

Evaluation and impact assessment of the ERA-NET scheme and the related ERA-NET actions under the 6th Framework Programme

[VOLUME 1]

Final Report

Version 1.1 linking to Workplan Submitted to the Commission on 30th April 2008

Version 1.2 Submitted to the Commission on 27th June 2008

Version 2.1 Submitted to the Commission on 26th November 2008

Version 3.0 Submitted to the Commission on 18th March 2009

Version 4.0 Submitted to the Commission on the 24th April 2009

Version 4.1 Submitted to the Commission on the 15th of May 2009

Evaluation for the European Commission

BUDG 06/PO/01/Lot3



Disclaimer

In keeping with our values of integrity and excellence, Matrix has taken reasonable professional care in the preparation of this report. Although Matrix has made reasonable efforts to obtain information from a broad spectrum of sources, we cannot guarantee absolute accuracy or completeness of information/data submitted, nor do we accept responsibility for recommendations that may have been omitted due to particular or exceptional conditions and circumstances.

© Matrix Insight, 2009

Any enquiries about this report should be directed to enquiries@matrixknowledge.com

This evaluation is commissioned by the European Commission, DG RTD, in the context of the framework contract signed between the Directorate General for Budget and Ramboll Management in association with Matrix Insight and Eureval (Lot 3). The evaluation was carried out by a mixed team of experts from Matrix Insight and Rambøll in association with external experts. The team was led by Mrs Mariell Juhlin from Matrix Insight (mariell.juhlin@matrixknowledge.com).

The evaluation was managed by Mr Wolfgang Wittke (Wolfgang.Wittke@ec.europa.eu) and its progress monitored by a steering group composed by Commission staff from DG RTD and an external reviewer.

The opinions expressed in this document represent the authors' points of view which are not necessarily shared by the European Commission.

Status and versions of this document

Report	Version	Status	Date	Author(s)	Feedback
Inception Draft Structure Report	1.0	Internal draft for input by core team members	27/05/2008	Karen Siune, Angus Hunter, Leela Barham, Pawel Janowski	Mariell Juhlin, Karen Siune, Angus Hunter
	1.1	Submitted to the EC	04/06/2008	Leela Barham, Pawel Janowski	Mariell Juhlin
	1.2	Submitted to the EC	27/06/2008	Mariell Juhlin, Pawel Janowski	Mariell Juhlin
Interim Draft Structure Report	2.0	Internal draft for input by core team members	17/11/2008		
Interim Draft Report	2.1	Submitted to the EC	1/12/2008	Mariell Juhlin, Mathieu Capdevila	Mariell Juhlin, Angus Hunter
Interim Draft Report	2.2	Submitted to the EC with feedback taken into accounts	12/12/2008	Mariell Juhlin, Mathieu Capdevila	Mariell Juhlin
Draft final report	3.0	Submitted to the EC including Impact, Economic and Network analyses and validated country and thematic reports	18/03/2009	Mariell Juhlin, Mathieu Capdevila	Mariell Juhlin
Final Draft report	3.1	Amended taking into account EC comments	04/2009	Mariell Juhlin, Mathieu Capdevila	Mariell Juhlin
Final Report	4.0	Amended taking into account EC comments	4/2009	Mathieu Capdevila	Mariell Juhlin
Final Report	4.1	Amended taking into account EC comments	5/2009	Mathieu Capdevila	Mariell Juhlin

