

Cross-border Research Collaboration in Europe

Survey of direct international cooperation in 2009 between European
Research Funding Organisations and Research Performing Organisations
in funding, managing and performing research

European Science Foundation

The European Science Foundation (ESF) was established in 1974 to provide a common platform for its Member Organisations to advance European research collaboration and explore new directions for research. It is an independent organisation, owned by 78 Member Organisations, which are research funding organisations and research performing organisations, academies and learned societies from 30 countries. ESF promotes collaboration in research itself, in funding of research and in science policy activities at the European level.

EUROHORCs

EUROHORCs is the informal association of the heads of European research funding and research performing organisations. The acronym originates from “European Heads of Research Councils”. Since its establishment in 1992, EUROHORCs has become a key player in the field of European research policy by promoting and enhancing inter-council cooperation and by contributing actively to the development of the European Research Area. By creating an informal platform for discussion, producing policy statements and initiating joint activities, EUROHORCs seeks to strengthen European research policy.

2011

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Foreword

Representatives of European Ministries of Research, the European Heads of Research Councils (EUROHORCs) and the European Science Foundation (ESF) discussed in January 2009 the contribution of national research organisations to the development of the European Research Area. It was realised that data were largely lacking on collaboration between those European research funding agencies and research performing organisations outside of the Framework Programmes of the European Commission. Consequently, EUROHORCs invited ESF to conduct a survey on direct cross-border collaboration between their organisations. Out of the then 45 EUROHORCs members, 32 took part in the survey in Spring 2009, and ESF submitted the results to EUROHORCs in Summer 2009.

In order to enlarge the scope of the survey, thereby strengthening the validity of the trends observed, ESF expanded the exercise to research funding and performing organisations that were member organisations of ESF but not of EUROHORCs. Out of these 17 organisations, eight responded. Thus, the present survey aggregates the data from 40 research funding and performing organisations, covering 25 countries.

The objectives of the survey in 2009 were to map the level of direct cooperation between research funding organisations and research performing organisations, as well as between researchers and their teams funded by these organisations. It sought to analyse the intensity and formats of cross-border collaboration, the extent to which joint procedures were implemented, the areas where collaboration worked particularly well, and those where obstacles persisted.

Since the realisation of this survey, EUROHORCs dissolved in 2011 their informal association, and most of the research funding and performing organisations that were former EUROHORCs members and are ESF members founded Science Europe. Since comprehensive data on cross-border collaboration between European research funding and performing organisations is still lacking, we felt it useful to share our 2009 data by publishing them.

Professor Marja Makarow

Chief Executive of the European Science Foundation
(2007-2011)

I. Participating Organisations

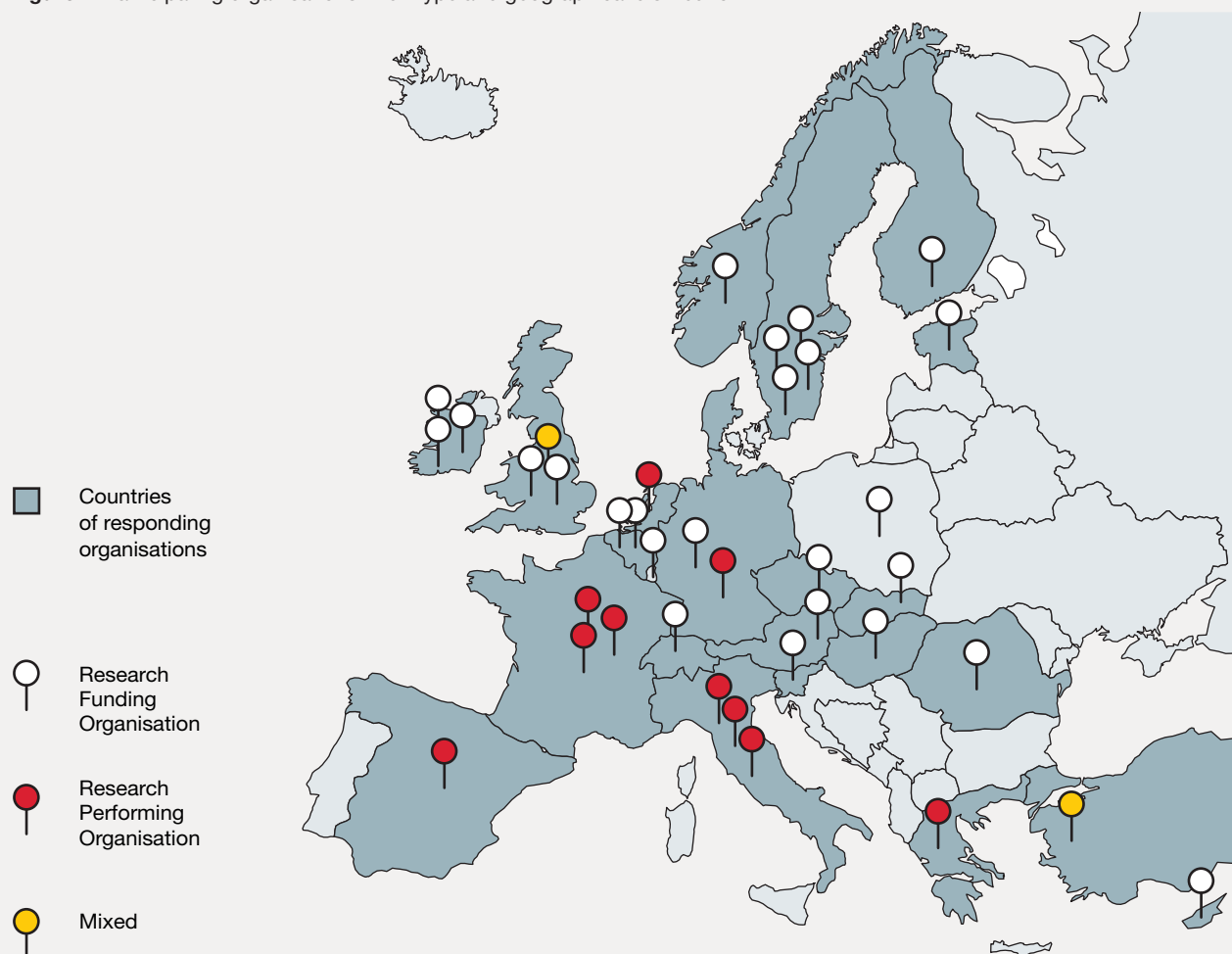
The Member Organisations of ESF fall into four categories: 1) public research funding organisations, research council-type agencies that mostly award competitive grants through open calls to principal investigators and research teams; 2) public research performing organisations that run institutes mostly funded from dedicated Ministerial budgets. Some organisations fall into both of these categories; 3) Academies that run research institutes; 4) Academies and learned societies that do not fund or perform research. The EUROHORCs members are heads of either research funding or performing organisations.

This survey targeted only research funders and performers. Thus, all 45 EUROHORCs organisations were approached, of which 32 responded. Forty-five ESF member organisations are research funders or/and performers. Out of 32 responding EUROHORCs members, 28 are members of ESF. In addition, 17 ESF members

which are research funding or performing organisations, but not EUROHORCs, were approached, of which eight responded. The 40 organisations which participated in the survey are described in Annex 1.

Of the participating organisations, 28 are research funders, 10 research performers and 2 are mixed research funding and performing organisations (see Annex 1). Hence, the issues addressed in this survey appeared to be relevant for both types of organisation. The targeted organisations are based in 30 countries. Data from 25 countries were received, making the geographic coverage of the survey satisfactory (Figure 1).

Figure 1: Participating organisations: their type and geographical distribution



II. Methodology

The survey mapped the perceptions of cross-border cooperation by 40 organisations in Europe in 2009. It was conducted using an online questionnaire. The first study phase targeting the 45 EUROHORCs member organisations was carried out between mid April and mid May 2009. Thirty-two organisations out of the 45 responded. The second phase targeted in mid August – mid October 2009 the 17 ESF member organisations which are research funding or performing organisations but not members of EUROHORCs, out of which 8 responded. Thus, from the total of 62 organisations invited to share their views and experience on cross-border research cooperation in Europe, 40 took part in the survey.

The on-line questionnaire (Annex 2) contained six sub-sections:

1. Basic information on the organisation (research funding or performing organisation), its overall budget and the relative budget spent on international cooperation;
2. Cross-border collaborations with other organisations, in the form of official cooperation agreements and jointly conducted programmes;
3. Cross-border funding and the extent to which the organisations have the legal means for funding cross-border collaborations and/or for common pots of funding without *juste retour*; possibilities of researchers leaving the respective country to take their funding with them when moving to another country; availability of the funds of the research organisation for researchers based abroad;
4. Procedural issues like joint calls for proposals, joint peer review and decision making procedures between organisations;
5. Cross-border cooperation by researchers, i.e., the extent to which research projects funded by or conducted within the respective research organisation encompass cross-border activities and lead to international publications;
6. Future trends such as demand for more cross-border collaborations by the respective national research community; possible legal obstacles for cross-border collaboration and plans for further cooperation agreements and initiatives to develop the European Research Area.

The quantitative data of the survey are summarised in figures and tables, whereas the answers to qualitative questions are categorised, and occasionally quoted in order to illustrate specific cases and trends.

Two cases of cross-border cooperation between research organisations and researchers in Europe are described, the European Young Investigator Award programme (EURYI, Chapter 5) and the European Collaborative Research Programme scheme (EUROCORES, Chapter 6), both funded by subsets of the targeted organisations and managed by ESF.

III. Summary of Main Findings

- **Dedicated budgets for European collaboration:** The budgets and numbers of staff of the member organisations of EUROHORCs and ESF vary greatly. The differences between organisations in Northern, Western and Southern Europe, as compared to those in Eastern Europe, are considerable. The highest relative budget on European collaboration appears to be spent by five organisations with relatively small total budgets (in Poland, Greece, the Netherlands, Luxembourg and Sweden). It has to be noted that the flexibility to fund collaborative research activities of research performing organisations running institutes may be limited as compared to that of research funding agencies.
- **Cross-border collaborations:** The organisations, notably in France, Germany, Italy, the Nordic countries and the UK, have a significant number of cooperation agreements and joint programmes with partners in Europe, and also beyond Europe, especially with Asian organisations and the BRIC countries (Brazil, Russia, India, China). Multilateral collaborations seem to work especially well in the framework of the multinational organisations such as D-A-CH (Germany, Austria and Switzerland), NordForsk (Denmark, Finland, Iceland, Norway and Sweden) and the ESF (80 member organisations in 30 countries). The implementation of the EUROHORCs' 'Money Follows Researcher' agreement, which allows researchers to transfer their funds to another European country if they move, still remains a challenge.
- **Cross-border funding:** Organisations across Europe seem to be rather flexible in letting funds flow across borders when these are linked to joint programmes. There is even readiness to invest in common pots for funding without *juste retour*. The trust between organisations seems to be highest when the programmes are coordinated by a reliable 'handling agent' such as D-A-CH, NordForsk and ESF. Some research performing organisations have gained considerable experience in running offshore units elsewhere in Europe and beyond, thereby involving researchers from the respective host countries. Hesitance to allow cross-border funding for individual research projects outside of bi- or multilateral schemes of the research organisations persists.
- **Procedural issues:** The organisations have developed substantial experience in the joint handling of programmes at the levels of calls for proposals, peer review and decision making. Prevalence of bilateral collaborations still exists, but multilateral endeavours are increasing. The so-called 'Lead Agency' procedure between EUROHORCs organisations is gaining importance. It stipulates that cross-border research projects between several research organisations will be peer reviewed and administered by one organisation (Lead Agency), whereas the projects will be funded separately.
- **The EURYI Case:** The European Young Investigator (EURYI) Award programme, funded by a number of EUROHORCs organisations and managed by ESF, was an early example of a scheme that deployed joint calls of proposals, peer review, decision making and management, as well as a common pot of funding.
- **The EUROCORES Case:** The European Collaborative Research (EUROCORES) Programme scheme, managed by ESF on behalf of its members, has since 2003 attracted 60 organisations to fund close to 30 programmes involving over 1,300 scientists. The intensity of participation in the EUROCORES scheme normalised per researcher FTEs is highest in the Netherlands, Ireland, Switzerland, Norway and Belgium.
- **Cross-border cooperation between individual researchers:** The knowledge of the organisations about ongoing international collaborations between individual researchers outside joint programmes and about the resulting publications is limited. They appear not to maintain databases on internationally co-authored publications issued by researchers funded by them, though systematic recording and mining of such data would provide instrumental information for decision making and planning. Therefore, the information provided in this survey must be appreciated with reservations. Nevertheless, it appears that the focus of national researchers is still on collaborations within Europe. The preferred collaboration countries for international joint publications are largely the same as the favoured partner countries of cooperation agreements between the organisations (France, Germany and the UK).
- **Demands from the research communities:** The researchers are requesting their respective national research organisations to make more funds available for cross-border collaboration, to foster international mobility and collaborations in doctoral training and post-doctoral qualification, and to expand opportunities to use international large-scale infrastructure to enable long-term cross-border collaboration.
- **Future trends:** The funding organisations are faced with strong demands by their national research communities to expand resources for European and international collaborations, while having to cope with legal and budgetary limitations as well as with the reservations on spending national tax-payers' money abroad. This survey identified strong interest in multilateral cooperation in Europe and to some extent beyond, in flexibly responding to the needs of the scientific communities for joint bottom-up programmes and access infrastructure, in approaches to jointly define relevant research topics, and in joint procedures.

