	Knowledge-Based Bio-Economy
LAC	Latin America and Caribbean
MDG	Millennium Development Goals
MPC	Mediterranean Partner Countries
MS	EU Member State
NCP	National Contact Point

NMP	Nanosciences, Nanotechnologies, Materials and new Production Technologies
NOE	Network of Excellence
PPP	Public-Private Partnership
R&I	Research & Innovation
S&T	Science & Technology
SICA	Specific International Cooperation Action
SMEs	Small and medium sized enterprises
SSH	Socio-economic sciences and humanities
STI	Science, Technology & Innovation
STREP	Specific Targeted Research Projects
TIERS	The abbreviation TIERS has been directly taken up from the eCORDA database. It is directly related to the scope of the present study, which targets international cooperation with countries outside the EU and with countries not associated with the 7th Framework Programme.
UN	United Nations
WP	Work Programme
WSSD	World Summit on Sustainable Development

INTRODUCTION – READERS' GUIDE

The current document presents the statistical and graphic illustration of the findings of the study on "International Science and Technology Cooperation in the EU's Seventh Framework Programme: the specific programme 'Cooperation' and its thematic areas". The aim of this document is to complete the main report with self-explanatory tables and graphs, presenting the outcomes of the statistical analysis.

This document, which is an annex to the main study report, consists of:

- The key questions of the survey questionnaires conducted during the study
- The illustration of the responses in tables and graphs
- The illustration of the three case studies' findings in graphs: USA, India, Tunisia

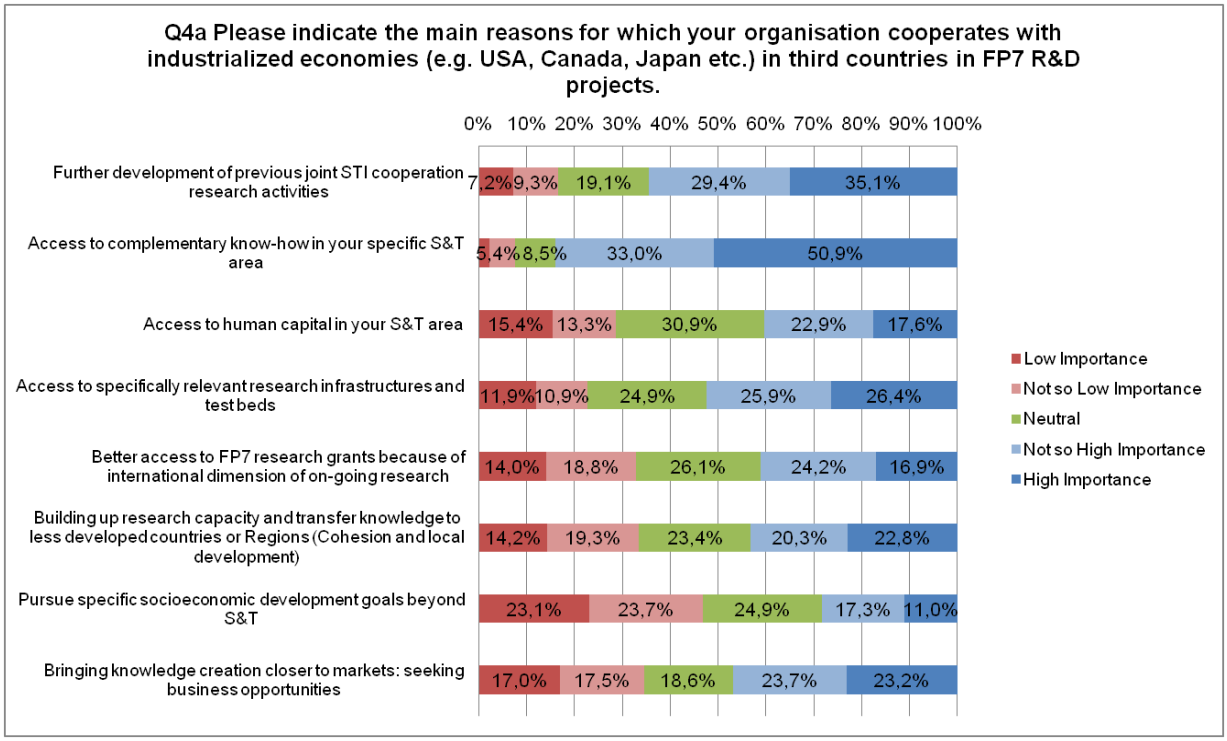
This document should be used in combination with the main report, in order to provide a full insight and essence of the study outcomes.

QUESTION 4A [EU-COORDINATOR]: PLEASE INDICATE THE MAIN REASONS FOR WHICH YOUR ORGANISATION COOPERATES WITH INDUSTRIALIZED ECONOMIES (E.G. USA, CANADA, JAPAN ETC.) IN THIRD COUNTRIES IN FP7 R&I PROJECTS

Table 15 – Main motivations for the cooperation with industrialised third country partners for the EU coordinator

	Low Importance	Not so Low Importance	Neutral	Not so High Importance	High Importance
Further development of previous joint STI cooperation research activities	7,2%	9,3%	19,1%	29,4%	35,1%
Access to complementary know-how in your specific S&T area	2,2%	5,4%	8,5%	33,0%	50,9%
Access to human capital in your S&T area	15,4%	13,3%	30,9%	22,9%	17,6%
Access to specifically relevant research infrastructures and test beds	11,9%	10,9%	24,9%	25,9%	26,4%
Better access to FP7 research grants because of international dimension of on-going research	14,0%	18,8%	26,1%	24,2%	16,9%
Building up research capacity and transfer knowledge to less developed countries or Regions (Cohesion and local development)	14,2%	19,3%	23,4%	20,3%	22,8%
Pursue specific socioeconomic development goals beyond S&T	23,1%	23,7%	24,9%	17,3%	11,0%
Bringing knowledge creation closer to markets: seeking business opportunities	17,0%	17,5%	18,6%	23,7%	23,2%

Figure 1 – Main motivations for the cooperation with industrialised third country partners for the EU coordinator

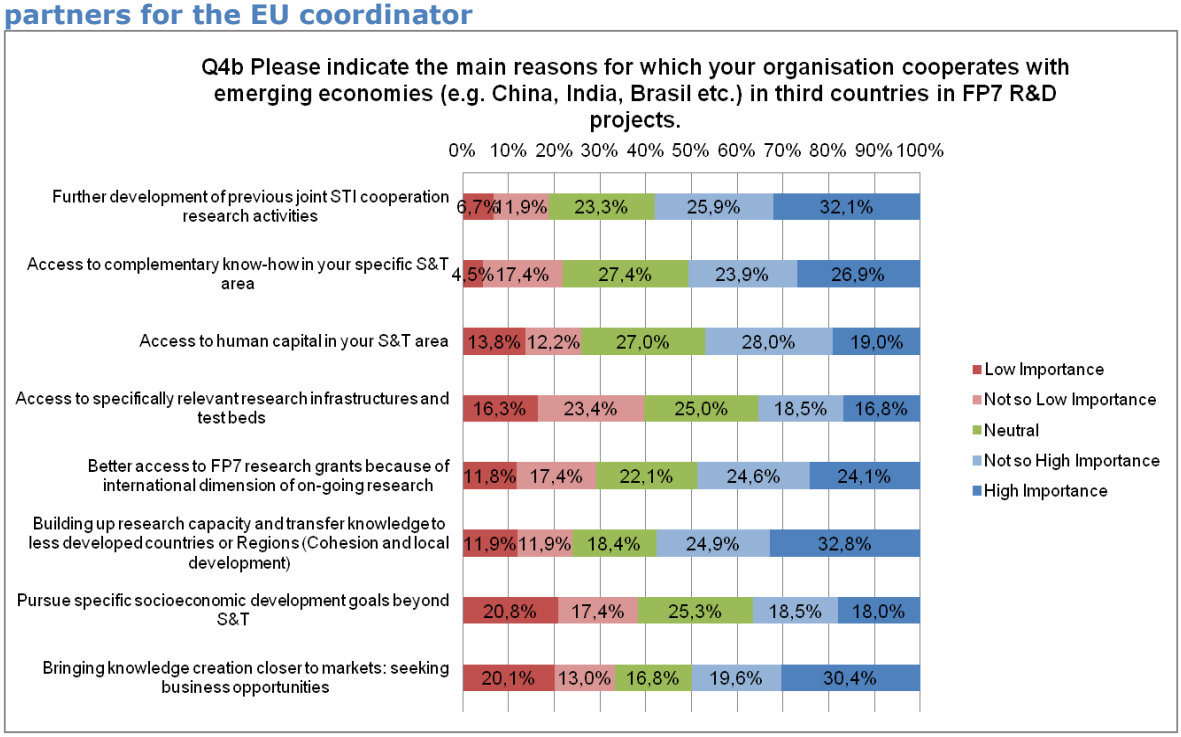


QUESTION 4B [EU-COORDINATOR]: PLEASE INDICATE THE MAIN REASONS FOR WHICH YOUR ORGANISATION COOPERATES WITH EMERGING ECONOMIES (E.G. CHINA, INDIA, BRASIL ETC.) IN THIRD COUNTRIES IN FP7 R&D PROJECTS

Table 2 – Main motivations for the cooperation with emerging third country partners for the EU coordinator

	Low Importance	Not so Low Importance	Neutral	Not so High Importance	High Importance
Further development of previous joint STI cooperation research activities	6,7%	11,9%	23,3%	25,9%	32,1%
Access to complementary know-how in your specific S&T area	4,5%	17,4%	27,4%	23,9%	26,9%
Access to human capital in your S&T area	13,8%	12,2%	27,0%	28,0%	19,0%
Access to specifically relevant research infrastructures and test beds	16,3%	23,4%	25,0%	18,5%	16,8%
Better access to FP7 research grants because of international dimension of on-going research	11,8%	17,4%	22,1%	24,6%	24,1%
Building up research capacity and transfer knowledge to less developed countries or Regions (Cohesion and local development)	11,9%	11,9%	18,4%	24,9%	32,8%
Pursue specific socioeconomic development goals beyond S&T	20,8%	17,4%	25,3%	18,5%	18,0%
Bringing knowledge creation closer to markets: seeking business opportunities	20,1%	13,0%	16,8%	19,6%	30,4%

Figure 2 – Main motivations for the cooperation with emerging third country partners for the EU coordinator

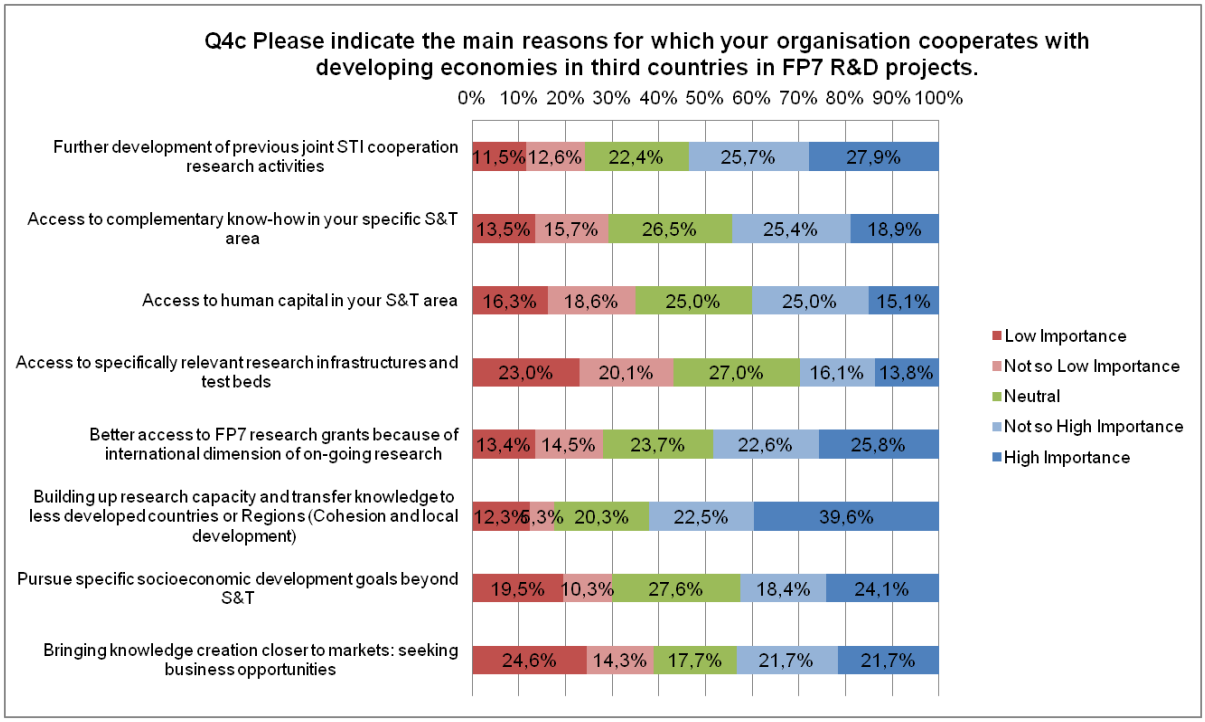


QUESTION 4C [EU-COORDINATOR]: PLEASE INDICATE THE MAIN REASONS FOR WHICH YOUR ORGANISATION COOPERATES WITH DEVELOPING ECONOMIES IN THIRD COUNTRIES IN FP7 R&D PROJECTS

Table 3 – Main motivations for the cooperation with developing third country partners for the EU coordinator

	Low Importance	Not so Low Importance	Neutral	Not so High Importance	High Importance
Further development of previous joint STI cooperation research activities	11,5%	12,6%	22,4%	25,7%	27,9%
Access to complementary know-how in your specific S&T area	13,5%	15,7%	26,5%	25,4%	18,9%
Access to human capital in your S&T area	16,3%	18,6%	25,0%	25,0%	15,1%
Access to specifically relevant research infrastructures and test beds	23,0%	20,1%	27,0%	16,1%	13,8%
Better access to FP7 research grants because of international dimension of on-going research	13,4%	14,5%	23,7%	22,6%	25,8%
Building up research capacity and transfer knowledge to less developed countries or Regions (Cohesion and local development)	12,3%	5,3%	20,3%	22,5%	39,6%
Pursue specific socioeconomic development goals beyond S&T	19,5%	10,3%	27,6%	18,4%	24,1%
Bringing knowledge creation closer to markets: seeking business opportunities	24,6%	14,3%	17,7%	21,7%	21,7%

Figure 37 – Main motivations for the cooperation with developing third country partners for the EU coordinator

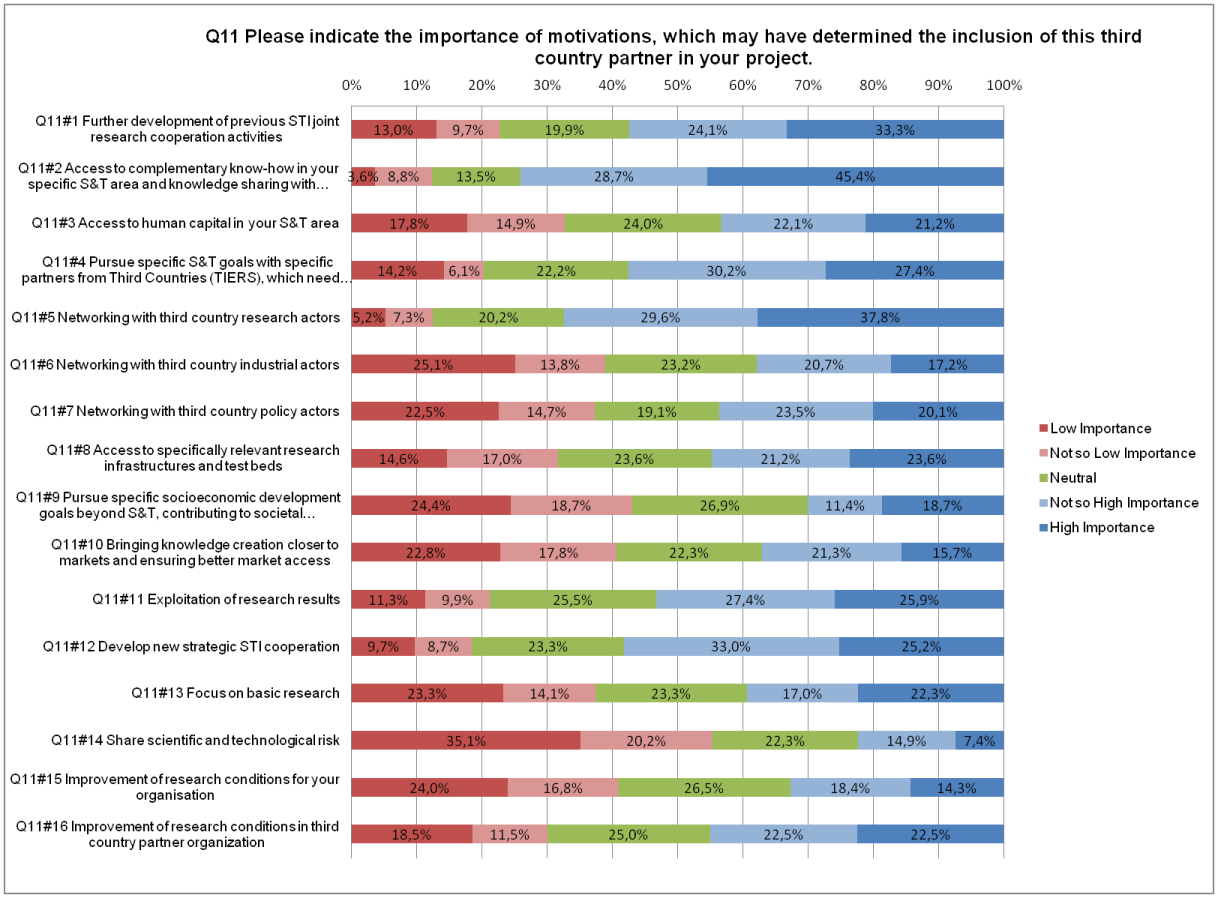


QUESTION 11 [EU-COORDINATOR]: PLEASE INDICATE THE IMPORTANCE OF MOTIVATIONS, WHICH MAY HAVE DETERMINED THE INCLUSION OF THIS THIRD COUNTRY PARTNER IN YOUR PROJECT.

Table 4 – The motivations for the inclusion of a third country partner in the R&D project

	Low Importance	Not so Low Importance	Neutral	Not so High Importance	High Importance
Q11#1 Further development of previous STI joint research cooperation activities	13,0%	9,7%	19,9%	24,1%	33,3%
Q11#2 Access to complementary know-how in your specific S&T area and knowledge sharing with third country partners	3,6%	8,8%	13,5%	28,7%	45,4%
Q11#3 Access to human capital in your S&T area	17,8%	14,9%	24,0%	22,1%	21,2%
Q11#4 Pursue specific S&T goals with specific partners from Third Countries (TIERS), which need to be addressed on a global basis	14,2%	6,1%	22,2%	30,2%	27,4%
Q11#5 Networking with third country research actors	5,2%	7,3%	20,2%	29,6%	37,8%
Q11#6 Networking with third country industrial actors	25,1%	13,8%	23,2%	20,7%	17,2%
Q11#7 Networking with third country policy actors	22,5%	14,7%	19,1%	23,5%	20,1%
Q11#8 Access to specifically relevant research infrastructures and test beds	14,6%	17,0%	23,6%	21,2%	23,6%
Q11#9 Pursue specific socioeconomic development goals beyond S&T, contributing to societal development in third country	24,4%	18,7%	26,9%	11,4%	18,7%
Q11#10 Bringing knowledge creation closer to markets and ensuring better market access	22,8%	17,8%	22,3%	21,3%	15,7%
Q11#11 Exploitation of research results	11,3%	9,9%	25,5%	27,4%	25,9%
Q11#12 Develop new strategic STI cooperation	9,7%	8,7%	23,3%	33,0%	25,2%
Q11#13 Focus on basic research	23,3%	14,1%	23,3%	17,0%	22,3%
Q11#14 Share scientific and technological risk	35,1%	20,2%	22,3%	14,9%	7,4%
Q11#15 Improvement of research conditions for your organisation	24,0%	16,8%	26,5%	18,4%	14,3%
Q11#16 Improvement of research conditions in third country partner organization	18,5%	11,5%	25,0%	22,5%	22,5%

Figure 38 – The motivations for the inclusion of a third country partner in the R&D project for the EU coordinator

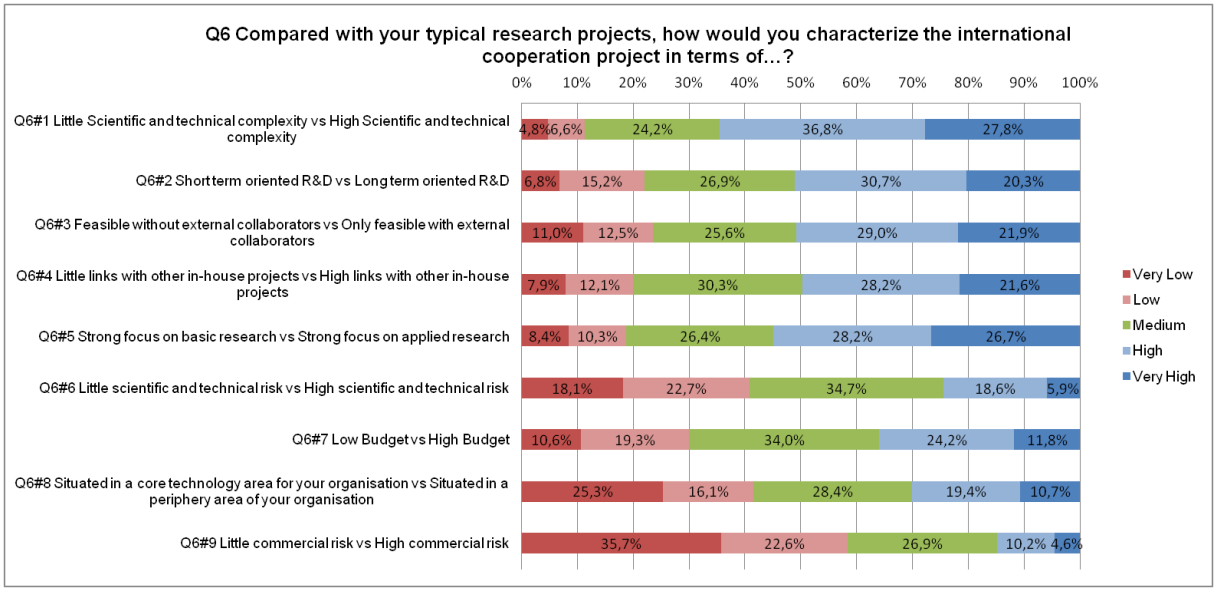


QUESTION 6 [TIERS]: COMPARED WITH YOUR TYPICAL RESEARCH PROJECTS, HOW WOULD YOU CHARACTERIZE THE INTERNATIONAL COOPERATION PROJECT IN TERMS OF…?

Table 5 – Characterisation of the typical research project in respect to the international R&D cooperation project for the Third country partner

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
Q6#1 Little Scientific and technical complexity vs. High Scientific and technical complexity	4,8%	6,6%	24,2%	36,8%	27,8%
Q6#2 Short term oriented R&D vs. Long term oriented R&D	6,8%	15,2%	26,9%	30,7%	20,3%
Q6#3 Feasible without external collaborators vs. Only feasible with external collaborators	11,0%	12,5%	25,6%	29,0%	21,9%
Q6#4 Little links with other in-house projects vs. High links with other in-house projects	7,9%	12,1%	30,3%	28,2%	21,6%
Q6#5 Strong focus on basic research vs. Strong focus on applied research	8,4%	10,3%	26,4%	28,2%	26,7%
Q6#6 Little scientific and technical risk vs. High scientific and technical risk	18,1%	22,7%	34,7%	18,6%	5,9%
Q6#7 Low Budget vs. High Budget	10,6%	19,3%	34,0%	24,2%	11,8%
Q6#8 Situated in a core technology area for your organisation vs. Situated in a periphery area of your organisation	25,3%	16,1%	28,4%	19,4%	10,7%
Q6#9 Little commercial risk vs. High commercial risk	35,7%	22,6%	26,9%	10,2%	4,6%

Figure 5 – Characterisation of the typical research project in respect to the international R&D cooperation project for the Third country partner

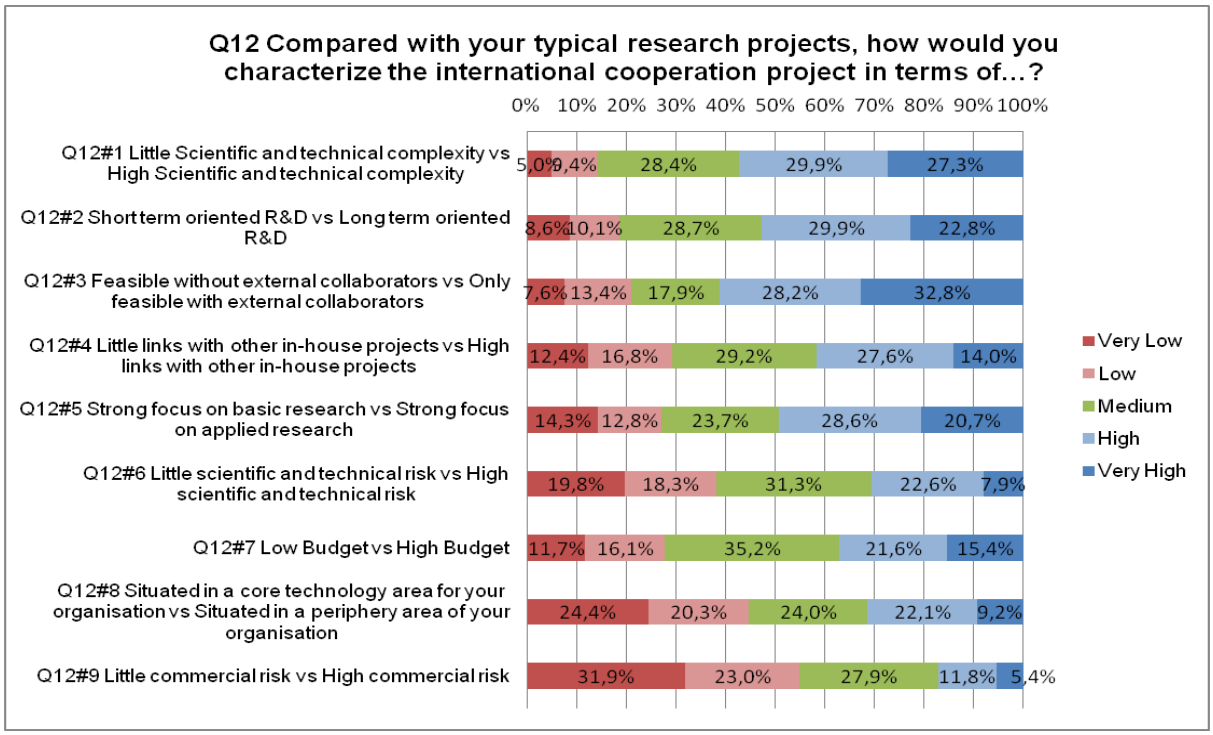


QUESTION 12 [EU-COORDINATOR]: COMPARED WITH YOUR TYPICAL RESEARCH PROJECTS, HOW WOULD YOU CHARACTERIZE THE INTERNATIONAL COOPERATION PROJECT IN TERMS OF…?

Table 6 – Characterisation of the typical research project in respect to the international R&I cooperation project for the EU coordinator

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
Q12#1 Little Scientific and technical complexity vs. High Scientific and technical complexity	5,0%	9,4%	28,4%	29,9%	27,3%
Q12#2 Short term oriented R&D vs. Long term oriented R&D	8,6%	10,1%	28,7%	29,9%	22,8%
Q12#3 Feasible without external collaborators vs. Only feasible with external collaborators	7,6%	13,4%	17,9%	28,2%	32,8%
Q12#4 Little links with other in-house projects vs. High links with other in-house projects	12,4%	16,8%	29,2%	27,6%	14,0%
Q12#5 Strong focus on basic research vs. Strong focus on applied research	14,3%	12,8%	23,7%	28,6%	20,7%
Q12#6 Little scientific and technical risk vs. High scientific and technical risk	19,8%	18,3%	31,3%	22,6%	7,9%
Q12#7 Low Budget vs. High Budget	11,7%	16,1%	35,2%	21,6%	15,4%
Q12#8 Situated in a core technology area for your organisation vs. Situated in a periphery area of your organisation	24,4%	20,3%	24,0%	22,1%	9,2%
Q12#9 Little commercial risk vs. High commercial risk	31,9%	23,0%	27,9%	11,8%	5,4%

Figure 6 – Characterisation of the typical research project in respect to the international R&I cooperation project for the EU coordinator



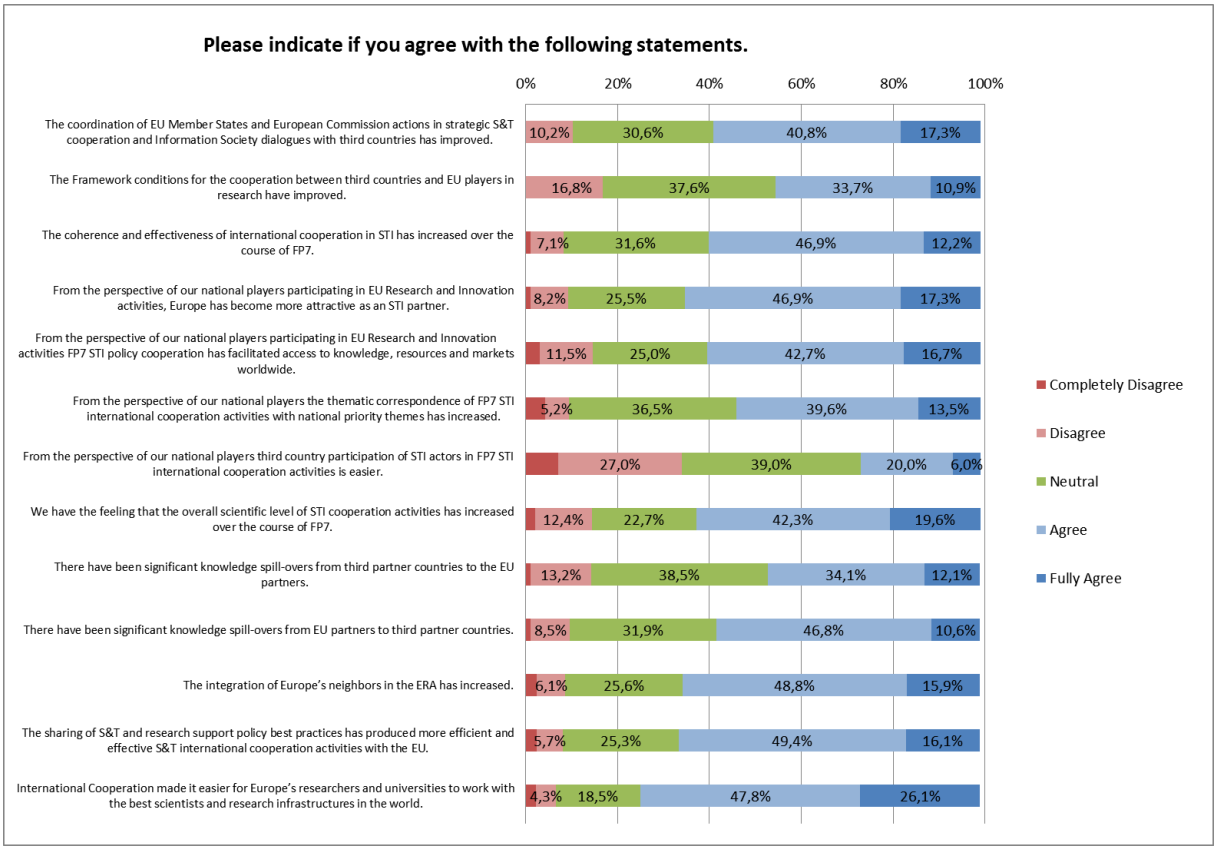
QUESTION 7A [NCP]: PLEASE INDICATE WHETHER YOU AGREE WITH THE FOLLOWING STATEMENTS ON THE OVERALL DEVELOPMENT OF FP7 INTERNATIONAL COOPERATION BETWEEN 2007 AND 2013.

Table 7 – The opinion of the NCP specific features of R&D international cooperation in FP7 2007 and 2013

	Completely Disagree	Disagree	Neutral	Agree	Fully Agree
The coordination of EU Member States and European Commission actions in strategic S&T cooperation and Information Society dialogues with third countries has improved.	0.0%	10.2%	30.6%	40.8%	17.3%
The Framework conditions for the cooperation between third countries and EU players in research have improved.	0.0%	16.8%	37.6%	33.7%	10.9%
The coherence and effectiveness of international cooperation in STI has increased over the course of FP7.	1.0%	7.1%	31.6%	46.9%	12.2%
From the perspective of our national players participating in EU Research and Innovation activities, Europe has become more attractive as an STI partner.	1.0%	8.2%	25.5%	46.9%	17.3%
From the perspective of our national players participating in EU Research and Innovation activities FP7 STI policy cooperation has facilitated access to knowledge, resources and markets worldwide.	3.1%	11.5%	25.0%	42.7%	16.7%
From the perspective of our national players the thematic correspondence of FP7 STI international cooperation activities with national priority themes has increased.	4.2%	5.2%	36.5%	39.6%	13.5%
From the perspective of our national players third country participation of STI actors in FP7	7.0%	27.0%	39.0%	20.0%	6.0%

	Completely Disagree	Disagree	Neutral	Agree	Fully Agree
STI international cooperation activities is easier.					
We have the feeling that the overall scientific level of STI cooperation activities has increased over the course of FP7.	2.1%	12.4%	22.7%	42.3%	19.6%
There have been significant knowledge spillovers from third partner countries to the EU partners.	1.1%	13.2%	38.5%	34.1%	12.1%
There have been significant knowledge spillovers from EU partners to third partner countries.	1.1%	8.5%	31.9%	46.8%	10.6%
The integration of Europe's neighbours in the ERA has increased.	2.4%	6.1%	25.6%	48.8%	15.9%
The sharing of S&T and research support policy best practices has produced more efficient and effective S&T international cooperation activities with the EU.	2.3%	5.7%	25.3%	49.4%	16.1%
International Cooperation made it easier for Europe's researchers and universities to work with the best scientists and research infrastructures in the world.	2.2%	4.3%	18.5%	47.8%	26.1%

Figure 7 – The opinion of the NCP specific features of R&D international cooperation in FP7 2007 and 2013

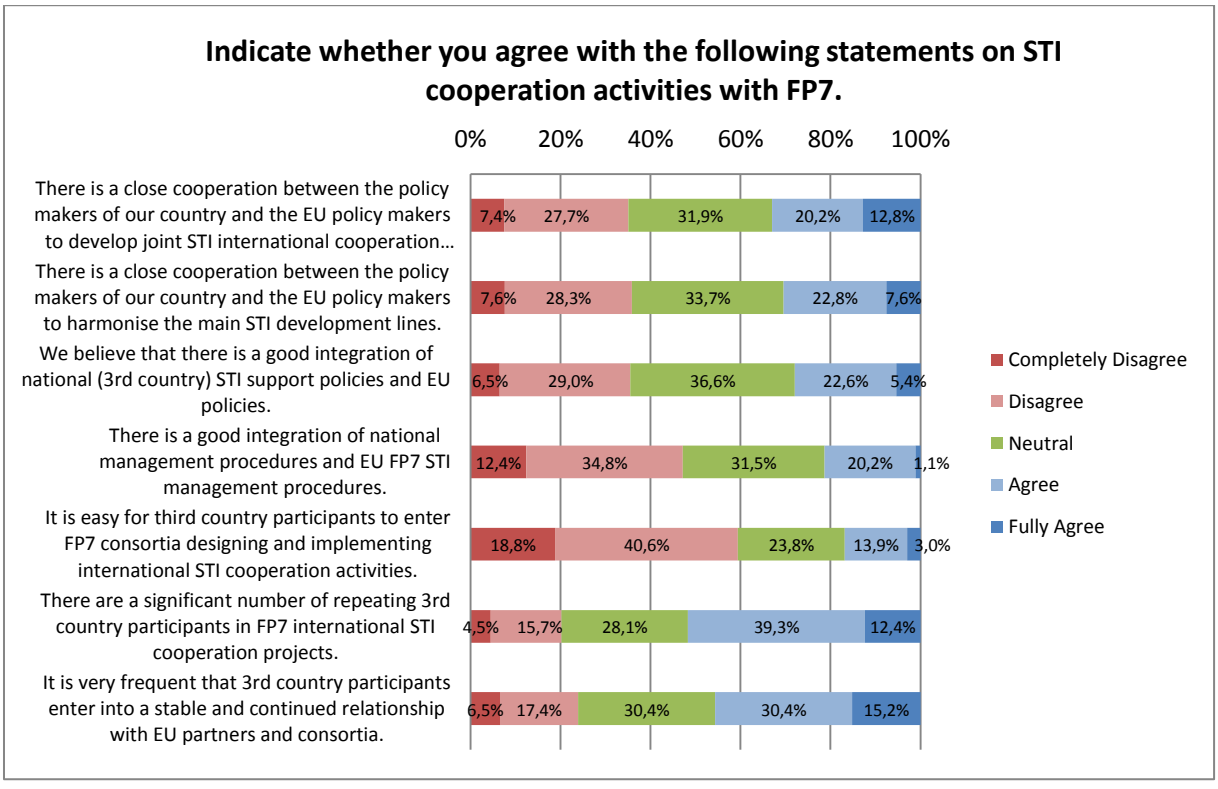


QUESTION 7B [NCP]: PLEASE INDICATE WHETHER YOU AGREE WITH THE FOLLOWING STATEMENTS ON STI COOPERATION ACTIVITIES WITH FP7.

Table 8 – The opinion of the NCP specific features of R&D international cooperation in FP7 2007 and 2013

	Completely Disagree	Disagree	Neutral	Agree	Fully Agree
There is a close cooperation between the policy makers of our country and the EU policy makers to develop joint STI international cooperation activities.	7.4%	27.7%	31.9%	20.2%	12.8%
There is a close cooperation between the policy makers of our country and the EU policy makers to harmonise the main STI development lines.	7.6%	28.3%	33.7%	22.8%	7.6%
We believe that there is a good integration of national (3rd country) STI support policies and EU policies.	6.5%	29.0%	36.6%	22.6%	5.4%
There is a good integration of national management procedures and EU FP7 STI management procedures.	12.4%	34.8%	31.5%	20.2%	1.1%
It is easy for third country participants to enter FP7 consortia designing and implementing international STI cooperation activities.	18.8%	40.6%	23.8%	13.9%	3.0%
There are a significant number of repeating 3rd country participants in FP7 international STI cooperation projects.	4.5%	15.7%	28.1%	39.3%	12.4%
It is very frequent that 3rd country participants enter into a stable and continued relationship with EU partners and consortia.	6.5%	17.4%	30.4%	30.4%	15.2%

Figure 8 – The opinion of the NCP specific features of R&D international cooperation in FP7 2007 and 2013

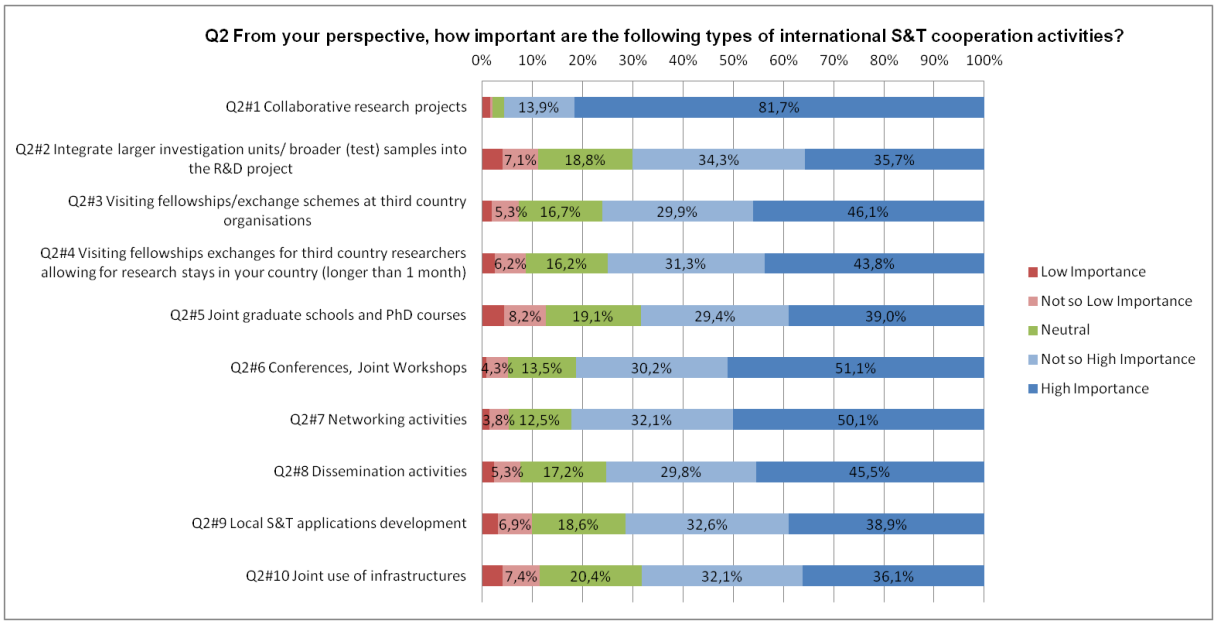


QUESTION 2 [TIERS]: FROM YOUR PERSPECTIVE, HOW IMPORTANT ARE THE FOLLOWING TYPES OF INTERNATIONAL S&T COOPERATION ACTIVITIES?

Table 9 – The third country partners' opinion on the importance of the types of international S&T cooperation activities

	Low Importance	Not so Low Importance	Neutral	Not so High Importance	High Importance
Q2#1 Collaborative research projects	1,6%	,4%	2,4%	13,9%	81,7%
Q2#2 Integrate larger investigation units/ broader (test) samples into the R&D project	4,1%	7,1%	18,8%	34,3%	35,7%
Q2#3 Visiting fellowships/exchange schemes at third country organisations	2,0%	5,3%	16,7%	29,9%	46,1%
Q2#4 Visiting fellowships exchanges for third country researchers allowing for research stays in your country (longer than 1 month)	2,6%	6,2%	16,2%	31,3%	43,8%
Q2#5 Joint graduate schools and PhD courses	4,4%	8,2%	19,1%	29,4%	39,0%
Q2#6 Conferences, Joint Workshops	0,9%	4,3%	13,5%	30,2%	51,1%
Q2#7 Networking activities	1,4%	3,8%	12,5%	32,1%	50,1%
Q2#8 Dissemination activities	2,3%	5,3%	17,2%	29,8%	45,5%
Q2#9 Local S&T applications development	3,1%	6,9%	18,6%	32,6%	38,9%
Q2#10 Joint use of infrastructures	4,0%	7,4%	20,4%	32,1%	36,1%

Figure 9 – The third country partners' opinion on the importance of the types of international S&T cooperation activities

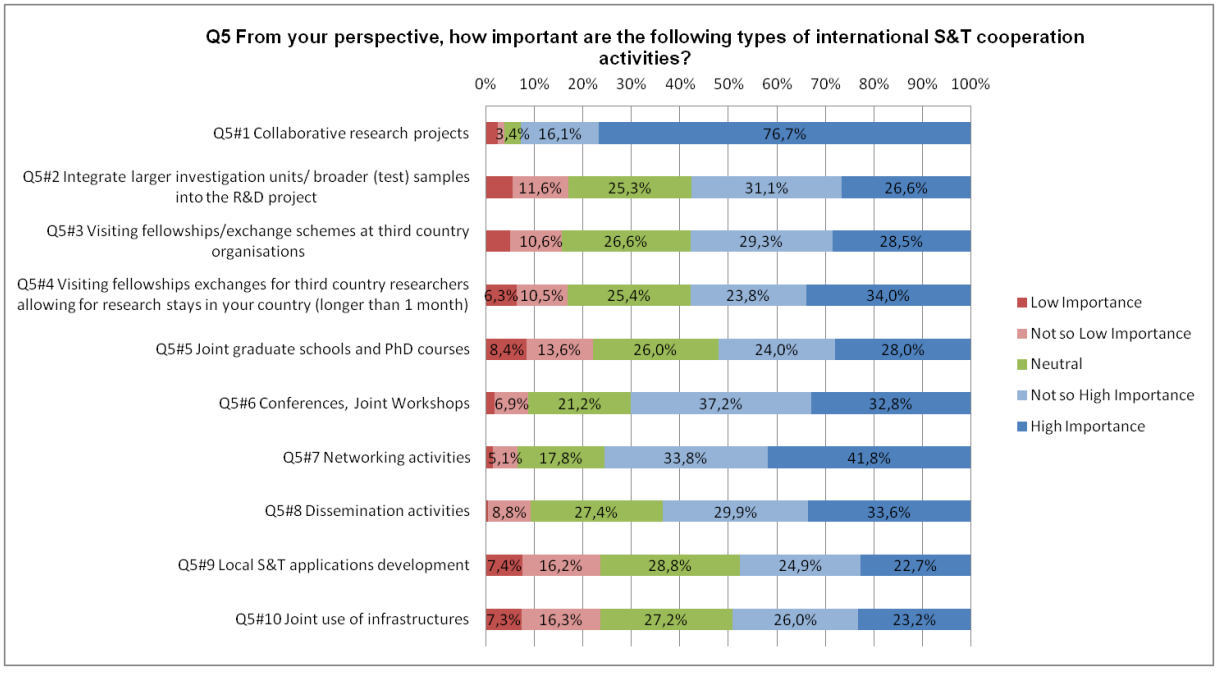


QUESTION 5 [EU-COORDINATOR]: FROM YOUR PERSPECTIVE, HOW IMPORTANT ARE THE FOLLOWING TYPES OF INTERNATIONAL S&T COOPERATION ACTIVITIES?

Table 10 – The EU coordinator opinion on the importance of the types of international S&T cooperation activities

	Low Importance	Not so Low Importance	Neutral	Not so High Importance	High Importance
Q5#1 Collaborative research projects	2,4%	1,4%	3,4%	16,1%	76,7%
Q5#2 Integrate larger investigation units/ broader (test) samples into the R&D project	5,4%	11,6%	25,3%	31,1%	26,6%
Q5#3 Visiting fellowships/exchange schemes at third country organisations	4,9%	10,6%	26,6%	29,3%	28,5%
Q5#4 Visiting fellowships exchanges for third country researchers allowing for research stays in your country (longer than 1 month)	6,3%	10,5%	25,4%	23,8%	34,0%
Q5#5 Joint graduate schools and PhD courses	8,4%	13,6%	26,0%	24,0%	28,0%
Q5#6 Conferences, Joint Workshops	1,8%	6,9%	21,2%	37,2%	32,8%
Q5#7 Networking activities	1,5%	5,1%	17,8%	33,8%	41,8%
Q5#8 Dissemination activities	0,4%	8,8%	27,4%	29,9%	33,6%
Q5#9 Local S&T applications development	7,4%	16,2%	28,8%	24,9%	22,7%
Q5#10 Joint use of infrastructures	7,3%	16,3%	27,2%	26,0%	23,2%

Figure 10 – The EU coordinator opinion on the importance of the types of international S&T cooperation activities?