Table of Contents

List of Tables	6
List of Figures	7
Synopsis of this report.....	12
1. Executive Summary	13
1.1 INTRODUCTION AND SCOPE	13
1.2 APPROACH AND METHODS	14
1.3 STUDY AIMS.....	14
1.4 BACKGROUND AND CONTEXT	15
1.5 OVERVIEW OF THE SCHEME	16
1.6 LESSONS LEARNED.....	30
1.7 SCHEME OUTCOMES	32
1.8 OVERALL CONCLUSIONS	43
2. Acknowledgements	46
3. Introduction.....	46
3.1 OBJECTIVES OF THE STUDY	46
3.2 STRUCTURE OF THIS REPORT.....	49
4. Background and structure of the ERA-NET scheme	50
4.1 BACKGROUND TO AND CONTEXT OF THE ERA-NET SCHEME	50
4.2 OVERVIEW OF THE ERA-NET SCHEME AND CO-ORDINATION ACTIONS.....	51
5. Methodology and work plan.....	55
5.1 OUTLINE OF THE OVERALL APPROACH.....	55
5.2 OUTLINE OF THE WORK PLAN.....	56
6. Findings in response to main research questions	57
6.1 IMPACT ON NATIONAL RESEARCH LANDSCAPES	57
6.2 STRUCTURING EFFECT ACROSS THEMATIC AREAS	73
EXPECTATIONS OF IMPACT	73
6.3 DIRECT AND INDIRECT BENEFITS.....	90
EXPECTATIONS OF IMPACT	90
6.4 OPENING UP OF NATIONAL PROGRAMMES.....	99
EXPECTATIONS OF IMPACT	99
6.5 BEST PRACTICE AND LESSONS LEARNED	110
7. Findings in relation to deliverables.....	120
7.1 ATTRACTION OF RELEVANT STAKEHOLDERS TO THE ERA-NETS.....	120
EXPECTATIONS OF IMPACT	120
7.2 EXISTENCE OF PREFERENTIAL CONFIGURATIONS	127
7.3 SHARING OF EXPERTISE	133
EXPECTATIONS OF IMPACT	133
7.4 STRATEGIC PLANNING AT NATIONAL PROGRAMME LEVEL IN ANTICIPATION OF THE MULTI-NATIONAL CONFIGURATION	139
7.5 JOINT ACTIONS LAUNCHED AND NATIONAL/REGIONAL RESOURCES MOBILISED	147
7.6 TYPES OF JOINT ACTIONS, INITIATIVES ARISING FROM DIFFERENT ERA-NET ACTIONS, AND TYPOLOGIES..	163
7.7 ROLE OF JOINT ACTIONS IN ATTRACTING AND SATISFYING THE NEEDS OF THE RESEARCH COMMUNITY, WITHIN AND BEYOND EUROPE.....	170
7.8 EMBEDDEDNESS OF JOINT ACTIONS IN THE NATIONAL POLICYMAKING CONSCIOUSNESS AND READINESS TO DEAL WITH THEM.....	174
7.9 STRUCTURING EFFECT AT THE LEVEL OF ERA AND "OPENING OF NATIONAL RESEARCH PROGRAMMES"	177
7.10 ECONOMIC EFFICIENCY OF THE SCHEME	184
7.11 IMPLEMENTATION EFFICIENCY	190
7.12 ADDITIONALITY OF THE ERA-NET SCHEME.....	200
7.13 ECONOMIC IMPACT OF THE ERA-NET SCHEME	202
7.14 COUNTRY AND TOPIC SPECIFIC SOCIO-ECONOMIC ANALYSIS	206
Annex 1 - Glossary of terms	210

Annex 2 - List of stakeholders consulted	212
Annex 3 - Typology analysis	214
Annex 3 – Participant Survey questionnaire.....	219
Annex 4 - ERA-NET Coordinator Survey questionnaire.....	241
Annex 5 – Participant and coordinator survey: descriptive statistics.....	261
Annex 6 – Scoping phase: interview guides.....	272
Annex 7 – Outputs from the scoping phase: literature reviews and interviews.....	279
Annex 8 – Detailed impact analysis outputs.....	283
Annex 9 - Detailed methodology and work plan	299
Annex 10 – Bibliography and information sources consulted.....	308

List of Tables

Table 1: Typology of activities undertaken under FP6 ERA-NETs.....	21
Table 2 - Overview of ERA-NETs	54
Table 3 - Level of involvement from non-EU and non-associated states in ERA-NETs	78
Table 4 - Description of the motivations that could explain the selected area/topic of the call in relation to the FP6	79
Table 5 - Description of the motivations that could explain the selected area/topic of the programme in relation to the FP6	79
Table 6– Benefits of Joint Calls, Programming and Activities	93
Table 7– Can global approaches in ERA-NETs be of future benefit in ERA-NETs by theme	95
Table 8 -Description of the number of national programmes/countries participating in the call	106
Table 9 - Description of the percentage of national programmes/countries participating in the call as a proportion of all the ERA-NET partners.....	106
Table 10 - Description of the number of national programmes/countries participating in the programme.....	106
Table 11 - Description of the percentage of national programmes/countries participating in the programme as a proportion of all the ERA-NET partners.....	106
Table 12 - Description of actors eligible for funding in the calls	124
Table 13- Reasons of non-participation in calls.....	124
Table 14 - Description of the motivations to launch a specific type of project via joint calls and programmes	125
Table 15 - Description of the number of joint calls and the related funding.....	131
Table 16 – Description of the Pilot or test calls vs fully fledged calls	131
Table 17 - Description of the intentions of the pilot call	132
Table 18 - Description of the objectives of the ERA-NET scheme that have been met.....	137
Table 19 - Summary of joint calls.....	149
Table 20 - Joint calls per theme	150
Table 21 - Funding of joint calls by theme and type of funding.....	151
Table 22 - Joint calls funding contributions by types of funding and type of country	152
Table 23 - Joint calls funding contributions by type of funding and individual country	152
Table 24 - Joint programmes by theme.....	155
Table 25 - Joint programmes funding contributions by country group and type of funding.....	156
Table 26 - Joint programmes funding contributions by individual country and type of funding.....	158
Table 27 - Pilot actions by theme and type of funding.....	159
Table 28 - Pilot actions funding contributions by country group and funding	159
Table 29 - Pilot actions funding contributions by individual country and funding.....	160
Table 30 - Description of the number of joint calls and the related funding.....	165
Table 31 – Description of the Pilot or test calls vs. fully fledged calls	165
Table 32 - Description of the intentions of the pilot call	166
Table 33 - Description of the level at which funding rules for calls are defined	166
Table 34 - description of the level at which funding rules for programmes are defined	167
Table 35 - Motivations behind addressing a topic via transnational call	167
Table 36 - Motivations behind addressing a topic via transnational programme.....	168
Table 37 - Broad research area that was the target of the call	168
Table 38 - ERA-NET participation by country.....	178