IV. Main Findings

1. Budget share for European and other international activities

The total budgets of the participating organisations vary considerably (Figure 2). Of the top five organisations, four are research performing organisations (the French National Center for Scientific Research – CNRS, the French Atomic Energy Commission – CEA, the Spanish National Research Council – CSIC and the Italian National Research Council – CNR) and one is a research funding organisation, the German Research Foundation – DFG (for acronyms of the organisations, see Annex 1). The five organisations with the smallest budgets mainly represent Central and (South-) Eastern European countries (Cyprus Research Promotion Foundation – RPF, Hungarian Scientific Research Fund –

OTKA, Foundation for Polish Science – FNP and Estonian Science Foundation – ETF), with the exception of the Swedish Research Council for Environment, Agricultural Sciences and Spatial Planning (FORMAS).

The variations in research budgets clearly mirror the volume of the respective countries' Gross Domestic Product (GDP) (Figure 3). A comparison between budget and GDP indeed shows a strong correlation. However, it needs to be taken into account that in some countries several organisations are responsible for research funding and/or performing. This is especially the case in the UK with eight research councils. Notably, the UK ranks third when it comes to the nominal GDP, whereas the Medical Research Council (MRC), with the largest individual budget of the UK research councils, only ranks ninth.

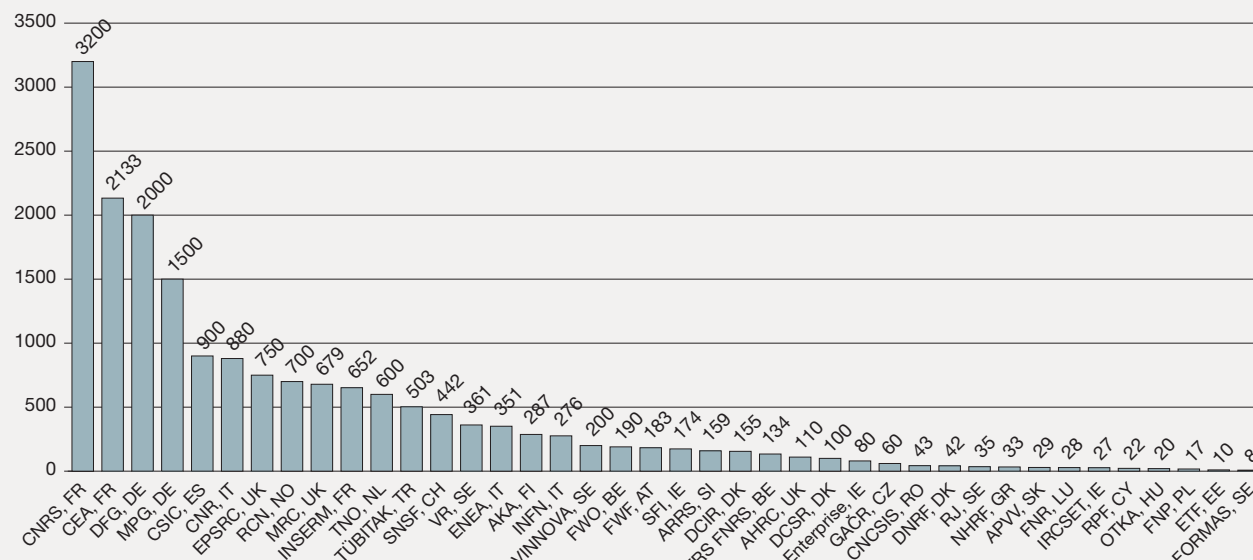


Figure 2: Total annual budget of participating organisations, 2008 (M€)

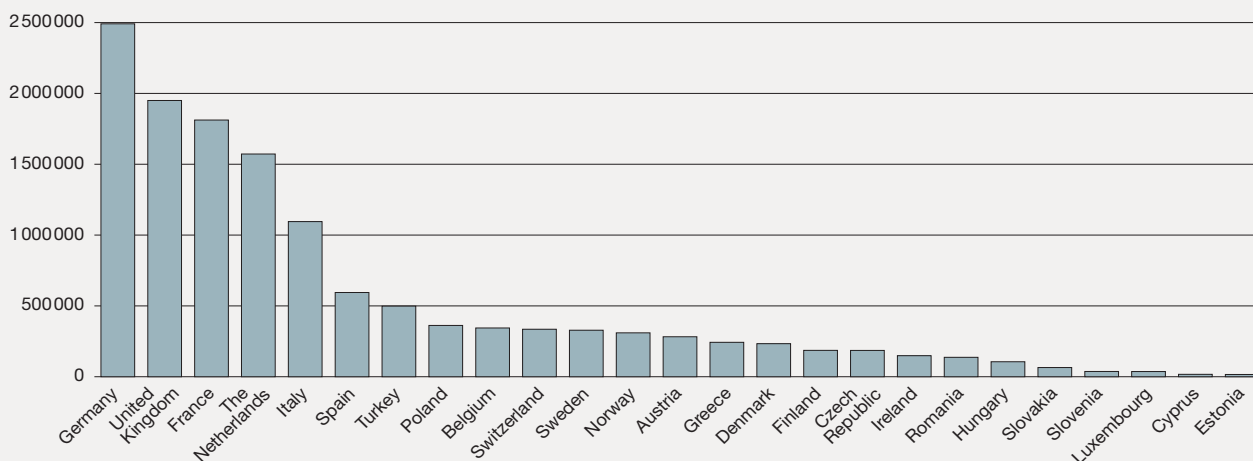


Figure 3: Gross Domestic Product, nominal, 2008 (M€), Source: EUROSTAT

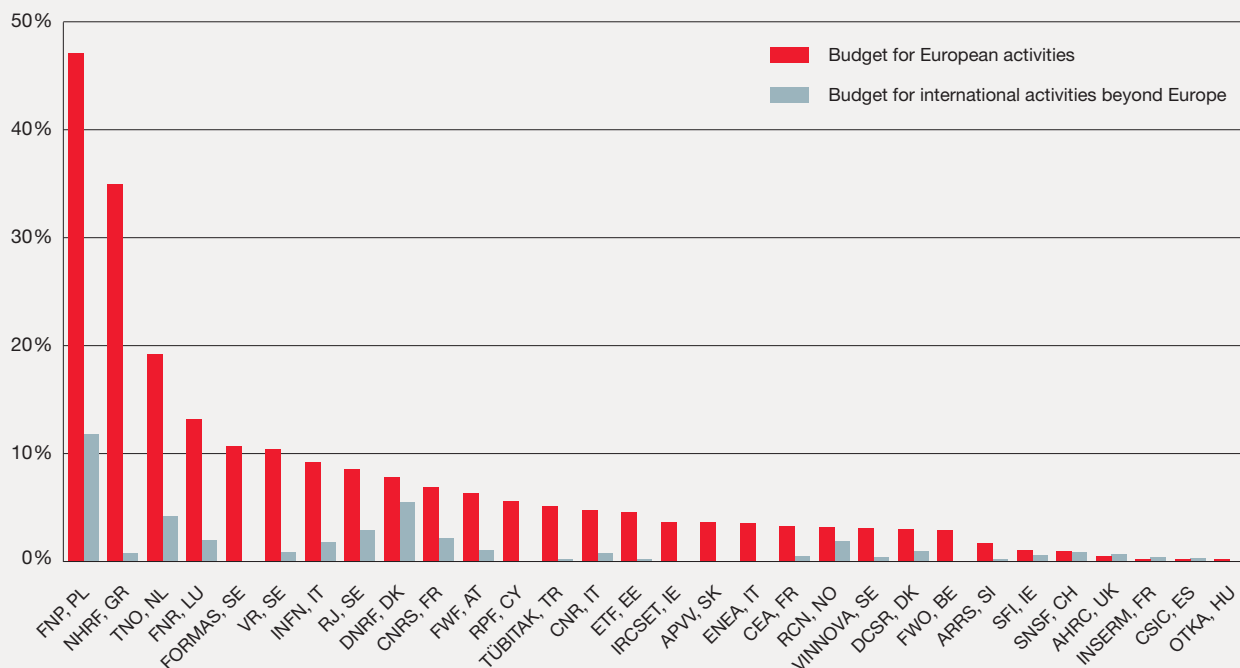


Figure 4: Budget share for European and international activities (beyond Europe)

Which importance do research organisations in Europe attribute to their cross-border research collaborations in financial terms? Their relative budgets spent on European activities and on international activities beyond Europe respectively are shown in Figure 4. Moreover, it appears to be difficult for several organisations to identify which share of their budget is allocated to international cooperation. Only 28 organisations have available data which they wished to provide. Interestingly, five organisations with low overall budgets have relatively high budget shares for European collaborative activities (the Foundation for Polish Science – FNP, the Greek National Hellenic Research Foundation – NHRF, the Netherlands Organisation for Applied Scientific Research – TNO, the National Research Fund of Luxembourg – FNR and the Swedish Research Council for Environment, Agricultural Sciences and Spatial Planning – FORMAS).

2. Cross-border collaborations between organisations

Formal cooperation agreements with organisations in other European countries

Formal agreements on cross-border research cooperation may be seen as a tool used by research organisations to demonstrate their interest in collaborating with partner organisations based in other countries. However, this should not evoke the reverse conclusion that organisations which have not signed such agreements do not cooperate internationally. Formal cooperation agreements in Europe seem to be frequent. Thirty-four out of the 40 organisations (85%) have signed such agreements, whereas six¹ organisations have not. Fourteen organisations are engaged in 10 or more agreements and 19 maintain less than ten (Figure 5). One organisation did not indicate the precise number of cooperation agreements. Figure 5 illustrates that the Italian National Institute for Nuclear Physics (INF) is in the lead with 45 agreements, followed by the French

1. i.e., the Danish Council for Strategic Research, Danish Council for Independent Research, Enterprise Ireland, Slovak Research and Development Agency, Engineering and Physical Sciences Research Council, UK, Medical Research Council, UK.

IV. Main Findings

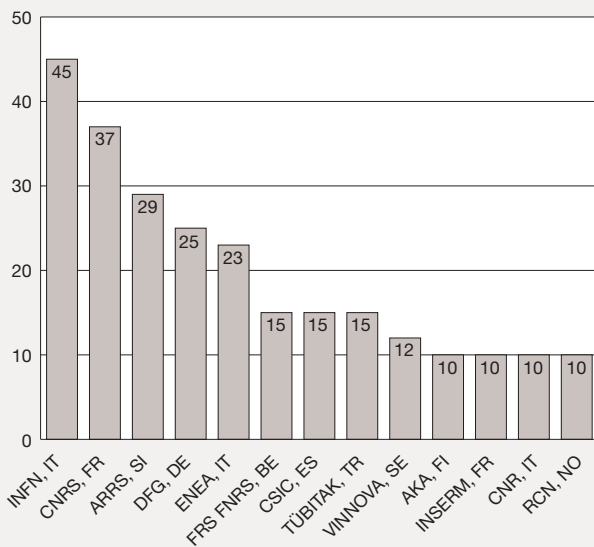


Figure 5: Research organisations having ten or more cooperation agreements with other countries in Europe

National Center for Scientific Research (CNRS) with 37 and the Slovenian Research Agency (ARRS) with 29.

The geographic spread and the types of organisations which have been especially active in signing cooperation agreements do not reveal any obvious trends, as both research funding and performing organisations from all parts of Europe are involved.