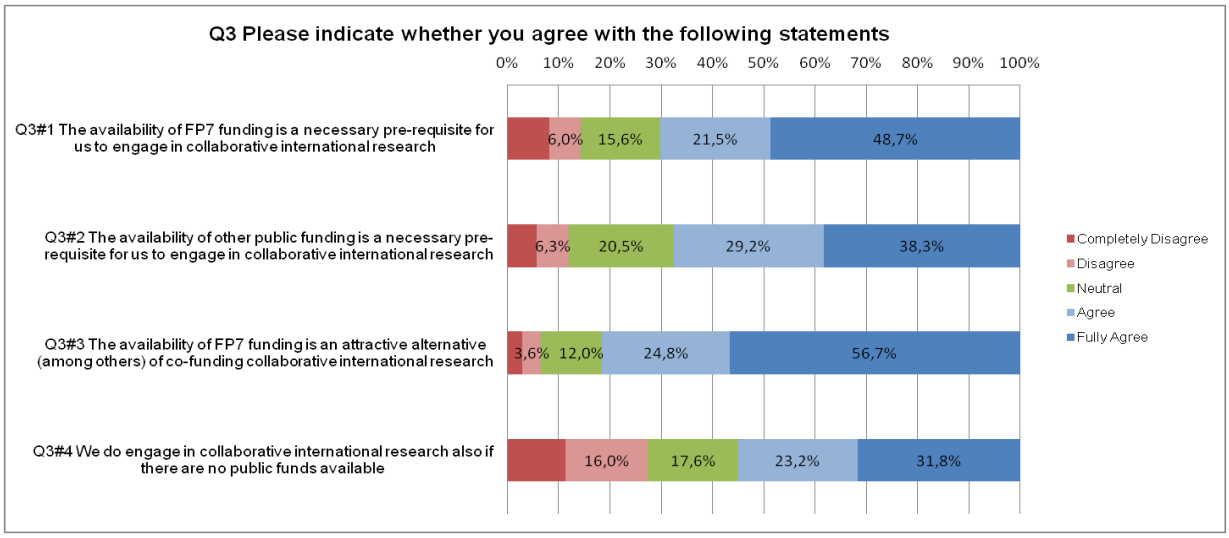


QUESTION 3 [TIERS]: PLEASE INDICATE WHETHER YOU AGREE WITH THE FOLLOWING STATEMENTS:

Table 11 – The third partner country assessment of FP7 international cooperation features

	Completely Disagree	Disagree	Neutral	Agree	Fully Agree
Q3#1 The availability of FP7 funding is a necessary pre-requisite for us to engage in collaborative international research	8,3%	6,0%	15,6%	21,5%	48,7%
Q3#2 The availability of other public funding is a necessary pre-requisite for us to engage in collaborative international research	5,7%	6,3%	20,5%	29,2%	38,3%
Q3#3 The availability of FP7 funding is an attractive alternative (among others) of co-funding collaborative international research	3,0%	3,6%	12,0%	24,8%	56,7%
Q3#4 We do engage in collaborative international research also if there are no public funds available	11,4%	16,0%	17,6%	23,2%	31,8%

Figure 11 – The third partner country assessment of FP7 international cooperation features

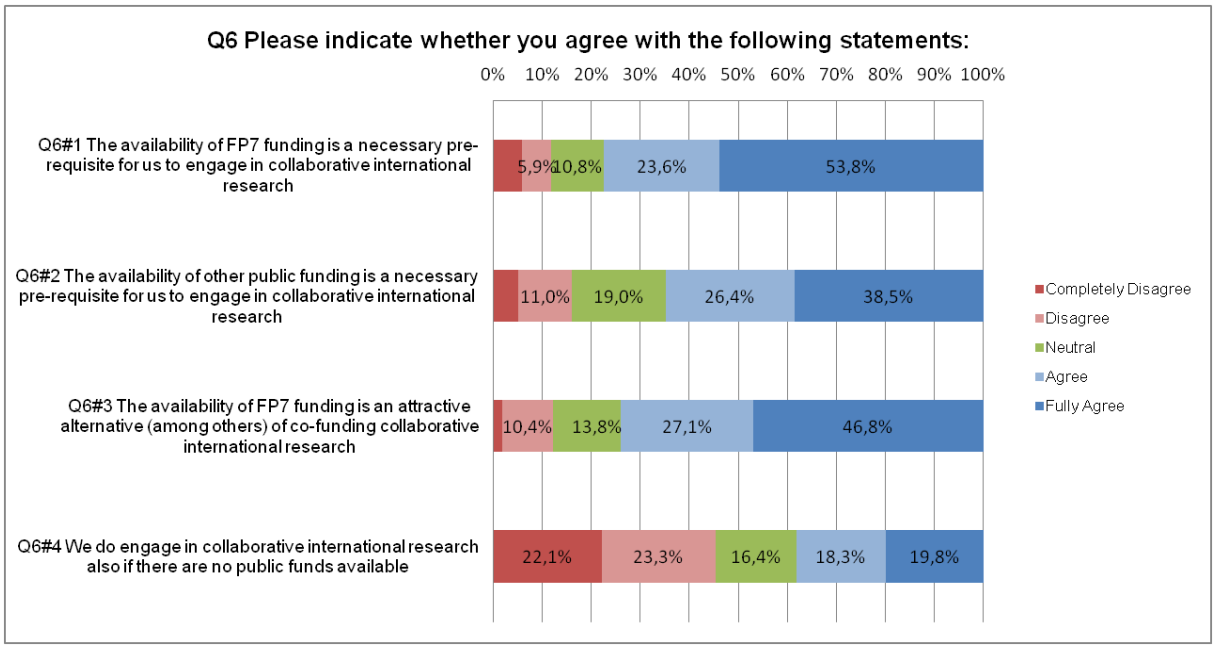


QUESTION 6 [EU-COORDINATOR]: PLEASE INDICATE WHETHER YOU AGREE WITH THE FOLLOWING STATEMENTS:

Table 12 – The EU coordinator assessment of FP7 international cooperation features

	Completely Disagree	Disagree	Neutral	Agree	Fully Agree
Q6#1 The availability of FP7 funding is a necessary pre-requisite for us to engage in collaborative international research	5,9%	5,9%	10,8%	23,6%	53,8%
Q6#2 The availability of other public funding is a necessary pre-requisite for us to engage in collaborative international research	5,1%	11,0%	19,0%	26,4%	38,5%
Q6#3 The availability of FP7 funding is an attractive alternative (among others) of co-funding collaborative international research	1,9%	10,4%	13,8%	27,1%	46,8%
Q6#4 We do engage in collaborative international research also if there are no public funds available	22,1%	23,3%	16,4%	18,3%	19,8%

Figure 12 – The EU coordinator assessment of FP7 international cooperation features

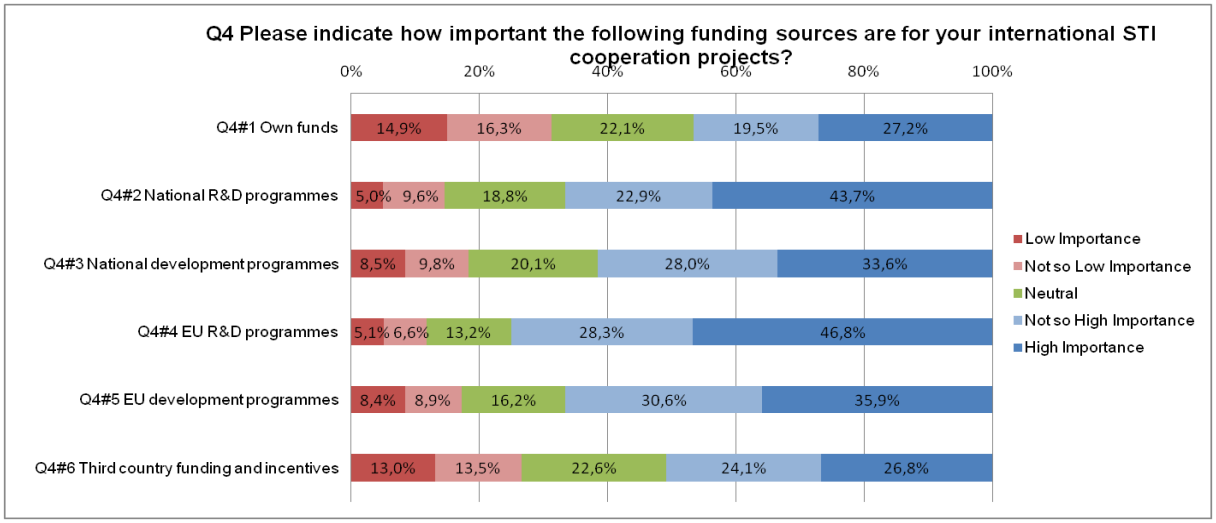


QUESTION 4 [TIERS]: PLEASE INDICATE HOW IMPORTANT THE FOLLOWING FUNDING SOURCES ARE FOR YOUR INTERNATIONAL STI COOPERATION PROJECTS?

Table 13 – The third country partners' opinion on the funding sources of its international STI cooperation projects

	Low Importance	Not so Low Importance	Neutral	Not so High Importance	High Importance
Q4#1 Own funds	14,9%	16,3%	22,1%	19,5%	27,2%
Q4#2 National R&D programmes	5,0%	9,6%	18,8%	22,9%	43,7%
Q4#3 National development programmes	8,5%	9,8%	20,1%	28,0%	33,6%
Q4#4 EU R&D programmes	5,1%	6,6%	13,2%	28,3%	46,8%
Q4#5 EU development programmes	8,4%	8,9%	16,2%	30,6%	35,9%
Q4#6 Third country funding and incentives	13,0%	13,5%	22,6%	24,1%	26,8%

Figure 13 – The third country partners' opinion on the funding sources of its international STI cooperation projects



QUESTION 7 [EU-COORDINATOR]: PLEASE INDICATE HOW IMPORTANT THE FOLLOWING FUNDING SOURCES ARE FOR YOUR INTERNATIONAL STI COOPERATION PROJECTS?

Table 14 – The EU coordinator opinion on the funding sources of its international STI cooperation projects

	Low Importance	Not so Low Importance	Neutral	Not so High Importance	High Importance
Q7#1 Own funds	21,8%	16,3%	22,2%	16,0%	23,7%
Q7#2 National R&D programmes	9,9%	15,3%	22,6%	26,6%	25,5%
Q7#3 National development programmes	15,3%	20,9%	24,1%	21,3%	18,5%
Q7#4 EU R&D programmes	2,4%	3,1%	5,2%	23,6%	65,6%
Q7#5 EU development programmes	10,4%	7,9%	15,4%	27,1%	39,2%
Q7#6 Third country funding and incentives	24,0%	24,4%	22,7%	19,4%	9,5%

Figure 14 – The EU coordinator opinion on the funding sources of its international STI cooperation projects

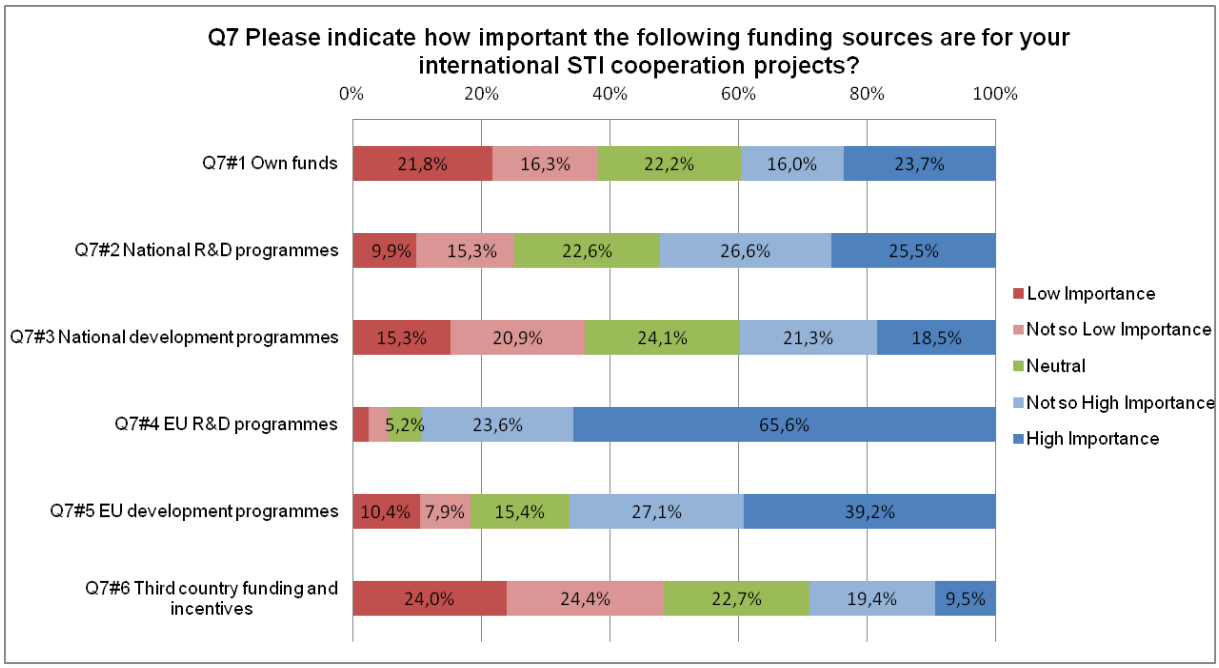


Figure 15: The third country partners' opinion on the need of FP7 funding to engage in collaborative international research in relation to thematic areas (Q3_1 # Q1) [TIERS]

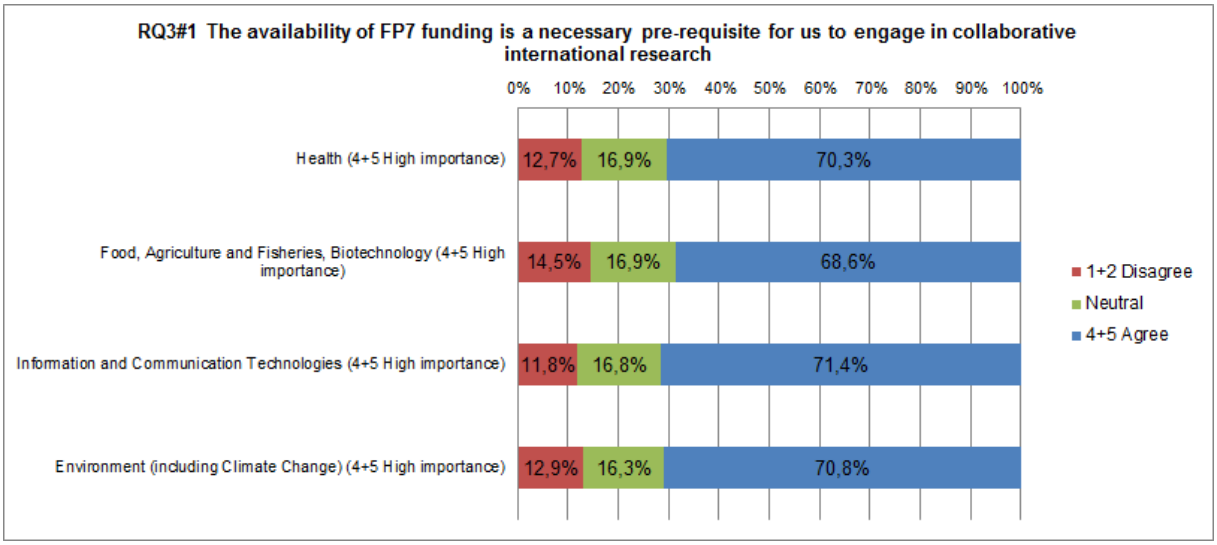


Figure 16: The EU coordinator opinion on the need of FP7 funding to engage in collaborative international research in relation to thematic areas (Q3_1 # Q1)

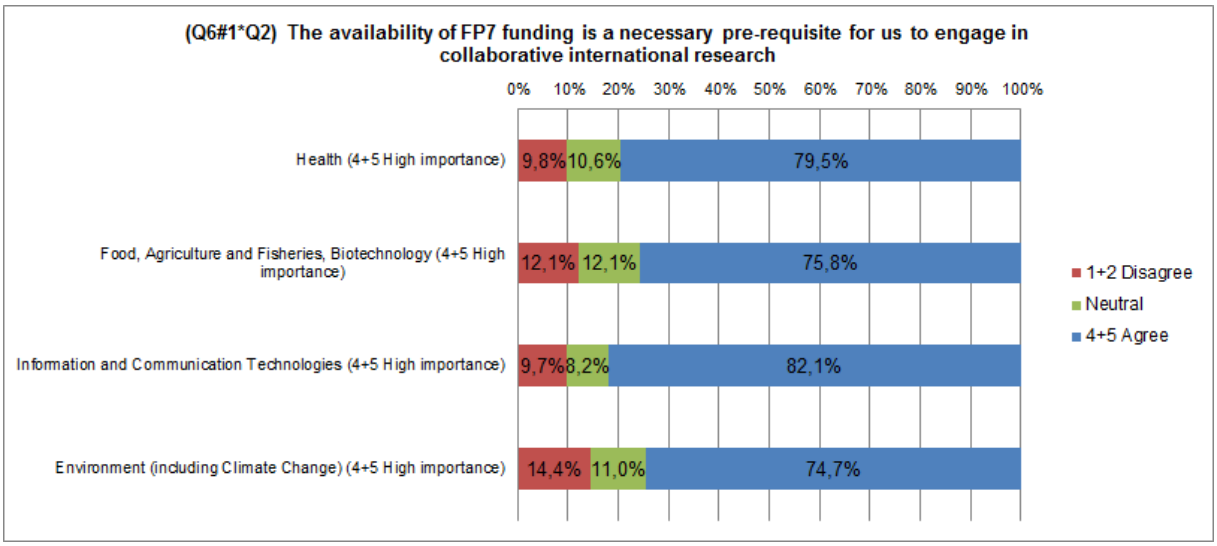


Figure 17: Cross-Tabulation 'Importance of funding sources' for third country partners in relation to thematic areas (Q4 # Q1) [TIERS]

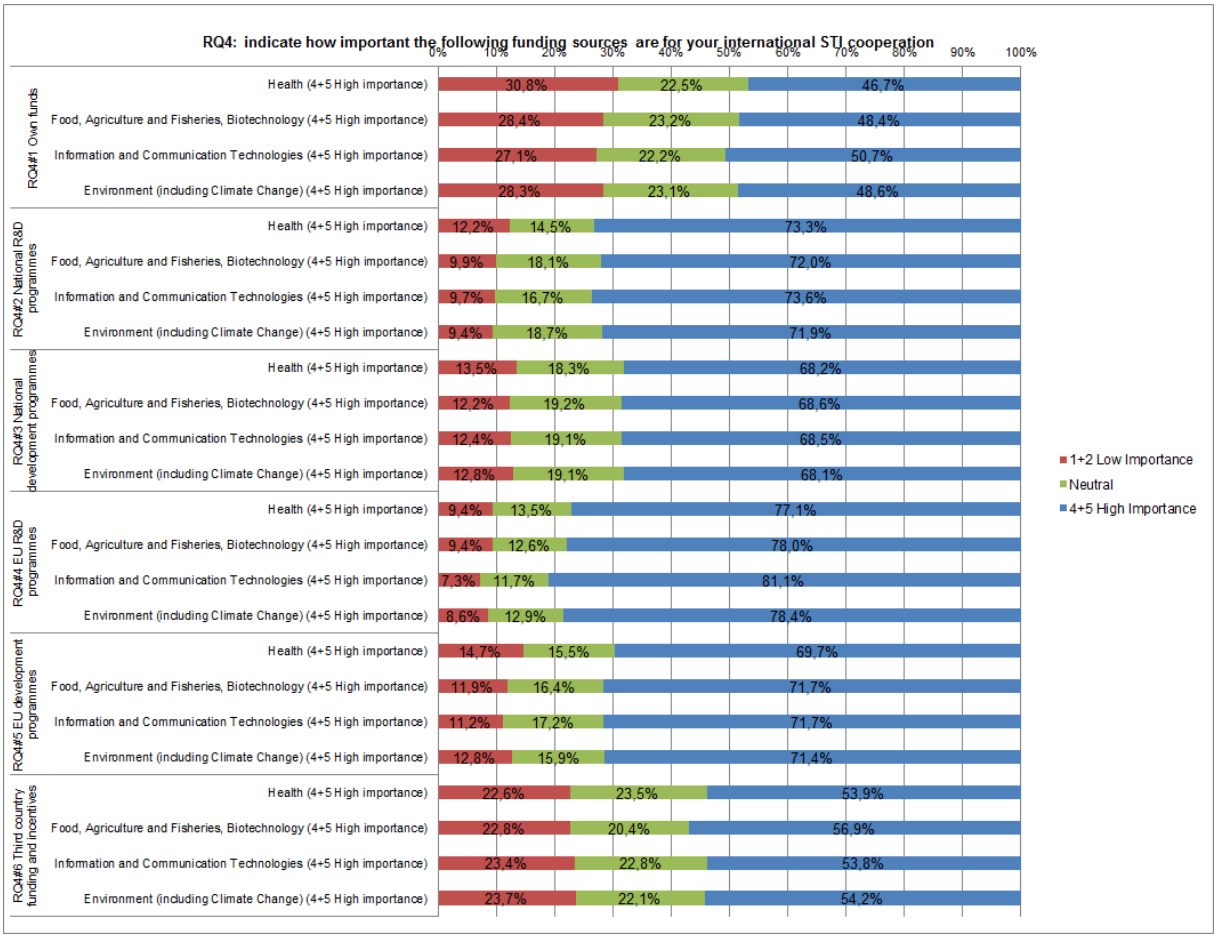


Figure 18: Cross-Tabulation 'Importance of funding sources' for EU coordinators in relation to thematic areas (Q7 # Q2) [EU-Coordinator]

Figure 19: Cross-Tabulation 'Importance of S&T cooperation activities in certain regions' for third country partners in relation to thematic areas (Q2 # Q1) [TIERS]

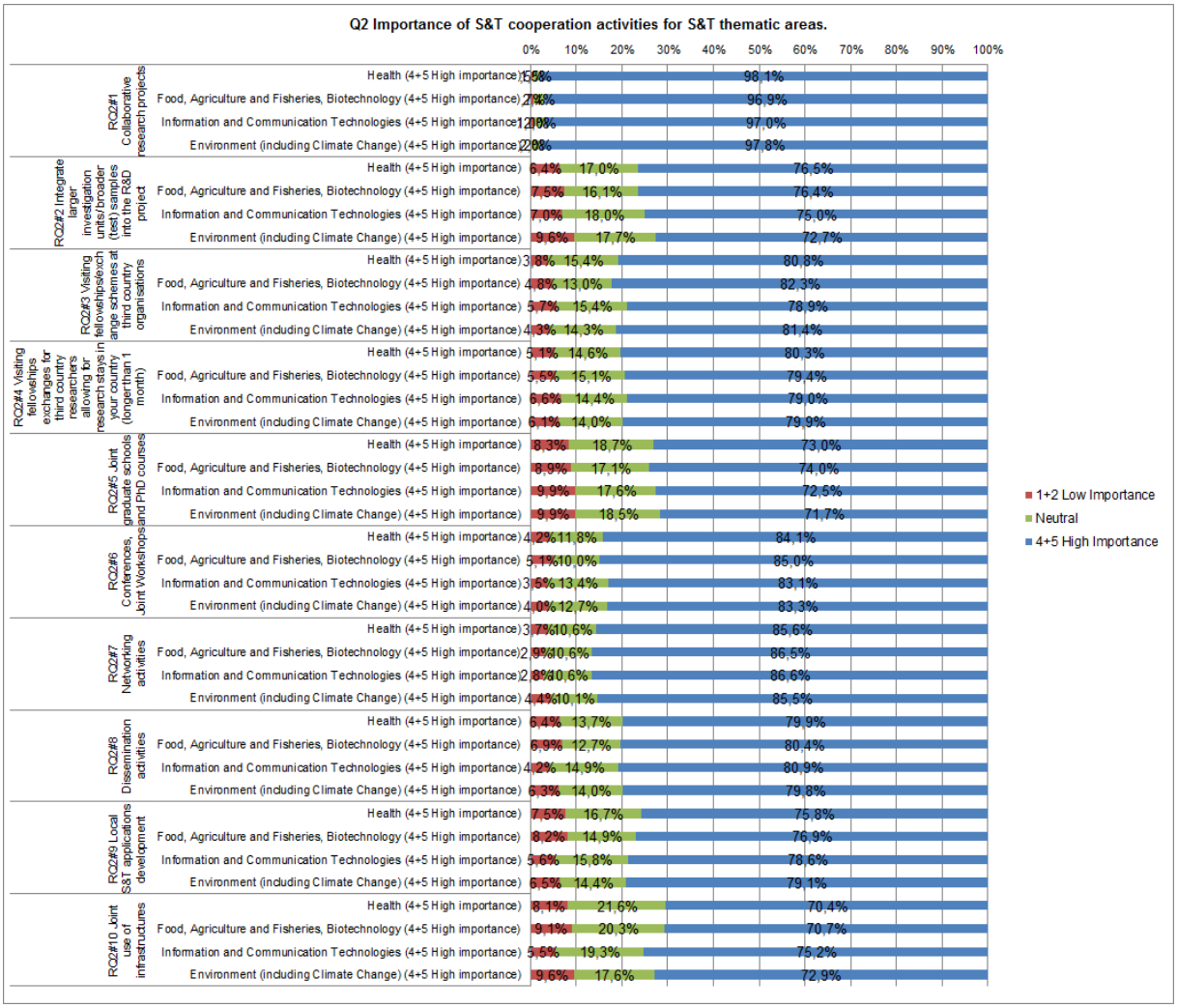


Figure 20: Cross-Tabulation 'Importance of S&T cooperation activities in certain regions' in relation to thematic areas (Q5 # Q2) [EU-Coordinator]

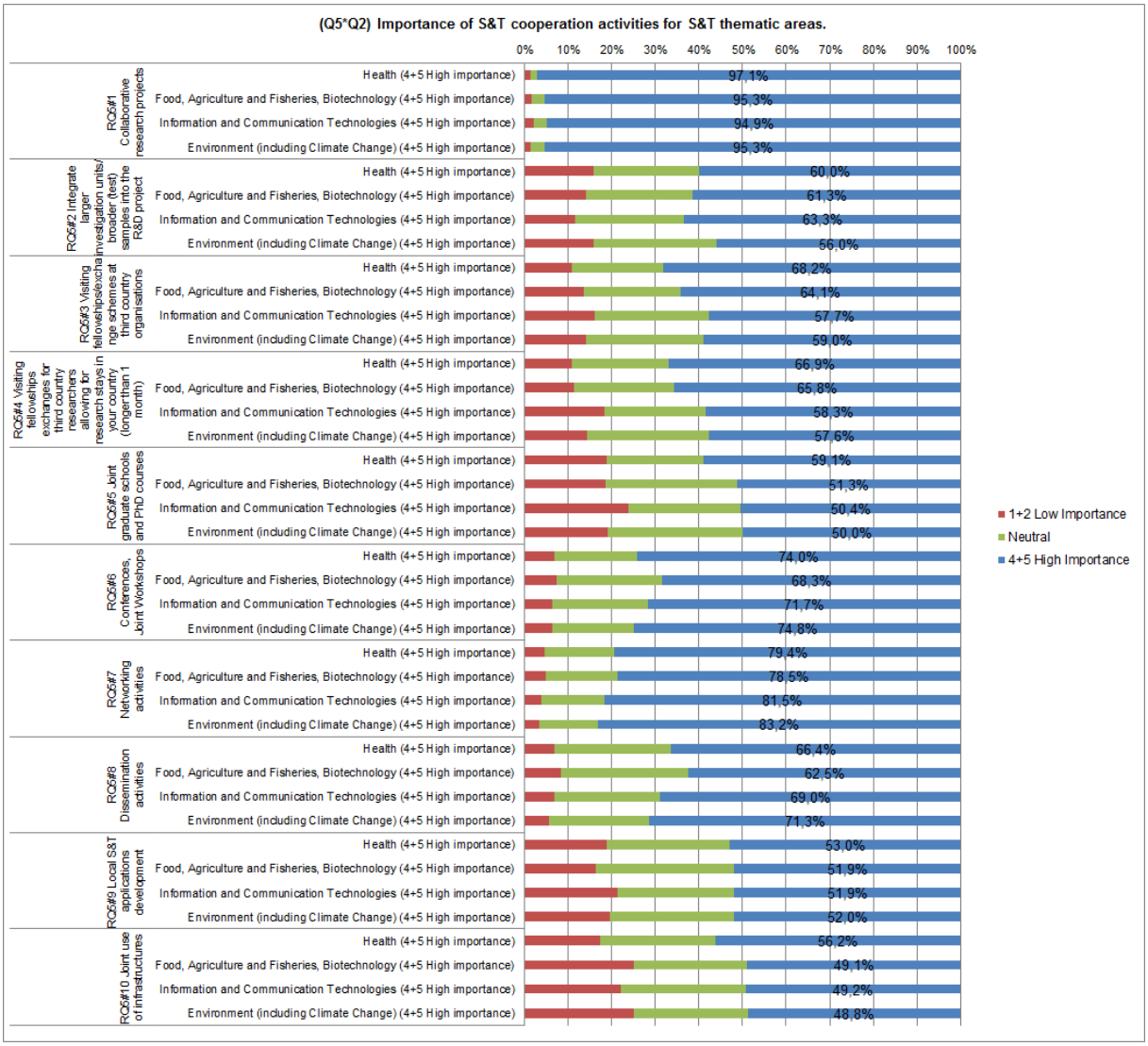
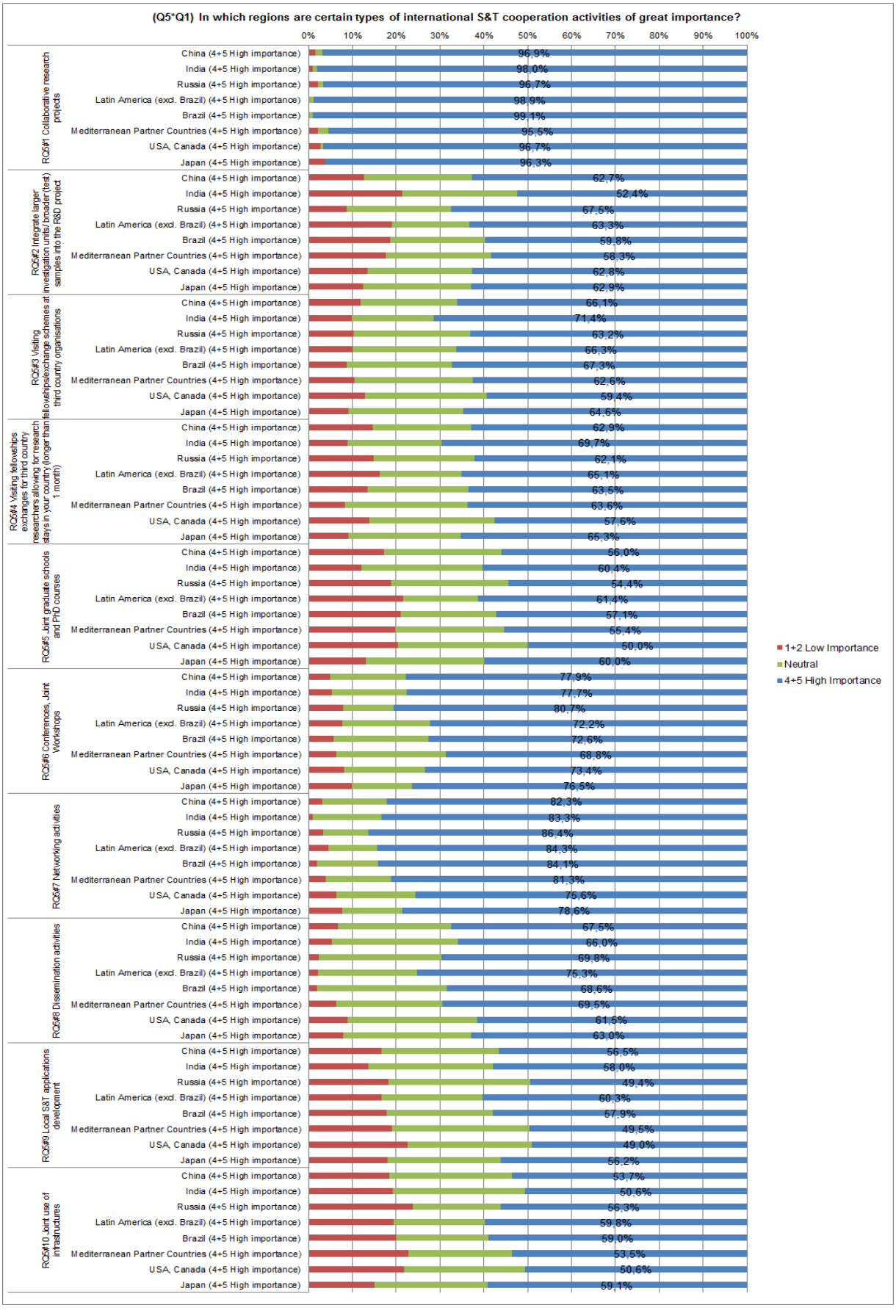


Figure 21: Cross-Tabulation 'Importance of S&T cooperation activities' in different regions (Q5 # Q1) [EU-Coordinator]

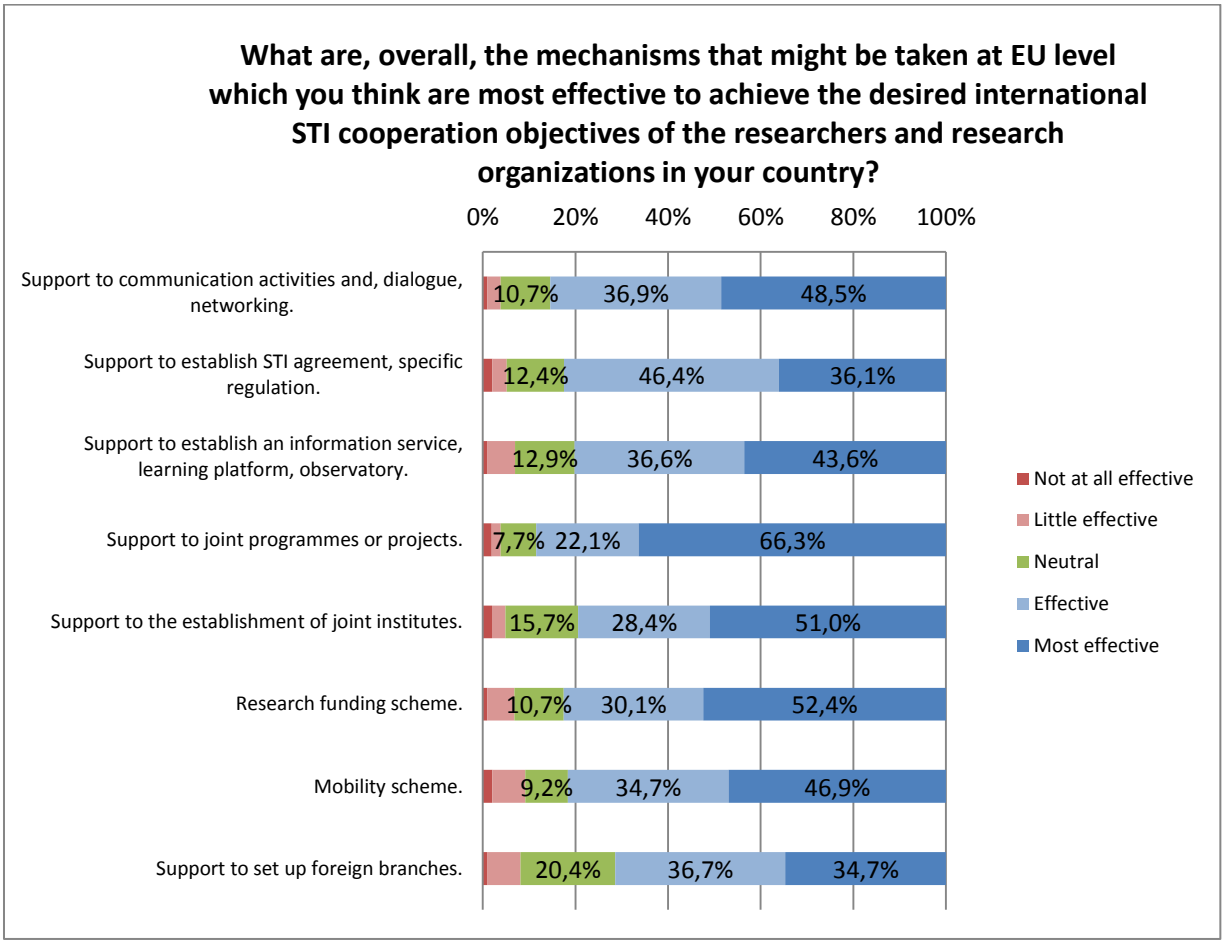


QUESTION 12B [NCP]: WHAT ARE, OVERALL, THE MECHANISMS THAT MIGHT BE TAKEN AT EU LEVEL WHICH YOU THINK ARE MOST EFFECTIVE TO ACHIEVE THE DESIRED INTERNATIONAL STI COOPERATION OBJECTIVES OF THE RESEARCHERS AND RESEARCH ORGANIZATIONS IN YOUR COUNTRY?

Table 15 – The NCP opinion on the EU level mechanisms to achieve the desired international STI cooperation objectives of the researchers and research organizations in its country

	Not at all effective	Little effective	Neutral	Effective	Most effective
Support to communication activities and, dialogue, networking.	1.0%	2.9%	10.7%	36.9%	48.5%
Support to establish STI agreement, specific regulation.	2.1%	3.1%	12.4%	46.4%	36.1%
Support to establish an information service, learning platform, observatory.	1.0%	5.9%	12.9%	36.6%	43.6%
Support to joint programmes or projects.	1.9%	1.9%	7.7%	22.1%	66.3%
Support to the establishment of joint institutes.	2.0%	2.9%	15.7%	28.4%	51.0%
Research funding scheme.	1.0%	5.8%	10.7%	30.1%	52.4%
Mobility scheme.	2.0%	7.1%	9.2%	34.7%	46.9%
Support to set up foreign branches.	1.0%	7.1%	20.4%	36.7%	34.7%

Figure 22 – The NCP opinion on the EU level mechanisms to achieve the desired international STI cooperation objectives of the researchers and research organizations in its country

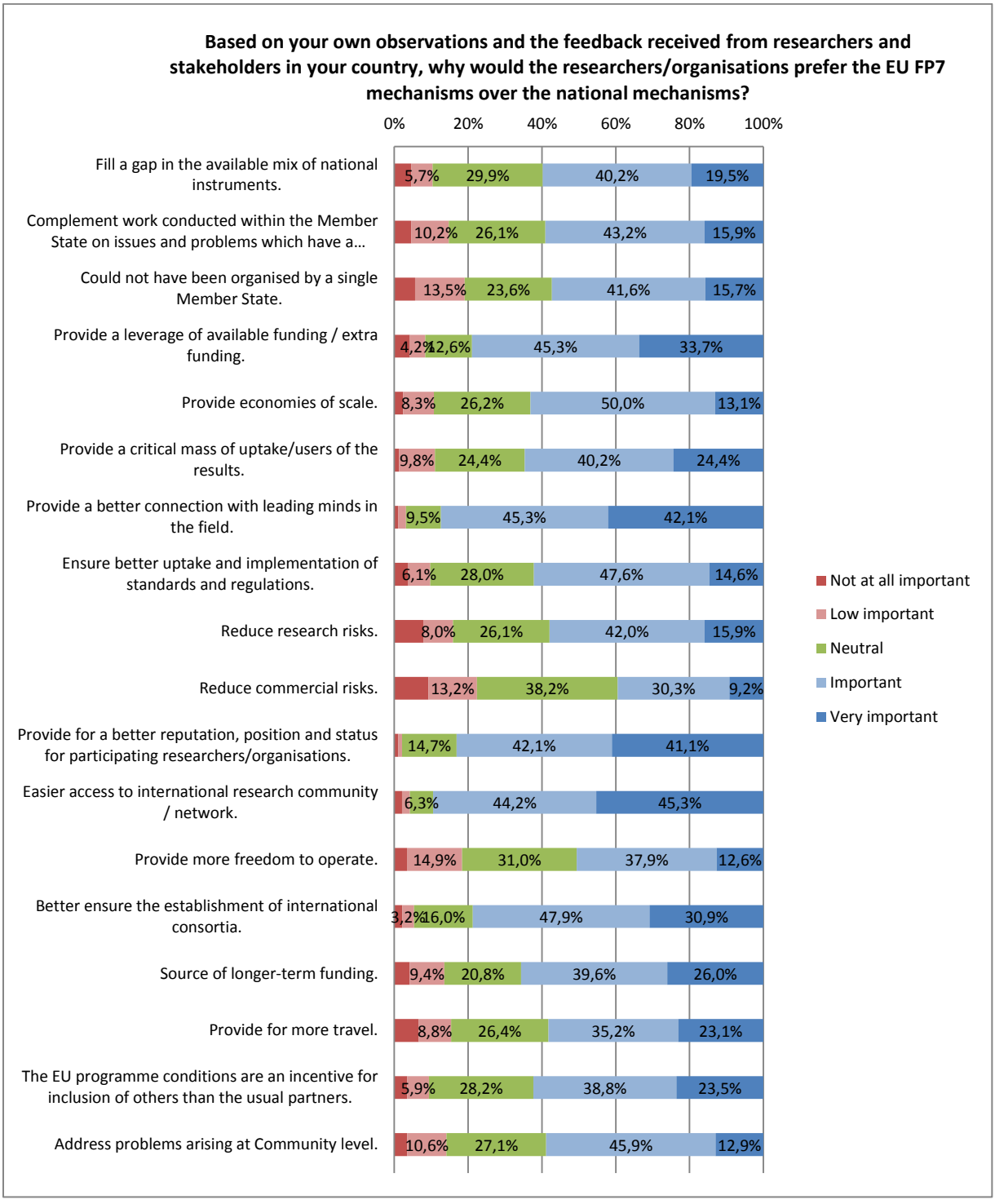


QUESTION 11A [NCP]: BASED ON YOUR OWN OBSERVATIONS AND THE FEEDBACK RECEIVED FROM RESEARCHERS AND STAKEHOLDERS IN YOUR COUNTRY, WHY WOULD THE RESEARCHERS/ORGANISATIONS PREFER THE EU FP7 MECHANISMS TO THE NATIONAL MECHANISMS?

Table 16 – The NCP assessment of the preferences of national researchers of EU FP7 mechanisms over the national mechanisms

	Not at all important	Low important	Neutral	Important	Very important
Fill a gap in the available mix of national instruments.	4.6%	5.7%	29.9%	40.2%	19.5%
Complement work conducted within the Member State on issues and problems, which have a European dimension.	4.5%	10.2%	26.1%	43.2%	15.9%
Could not have been organised by a single Member State.	5.6%	13.5%	23.6%	41.6%	15.7%
Provide a leverage of available funding / extra funding.	4.2%	4.2%	12.6%	45.3%	33.7%
Provide economies of scale.	2.4%	8.3%	26.2%	50.0%	13.1%
Provide a critical mass of uptake/users of the results.	1.2%	9.8%	24.4%	40.2%	24.4%
Provide a better connection with leading minds in the field.	1.1%	2.1%	9.5%	45.3%	42.1%
Ensure better uptake and implementation of standards and regulations.	3.7%	6.1%	28.0%	47.6%	14.6%
Reduce research risks.	8.0%	8.0%	26.1%	42.0%	15.9%
Reduce commercial risks.	9.2%	13.2%	38.2%	30.3%	9.2%
Provide for a better reputation, position and status for participating researchers/organisations.	1.1%	1.1%	14.7%	42.1%	41.1%
Easier access to international research community / network.	2.1%	2.1%	6.3%	44.2%	45.3%
Provide more freedom to operate.	3.4%	14.9%	31.0%	37.9%	12.6%
Better ensure the establishment of international consortia.	2.1%	3.2%	16.0%	47.9%	30.9%
Source of longer-term funding.	4.2%	9.4%	20.8%	39.6%	26.0%
Provide for more travel.	6.6%	8.8%	26.4%	35.2%	23.1%
The EU programme conditions are an incentive for inclusion of others than the usual partners.	3.5%	5.9%	28.2%	38.8%	23.5%
Address problems arising at Community level.	3.5%	10.6%	27.1%	45.9%	12.9%

Figure 23 – The NCP assessment of the preferences of national researchers of EU FP7 mechanisms over the national mechanisms

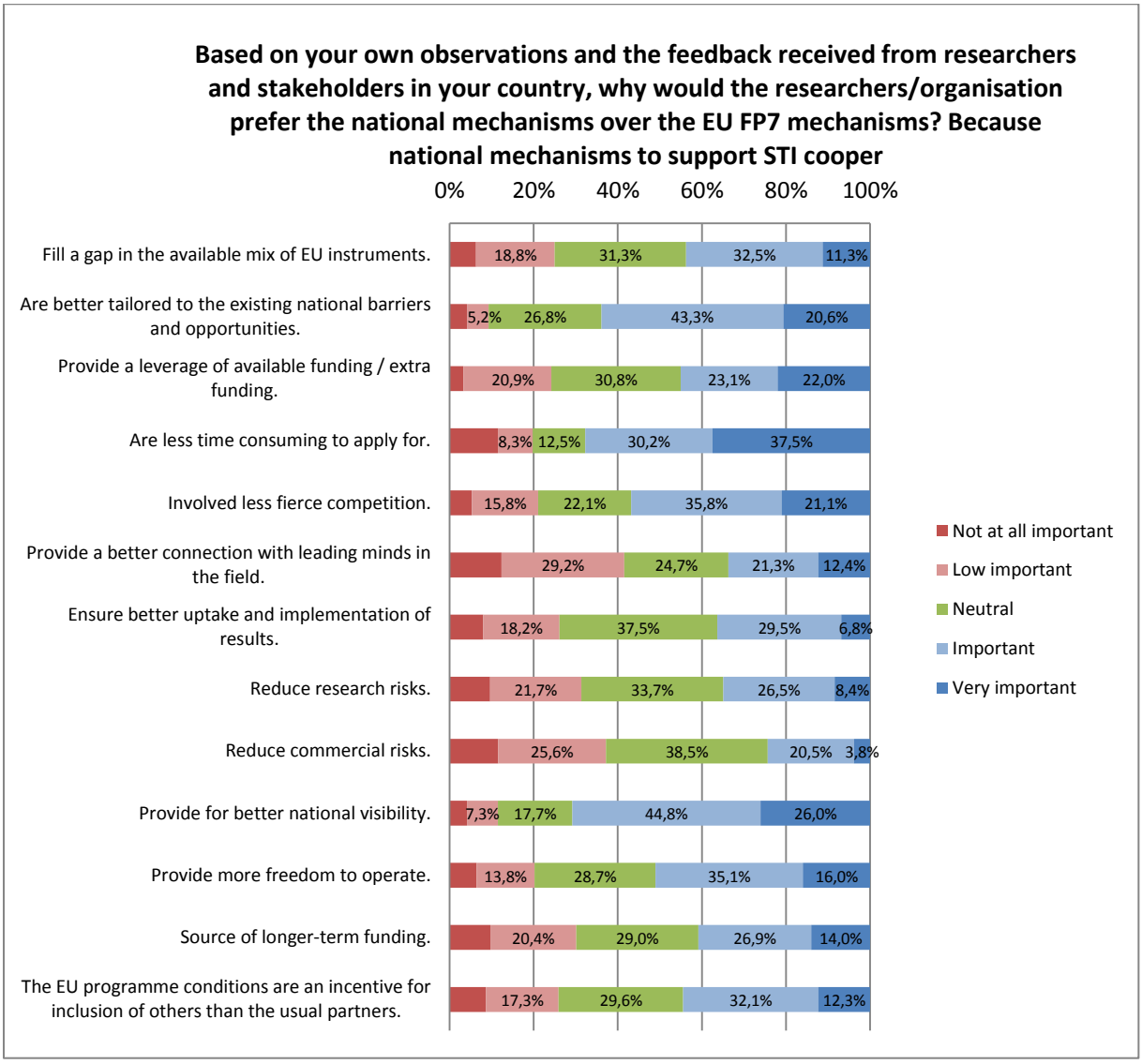


QUESTION 11B [NCP]: BASED ON YOUR OWN OBSERVATIONS AND THE FEEDBACK RECEIVED FROM RESEARCHERS AND STAKEHOLDERS IN YOUR COUNTRY, WHY WOULD THE RESEARCHERS/ORGANISATION PREFER THE NATIONAL MECHANISMS TO THE EU FP7 MECHANISMS? BECAUSE NATIONAL MECHANISMS TO SUPPORT STI COOPERATION:

Table 17 – The NCP assessment of the preferences of national researchers of the national mechanisms and their characteristics over the EU FP7 mechanisms

	Not at all important	Low important	Neutral	Important	Very important
Fill a gap in the available mix of EU instruments.	6.3%	18.8%	31.3%	32.5%	11.3%
Are better tailored to the existing national barriers and opportunities.	4.1%	5.2%	26.8%	43.3%	20.6%
Provide a leverage of available funding / extra funding.	3.3%	20.9%	30.8%	23.1%	22.0%
Are less time consuming to apply for.	11.5%	8.3%	12.5%	30.2%	37.5%
Involved less fierce competition.	5.3%	15.8%	22.1%	35.8%	21.1%
Provide a better connection with leading minds in the field.	12.4%	29.2%	24.7%	21.3%	12.4%
Ensure better uptake and implementation of results.	8.0%	18.2%	37.5%	29.5%	6.8%
Reduce research risks.	9.6%	21.7%	33.7%	26.5%	8.4%
Reduce commercial risks.	11.5%	25.6%	38.5%	20.5%	3.8%
Provide for better national visibility.	4.2%	7.3%	17.7%	44.8%	26.0%
Provide more freedom to operate.	6.4%	13.8%	28.7%	35.1%	16.0%
Are a source of longer-term funding.	9.7%	20.4%	29.0%	26.9%	14.0%
EU R&I programme rules are one of the main reasons for the inclusion of international country partners into S&T projects	8.6%	17.3%	29.6%	32.1%	12.3%

Figure 24 – The NCP point of view on the preferences of national researchers in relation to the national mechanisms and their characteristics over the EU FP7 mechanisms.

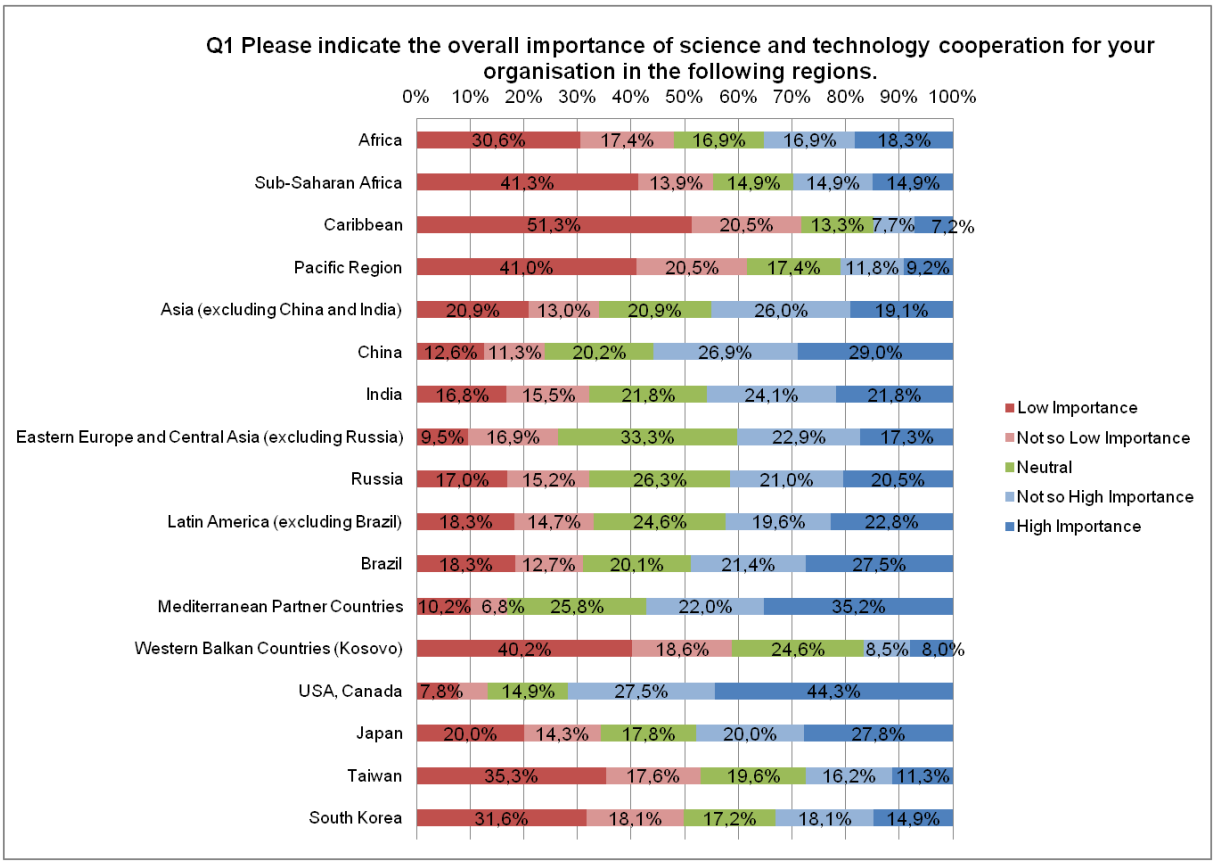


QUESTION 1 [EU-COORDINATOR]: PLEASE INDICATE THE OVERALL IMPORTANCE OF SCIENCE AND TECHNOLOGY COOPERATION FOR YOUR ORGANISATION IN THE FOLLOWING REGIONS. 'YOUR ORGANISATION' IS DEFINED AS THE RESEARCH UNIT/GROUP YOU ARE INTENSIVELY WORKING IN.