Table 39 - ERA-NET participation by country group	180
Table 40 - Joint programming by theme.....	180
Table 41 - Joint programming by country group.....	181
Table 42 - Description of the way in which the theme of the call was defined.....	191
Table 43 - Description of the way in which the theme of the programme was defined	191
Table 44 - Description of how the funding gaps have been dealt with in joint calls.....	191
Table 45 - Appreciation of conditions necessary for transnational activities to continue	201
Table 46 - List of stakeholders interviewed.....	212
Table 47- Description of the distribution of themes across ERA-NETs	261
Table 48 - Representation of themes in the sampling frame	262
Table 49 - Representation of country groups in the sample frame	262
Table 50 - Representation of ERA-NETs in the sample frame.....	263
Table 51 - Distribution of valid respondents by ERA-NET	265
Table 52 - Distribution of valid respondents by country group.....	267
Table 53 - Distribution of valid respondents by country	267
Table 54 - Distribution of valid respondents by type of organisation	268
Table 55 - Distribution of valid respondents by theme	269
Table 56 – Description of country categories	270
Table 57- Questionnaire 1 - Structure for interviews with ERA-NET programme managers	272
Table 58 - Questionnaire 2 - Guide for interviews with high level stakeholders and programme owners	275

List of Figures

Figure 1 - Typology of ERA-NETs.....	14
Figure 2 – Overall "mechanistic" view of the ERA-NET scheme.....	17
Figure 3 - Organisation main rationale for joining by country group.....	19
Figure 4 – Extent to which EC funding covered 100 per cent of all time and resources invested in participating in the ERA-NET by country group	20
Figure 5 – Extent to which EC funding covered 100% of all time and resources invested in participating in the ERA-NET by theme.....	21
Figure 6 - ERA-NET joint activities organisations were involved in by country group	22
Figure 7 - Call activity by country group.....	25
Figure 8 - Call activity by theme in numbers of calls and average funding	25
Figure 9 - Number of joint calls organised over time, 2004 to 2010	26
Figure 10 - Amount of funding committed to joint calls over time, 2004 to 2010.....	27
Figure 11 - Extent to which participation in the FP6 ERA-NET was worthwhile by country group	29
Figure 12 - Degree to which ERA-NET participation enabled new opportunities for undertaking transnational R&D activities in the theme of the ERA-NET by country group.....	34
Figure 13 – Extent to which participation in ERA-NET joint calls impacted on national programmes by theme	35
Figure 14 - Number of contributions to joint calls by country group and funding mode.....	37
Figure 15 - Change in importance of the theme through ERA-NET participation by theme.....	38
Figure 16 - Overview of ERA-NET participation and coordination	40
Figure 17 - Number of joint participations in ERA-NETs by country	41
Figure 18 - Joint activities of all ERA-NETs as measured by joint call activity by country	42
Figure 20 - To what degree has your participation in this ERA-NET influenced your country's national programme(s)? - New opportunities to enable transnational R&D activities in the theme of the ERA-NET	58
Figure 21- To what degree has your participation in this ERA-NET influenced your country's national programme(s)? - Reducing duplication between National programmes in your country	59
Figure 22- To what degree has your participation in this ERA-NET influenced your country's national programme(s)? - Existing programme(s) now covering new theme(s)	60
Figure 23- To what degree has your participation in this ERA-NET influenced your country's national programme(s)? - New programme(s) put in place in response to new theme(s) identified	61
Figure 24- To what degree has your participation in this ERA-NET influenced your country's national programme(s)? - New programme assessment / evaluation criteria.....	62
Figure 25 – Number of contributions to joint calls by country group and percentage of real common pot.....	63
Figure 26 – Number of contributions to joint calls by country group and percentage of virtual pot	64
Figure 27 - Influence of overall cost of participation on ERA-NET impact on national programmes	66
Figure 28 - Influence of joint calls on ERA-NET impact on national programmes.....	67
Figure 29 - Influence of pre-existing relationships on ERA-NET impact on national programmes.....	68
Figure 30 - Influence of overlaps with other ERA-NETs in the country on ERA-NET impact on national programmes.....	69