Next we analysed in which countries the organisations are based that are the most frequently mentioned partners of collaborative agreements (Table 1). Germany (notably the German Research Foundation) and France (specifically the National Center for Scientific Research) rank at the top of the list. Remarkable is the relatively strong position of smaller countries such as Finland (six agreements), Austria and Belgium (five agreements each). Looking at the most preferred partner organisations of cooperation agreements, a balance was found between research funding (German Research Foundation, French National Research Agency, Foundation for Polish Science) and research performing organisations (French National Center for Scientific Research, Italian National Research Council, German Max Planck Society, Czech Academy of Sciences).

'Money Follows Researcher' agreement

The EUROHORCs' 'Money Follows Researcher' (MFR) agreement is a formal cooperation agreement between EUROHORCs member organisations which has become especially visible over the past two years. It "shall authorise researchers moving to the country of another organisation

Table 1: Top ten partner countries and cooperating organisations in Europe named by three or more organisations

Partner countries	
Country	No. of agreements
Germany	22
France	20
Italy	9
United Kingdom	9
Finland	8
Austria	6
Belgium	5
Spain	5
Czech Republic	4
Poland	4

Partner organisations	
Research organisation	No. of agreements
German Research Foundation	10
National Center for Scientific Research, France	9
Max Planck Society, Germany	4
National Research Council, Italy	4
Academy of Sciences of the Czech Republic	3
French National Research Agency	3
Foundation for Polish Science	3

participating in this scheme² to use the remainder of a current research grant for the continuation of their research abroad". In its Communication on 'Better careers and more mobility: a European Partnership for Researchers' of May 2008 the European Commission refers to the MFR agreement as a model for other initiatives to enable cross-border mobility of researchers within the European Research Area³. Obviously, this section of the questionnaire was targeted only to EUROHORCs members.

In June 2008, the MFR agreement had been signed by 20 of the 32 EUROHORCs organisations responding to the survey, whereas 12 had not signed it. Of the 20 signatory organisations, eight had not yet implemented the agree-

2. i.e. the Money Follows Researcher scheme, cf. EUROHORCs Letter of Intent: Transfer of Grants, Article 2, http://www.eurohorcs.org/SiteCollectionDocuments/EUROHORCs_MFR_Letter_of_Intent_Revised_081105.pdf.

3. Communication from the European Commission to the Council and the European Parliament: Better careers and more mobility: a European Partnership for Researchers, Brussels 23.05.2008, COM(2008)317 final, p. 6.

ment, or had not received requests for implementation.

Particularly interesting is the set of statements regarding the implementation of the agreement: 16 organisations chose to reply to the question ‘If yes, have you implemented it and how?’. Two statements throw light on potential difficulties associated with the implementation of the agreement:

- The Slovenian Research Agency (SRA) raises an issue which might be relevant to other organisations as well: “All bilateral cooperation is formally based on agreements between governments of two states and further implemented by the SRA.”
- The French National Center for Scientific Research (CNRS) faces challenges in another respect: “Received several researchers from DFG. CNRS, being a research performing organisation, does not fund individual researchers, but provides support to laboratories. Individual researchers cannot take money or equipment from a lab when they move, even if it is to another CNRS laboratory.” Other research performing organisations may face the same problem, as almost all which have implemented the MFR agreement are research funding organisations⁴. They may be able to receive incoming researchers with their grants, but are not in a position to let their researchers transfer institutional funds to another institution.

Not surprisingly, the MFR agreement seems to be especially well implemented in those countries where it was developed and tried out in a pilot phase, the so-called D-A-CH countries (Germany, Austria and Switzerland)⁵. But other countries have also meanwhile developed their own policies for implementing the MFR agreement:

- Both the Flemish Fund for Scientific Research and the National Research Fund of Luxembourg use the agreement to enable mobility of early career researchers (doctoral candidates and/or postdocs).
- The Danish Council for Independent Research, the Swedish Research Council and the British Medical Research Council (MRC) consider applications for transfers of grants on a pragmatic case by case basis.

In addition, the MRC points out: “Usually the mechanism is that the universities involved in the transfer are given permission to transfer money as appropriate.”

All in all, a preliminary conclusion can be drawn that the implementation of the MFR agreement seems to need further exercise and exchange of information and practice between the organisations. In its current format it appears to be less suitable for research performing than for research funding organisations. The cooperation between

4. With the exception of the British Medical Research Council being a mixed organisation.

5. The Austrian Science Fund, the Swiss National Science Foundation and the German Research Foundation have established a permanent cooperative association named D-A-CH.

the D-A-CH countries may be seen as a first indication of the growing importance of regional alliances and the level of trust they are able to build.

Portability of grants outside the ‘Money Follows Researcher’ agreement

The implementation of the MFR agreement is still a challenge, but outside of this agreement the opportunities for researchers to transfer grants to another country are even more limited. In total, 21 organisations do not allow their grantees to transfer funds abroad, and six organisations provided no answer to this question. Only 13 organisations offer this opportunity mainly on a case-by-case basis. It is important to note that the highly competitive grants of the European Research Council are portable from one institution to another and from one EU Member State or Associated Country to another.

Formal cooperation agreements with organisations beyond Europe

EUROHORCs and ESF highlight in their joint ‘Vision on a Globally Competitive European Research Area and their Road Map for Actions’⁶ the ambition to connect “European research to the world”. It was therefore important to analyse the extent to which collaborations between European organisations and organisations beyond Europe have been set up, at least in the framework of formal cooperation agreements.

In total, 33 organisations of the responding 40 have signed agreements with non-European organisations, whereas six⁷ organisations have not (Table 2). Largely the same organisations which also maintain cooperation agreements with partners in Europe have signed cooperation agreements beyond Europe. However, the German Research Foundation, which is fourth in the number of European agreements (Figure 5), is first in agreements with non-European organisations (Table 2).

Notably strong is the position of organisations from Southern European countries (Italy, Spain and Turkey) and from relatively small countries like Finland, Sweden and Belgium (Table 2).

The countries and organisations with which the European organisations link point to the concept of the upcoming ‘Asian Century’ (Table 3). Although USA is still in the lead, China has become the second most preferred partner country in cooperation agreements between research organisations. Except for USA and Russia, which was

6. Cf. http://www.eurohorcs.org/SiteCollectionDocuments/EUROHORCs_ESF_ERA_RoadMap.pdf.

7. Including the Danish Council for Strategic Research (not member of EUROHORCs), Danish Council for Independent Research, Enterprise Ireland, National Research Fund of Luxembourg, Slovak Research and Development Agency, Netherlands Organisation for Applied Scientific Research.

IV. Main Findings

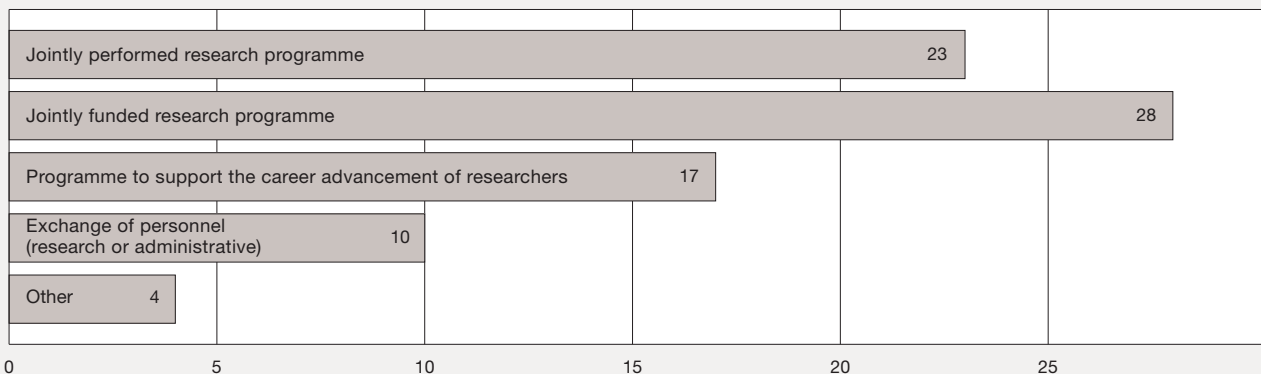
Table 2: Research organisations having ten or more cooperation agreements with other countries **beyond** Europe

Country	Organisation	No. of agreements
Germany	German Research Foundation	60
France	National Center for Scientific Research	50
Italy	National Institute of Nuclear Physics	40
Finland	Academy of Finland	29
Spain	Spanish National Research Council	29
France	National Institute of Health and Medical Research	19
Belgium	Fund for Scientific Research	18
Sweden	Swedish Governmental Agency for Innovation Systems	14
Italy	National Research Council	13
Belgium	National Fund for Scientific Research	12
Turkey	Scientific and Technological Research Council of Turkey	10
Germany	Max Planck Society	10

Table 3: Top ten partner countries and cooperating organisations beyond Europe named by three or more European organisations.

Country	No. of agreements	Country	Organisation	No. of agreements
USA	28	USA	National Science Foundation	11
China	25	China	National Natural Science Foundation of China	10
Japan	12	China	Chinese Academy of Sciences	9
India	10	Japan	Japan Society for the Promotion of Science	6
South Korea	10	Russia	Russian Foundation for Basic Research	4
Russia	9	Canada	National Research Council Canada	3
Taiwan	6	South Korea	Korea Research Foundation	3
Brazil	5	South Korea	Korea Science and Engineering Foundation	3
Argentina	5	USA	National Institutes of Health	3
Canada	4			

Figure 6: Type of cooperation between organisations in Europe



classified by survey participants as “beyond Europe”, we find Asian states in the top ranks: Japan, India, South Korea and Taiwan. From the top five partner organisations of cooperation agreements, the US National Science Foundation is directly followed by the National Natural Science Foundation of China and the Chinese Academy of Sciences (11 compared to 10 and 9 agreements). Given that Brazil ranks among the top ten partner countries, the relevance of the BRIC countries (Brazil, Russia, India and China) as partners in international (research) collaboration appears to be increasing.

Participation in joint programmes with other organisations in Europe

Not just on paper in agreement documents but also in concrete terms, research organisations in Europe are prepared to collaborate across borders. The survey shows that the vast majority of organisations collaborate in joint programmes beyond the schemes offered by the European Commission. Once more, as many as 34 of the 40 organisations indicated involvement in joint programmes with other research organisations in Europe, whereas seven⁸ organisations stated that they have not been engaged, at least yet.

In order to find out more about the type of cooperation in joint programmes the organisations were asked for specifics. Figure 5 indicates the number of replies to each of the five categories of joint activities. It turns out that the focus is on cooperation within jointly funded (28 organisations) and jointly performed research programmes (23 organisations).

The exchange of personnel between the organisations, however, seems to be important as well: 17 organisations cooperate in this field. Ten organisations state that they are involved in programmes which are geared to support the career advancement of (early stage) researchers.

The organisations were asked to name the most relevant partner countries and organisations with whom they cooperate in joint programmes. Again Germany, France, the Nordic countries (as a group; Denmark, Finland, Iceland, Norway and Sweden), Italy and the United Kingdom are the most frequently mentioned countries (Table 4).

The organisations, which have a minimum of three different international partners for cooperation in joint programmes, are listed in Table 5, where the Nordic countries (Denmark, Finland, Iceland, Norway and Sweden) are aggregated to one entity in the context of the multinational

8. i.e. the Fund for Scientific Research (Belgium), National Hellenic Research Foundation (Greece), the Hungarian Scientific Research Fund, Enterprise Ireland, Science Foundation Ireland, the Swedish Research Council for Environment, Agricultural Sciences and Spatial Planning and the National Research Fund (Luxembourg).

Table 4: Top five partner countries of cooperation in joint programmes

Country	No. of joint programmes
Germany	14
France	13
Nordic countries	8
Italy	6
United Kingdom	6

Table 5: Preferred collaboration partners in joint programmes (named by three or more organisations)

Organisation	No. of joint programmes
NordForsk, Nordic countries	7
National Center for Scientific Research, France	5
German Research Foundation	5
Max Planck Society, Germany	4
French National Research Agency, France	3

Nordic organisation NordForsk⁹ which appears to efficiently support joint programmes in the Nordic countries. It is followed by the French National Center for Scientific Research together with the German Research Foundation (five each), and the German Max Planck Society together with the French National Research Agency.

In total, 34 organisations answered the question whether their engagement in joint programmes mainly encompasses bilateral or multilateral collaborations. Half of them focused on bilateral collaborations, and the other half favoured multilateral programmes.