Table 18 – The EU coordinator assessment of the overall importance of science and technology cooperation for its organisation in the following global regions

	Low Importance	Not so Low Importance	Neutral	Not so High Importance	High Importance
Africa	30,6%	17,4%	16,9%	16,9%	18,3%
Sub-Saharan Africa	41,3%	13,9%	14,9%	14,9%	14,9%
Caribbean	51,3%	20,5%	13,3%	7,7%	7,2%
Pacific Region	41,0%	20,5%	17,4%	11,8%	9,2%
Asia (excluding China and India)	20,9%	13,0%	20,9%	26,0%	19,1%
China	12,6%	11,3%	20,2%	26,9%	29,0%
India	16,8%	15,5%	21,8%	24,1%	21,8%
Eastern Europe and Central Asia (excluding Russia)	9,5%	16,9%	33,3%	22,9%	17,3%
Russia	17,0%	15,2%	26,3%	21,0%	20,5%
Latin America (excluding Brazil)	18,3%	14,7%	24,6%	19,6%	22,8%
Brazil	18,3%	12,7%	20,1%	21,4%	27,5%
Mediterranean Partner Countries	10,2%	6,8%	25,8%	22,0%	35,2%
Western Balkan Countries (Kosovo)	40,2%	18,6%	24,6%	8,5%	8,0%
USA, Canada	7,8%	5,5%	14,9%	27,5%	44,3%
Japan	20,0%	14,3%	17,8%	20,0%	27,8%
Taiwan	35,3%	17,6%	19,6%	16,2%	11,3%
South Korea	31,6%	18,1%	17,2%	18,1%	14,9%

Figure 25 – The EU coordinator assessment of the overall importance of science and technology cooperation for the organisation in global regions

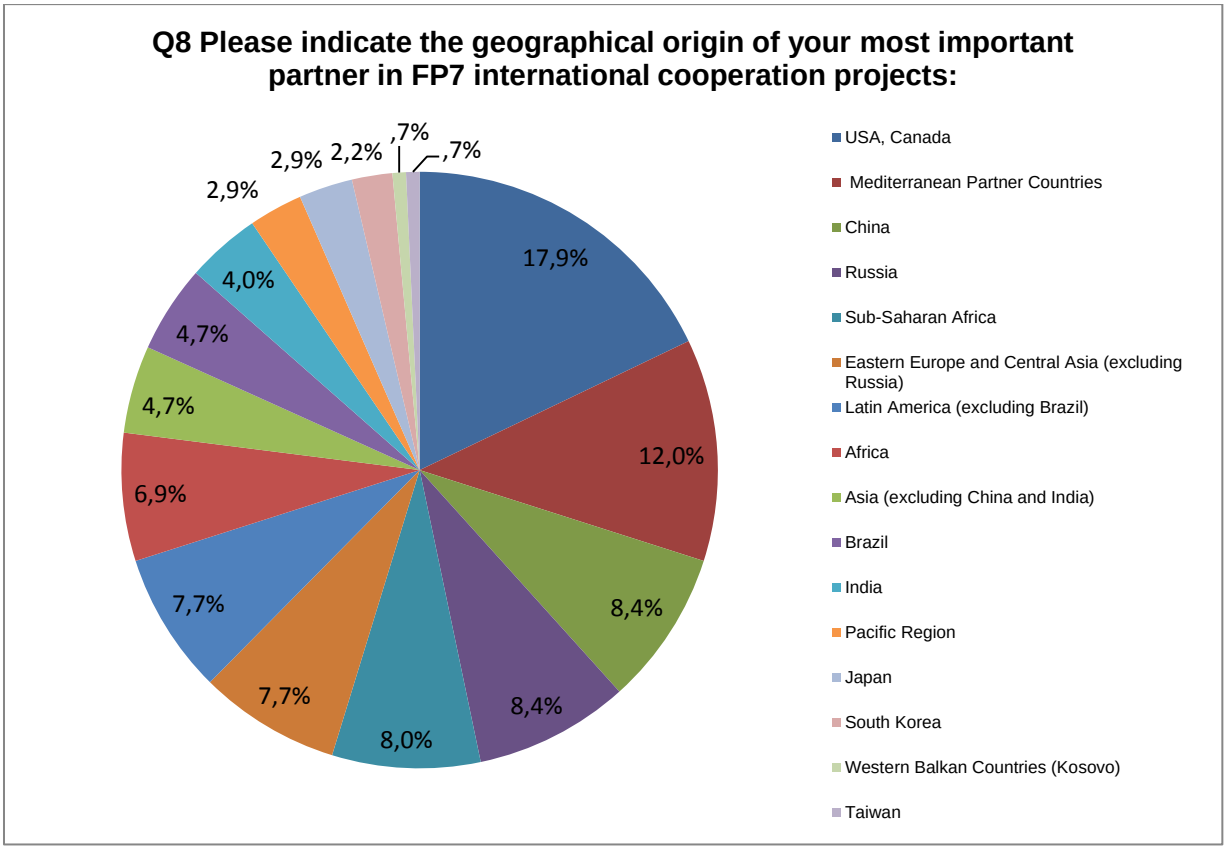


QUESTION 8 [EU-COORDINATOR]: PLEASE INDICATE THE GEOGRAPHICAL ORIGIN OF YOUR MOST IMPORTANT PARTNER IN FP7 INTERNATIONAL COOPERATION PROJECTS:

Table 19 – The EU coordinator's most important partner in FP7 international cooperation projects

	Frequency	%
Africa	19	6,9%
Sub-Saharan Africa	22	8,0%
Pacific Region	8	2,9%
Asia (excluding China and India)	13	4,7%
China	23	8,4%
India	11	4,0%
Eastern Europe and Central Asia (excluding Russia)	21	7,7%
Russia	23	8,4%
Latin America (excluding Brazil)	21	7,7%
Brazil	13	4,7%
Mediterranean Partner Countries	33	12,0%
Western Balkan Countries (Kosovo)	2	0,7%
USA, Canada	49	17,9%
Japan	8	2,9%
Taiwan	2	0,7%
South Korea	6	2,2%
Total	274	100,0

Figure 26 – The EU coordinator's most important partner in FP7 international cooperation projects



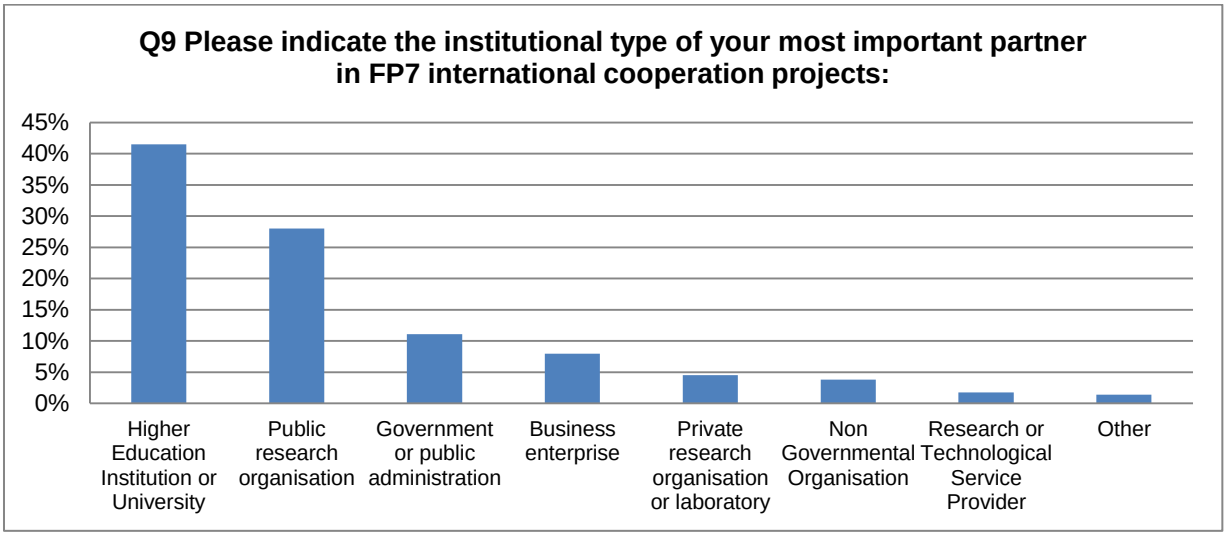
QUESTION 9 [EU-COORDINATOR]: PLEASE INDICATE THE INSTITUTIONAL TYPE OF YOUR MOST IMPORTANT PARTNER IN FP7 INTERNATIONAL COOPERATION PROJECTS:

Table 20 – The EU coordinator's institutional type of the most important partner in FP7 international cooperation projects

Q9 Please indicate the institutional type of your most important partner in FP7 international cooperation projects:		
N	Valid	289
	Missing	23

	Frequency	%
Government or public administration	32	11,1
Private research organisation or laboratory	13	4,5
Public research organisation	81	28,0
Higher Education Institution or University	120	41,5
Non Governmental Organisation	11	3,8
Business enterprise	23	8,0
Research or Technological Service Provider	5	1,7
Other	4	1,4

Figure 27 – The institutional type of the most important partner in FP7 international cooperation projects for EU coordinators

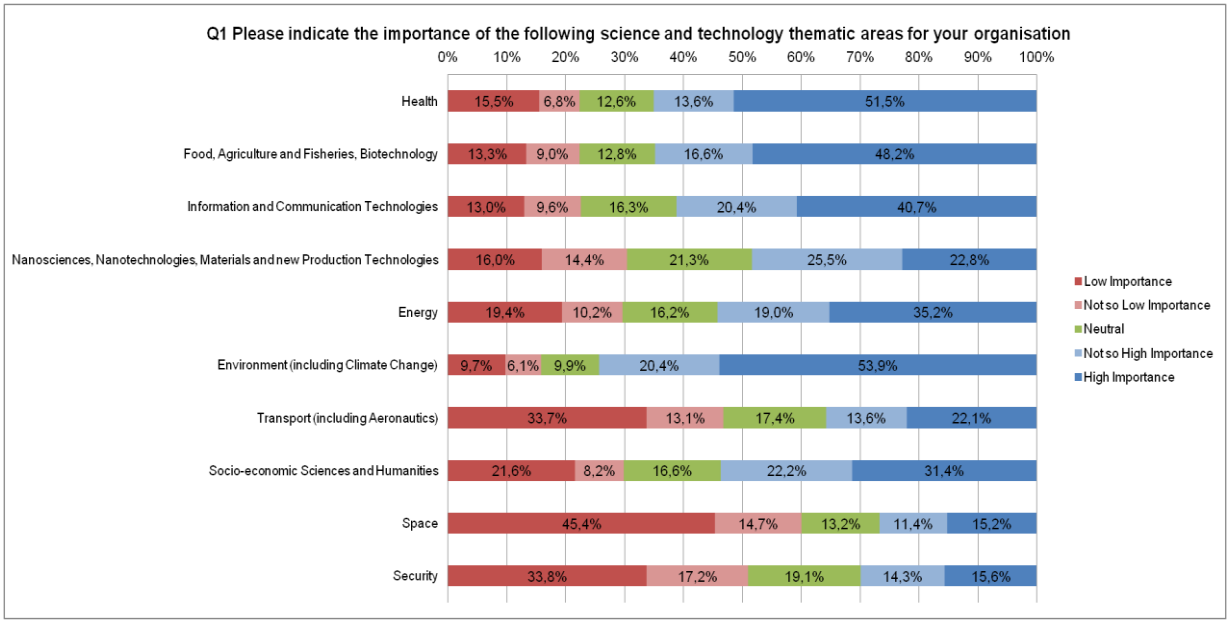


QUESTION 1 [TIERS]: PLEASE INDICATE THE IMPORTANCE OF THE FOLLOWING SCIENCE AND TECHNOLOGY THEMATIC AREAS FOR YOUR ORGANISATION

Table 21 – The third country partner's assessment of the importance of science and technology thematic areas for its organisation

	Low Importance	Not so Low Importance	Neutral	Not so High Importance	High Importance
Health	15,5%	6,8%	12,6%	13,6%	51,5%
Food, Agriculture and Fisheries, Biotechnology	13,3%	9,0%	12,8%	16,6%	48,2%
Information and Communication Technologies	13,0%	9,6%	16,3%	20,4%	40,7%
Nanosciences, Nanotechnologies, Materials and new Production Technologies	16,0%	14,4%	21,3%	25,5%	22,8%
Energy	19,4%	10,2%	16,2%	19,0%	35,2%
Environment (including Climate Change)	9,7%	6,1%	9,9%	20,4%	53,9%
Transport (including Aeronautics)	33,7%	13,1%	17,4%	13,6%	22,1%
Socio-economic Sciences and Humanities	21,6%	8,2%	16,6%	22,2%	31,4%
Space	45,4%	14,7%	13,2%	11,4%	15,2%
Security	33,8%	17,2%	19,1%	14,3%	15,6%

Figure 28 – The third country partner's assessment of the importance of science and technology thematic areas for its organisation

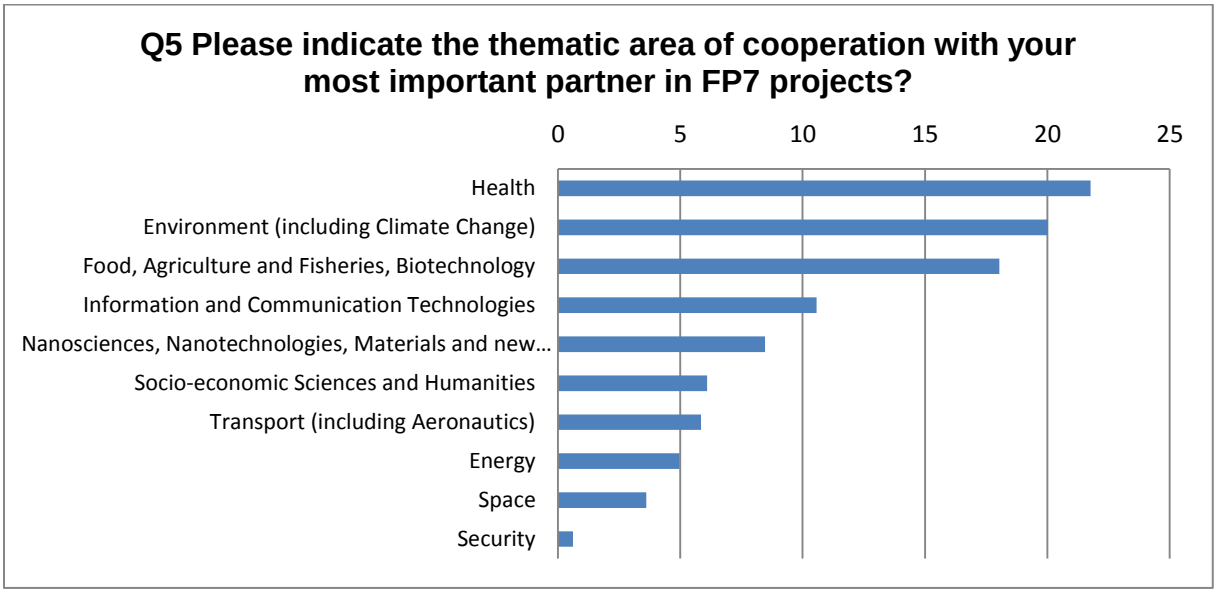


QUESTION 5 [TIERS]: PLEASE INDICATE THE THEMATIC AREA OF COOPERATION WITH YOUR MOST IMPORTANT PARTNER IN FP7?

Table 22 – The Third country partner's area of international cooperation with its most important partner in FP7

	Frequency	%
Health	175	21,8
Food, Agriculture and Fisheries, Biotechnology	145	18,0
Information and Communication Technologies	85	10,6
Nanosciences, Nanotechnologies, Materials and new Production Technologies	68	8,5
Energy	40	5,0
Environment (including Climate Change)	161	20,0
Transport (including Aeronautics)	47	5,8
Socio-economic Sciences and Humanities	49	6,1
Total	**804**	**100,0**

Figure 29 – The Third country partner's area of international cooperation with its most important partner in FP7

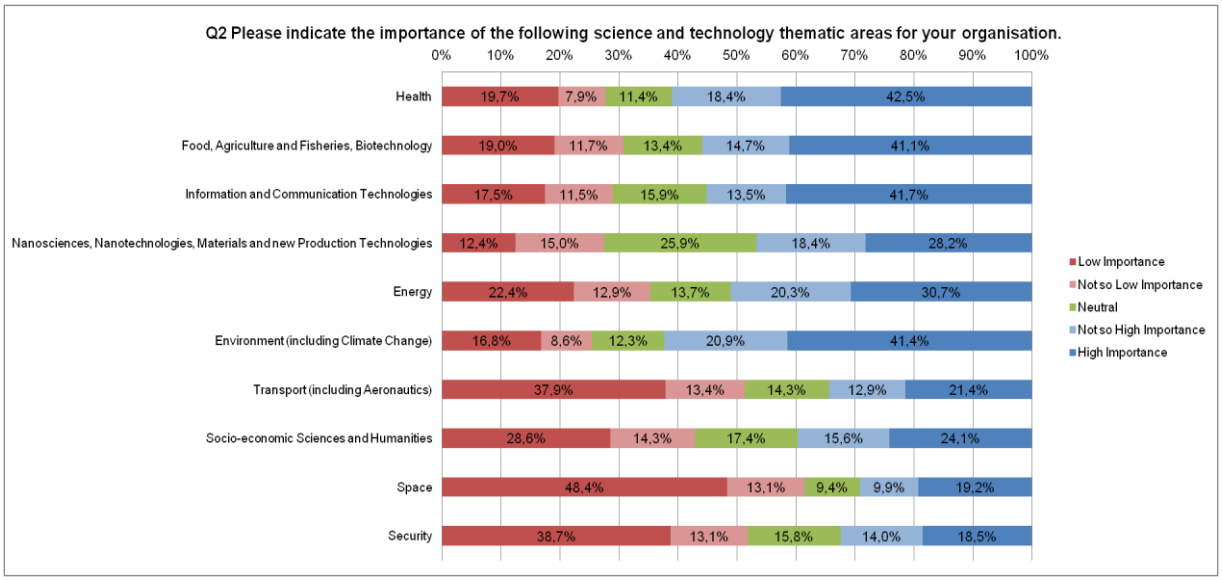


QUESTION 2 [EU-COORDINATOR]: PLEASE INDICATE THE IMPORTANCE OF THE FOLLOWING SCIENCE AND TECHNOLOGY THEMATIC AREAS FOR YOUR ORGANISATION

Table 23 – The EU coordinator's assessment of the importance of the following science and technology thematic areas

	Low Importance	Not so Low Importance	Neutral	Not so High Importance	High Importance
Health	19,7%	7,9%	11,4%	18,4%	42,5%
Food, Agriculture and Fisheries, Biotechnology	19,0%	11,7%	13,4%	14,7%	41,1%
Information and Communication Technologies	17,5%	11,5%	15,9%	13,5%	41,7%
Nanosciences, Nanotechnologies, Materials and new Production Technologies	12,4%	15,0%	25,9%	18,4%	28,2%
Energy	22,4%	12,9%	13,7%	20,3%	30,7%
Environment (including Climate Change)	16,8%	8,6%	12,3%	20,9%	41,4%
Transport (including Aeronautics)	37,9%	13,4%	14,3%	12,9%	21,4%
Socio-economic Sciences and Humanities	28,6%	14,3%	17,4%	15,6%	24,1%
Space	48,4%	13,1%	9,4%	9,9%	19,2%
Security	38,7%	13,1%	15,8%	14,0%	18,5%

Figure 30 – The EU coordinator's assessment of the importance of the following science and technology thematic areas

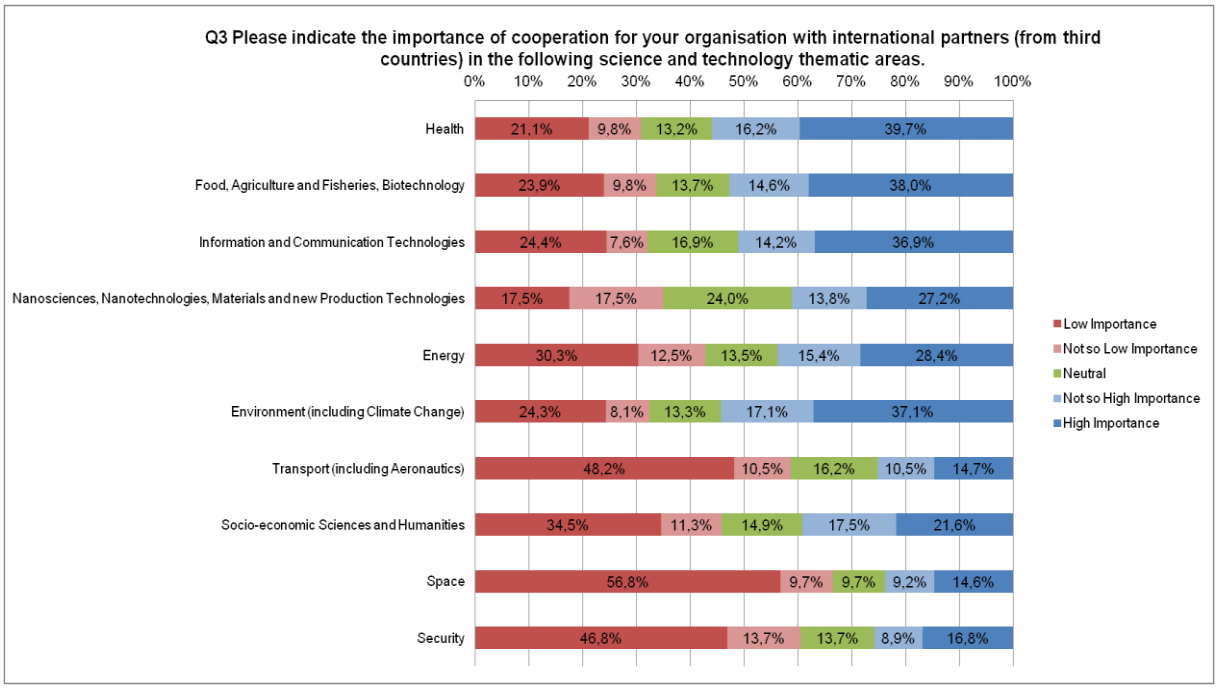


QUESTION 3 [EU-COORDINATOR]: PLEASE INDICATE THE IMPORTANCE OF COOPERATION FOR YOUR ORGANISATION WITH INTERNATIONAL PARTNERS (FROM THIRD COUNTRIES) IN THE FOLLOWING SCIENCE AND TECHNOLOGY THEMATIC AREAS.

Table 24 – The EU coordinator's assessment of the importance of cooperation with international partners (from third countries) in different science and technology thematic areas

	Low Importance	Not so Low Importance	Neutral	Not so High Importance	High Importance
Health	21,1%	9,8%	13,2%	16,2%	39,7%
Food, Agriculture and Fisheries, Biotechnology	23,9%	9,8%	13,7%	14,6%	38,0%
Information and Communication Technologies	24,4%	7,6%	16,9%	14,2%	36,9%
Nanosciences, Nanotechnologies, Materials and new Production Technologies	17,5%	17,5%	24,0%	13,8%	27,2%
Energy	30,3%	12,5%	13,5%	15,4%	28,4%
Environment (including Climate Change)	24,3%	8,1%	13,3%	17,1%	37,1%
Transport (including Aeronautics)	48,2%	10,5%	16,2%	10,5%	14,7%
Socio-economic Sciences and Humanities	34,5%	11,3%	14,9%	17,5%	21,6%
Space	56,8%	9,7%	9,7%	9,2%	14,6%
Security	46,8%	13,7%	13,7%	8,9%	16,8%

Figure 31 – The EU coordinator's assessment of the importance of cooperation with international partners (from third countries) in different science and technology thematic areas

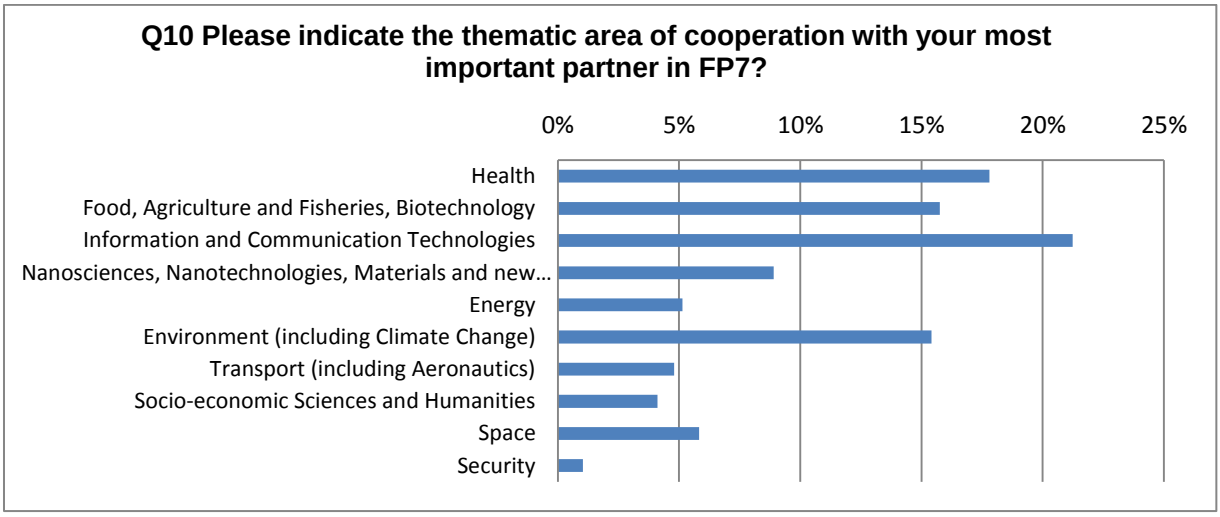


QUESTION 10[EU-COORDINATOR]: THE THEMATIC AREA OF COOPERATION WITH THE RESPONDENT'S MOST IMPORTANT PARTNER IN FP7

Table 25 – The thematic area of cooperation with the EU coordinator's most important partner in FP7

	Frequency	%
Health	52	17,8 %
Food, Agriculture and Fisheries, Biotechnology	46	15,8 %
Information and Communication Technologies	62	21,2 %
Nanosciences, Nanotechnologies, Materials and new Production Technologies	26	8,9%
Energy	15	5,1%
Environment (including Climate Change)	45	15,4 %
Transport (including Aeronautics)	14	4,8%
Socio-economic Sciences and Humanities	12	4,1%
Space	17	5,8%
Security	3	1,0%
Total	292	100,0

Figure 32 – The thematic area of cooperation with the EU coordinator's most important partner in FP7



QUESTION 5 [NCP]: PLEASE INDICATE ALL THE STI THEMATIC AREAS OF THE FP7 PROGRAMME "COOPERATION" FOR WHICH YOU ARE RESPONSIBLE (POSSIBILITY OF MULTIPLE RESPONSE)

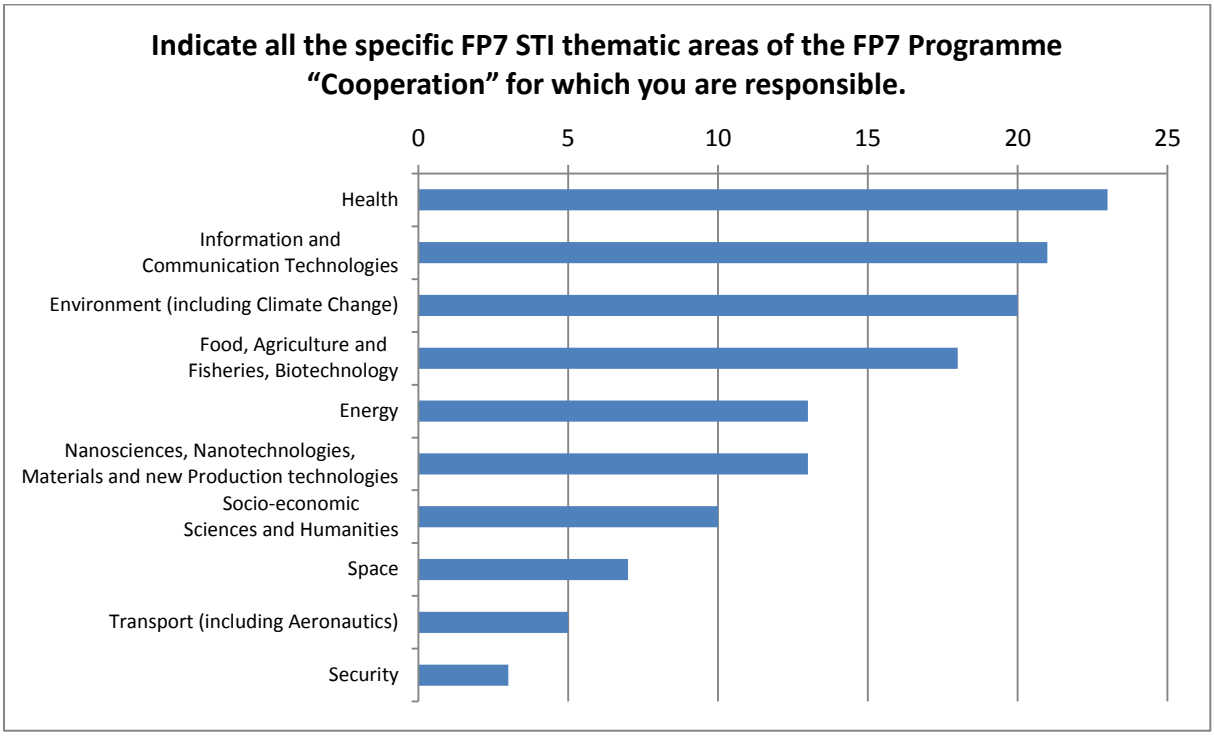
Table 26 – The NCPs' thematic areas of responsibility

Area	Frequency
Health	23
Food, Agriculture and Fisheries, Biotechnology	18
Information and Communication Technologies	21
Nanosciences, Nanotechnologies, Materials and new Production technologies	13
Energy	13
Environment (including Climate Change)	20
Transport (including Aeronautics)	5
Socio-economic Sciences and Humanities	10
Space	7
Security	3

The column on the right does not show the frequencies, but the occurrences in absolute terms.

Area	Frequency	
Health	23	17,29%
Food, Agriculture and Fisheries, Biotechnology	18	13,53%
Information and Communication Technologies	21	15,79%
Nanosciences, Nanotechnologies, Materials and new Production technologies	13	9,77%
Energy	13	9,77%
Environment (including Climate Change)	20	15,04%
Transport (including Aeronautics)	5	3,76%
Socio-economic Sciences and Humanities	10	7,52%
Space	7	5,26%
Security	3	2,26%
	133	100,00%

Figure 33 – The thematic NCPs' areas of responsibility.

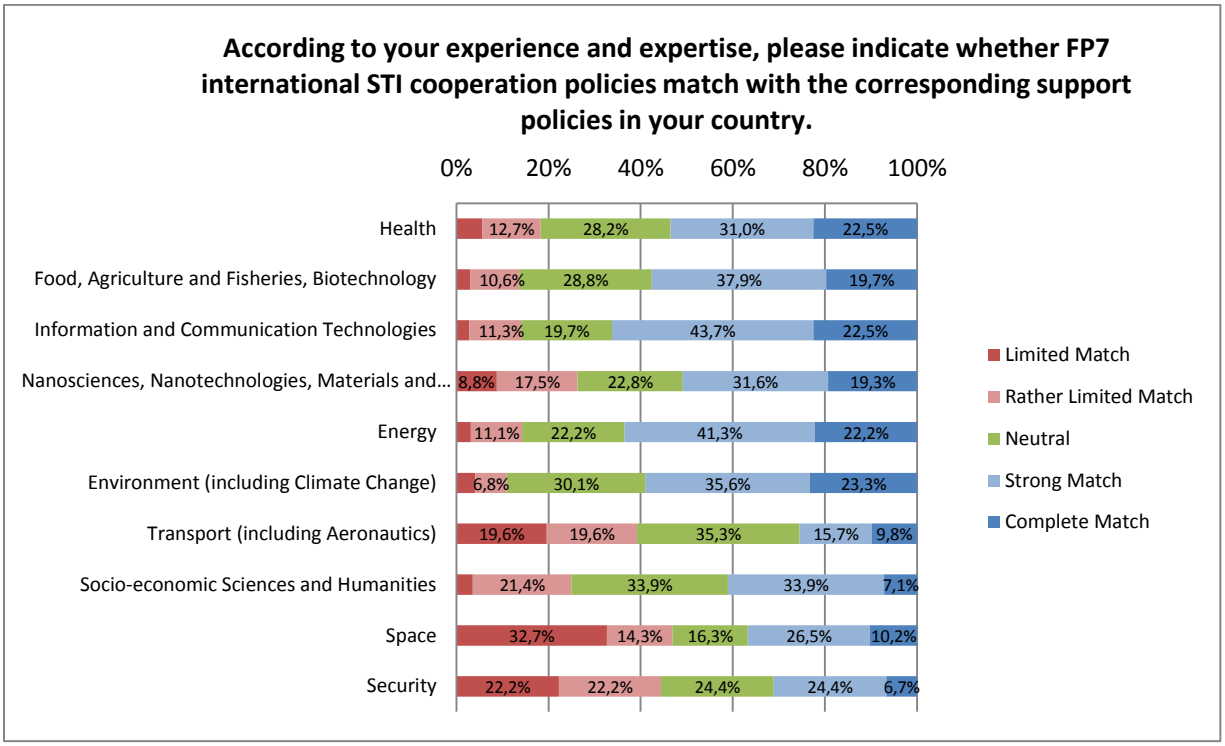


QUESTION 8 [NCP]: ACCORDING TO YOUR EXPERIENCE AND EXPERTISE, PLEASE INDICATE WHETHER FP7 INTERNATIONAL STI COOPERATION POLICIES MATCH WITH THE CORRESPONDING SUPPORT POLICIES IN YOUR COUNTRY.

Table 27 – The NCPs' opinion on the match between FP7 international STI cooperation policies with the corresponding support policies in its country

	Limited	Rather Limited	Neutral	Strong Match	Complete Match
Health	5.6%	12.7%	28.2	31.0%	22.5%
Food, Agriculture and Fisheries, Biotechnology	3.0%	10.6%	28.8	37.9%	19.7%
Information and Communication Technologies	2.8%	11.3%	19.7	43.7%	22.5%
Nanosciences, Nanotechnologies, Materials	8.8%	17.5%	22.8	31.6%	19.3%
Energy	3.2%	11.1%	22.2	41.3%	22.2%
Environment (including Climate Change)	4.1%	6.8%	30.1	35.6%	23.3%
Transport (including Aeronautics)	19.6%	19.6%	35.3	15.7%	9.8%
Socio-economic Sciences and Humanities	3.6%	21.4%	33.9	33.9%	7.1%
Space	32.7%	14.3%	16.3	26.5%	10.2%
Security	22.2%	22.2%	24.4	24.4%	6.7%

Figure 34 - The NCPs' opinion on the match between FP7 international STI cooperation policies with the corresponding support policies in its country.

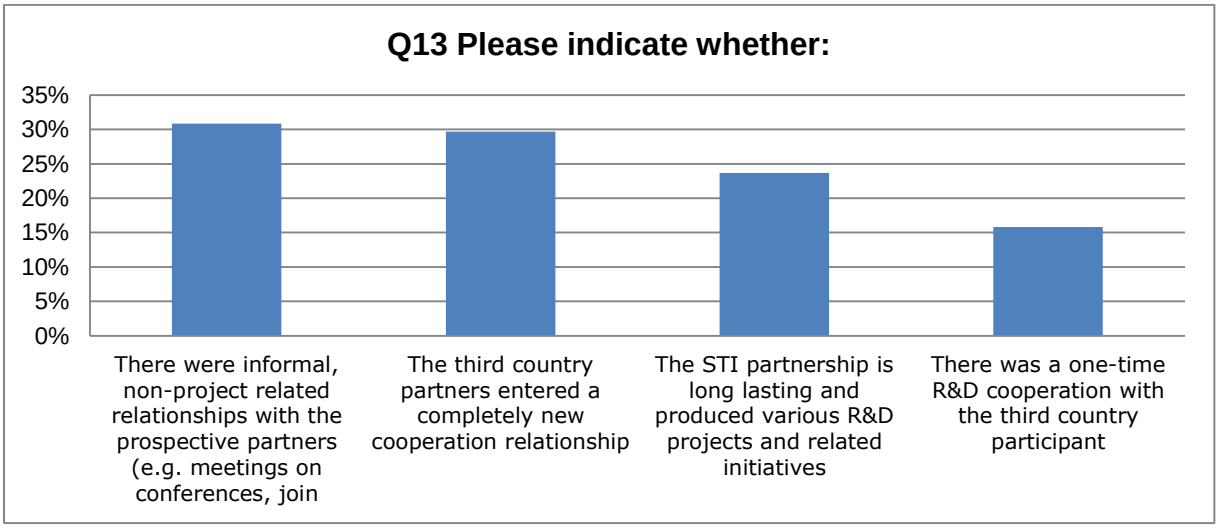


QUESTION 13 [EU-COORDINATOR]: PLEASE INDICATE THE RELATIONSHIP WITH PROJECT PARTNER.

Table 28 – The EU coordinators' opinion on the characteristics of the relationships with the third country project partner(s)

	Frequency	%
The third country partners entered a completely new cooperation relationship	79	29,7
There were informal, non-project related relationships with the prospective partners (e.g. meetings on conferences, join	82	30,8
There was a one-time R&D cooperation with the third country participant	42	15,8
The STI partnership is long lasting and produced various R&D projects and related initiatives	63	23,7

Figure 35 – The EU coordinators' opinion on the project relationships with the third country partner

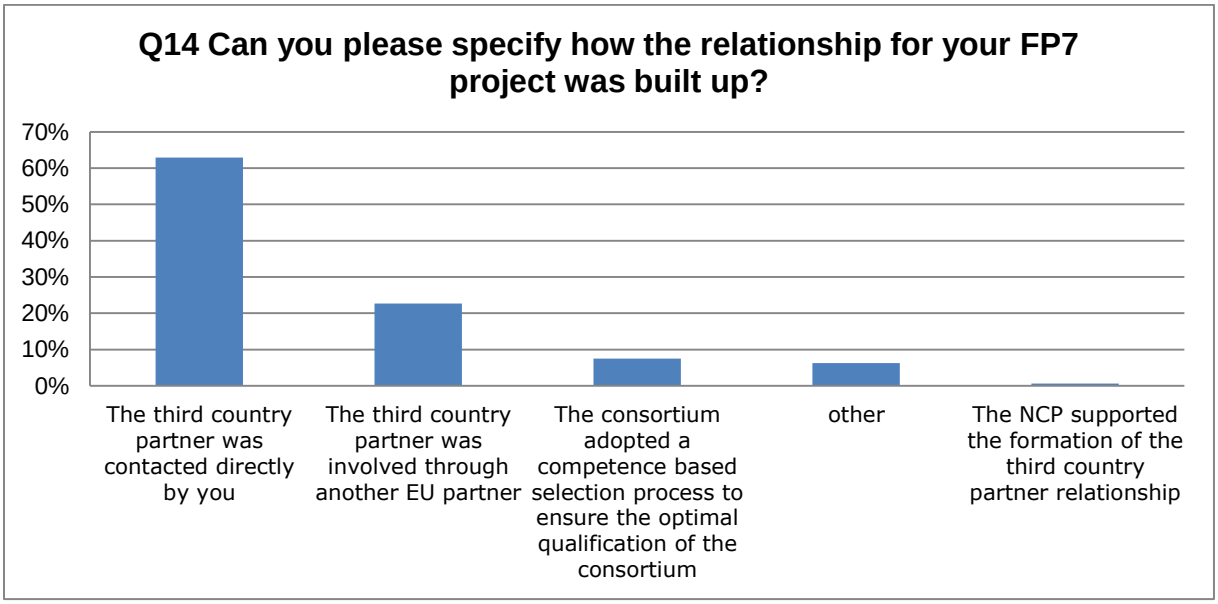


QUESTION 14 [EU-COORDINATOR]: CAN YOU PLEASE SPECIFY HOW THE RELATIONSHIP FOR YOUR FP7 PROJECT WAS BUILT UP?

Table 29 – The EU coordinators' opinion on the establishment of the project relationship with the third country partner

	Frequency	%
The third country partner was contacted directly by you	100	62,9
The third country partner was involved through another EU partner	36	22,6
The NCP supported the formation of the third country partner relationship	1	0,6
The consortium adopted a competence based selection process to ensure the optimal qualification of the consortium	12	7,5
Other	10	6,3

Figure 36 – The EU coordinators' opinion on the establishment of the project relationship with the third country partner

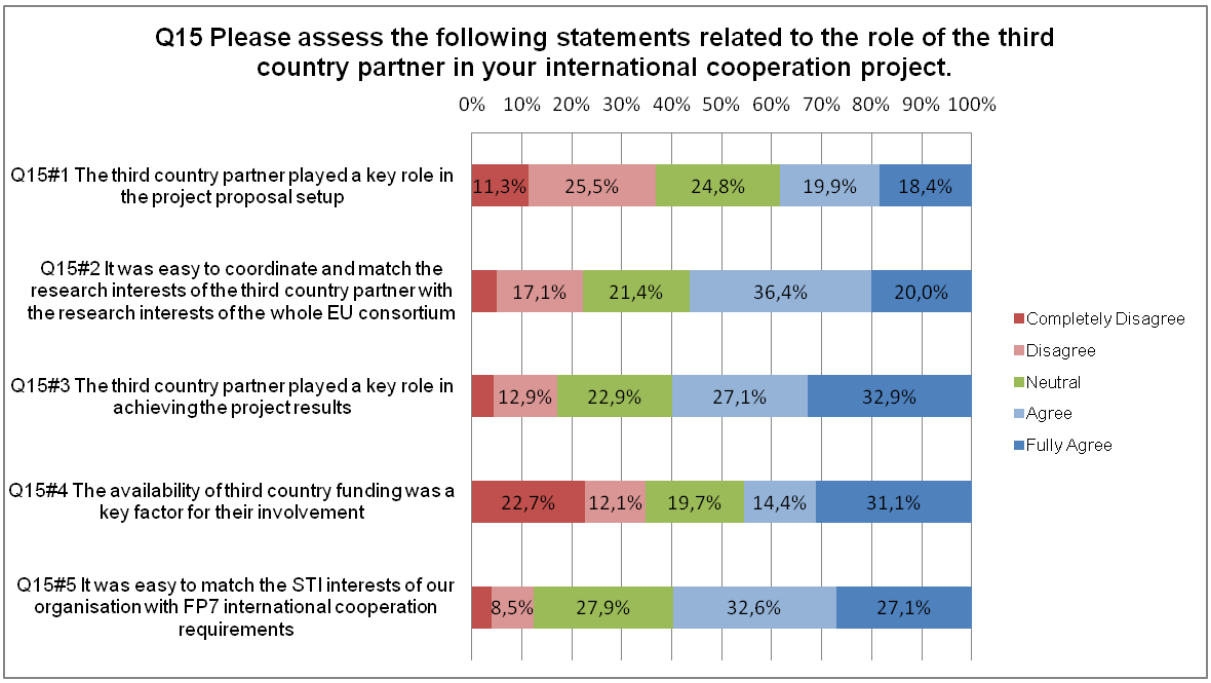


QUESTION 15 [EU-COORDINATOR]: PLEASE ASSESS THE FOLLOWING STATEMENTS RELATED TO THE ROLE OF THE THIRD COUNTRY PARTNER IN YOUR INTERNATIONAL COOPERATION PROJECT.

Table 30 – The EU coordinators' assessment of the third country partner's role in the international cooperation project

	Completely Disagree	Disagree	Neutral	Agree	Fully Agree
Q15#1 The third country partner played a key role in the project proposal setup	11,3%	25,5%	24,8%	19,9%	18,4%
Q15#2 It was easy to coordinate and match the research interests of the third country partner with the research interests of the whole EU consortium	5,0%	17,1%	21,4%	36,4%	20,0%
Q15#3 The third country partner played a key role in achieving the project results	4,3%	12,9%	22,9%	27,1%	32,9%
Q15#4 The availability of third country funding was a key factor for their involvement	22,7%	12,1%	19,7%	14,4%	31,1%
Q15#5 It was easy to match the STI interests of our organisation with FP7 international cooperation requirements	3,9%	8,5%	27,9%	32,6%	27,1%

Figure 37 – The EU coordinators' assessment of the third country partner's role in the international cooperation project



QUESTION 12A [NCP]. WHAT ARE SERIOUS BARRIERS IN YOUR COUNTRY FOR RESEARCHERS AND STAKEHOLDERS TO ENGAGE IN INTERNATIONAL STI COOPERATION WITH NON-EU COUNTRIES THAT CAN MOST EFFECTIVELY BE TACKLED AT THE EUROPEAN LEVEL?

Table 31 – The thematic NCPs' ranking of the barriers for researchers and stakeholders to engage in international STI cooperation with non-EU countries[90]

Barriers	Ranking frequencies										
	highest	2	3	4	5	6	7	8	9	10	lowest
1. Lack of knowledge and information about the other country's strengths and complementarities.	20	8	4	17	3	2	5	3	3	0	2
2. Administrative burdens of organising STI cooperation.	11	9	13	2	9	4	5	2	1	3	2
3. Lack of financial means to support co-fund mutual research undertakings (e.g. investments in research infrastructures, joint institutes).	10	14	14	3	11	3	7	1	3	1	0
4. Political barriers.	10	2	3	2	1	3	4	5	5	7	10
5. Lack of network, trustworthy relations.	7	9	11	3	8	6	6	2	4	4	1

[90] The survey respondents were asked to rank the barriers to the engagement of national researchers and stakeholders into international cooperation with the EU. The table presents the responses, indicating the frequencies of the responses, i.e. 20 respondents have indicated that « *lack of knowledge and information about the other country's strengths and complementarities* » is the highest barrier among the eleven proposed, 8 respondents have indicated that it is the second-highest barrier among the eleven and 2 have indicated that it is the lowest barrier. Another example is that « *lack of financial means …* » was indicated by 10 respondents as the highest barrier and by 14 respondents as the second-highest barrier among the eleven proposed. The rankings proposed by the respondents were sorted by "highest", "second-highest" and "third-highest" and the table confirms that the most important barriers are «*the lack of knowledge*», «*administrative burden*», «*the lack of financial means*», and «*political barriers*». The least important barriers are «*geographical distance*», «*cultural and language barriers*», «*high financial risks of joint research projects*», and «*IPR issues*».