Figure 31 - Extent of the impact on national programmes	71
Figure 32 - Extent of the impact on national research policy	71
Figure 33- How would you rate the degree of fit between your national R&D programme relevant to the theme and this ERA-NET?	74
Figure 34 – To what degree has your participation in this ERA-NET influenced your country's national programme(s)? Bigger or Smaller Budgets	75
Figure 35 -To what degree has your participation in this ERA-NET influenced your country's national programme(s)? - New opportunities to enable transnational R&D activities in the theme of the ERA-NET	76
Figure 36-To what degree has your participation in this ERA-NET influenced your country's national programme(s)? - Reducing duplication between National programmes in your country	77
Figure 37 - If there has been a change in the importance of the theme to what extent do you think this was due to the ERA-NET?	78
Figure 38 - Influence of overall cost of participation on the ERA-NET scheme's structuring effect	81
Figure 39 - Influence joint calls on the ERA-NET schemes' structuring effect.....	82
Figure 40 - Influence of activities other than joint calls on the ERA-NET schemes' structuring effect	82
Figure 41 - Influence of pre-existing relationships on the ERA-NET schemes' structuring effect	83
Figure 42 - Influence of overall cost of participation on the degree to which ERA-NET participation has added value beyond the scope of the ERA-NET	85
Figure 43 - Influence of pre-existing relationships on the degree to which ERA-NET participation has added value beyond the scope of the ERA-NET	85
Figure 44 - Influence of pre-existing relationships on the degree to which ERA-NET participation has added value beyond the scope of the ERA-NET	86
Figure 45 – Typology analysis - Extent of the structuring effect	87
Figure 46 – Typology analysis – level of Additionality.....	87
Figure 47– How satisfied are you with the overall level of transnational cooperation within this ERA-NET	91
Figure 48– If there were prior relationships, which statement best describes how these relationships evolved during your participation in this ERA-NET?	92
Figure 49 - Has your participation in this ERA-NET triggered transnational cooperation outside of the ERA-NET?	101
Figure 50 - Has your participation in this ERA-NET triggered transnational cooperation outside of the ERA-NET?	102
Figure 51 - To what degree has your participation in this ERA-NET influenced your country's national programme(s)? - New eligibility criteria allowing funding of foreign researchers in the area.....	103
Figure 52 - To what degree has your participation in this ERA-NET influenced your country's national programme(s)? - New eligibility criteria allowing funding of foreign researchers in the area.....	104
Figure 53 - Did any of the following factors either help or hinder your organisation to exploit the full potential of its participation in this ERA-NET? - National legal programme conditions (e.g. funding of non-residents IPR)	105
Figure 54 - If this ERA-NET is set to continue beyond FP6 do you think lessons have been learnt that would allow it to be implemented more efficiently in the future or to improve its effectiveness?	112
Figure 55 - If your organisation was involved in more than one ERA-NET did this bring any benefits to your participation in this ERA-NET?.....	113
Figure 56 – To what extent has the coordinator been important to the 'success' of your ERA-NET?.....	114
Figure 57 - To what extent has the coordinator been important to the 'success' of your ERA-NET?	115
Figure 58 - What information exchange systems were developed within your ERA-NET and how important are these to the quality of the cooperation?	116
Figure 59 - What information exchange systems were developed within your ERA-NET and how important are these to the quality of the cooperation?	117
Figure 60 - What was your organisation's main rationale for participating in this ERA-NET?	121
Figure 61 - What was your organisation's main rationale for participating in this ERA-NET?	122
Figure 62 – Rationale for joining ERA-NET by number of ERA-NETs joined.....	123
Figure 63 - Which of the following four statements best describes your participation in joint calls in this ERA-NET?	128
Figure 64– Participant Status by number of ERA-NETs joined.....	129
Figure 65- In which ERA-NET joint activities other than joint calls did you participate?.....	130
Figure 66– Importance of information exchange systems for cooperation by extent of prior relationships.....	135
Figure 67 - Your programme owner, e.g. a Ministry, will employ persons responsible for overall control of the national R&D programming policy in the theme of this ERA-NET in your country. To the best of your knowledge during this ERA-NET's operation have these persons changed?	142
Figure 68 – In the case of the programme manager, to the best of your knowledge during this ERA-NET's operation have these persons changed?.....	143
Figure 69 – In the case of the programme manager, to the best of your knowledge during this ERA-NET's operation have these persons changed?.....	144