Nineteen organisations shared their views on good practice in multilateral collaborations. The variety of programmes which were named is large. Only two programmes were mentioned by several organisations:

- Seven organisations viewed the European Science Foundation’s EUROCORES (European Collaborative Research Programmes) scheme as the leading example of good practice (see Chapter 6).
- Five organisations from the Nordic countries highlighted collaborations in the framework of NordForsk with special emphasis on its Nordic Centres of Excellence Programme. It aims at bringing together top quality

9. NordForsk is a Nordic Research Board. It operates under the Nordic Council of Ministers for Research and Education and supports research and research training.

IV. Main Findings

research groups in order to form internationally visible centres or networks.

In summary, the EUROHORCs and ESF member organisations are considerably engaged in cooperation agreements and joint programmes with partners in Europe (with a prevalence of Germany, France, the Nordic countries, Italy and the UK) and beyond (with a growing emphasis on Asia and the BRIC countries). Multilateral collaborations seem to work especially well in the framework of multinational organisations like the D-A-CH partnership, NordForsk and the ESF.

3. Cross-border funding

The willingness of a given country or organisation to allow national taxpayers' money to cross borders is a strong indicator for the stage of development of the ERA, characterised by cross-border mobility of people, ideas and funds. It was therefore important to ask the organisations if they are able to invest in research outside their national boundaries, for instance by contributing to common pots of funds without *juste retour*, allowing for the portability of grants or opening their schemes to researchers based abroad.

Legal mandate to fund research outside the country

Up to now, a majority of 22 (55%) out of the 40 participating organisations have the right to fund research outside the country, whereas 18 (45%) are not entitled to do so. Of the organisations which are legally in the position to enable cross-border funding, 15 stated that their cross-border collaborations in joint programmes also include cross-border funding. For seven organisations cross-border funding is not possible in their cross-border programmes.

Common pots for funding

The readiness of research organisations to invest in a common pot for funding is clearly a rather radical step towards a 'European Grant Union'. Although still a slight majority of 17 organisations cooperate in joint programmes without common pot funding, as many as 16 organisations have been involved in joint schemes which operate with a common pot for funding without *juste retour*.

Next, the organisations were asked to provide examples of good practice for common pot funding. The most frequently mentioned programmes (four times each) are:

- The Nordic Centres of Excellence Programme which is offered by the multinational organisation NordForsk.
- The European Young Investigator (EURYI) Award Programme funded by several EUROHORCs organisations and managed by the ESF over a period of five

years. The programme was terminated when the concept was taken up by the European Research Council in its Starting Grant scheme. The EURYI Award Programme is described as a case in Chapter 5.

Openness of national programmes to researchers based abroad

Out of the 40 organisations participating in this survey, a majority of 23 has opened their national programmes to researchers based abroad, be they nationals moving abroad or non-national awardees using those funds either in the funding country or abroad. Thirteen organisations limit their funding to national applicants and four organisations provided no answer. No major differences can be observed between the research funding and the performing organisations.

The answers by research organisations on why they opened their schemes to researchers outside the country fall into three categories:

- To support the qualification of young researchers (mentioned by the Belgian Flemish Fund for Scientific Research, the Italian National Agency for New Technologies, Energy and the Environment, the Spanish National Research Council and the Swedish Research Council).
- To (re-)attract researchers to the respective country (mentioned by the Belgian National Fund for Scientific Research of the French Speaking Community, the Foundation for Polish Science, the Danish National Research Foundation and the Swiss National Science Foundation). The Academy of Finland offers a Visiting Researchers programme which allows its fellows to spend at least half of the funding period abroad.
- To establish institutional partnerships, as the German Max Planck Society outlines with respect to its Max Planck Partner Groups: "[F]or the purpose of strengthening the ties between Max Planck Institutes and foreign research institutes and of intensifying cooperation between individual scientists through jointly conducted projects. Partner groups are headed by visiting scientists with proven research records and profiles who, after completing their research residency at a Max Planck Institute, return to their home base to lead an appropriately equipped research group."

The Danish Council for Independent Research (DCIR) and the British Medical Research Council (MRC) are especially flexible in handling applications from outside the country.

- The DCIR points out that "According to Danish law, funding schemes are open to researchers based abroad (and regardless of their nationality), provided that their research is judged to be of benefit to Danish research."
- The MRC states: "Overseas researchers can be

co-applicants on MRC grants. They can request costs from the grant, which we provide to the UK universities who then use their own methods to transmit the funds to the co-applicant. Overseas funding is approved on a case by case basis by an MRC Programme Manager.”

- Other research organisations have opened their programmes to the participation of foreign researchers, but require that the research is carried out in the respective countries. This is the case for Science Foundation Ireland, the Irish Research Council for Science, Engineering and Technology, the Hungarian Scientific Research Fund and the Scientific and Technological Research Council of Turkey. The Czech Science Foundations and the Research Council of Norway also impose limitations, but did not further specify them.

Some of the research performing organisations operate units abroad and by this means also fund researchers in the countries where these units are based (e.g., the French National Center for Scientific Research, the French National Institute of Health and Medical Research, the German Max Planck Society and the British Medical Research Council. Some foundations or private trusts, such as the Wellcome Trust, which are not in the scope of this survey, seem especially to be very experienced in this regard. The Institut Pasteur for instance is required by its statutes to accomplish its mission not only in France, but also abroad. It has meanwhile established an international network on five continents.

In summary, a number of organisations across Europe seem to be rather open in letting funds flow across borders when these are linked to joint programmes. Even the readiness to invest in common pots for funding in which *no juste retour* is guaranteed is considerable. The trust between organisations seems to be highest in the case of jointly run funded programmes and when they are managed by a reliable ‘handling agent’ such as the multinational ESF or NordForsk. Some research performing organisations have gained considerable experience in running offshore units or institutes. Still, there persists a hesitance to allow funds to cross borders in the case of individual research projects, outside of specific bi- or multilateral schemes which are geared to cross-border research cooperation.

4. Procedural issues

Financial cooperation is a strong indicator of mutual trust between research organisations in Europe. A high level of confidence is required, when essential procedural issues of research management are concerned, such as calls for proposals, peer review and decision making procedures. Hence, it is important to analyse to which extent the participating organisations are prepared to engage in joint procedures and what experience they have gained.

Joint calls for proposals

A vast majority, 33 of the 40 organisations (83%) issue joint calls for proposals, whereas seven organisations (12%) have not done so. It is interesting to see that not only research funding organisations are involved in joint calls for proposals, but also some research performers like the French Atomic Energy Commission, the French National Institute of Health and Medical Research, the German Max Planck Society, the Italian National Agency for New Technologies, Energy and the Environment, the Spanish National Research Council or the British Medical Research Council, which is a mixed funding and performing organisation.

Analysing the 33 participating organisations’ replies regarding best practice examples¹⁰ for joint calls for proposals we find:

- The majority, 21 organisations, name bilateral initiatives that are not limited to the European Research Area, but involve organisations from all over the world. These calls are mainly carried out with partner organisations on the basis of existing cooperation agreements. Thus, the organisations obviously do not see major differences between partners within or outside Europe. The answers also underline that the cooperation agreements are actually implemented or have even been signed *ex post* in order to legitimise already existing collaborations.
- Regarding joint calls for proposals, the most frequently mentioned multilateral scheme (seven replies) is once more the ESF’s EUROCORES programme, followed by the Nordic Centres of Excellence Programme (three replies) and joint calls in the D-A-CH framework (one reply). This finding underlines again the relevance of multinational organisations or alliances as facilitators of cross-border research cooperation in Europe.

Joint peer review

The results on joint peer review procedures mirror those on joint calls for proposals: 30 organisations (75%) have experience in this respect, 10 (25%) have not. Six research performing or mixed organisations stated they have been

¹⁰. Several nominations were allowed.

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involved in joint peer reviews¹¹. In total 28 organisations reported examples of good practice¹²:

- The majority of organisations (17) have gained positive experience in bilateral collaborations. Some organisations can build on long-standing practices like the German Research Foundation which has used joint peer review in the context of 57 International Research Training Groups. This programme is geared to support bilateral structured programmes for doctoral education.
- Some organisations chose the Chinese National Natural Science Foundation and the US National Science Foundation as preferred non-European partners for cooperation agreements (each mentioned by four organisations).
- The EUROCORES scheme was the most frequently named multilateral programme (four replies), followed by the D-A-CH cooperation (two replies) and the Nordic Centres of Excellence Programme (one reply).

Joint decision making

Thirty organisations answered questions on joint decision making, whereas 10 provided no reply.

Neglecting the ‘no answer’ category, three types of answers can be distinguished:

- Only four organisations pointed out that they do not implement joint decision making in jointly operated programmes. In contrast, 27 organisations allow for some kind of joint decisions.
- Of the latter, 15 organisations stated having joint decision making practices in place. Especially the three participating British organisations have gained considerable experience in this field as well as some of the research performing organisations like the Italian National Research Council and the Spanish National Research Council.

The following quotations illustrate how joint decision making is carried out:

- The British Arts and Humanities Research Council states: “Both organisations meet to agree the number of projects to be funded according to funds available.”
- The British Engineering and Physical Sciences Research Council reports: “EPSRC provides referee information, but the process is operated by overseas agency. EPSRC abides by overseas peer review decision.”
- The British Medical Research Council emphasises: “Yes, there is a joint decision making procedure through having a joint panel to conduct the reviews.”
- The Research Promotion Foundation of Cyprus points

out: “After the completion of the evaluation, a joint committee meets to decide which proposals should be funded.”

- The Austrian Science Fund and the Swiss National Science Foundation mention the ‘Lead Agency’ procedure in this regard. It had first been launched in the framework of the D-A-CH cooperation and has now been gradually extended. Originally, the Lead Agency procedure “is an agreement between research funding organisations to delegate the peer review process of projects involving research groups from several countries to one organisation.”¹³

The remaining 12 organisations use combined approaches which build on joint peer review and then let the respective national organisations take their decisions individually, before coming up with a joint final decision.

- A typical example in this respect is the statement by the Czech Science Foundation (GAČR): “Decision on awarding grants is based on result of evaluation process from partner funding organisation. Grant can be awarded only after final approval from both research funding organisations (GAČR and partner funding organisation).”

Obviously, research organisations in Europe have been able to develop considerable experience in the joint handling of programmes at all three levels: calls for proposals, peer review and decision making. A certain prevalence of bilateral collaborations still exists, but multilateral endeavours are relevant, too. It can be expected that the ‘Lead Agency’ procedure will become more and more important especially for collaborations between a limited number of organisations.

11. Including the French National Institute of Health and Medical Research, the Italian National Agency for New Technologies, Energy and the Environment, the Spanish National Research Council and the British Medical Research Council.

12. Several answers were allowed.

13. Cf. The ‘EUROHORCS’ view on Joint Programming’, http://www.eurohorcs.org/SiteCollectionDocuments/EUROHORCS_Statement_Joint_Programming_20081411.pdf.

5. The EUROHORCs-ESF European Young Investigator Award programme

The concept

In 2003 the EUROHORCs and the ESF launched the European Young Investigator (EURYI) Award programme. The signatories of the Memorandum of Understanding, annually renewed until 2006, stated that they wished “to contribute to the building of the European Research Area”. The aim of the programme was “to encourage and enable outstanding young researchers from all over the world to work in a European environment for the benefit of the development of European science and the building up of the next generation of leading European researchers.”

The EURYI Awards¹⁴ exemplify a programme where joint calls for proposals, peer review, decision making and programme management, as well as a common pot for funding, were realised at a European level¹⁵.

The EURYI Award programme was operated in four annual calls for proposals. The first call was published in September 2003 and the last in 2006. The respective awards were granted in 2004 and 2007. Award holders could carry out a research project of their own choice during a period of five years at a host institution in any country participating in the respective call. They were expected to devote their full working time to research and activities related to their proposal.

The total number of submitted proposals was 2,230. The maximum total value of an Award was 1.25 M€ over the five years. The budget of the programme amounted to approx. 100 M€, and was used to fund 95 Awards. In total, 25 organisations from 20 countries participated in the four calls (see Annex 3).