Barriers	Ranking frequencies										
	highest	2	3	4	5	6	7	8	9	10	lowest
6. Too small pool of human resources for building sustainable relations with other countries.	5	5	3	5	5	4	4	9	5	3	6
7. Lack of legal framework for cooperation.	3	11	9	8	4	7	6	4	3	1	0
8. Geographical distance.	3	5	6	5	2	3	0	6	2	13	10
9. Cultural and language barriers.	3	4	4	3	5	4	1	3	10	7	11
10. High financial risks of joint research projects.	1	3	2	10	5	7	7	6	7	4	1
11. IPR issues.	0	2	1	6	5	9	5	8	5	5	4
Total Valid	**73**	**72**	**70**	**64**	**58**	**52**	**50**	**49**	**48**	**48**	**47**
Total Missing	**35**	**36**	**38**	**44**	**50**	**56**	**58**	**59**	**60**	**60**	**61**

Figure 38 – The thematic NCPs' opinion on the barriers in its country for researchers and stakeholders to engage in international STI cooperation with non-EU countries that can most effectively be tackled at EU level

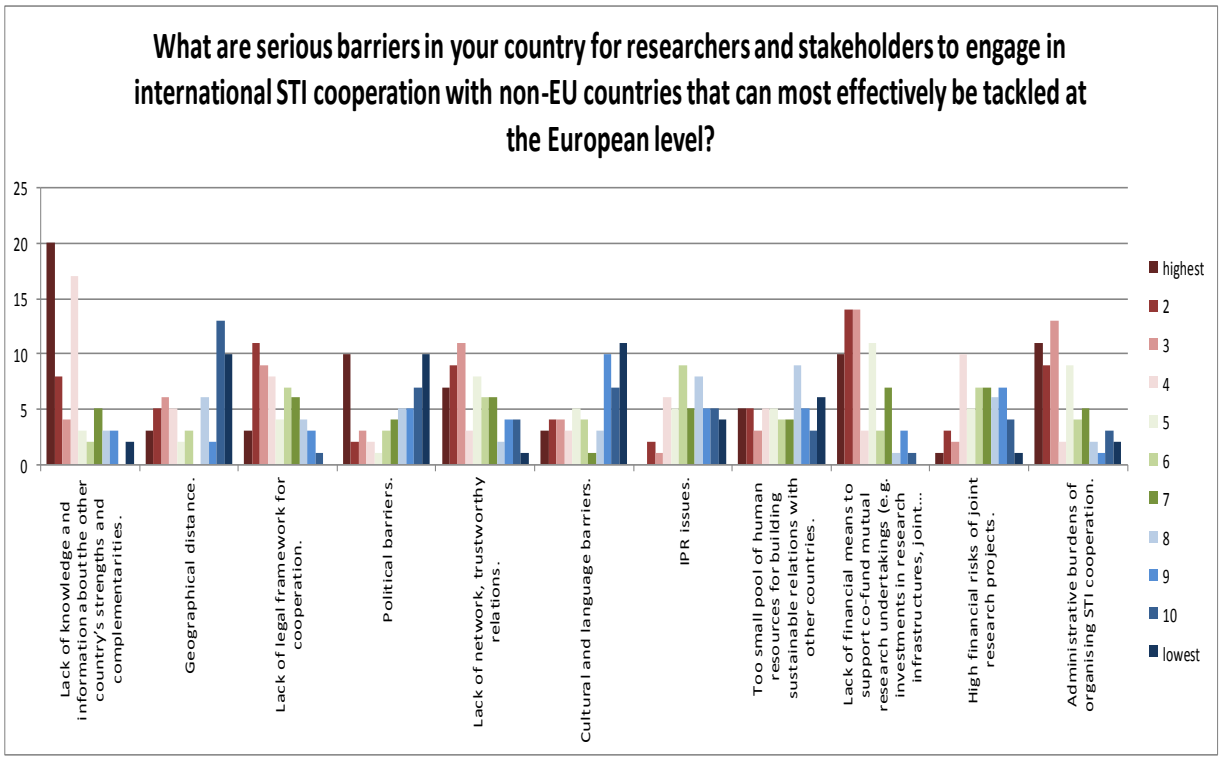
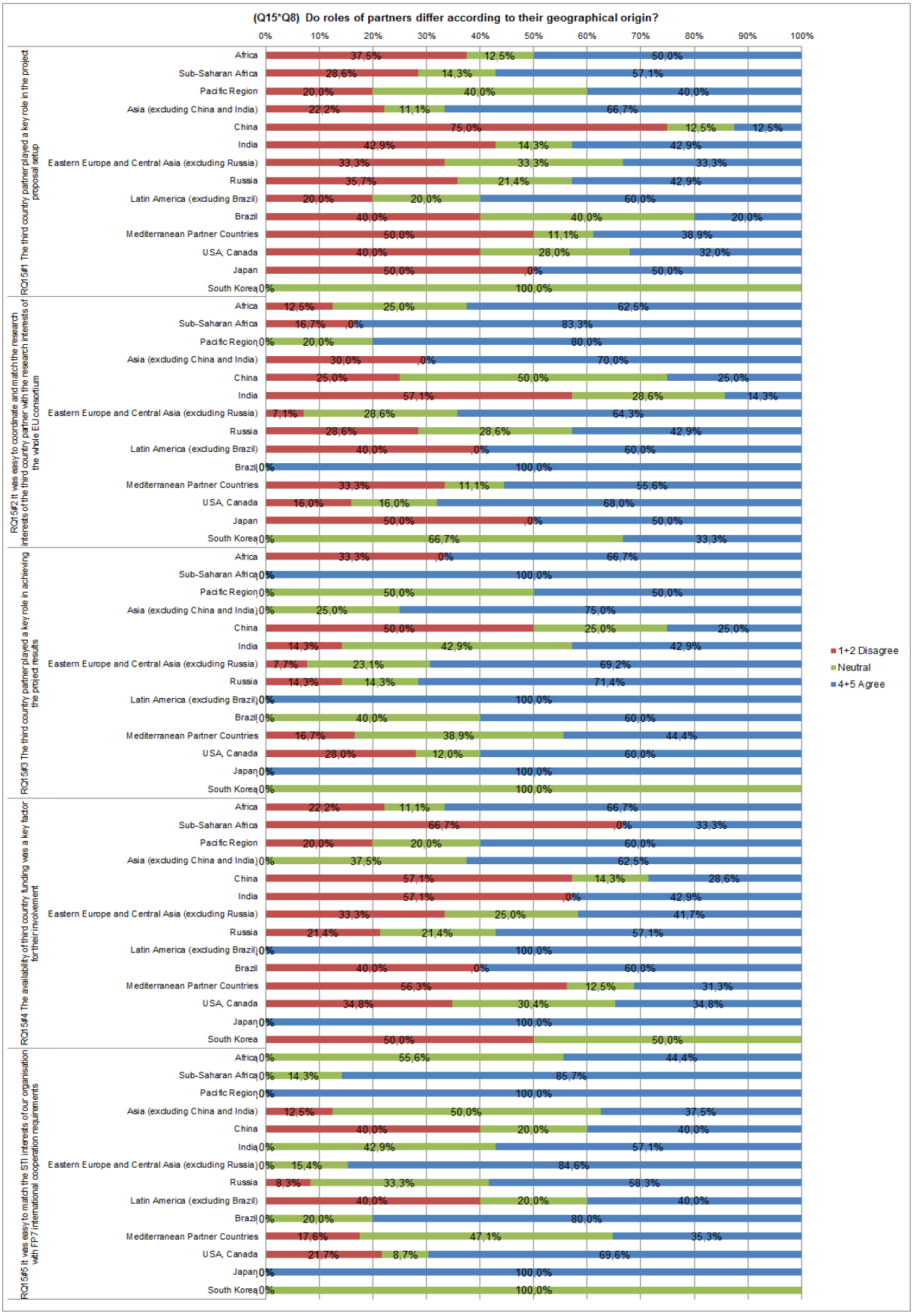


Figure 39: EU coordinator cross-tabulation between the role of the third country partner in the international cooperation project and the geographical origin of the project partner (Q15#Q8) [EU-Coordinator]

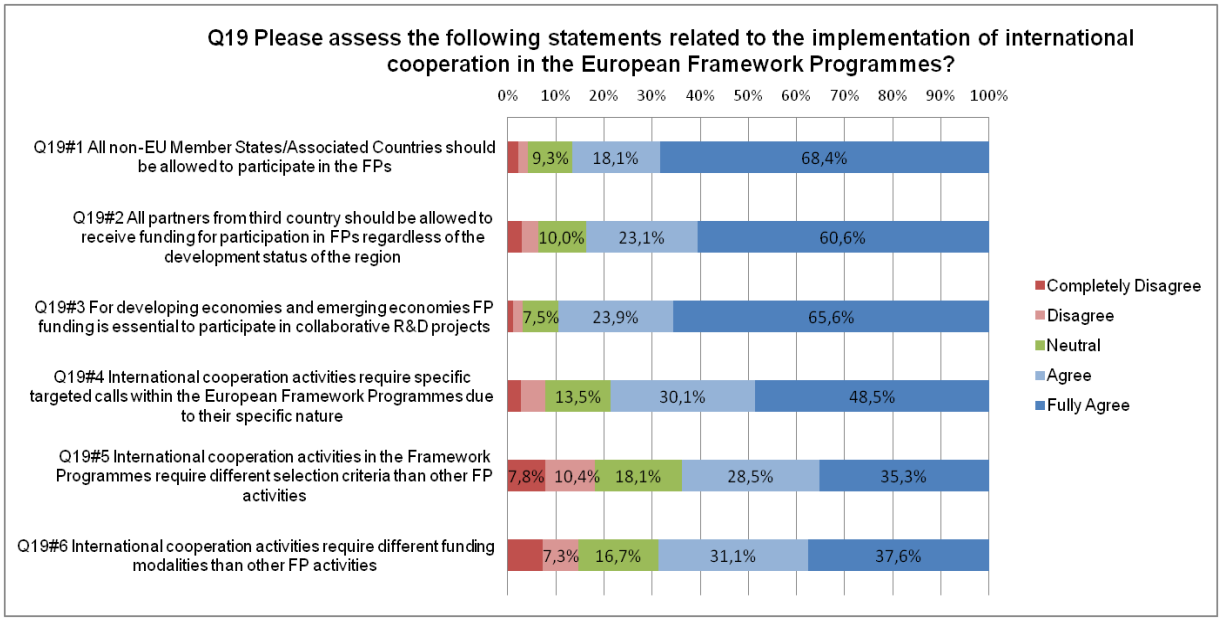


QUESTION 19 [TIERS]: PLEASE ASSESS THE FOLLOWING STATEMENTS RELATED TO THE IMPLEMENTATION OF INTERNATIONAL COOPERATION IN THE EUROPEAN FRAMEWORK PROGRAMMES?

Table 32 – The Third country partner's assessment of the desirable characteristics of the implementation of international cooperation in the European FP

	Completely Disagree	Disagree	Neutral	Agree	Fully Agree
Q19#1 All non-EU Member States/Associated Countries should be allowed to participate in the FPs	2,2%	1,9%	9,3%	18,1%	68,4%
Q19#2 All partners from third countries should be allowed to receive funding for participation in FPs regardless of the development status of the region	2,9%	3,3%	10,0%	23,1%	60,6%
Q19#3 For developing economies and emerging economies FP funding is essential to participate in collaborative R&D projects	1,1%	2,0%	7,5%	23,9%	65,6%
Q19#4 International cooperation activities require specific targeted calls within the European Framework Programmes due to their specific nature	2,8%	5,0%	13,5%	30,1%	48,5%
Q19#5 International cooperation activities in the Framework Programmes require different selection criteria than other FP activities	7,8%	10,4%	18,1%	28,5%	35,3%
Q19#6 International cooperation activities require different funding modalities than other FP activities	7,3%	7,3%	16,7%	31,1%	37,6%

Figure 40 – The Third country partner's assessment of the desirable characteristics of the implementation of international cooperation in the European FP



QUESTION 28 [EU-COORDINATOR]: PLEASE ASSESS THE FOLLOWING STATEMENTS RELATED TO THE IMPLEMENTATION OF INTERNATIONAL COOPERATION IN THE EUROPEAN FRAMEWORK PROGRAMMES?

Table 33 – The EU coordinator's assessment of the implementation of international cooperation in the European FP.

	Completely Disagree	Disagree	Neutral	Agree	Fully Agree
Q28#1 All partners stemming from third country should be allowed to participate in the FPs	5,1%	8,9%	14,4%	24,5%	47,1%
Q28#2 All partners from third country should be allowed to receive funding for participation in FPs regardless of the development status of the region	12,0%	14,7%	19,8%	20,5%	32,9%
Q28#3 For developing economies and emerging economies FP funding is essential to participate in collaborative R&D projects	2,3%	3,8%	15,9%	27,7%	50,4%
Q28#4 International cooperation activities require specific targeted calls within the European Framework Programmes due to their specific nature	6,5%	9,6%	16,9%	26,4%	40,6%
Q28#5 International cooperation activities in the Framework Programmes require different selection criteria than other FP activities	10,9%	14,1%	21,4%	27,4%	26,2%
Q28#6 International cooperation activities require different funding modalities than other FP activities	6,5%	13,4%	27,1%	27,5%	25,5%

Figure 41 – The EU coordinator's assessment of the implementation of international cooperation in the European FP.

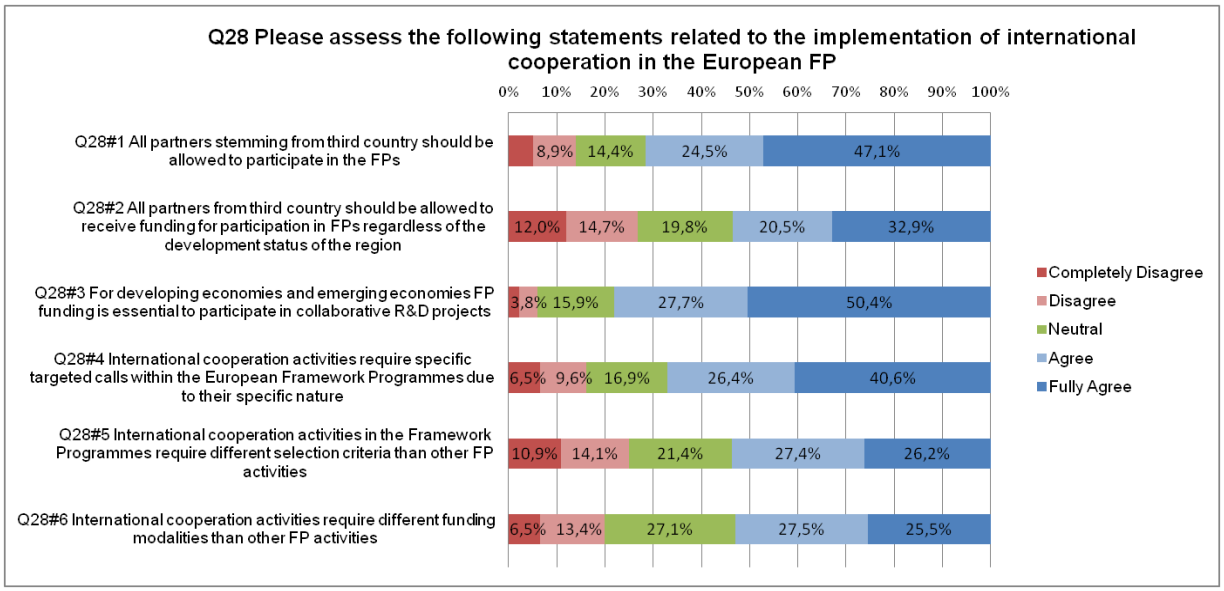
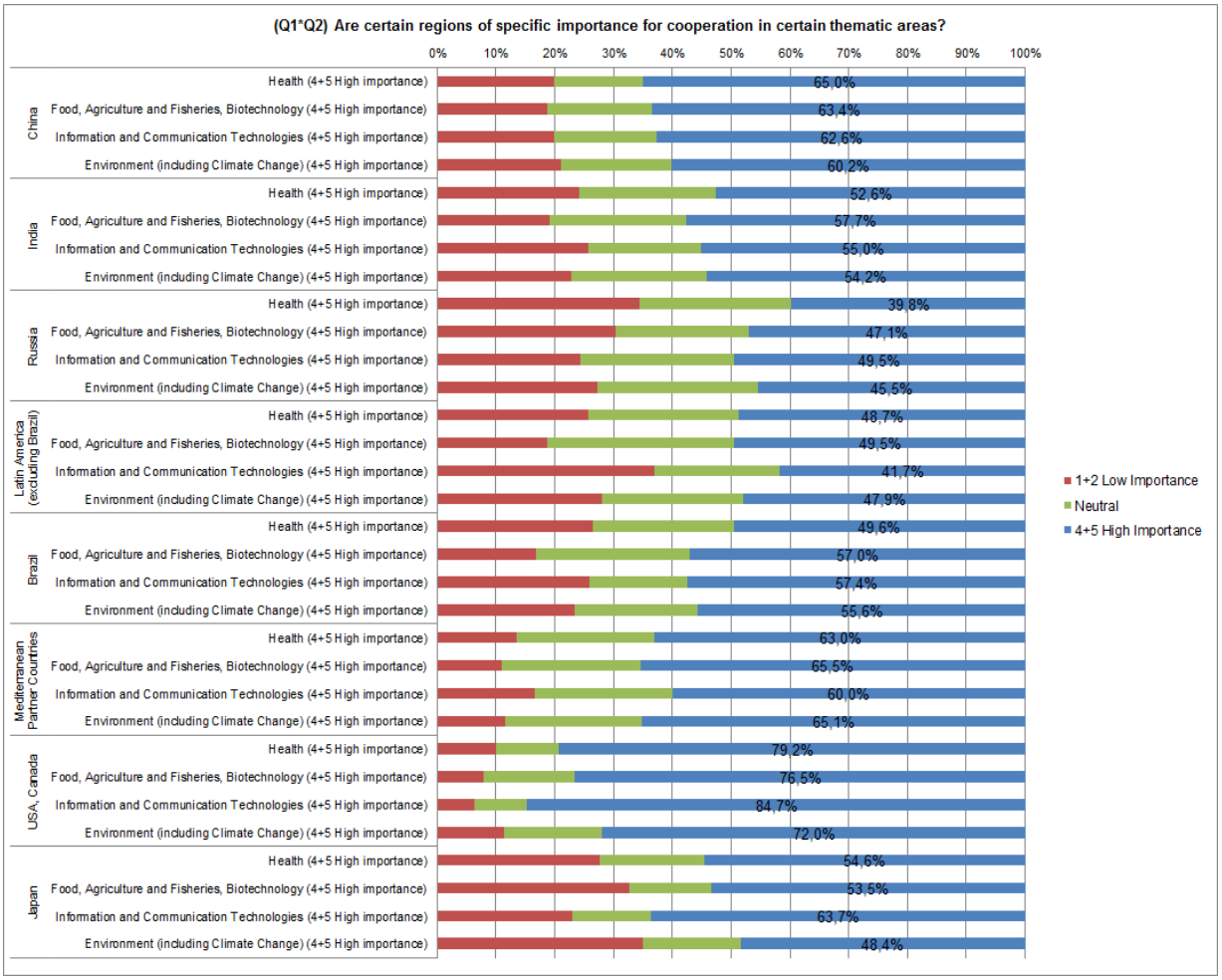


Figure 42: Cross-tabulation between the importance of thematic areas and the importance of S&T cooperation in certain regions (Q1#Q2) [EU-Coordinator]

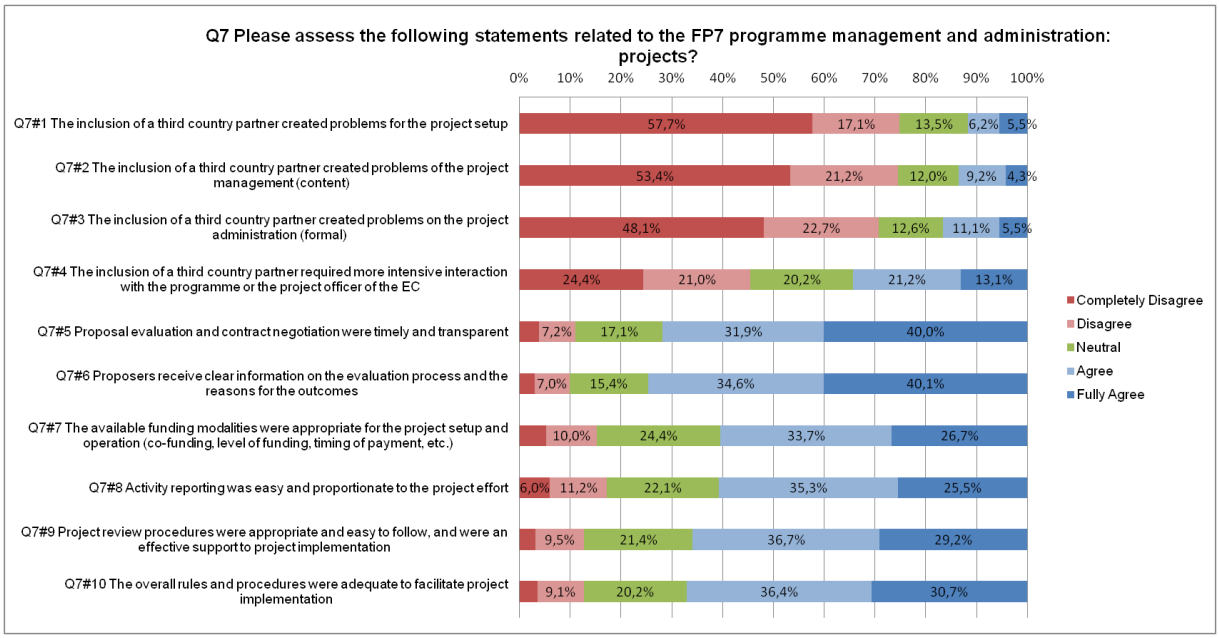


QUESTION 7 [TIERS]: PLEASE ASSESS THE FOLLOWING STATEMENTS RELATED TO THE FP7 PROGRAMME MANAGEMENT AND ADMINISTRATION:

Table 34 – The Third country partner assessment of the statements on the FP7 programme management and administration

	Completely Disagree	Disagree	Neutral	Agree	Fully Agree
Q7#1 The inclusion of a third country partner created problems for the project setup	57,7%	17,1%	13,5%	6,2%	5,5%
Q7#2 The inclusion of a third country partner created problems of the project management (content)	53,4%	21,2%	12,0%	9,2%	4,3%
Q7#3 The inclusion of a third country partner created problems on the project administration (formal)	48,1%	22,7%	12,6%	11,1%	5,5%
Q7#4 The inclusion of a third country partner required more intensive interaction with the programme or the project officer of the EC	24,4%	21,0%	20,2%	21,2%	13,1%
Q7#5 Proposal evaluation and contract negotiation were timely and transparent	3,9%	7,2%	17,1%	31,9%	40,0%
Q7#6 Proposers receive clear information on the evaluation process and the reasons for the outcomes	3,0%	7,0%	15,4%	34,6%	40,1%
Q7#7 The available funding modalities were appropriate for the project setup and operation (co-funding, level of funding, timing of payment, etc.)	5,2%	10,0%	24,4%	33,7%	26,7%
Q7#8 Activity reporting was easy and proportionate to the project effort	6,0%	11,2%	22,1%	35,3%	25,5%
Q7#9 Project review procedures were appropriate and easy to follow, and were an effective support to project implementation	3,2%	9,5%	21,4%	36,7%	29,2%
Q7#10 The overall rules and procedures were adequate to facilitate project implementation	3,6%	9,1%	20,2%	36,4%	30,7%

Figure 43 – The Third country partners' opinion on FP7 programme management and administration

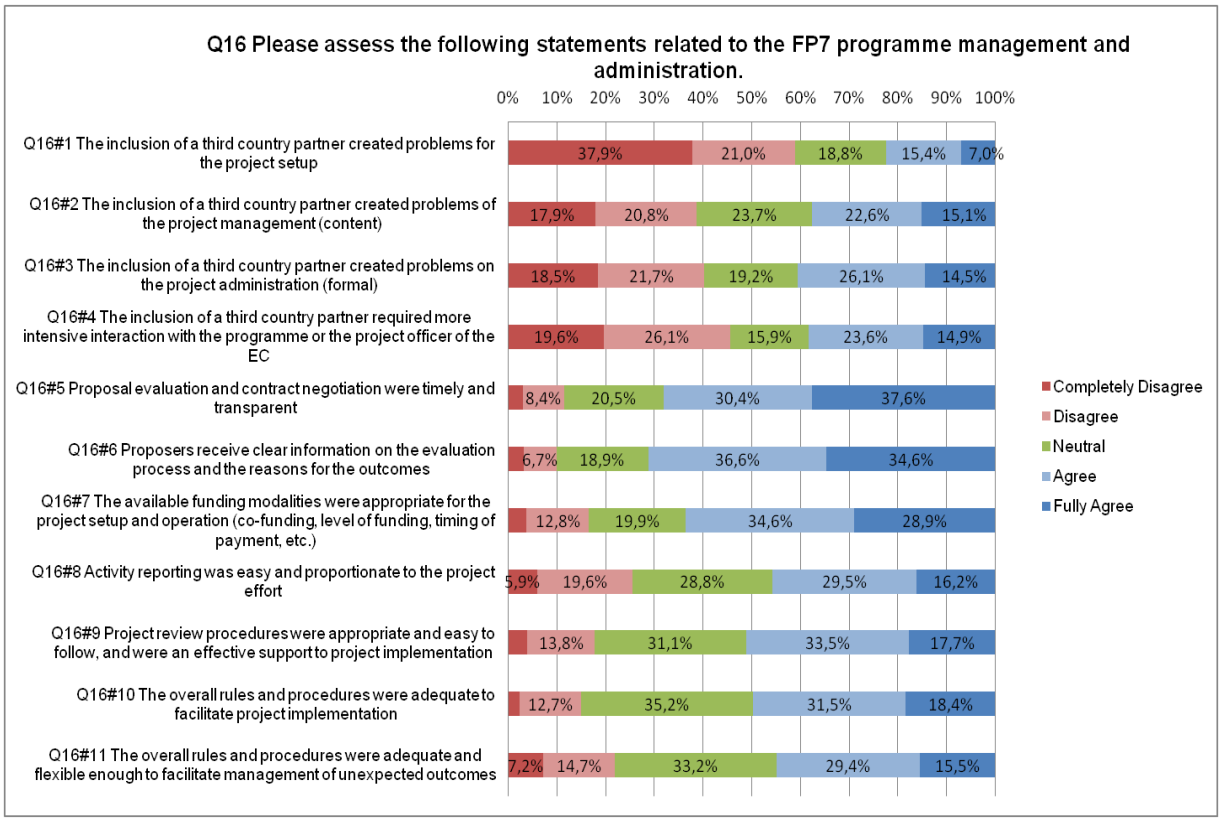


QUESTION 16 [EU-COORDINATOR]: PLEASE ASSESS THE FOLLOWING STATEMENTS RELATED TO THE FP7 PROGRAMME MANAGEMENT AND ADMINISTRATION:

Table 35 – The EU coordinator assessment of the FP7 programme management and administration

	Completely Disagree	Disagree	Neutral	Agree	Fully Agree
Q16#1 The inclusion of a third country partner created problems for the project setup	37,9%	21,0%	18,8%	15,4%	7,0%
Q16#2 The inclusion of a third country partner created problems of the project management (content)	17,9%	20,8%	23,7%	22,6%	15,1%
Q16#3 The inclusion of a third country partner created problems on the project administration (formal)	18,5%	21,7%	19,2%	26,1%	14,5%
Q16#4 The inclusion of a third country partner required more intensive interaction with the programme or the project officer of the EC	19,6%	26,1%	15,9%	23,6%	14,9%
Q16#5 Proposal evaluation and contract negotiation were timely and transparent	3,0%	8,4%	20,5%	30,4%	37,6%
Q16#6 Proposers receive clear information on the evaluation process and the reasons for the outcomes	3,1%	6,7%	18,9%	36,6%	34,6%
Q16#7 The available funding modalities were appropriate for the project setup and operation (co-funding, level of funding, timing of payment, etc.)	3,8%	12,8%	19,9%	34,6%	28,9%
Q16#8 Activity reporting was easy and proportionate to the project effort	5,9%	19,6%	28,8%	29,5%	16,2%
Q16#9 Project review procedures were appropriate and easy to follow, and were an effective support to project implementation	3,9%	13,8%	31,1%	33,5%	17,7%
Q16#10 The overall rules and procedures were adequate to facilitate project implementation	2,2%	12,7%	35,2%	31,5%	18,4%
Q16#11 The overall rules and procedures were adequate and flexible enough to facilitate management of unexpected outcomes	7,2%	14,7%	33,2%	29,4%	15,5%

Figure 44 – The EU coordinator assessment of the FP7 programme management and administration

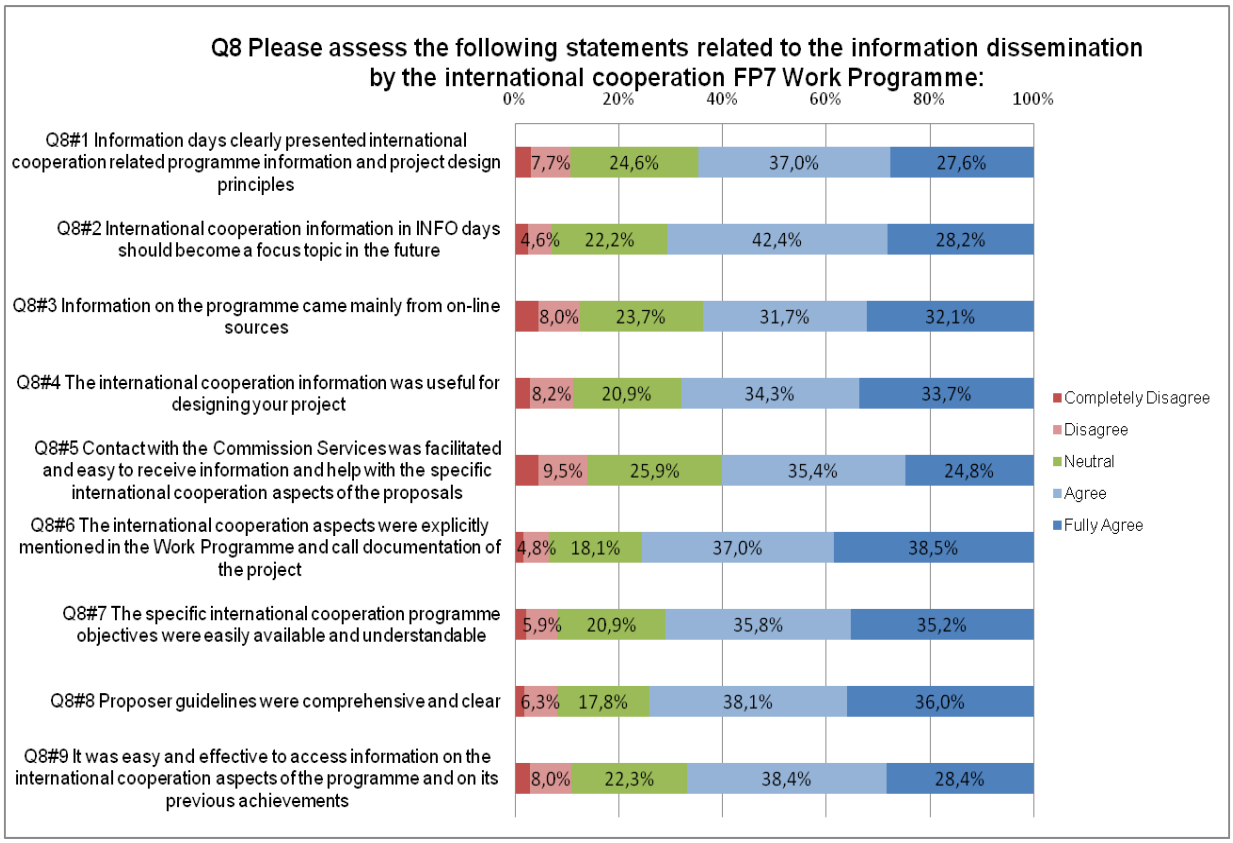


QUESTION 8 [TIERS]: PLEASE ASSESS THE FOLLOWING STATEMENTS RELATED TO THE INFORMATION DISSEMINATION BY THE FP7 "COOPERATION" WORK PROGRAMMES:

Table 36 – The third country partner assessment of information dissemination by the FP7 "Cooperation" Work Programmes

	Completely Disagree	Disagree	Neutral	Agree	Fully Agree
Q8#1 Information days clearly presented international cooperation related programme information and project design principles	3,1%	7,7%	24,6%	37,0%	27,6%
Q8#2 International cooperation information in INFO days should become a focus topic in the future	2,6%	4,6%	22,2%	42,4%	28,2%
Q8#3 Information on the programme came mainly from on-line sources	4,5%	8,0%	23,7%	31,7%	32,1%
Q8#4 The international cooperation information was useful for designing your project	3,0%	8,2%	20,9%	34,3%	33,7%
Q8#5 Contact with the Commission Services was facilitated and easy to receive information and help with the specific international cooperation aspects of the proposals	4,5%	9,5%	25,9%	35,4%	24,8%
Q8#6 The international cooperation aspects were explicitly mentioned in the Work Programme and call documentation of the project	1,7%	4,8%	18,1%	37,0%	38,5%
Q8#7 The specific international cooperation programme objectives were easily available and understandable	2,3%	5,9%	20,9%	35,8%	35,2%
Q8#8 Proposer guidelines were comprehensive and clear	1,8%	6,3%	17,8%	38,1%	36,0%
Q8#9 It was easy and effective to access information on the international cooperation aspects of the programme and on its previous achievements	2,9%	8,0%	22,3%	38,4%	28,4%

Figure 45 – The third country partner assessment of information dissemination by the FP7 "Cooperation" Work Programmes

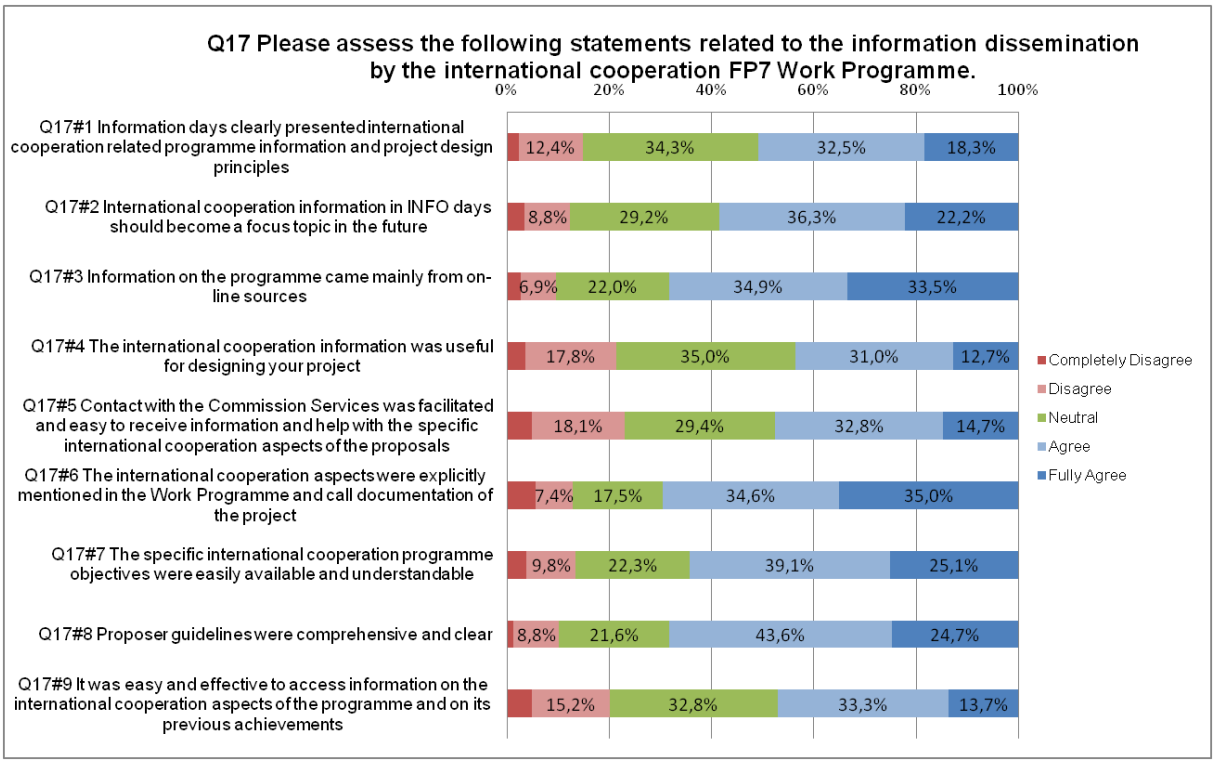


QUESTION 17 [EU-COORDINATOR]: PLEASE ASSESS THE FOLLOWING STATEMENTS RELATED TO THE INFORMATION DISSEMINATION BY THE FP7 "COOPERATION" WORK PROGRAMMES:

Table 37 – The EU coordinator assessment of information dissemination by the international cooperation FP7 "Cooperation" Work Programme

	Completely Disagree	Disagree	Neutral	Agree	Fully Agree
Q17#1 Information days clearly presented international cooperation related programme information and project design principles	2,4%	12,4%	34,3%	32,5%	18,3%
Q17#2 International cooperation information in INFO days should become a focus topic in the future	3,5%	8,8%	29,2%	36,3%	22,2%
Q17#3 Information on the programme came mainly from on-line sources	2,8%	6,9%	22,0%	34,9%	33,5%
Q17#4 The international cooperation information was useful for designing your project	3,6%	17,8%	35,0%	31,0%	12,7%
Q17#5 Contact with the Commission Services was facilitated and easy to receive information and help with the specific international cooperation aspects of the proposals	4,9%	18,1%	29,4%	32,8%	14,7%
Q17#6 The international cooperation aspects were explicitly mentioned in the Work Programme and call documentation of the project	5,5%	7,4%	17,5%	34,6%	35,0%
Q17#7 The specific international cooperation programme objectives were easily available and understandable	3,7%	9,8%	22,3%	39,1%	25,1%
Q17#8 Proposer guidelines were comprehensive and clear	1,3%	8,8%	21,6%	43,6%	24,7%
Q17#9 It was easy and effective to access information on the international cooperation aspects of the programme and on its previous achievements	4,9%	15,2%	32,8%	33,3%	13,7%

Figure 46 – The EU coordinators' assessment of information dissemination by the FP7 "Cooperation" Work Programmes

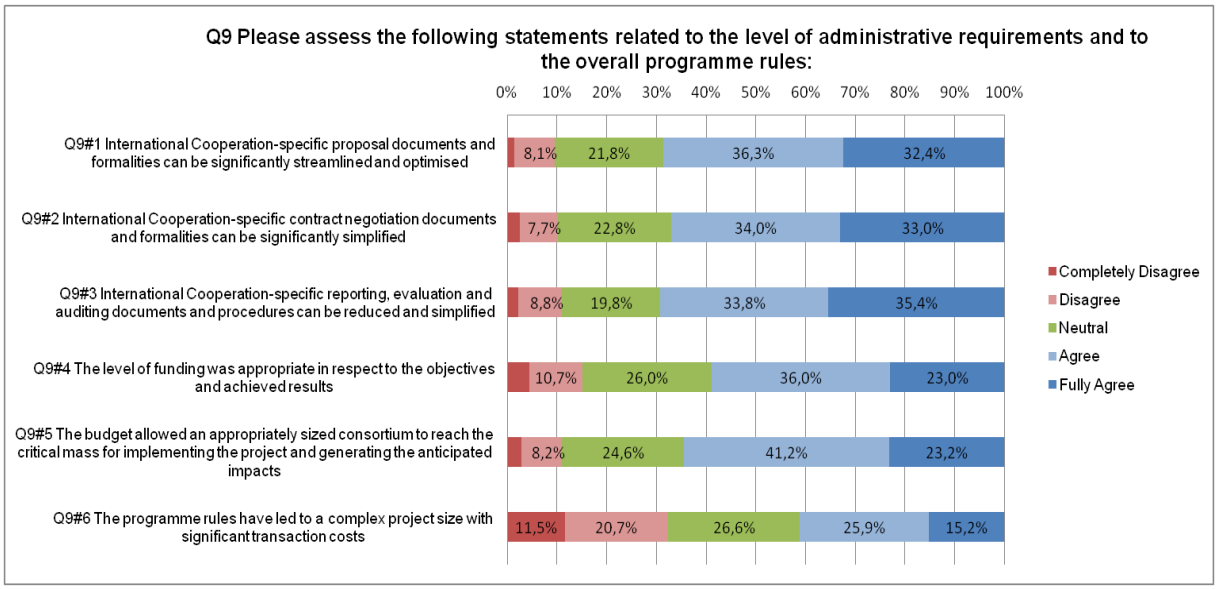


QUESTION 9 [TIERS]: PLEASE ASSESS THE FOLLOWING STATEMENTS RELATED TO THE LEVEL OF ADMINISTRATIVE REQUIREMENTS AND TO THE OVERALL PROGRAMME RULES:

Table 38 – The Third country partner assessment of the level of administrative requirements and the overall programme rules

	Completely Disagree	Disagree	Neutral	Agree	Fully Agree
Q9#1 International Cooperation-specific proposal documents and formalities can be significantly streamlined and optimised	1,5%	8,1%	21,8%	36,3%	32,4%
Q9#2 International Cooperation-specific contract negotiation documents and formalities can be significantly simplified	2,5%	7,7%	22,8%	34,0%	33,0%
Q9#3 International Cooperation-specific reporting, evaluation and auditing documents and procedures can be reduced and simplified	2,2%	8,8%	19,8%	33,8%	35,4%
Q9#4 The level of funding was appropriate in respect to the objectives and achieved results	4,4%	10,7%	26,0%	36,0%	23,0%
Q9#5 The budget allowed an appropriately sized consortium to reach the critical mass for implementing the project and generating the anticipated impacts	2,8%	8,2%	24,6%	41,2%	23,2%
Q9#6 The programme rules have led to a complex project size with significant transaction costs	11,5%	20,7%	26,6%	25,9%	15,2%

Figure 47 – The Third country partner assessment of the level of administrative requirements and the overall programme rules



QUESTION 18 [EU-COORDINATOR]. PLEASE ASSESS THE FOLLOWING STATEMENTS RELATED TO THE LEVEL OF ADMINISTRATIVE REQUIREMENTS AND TO THE OVERALL PROGRAMME RULES:

Table 39 – The EU coordinator assessment of the level of administrative requirements and the overall programme rules

	Completely Disagree	Disagree	Neutral	Agree	Fully Agree
Q18#1 International Cooperation-specific proposal documents and formalities can be significantly streamlined and optimised	1,8%	8,7%	36,5%	30,6%	22,4%
Q18#2 International Cooperation-specific contract negotiation documents and formalities can be significantly simplified	1,8%	8,2%	29,5%	35,0%	25,5%
Q18#3 International Cooperation-specific reporting, evaluation and auditing documents and procedures can be reduced and simplified	2,3%	8,8%	25,6%	33,0%	30,2%
Q18#4 The level of funding was appropriate in respect to the objectives and achieved results	8,9%	12,2%	23,6%	35,8%	19,5%
Q18#5 The budget allowed an appropriately sized consortium to reach the critical mass for implementing the project and generating the anticipated impacts	4,6%	11,7%	21,3%	36,8%	25,5%
Q18#6 The programme rules have led to a complex project size with significant transaction costs	16,4%	29,6%	27,7%	16,4%	9,9%

Figure 48 – The EU coordinator assessment of the level of administrative requirements and the overall programme rules

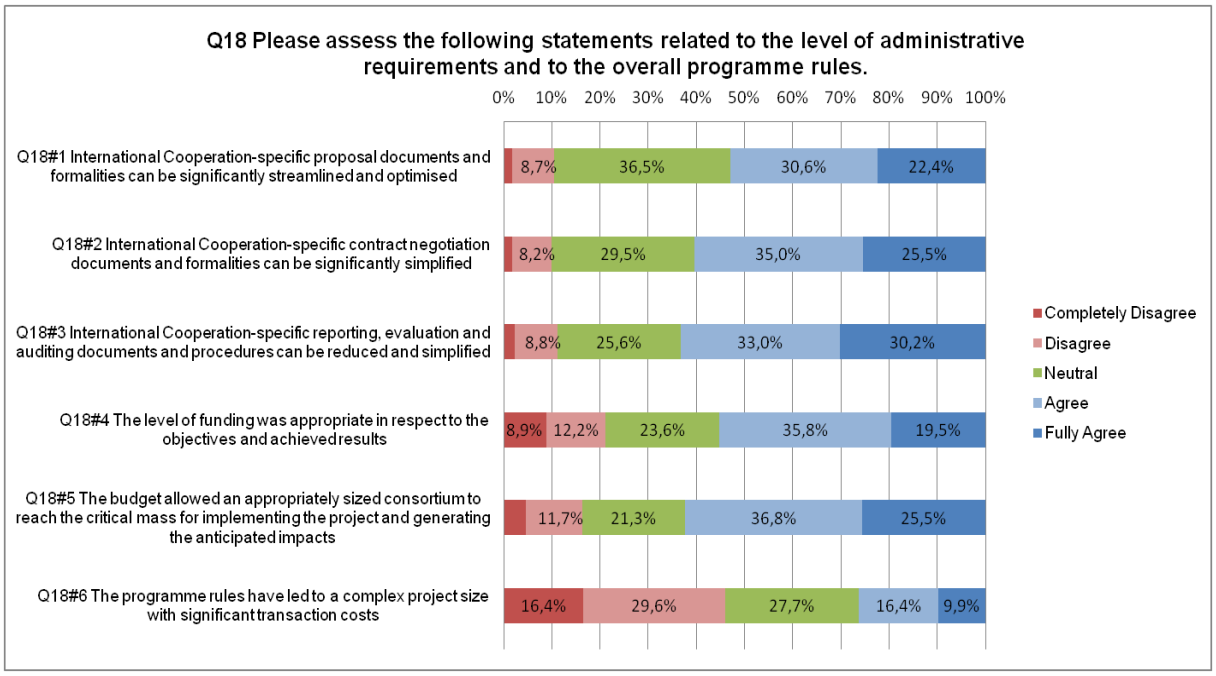


Figure 49: Cross-tabulation between statements related to the FP7 programme management and administration, and the thematic area of cooperation (Q7#Q1) [TIERS]

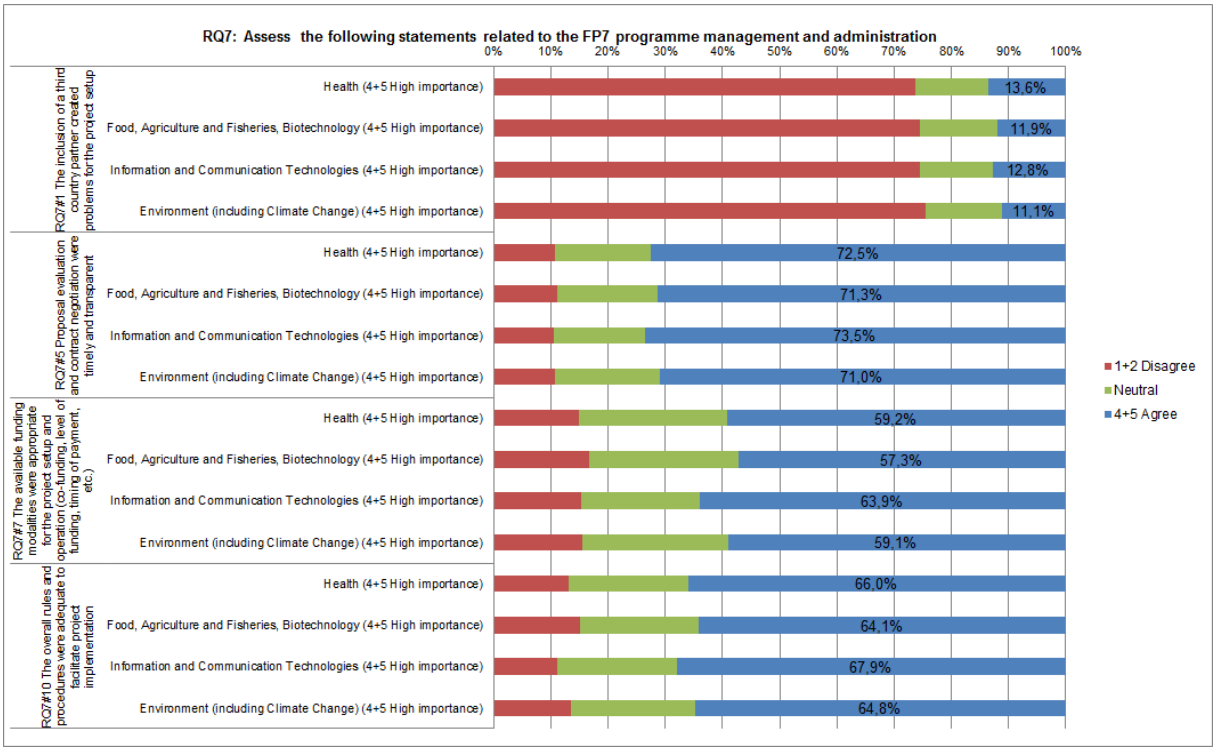


Figure 50: Cross-tabulation between statements related to the level of administrative requirements and the overall programme rules, and the thematic area of cooperation (Q9#Q1) [TIERS]

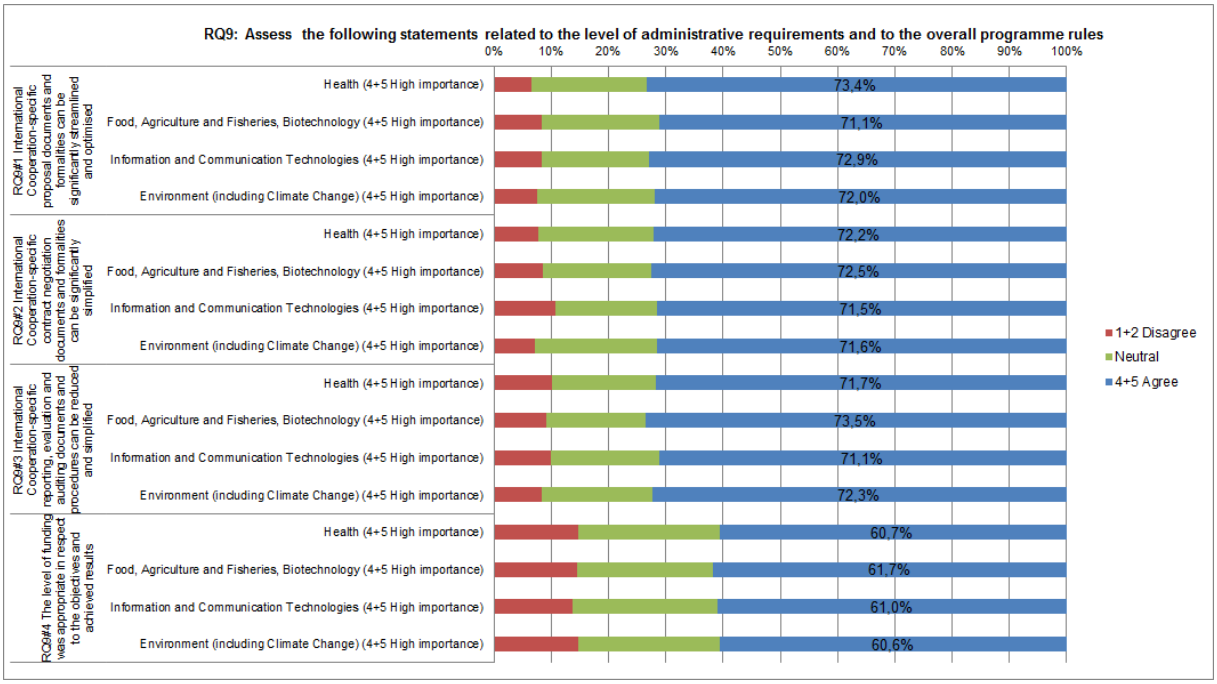


Figure 51: Cross-tabulation between statements related to the FP7 programme management and administration, and the thematic area of cooperation (Q16#Q2) [EU-Coordinator]

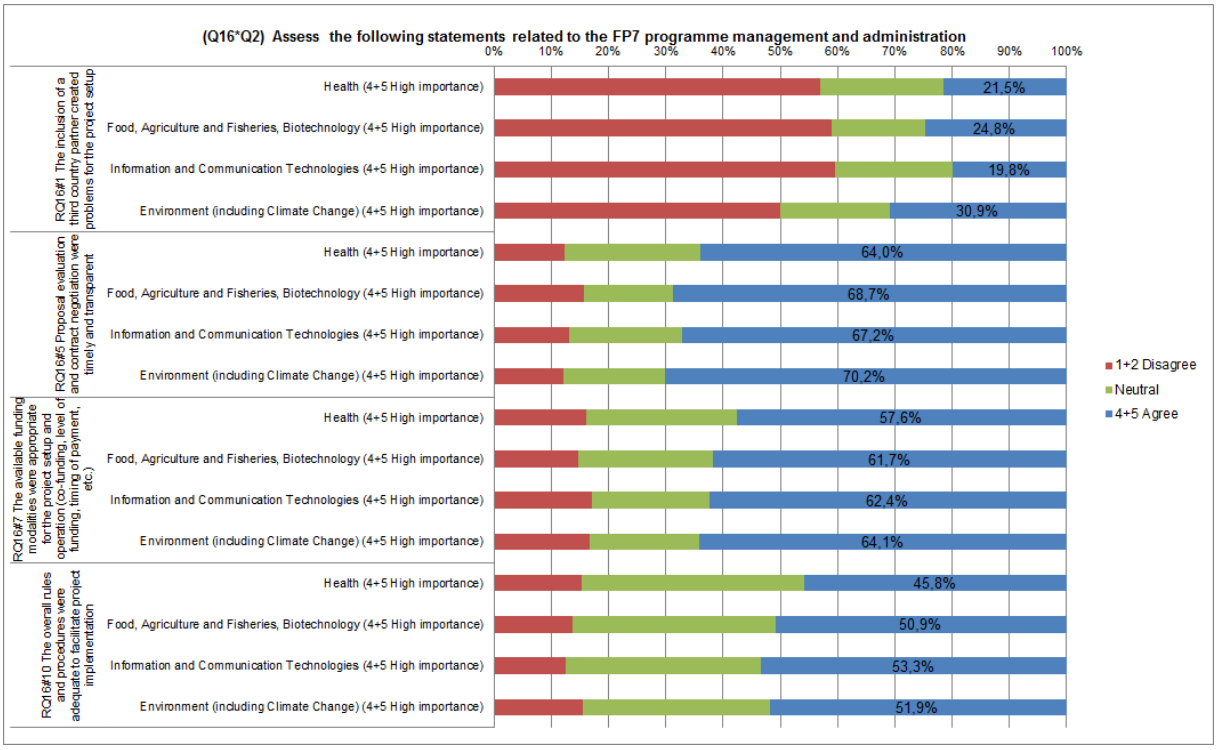
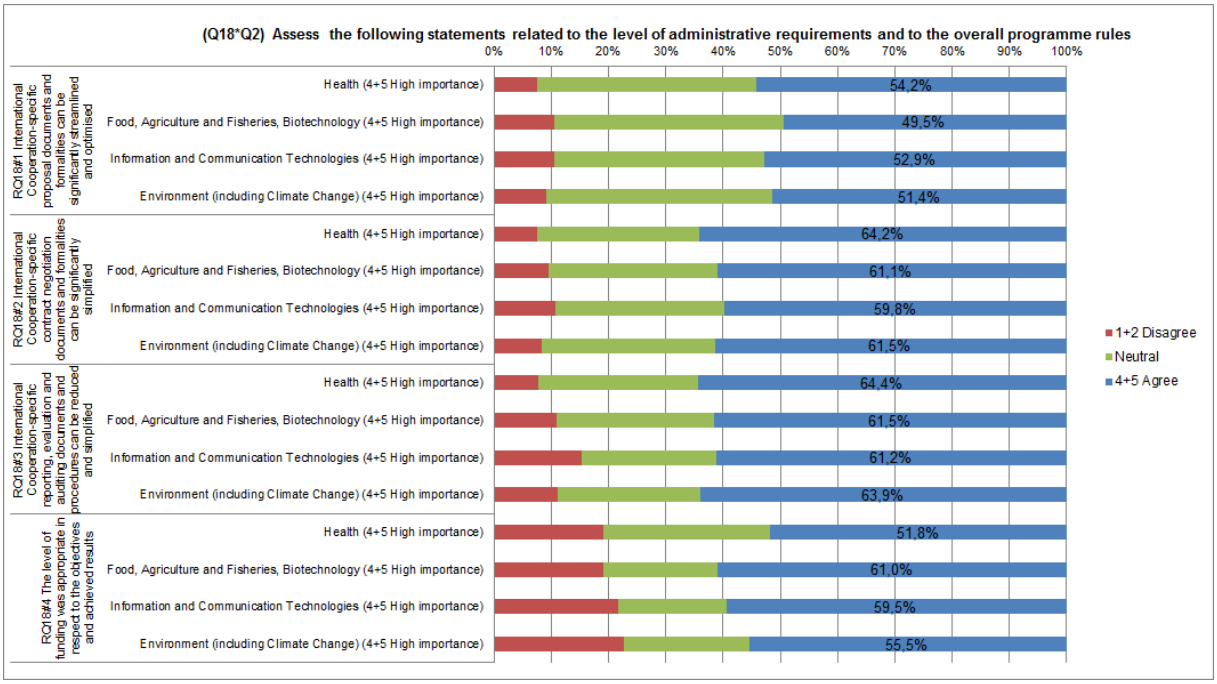


Figure 52: Cross-tabulation between statements related to the level of administrative requirements and the overall programme, and the thematic area of cooperation (Q18#Q2) [EU-Coordinator]

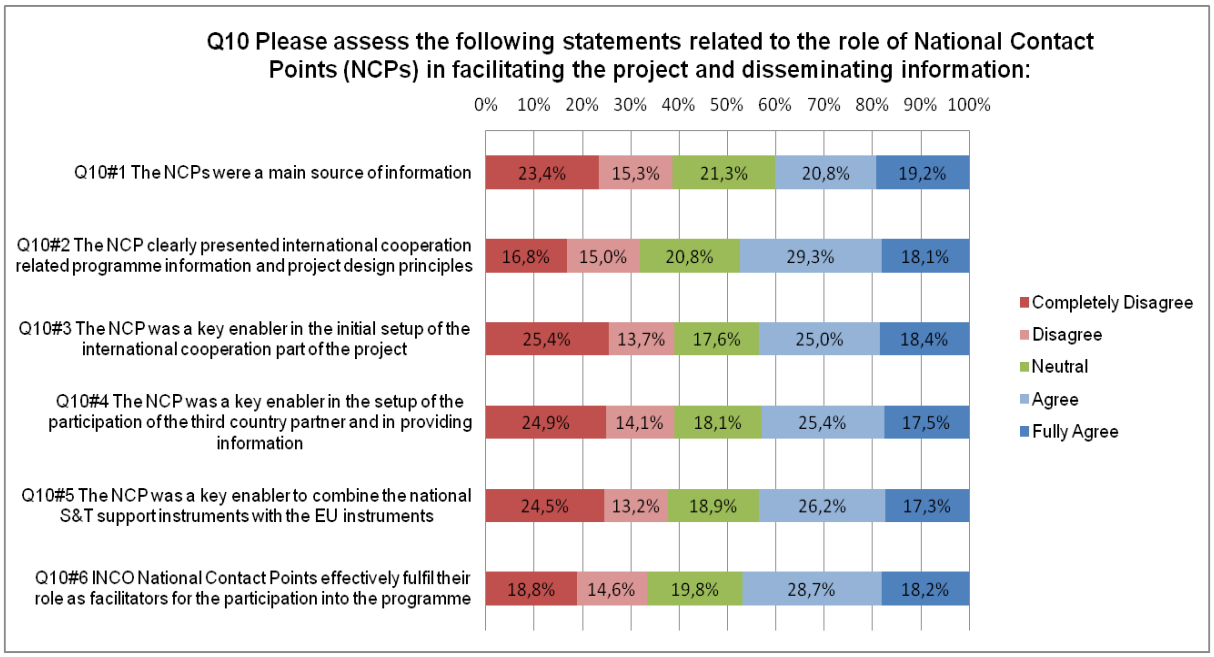


QUESTION 10[TIERS]: PLEASE ASSESS THE FOLLOWING STATEMENTS RELATED TO THE ROLE OF NATIONAL CONTACT POINTS (NCPS) IN FACILITATING THE PROJECT AND DISSEMINATING INFORMATION.