Figure 70–Did the EC funding cover all the time and resources your organisation invested in participating in this ERA-NET?	147
Figure 71: Did the EC funding cover all the time and resources your organisation invested in participating in this ERA-NET?	148
Figure 72 - Extent to which EC funding covered cost of participation in ERA-NET.....	161
Figure 73 - Extent of participation in joint calls	161
Figure 74 - Extent of participation in activities other than joint calls	162
Figure 75 - To what degree has your participation in this ERA-NET influenced your country's national programme(s)? - New eligibility criteria allowing funding of foreign researchers in the area	170
Figure 76 - Overall would you say that your participation in the FP6 ERA-NET has been worthwhile?	184
Figure 77 - Do you think the start-up costs were higher or lower for the earlier ERA-NETS you were involved in?	185
Figure 78 - Does this ERA-NET overlap with other ERA-NETs in your country?	186
Figure 79 - How strong are the links between this ERA-NET and Technology Platforms?	187
Figure 80 - Leverage effect by theme	188
Figure 81 - leverage effect by typology	189
Figure 82 - Number of calls and amount of funding committed over time	192
Figure 83 - Call activity at country level	193
Figure 84 - Call activity by country group.....	194
Figure 85 - Call activity efficiency by theme	195
Figure 86 - Cumulative number of joint calls over time by theme	196
Figure 87 - Cumulative amount of national funding committed to joint calls over time	196
Figure 88 - Average number of calls per typology.....	197
Figure 89 - Average amount (€) contributed to joint calls per ERA-NETs within typology	198
Figure 90- Has the ERA-NET experience led to an increase in the amount of your programme budget that has been invested in transnational R&D projects outside of the ERA-NET?	203
Figure 91 - Has the ERA-NET experience led to an increase in the amount of your programme budget that has been invested in transnational R&D projects outside of the ERA-NET?	204
Figure 92 - Average research funding channelled via calls versus R&D spend in 2006	205
Figure 93 - ERA-NET grouping according to R&D programme type and ERA-NET focus	215
Figure 94 - Outline of typology and thematic breakdown.....	216
Figure 95 – Explanation of impact plots, showing efficiency quadrants and variable average (mean) lines....	283
Figure 96 - Q1 - Influence of overall cost of participation on ERA-NET impact on national programmes.....	284
Figure 97 - Q1 - Influence joint calls on ERA-NET impact on national programmes	285
Figure 98 - Q1 - Influence of pre-existing relationships on ERA-NET impact on national programmes	286
Figure 99 -Q1 - Influence overlaps with other ERA-NETs in the country on ERA-NET impact on national programmes.....	287
Figure 100 - Q2 - Influence of overall cost of participation on the ERA-NET scheme's structuring effect	288
Figure 101 - Q2 - Influence joint calls on the ERA-NET schemes' structuring effect.....	289
Figure 102 - Influence of activities other than joint calls on the ERA-NET schemes' structuring effect	290
Figure 103 - Q2 - Influence of pre-existing relationships on the ERA-NET schemes' structuring effect	291
Figure 104 - Q2- Influence of various factors on the degree to which ERA-NET participation has triggered transnational cooperation outside of the ERA-NET.	292
Figure 105 - Q2 - Influence of various factors on the extent to which participation has led to an increase in the amount of programme budget invested in trans-national projects outside of the ERA-NET.....	293
Figure 106 - Q2- Influence of pre-existing relationships on the degree to which ERA-NET participation has added value beyond the scope of the ERA-NET	293
Figure 107 - Q3 - Influence of various factors on the higher quality projects generated as a result of joint calls/programmes/activities by participation in joint calls in the ERA-NET	294
Figure 108 - Q3 - Influence of various factors on the new type of research projects generated or funded as a result of joint calls/programmes/activities.....	294
Figure 109 - Q3 - Influence of various factors on the access to foreign research communities/groups not present in respective countries	295
Figure 110 - Q4 - Influence of various factors on access to foreign research communities/groups not present in own country	295
Figure 111 - Q5 - Influence of the national thematic programme priorities on the extent of involvement in ERA-NET activities.....	296
Figure 112 - Q5 - Influence of national admin procedures and legal programme conditions on the extent of involvement in ERA-NET activities	297
Figure 113 - Q5 - Influence of engagement in other transnational initiatives on the extent of involvement in ERA-NET activities.....	298

Page has been left intentionally blank

Acronyms¹

CA	Coordination Actions
DG RTD	Directorate General Research
EC	European Commission
ERA	European Research Area
ERC	European Research Council
ESF	European Social Fund
FP	Community Framework Programme for Research
MS	Member States
SSA	Specific Support Actions
ToR	Terms of Reference
BE	Belgium
BG	Bulgaria
CZ	Czech Republic
DK	Denmark
DE	Germany
IE	Ireland
EL	Greece
ES	Spain
FR	France
IT	Italy
CY	Cyprus
LV	Latvia
LT	Lithuania
LU	Luxembourg
HU	Hungary
MT	Malta
NL	Netherlands
AT	Austria
PL	Poland
PT	Portugal
RO	Romania
SI	Slovenia
SK	Slovakia
FI	Finland
SE	Sweden
UK	United Kingdom

¹ A glossary of definitions used in the report and in connection with the scheme can be found in Annex 1 of this report.

Synopsis of this report

The structure of this Draft Final Report was agreed to with the Steering Committee during the inception phase of the evaluation. The aim was to allow all aspects of the Terms of Reference to be covered within the report. Given the vast amounts of information gathered and analyses undertaken, the report has been divided into four main Volumes to facilitate reading and overview. This report constitutes the first Volume of the four and focuses on answering the main questions in the Terms of Reference.

The main purpose of the Draft Final Report is to provide answers to the questions set out in the Terms of Reference drawing on quantitative and qualitative sources of evidence and analyses. However, given the richness and sheer volume of information generated by the evaluation, the report findings are also able to serve the following purposes:

- providing the foundations, evidence-base, and baseline against which similar initiatives can be assessed in future;
- allowing a wide range of stakeholders the opportunity to benefit and learn from the evidence generated by the evaluation;
- offering a basis and starting-point for evidence-informed, strategic planning and policy development in regards to transnational R&D cooperation.

The Commission and Steering Group are invited to provide comments on the current draft by the 18th of April 2008. Based on these inputs, a revised Final Draft will be prepared in time for final discussions and validation in a meeting at the end of April 2008. Selected stakeholders taking part in the Commission's ERAWATCH meeting at the end of March will also be given an opportunity to validate selected parts of the final report, country and thematic reports in particular. It is expected that the evaluation will be completed on time by the end of April.