The three first annual rounds of the EURYI Award programme were evaluated by the independent Norwegian group NIFU STEO in 2005 and 2007²² using a questionnaire addressed to both the successful and unsuccessful applicants of the 2003-2005 calls for proposals. The 2007 report states: “EURYI seems to function as a door-opener, and the awardees are in general very content with the career effects of the award. We also find that the awards enable research that would otherwise not have been accomplished, and make in these terms a difference not only for the awardees, but also for research.” The report underlines that the EURYI scheme has implied cooperation, learning and inspiration between the national research funding agencies involved. However, the evaluators perceived limitations as to the actual harmonisation of selection procedures between the participating organisations. They also saw

14. For more details on the EURYI Award programme cf. <http://www.esf.org/activities/euryi.html>.

15. Cf. the EUROHORCs' and ESF's Memorandum of Understanding (MoU) for the funding and management of the Fourth Call within the programme of European Young Investigator (EURYI) Awards, p. 1.

room for improvement, especially with respect to the selection process “to further emphasise the weight on forward looking criteria and assuring focus on the potential impact of the awards”.

Joint procedures and funding

Table 7 (see page 18) summarises the various aspects of cross-border cooperation in implementing the EURYI Award programme.

Participation and outcome by country

Table 8 shows the distribution of applications and awards across the countries participating in the EURYI Programme during all four calls for proposals. The symbol “-” indicates that a country did not participate in the respective call and correspondingly did not receive awards.

In absolute terms, the most awards were received by France (18), followed by the Netherlands (15), Germany (14), Switzerland (11) and Spain (8). Remarkable is the extraordinary success of rather small countries such as the Netherlands and Switzerland, demonstrating that these countries stand out in attracting high-profile researchers.

In 2007 the European Research Council launched the first call for proposals of its Starting Grant scheme. As this programme shares most of the characteristics of the EURYI Award programme while providing roughly ten times more grants, the EUROHORCs decided to postpone indefinitely the funding of any further EURYI Awards. The programme will come to an end in 2013 when the funds of the 2007 Awards expire.

6. The European Collaborative Research Programmes scheme

The ESF manages on behalf of its member organisations a scheme of European Collaborative Research Programmes, designated EUROCORES. The programmes address research questions which require cooperation crossing national borders and disciplinary boundaries. The aim of the EUROCORES scheme is to promote cooperation between national funding and performing organisations by providing a mechanism for collaborative funding on themes selected through open calls for proposals. The scheme deploys common peer review, which is organised by ESF and is the basis for the national funding decisions. Funding by the participating organisations remains within their national borders and is dedicated to research teams of the respective country. Each research programme, running for three to four years, is composed of about 30 individual projects, each of which include between four and seven principal investigators who are based in different countries.

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Table 7: Main features of the EURYI Award programme

Features of cross-border research cooperation	Implementation in the EURYI Award programme		
	Call	Countries	Organisations
	2003	14	17
	2004	16	20
	2005	16	18
	2006	15	17
Common pot for funding	<ul style="list-style-type: none"> The participating organisations jointly provided the programme budget on a call by call basis. The minimum contribution was 200 k€ for five years. It entitled an organisation to submit two proposals to the international selection stage. Any additional 200 k€ budget share accounted for one additional proposal to be put forward, subject to prior approval at national level. The EURYI programme operated with a common pot for funding without <i>juste retour</i>. The common pot was ‘virtual’ in the sense that ESF acted as a financial ‘clearing house’ between organisations receiving more funding than they had originally contributed to the common budget and those organisations receiving less funds as compared to their budget share. 		
Joint calls for proposals	<ul style="list-style-type: none"> Organisations participating in the respective calls agreed on a joint call for proposals. The calls were issued simultaneously by the EUROHORCs and ESF together with the respective participating organisations. The deadline for the submission of proposals was binding for all participating organisations. The proposals had to be submitted to the national participating organisation. 		
Joint peer review	<ul style="list-style-type: none"> The assessment of applications was undertaken in two stages, first at national level and subsequently at European level. The same set of commonly agreed selection criteria applied: <ul style="list-style-type: none"> – the research quality and potential of the applicant – the originality, groundbreaking character and feasibility of the research proposal – the potential of the applicant and the proposed research programme to improve the position of European research at world level. Originally, the participating organisations managed the first stage using their own national rules and procedures. Over time they agreed on a set of joint review principles for the national selection stage. The European Science Foundation managed the European phase of the review process involving highly respected international experts to carry out peer review in accordance with the respective national organisation’s rules and procedures. 		
Joint decision making	<ul style="list-style-type: none"> The EURYI Programme Committee was responsible for decision making. The members were heads of the participating organisations and a representative from ESF. The Committee was in charge of upholding the key principles of the scheme, overseeing the process of evaluation and selection, and formally approving the proposals selected for funding at the international assessment stage. 		
Joint programme management	<ul style="list-style-type: none"> Operational matters were handled by the EURYI Management Committee in cooperation with the ESF. The Committee was responsible for the detailed development of the scheme, such as the scheme guidelines, call for proposals, application process and availability of funding. All participating organisations and the ESF were entitled to a seat on the Management Committee. The granted EURYI Awards are administered at national level by the respective participating organisation and the host institution of the awardee. 		
‘Money Follows Researchers’ principle	<ul style="list-style-type: none"> In the beginning the scheme was restrictive in allowing for moves between institutions and countries. This rule was loosened over time and based on the principles of the EUROHORCs’ ‘Money Follows Researcher’ agreement.* 		

* Cf. the EUROHORCs’ and ESF’s 4th Memorandum of Understanding (MoU) for the funding and management of the Fourth Call within the programme of European Young Investigator (EURYI) Awards, p.6: “In exceptional circumstances, a EURYI award may be transferred between host institutions, subject to the formal agreement of both host institutions and both POs concerned. Transfers may only take place when both POs have participated in the Call in which the award was made and will normally follow the principles established by the EUROHORCs ‘Money Follows Researcher’ agreement.”

Table 8: Applications and Awards per country and call

Country	Call 1		Call 2		Call 3		Call 4	
	Applications	Awards	Applications	Awards	Applications	Awards	Applications	Awards
Austria	19	1	6	1	6	0	31	0
Belgium	25	0	23	1	8	0	–	–
Czech Rep.	–	–	–	–	11	0	11	1
Denmark	43	1	–	–	18	2	–	–
Finland	54	0	24	2	22	1	25	0
France	90	4	62	4	54	5	47	5
Germany	137	4	78	2	56	4	57	4
Greece	12	1	4	0	8	1	6	0
Hungary	26	0	15	1	17	1	10	0
Ireland	33	0	12	0	–	–	–	–
Italy	–	–	44	0	47	2	57	0
Netherlands	64	4	38	3	26	5	24	3
Norway	27	0	15	1	16	0	–	–
Poland	–	–	–	–	–	–	24	1
Portugal	13	1	7	0	28	0	12	0
Spain	133	5	104	2	70	1	47	0
Sweden	–	–	54	0	51	2	79	1
Switzerland	36	2	30	4	19	1	37	4
Turkey	–	–	–	–	–	–	7	1
UK	65	2	106	4	–	–	–	–
Total	777	25	622	25	457	25	474	20

Once a EUROCORES programme has obtained funding, it is expected to implement networking activities through workshops, conferences, schools, courses and short-term visits. Networking and dissemination activities are meant to encourage and facilitate scientific collaboration and diffusion of knowledge. ESF is responsible for coordination of the networking activities, scientific synthesis of the research results and their dissemination. Since 2009, the management, coordination and networking activities are paid by the organisations funding the research itself, whereas in 2003-2008 they were funded by an EC Specific Support Action (ERASCT-2003-980409).

Procedures and funding

Once a year, ESF solicits from the scientific community new research themes across all scientific domains that require European collaboration. 'Theme proposals' elaborated by scientists working in those fields are peer reviewed and ranked by the Standing Committees of ESF and quality controlled by the ESF Science Advisory Board. The themes approved by the ESF Governing Council are then submitted

to the ESF member organisations for expression of their interest to fund national teams intending to participate in the programmes. The financial viability of a given programme requires that close to 30 projects (teams) will be funded by the national organisations.

Thereafter ESF publishes a call for proposals for each EUROCORES programme. The research proposals are assessed through a two-step international peer review process. The rank-ordered list of proposals is presented for final funding decisions to the management committee established for each EUROCORES programme, which consists of representatives of the participating funding organisations. The research grants are directly given to the national teams.

Since 2003, about 60 organisations from 30 countries and over 1,300 scientists, including several organisations and scientists also beyond Europe, have cooperated in the EUROCORES scheme. The current 23 active programmes (up to the end of 2009) are funded with approximately 110 M€ from the national sources.

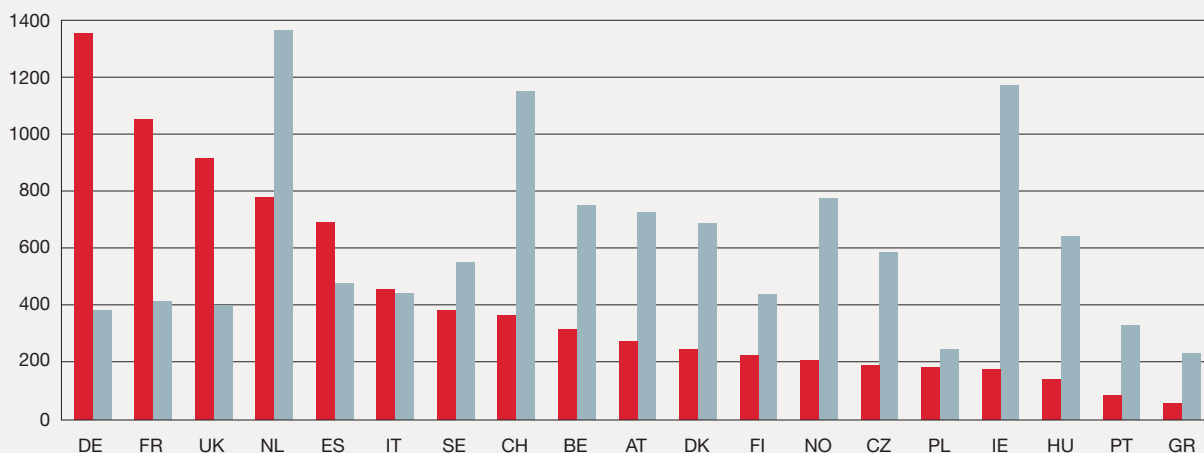
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Table 9: Numbers of researchers in an indicated country, and the numbers of researchers they collaborated with in the other indicated countries within the EUROCORES scheme in 2003-2009.

N.B.: Several EUROCORES programmes include scientists funded by non-European organisations. This data has not been included in this Table.

	DE	FR	UK	NL	ES	IT	SE	CH	BE	AT	DK	FI	NO	CZ	PL	IE	HU	PT	GR	Total
DE	151	210	155	174	110	101	46	96	40	61	39	22	24	24	33	29	22	9	6	1352
FR	210	136	150	95	83	70	46	35	47	24	20	28	15	20	17	19	13	12	8	1048
UK	155	150	59	88	67	49	54	30	37	44	30	21	29	24	24	19	20	9	4	913
NL	174	95	88	46	59	33	43	41	32	19	32	21	21	16	16	16	11	5	9	777
ES	110	83	67	59	65	44	26	27	32	23	18	11	12	24	21	24	22	13	8	689
IT	101	70	49	33	44	32	8	19	22	16	8	7	6	9	9	4	4	9	5	455
SE	46	46	54	43	26	8	20	12	8	6	26	30	27	4	4	12	6	2	1	381
CH	96	35	30	41	27	19	12	23	8	24	8	3	8	6	9	5	4	5	0	363
BE	40	47	37	32	32	22	8	8	20	3	11	14	4	12	11	7	3	3	2	316
AT	61	24	44	19	23	16	6	24	3	9	5	7	4	12	8	2	3	1	3	274
DK	39	20	30	32	18	8	26	8	11	5	9	11	14	2	0	4	3	3	1	244
FI	22	28	21	21	11	7	30	3	14	7	11	13	10	13	1	3	1	1	3	220
NO	24	15	29	21	12	6	27	8	4	4	14	10	20	2	0	2	2	7	1	208
CZ	24	20	24	16	24	9	4	6	12	12	2	13	2	3	8	4	5	0	3	191
PL	33	17	24	16	21	9	4	9	11	8	0	1	0	8	5	8	6	0	0	180
IE	29	19	19	16	24	4	12	5	7	2	4	3	2	4	8	6	10	2	1	177
HU	22	13	20	11	22	4	6	4	3	3	3	1	2	5	6	10	4	1	0	140
PT	9	12	9	5	13	9	2	5	3	1	3	1	7	0	0	2	1	3	0	85
GR	6	8	4	9	8	5	1	0	2	3	1	3	1	3	0	1	0	0	1	56
Total	1352	1048	913	777	689	455	381	363	316	274	244	220	208	191	180	177	140	85	56	

Figure 7: Red columns: Total numbers of EUROCORES collaborative links between scientists working in the indicated countries. Grey columns: The number of collaboration links normalised per 80,000 FTE of researchers in those countries (FTE data from Science, Technology and Competitiveness, key figures report 2008/2009; http://ec.europa.eu/research/era/publication_en.cfm)



Preferred partners by country

In this survey, several organisations referred to the EUROCORES scheme as one of the best examples of European cross-border cooperation in research funding. We therefore wished to analyse the vast amount of data gathered concerning the numbers of European-wide links between individual researchers in the framework of the EUROCORES scheme in 2003-2009. Moreover, some of the funding organisations wished to acquire information on the collaborative links their national principal investigators have created in the framework of the EUROCORES scheme.