Table 40 – The Third country partner assessment of the role of NCPs in facilitating the project and disseminating information:

	Completely Disagree	Disagree	Neutral	Agree	Fully Agree
Q10#1 The NCPs were a main source of information	23,4%	15,3%	21,3%	20,8%	19,2%
Q10#2 The NCP clearly presented international cooperation related programme information and project design principles	16,8%	15,0%	20,8%	29,3%	18,1%
Q10#3 The NCP was a key enabler in the initial setup of the international cooperation part of the project	25,4%	13,7%	17,6%	25,0%	18,4%
Q10#4 The NCP was a key enabler in the setup of the participation of the third country partner and in providing information	24,9%	14,1%	18,1%	25,4%	17,5%
Q10#5 The NCP was a key enabler to combine the national S&T support instruments with the EU instruments	24,5%	13,2%	18,9%	26,2%	17,3%
Q10#6 INCO National Contact Points effectively fulfil their role as facilitators for the participation into the programme	18,8%	14,6%	19,8%	28,7%	18,2%

Figure 53 – The Third country partner assessment of the role of NCPs in facilitating the project and disseminating information

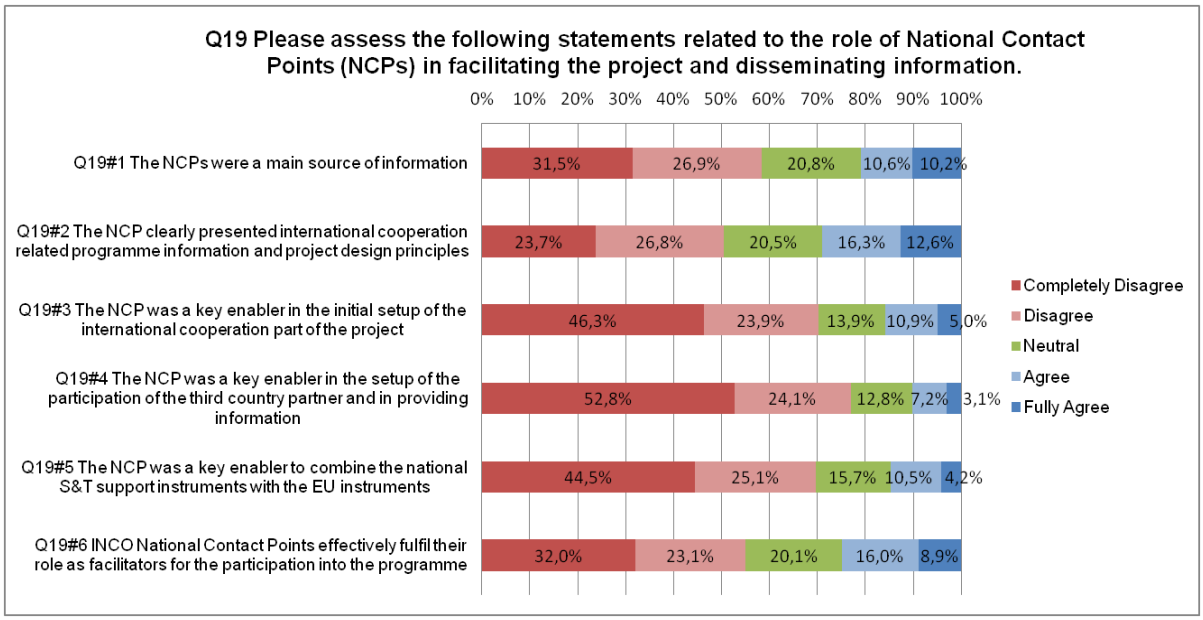


QUESTION 19 [EU-COORDINATOR]: PLEASE ASSESS THE FOLLOWING STATEMENTS RELATED TO THE ROLE OF NATIONAL CONTACT POINTS (NCPS) IN FACILITATING THE PROJECT AND DISSEMINATING INFORMATION.

Table 41 – The EU coordinator assessment of the role of NCPs in facilitating the project and disseminating information:

	Completely Disagree	Disagree	Neutral	Agree	Fully Agree
Q19#1 The NCPs were a main source of information	31,5%	26,9%	20,8%	10,6%	10,2%
Q19#2 The NCP clearly presented international cooperation related programme information and project design principles	23,7%	26,8%	20,5%	16,3%	12,6%
Q19#3 The NCP was a key enabler in the initial setup of the international cooperation part of the project	46,3%	23,9%	13,9%	10,9%	5,0%
Q19#4 The NCP was a key enabler in the setup of the participation of the third country partner and in providing information	52,8%	24,1%	12,8%	7,2%	3,1%
Q19#5 The NCP was a key enabler to combine the national S&T support instruments with the EU instruments	44,5%	25,1%	15,7%	10,5%	4,2%
Q19#6 INCO National Contact Points effectively fulfil their role as facilitators for the participation into the programme	32,0%	23,1%	20,1%	16,0%	8,9%

Figure 54 – The EU coordinator assessment of the role of NCPs in facilitating the project and disseminating information:

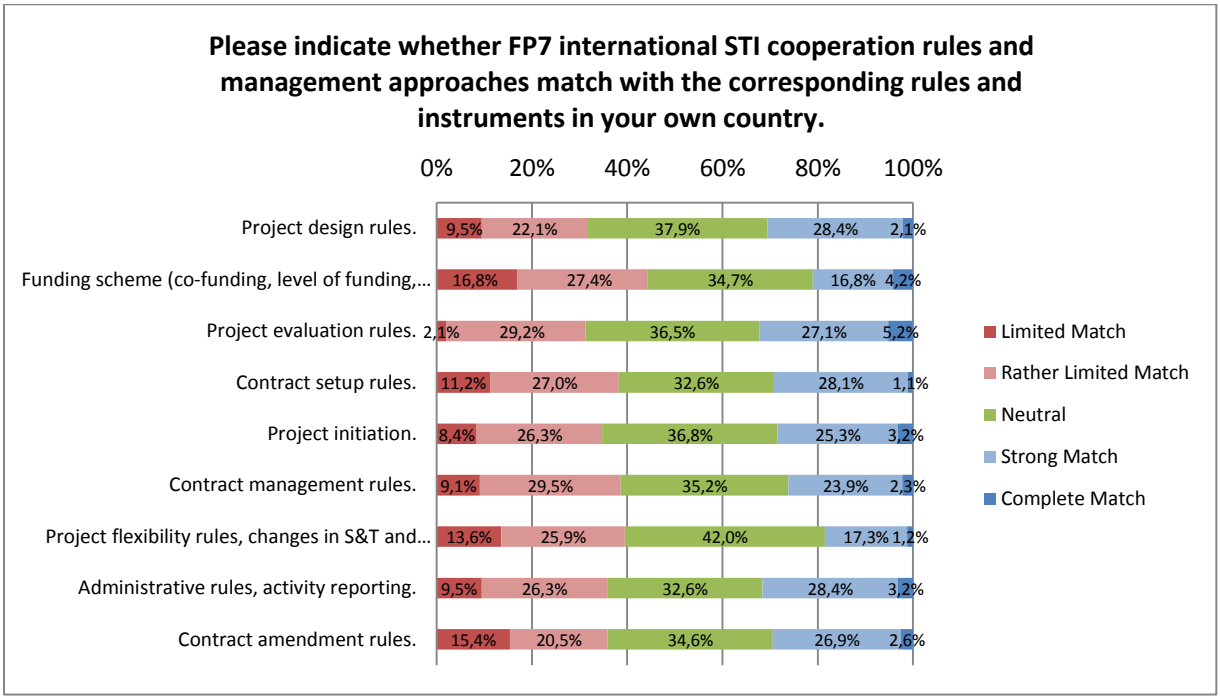


QUESTION 9A [NCP]: PLEASE INDICATE WHETHER FP7 INTERNATIONAL STI COOPERATION RULES AND MANAGEMENT APPROACHES MATCH WITH THE CORRESPONDING RULES AND INSTRUMENTS IN YOUR OWN COUNTRY.

Table 42 – The NCPs' assessment of the match between international STI cooperation rules and management approaches, and the corresponding rules and instruments in their own country

	Limited Match	Rather Limited	Neutral	Strong	Complete
Project design rules.	9.5%	22.1%	37.9%	28.4%	2.1%
Funding scheme (co-funding, level of funding, timing of payment, etc.).	16.8%	27.4%	34.7%	16.8%	4.2%
Project evaluation rules.	2.1%	29.2%	36.5%	27.1%	5.2%
Contract setup rules.	11.2%	27.0%	32.6%	28.1%	1.1%
Project initiation.	8.4%	26.3%	36.8%	25.3%	3.2%
Contract management rules.	9.1%	29.5%	35.2%	23.9%	2.3%
Project flexibility rules, changes in S&T and research process due to unexpected results and outcomes.	13.6%	25.9%	42.0%	17.3%	1.2%
Administrative rules, activity reporting.	9.5%	26.3%	32.6%	28.4%	3.2%
Contract amendment rules.	15.4%	20.5%	34.6%	26.9%	2.6%

Figure 55 – The NCPs' assessment of the match between international STI cooperation rules and management approaches, and the corresponding rules and instruments in their own country

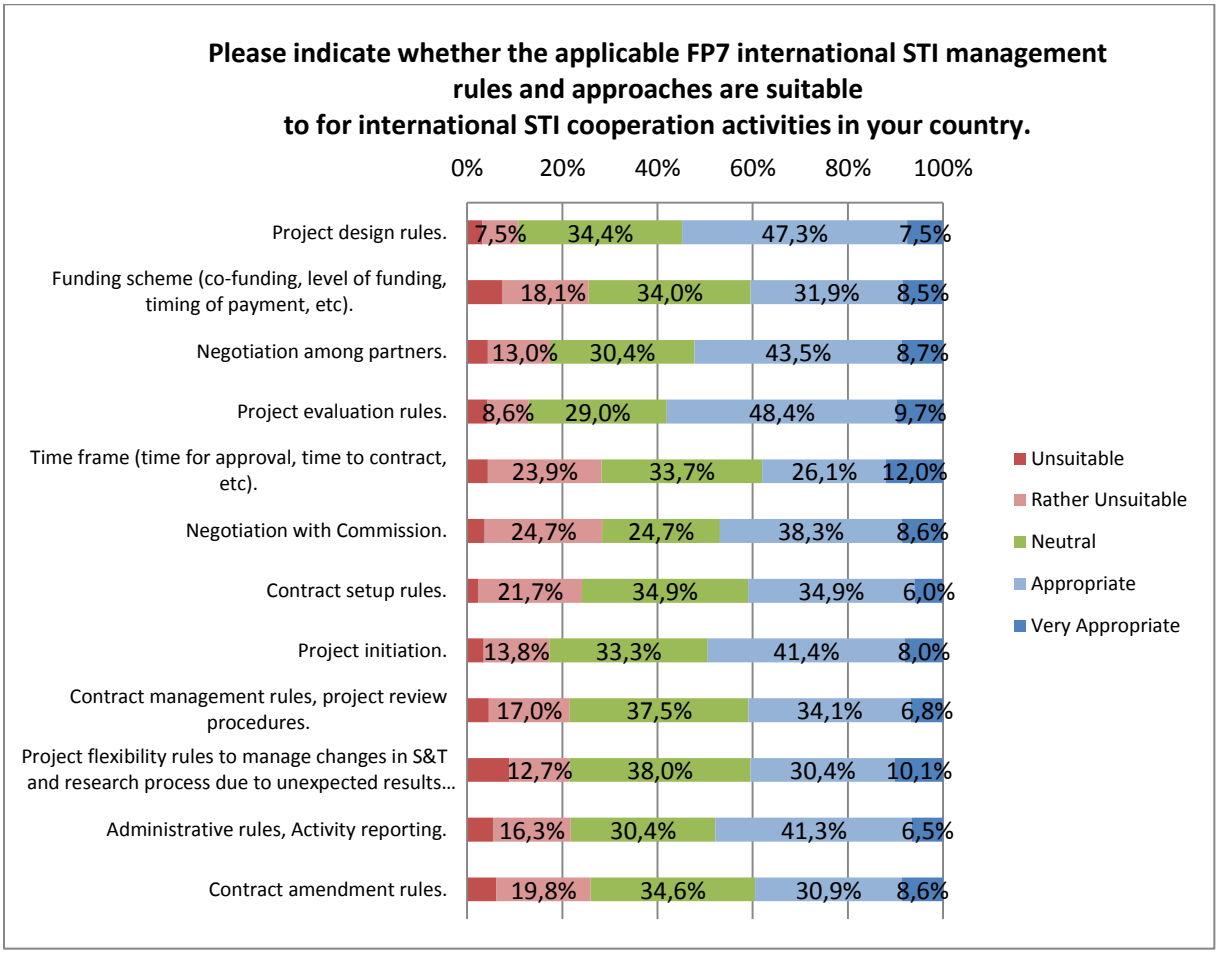


QUESTION 9B [NCP]: PLEASE INDICATE WHETHER THE APPLICABLE FP7 INTERNATIONAL STI MANAGEMENT RULES AND APPROACHES ARE SUITABLE TO FOR INTERNATIONAL STI COOPERATION ACTIVITIES IN YOUR COUNTRY.

Table 43 – The NCP's assessment of the applicable FP7 international STI management rules and approaches and their suitability for international STI cooperation activities in its country

	Unsuitable	Rather Unsuitable	Neutral	Appropriate	Very Appropriate
Project design rules.	3.2%	7.5%	34.4%	47.3%	7.5%
Funding scheme (co-funding, level of funding, timing of payment, etc.).	7.4%	18.1%	34.0%	31.9%	8.5%
Negotiation among partners.	4.3%	13.0%	30.4%	43.5%	8.7%
Project evaluation rules.	4.3%	8.6%	29.0%	48.4%	9.7%
Time frame (time for approval, time to contract, etc.).	4.3%	23.9%	33.7%	26.1%	12.0%
Negotiation with Commission.	3.7%	24.7%	24.7%	38.3%	8.6%
Contract setup rules.	2.4%	21.7%	34.9%	34.9%	6.0%
Project initiation.	3.4%	13.8%	33.3%	41.4%	8.0%
Contract management rules, project review procedures.	4.5%	17.0%	37.5%	34.1%	6.8%
Project flexibility rules to manage changes in S&T and research process due to	8.9%	12.7%	38.0%	30.4%	10.1%
Administrative rules, Activity	5.4%	16.3%	30.4%	41.3%	6.5%
Contract amendment rules.	6.2%	19.8%	34.6%	30.9%	8.6%

Figure 56 – The NCPs' assessment of the applicable FP7 international STI management rules and approaches and their suitability for international STI cooperation activities in its country

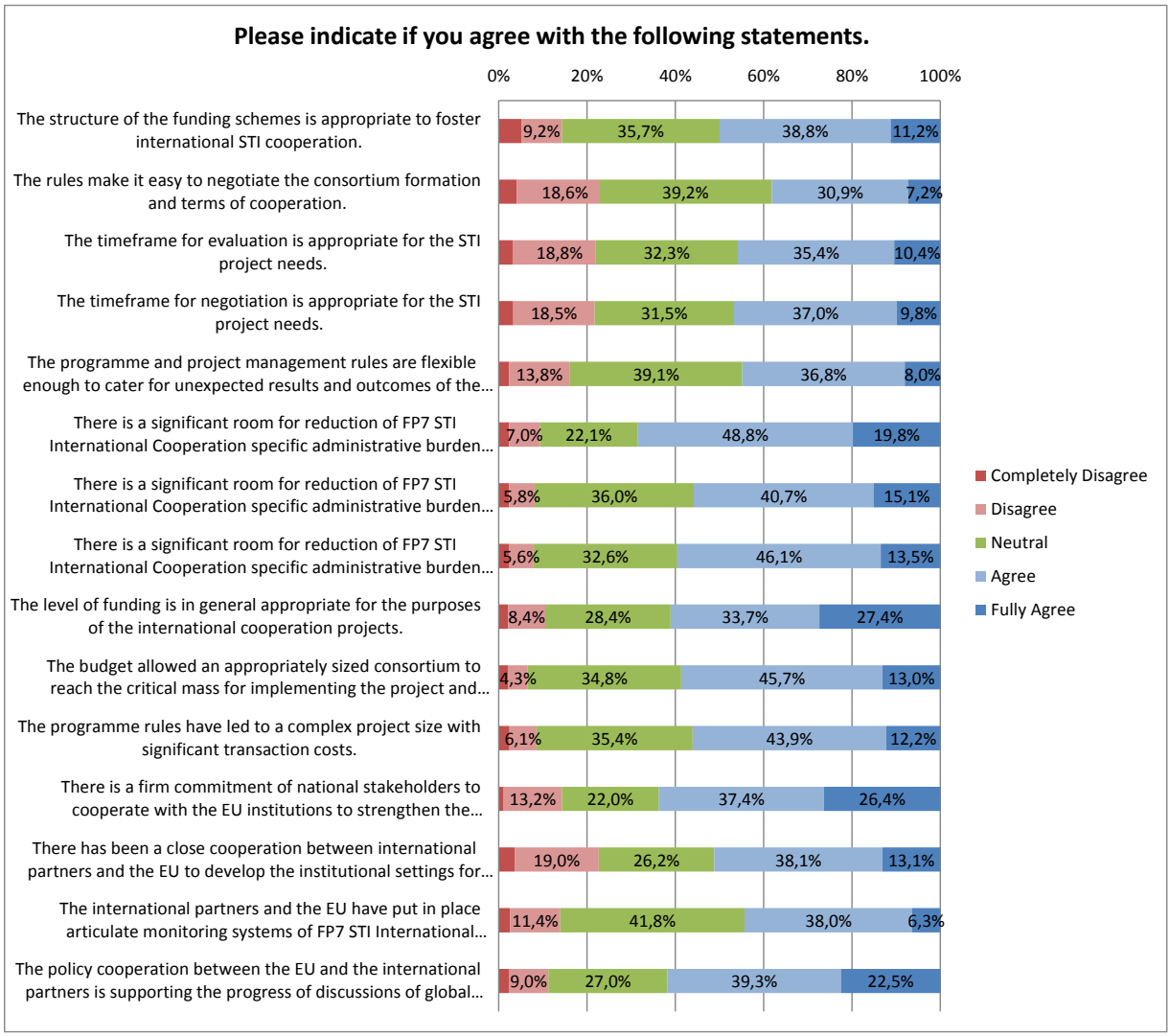


QUESTION 12C [NCP]: PLEASE INDICATE IF YOU AGREE WITH THE FOLLOWING STATEMENTS.

Table 44 – The NCPs' opinion on the statements on international S&T cooperation in FP7

	Completely Disagree	Disagree	Neutral	Agree	Fully Agree
The structure of the funding schemes is appropriate to foster international STI cooperation.	5,1%	9,2%	35,7%	38,8%	11,2%
The rules make it easy to negotiate the consortium formation and terms of cooperation.	4,1%	18,6%	39,2%	30,9%	7,2%
The timeframe for evaluation is appropriate for the STI project needs.	3,1%	18,8%	32,3%	35,4%	10,4%
The timeframe for negotiation is appropriate for the STI project needs.	3,3%	18,5%	31,5%	37,0%	9,8%
The programme and project management rules are flexible enough to cater for unexpected results and outcomes of the STI process.	2,3%	13,8%	39,1%	36,8%	8,0%
There is a significant room for reduction of FP7 STI International Cooperation specific administrative burden concerning proposal documents and formalities.	2,3%	7,0%	22,1%	48,8%	19,8%
There is a significant room for reduction of FP7 STI International Cooperation specific administrative burden concerning contract negotiation documents and formalities.	2,3%	5,8%	36,0%	40,7%	15,1%
There is a significant room for reduction of FP7 STI International Cooperation specific administrative burden concerning reporting, evaluation and auditing documents.	2,2%	5,6%	32,6%	46,1%	13,5%
The level of funding is in general appropriate for the purposes of the international cooperation projects.	2,1%	8,4%	28,4%	33,7%	27,4%
The budget allowed an appropriately sized consortium to reach the critical mass for implementing the project and generating the anticipated impacts.	2,2%	4,3%	34,8%	45,7%	13,0%
The programme rules have led to a complex project size with significant transaction costs.	2,4%	6,1%	35,4%	43,9%	12,2%
There is a firm commitment of national stakeholders to cooperate with the EU institutions to strengthen the international cooperation framework and to ensure the sustainability.	1,1%	13,2%	22,0%	37,4%	26,4%
There has been a close cooperation between international partners and the EU to develop the institutional settings for the implementation of the strategic European framework.	3,6%	19,0%	26,2%	38,1%	13,1%
The international partners and the EU have put in place articulate monitoring systems of FP7 STI International Cooperation to provide input to its actual implementation.	2,5%	11,4%	41,8%	38,0%	6,3%
The policy cooperation between the EU and the international partners is supporting the progress of discussions of global issues.	2,2%	9,0%	27,0%	39,3%	22,5%

Figure 57 – The NCPs' opinion on the statements on international S&T cooperation in FP7

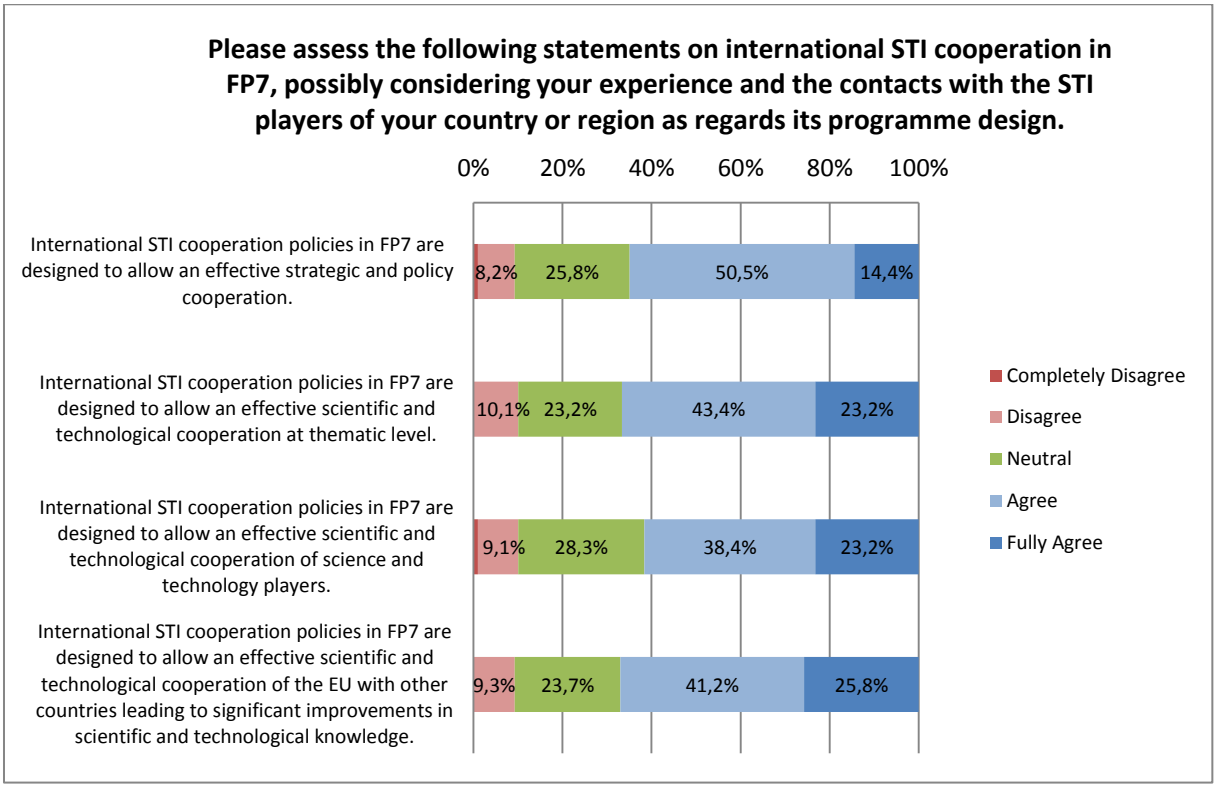


QUESTION 10A [NCP]: PLEASE ASSESS THE FOLLOWING STATEMENTS ON INTERNATIONAL STI COOPERATION IN FP7, POSSIBLY CONSIDERING YOUR EXPERIENCE AND THE CONTACTS WITH THE STI PLAYERS OF YOUR COUNTRY OR REGION AS REGARDS ITS PROGRAMME DESIGN.

Table 45 – The NCPs' assessment of international STI cooperation in FP7, possibly considering their experience and the contacts with the STI players of the country or region as regards its programme design

	Completely Disagree	Disagree	Neutral	Agree	Fully Agree
International STI cooperation policies in FP7 are designed to allow an effective strategic and policy	1.0%	8.2%	25.8%	50.5%	14.4%
International STI cooperation policies in FP7 are designed to allow an effective scientific and technological cooperation at thematic level.	0.0%	10.1%	23.2%	43.4%	23.2%
International STI cooperation policies in FP7 are designed to allow an effective scientific and technological cooperation of science and technology	1.0%	9.1%	28.3%	38.4%	23.2%
International STI cooperation policies in FP7 are designed to allow an effective scientific and technological cooperation of the EU with other countries leading to significant improvements in scientific and technological knowledge	0.0%	9.3%	23.7%	41.2%	25.8%

Figure 58 – The NCPs' assessment of international STI cooperation in FP7, possibly considering their experience and the contacts with the STI players of the country or region as regards its programme design

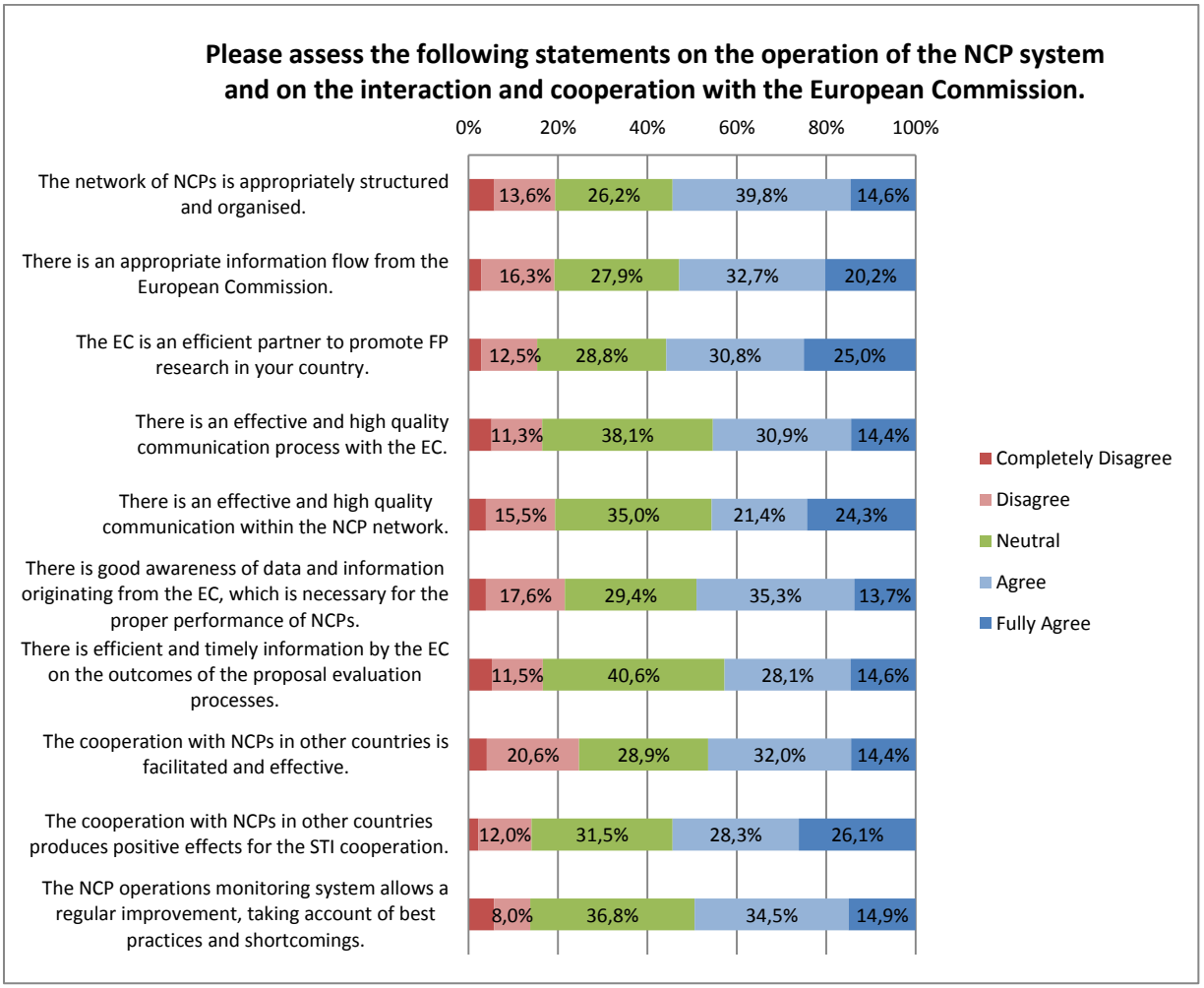


QUESTION 10B [NCP]: PLEASE ASSESS THE FOLLOWING STATEMENTS ON THE OPERATION OF THE NCP SYSTEM AND ON THE INTERACTION AND COOPERATION WITH THE EUROPEAN COMMISSION.

Table 46 – The NCPs' assessment of the operation of the NCP system and the interaction and cooperation with the European Commission

	Completely Disagree	Disagree	Neutral	Agree	Fully Agree
The network of NCPs is appropriately structured and organised.	5.8%	13.6%	26.2%	39.8%	14.6%
There is an appropriate information flow from the European Commission.	2.9%	16.3%	27.9%	32.7%	20.2%
The EC is an efficient partner to promote FP research in your country.	2.9%	12.5%	28.8%	30.8%	25.0%
There is an effective and high quality communication process with the EC.	5.2%	11.3%	38.1%	30.9%	14.4%
There is an effective and high quality communication within the NCP network.	3.9%	15.5%	35.0%	21.4%	24.3%
There is good awareness of data and information originating from the EC, which is necessary for the proper performance of NCPs.	3.9%	17.6%	29.4%	35.3%	13.7%
There is efficient and timely information by the EC on the outcomes of the proposal evaluation processes.	5.2%	11.5%	40.6%	28.1%	14.6%
The cooperation with NCPs in other countries is facilitated and effective.	4.1%	20.6%	28.9%	32.0%	14.4%
The cooperation with NCPs in other countries produces positive effects for the STI cooperation.	2.2%	12.0%	31.5%	28.3%	26.1%
The NCP operations monitoring system allows a regular improvement, taking account of best practices and shortcomings.	5.7%	8.0%	36.8%	34.5%	14.9%

Figure 59 – The NCPs' assessment of the operation of the NCP system and the interaction and cooperation with the European Commission

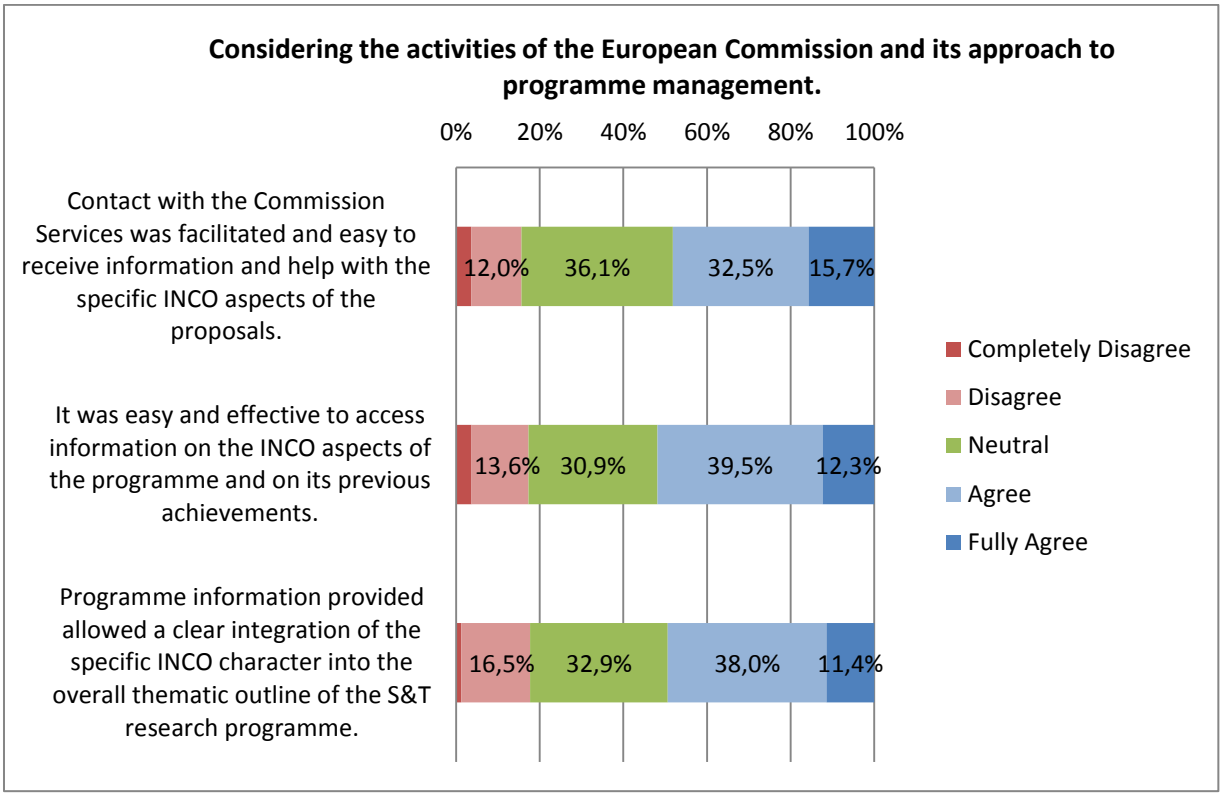


QUESTION 10D [NCP]: CONSIDERING THE ACTIVITIES OF THE EUROPEAN COMMISSION AND ITS APPROACH TO PROGRAMME MANAGEMENT.

Table 47 – The opinion of NCPs' on the activities of the European Commission and its approach to programme management

	Completely Disagree	Disagree	Neutral	Agree	Fully Agree
Contact with the Commission Services was facilitated and easy to receive information	3.6%	12.0%	36.1%	32.5%	15.7%
It was easy and effective to access information on the INCO aspects of the programme and on its previous	3.7%	13.6%	30.9%	39.5%	12.3%
Programme information provided allowed a clear integration of the specific INCO character into the overall thematic outline	1.3%	16.5%	32.9%	38.0%	11.4%

Figure 390 – The opinion of NCPs on the activities of the European Commission and its approach to programme management

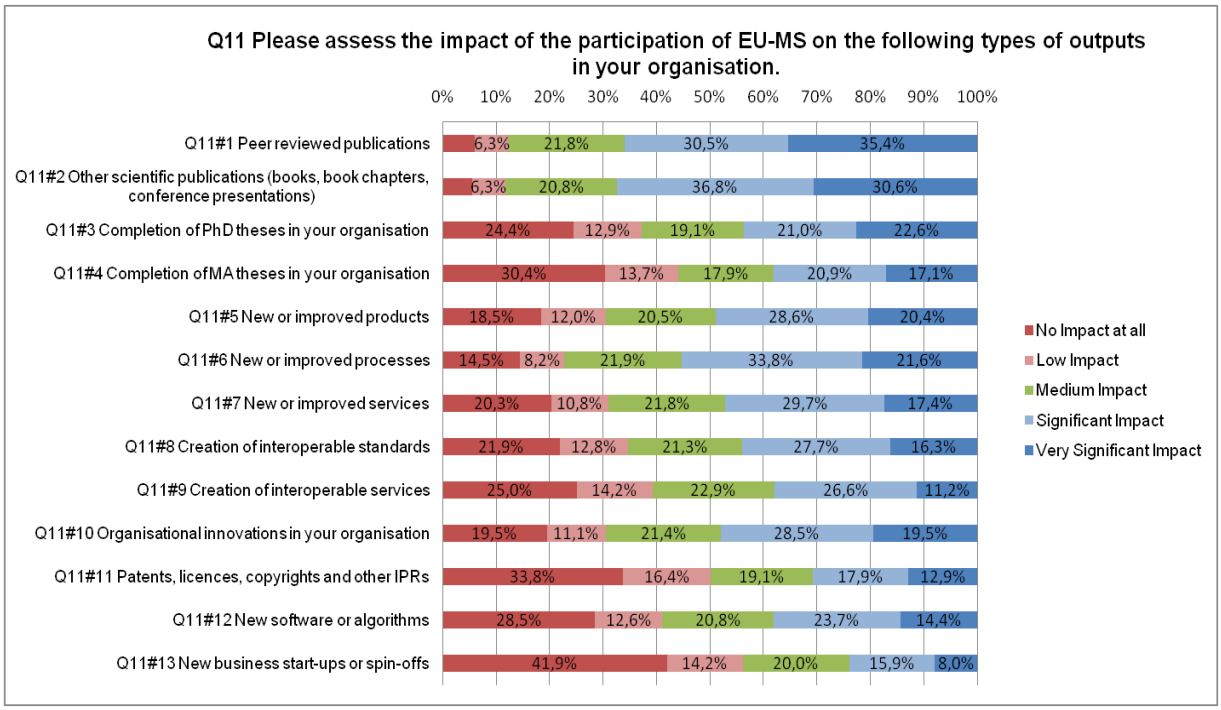


QUESTION 11 [TIERS]: PLEASE ASSESS THE IMPACT OF THE PARTICIPATION OF EU MEMBER STATES ON THE FOLLOWING TYPES OF OUTPUTS IN THEIR ORGANISATION.

Table 48 – The opinion of third country partners on the impact of the participation of EU-Member States on the following types of outputs in their organisation

	No Impact at all	Low Impact	Medium Impact	Significant Impact	Very Significant Impact
Q11#1 Peer reviewed publications	6,0%	6,3%	21,8%	30,5%	35,4%
Q11#2 Other scientific publications (books, book chapters, conference presentations)	5,5%	6,3%	20,8%	36,8%	30,6%
Q11#3 Completion of PhD theses in your organisation	24,4%	12,9%	19,1%	21,0%	22,6%
Q11#4 Completion of MA theses in your organisation	30,4%	13,7%	17,9%	20,9%	17,1%
Q11#5 New or improved products	18,5%	12,0%	20,5%	28,6%	20,4%
Q11#6 New or improved processes	14,5%	8,2%	21,9%	33,8%	21,6%
Q11#7 New or improved services	20,3%	10,8%	21,8%	29,7%	17,4%
Q11#8 Creation of interoperable standards	21,9%	12,8%	21,3%	27,7%	16,3%
Q11#9 Creation of interoperable services	25,0%	14,2%	22,9%	26,6%	11,2%
Q11#10 Organisational innovations in your organisation	19,5%	11,1%	21,4%	28,5%	19,5%
Q11#11 Patents, licences, copyrights and other IPRs	33,8%	16,4%	19,1%	17,9%	12,9%
Q11#12 New software or algorithms	28,5%	12,6%	20,8%	23,7%	14,4%
Q11#13 New business start-ups or spin-offs	41,9%	14,2%	20,0%	15,9%	8,0%

Figure 61 – The opinion of third country partners on the impact of the participation of EU-Member States on the following types of outputs in their organisation

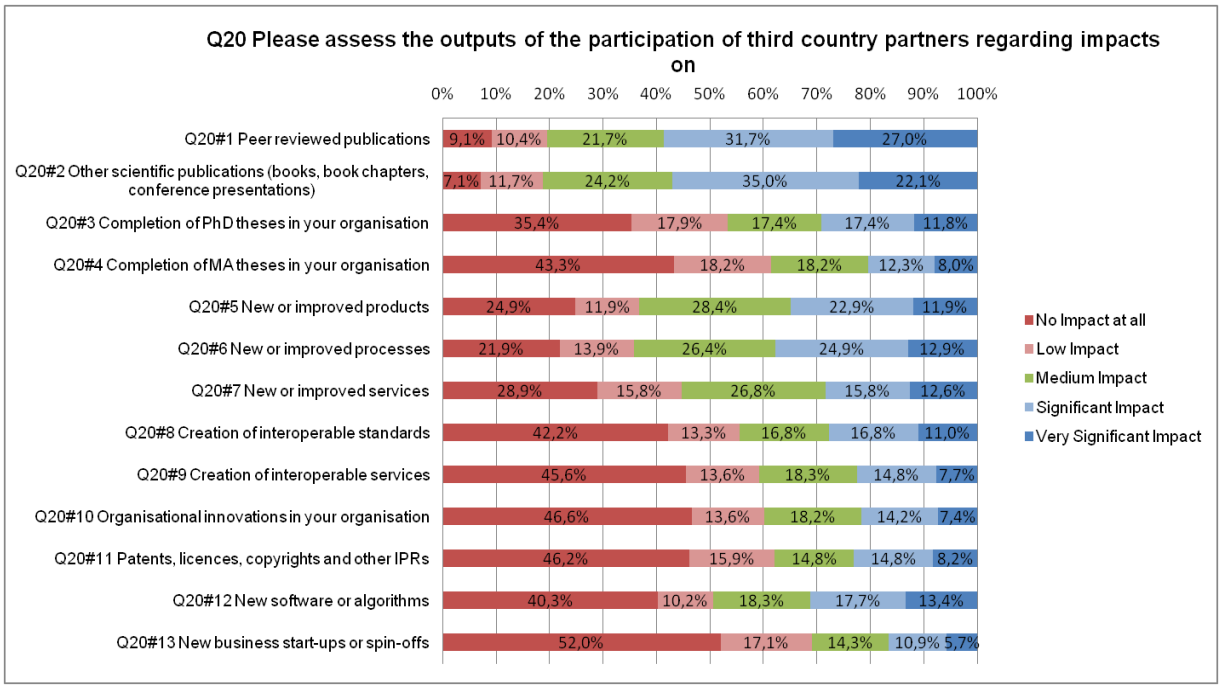


QUESTION 20 [EU-COORDINATOR]: PLEASE ASSESS THE OUTPUTS OF THE PARTICIPATION OF THIRD COUNTRY PARTNERS REGARDING IMPACTS ON:

Table 49 – The opinion of EU coordinators on the outputs of the participation of third country partners and their impacts

	No Impact at all	Low Impact	Medium Impact	Significant Impact	Very Significant Impact
Q20#1 Peer reviewed publications	9,1%	10,4%	21,7%	31,7%	27,0%
Q20#2 Other scientific publications (books, book chapters, conference presentations)	7,1%	11,7%	24,2%	35,0%	22,1%
Q20#3 Completion of PhD theses in your organisation	35,4%	17,9%	17,4%	17,4%	11,8%
Q20#4 Completion of MA theses in your organisation	43,3%	18,2%	18,2%	12,3%	8,0%
Q20#5 New or improved products	24,9%	11,9%	28,4%	22,9%	11,9%
Q20#6 New or improved processes	21,9%	13,9%	26,4%	24,9%	12,9%
Q20#7 New or improved services	28,9%	15,8%	26,8%	15,8%	12,6%
Q20#8 Creation of interoperable standards	42,2%	13,3%	16,8%	16,8%	11,0%
Q20#9 Creation of interoperable services	45,6%	13,6%	18,3%	14,8%	7,7%
Q20#10 Organisational innovations in your organisation	46,6%	13,6%	18,2%	14,2%	7,4%
Q20#11 Patents, licences, copyrights and other IPRs	46,2%	15,9%	14,8%	14,8%	8,2%
Q20#12 New software or algorithms	40,3%	10,2%	18,3%	17,7%	13,4%
Q20#13 New business start-ups or spin-offs	52,0%	17,1%	14,3%	10,9%	5,7%

Figure 62 – The opinion of EU coordinators on the outputs of the participation of third country partners and their impacts

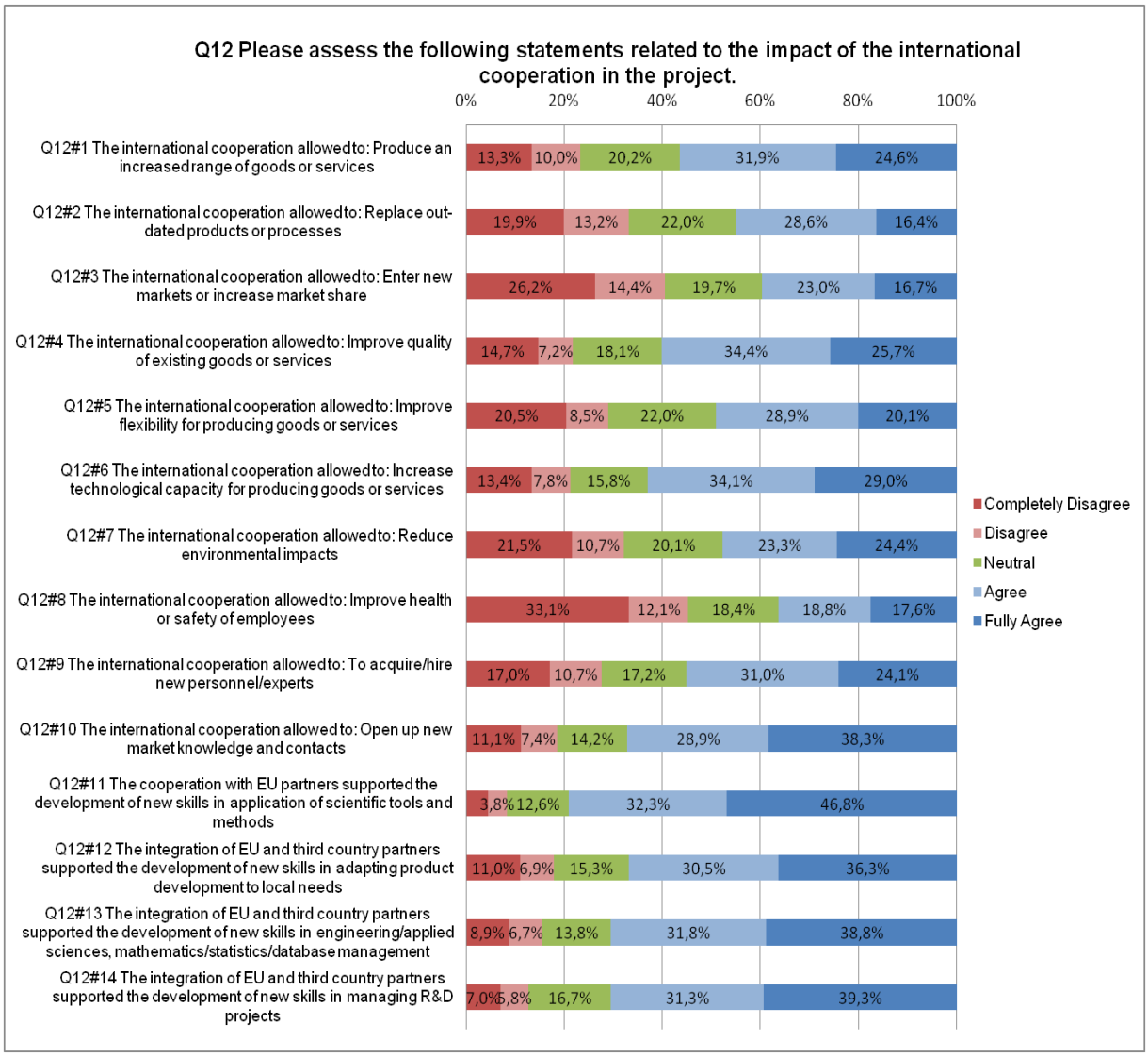


QUESTION 12 [TIERS]: PLEASE ASSESS THE FOLLOWING STATEMENTS RELATED TO THE IMPACT OF THE INTERNATIONAL COOPERATION IN THE PROJECT.