In the interest of providing findings at the aggregate level, the analyses have focused on findings at the overall scheme-level as well as, and where appropriate, breaking down results according to country group and theme. What is important to remember in reading the report is that the bottom-up nature of the scheme means that findings can vary depending on the level of analysis undertaken. It is therefore important to interpret the findings at the relevant level of analysis, not beyond where this is not supported by exhaustive evidence. For this reason it was not deemed appropriate to provide individual country findings for countries other than the 15 case study countries. For the purposes of overall analyses, all countries have therefore been typologised into six main groups: larger EU15 Member States (Germany, UK, France, Italy and Spain), smaller EU15 Member States (e.g. Sweden, Austria, and Ireland); EU12 Member States (EU10 plus Romania and Bulgaria), Associated countries (EEA countries, candidate countries and other associated countries e.g. Israel), other European countries and Third countries (e.g. Russia). However, given low survey responses for Third countries, findings for these groups have been omitted from the presentation of the main findings as they were not seen as reliable enough.

1. Executive Summary

1.1 Introduction and scope

In April 2007, the European Commission, through the Directorate-General for Research, commissioned Matrix Insight² to evaluate the impact of the ERA-NET scheme and related ERA-NET actions under the 6th Community Framework Programme for Research (FP6). The study focused on 71 ERA-NET coordination actions launched under the FP6 ERA-NET scheme in the 27 Member States of the European Union, Associated countries and Third countries over the FP6 period (i.e. 2002-2006)³. Rambøll Management and independent experts supported Matrix Insight in delivering the impact assessment.

The ERA-NET scheme funded a diverse set of ERA-NETs. The 71 ERA-NETs funded were regrouped ex-post into 8 different thematic areas:

- Energy (ENE);
- Environment (ENV);
- Fundamental Sciences (FS);
- Industrial Technologies and SMEs (IND);
- International Cooperation (INCO);
- Life Sciences (LS);
- Social Sciences and Humanities (SSH); and
- Transport (TR).

One additional horizontal "regional thematic area" was derived from a small number of ERA-NETs associated with the Transport, Industrial Technologies and SMEs, and Environment themes⁴.

The figure below shows the ex-post classification of ERA-NETs according to two dimensions:

- the type of R&D projects funded by national programmes (classified according to three types e.g. Type 2: Applied Industrial); and
- the focus of the ERA-NET actions (classified according to three foci e.g. Focus 2: Sector specific).

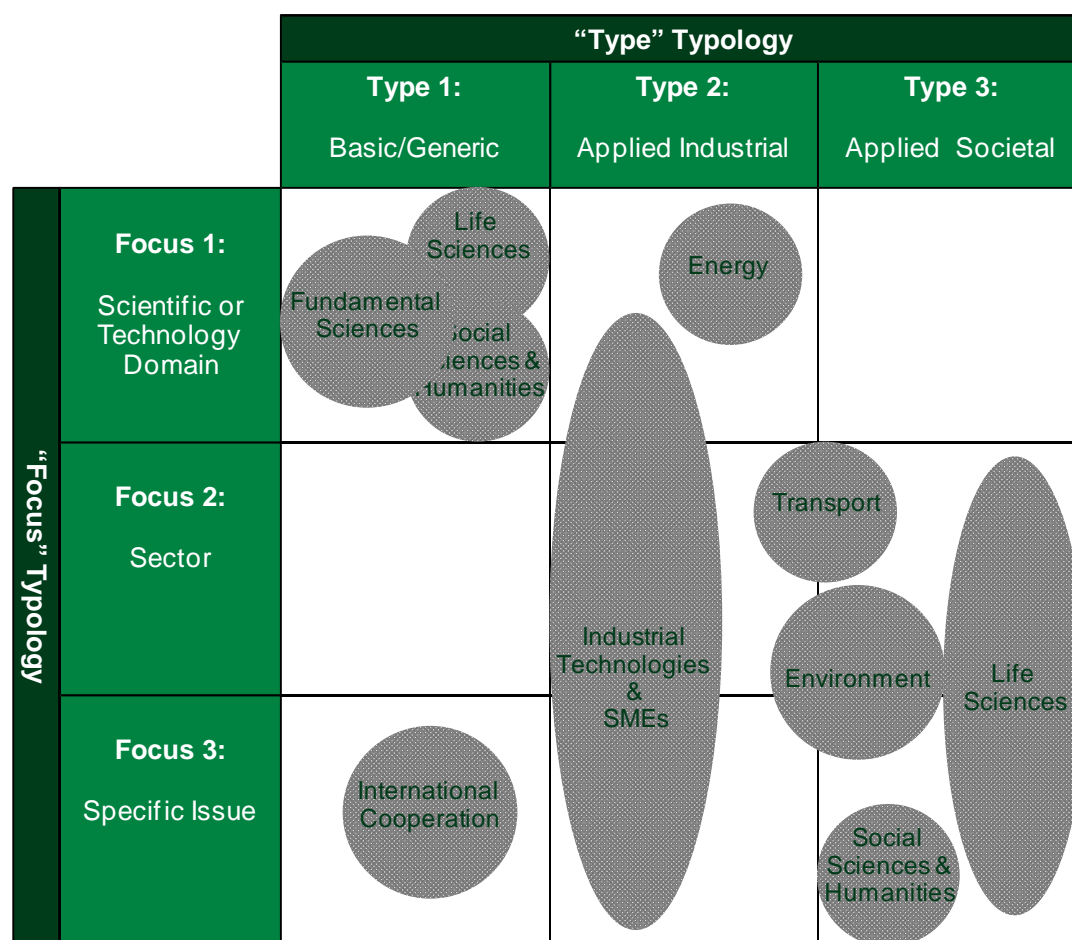
The figure below demonstrates the heterogeneity in the nature of the ERA-NETs, as would be expected, given the bottom-up characteristics of the FP6 ERA-NET scheme.