Table 9 illustrates the collaborative landscape of the EUROCORES scheme. The figures in the rows and columns of the matrix show the numbers of individual researchers working in the indicated country, and the numbers of researchers they collaborate with in the other indicated countries. Thus, for instance, 210 researchers based in France have collaborated with 151 researchers based in Germany, 150 based in the UK and 95 based in the Netherlands. The diagonal entries therefore correspond to the number of collaborative links between scientists in the same country (e.g. 150 researchers in Germany collaborate with each other within the EUROCORES scheme).

Table 9 shows that the five leading countries in absolute numbers of international research collaborations within EUROCORES are Germany, UK, France, the Netherlands and Spain.

The red columns in Figure 7 show the total numbers of international plus domestic collaborative links of the researchers in the indicated countries (see bottom row of Table 9). The grey columns show these same numbers of links normalised against Full-Time Equivalents of researchers in those countries. According to the normalised data, the five top countries as far as collaborative links of their researchers are concerned are the Netherlands, Ireland, Switzerland, Norway and Belgium.

7. Cross-border cooperation between individual researchers

Cooperation between individual researchers is a component of this survey, and thus the organisations were asked to estimate:

- The number of cooperative cross-border research projects outside formal agreements or specific schemes;
- The number of publications stemming from international research collaborations, and to indicate the three most preferred partner countries of such collaborations.

Surprisingly, these data do not seem to be systematically collected by the organisations, or at least mined, and thus the answers below have to be taken with reservations.

Research projects outside of formal agreements and specific schemes

Half of the organisations (20) provided a rough estimate of the number of cross-border research projects outside formal cooperation agreements or joint schemes (Table 10). Four of them stated that the number was zero. In all other cases we can find that the number of research projects within Europe outweighs the number of research collaborations beyond Europe.

Publications stemming from international collaborations

To estimate the number of publications resulting from projects funded by the respective participating organisations outside of formal cross-border agreements seems to be an even more difficult task. Thus, only 15 organisations of the 40 provided answers. The data have to be taken with reservations, especially because the timeframe in which these publications were achieved had not been specified.

As the results seemed so vague we decided to present only the results regarding the most preferred partner countries of research collaborations (Table 11): Germany is in the lead (14 replies), followed by the United States (10 replies), the UK (eight replies) and France (six replies). Sweden, Finland, China, Belgium, the Czech Republic and Austria were all mentioned once.

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Table 10: Estimated number of cross-border research projects in the absence of formal agreements or specific schemes

Country	Name of Research Organisation (RO)	Projects within Europe (approx. no.)	Projects beyond Europe (approx. no.)
Austria	Austrian Science Fund	500	200
Belgium	National Fund for Scientific Research	100	30
Cyprus	Research Promotion Foundation	0	0
Denmark	Danish National Research Foundation	900	400
Estonia	Estonian Science Foundation	400	100
France	National Institute of Health and Medical Research	4,797	3,000
France	National Center for Scientific Research	18,000	10,000
Germany	German Research Foundation	4,000	2,000
Germany	Max Planck Society for the Advancement of Sciences	1,700	840
Greece	National Hellenic Research Foundation	40	5
Ireland	Irish Research Council for Science, Engineering and Technology (IRCSET)	18	n.a.
Ireland	Science Foundation Ireland	732	539
Italy	National Institute of Nuclear Physics	0	0
Luxembourg	National Research Fund	0	0
Poland	Foundation for Polish Science	10	3
Slovakia	Slovak Research and Development Agency	20	2
Slovenia	Slovenian Research Agency	0	0
Spain	Spanish National Research Council	1,000	500
Sweden	VINNOVA (The Swedish Governmental Agency for Innovation Systems)	2	6
Switzerland	Swiss National Science Foundation	1,050	300

8. Future plans and concerns

Finally, the organisations were invited to comment on forward looking aspects, like the demand by the respective national research community for more support and/or resources for cross-border collaboration, persisting legal and other hurdles to cross-border funding and plans to enter existing cooperation agreements or to launch new ones. Eventually, the participants could share their views on initiatives which they considered to be important for the realisation and future development of the European Research Area.

Demand for support for cross-border collaboration by national research communities

A large majority, 32 organisations (80%), stated that such demands from their research community exist, three organisations are not aware of such demands and five organisations provided no answer. There is evidently a strong push by the national research communities for more means and possibilities for international research cooperation. Analysing the replies we can find:

- The organisations which currently have to deal with demands to expand cross-border collaborations mention specific claims which can be summarised as follows:
 - To make more funds available for cross-border cooperation
 - To sign additional cooperation agreements
 - To foster international researchers' mobility connected with international collaborations
 - To expand collaborations in doctoral training and early stage postdoctoral qualification
 - To simplify reviewing and/or decision making procedures in joint programmes
 - To provide more opportunities to use international large scale facilities to enable long-term cooperation with international partners
- Those three organisations which are not confronted with the demand to offer more means for international collaborations provide the following interpretations: The Danish Council for Independent Research has to meet requests to increase the funding for national cooperation. In the case of Poland, sufficient funding for cross-border collaborations is available according to the Foundation for Polish Research, but is partly not

Table 11: Main partner countries of collaborative publications stemming from research funded by or conducted by within the respective organisation

Country	Organisation	Three main partner countries		
Estonia	Estonian Science Foundation	Sweden	Finland	Germany
France	Atomic Energy Commission	USA	Germany	UK
France	National Institute of Health and Medical Research	USA	UK	Germany
France	National Center for Scientific Research	USA	Germany	UK
Greece	National Hellenic Research Foundation	Germany	France	UK
Hungary	Hungarian Scientific Research Fund	Germany	USA	France
Ireland	Irish Research Council for Science, Engineering and Technology (IRCSET)	Germany	UK	France
Italy	National Institute of Nuclear Physics	USA	Germany	France
Italy	Italian National Agency for New Technologies, Energy and the Environment	USA	Germany	China
Luxembourg	National Research Fund	Belgium	France	USA
Poland	Foundation for Polish Science	Germany	USA	UK
Slovakia	Slovak Research and Development Agency	Czech Republic	Austria	Germany
Slovenia	Slovenian Research Agency	Germany	USA	UK
Spain	Spanish National Research Council	France	Germany	UK
United Kingdom	Medical Research Council	USA	Germany	France

even spent. The Swedish Research Council perceives a high degree of satisfaction with the *status quo*.

Main legal hurdles to cross-border funding

Without legal, operational or budgetary constraints the participating organisations might be in a better position to meet the demands of their respective research communities for more cross-border cooperation or could encourage such collaborations even more proactively. At least 27 organisations named existing legal and other obstacles.

The following topics were mentioned:

- Financial limitations, often in addition to legal constraints, are seen mainly by Eastern European organisations (Czech Science Foundation, Estonian Science Foundation, Hungarian Scientific Research Fund, Slovenian Research Agency) as major impediments. However, some of the major players in cross-border research cooperation such as the French National Center for Scientific Research and the Italian National Research Council also state that budgetary constraints inhibit further international endeavours.
- The provision of funds for cross-border cooperation is limited by legal and/or societal reservations against the investment of national taxpayers' money outside the country in the case of a number of Central, Western and Northern European countries. The primary task of the respective national organisation is thus seen

in supporting the domestic research community. Interestingly, this issue was mainly raised by organisations from (North-) Western European countries (Science Foundation Ireland, the Swedish Research Council, the Swedish Governmental Agency for Innovation Systems, the Swedish Research Council for Environment, Agricultural Sciences and Spatial Planning, the Swiss National Science Foundation and the Netherlands Organisation for Applied Scientific Research).

- The lack of harmonisation of fiscal laws and the limited portability of social security benefits and pension rights is viewed by a number of organisations as obstacles to intensifying cross-border funding. These aspects were mentioned by the French Atomic Energy Commission, the German Max Planck Society and the Irish Research Council for Science, Engineering and Technology.
- Differences between the national research systems are still major barriers for cooperation for a number of organisations:
 - Country-specific regulations and the heterogeneity of national systems especially when common pot funding is involved (Austrian Science Fund, Research Council of Norway);
 - Lack of confidence in other organisations' review procedures or administrative handling (German Research Foundation, the British Arts and Humanities Research Council).

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On the other hand, nine organisations mentioned neither legal nor other hurdles to further international collaboration. The Danish Council for Independent Research states: “In the Nordic context, it is general procedure to follow the rules of the administrating country.” The National Research Fund of Luxembourg points out: “Almost all legal hurdles have been overcome. Common pot funding is quite difficult but possible.”

Plans to implement existing cooperation agreements or to launch new ones

Approximately 85% of the participating organisations (34 out of 40, including all research performing organisations) plan to sign new cooperation agreements, whereas six organisations do not have such plans.

The organisations were also asked to specify the types of cooperation agreements they would like to conclude. Altogether, 33 organisations replied to this question. They provided the following sets of answers:

- A majority of 16 organisations were rather unspecific and mainly highlighted that they were open to all types of agreements, be they bi- or multilateral, formal contracts or Memoranda of Understanding.
- Six organisations (the two Belgian organisations, the Research Promotion Foundation of Cyprus, the Italian National Agency for New Technologies, Energy and the Environment, the Research Council of Norway and the Swedish Governmental Agency for Innovation Systems) would prefer to sign bilateral agreements.
- The three D-A-CH organisations unanimously prioritise the enlargement of the ‘Lead Agency’ agreement.
- Individual replies highlighted:
 - Joint Programming (Czech Science Foundation) or “joint calls ERA-Net type” (Estonian Science Foundation);
 - A “collaboration regarding graduate fellows with NSF, US” (Danish National Research Foundation);
 - Agreements concerning large facilities (The National Institute of Nuclear Physics, Italy);
 - “Launching the Top Research Initiative (NordForsk)” (Swedish Research Council);
 - Lowering “the barriers to collaboration through eliminating double jeopardy in peer review” (Engineering and Physical Sciences Research Council, UK);
 - A “global partnership in chronic non-communicable diseases” (Medical Research Council, UK);
 - New models of institutional cooperation: The German Max Planck Society specifies it plans to establish ‘International Max Planck Research Centers’: “International Max Planck Partner Centers are a new instrument designed specifically with the aim of significantly enhancing collaboration with the most important partner countries. International Max Planck Centers are based on a peer reviewed research program in a pioneering research field of scientific interest to the

Max Planck Society and to an international research institution or university. The project will be carried out by at least one scientist from the Max Planck Society and one international colleague. These two scientists form the ‘Leading Team’ of the Center.”

Initiatives to develop the European Research Area

The final question on initiatives to be taken by national research organisations for the development of the European Research Area was answered by 34 organisations. Altogether there is strong support for the goals defined in the EUROHORCs and ESF Vision on a Globally Competitive ERA and their Road Map of Actions. At least 12 organisations mentioned as top priorities the realisation of the European Grant Union, the mutual opening of national programmes and, more specifically, the realisation of the ‘Lead Agency’ procedure, as well as multilateral collaborations (involving selected partners also from outside Europe).