Table 50 – The assessment of third country partners of the impact of the international cooperation in the project

	Completely Disagree	Disagree	Neutral	Agree	Fully Agree
Q12#1 The international cooperation allowed to: Produce an increased range of goods or services	13,3%	10,0%	20,2%	31,9%	24,6%
Q12#2 The international cooperation allowed to: Replace out-dated products or processes	19,9%	13,2%	22,0%	28,6%	16,4%
Q12#3 The international cooperation allowed to: Enter new markets or increase market share	26,2%	14,4%	19,7%	23,0%	16,7%
Q12#4 The international cooperation allowed to: Improve quality of existing goods or services	14,7%	7,2%	18,1%	34,4%	25,7%
Q12#5 The international cooperation allowed to: Improve flexibility for producing goods or services	20,5%	8,5%	22,0%	28,9%	20,1%
Q12#6 The international cooperation allowed to: Increase technological capacity for producing goods or services	13,4%	7,8%	15,8%	34,1%	29,0%
Q12#7 The international cooperation allowed to: Reduce environmental impacts	21,5%	10,7%	20,1%	23,3%	24,4%
Q12#8 The international cooperation allowed to: Improve health or safety of employees	33,1%	12,1%	18,4%	18,8%	17,6%
Q12#9 The international cooperation allowed to: To acquire/hire new personnel/experts	17,0%	10,7%	17,2%	31,0%	24,1%
Q12#10 The international cooperation allowed to: Open up new market knowledge and contacts	11,1%	7,4%	14,2%	28,9%	38,3%
Q12#11 The cooperation with EU partners supported the development of new skills in application of scientific tools and methods	4,5%	3,8%	12,6%	32,3%	46,8%
Q12#12 The integration of EU and third country partners supported the development of new skills in adapting product development to local needs	11,0%	6,9%	15,3%	30,5%	36,3%
Q12#13 The integration of EU and third country partners supported the development of new skills in engineering/applied sciences, mathematics/statistics/database management	8,9%	6,7%	13,8%	31,8%	38,8%
Q12#14 The integration of EU and third country partners supported the development of new skills in managing R&D projects	7,0%	5,8%	16,7%	31,3%	39,3%

Figure 63 – The assessment of third countries of the impact of the international cooperation in the project

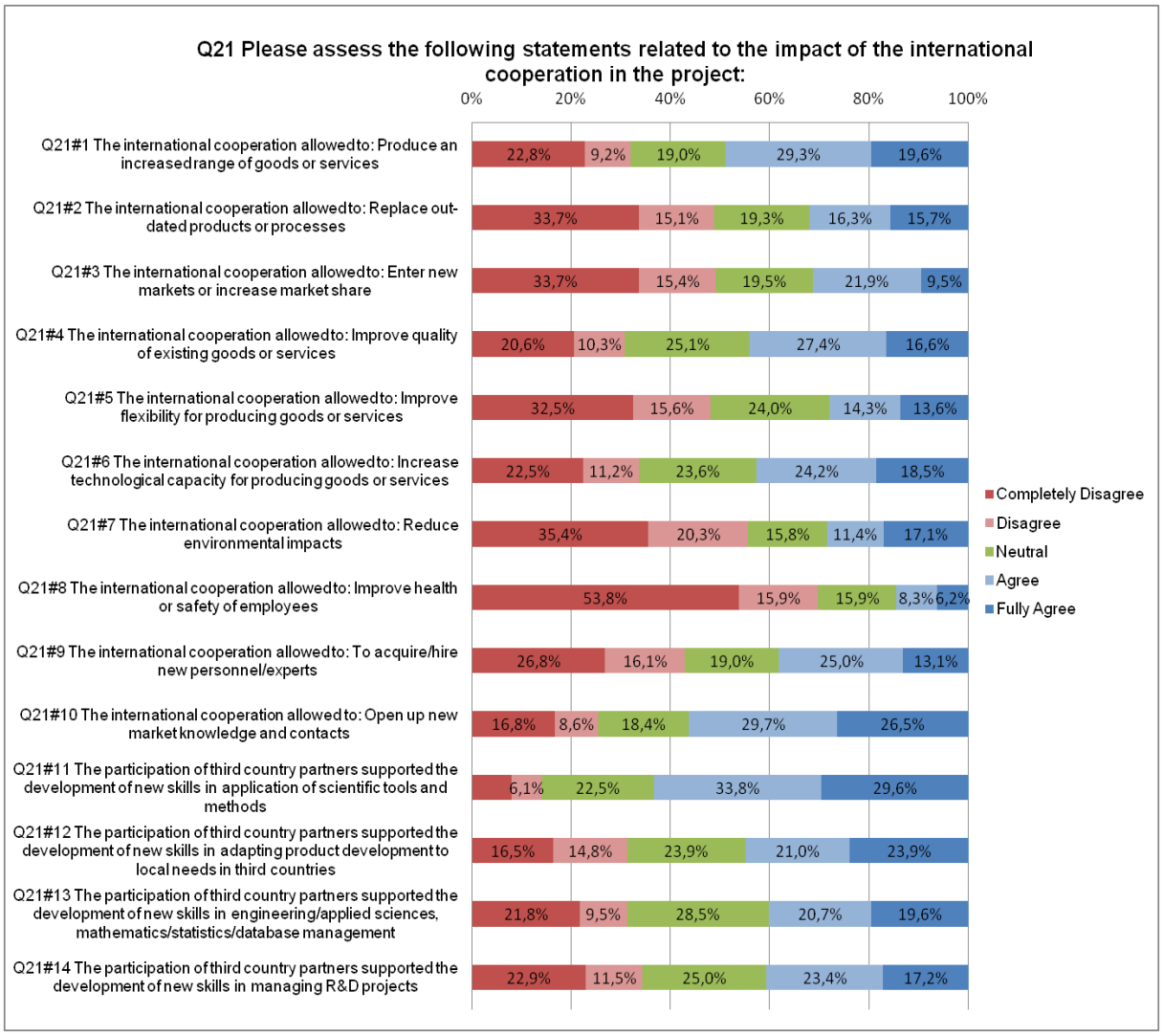


QUESTION 21 [EU-COORDINATOR]: PLEASE ASSESS THE FOLLOWING STATEMENTS RELATED TO THE IMPACT OF THE INTERNATIONAL COOPERATION IN THE PROJECT.

Table 51 – The EU coordinators' assessment of the impact of international cooperation in the project

	Completely Disagree	Disagree	Neutral	Agree	Fully Agree
Q21#1 The international cooperation allowed to: Produce an increased range of goods or services	22,8%	9,2%	19,0%	29,3%	19,6%
Q21#2 The international cooperation allowed to: Replace out-dated products or processes	33,7%	15,1%	19,3%	16,3%	15,7%
Q21#3 The international cooperation allowed to: Enter new markets or increase market share	33,7%	15,4%	19,5%	21,9%	9,5%
Q21#4 The international cooperation allowed to: Improve quality of existing goods or services	20,6%	10,3%	25,1%	27,4%	16,6%
Q21#5 The international cooperation allowed to: Improve flexibility for producing goods or services	32,5%	15,6%	24,0%	14,3%	13,6%
Q21#6 The international cooperation allowed to: Increase technological capacity for producing goods or services	22,5%	11,2%	23,6%	24,2%	18,5%
Q21#7 The international cooperation allowed to: Reduce environmental impacts	35,4%	20,3%	15,8%	11,4%	17,1%
Q21#8 The international cooperation allowed to: Improve health or safety of employees	53,8%	15,9%	15,9%	8,3%	6,2%
Q21#9 The international cooperation allowed to: To acquire/hire new personnel/experts	26,8%	16,1%	19,0%	25,0%	13,1%
Q21#10 The international cooperation allowed to: Open up new market knowledge and contacts	16,8%	8,6%	18,4%	29,7%	26,5%
Q21#11 The participation of third country partners supported the development of new skills in application of scientific tools and methods	8,0%	6,1%	22,5%	33,8%	29,6%
Q21#12 The participation of third country partners supported the development of new skills in adapting product development to local needs in third countries	16,5%	14,8%	23,9%	21,0%	23,9%
Q21#13 The participation of third country partners supported the development of new skills in engineering/applied sciences, mathematics/statistics/database management	21,8%	9,5%	28,5%	20,7%	19,6%
Q21#14 The participation of third country partners supported the development of new skills in managing R&D projects	22,9%	11,5%	25,0%	23,4%	17,2%

Figure 6440 – The EU coordinator assessment of the impact of international cooperation in the project

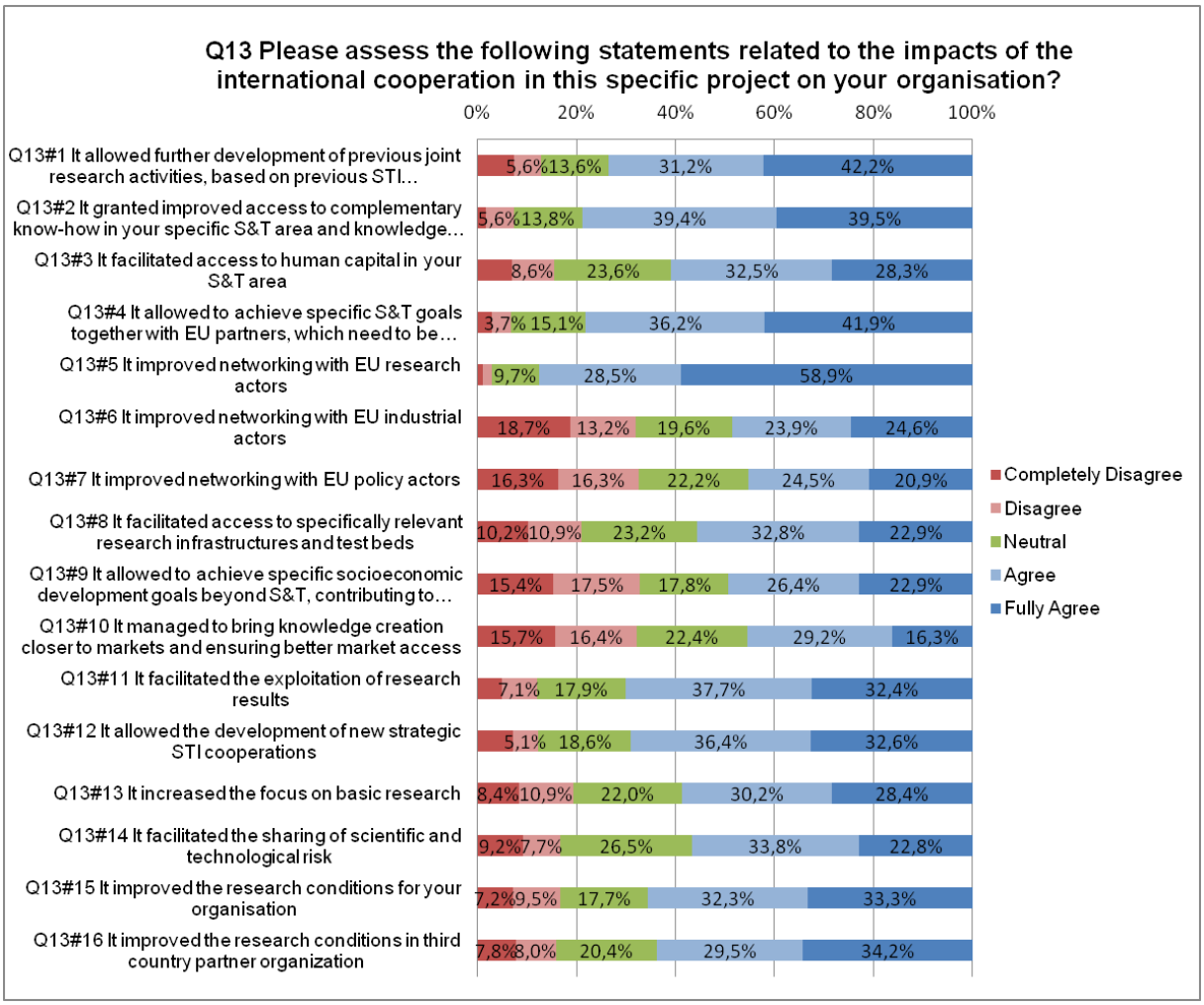


QUESTION 13 [TIERS]: PLEASE ASSESS THE FOLLOWING STATEMENTS RELATED TO THE IMPACTS OF THE INTERNATIONAL COOPERATION IN THIS SPECIFIC PROJECT ON YOUR ORGANISATION

Table 52 – The Third country partner assessment of the impacts of the international cooperation in this specific project on their organisation

	Completely Disagree	Disagree	Neutral	Agree	Fully Agree
Q13#1 It allowed further development of previous joint research activities, based on previous STI cooperation activities	7,4%	5,6%	13,6%	31,2%	42,2%
Q13#2 It granted improved access to complementary know-how in your specific S&T area and knowledge sharing with EU partners	1,7%	5,6%	13,8%	39,4%	39,5%
Q13#3 It facilitated access to human capital in your S&T area	6,9%	8,6%	23,6%	32,5%	28,3%
Q13#4 It allowed to achieve specific S&T goals together with EU partners, which need to be addressed on a global basis	3,0%	3,7%	15,1%	36,2%	41,9%
Q13#5 It improved networking with EU research actors	1,1%	1,8%	9,7%	28,5%	58,9%
Q13#6 It improved networking with EU industrial actors	18,7%	13,2%	19,6%	23,9%	24,6%
Q13#7 It improved networking with EU policy actors	16,3%	16,3%	22,2%	24,5%	20,9%
Q13#8 It facilitated access to specifically relevant research infrastructures and test beds	10,2%	10,9%	23,2%	32,8%	22,9%
Q13#9 It allowed to achieve specific socioeconomic development goals beyond S&T, contributing to societal development in third country	15,4%	17,5%	17,8%	26,4%	22,9%
Q13#10 It managed to bring knowledge creation closer to markets and ensuring better market access	15,7%	16,4%	22,4%	29,2%	16,3%
Q13#11 It facilitated the exploitation of research results	4,9%	7,1%	17,9%	37,7%	32,4%
Q13#12 It allowed the development of new strategic STI cooperation	7,2%	5,1%	18,6%	36,4%	32,6%
Q13#13 It increased the focus on basic research	8,4%	10,9%	22,0%	30,2%	28,4%
Q13#14 It facilitated the sharing of scientific and technological risk	9,2%	7,7%	26,5%	33,8%	22,8%
Q13#15 It improved the research conditions for your organisation	7,2%	9,5%	17,7%	32,3%	33,3%
Q13#16 It improved the research conditions in third country partner organization	7,8%	8,0%	20,4%	29,5%	34,2%

Figure 6541 – The Third country partner assessment of the impacts of the international cooperation in this specific project on their organisation

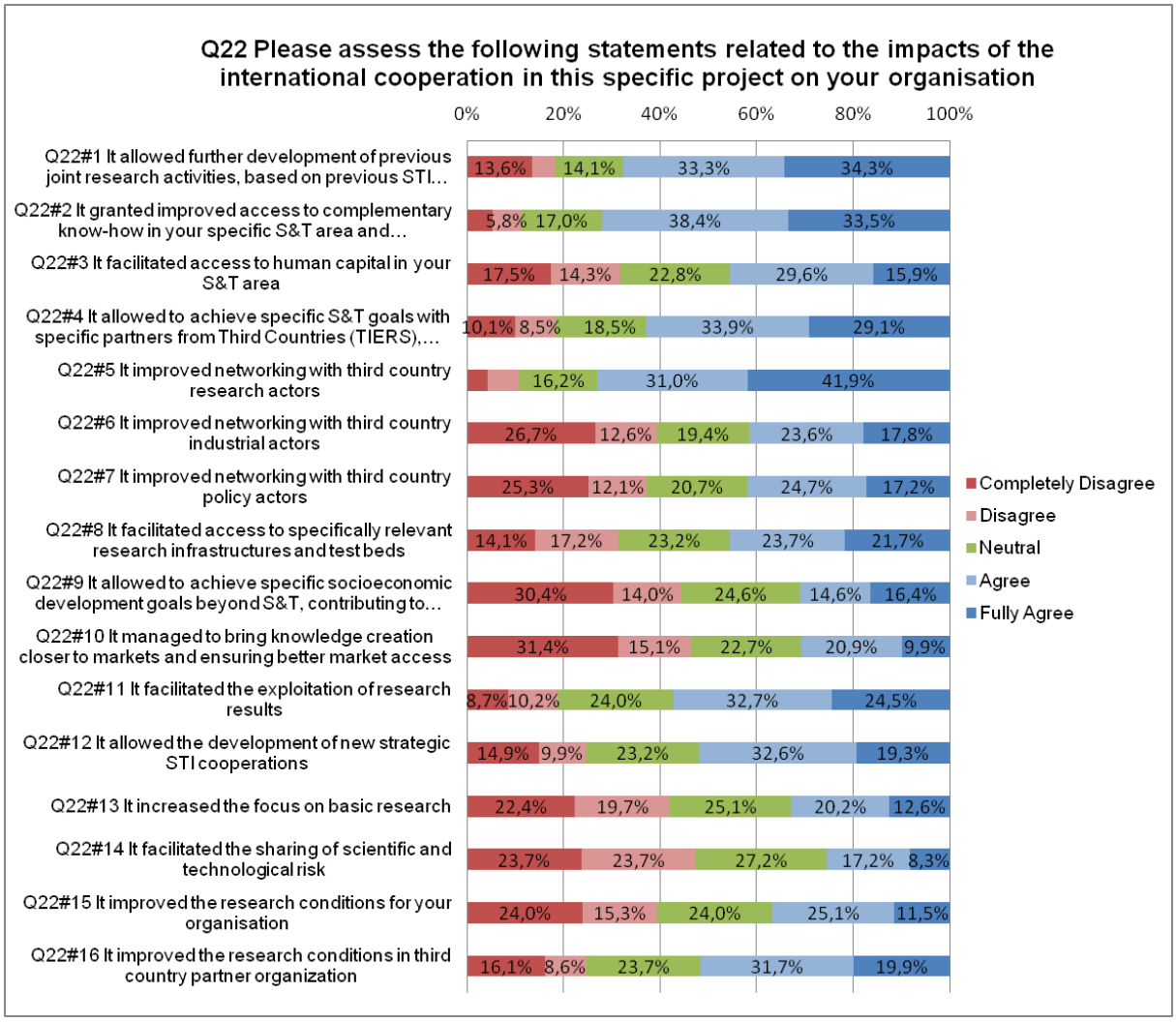


QUESTION 22 [EU-COORDINATOR]: PLEASE ASSESS THE FOLLOWING STATEMENTS RELATED TO THE IMPACTS OF THE INTERNATIONAL COOPERATION IN THIS SPECIFIC PROJECT ON YOUR ORGANISATION?

Table 53 – The EU coordinator assessment of the impacts of the international cooperation in this specific project on their organisation

	Completely Disagree	Disagree	Neutral	Agree	Fully Agree
Q22#1 It allowed further development of previous joint research activities, based on previous STI cooperation activities	13,6%	4,7%	14,1%	33,3%	34,3%
Q22#2 It granted improved access to complementary know-how in your specific S&T area and knowledge sharing with third country partners	5,4%	5,8%	17,0%	38,4%	33,5%
Q22#3 It facilitated access to human capital in your S&T area	17,5%	14,3%	22,8%	29,6%	15,9%
Q22#4 It allowed to achieve specific S&T goals with specific partners from Third Countries (TIERS), which need to be addressed on a global basis	10,1%	8,5%	18,5%	33,9%	29,1%
Q22#5 It improved networking with third country research actors	4,4%	6,6%	16,2%	31,0%	41,9%
Q22#6 It improved networking with third country industrial actors	26,7%	12,6%	19,4%	23,6%	17,8%
Q22#7 It improved networking with third country policy actors	25,3%	12,1%	20,7%	24,7%	17,2%
Q22#8 It facilitated access to specifically relevant research infrastructures and test beds	14,1%	17,2%	23,2%	23,7%	21,7%
Q22#9 It allowed to achieve specific socioeconomic development goals beyond S&T, contributing to societal development in third country	30,4%	14,0%	24,6%	14,6%	16,4%
Q22#10 It managed to bring knowledge creation closer to markets and ensuring better market access	31,4%	15,1%	22,7%	20,9%	9,9%
Q22#11 It facilitated the exploitation of research results	8,7%	10,2%	24,0%	32,7%	24,5%
Q22#12 It allowed the development of new strategic STI cooperation	14,9%	9,9%	23,2%	32,6%	19,3%
Q22#13 It increased the focus on basic research	22,4%	19,7%	25,1%	20,2%	12,6%
Q22#14 It facilitated the sharing of scientific and technological risk	23,7%	23,7%	27,2%	17,2%	8,3%
Q22#15 It improved the research conditions for your organisation	24,0%	15,3%	24,0%	25,1%	11,5%
Q22#16 It improved the research conditions in third country partner organization	16,1%	8,6%	23,7%	31,7%	19,9%

Figure 66 – The EU coordinator assessment of the impacts of the international cooperation in this specific project on their organisation

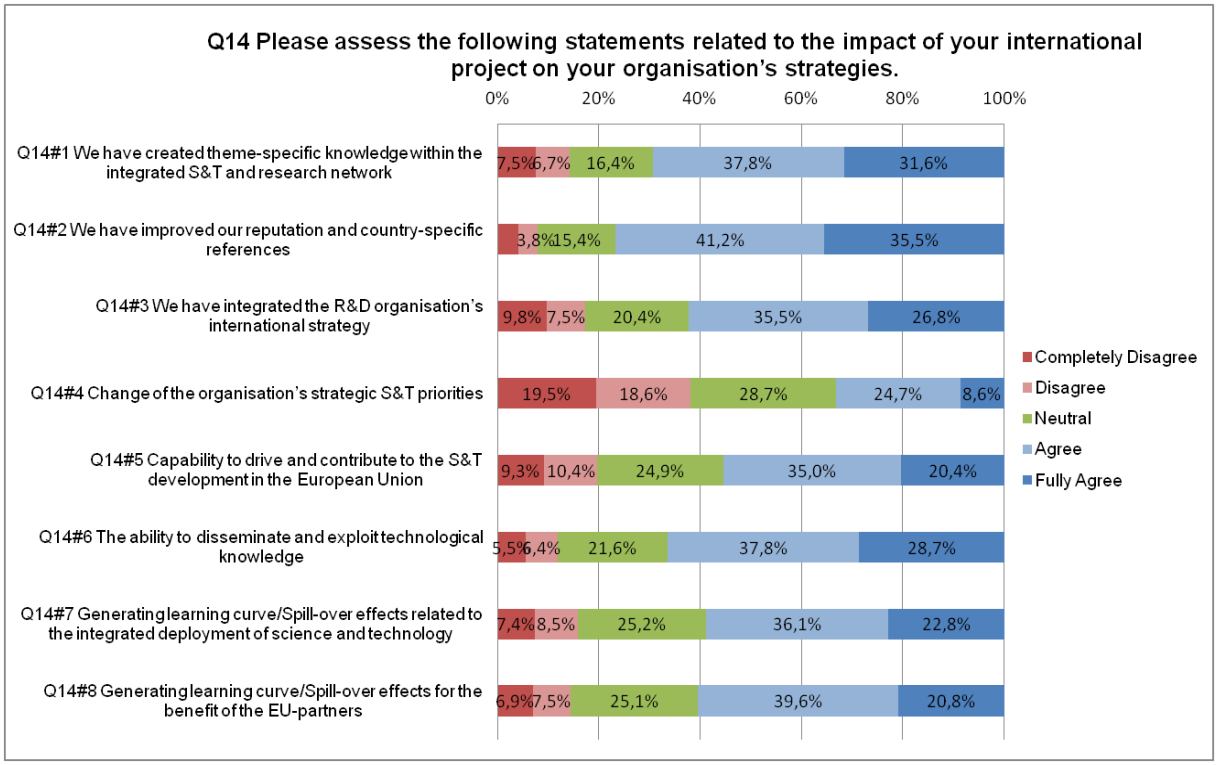


QUESTION 14 [TIERS]: PLEASE ASSESS THE FOLLOWING STATEMENTS RELATED TO THE IMPACT OF YOUR INTERNATIONAL PROJECT ON YOUR ORGANISATION'S STRATEGIES.

Table 54 – The Third country partner assessment of the impact of their international project on the organisation's strategies

	Completely Disagree	Disagree	Neutral	Agree	Fully Agree
Q14#1 We have created theme-specific knowledge within the integrated S&T and research network	7,5%	6,7%	16,4%	37,8%	31,6%
Q14#2 We have improved our reputation and country-specific references	4,2%	3,8%	15,4%	41,2%	35,5%
Q14#3 We have integrated the R&D organisation's international strategy	9,8%	7,5%	20,4%	35,5%	26,8%
Q14#4 Change of the organisation's strategic S&T priorities	19,5%	18,6%	28,7%	24,7%	8,6%
Q14#5 Capability to drive and contribute to the S&T development in the European Union	9,3%	10,4%	24,9%	35,0%	20,4%
Q14#6 The ability to disseminate and exploit technological knowledge	5,5%	6,4%	21,6%	37,8%	28,7%
Q14#7 Generating learning curve/Spill-over effects related to the integrated deployment of science and technology	7,4%	8,5%	25,2%	36,1%	22,8%
Q14#8 Generating learning curve/Spill-over effects for the benefit of the EU-partners	6,9%	7,5%	25,1%	39,6%	20,8%

Figure 67 – The Third country partner assessment of the impact of their international project on its organisation's strategies



QUESTION 23 [EU-COORDINATOR]: PLEASE ASSESS THE FOLLOWING STATEMENTS RELATED TO THE IMPACT OF YOUR INTERNATIONAL PROJECT ON YOUR ORGANISATION'S STRATEGIES.

Table 55 – The EU coordinator assessment of the impact of their international project on its organisation's strategies

	Completely Disagree	Disagree	Neutral	Agree	Fully Agree
Q23#1 We have created theme-specific knowledge within the integrated S&T and research network	6,0%	2,8%	17,9%	38,1%	35,3%
Q23#2 We have improved our reputation and country-specific references	4,1%	3,2%	14,5%	41,2%	37,1%
Q23#3 We have integrated the R&D organisation's international strategy	12,6%	8,4%	26,2%	31,9%	20,9%
Q23#4 Change of the organisation's strategic S&T priorities	27,5%	23,6%	29,1%	13,7%	6,0%
Q23#5 Capability to drive and contribute to the S&T development in the third country	15,6%	10,8%	26,9%	32,3%	14,5%
Q23#6 The ability to disseminate and exploit technological knowledge	5,9%	8,9%	30,0%	34,0%	21,2%
Q23#7 Generating learning curve/Spill-over effects related to the integrated deployment of science and technology	18,5%	14,5%	30,1%	24,9%	12,1%
Q23#8 Generating learning curve/Spill-over effects for the benefit of the third country partners	18,0%	12,8%	23,3%	30,8%	15,1%

Figure 68 – The EU coordinator assessment of the impact of their international project on the organisation's strategies

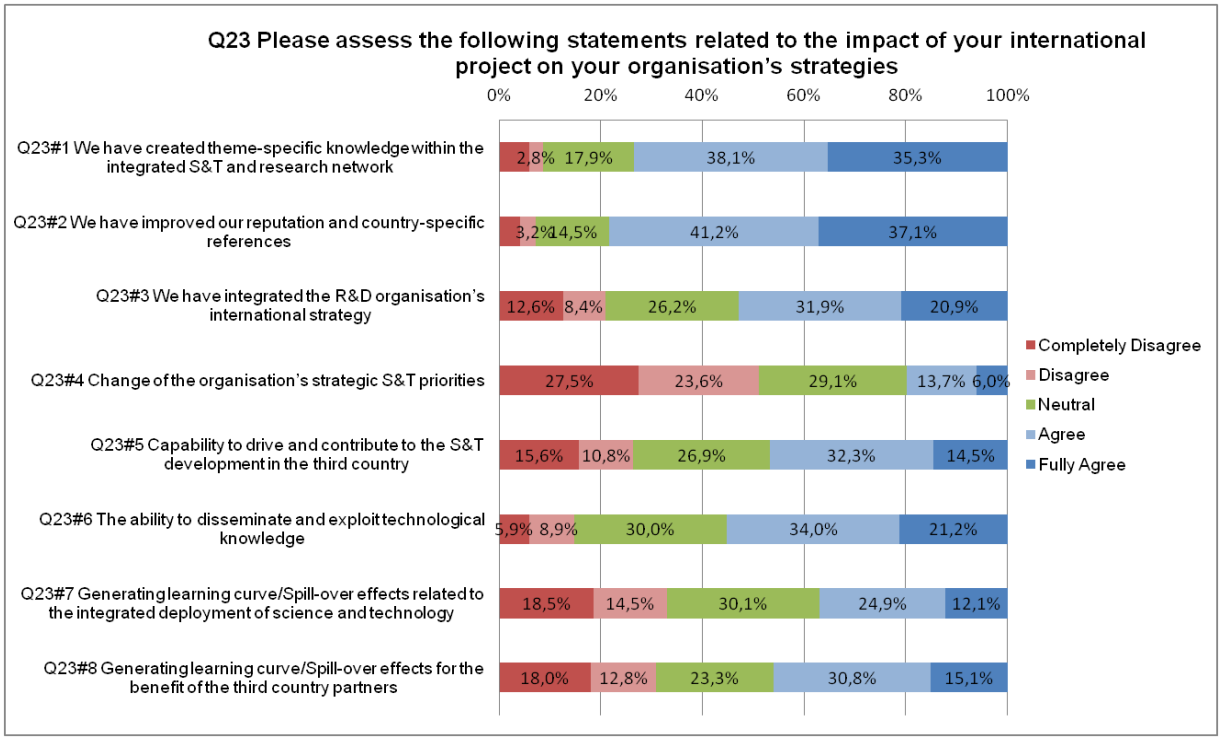


Figure 69: Cross-tabulation between the impact of the international cooperation in the project and the thematic area of cooperation (Q13#Q5) [TIERS]

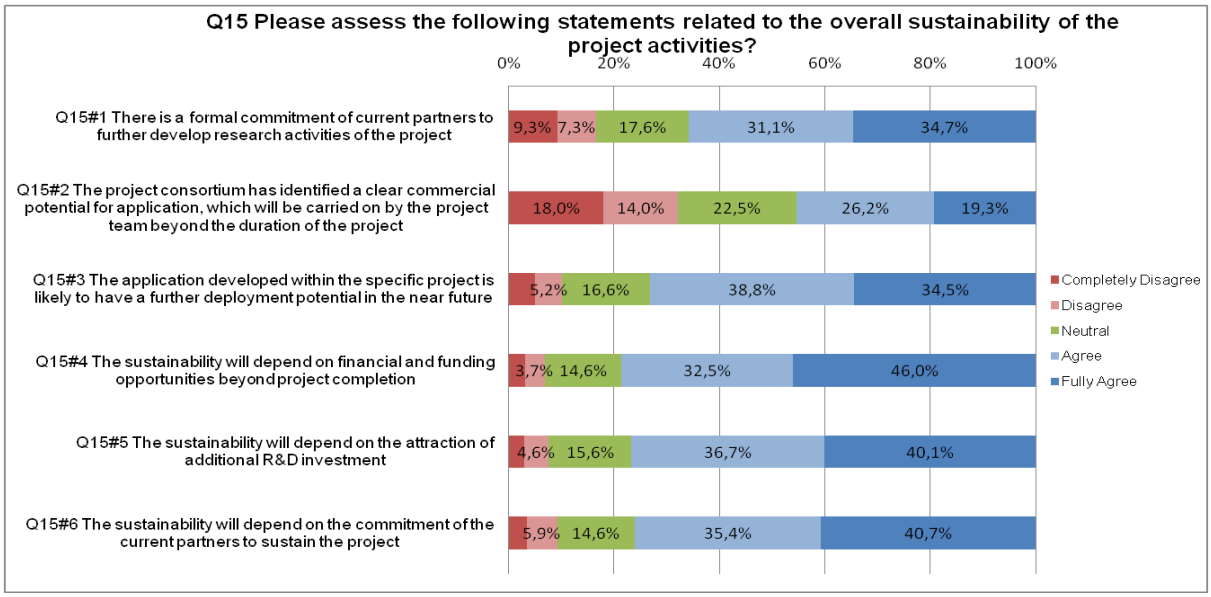
Figure 70: Cross-tabulation between the impact of the international cooperation in the project and the thematic area of cooperation (Q22#Q10) [EU-Coordinator]

QUESTION 15 [TIERS]: PLEASE ASSESS THE FOLLOWING STATEMENTS RELATED TO THE OVERALL SUSTAINABILITY OF THE PROJECT ACTIVITIES

Table 56 – The Third country partner assessment of the overall sustainability of the project activities

	Completely Disagree	Disagree	Neutral	Agree	Fully Agree
Q15#1 There is a formal commitment of current partners to further develop research activities of the project	9,3%	7,3%	17,6%	31,1%	34,7%
Q15#2 The project consortium has identified a clear commercial potential for application, which will be carried on by the project team beyond the duration of the project	18,0%	14,0%	22,5%	26,2%	19,3%
Q15#3 The application developed within the specific project is likely to have a further deployment potential in the near future	5,0%	5,2%	16,6%	38,8%	34,5%
Q15#4 The sustainability will depend on financial and funding opportunities beyond project completion	3,1%	3,7%	14,6%	32,5%	46,0%
Q15#5 The sustainability will depend on the attraction of additional R&D investment	3,0%	4,6%	15,6%	36,7%	40,1%
Q15#6 The sustainability will depend on the commitment of the current partners to sustain the project	3,4%	5,9%	14,6%	35,4%	40,7%

Figure 421 – The Third country partner assessment of the overall sustainability of the project activities

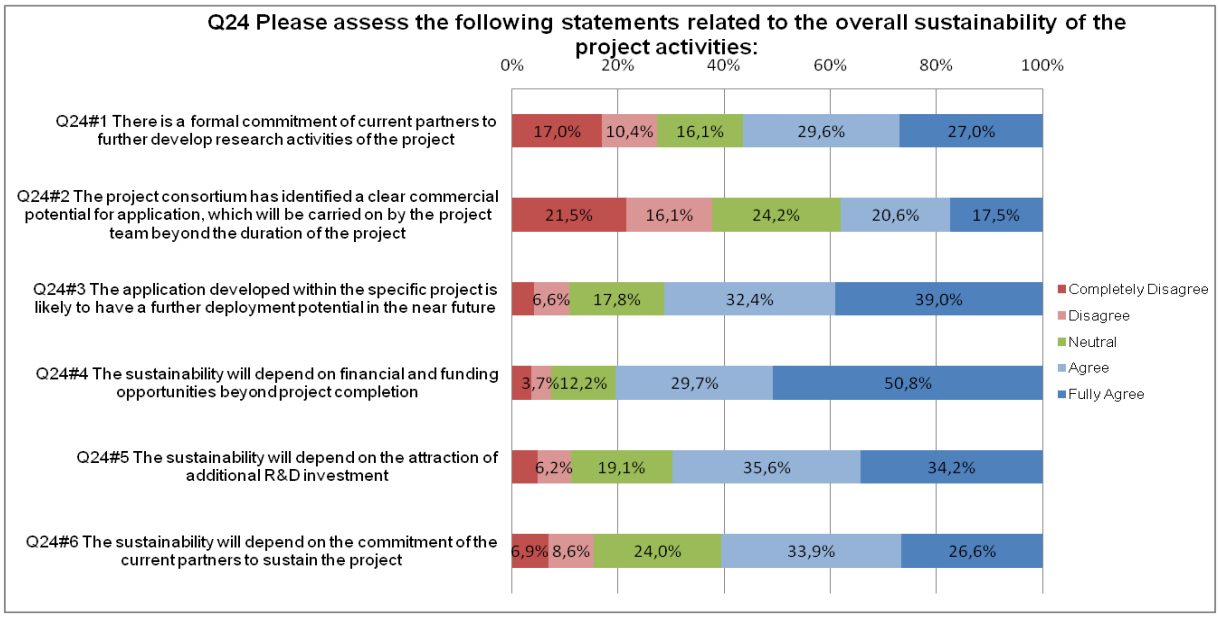


QUESTION 24 [EU-COORDINATOR]: PLEASE ASSESS THE FOLLOWING STATEMENTS RELATED TO THE OVERALL SUSTAINABILITY OF THE PROJECT ACTIVITIES

Table 57 – The EU coordinator assessment of the overall sustainability of the project activities

	Completely Disagree	Disagree	Neutral	Agree	Fully Agree
Q24#1 There is a formal commitment of current partners to further develop research activities of the project	17,0%	10,4%	16,1%	29,6 %	27,0%
Q24#2 The project consortium has identified a clear commercial potential for application, which will be carried on by the project team beyond the duration of the project	21,5%	16,1%	24,2%	20,6 %	17,5%
Q24#3 The application developed within the specific project is likely to have a further deployment potential in the near future	4,1%	6,6%	17,8%	32,4 %	39,0%
Q24#4 The sustainability will depend on financial and funding opportunities beyond project completion	3,7%	3,7%	12,2%	29,7 %	50,8%
Q24#5 The sustainability will depend on the attraction of additional R&D investment	4,9%	6,2%	19,1%	35,6 %	34,2%
Q24#6 The sustainability will depend on the commitment of the current partners to sustain the project	6,9%	8,6%	24,0%	33,9 %	26,6%

Figure 43 – The EU coordinator assessment of the overall sustainability of the project activities

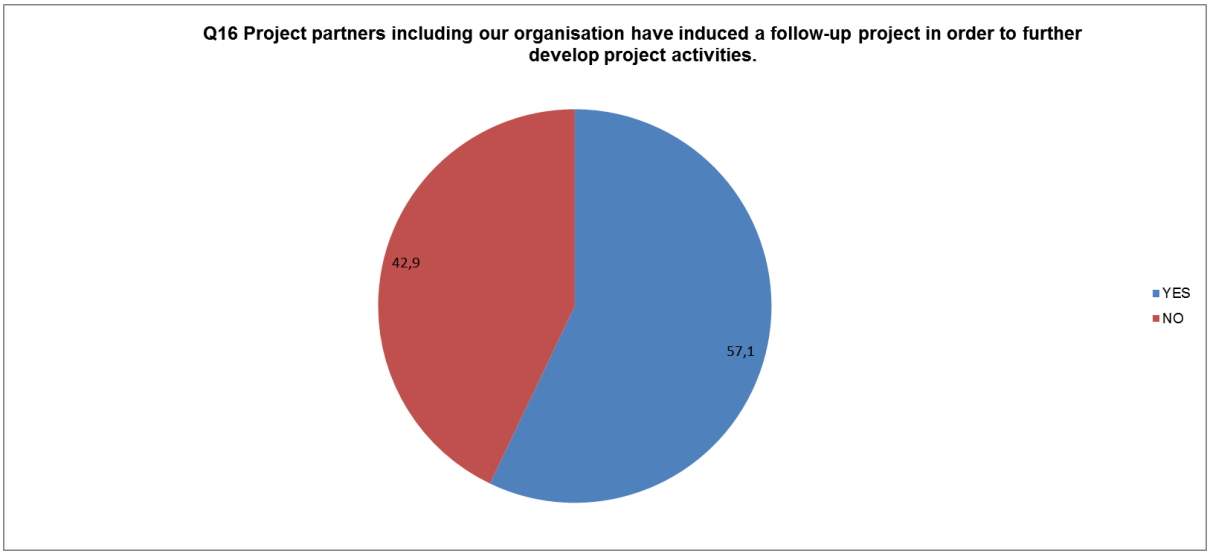


QUESTION 16 [TIERS]: PROJECT PARTNERS, INCLUDING OUR ORGANISATION, HAVE INDUCED A FOLLOW-UP PROJECT IN ORDER TO FURTHER DEVELOP PROJECT ACTIVITIES.