² www.matrixknowledge.com

³ Note that the ERA-NET scheme started in 2003/2004 and some projects initiated towards the end of FP6 will finish in 2010.

⁴ At the beginning of the scheme there was a clear focus on 'national' R&D programmes but it became clear that regional R&D programmes were equal or more relevant in some countries, or for specific topics. The most obvious example was Belgium, where the majority of R&D policy and funding is devolved to the regions.

Figure 1 - Typology of ERA-NETs



1.2 Approach and methods

The study used an evaluative framework for the systematic assessment of impacts generated by the scheme ex-post of implementation. It adopted a mixed methods approach for data collection and analysis integrating both qualitative and quantitative methods. The evidence consisted of primary data collected through two extensive quantitative surveys of ERA-NET coordinators⁵ and participants, as well as face-to-face and telephone interviews with stakeholders⁶. In addition, a number of secondary data sources were used. These sources of information provided the basis for various impact, economic and descriptive network analyses.

1.3 Study aims

The study aimed to answer the five overarching research questions⁷:

- Q.1: To which extent, and how, FP6 ERA-NET participation had an effect on the landscape of publicly funded national/regional research programmes in certain targeted EU countries?
- Q.2: To which extent FP6 ERA-NETs had a structuring effect in certain targeted research fields that ERA-NETs addressed?

⁵ Participation rates were 91.5% for the coordinators' survey (equivalent to 64 responses out of 71) and 48% for the participant survey (equivalent to 432 responses out of 900), where a response was understood to mean answering at least 60% of all questions (excluding optional questions).

⁶ 156 interviews were conducted in total.

⁷ As set out in the Terms of Reference of the study.

- Q.3: Which direct benefits and indirect benefits have been generated through the ERA-NET scheme in FP6 and how can the impacts be measured for both types of benefits?
- Q.4: Have FP6 ERA-NETs helped to mutually open up national programmes in ERA? If yes, to what extent and what is needed to assure that this result becomes a durable lasting effect within ERA?
- Q.5: What are the lessons learned for all possible stakeholders and where can these lessons be traced?

1.4 Background and context

The ERA-NET scheme originated from a number of policy initiatives, most notably the Lisbon strategy. In January 2000, the Communication "Towards a European Research Area" (ERA) highlighted the fragmented nature of research activities across Europe, and the lack of an environment both to stimulate transnational research and exploit RTD project results. In order to overcome these weaknesses and achieve a coordinated and collaborative design and implementation of national and European research programmes, a restructuring of the European research fabric was deemed necessary⁸.

In accordance with Article 165 of the Treaty, the 6th Framework Programme (FP6) aimed to contribute to the creation of the European Research Area (ERA) by improving coordination and cooperation of national research policies and programmes in Europe. At the same time FP6 research was targeted at strengthening the competitiveness of the European economy, addressing major societal challenges and supporting the implementation of other Community policies.

The ERA-NET scheme was introduced to support networking, coordination and cooperation between national and regional R&D programmes of different EU Member States and countries associated to FP6. This was the first time that R&D funding bodies (programme owners and managers) were given the opportunity to network and engage in transnational cooperation backed by EC funding. The main stakeholders of the scheme were:

- Programme owners: national or regional authorities (i.e. policy stakeholders) that either 'owned' funding programmes and / or supervised a funding body or a department (e.g. programme managers) that implemented the national / regional programme.
- Programme managers: an agency, ministry, or a department within a ministry, responsible for managing a national or regional research-funding programme.

Aimed at national programme owners and programme managers, the ERA-NET scheme was designed to encourage the creation of close, long-term links between national research programmes with shared goals. In particular, it would contribute to the creation of the European Research Area by facilitating initiatives to coordinate national and European research programmes in specific fields, and pool fragmented human and financial resources in order to improve both the efficiency and the effectiveness of Europe's research efforts.

In summary, the key objectives of the FP6 ERA-NET scheme were to step up the cooperation and coordination of national and regional research activities through linking the national and regional research programmes, including their mutual opening and the development and implementation of joint activities.

In order to achieve these overarching objectives, it was envisaged that ERA-NETs would follow a four-step approach, which included the:

⁸ Another communication also referred to the need for restructuring the ERA – see COM(2002) 565 final The European Research Area : Providing New Momentum Strengthening - Reorienting - Opening Up New Perspectives.

1. systematic exchange of information and good practices on existing programmes;
2. identification and analysis of common strategic issues;
3. development of joint activities between national and regional programmes; and the
4. implementation of joint transnational research activities.⁹

The benefits that the scheme was expected to bring about included:

- establishing and strengthening of European research funding networks;
- reducing the fragmentation of the European research funding landscape;
- structuring of the research landscape via the opening up and coordination of national programmes; and
- setting up research programmes undertaken jointly by several Member States, including the participation in the structures created for the execution of national programmes.