- The organisations have different opinions about whether future joint programmes should be purely researcher-driven or whether they should build on top-down Joint Programming initiatives. At least nine statements address these topics, and some organisations suggest potential ways forward:
 - “A EUROCORES/TOPCORES/ERA-Net Call style of instrument for collaboration of larger transnational consortia (bottom-up and top-down), based on reliable and properly dimensioned financial commitments of the respective organisations” (Austrian Science Fund);
 - “Improving cooperation among research funding agencies, in joint calls and programmes as well as Joint Programming” (Academy of Finland);
 - “The ideal situation will be to dedicate some of the national funding to joint European programmes in specific areas of interest for Europe and the difficulty is to find the best scheme. The topics should be selected by the organisations and the programmes should be open to the number of organisations involved (small or large number).” (Spanish National Research Council);
 - “Set of common priorities, coordinated implementation of Agreements” (Research Promotion Foundation of Cyprus).
- Two topics which were named by five organisations are:
 - Increasing the mobility of researchers (e.g., by enlarging the ‘Money Follows Researcher’ agreement to more partners);
 - More cooperation in peer review based on harmonised review procedures (the support for this topic is remarkably strong by Eastern European organisations from Hungary, Poland, Slovakia and Slovenia plus the British Medical Research Council).

- Budgetary issues were mentioned by the Academy of Finland, the Swedish Research Council for Environment, Agricultural Sciences and Spatial Planning and the Swedish Research Council. These organisations express their support for European common pot funding. The National Research Fund of Luxembourg is in favour of providing “more national funding dedicated to international cooperation at a serious level”.
- Three organisations (Danish Council for Independent Research, German Max Planck Society and Italian National Research Council) would like to support regional initiatives or clusters of excellence as contributions to building the ERA.
- Individual issues concerned:
 - “Simplification of administrative processes, harmonisation of taxes, improvement of researcher’s status” (French Atomic Energy Commission);
 - “To make cross-border grant giving for foundations easier” (Swedish Riksbankens Jubileumsfond);
 - “We think [the] development of truly international graduate programmes will have a large contribution to make to the ERA.” (Irish Research Council for Science, Engineering and Technology).

In summary, organisations in Europe are faced with strong demands by their national research communities to further extend their European and international collaborations. However, they have to cope with legal and budgetary limitations as well as with societal reservations on spending national tax-payers’ money abroad. All in all, we can find some focal points of common interests, such as multilateral collaborations between organisations in Europe and partly beyond, flexible responses to the needs of the scientific communities, e.g., by introducing joint researcher-driven programmes, by developing flexible procedures for the definition of commonly relevant research themes and for supporting the mobility of researchers.

9. Joint research topics as stimuli for international research cooperation

A survey by Boekholt *et al.*, published in 2009 on behalf of the European Commission¹⁶, identifies a growing importance of policy goals and societal needs as stimuli for cross-border research collaboration. Two paradigms for cooperation in science, technology and innovation (STI) are identified: the ‘narrow’ versus the ‘broad’ STI cooperation paradigm. “In the narrow STI cooperation paradigm, the drivers are mainly to improve the quality, scope and critical mass in science and research by linking national (financial and human) resources and knowledge with resources and knowledge in other countries.”¹⁷ In a broad sense this paradigm applies to research organisations in Europe, especially in view of their policies to support and foster bottom-up cooperative research endeavours of their respective communities.

By ‘broad STI cooperation paradigm’ the authors understand that “STI cooperation becomes a means to reach other policy ends”. In this respect they identify four drivers behind STI cooperation: national competitiveness, support for less developed countries by developing STI capabilities, meeting of global societal challenges and fostering stable diplomatic relationships ensuring indirectly international security. In reviewing the research policy agendas of 20 European and non-European countries the authors found that excellence at a global level (the ‘narrow’ R&D paradigm) is still the main driver for STI cooperation. But, “external triggers, such as the globalisation of R&D, the urgency of certain global challenges, the emergence of new players on the global research market and the lively policy debate about the place of Europe as the ‘most excellent place to do research in the world’ have stimulated interest for more strategic thinking on the role of STI collaboration within and outside Europe.”¹⁸

Notably, in the Commission’s ‘Europe 2020’ strategy, the endorsement of collaborative research within the ERA only plays a minor role as compared to other issues, such as overcoming the current economic crisis and assuring growth and employment. One out of seven ‘flagship initiatives’ which the report puts forward is geared to building an ‘Innovation Union’. It claims that “every link should be strengthened in the innovation chain, from ‘blue sky’ research to commercialisation” and stipulates that the Commission will work to “complete the European Research Area, to develop a strategic research agenda focused on challenges such as energy security, transport, climate change and resource efficiency, health and ageing, environmentally-friendly production methods and land

16. Boekholt, P., Edler, J., Cunningham, P., and Flanagan, K. (2009) *Drivers of International collaboration in research*, European Union.

17. Boekholt *et al.* (2009), p. 8.

18. Boekholt *et al.* (2009), p. 18.

IV. Main Findings

management, and to enhance joint programming with Member States and regions”¹⁹.

Through Joint Programming the Commission seeks to overcome fragmentation of public research in ERA. The concept involves “Member States engaging voluntarily and on a variable-geometry basis in the definition, development and implementation of common strategic research agendas based on a common vision of how to address major societal challenges”²⁰.

With respect to the results of our survey it can be concluded that research organisations in Europe are prepared to stimulate cross-border research collaboration in the sense of the ‘narrow’ and the ‘broad’ STI cooperation paradigm. But, with the growing political drive towards strategically oriented research such as Joint Programming, research funding and performing organisations might be in a position to partly counterbalance this trend by providing bottom-up mechanisms for cross-border cooperation between their communities.

10. Concluding remarks

The present survey fills a gap in that it builds on the experience of the main public funders of research in Europe, in fostering cross-border research collaboration as part of their research funding and performing strategies. We mainly looked at the incentives and conditions for cross-border research by asking the organisations about their cooperation agreements, joint funding activities, and procedural aspects such as peer review and decision making. What still remains to be studied are the actual outcomes of cross-border research collaborations, beyond co-authored publications and co-patents. In this sense Boekholt *et al.* criticise: “While policy makers and research funders apply many assumptions regarding how international STI collaboration has an effect on various policy goals, these are rarely specified or operationalised in the implementation of the instruments in place.”²¹ A CREST report of 2008 therefore recommends to “develop a methodology and establish an evaluation system for policy measures towards the internationalisation of R&D covering ex-ante evaluation, monitoring and impact assessment. Here, appropriate quantitative and qualitative indicators need to be developed. A European approach could be considered to allow benchmarking of national internationalisation performance.”²²

ESF runs a Member Organisation Forum on ex-post evaluation of research programmes, which focuses on ‘Indicators of Internationalisation’. The Forum has conducted a pilot study with the aim of developing indicators that could account for the internationalisation of European research activities and programmes, to be used by the ESF Member Organisations themselves, and their governments for benchmarking and policy evaluation.²³ In this respect the Forum can be expected to explore an area which up to now has largely remained ‘terra incognita’.

19. European Commission: COM (2010), 2020, p. 10.

20. European Commission: COM (2008), 468 final, p. 8.

21. Boekholt *et al.* (2009), p. iv.

22. European Commission (2008) *CREST report on the Internationalisation of R&D Facing the Challenge of Globalisation: Approaches to a Proactive International Policy in S&T*, January 2008, p. 20.

23. Cf. the description of the ESF Member Organisation Forum on Evaluation: Indicators of Internationalisation: <http://www.esf.org/activities/mo-fora/evaluation-indicators-of-internationalisation.html>.

V. Authors and acknowledgements

The authors of the survey are Dr Beate Scholz, Scholz – Consulting training coaching, Germany, and Professor Marja Makarow, Chief Executive of the European Science Foundation.

The items of the on-line questionnaire were designed by Dr Scholz, Professor Dieter Imboden, President of the Swiss National Science Foundation and President of EUROHORCs, and Professor Makarow. Dr Scholz realised the collection and the aggregation of the data.

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Annex 1

Organisations participating in the survey

RFO, research funding organisation

RPO, research performing organisation

	Country	Research Organisation			Type of Organisation
1	Austria	Fonds zur Förderung der wissenschaftlichen Forschung	FWF	Austrian Science Fund	RFO
2	Belgium	Fonds de la Recherche Scientifique	FNRS	Fund for Scientific Research	RFO
3	Belgium	Fonds Wetenschappelijk Onderzoek	FWO	Fund for Scientific Research	RFO
4	Cyprus	Ιδρυμα Προώθησης Έρευνας (ΙΠΕ)	RPF	Research Promotion Foundation	RFO
5	Czech Republic	Grantová agentura České republiky	GAČR	Czech Science Foundation	RFO
6	Denmark	Det Strategiske Forskningsråd	DCSR*	Danish Council for Strategic Research	RFO
7	Denmark	Danmarks Grundforskningsfond	DNRF	Danish National Research Foundation	RFO
8	Denmark	Det Frie Forskningsråd	DCIR	Danish Council for Independent Research	RFO
9	Estonia	Sihtasutus Eesti Teadusfond	ETF	Estonian Science Foundation	RFO
10	Finland	Suomen Akatemia	AKA	Academy of Finland	RFO
11	France	Commissariat à l'Énergie Atomique	CEA	Atomic Energy Commission	RPO
12	France	Institut National de la Santé et de la Recherche Médicale	INSERM	National Institute of Health and Medical Research	RPO
13	France	Centre National de la Recherche Scientifique	CNRS	National Center for Scientific Research	RPO
14	Germany	Deutsche Forschungsgemeinschaft	DFG	German Research Foundation	RFO
15	Germany	Max-Planck-Gesellschaft zur Förderung der Wissenschaften	MPG	Max Planck Society for the Advancement of Sciences	RPO
16	Greece	Εθνικό Ίδρυμα Ερευνών	NHRF	National Hellenic Research Foundation	RPO
17	Hungary	Országos Tudományos Kutatási Alapprogramok	OTKA	Hungarian Scientific Research Fund	RFO
18	Ireland	Enterprise Ireland	Enterprise	Enterprise Ireland	RFO
19	Ireland	Irish Research Council for Science, Engineering and Technology	IRCSET	Irish Research Council for Science, Engineering and Technology	RFO
20	Ireland	Science Foundation Ireland	SFI	Science Foundation Ireland	RFO
21	Italy	Istituto Nazionale di Fisica Nucleare	INFN	National Institute of Nuclear Physics	RPO
22	Italy	Ente per le Nuove tecnologie, l'Energia e l'Ambiente	ENEA	Italian National Agency for New technologies, Energy and the Environment	RPO
23	Italy	Consiglio Nazionale delle Ricerche	CNR	National Research Council	RPO
24	Luxembourg	Fonds National de la Recherche	FNR	National Research Fund	RFO
25	Norway	Forskningsrådet	RCN	Research Council of Norway	RFO
26	Poland	Fundacja na rzecz Nauki Polskiej	FNP*	Foundation for Polish Science	RFO
27	Romania	Consiliul National al Cercetarii Stiintifice din Invatamantul Superior	CNCSIS – UEFISCSU	National University Research Council – Executive Agency for Higher Education and Research Funding	RFO
28	Slovakia	Agentúra na podporu výskumu a vývoja	APVV	Slovak Research and Development Agency	RFO

29	Slovenia	Javne agencije za raziskovalno dejavnost Republike Slovenije	ARRS	Slovenian Research Agency	RFO
30	Spain	Consejo Superior de Investigaciones Cientificas	CSIC	Spanish National Research Council	RPO
31	Sweden	Forskningsrådet Formas	FORMAS	The Swedish Research Council for Environment, Agricultural Sciences and Spatial Planning	RFO
32	Sweden	Riksbankens Jubileumsfond	RJ	Riksbankens Jubileumsfond	RFO
33	Sweden	Verket för Innovationssystem	VINNOVA	The Swedish Governmental Agency for Innovation Systems	RFO
34	Sweden	Vetenskapsrådet	VR	Swedish Research Council	RFO
35	Switzerland	Schweizerischer Nationalfonds zur Förderung der wissenschaftlichen Forschung	SNSF	Swiss National Science Foundation	RFO
36	The Netherlands	Nederlandse Organisatie voor Toegepast Natuurwetenschappelijk Onderzoek	TNO	Netherlands Organisation for Applied Scientific Research	RPO
37	Turkey	Türkiye Bilimsel ve Teknolojik Araştırma Kurumu	TÜBİTAK	Scientific and Technological Research Council of Turkey	Mixed
38	United Kingdom	Arts and Humanities Research Council	AHRC	Arts and Humanities Research Council	RFO
39	United Kingdom	Engineering and Physical Sciences Research Council	EPSRC	Engineering and Physical Sciences Research Council	RFO
40	United Kingdom	Medical Research Council	MRC	Medical Research Council	Mixed

N.B. The Danish Council for Strategic Research responded to the survey, though it is not a member of EUROHORCs or ESF, as did the Foundation for Polish Science (FNP), which is observer of EUROHORCs and not an ESF member organisation. The data of both organisations were included.