Table 58 –The existence of a follow-up project

	Frequency	%
NO	228	42,9
YES	303	57,1

Figure 73 – Project partners, including their own organisation, have induced a follow-up project in order to further develop project activities

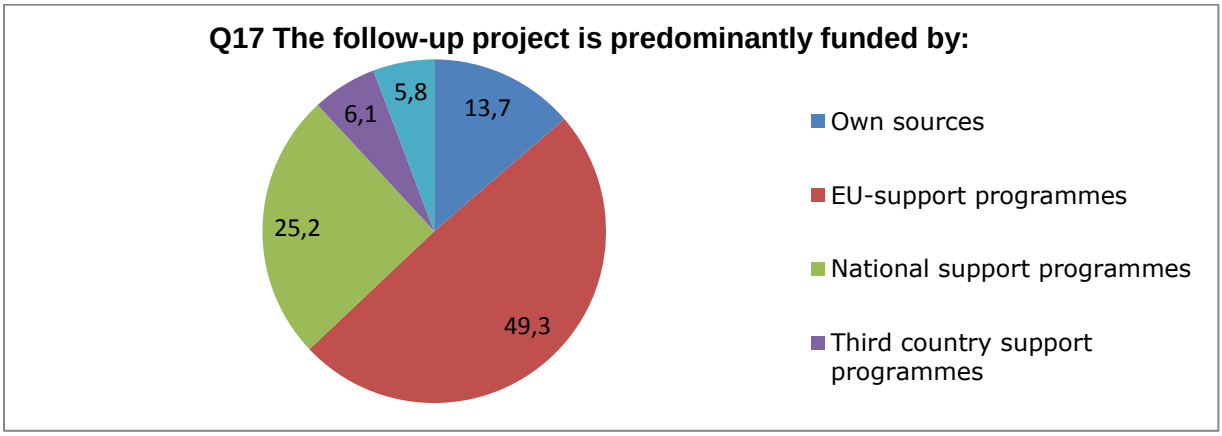


QUESTION 17 [TIERS]: THE FOLLOW-UP PROJECT IS PREDOMINANTLY FUNDED BY (ONLY TO BE ANSWERED IF ANSWER WAS 'YES' AT Q16):

Table 59 – The funding of the follow-up project according to third country partners

	Frequency	%
Own sources	38	13,7
EU-support programmes	137	49,3
National support programmes	70	25,2
Third country support programmes	17	6,1
Private funds or investor's funds	16	5,8
Total	**278**	**100,0**

Figure 7444 – The funding of the follow-up project according to third country partners

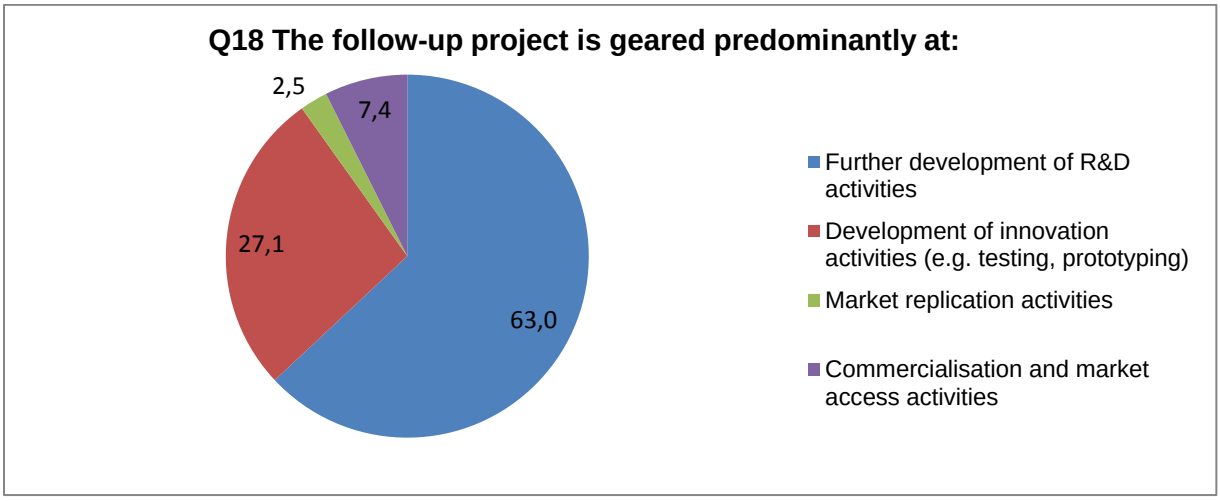


QUESTION 18 [TIERS]: THE FOLLOW-UP PROJECT IS GEARED PREDOMINANTLY AT (ONLY TO BE ANSWERED IF ANSWER WAS 'YES' AT Q16):

Table 60 – The main purpose of the follow-up project according to third country partners

	Frequency	%
Further development of R&D activities	179	63,0
Development of innovation activities (e.g. testing, prototyping)	77	27,1
Market replication activities	7	2,5
Commercialisation and market access activities	21	7,4
Total	**284**	**100,0**

Figure 7545 – The main purpose of the follow-up project according to third country partners

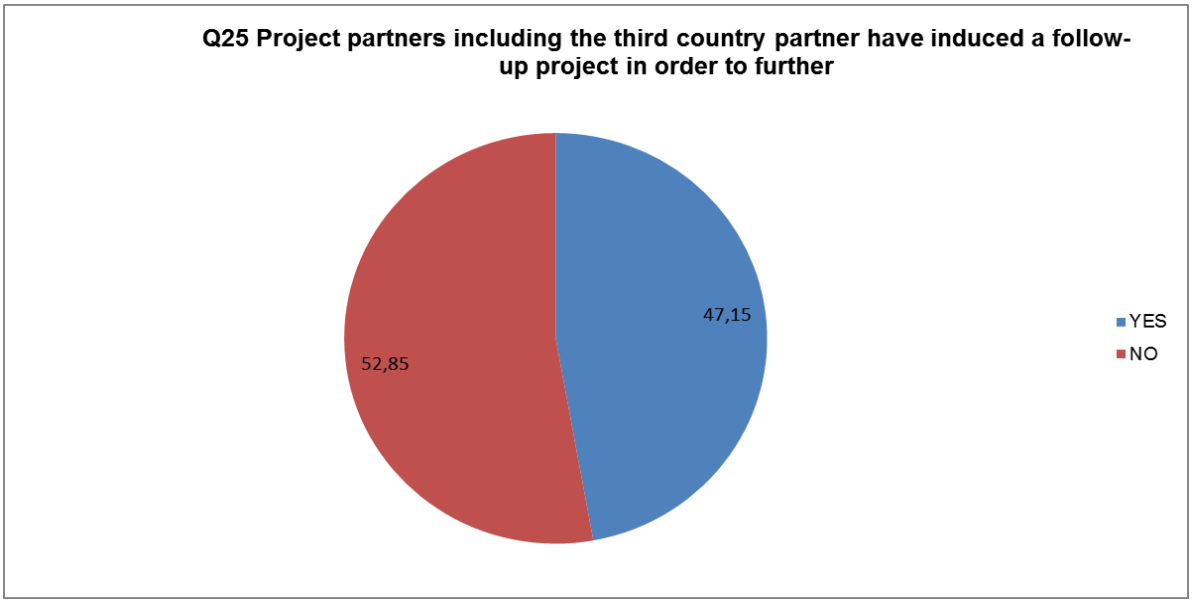


QUESTION 25 [EU-COORDINATORS]: PROJECT PARTNERS, INCLUDING THE THIRD COUNTRY PARTNER, HAVE INDUCED A FOLLOW-UP PROJECT IN ORDER TO FURTHER DEVELOP PROJECT ACTIVITIES:

Table 61 – The existence of a follow-up project according to EU coordinators

	Frequency	%
NO	102	52,8%
YES	91	47,2%

Figure 7646 – The existence of a follow-up project according to EU coordinators

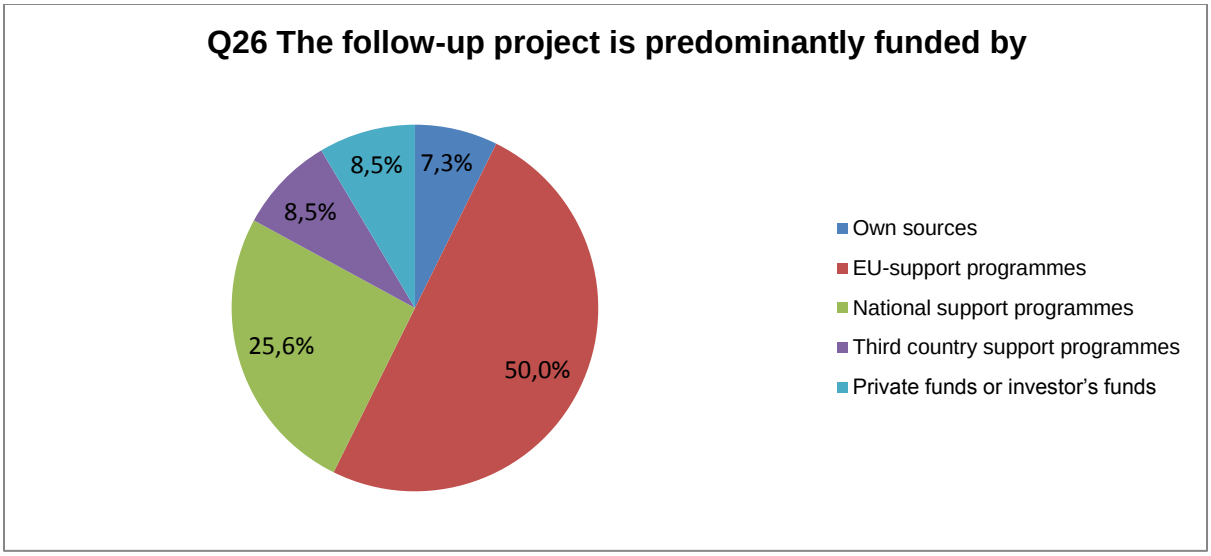


QUESTION 26 [EU-COORDINATORS]: THE FOLLOW-UP PROJECT IS PREDOMINANTLY FUNDED BY (ONLY TO BE ANSWERED IF ANSWER WAS 'YES' AT Q25):

Table 62 – The funding of the follow-up project according to EU coordinators

	Frequency	%
Own sources	6	7,3%
EU-support programmes	41	50,0%
National support programmes	21	25,6%
Third country support programmes	7	8,5%
Private funds or investor's funds	7	8,5%
Total	82	100,0

Figure 7747 – The funding of the follow-up project according to EU coordinators



QUESTION 27 [EU-COORDINATORS]: THE FOLLOW-UP PROJECT IS GEARED PREDOMINANTLY AT (ONLY TO BE ANSWERED IF ANSWER WAS 'YES' AT Q25):

Table 63 – The main objectives of the follow-up project according to EU coordinators

	Frequency	%
Further development of R&D activities	58	66,7%
Development of innovation activities (e.g. testing, prototyping)	21	24,1%
Market replication activities	2	2,3%
Commercialisation and market access activities	6	6,9%
Total	87	100,00%

Figure 7848 – The main objectives of the follow-up project according to EU coordinators

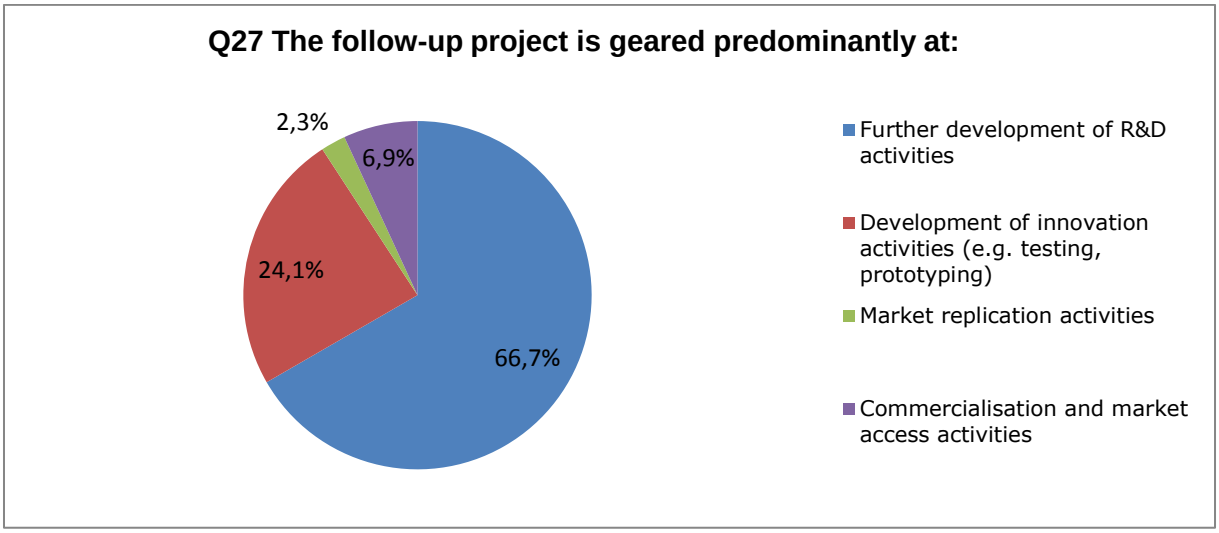


Figure 7949:Cross-tabulation between the inducement of a follow-up project and the thematic area of cooperation (Q16#Q1) [TIERS]

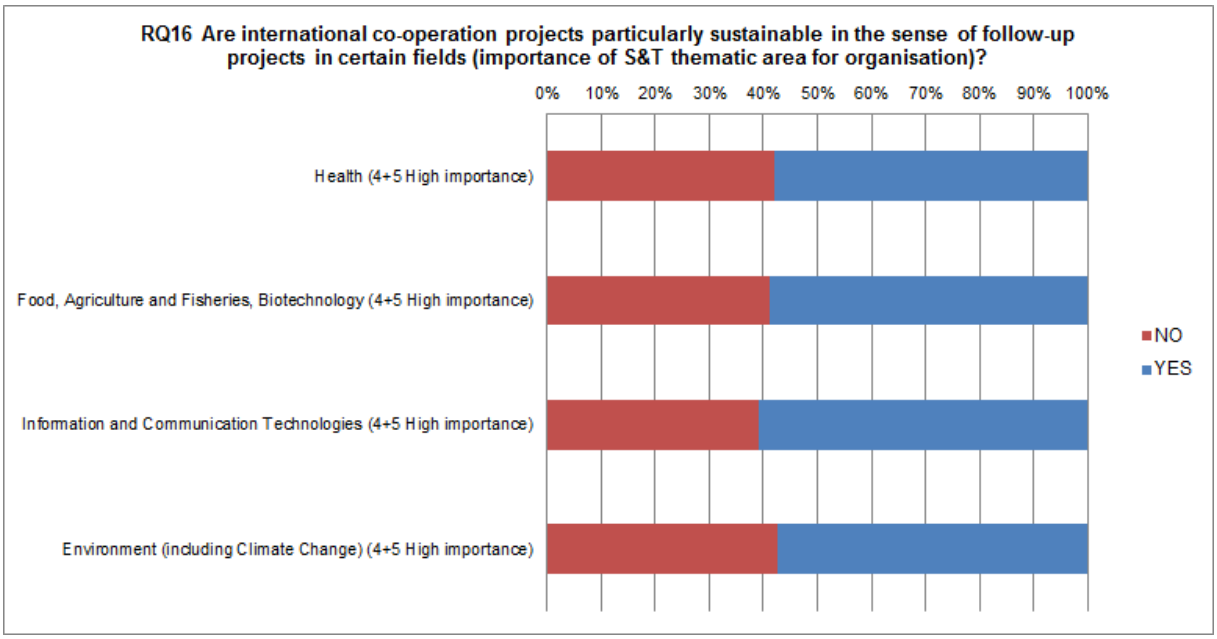


Figure 80: Cross-tabulation between the inducement of a follow-up project and the importance of S&T cooperation with different regions (Q25#Q1) [EU-Coordinator]

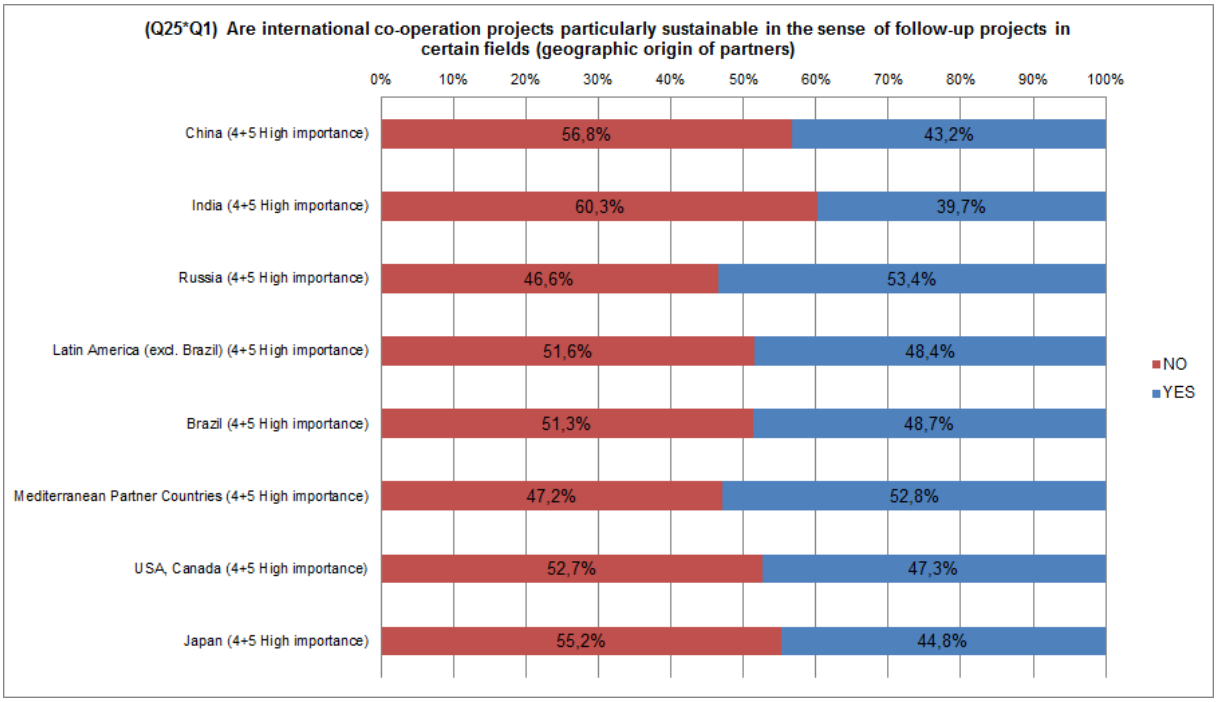
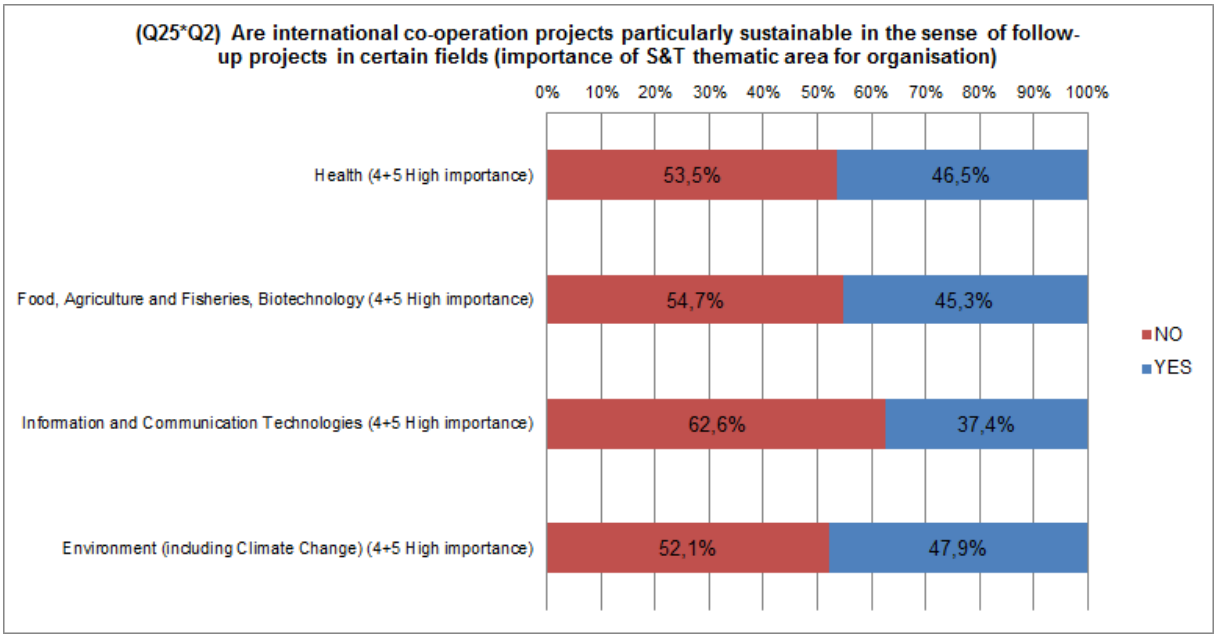


Figure 50: Cross-tabulation between the inducement of a follow-up project and the thematic area of cooperation (Q25#Q2) [EU-Coordinator]



QUESTION 10C [NCP]: CAN YOU PLEASE INDICATE WHETHER YOU AGREE WITH THE FOLLOWING STATEMENTS ON THE IMPACT OF INTERNATIONAL S&T COOPERATION ACTIVITIES IN THE EU'S SEVENTH FRAMEWORK PROGRAMME AS REGARDS ITS PROGRAMME DESIGN.

Table 64 – NCP assessment of the impact factors of the EU's Seventh Framework Programme as regards its programme design

	Completely Disagree	Disagree	Neutral	Agree	Fully Agree
FP7 international STI cooperation has improved the capability to attract research funds.	2.2%	9.7%	29.0%	43.0%	16.1%
FP7 international STI cooperation has improved the capability to build networks and stabilising STI linkages.	1.0%	5.1%	20.2%	51.5%	22.2%
FP7 international STI cooperation has improved the capability to foster the continuation of existing collaboration between international partners.	2.1%	6.3%	15.6%	50.0%	26.0%
FP7 international STI cooperation has generated a positive impact on the quality level of scientific activities and research excellence.	2.1%	5.3%	24.2%	40.0%	28.4%
FP7 international STI cooperation has generated a positive impact on the access to complementary knowledge, expertise and skills.	2.1%	5.3%	23.2%	46.3%	23.2%
FP7 international STI cooperation has generated a positive impact on the access to research infrastructures or specific test beds.	5.7%	8.0%	36.8%	35.6%	13.8%
FP7 international STI cooperation has generated a positive impact on the sharing and mitigation of cost and risks.	2.6%	13.2%	35.5%	36.8%	11.8%
FP7 international STI cooperation has generated a positive impact on addressing global problems and grand challenges.	3.2%	9.6%	20.2%	46.8%	20.2%
FP7 international STI cooperation has generated a significant positive impact on STI capacity building in partner country.	1.1%	11.6%	33.7%	33.7%	20.0%
FP7 international STI cooperation has generated significant spillovers on foreign market access.	7.4%	13.2%	33.8%	36.8%	8.8%
FP7 International Cooperation in STI has fostered competitiveness & innovation.	2.2%	9.0%	29.2%	40.4%	19.1%
FP7 International Cooperation in STI has improved diplomacy and improvement of international relations.	2.3%	2.3%	21.8%	43.7%	29.9%
FP7 International Cooperation in STI has improved the STI policy dialogue, agenda setting and collaboration between countries, as well as the opening of programmes (reciprocity).	1.2%	10.7%	25.0%	48.8%	14.3%
FP7 International Cooperation in STI has supported the development of common approaches, rules and regulations.	4.8%	12.0%	26.5%	44.6%	12.0%
FP7 International Cooperation in STI has improved the attractiveness, retention and development of human resources.	5.8%	9.3%	24.4%	50.0%	10.5%
FP7 International Cooperation in STI has supported dissemination and outreach of STI activities and outputs.	1.1%	10.0%	27.8%	44.4%	16.7%
FP7 International Cooperation in STI has favoured sustainable scientific and innovation relationships.	1.0%	6.3%	30.2%	42.7%	19.8%

Figure 8251 – NCP assessment of the impact factors of the EU's Seventh Framework Programme as regards its programme design

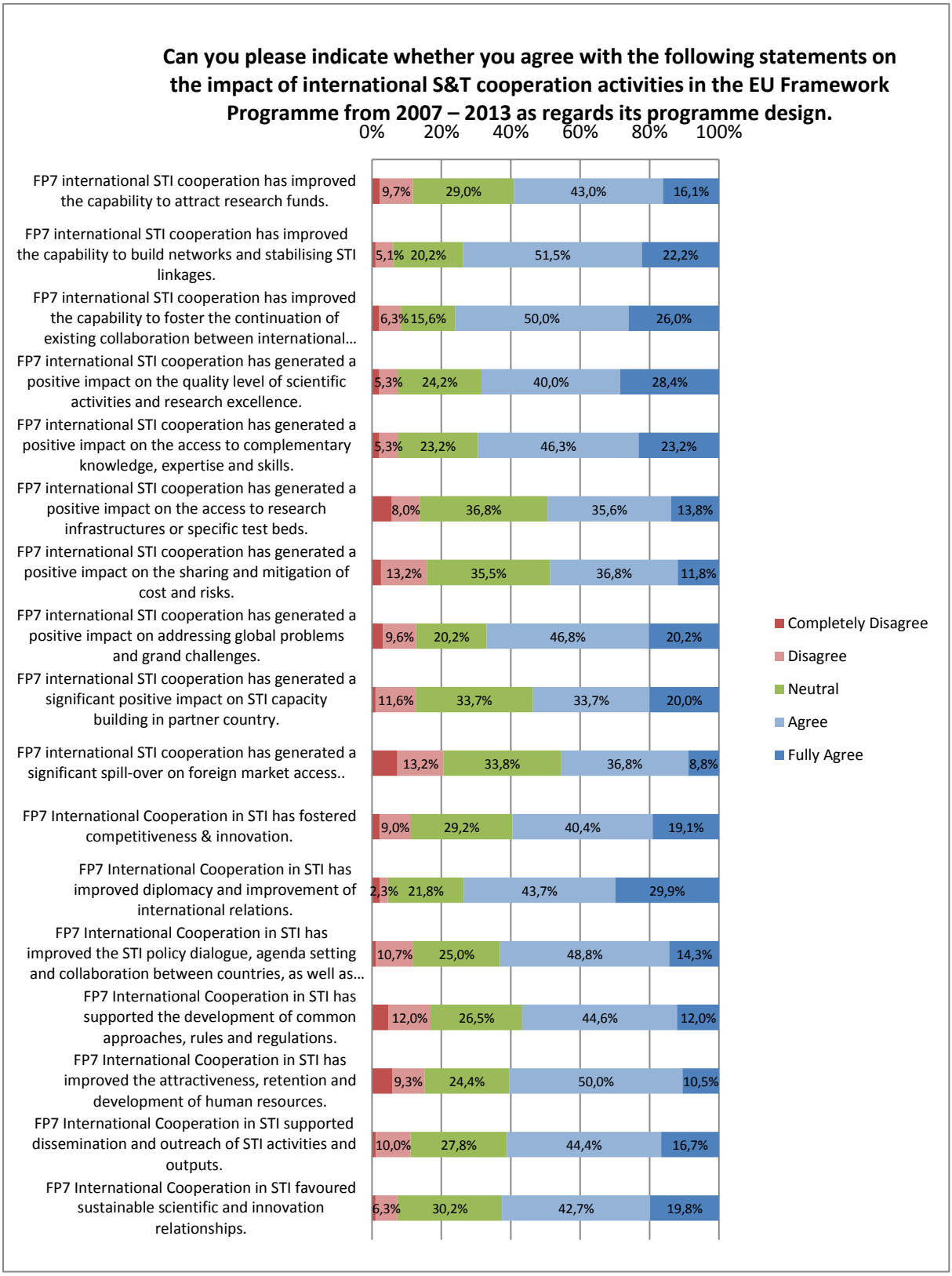


Table 65 – The overview of the FP7 Instruments for International Cooperation

Funding Scheme	General Information	Instruments	Specificities to international cooperation (Type)
Collaborative projects (CP)	- Support to research projects aimed at developing new knowledge, new technology, products or common resources for research. - Size, scope and internal organisation of projects can vary (small or medium-scale focused research actions to larger integrating projects) - Projects should also target special groups such as Small and medium sized enterprises (SMEs) and other smaller actors.	**Small or medium scale focused research actions (STREP), CP-FP** - Objective-driven research projects which aim at generating new knowledge, including new technology or common resources for research in order to improve European competitiveness, or to address major societal needs. - Typically from 18 months to 3 years but no formal minimum or maximum duration - At least 3 legal entities from 3 different EU Member States (MS) or Associated Countries (AC), if Specific International Cooperation Action (SICA) also international partner countries - <€4m **Large scale integrating projects (IP), CP-IP** - The same as for Specific Targeted Research Programmes (STREP). Moreover IP projects will have a comprehensive programme approach, including a coherent integrated set of activities dealing with a range of aspects and tackling multiple issues and aimed at specific deliverables - Typically from 3 to 5 years but no formal minimum or maximum duration - At least 3 legal entities from 3 different EU Member States or Associated Countries, if SICA also from international partner countries - >=4m	**General Opening of all themes to international partner countries** - Min. 3 participants from per 3 different EU MS or AC - International partner countries if needed to the project **Targeted Opening** - Participation of international partner countries seems suitable because of the research topic itself - Participation of international partner countries is particularly encouraged, but not mandatory - Targeted Openings work with CP-IP or CP-FP - Targeted Openings cannot be identified via eCORDA **Specific cooperation action dedicated to international cooperation (CP-FP-SICA)** - In some calls on topics of mutual interest, special conditions apply to promote research collaborations between European organisations and those based in the International Co-operation Partner Countries (ICPC[91]) - They aim to jointly address problems of shared interest, or problems that international partner countries face, or problems of global character in the areas identified through bi-regional dialogues with international partner countries and internationally - Participation of international partner countries is mandatory, min. 4 participants from different countries: 2 ICPC + 2 MS or AC - ICPC financed!

[91] The list of international cooperation partner countries (ICPC) can be found here: http://www.fp7.org.tr/tubitak_content_files/285/uie_dokuman/icpc_countries_en.pdf

Funding Scheme	General Information	Instruments	Specificities to international cooperation (Type)
			- SICAs foresee compulsory participation of the countries or regions addressed (mostly one country or one region) - SICAs were developed throughout almost all the Themes (with the exception of the Security Theme) - SICAs work under CP-FP and CP-IP (CP-FP-SICA or CP-IP-SICA) - SICAs can be identified in eCORDA
		Collaborative Project targeted to a special group (such as SMEs), CP-TP	
		CP-CSA - Involves a combination of the collaborative projects and coordination and support actions (CP-CSA) funding schemes.	
			Coordinated Call - A FP7 call that is closely coordinated with a similar call issued by a funding agency in a third country(alignment of content, resources, timing, evaluation criteria and procedures) - It aims at generating joint or tightly coordinated projects, entailing a balanced partnership - Matching funds from partner countries are available, proposals are evaluated by the EU experts and by the third country experts separately - Coordinated calls have been developed in various Thematic areas including Knowledge-Based Bio-Economy (KBBE), Nanosciences, Nanotechnologies, Materials and new Production Technologies (NMP), Energy and Transport - Coordinated Calls work under CP-FP and CP-IP - Coordinated Calls cannot be identified in eCORDA as there is no specific abbreviation
			Twinning of projects - Collaboration between projects of FP7 and related research programmes in these international partner countries based on common benefit and reciprocity - Used to promote international cooperation with international partner countries that have signed bilateral S&T agreements with the European Community - Activities might include staff exchanges, share of data and knowledge, etc. - A part of the budget of proposals must be specified for networking

Funding Scheme	General Information	Instruments	Specificities to international cooperation (Type)
			with similar projects in the target country - Only in some thematic programmes twinnings are used (e.g. under KBBE and Energy Themes) - Programme level collaborations (a priori twinning) have also been used (e.g. in the Health Theme) - Twinnings cannot be identified in eCORDA as there is no specific abbreviation
Coordination and Support Action (CSA)	These are actions that cover not the research itself, but the coordination and networking of projects, programmes and policies. This includes, for example: - coordination and networking activities, dissemination and use of knowledge - studies or expert groups assisting the implementation of the FP - support for transnational access to major research infrastructures - actions to stimulate the participation of SMEs, civil society and their networks	**Coordinating or networking actions (CA)** - Support to activities aimed at coordinating or supporting research activities and policies (networking, exchanges, transnational access to research infrastructures, studies, conferences...) - Normally three from three different countries **(Specific) Support Actions (SSA or SA)** - Contribute to the implementation of the Framework Programme and the preparation of future Union research and technological development policy or the development of synergies with other policies or to stimulate, encourage and facilitate the participation of SMEs - They may be carried out by a single participant. There are no restrictions on the size of the consortium	Used in form of stimulation actions for the development of partnerships between communities of scholars, research institutions and agencies in the EU and Associated Countries in the FP and other world regions. CSAs are especially used in relation to common challenges and opportunities. These include horizontal measures such as strategic studies of research capacities and priorities, joint conferences and workshops, and joint summer schools, aiming to support current and future collaborative research endeavours. In some Thematic Programmes CSA are used to set up large platforms (mainly targeting one country or region) for exchange between EU/Associated Countries and international partner countries. CSAs can additionally be used in form of: - **ERA-NET (plus)**[92] with the participation of international partner countries - **Specific cooperation action dedicated to international cooperation** (SICA) (see explanations above) - **Targeted Opening** (see explanations above)

[92] *The funding scheme to be used for ERA-NET Plus Actions is the "Coordination and Support Actions (Coordinating) CSA ERA-NET Plus". This is a specific CSA funding scheme with specific financial dispositions for ERA-NET Plus Actions, which differs from the classical CSA.* http://www.mnt-era.net/links-downloads/era-net-plus-implementation

Funding Scheme	General Information	Instruments	Specificities to international cooperation (Type)
Network of Excellence (NoE)	Support to integration of activities/joint teams	**NoE** - Projects require the minimum participation of three different EU Member States, however, projects are usually expected to involve at least six countries. - Projects are provided grants for a maximum of seven years. - The budget granted by the Commission is €1-6 million per year depending upon the number of researchers involved.	- If NoE are open for international cooperation, third counties can participate - Only in few thematic programmes NoE are used

Table 66 –Quantitative Overview of International Cooperation projects in eCorda

Priority Area	No. of Pro-jects in eCORDA	% of Projects by Priority Area	Projects with TIERS participation	% of projects with TIERS participation by Priority Area	% of TIERS projects by total projects in priority area	Total Number of Participants	% of Participations by Priority Area	TIERS Number of participants	Distribution of TIERS participants	% TIERS participants	Avg. No. TIERS participants per Project
Health	757	14,75 %	**258**	21,75 %	**34%**	8439	14,35 %	**678**	21,59 %	**8%**	2,63
Food, Agriculture, and Biotechnology	420	8,19%	**169**	14,25 %	**40%**	6160	10,48 %	**567**	18,06 %	**9%**	3,36
Information and Communication Technologies	1649	32,14 %	**233**	19,65 %	**14%**	15842	26,95 %	**507**	16,15 %	**3%**	2,18
Nanosciences, Nanotechnologies, Materials and new Production Technologies	574	11,19 %	**84**	7,08%	**15%**	7155	12,17 %	**174**	5,54%	**2%**	2,07
Energy	259	5,05%	**64**	5,40%	**25%**	2892	4,92%	**143**	4,55%	**5%**	2,23
Environment (including Climate Change)	405	7,89%	**163**	13,74 %	**40%**	5584	9,50%	**575**	18,31 %	**10%**	3,53
Transport (including Aeronautics)	507	9,88%	**89**	7,50%	**18%**	6659	11,33 %	**202**	6,43%	**3%**	2,27
Socio-economic sciences and Humanities	180	3,51%	**55**	4,64%	**31%**	1848	3,14%	**144**	4,59%	**8%**	2,62
Space	161	3,14%	**59**	4,97%	**37%**	1726	2,94%	**135**	4,30%	**8%**	2,29
Security	194	3,78%	**12**	1,01%	**6%**	2314	3,94%	**15**	0,48%	**1%**	1,25
General Activities (Annex IV)	25	0,49%	--	--	--	171	0,29%	--	--	--	--
Total	5131	100,00%	**1186**	100,00%	**23%**	58790	100,00%	**3140**	100,00%	**5%**	2,65

Table 67 – Projects by Project funding scheme (projects with international partner participation compared to all projects of the Cooperation programme)

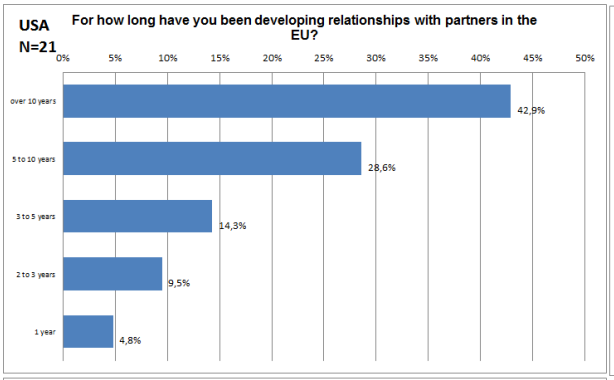
Funding Instrument and Thematic Area	Intl. partner participations		COOPERATION programme	
	Projects	% Thematic Area by Group	Projects	% Thematic Area by Group
CP (Collaborative Projects)	**1051**	**79,68%**	**4772**	**81,10%**
Health	245	18,57%	742	12,61%
Food, Agriculture, and Biotechnology	129	9,78%	327	5,56%
Information and Communication Technologies	185	14,03%	1526	25,93%
Nanosciences, Nanotechnologies, Materials and new Production Technologies	91	6,90%	588	9,99%
Energy	61	4,62%	268	4,55%
Environment (including Climate Change)	133	10,08%	313	5,32%
Transport (including Aeronautics)	89	6,75%	483	8,21%
Socio-economic sciences and Humanities	52	3,94%	177	3,01%
Space	60	4,55%	175	2,97%
Security	6	0,45%	173	2,94%
CSA (Coordination and support action)	**247**	**18,73%**	**1048**	**17,81%**
Health	38	2,88%	117	1,99%
Food, Agriculture, and Biotechnology	38	2,88%	96	1,63%
Information and Communication Technologies	69	5,23%	300	5,10%
Nanosciences, Nanotechnologies, Materials and new Production Technologies	16	1,21%	95	1,61%
Energy	10	0,76%	43	0,73%
Environment (including Climate Change)	31	2,35%	103	1,75%
Transport (including Aeronautics)	21	1,59%	157	2,67%
Socio-economic sciences and Humanities	9	0,68%	30	0,51%
Space	9	0,68%	36	0,61%
Security	6	0,45%	45	0,76%
General Activities (Annex IV)			26	0,44%
NOE (Network of Excellence)	**12**	**0,91%**	**52**	**0,88%**
Health	3	0,23%	7	0,12%
Food, Agriculture, and Biotechnology	1	0,08%	1	0,02%
Information and Communication Technologies	6	0,45%	39	0,66%
Nanosciences, Nanotechnologies, Materials and new Production Technologies	0		0	
Energy	0		0	
Environment (including Climate Change)	0		1	0,02%
Transport (including Aeronautics)	0		0	
Socio-economic sciences and Humanities	0		0	
Space	0		0	
Security	2	0,15%	4	0,07%
BSG (Research for the benefit of specific groups)	**9**	**0,68%**	**12**	**0,20%**
Health	0		0	
Food, Agriculture, and Biotechnology	0		1	0,02%
Information and Communication Technologies	0		0	
Nanosciences, Nanotechnologies, Materials and new Production Technologies	0		0	
Energy	0		0	
Environment (including Climate Change)	7	0,53%	9	0,15%
Transport (including Aeronautics)	0		0	
Socio-economic sciences and Humanities	2	0,15%	2	0,03%
Space	0		0	
Security	0		0	

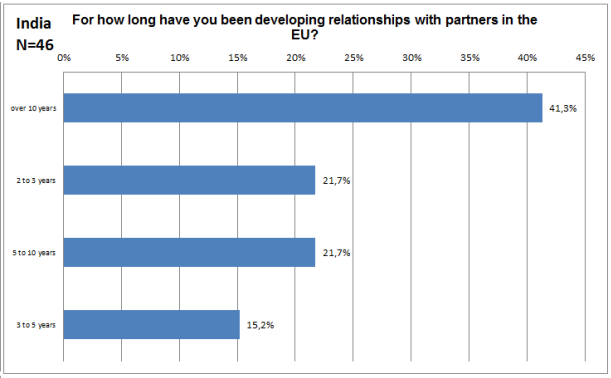
Table68: Summarising eCORDA Results for Case Study Countries

		USA	%	India	%	Tunisia	%	Grand Total of Project with International Partner Participation
Number of Projects	Number of Projects	343		196		55		
	Number of Participations	343		196		55		**3.446**
	% of Grand Total of Participants		**9,95**		**5,69**		**1,60**	**100%**
Funding Scheme	CP (Collaborative Projects)	293	*85,4*	137	*69,9*	35	*63,6*	**2.443**
	CSA (Coordination and Support Actions)	46	*13,4*	59	*30,1*	20	*36,4*	**951**
	NOE (Network of Excellence)	3	*0,9*	-	-	-	-	**26**
	BSG (Research for the benefit of specific groups)	1	*0,3*	-	-	-	-	**26**
	Sum	**343**	***100,0***	**196**	***100,0***	**55**	***100,0***	**3.446**
Organisation activity type	Higher of secondary education est. (HES)	170	*49,6*	57	*29,1*	10	*18,2*	**1.443**
	Research Organisation (REC)	60	*17,5*	77	*39,3*	27	*49,1*	**1.054**
	Private Commercial (PRC)	69	*20,1*	33	*16,8*	6	*10,9*	**463**
	Public Body (excl. Research and education) (PUB)	16	*4,7*	15	*7,7*	11	*20,0*	**340**
	Other (OTH)	28	*8,2*	14	*7,1*	1	*1,8*	**146**
	Sum	**343**	***100***	**196**	***100,0***	**55**	***100,0***	**3.446**
Role in the project	Coordinator	2	*0,6*	-	-	-	-	9
	Participant	341	*99,4*	196	*100,0*	55	*100,0*	3.437
	Sum	**343**	***100,0***	**196**	***100,0***	**55**	***100,0***	3.446
Themes	Health	122	*35,6*	56	*28,6*	12	*21,8*	**754**
	Food, Agriculture and Biotechnology	42	*12,2*	28	*14,3*	18	*32,7*	**566**
	Information and Communication Technologies	69	*20,1*	28	*14,3*	4	*7,3*	**555**
	Nanosciences, Nanotechnologies, Materials & New Production Technologies	29	*8,5*	11	*5,6*	3	*5,5*	**231**
	Energy	16	*4,7*	10	*5,1*	1	*1,8*	**153**
	Environment (including Climate Change)	27	*7,9*	36	*18,4*	13	*23,6*	**588**
	Transport (including Aeronautics)	7	*2,0*	10	*5,1*	1	*1,8*	**254**
	Socio-Economic Sciences and	11	*3,2*	15	*7,7*	2	*3,6*	**178**

		USA	%	India	%	Tunisia	%	Grand Total of Project with International Partner Participation
	Humanities							
	Space	16	*4,7*	2	*1,0*	1	*1,8*	**150**
	Security	4	*1,2*	0	*0,0*	0	*0,0*	**17**
	Sum	**343**	***100,0***	**196**	***100,0***	**55**	***100,0***	**3.446**
Finance	Sum of Participant Project Cost	98.425.535,54		46.303.992,88		7.999.844,06		**749.671.758,5**
	Sum of Participant EC Financial Contribution	58.979.654,51		32.240.609,34		6.028.354,73		**461.734.567,9**
	% of Grand Total Participant EC Financial Contribution		***12,77***		***6,98***		***1,3***	**100%**
	Average Participation Project Cost	***286954,9***		***236244,9***		***145451,7***		
	Average Participation EC Financial Contribution	***171952,3***		***164492,9***		***109606,4***		**133.991,5**
	Sum of Project Total Cost	2.357.329.793,44		760.579.848,37		224.911.758,86		
	Sum of Project EC Financial Contribution	1.676.155.553,56		563.576.285,94		167.172.750,50		

Figure 83: Case studies - For how long have you been developing relationships with EU partners?





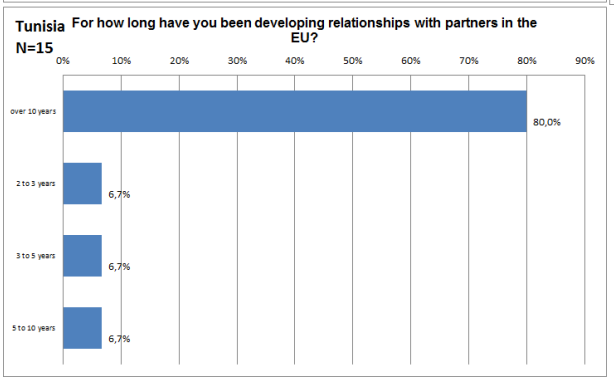
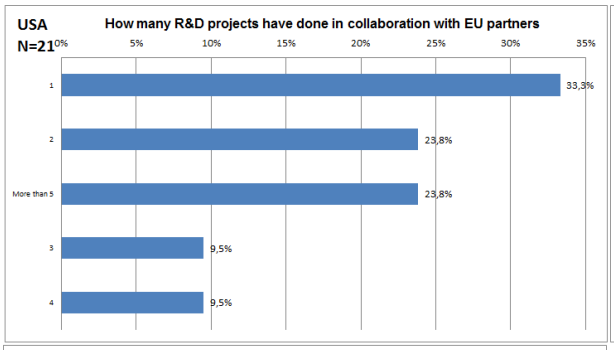
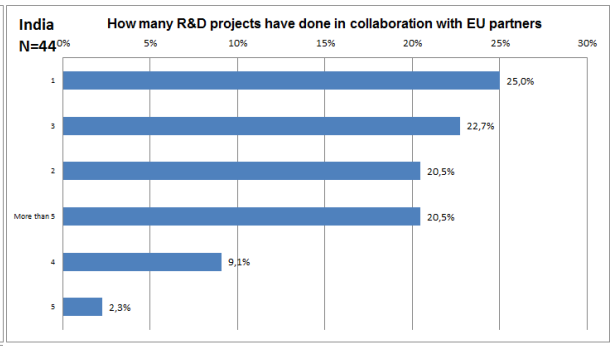


Figure 84: Case Studies - How many R&D projects have you done in collaboration with EU partners?





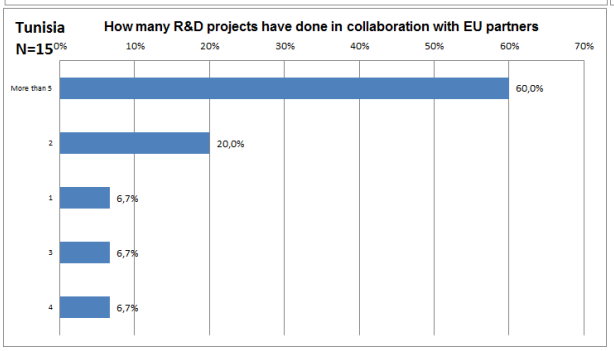


Figure 85: Case Studies - Assessment of agreement with statements concerning the availability of FP7 funding

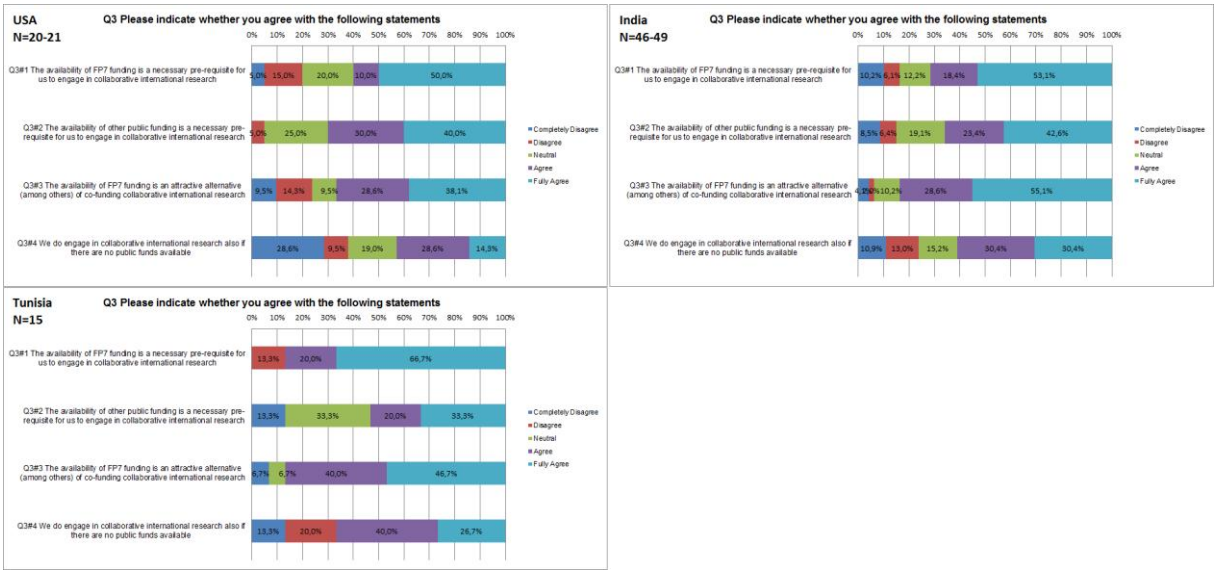


Figure 8652:Case Studies - Indication of the importance of funding sources for international STI cooperation projects

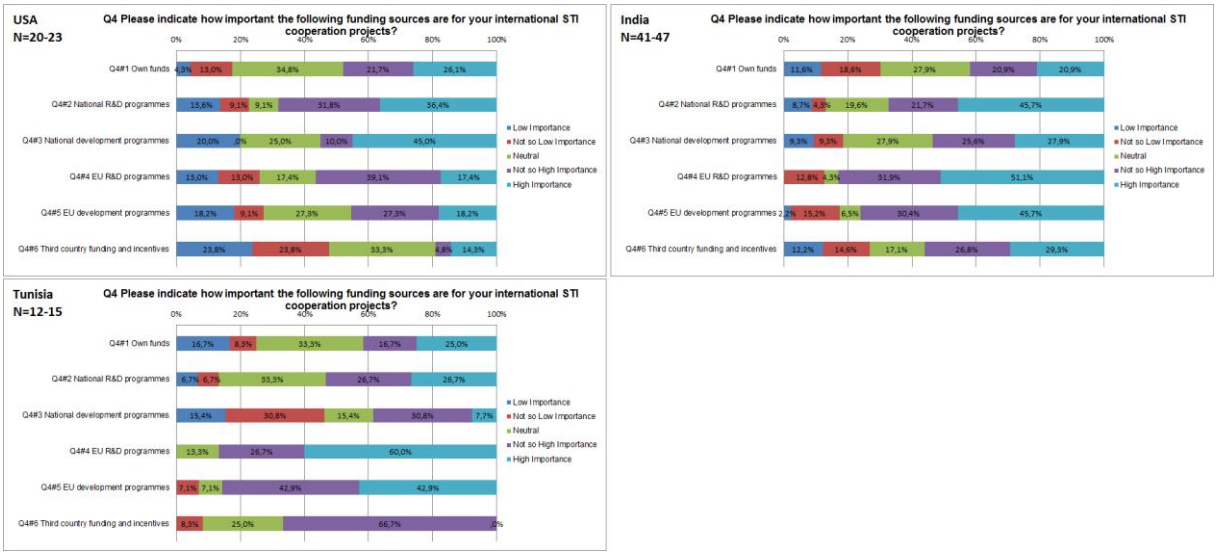


Figure 8753:Case Studies - Assessment of successful application for FP R&I support grants before

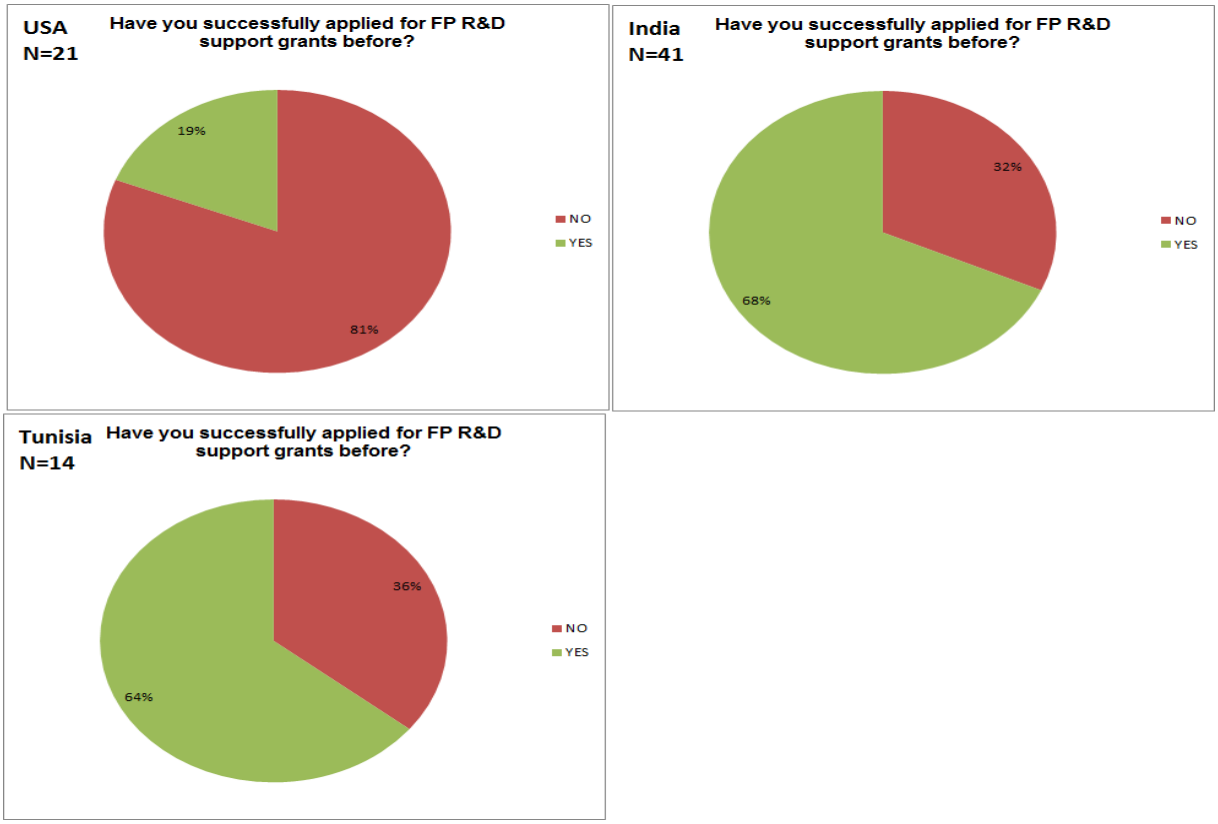


Figure 88: Case Studies - Assessment of unsuccessful application for FP R&I support grants before