Annex 2

Questionnaire of the first survey phase (to EUROHORCs member organisations)

Cross-border research cooperation in Europe: Contributions from national research organisations

About this questionnaire: background and objectives

In January 2009, a high level workshop between EUROHORCs and ministers of research from various European countries took place focusing on 'Implementing the ERA: joining forces at national level'. As a result of this workshop European ministers asked EUROHORCs to explore the current status of the European Grants Union by surveying existing cross-border collaborations and joint projects. EUROHORCs have invited the ESF to conduct this survey; ESF assigned the task to Dr. Beate Scholz, Scholz – consulting training coaching in Germany.

The objective of this questionnaire is to throw light on the cooperation between both research organisations (excluding collaborations connected to initiatives by the European Commission, e.g., ERA-Nets) and researchers within the European Research Area. It seeks to analyse in which fields cross-border cooperation exists, works particularly well and where obstacles persist. Certainly, the result of this exercise cannot yield an accurate picture of the European research landscape, but will rather be a "best guess".

Please note that this questionnaire needs to be completed in one pass; intermediate stages cannot be saved.

* indicates that this question is obligatory.

Please complete the questionnaire by 30 April 2009.

Basic info

1. Name of Research Organisation (RO)*

2. Type of Research Organisation*

- Research Funding Organisation (RFO)
- Research Performing Organisation (RPO)
- Mixed
- Other

3. Budget (please enter integer numbers)

- a. Total annual budget of RO (in 2008)
_____ €
- b. Budget for European activities (in 2008)
_____ €
- c. Budget for international activities beyond Europe (in 2008)
_____ €
- d. Budget for bottom-up research projects or people funding
_____ % of total budget
- e. Top-down research programmes or initiatives
_____ % of total budget

Cross-border collaborations between ROs

4. Does your organisation have formal cooperation agreements with ROs in other European countries?*

- No
- Yes

If yes, how many?

Please count only such agreements which are actually in use.

Please name the five most relevant ROs your organisation cooperates with

Organisation	Country
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

a. Has your organisation signed the EUROHORCs' 'Money follows researcher' agreement?

- No
- Yes

If yes, have you implemented it and how?

b. Does your organisation have formal cooperation agreements with other ROs beyond Europe?

- No
 Yes

If yes, how many?

Please name the five most relevant organisations

Organisation	Country
<hr/>	<hr/>
<hr/>	<hr/>
<hr/>	<hr/>
<hr/>	<hr/>

5. Does your organisation participate in joint programmes with other ROs in Europe?*

(excluding collaborations connected to initiatives by the European Commission, e.g., ERA-Nets)

- No
 Yes

a. If yes, please indicate the scope of these programmes

- Jointly performed research programme
 Jointly funded research programme
 Programme to support the career advancement of researchers
 Exchange of (research or administrative) personnel
 Other

Please name the five most relevant ROs with which your organisation maintains joint programmes

Organisation	Country
<hr/>	<hr/>
<hr/>	<hr/>
<hr/>	<hr/>
<hr/>	<hr/>

b. Do these joint programmes mainly encompass bilateral or multilateral collaborations?

- Bilateral
 Multilateral

c. If multilateral collaborations exist, please provide the best examples regarding the type of scheme and the cooperating organisations (incl. countries)

Cross-border funding

6. Does your RO have the legal means to fund research outside of the country? *

- No
 Yes

7. If yes, do the cross-border collaborations referred to in the previous part of the questionnaire incorporate cross-border funding?

- No
 Yes

a. If yes, please indicate the budget share of such cross-border funding with respect to the overall funding of your organisation
(% of total research funding budget in 2008)

8. Do any of these schemes operate with a common pot for funding?

(i.e., no juste retour, e.g., like in the case of the EURYI Award)

- No
 Yes

a. If yes, please provide the best examples
(type of scheme, organisations involved, overall annual budget for common pot)

9. Does your RO allow the portability of grants outside the framework of the 'Money follows researcher' agreement?

please explain

10. Has your RO opened funding schemes to researchers based abroad?

please explain

Procedural issues

11. Does your organisation issue joint calls with cooperating ROs? *

(excluding collaborations connected to initiatives by the European Commission, e.g., ERA-Nets)

- No
- Yes

a. If yes, please provide the best examples *(type of programme, organisations/countries involved)*

12. Do you implement joint peer review procedures? *

(excluding collaborations connected to initiatives by the European Commission, e.g., ERA-Nets)

- No
- Yes

a. If yes, please provide the best examples *(type of programme, elements of peer review)*

13. Do these collaborations include joint decision making procedures, e.g., regarding the provision of funds?

No, please explain

Yes, please explain

Cross-border cooperation by researchers

At the principal investigator level, please estimate...

14. ... the number of cooperative cross-border research projects funded by or conducted within your RO which have cross-border collaboration without formal agreements or specific schemes

i. within Europe (approx. no.)

ii. beyond Europe (approx. no.)

15. ... the number of publications stemming from international collaborations funded by or conducted within your RO

(approx. no.)

i. Please list the three main partner countries:

Future actions

16. Is there demand for more resources and/or support for cross-border collaboration by your research community?

Please explain

17. Which are the main (legal) hurdles to more cross-border funding by your organisation?

18. Is your RO considering entering into existing cooperation agreements or launching new agreements? *

- No
- Yes

a. If yes, which type?

19. Which initiatives from national research organisations would you consider important for the future development/realisation of the European Research Area?

Questionnaire of the second survey phase (to ESF member organisations which are not members of EUROHORCs)

Cross-border research cooperation in Europe: Contributions from national research organisations

About this questionnaire: background and objectives

In January 2009, a number of EUROHORCs members, the ESF President and representatives of European Ministries of Research met in Lisbon to discuss the current and potential contribution of national research organisations to the development of the European Research Area (ERA).

One of the conclusions of the meeting was that the establishment of a strong ERA would only be successful if the EC and the national organisations worked together closely. Much of this cooperation which is independent of the efforts of the EC is not well-known and probably also underestimated.

Given the importance of this issue with regard to the ongoing development of new EC initiatives, such as Joint Programming, it was decided that an overview of cross-border activities would be produced within the next few months. The EUROHORCs invited the ESF to conduct this survey. ESF realised the task, together with Dr. Beate Scholz, Scholz – consulting training coaching, in June 2009. Thirty-two of the 45 EUROHORCs member organisations answered the online questionnaire.

ESF would like to extend the survey to those member organisations of ESF which fund research either as research funding organisations or research performing organisations, but which are not members of EUROHORCs.

This initiative should not be interpreted as a scientific endeavour of high precisions but should rather give a rough overview of your international activities. Clearly, these topics would deserve a much greater effort and a more refined questionnaire, but at this time it is more important to have your input fast as it is needed for the ongoing discussion on European science policy.

Please note that this questionnaire needs to be completed in one pass; intermediate stages cannot be saved.

* indicates that this question is obligatory.

Please complete the questionnaire by 30 September 2009.

Basic info

1. Name of Research Organisation (RO) *

2. Type of Research Organisation *

- Research Funding Organisation (RFO)
 Research Performing Organisation (RPO)
 Mixed
 Other

3. Budget (please enter integer numbers)

- a. Total annual budget of RO (in 2008)
 _____ €
- b. Budget for European activities (in 2008)
 _____ €
- c. Budget for international activities beyond Europe (in 2008)
 _____ €
- d. Budget for bottom-up research projects or people funding
 _____ % of total budget
- e. Top-down research programmes or initiatives
 _____ % of total budget

Cross-border collaborations between ROs

4. Does your organisation have formal cooperation agreements with ROs in other European countries? *

(excluding collaborations connected to initiatives by the European Commission, e.g., ERA-Nets)

- No
 Yes

If yes, how many?

Please count only such agreements which are actually in use.

Please name the five most relevant ROs your organisation cooperates with

Organisation	Country
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

a. Does your organisation have formal cooperation agreements with other ROs beyond Europe?

- No
- Yes

If yes, how many?

Please name the five most relevant organisations

Organisation	Country
<hr/>	<hr/>
<hr/>	<hr/>
<hr/>	<hr/>
<hr/>	<hr/>

5. Does your organisation participate in joint programmes with other ROs in Europe? *
(excluding collaborations connected to initiatives by the European Commission, e.g., ERA-Nets)

- No
- Yes

a. If yes, please indicate the scope of these programmes

- Jointly performed research programme
- Jointly funded research programme
- Programme to support the career advancement of researchers
- Exchange of (research or administrative) personnel
- Other

Please name the five most relevant ROs with which your organisation maintains joint programmes

Organisation	Country
<hr/>	<hr/>
<hr/>	<hr/>
<hr/>	<hr/>
<hr/>	<hr/>

b. Do these joint programmes mainly encompass bilateral or multilateral collaborations?

- Bilateral
- Multilateral

c. If multilateral collaborations exist, please provide the best examples regarding the type of scheme and the cooperating organisation (incl. countries)

Cross-border funding

6. Does your RO have the legal means to fund research outside of the country? *

- No
- Yes

7. If yes, do the cross-border collaborations referred to in the previous part of the questionnaire, incorporate cross-border funding?
(excluding collaborations connected to initiatives by the European Commission, e.g., ERA-Nets)

- No
- Yes

a. If yes, please indicate the budget share of such cross-border funding with respect to the overall funding of your organisation
(% of total research funding budget in 2008)

8. Do any of these schemes operate with a common pot for funding?
(i.e., no juste retour, e.g., like in the case of the EURYL Award)

- No
- Yes

a. If yes, please provide the best examples
(type of scheme, organisations involved, overall annual budget for common pot)

9. Does your RO allow the portability of grants outside the country? If yes, have you signed corresponding cooperation agreements with other organisations in order to legitimise the portability of grants?
please explain

10. Has your RO opened funding schemes to researchers based abroad?
please explain

Procedural issues

11. Does your organisation issue joint calls with cooperating ROs? *

(excluding collaborations connected to initiatives by the European Commission, e.g., ERA-Nets)

- No
 Yes

a. If yes, please provide the best examples (type of programme, organisations/countries involved)

12. Do you implement joint peer review procedures? *

(excluding collaborations connected to initiatives by the European Commission, e.g., ERA-Nets)

- No
 Yes

a. If yes, please provide the best examples (type of programme, elements of peer review)

13. Do these collaborations include joint decision making procedures, e.g., regarding the provision of funds?

No, please explain

Yes, please explain

Cross-border cooperation by researchers

At the principal investigator level, please estimate...

14. ... the number of cooperative cross-border research projects funded by or conducted within your RO which have cross-border collaboration without formal agreements or specific schemes

i. within Europe (approx. no.)

ii. beyond Europe (approx. no.)

15. ... the number of publications stemming from international collaborations funded by or conducted within your RO

(approx. no.)

i. Please list the three main partner countries:

Future actions

16. Is there demand for more resources and/or support for cross-border collaboration by your research community?

Please explain

17. Which are the main (legal) hurdles to more cross-border funding by your organisation?

18. Is your RO considering entering into existing cooperation agreements or launching new agreements? *

- No
 Yes

a. If yes, which type?

19. Which initiatives from national research organisations would you consider important for the future development/realisation of the European Research Area?

Annex 3

List of organisations having participated in the EURYI Award programme

Country	1 st Call	2 nd Call	3 rd Call	4 th Call
Austria	FWF	FWF	FWF	FWF
Belgium	FNRS	FNRS		
	FWO	FWO	FWO	
Czech Republic			GAČR	GAČR
Denmark			DRC	
Finland	AF	AF	AF	AF
France	CNRS	CNRS	CNRS	CNRS
	INSERM	INSERM	INSERM	INSERM
Germany	DFG	DFG	DFG	DFG
Greece	NHR	NHR	NHR	NHR
Hungary	HSRF	OTKA	OTKA	OTKA
Ireland	NRSFB	NRSFB		
Italy	CNR	CNR	CNR	CNR
	INFN	INFN	INFN	INFN
Netherlands	NWO	NWO	NWO	NWO
Norway	RCN	RCN	RCN	
Poland				FNP
Portugal	FCT	FCT	FCT	FCT
Spain	CSIC	CSIC	CSIC	CSIC
Sweden	VR	VR	VR	VR
Switzerland	SNF	SNF	SNF	SNF
Turkey				TÜBİTAK
United Kingdom	EPSRC	EPSRC		
	PPARC	PPARC		



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