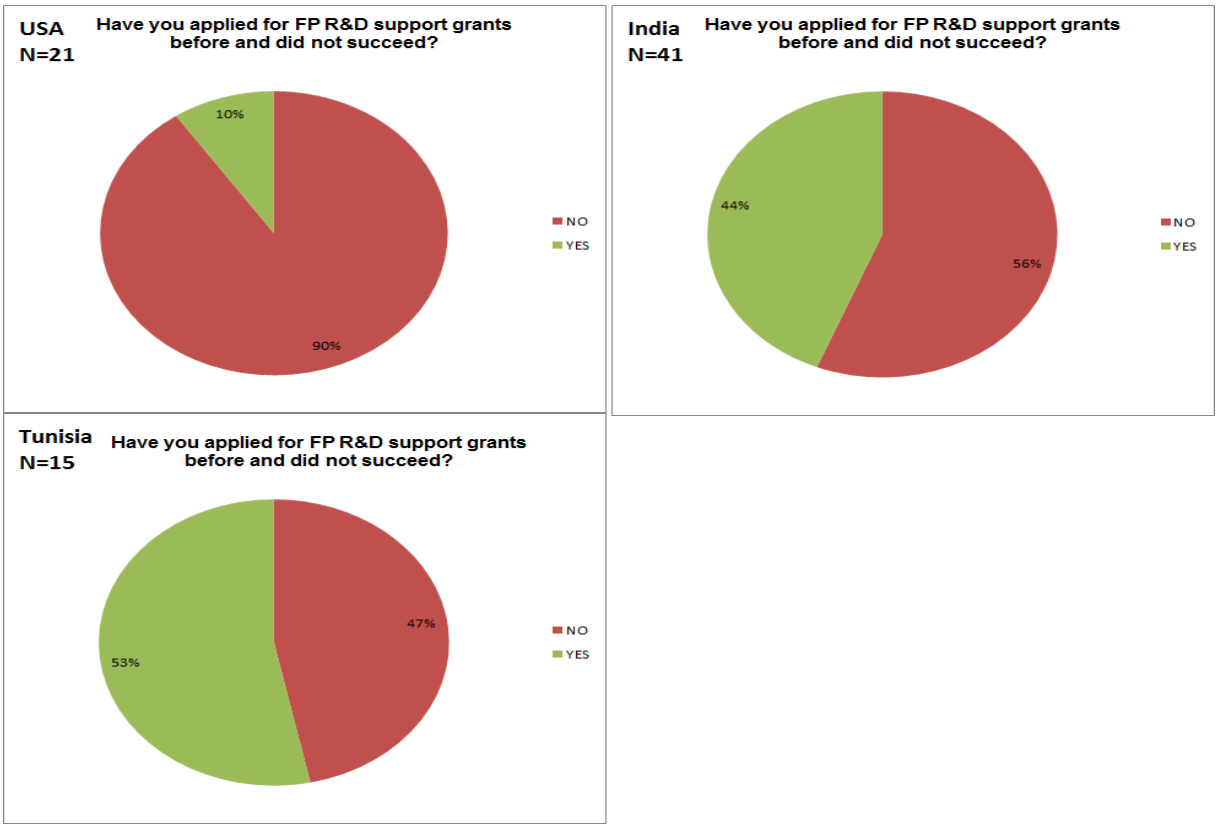


Figure 89: Case studies - Comparison of the international cooperation project with typical research projects

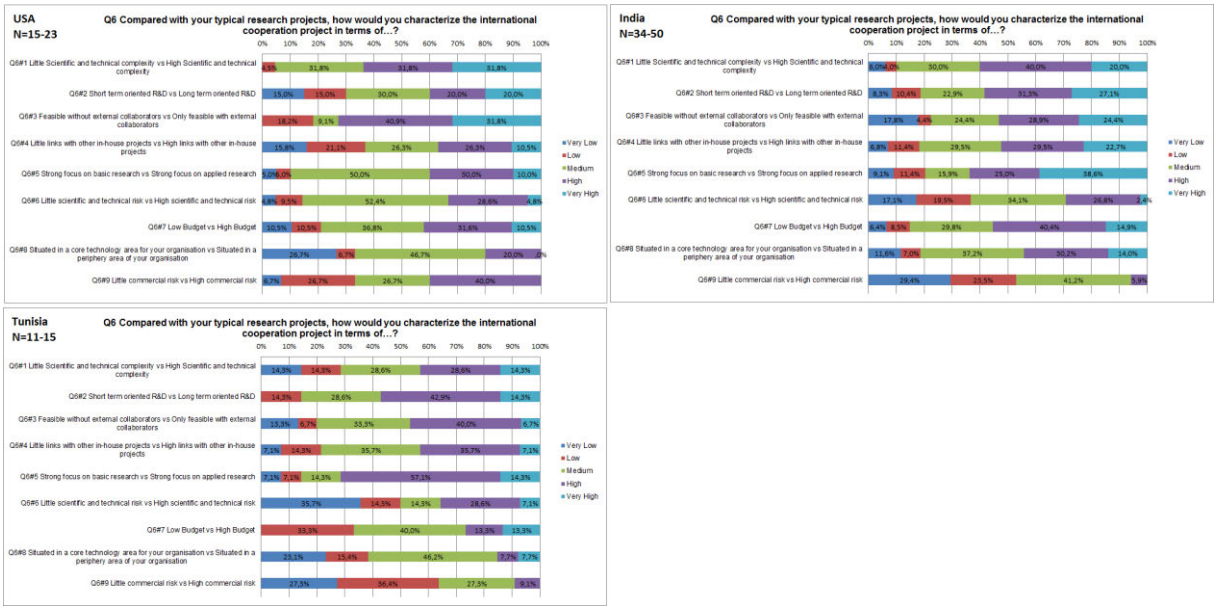


Figure 9054:Case Studies - Assessment of the importance of different types of international S&T cooperation activities

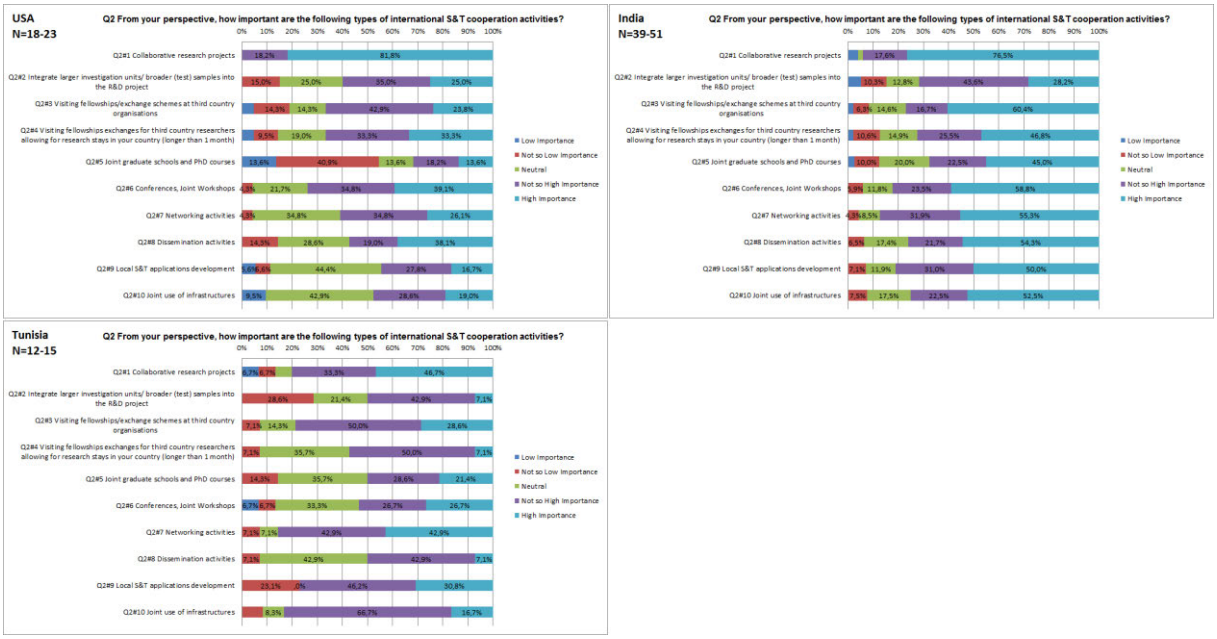


Figure 91: Case Studies - Assessment of the impact of the participation of EU-Member States on the following types of outputs in their organisation

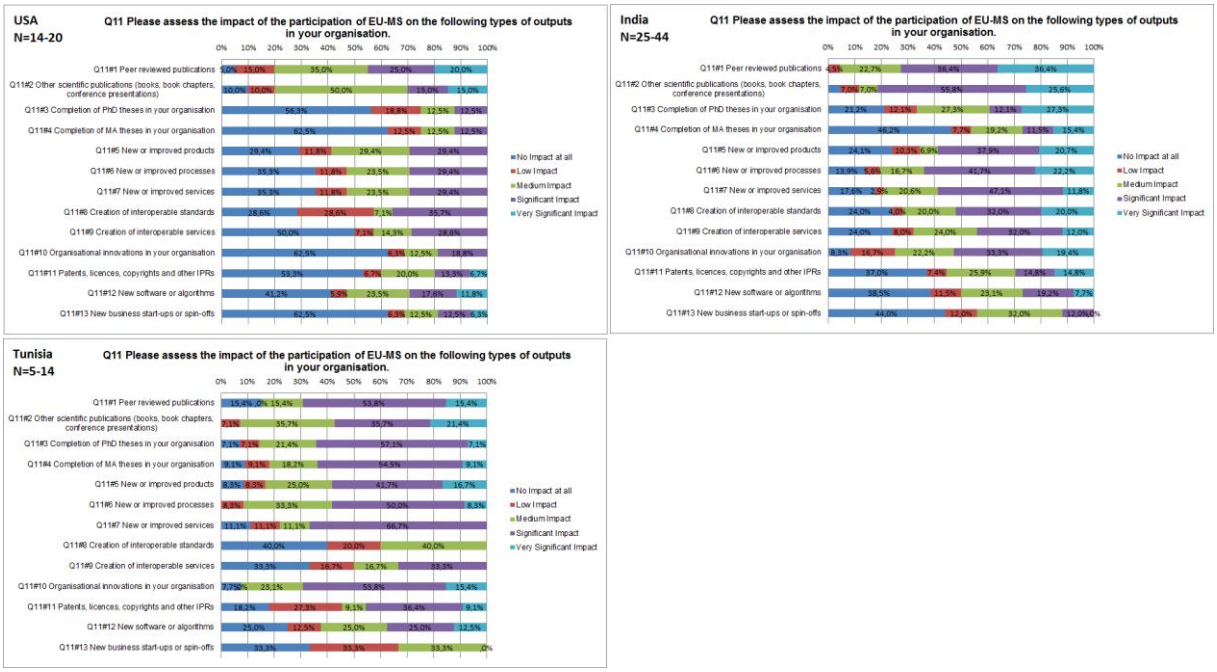


Figure 55: Case Studies - Assessment of statements related to the impact of the international cooperation in the most important project

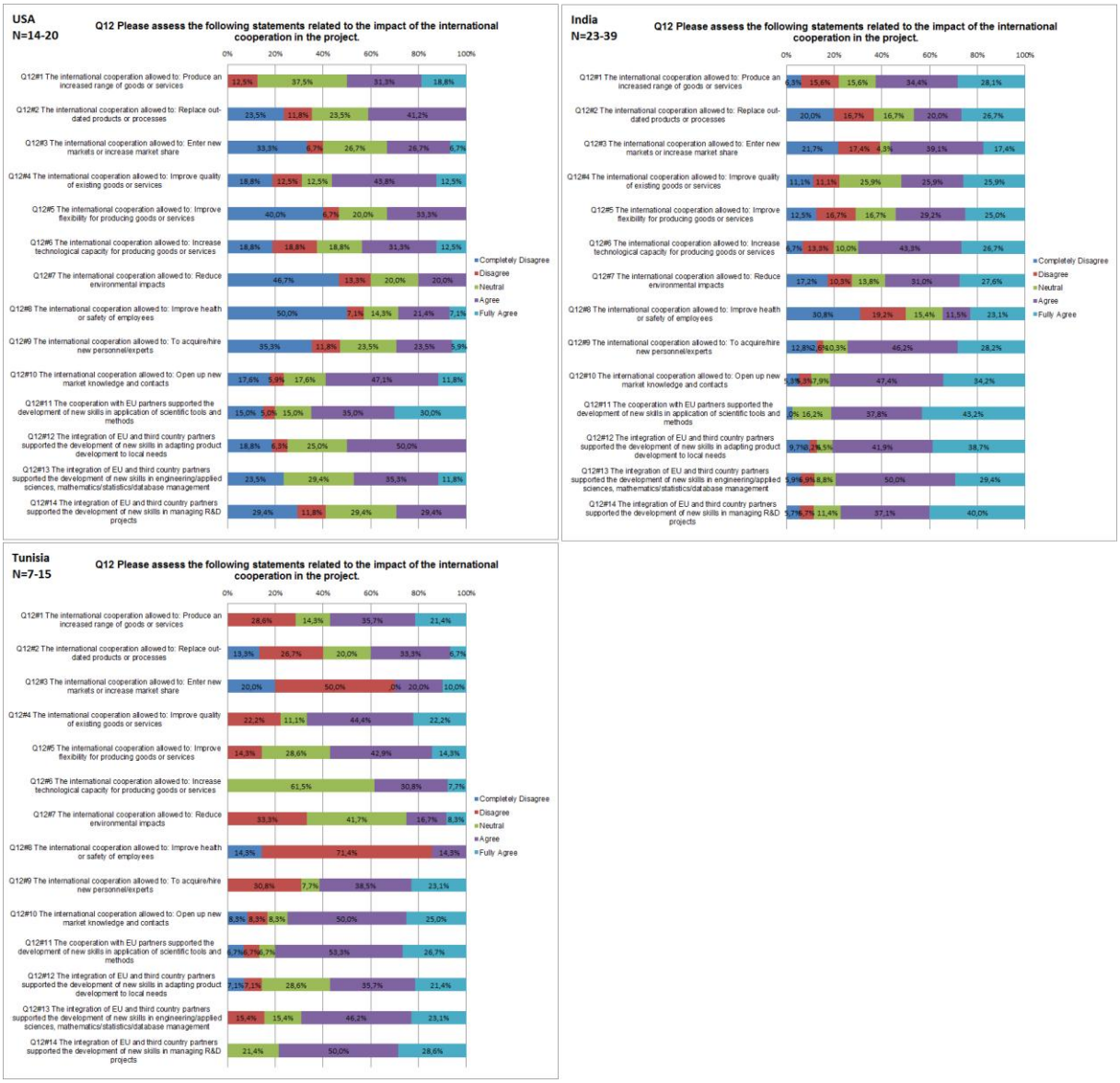
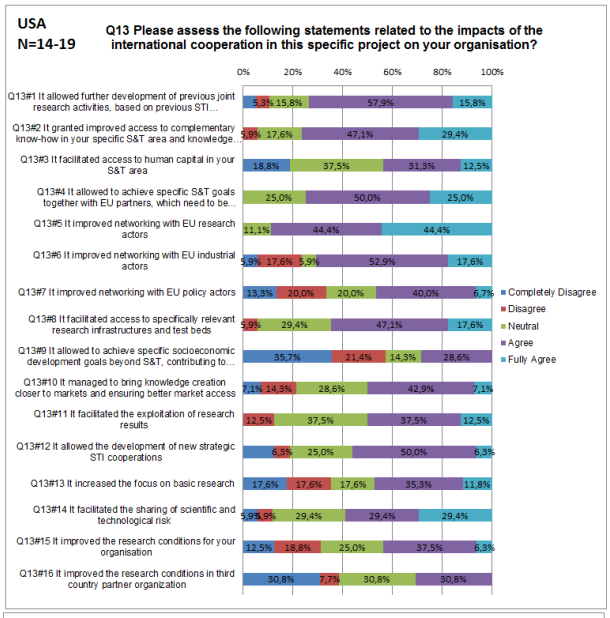
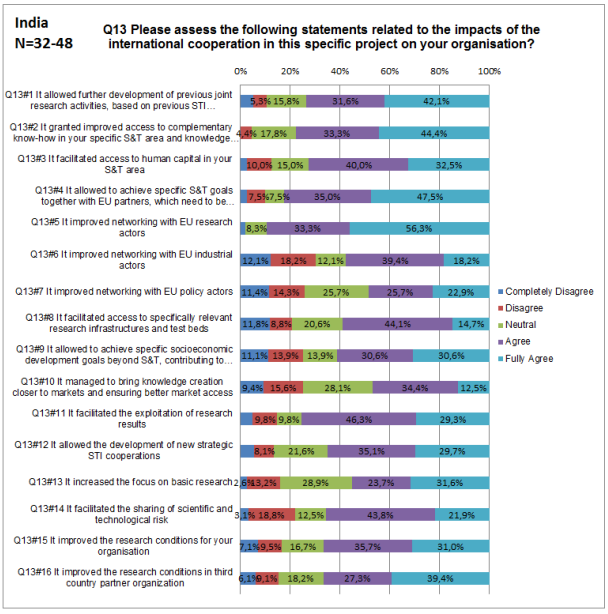


Figure 9356:Case Studies - Assessment of statements related to the impacts of the international cooperation in the most important project on their organisation





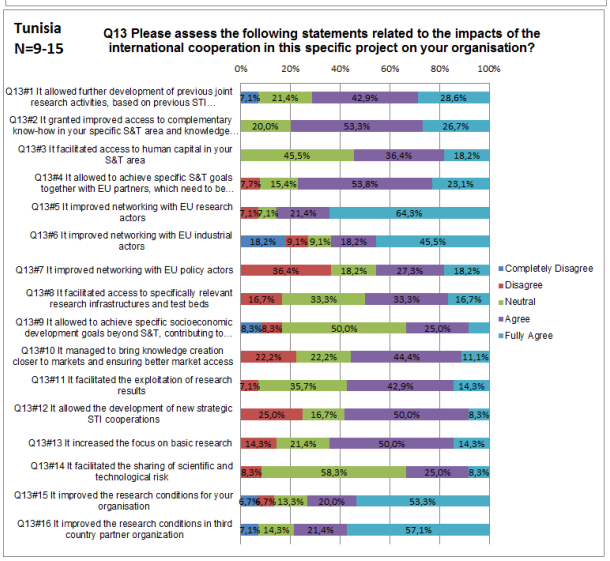


Figure 9457:Case Studies - Assessment of statements related to the overall sustainability of the project activities

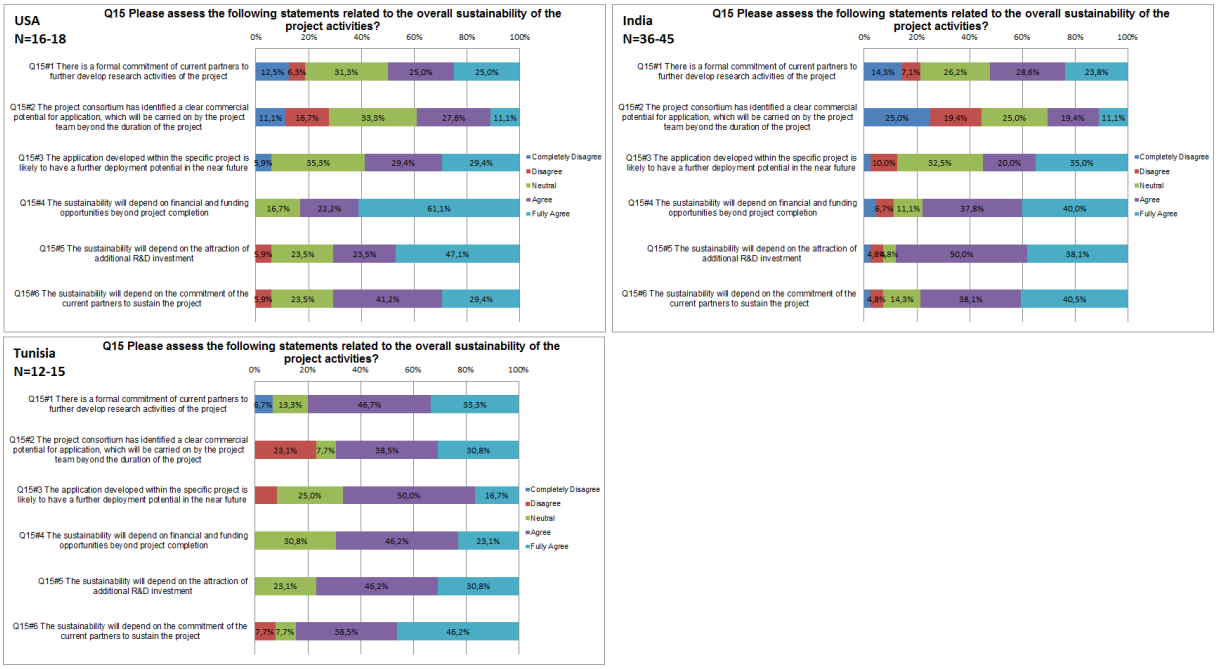


Figure 9558:Case Studies - Answers to the question, if project partners, including their own organisation, have induced a follow-up project in order to further develop project activities

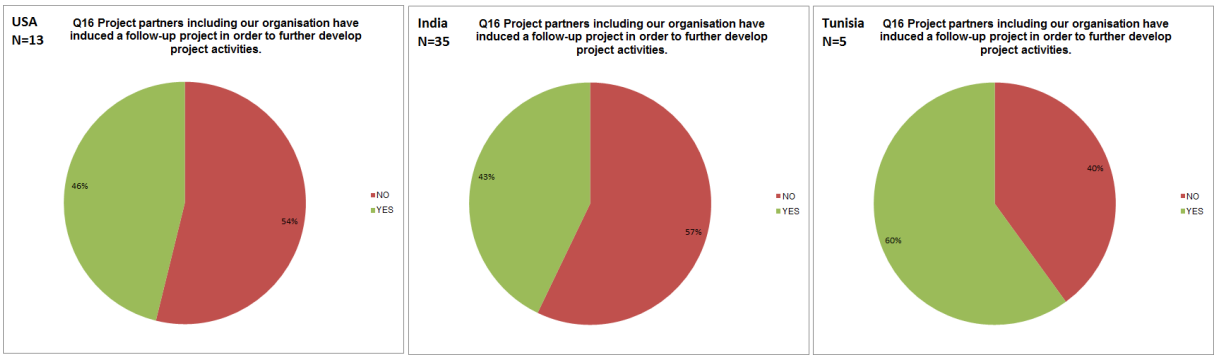


Figure 9659:Case Studies - Assessment of statements related to the role of NCPs in facilitating the project and in disseminating information

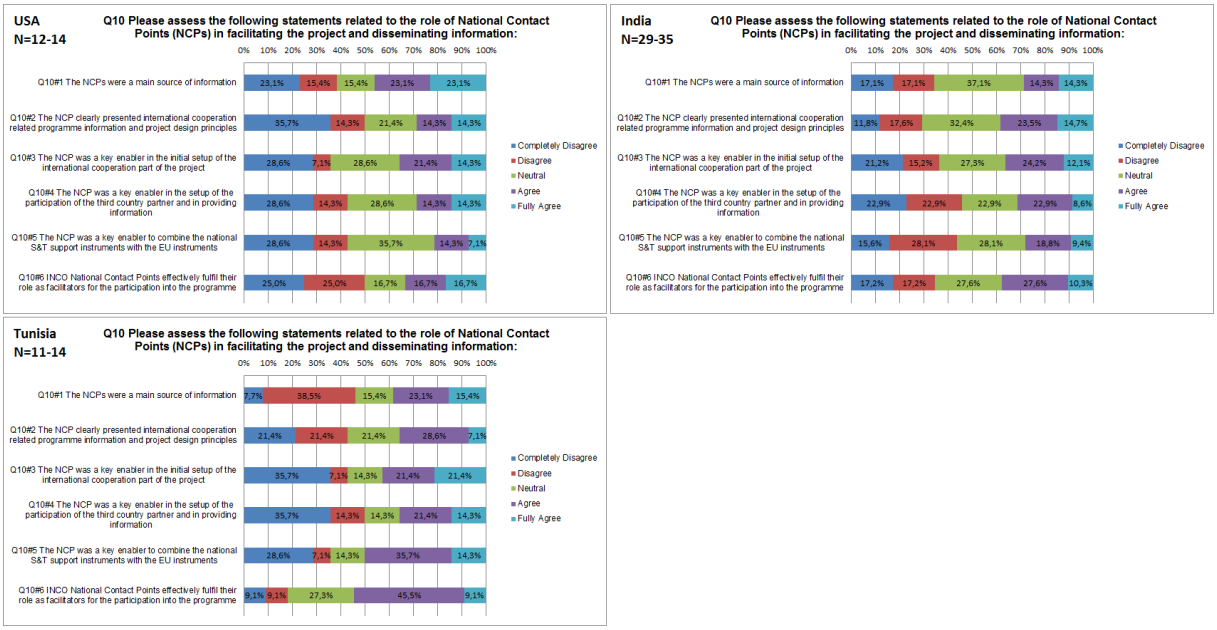
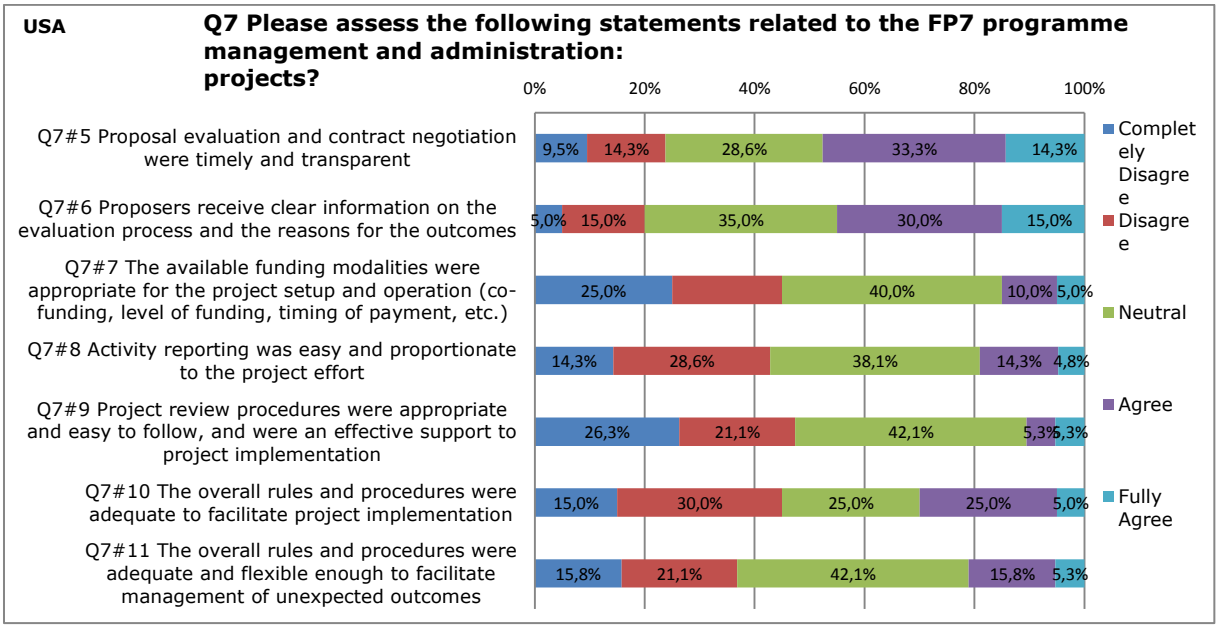
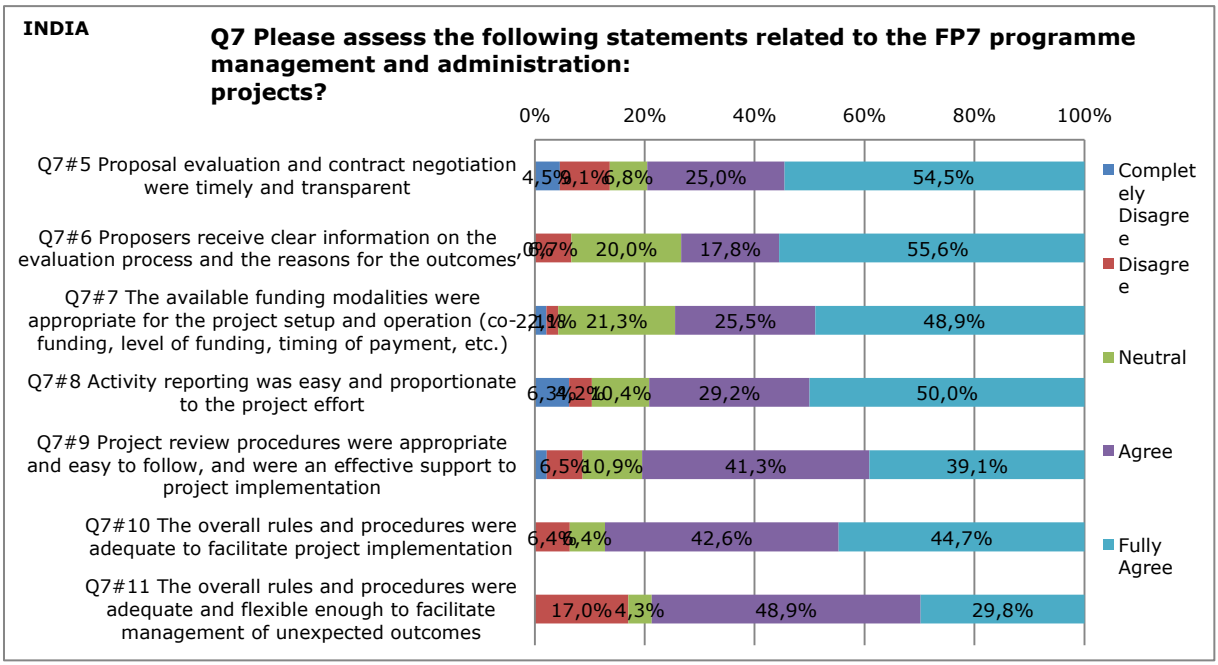


Figure 9760:Case Studies - Assessment of statements related to the FP7 programme management and administration





TUNISIA

Q7 Please assess the following statements related to the FP7 programme management and administration: projects?

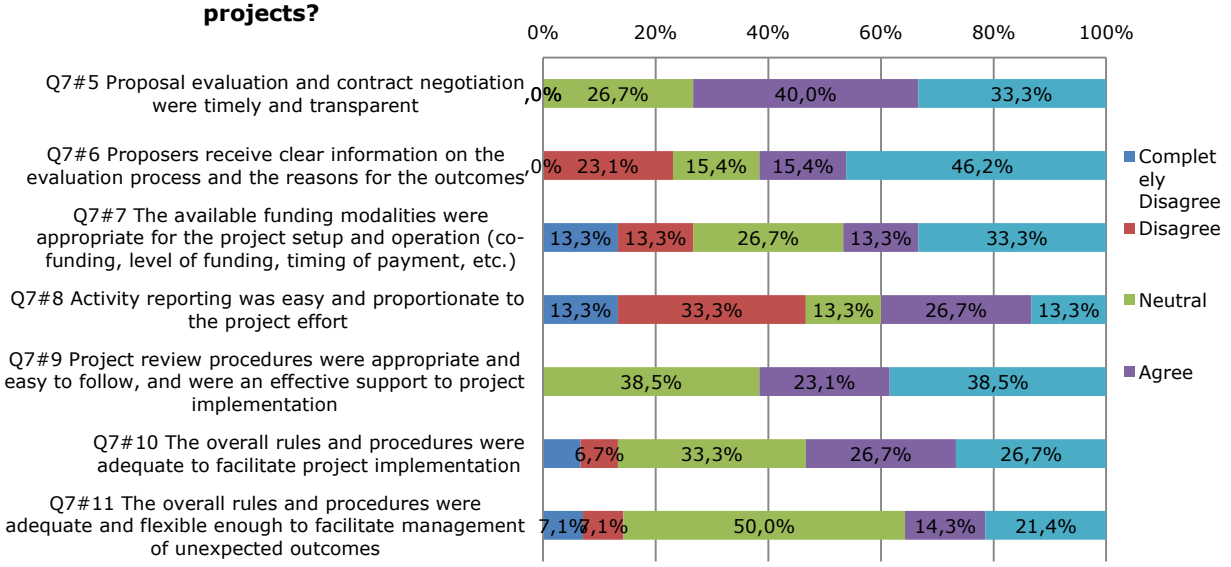
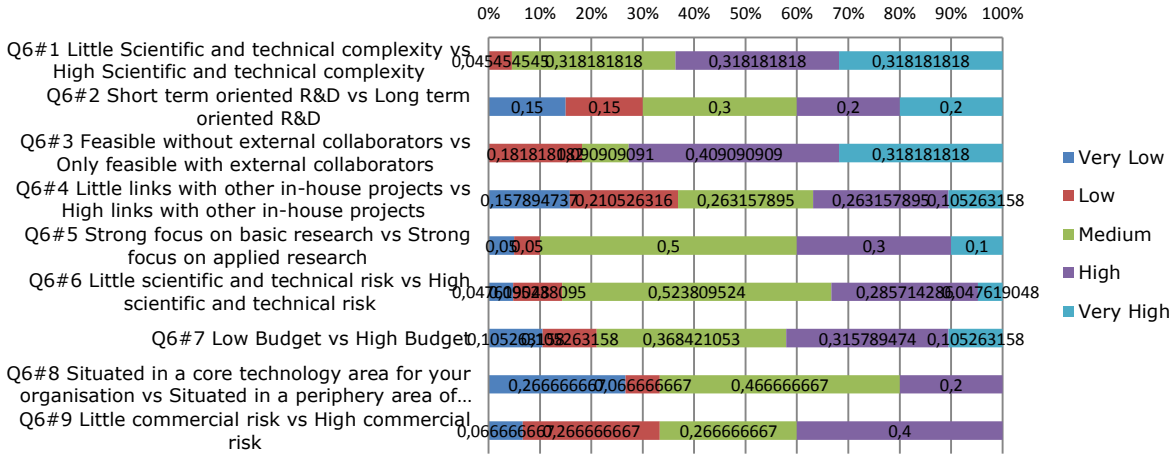


Figure 9861:Case Studies - Assessment of statements related to the level of administrative requirements and to the overall programme rules

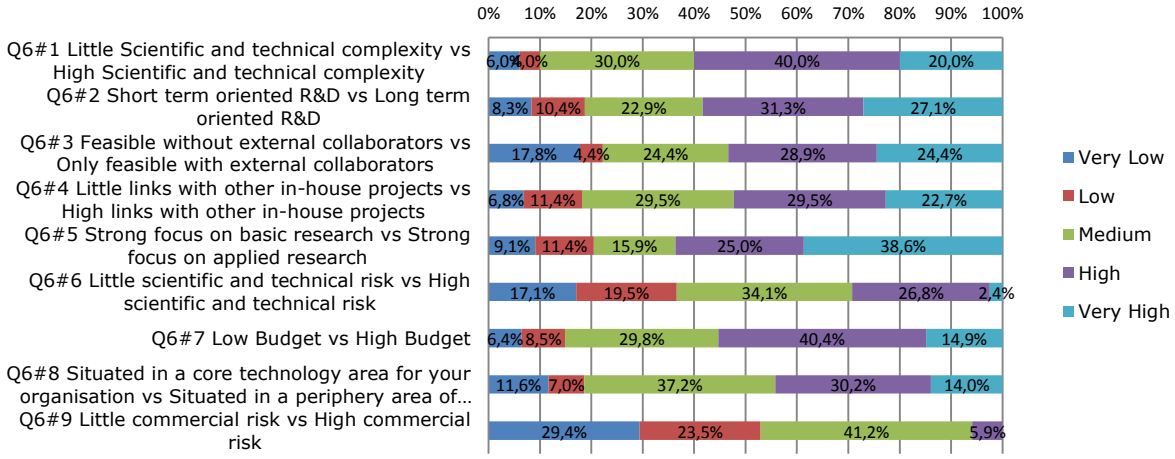
USA N=15-23

Q6 Compared with your typical research projects, how would you characterize the international cooperation project in terms of...?



India N=34-50

Q6 Compared with your typical research projects, how would you characterize the international cooperation project in terms of...?



Tunisia N=11-15

Q6 Compared with your typical research projects, how would you characterize the international cooperation project in terms of...?

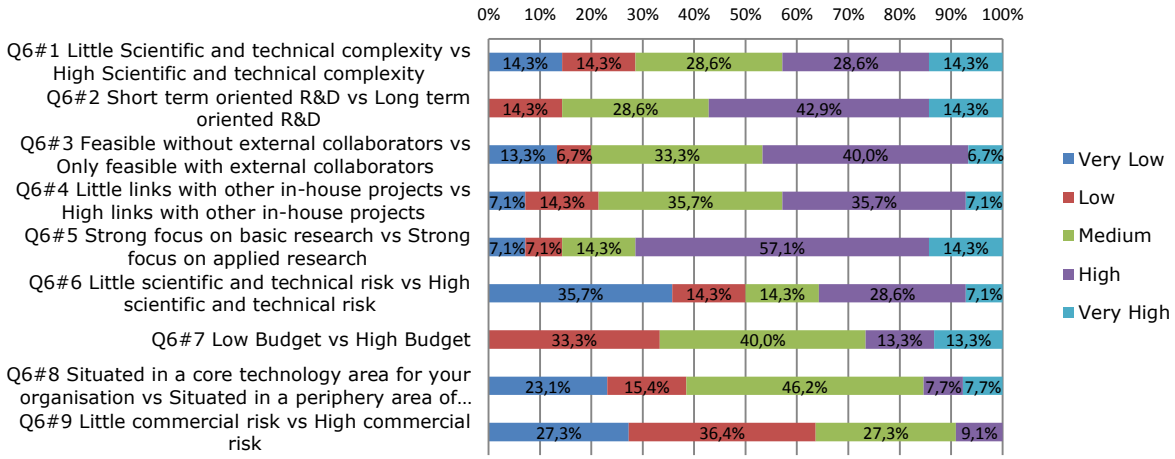
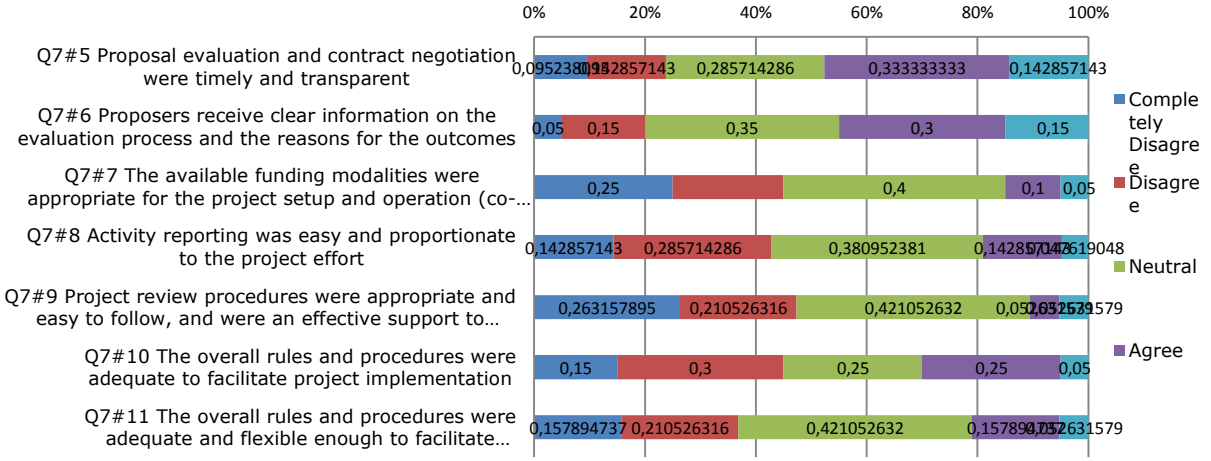


Figure 9962:Case Studies - Assessment of statements related to the implementation of international cooperation in the European Framework Programme

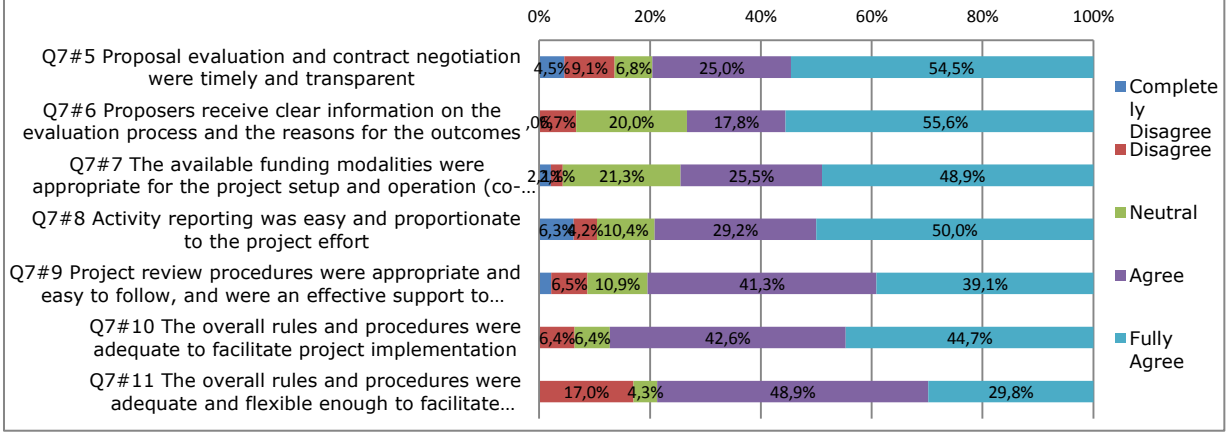
USA N=17-21

Q7 Please assess the following statements related to the FP7 programme management and administration:projects?



India N=40-48

Q7 Please assess the following statements related to the FP7 programme management and administration:projects?



Tunisia N=13-15

Q7 Please assess the following statements related to the FP7 programme management and administration:projects?

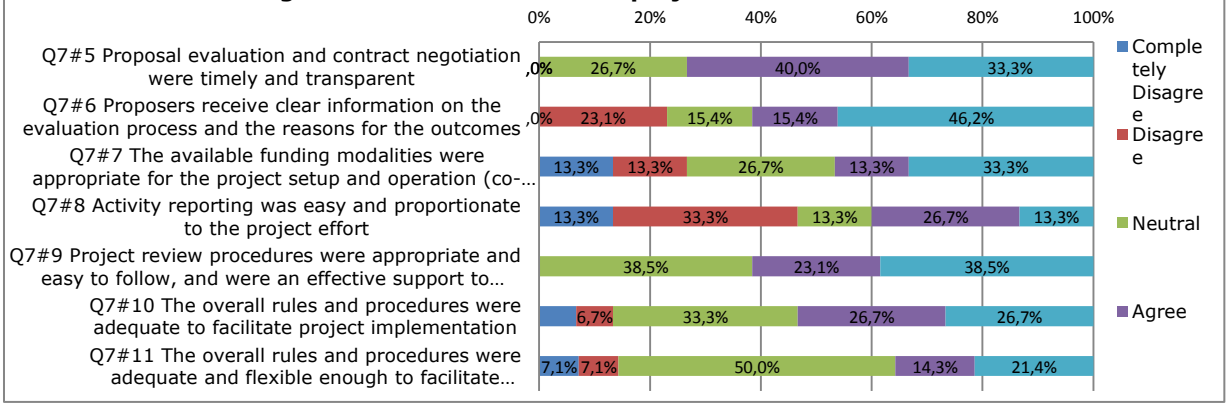


Table 69: Interview guidelines for qualitative interviews within the case studies

Section	Policy Maker	National Contact Points	Third Country Partners	EU Coordinators
1. Demographics	• Name, organisation type, thematic area	• Name, organisation type, thematic area, NCP since	• Name, organisation type, employees, thematic area, country	• Name, organisation type, employees, thematic area, country
2. **International Cooperation**				
2.1. The scope of FP7 international cooperation activities	• Please describe the scope of FP7 INCO activities in your country: ○ Extent of targeting (geographical directions and thematic areas) ○ correspondence to national strategies ○ used instruments ○ Identification and interaction with potential international partner organisations ○ typical role of partners from your country	• Please describe your activities as National Contact Point. • Please describe the scope of FP7 INCO activities in your country: ○ Extent of targeting (geographical directions and thematic areas) ○ correspondence to national strategies ○ used instruments ○ Identification and interaction with potential international partner organisations ○ typical role of partners from your country	• Please describe the scope of FP7 INCO activities: ○ geographical directions ○ thematic areas (focus according to your overall portfolio) ○ your role in projects ○ Instruments used ○ Identification and interaction with potential international partner organisations	• Please describe the scope of FP7 INCO activities: ○ geographical directions, thematic areas (focus according to your overall portfolio), use of different funding schemes for international cooperation, role of 3rd country partners
2.2. Motivation	• What are the main motivations for FP7 INCO activities? Please describe policy objectives addressed and expected impacts of international	• What are the main motivations for FP7 INCO activities? Please describe policy objectives addressed and expected impacts of international	• What are the main motivations of your organisation for FP7 INCO activities with certain regions? ○ Funding, access to infrastructure,	• What are the main motivations of your organisation for FP7 INCO activities with certain regions? ○ Funding, access to infrastructure,

Section	Policy Maker	National Contact Points	Third Country Partners	EU Coordinators
	cooperation.	cooperation.	market or market knowledge, technological or scientific knowledge, etc.	market or market knowledge, technological or scientific knowledge, etc.
2.3.General strategies and inter-linkages to FP7	• Please describe inter-linkages of national STI strategies and instruments with FP7 INCO activities ○ Priority setting ○ Links to future policy actions	• Please describe inter-linkages of national STI strategies and instruments with FP7 INCO activities ○ Priority setting ○ Links to future policy actions	• In which way are FP7 INCO activities relevant/ important for your organisation?	• In which way are FP7 INCO activities relevant/ important for your organisation? ○ in the core of your strategic research agenda ○ Opening new fields ○ Application and enrichment of existing competences in a new context

Section	Policy Maker	National Contact Points	Third Country Partners	EU Coordinators
2.4.Effectiveness, Outputs, Outcomes, Impacts	• Please describe expected and achieved outputs and benefits of FP INCO activities. ○ Is the critical mass sufficient to obtain results? ○ Do FP7 INCO activities foster the creation of partnerships? • What are the challenges and opportunities for 3rd country partners?	• Please describe expected and achieved outputs and benefits of FP INCO activities. ○ Is the critical mass sufficient to obtain results? ○ Do FP7 INCO activities foster the creation of partnerships? • What are the challenges and opportunities for 3rd country partners?	• How do FP7 INCO activities foster the creation of partnerships and the setup of projects with European partners? • What are particular opportunities or challenges for SMEs? • What are the challenges and opportunities for 3rd country partners? • Are FP7 INCO activities in general successful? Real reciprocal S&T advance? • Are FP7 INCO activities in general sustainable?	• Do FP7 INCO activities foster the creation of partnerships and the setup of projects with 3rd country partners? • Are there particular opportunities or challenges for SMEs? What are the challenges and opportunities for 3rd country partners? • Are FP7 INCO activities in general successful? Real reciprocal S&T advance? • Direct / indirect beneficiaries? • Are FP7 INCO activities in general sustainable? ○ How far does the level of outputs correlate with certain geographical directions, thematic areas, funding schemes , role of 3rd country partners

Section	Policy Maker	National Contact Points	Third Country Partners	EU Coordinators
2.5.Management and Efficiency in the project: • application • implementation • reporting	• How do you evaluate the role of the National Contact Point?	• How do you evaluate your role/ the role of the EC? • Are there particular management challenges	• How do you evaluate the role of the National Contact Point / the EC? • What are particular management challenges (e.g. administration, provision of information, programme rules)? /Positive management points?	• How do you evaluate the role of the National Contact Point / the EC? • Are there particular management challenges (e.g. administration, provision of information, programme rules)? • Positive management points? • Did you experience issues evolving from the participation of 3rd country partners?
3. Experiences and room for improvement	• Where do you see room for improvements and positive aspects?	• Where do you see room for improvements and positive aspects?	• Please summarize your experiences with FP7 IC activities. • Where do you see room for improvements and positive aspects?	• Please summarize your experiences with FP7 IC activities. • Where do you see room for improvements and positive aspects?
4. Future Challenges and Opportunities	• What do you think are future challenges and opportunities? How can they met by Horizon 2020?	• What do you think are future challenges and opportunities? How can they met by Horizon 2020?	• What do you think are future challenges and opportunities? How can they met by Horizon 2020?	• What do you think are future challenges and opportunities?

- **FP7 INCO** = International Cooperation Activities in the 7th Framework Programme (e.g. Collaborative projects, coordination and support actions, network of excellence)
- **3rd country partners** = participants who are established in a non EU country, which is not associated to the Seventh Framework Programme

Table 70: Interview participants in qualitative interviews within case studies

EU-Coordinators	Gunnar Björkmann (ABB), Germany Gerald Heinicke (DHI),Denmark Mauro Bianchi (TESEO Sprl), Belgium		
	India	**Tunisia**	**USA**
Third Country Project Partners	Ramnarayanan Ramanathan, INDIAN INSTITUTE OF TECHNOLOGY MADRAS (IITM) (University), Department of Chemical Engineering	Zouhaier HLAOUI and Latifa HENIA, Université de Tunis, Faculté des Sciences Humaines et Sociales de Tunis, Grevachot	Vivien Schmidt, Jean Monnet Professor of European Integration, Professor of International Relations and Political Science, Founding Director of the Center for the Study of Europe, Boston University
	Lisette Dsouza, National Institute of Oceonographie, India	Chérifa Lakhoua and Hassene Kassar (CENTRE D'ETUDES ET RECHERCHES PROSPECTIVES – CERP)	Michael Liehr, THE RESEARCH FOUNDATION OF STATE UNIVERSITY OF NEW YORK
	Suneel Pandey, THE ENERGY AND RESOURCES INSTITUTE, Center for Environmental Studies	Pr. Samia Lahmar Service de Parasitologie Ecole Nationale de Médecine Vétérinaire	Mary J. Gibson, Office of Sponsored Research, California Institute of Technology, 1200 East California Blvd., Pasadena, CA 91125-1500
	Reddy G.S., Indian Immunological Limited (Private Company)		
Policy Makers, Delegations, NCPs	Dr. Shailja Vaidya Gupta, Director, International Cooperation, Department of Biotechnology, Ministry of Science and Technology, India	Adel Ghazel, NCP ICT Tunisia	Graham M. Harrison, Ph.D., International Science and Engineering, National Science Foundation, 4201 Wilson Blvd.
	Philippe DE TAXIS DU POËT, European Commission, DG Research & Innovation , Directorate International Cooperation (until 09/2013 Delegation to India)	Aniss Ben Rayana, Tunis NCP Bio, Institut de la Recherche et de l'Ensignement Superior Agricole	

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This study reviews and analyses international research and innovation (R&I) cooperation in the Seventh Framework Programme (FP7) of the EU, considering specifically the 'Cooperation' specific programme and its thematic areas. It provides a comprehensive qualitative and quantitative picture of all the projects involving international country partners in the FP7 'Cooperation' programme, i.e. third countries which are neither EU Member States nor FP7 Associated Countries. The result is an evidence-based input to EU policymakers supporting and implementing international cooperation in the Framework Programme (FP). The comprehensive review of international R&I cooperation provides an overall picture of recent experience in the FP and provides lessons for future design and implementation.

The study is based on extensive qualitative and quantitative research, including desk reviews, a statistical review of the project database, three surveys aimed at EU coordinators, at third country project participants, and at National Contact Points (NCPs) in third countries, and three case studies on one developing country, one fast developing country, and one industrialised country. It shows that the European Commission has integrated international cooperation in FP7 in a comprehensive and advanced policy and implementation design. The Commission has been developing best practice approaches for the design and implementation of international cooperation in FP7, involving stakeholders in a combined top-down and bottom-up process, which ensures the necessary flexibility to adapt to a fast developing world. The conclusions include a set of recommendations for the improvement of the approach to international cooperation in EU FPs.

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