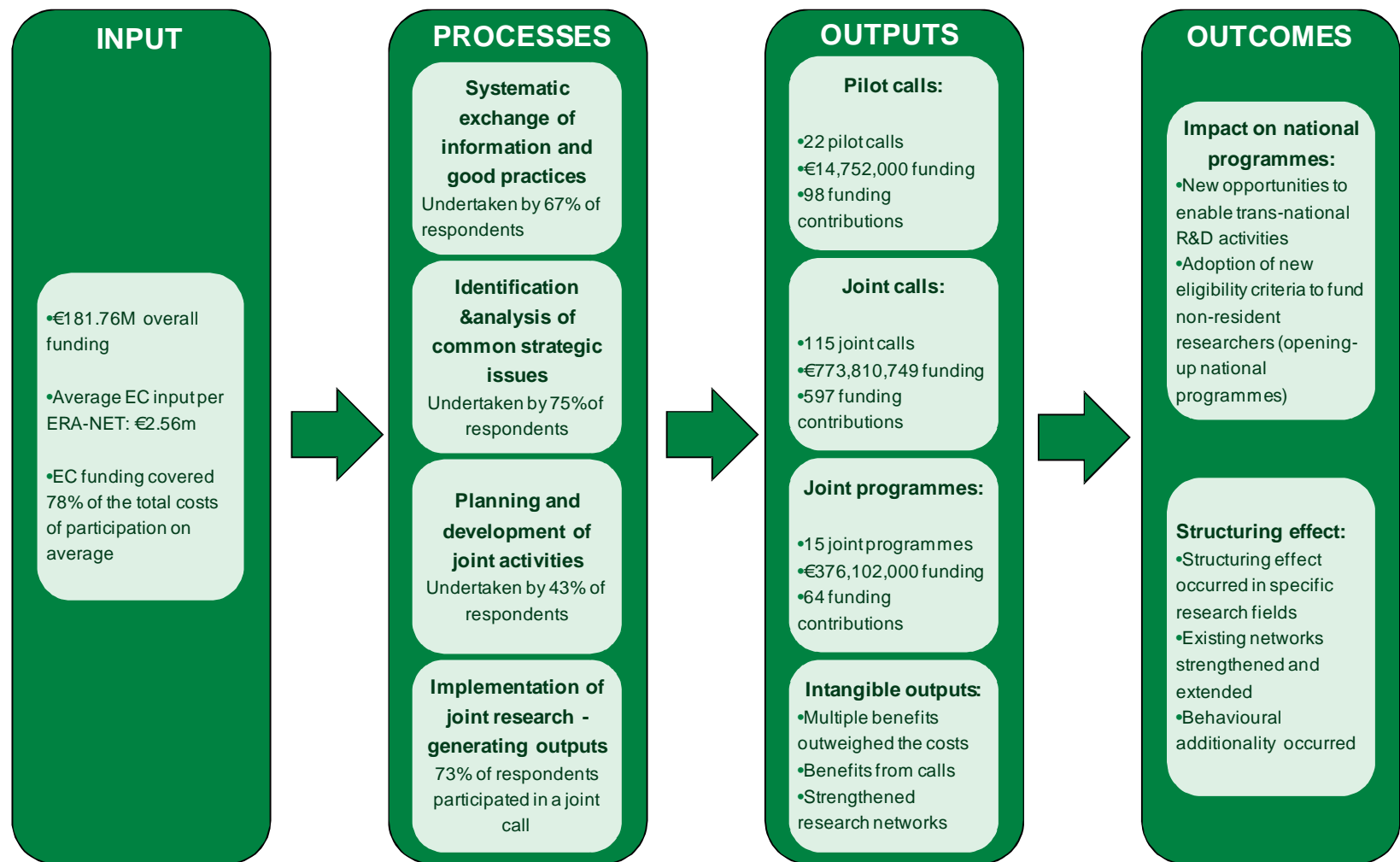
1.5 Overview of the scheme

The logic model below provides an overview of the ERA-NET scheme as experienced by stakeholders under FP6. It depicts the processes through which outputs and outcomes were generated.

- Inputs:
 - EC funding covering the costs of participation and coordination; and
 - any additional funding or in-kind contributions from participant organisations of ERA-NET actions in supplement to the EC funding.
- Processes: the four steps of the ERA-NETs' work programme leading to joint activities.
- Outputs: the tangible and intangible result of joint activities including:
 - Pilot calls: joint calls for proposals that were meant to test procedures for further cooperation;
 - Joint calls: funding of activities as a result of a call for proposals organised jointly by ERA-NET participants;
 - Joint programmes: a programme organised jointly by ERA-NET partners and funding a set of activities or research projects with an explicitly defined scientific objective involving several countries; and
 - Intangible outputs including non-quantifiable outputs as well as direct and indirect benefits.
- Outcomes: the impacts of the ERA-NET scheme at programme, national and European level including:
 - 1st order outcomes reflecting the impact at national programme level;
 - 2nd order outcomes reflecting the impact at national policy level; and
 - 3rd order outcomes reflecting the impact at European level, particularly in relation to the ERA.

⁹ Refer to provisions for implementing the "ERA-NET scheme" supporting the cooperation and coordination of research activities carried out at national or regional level, European Commission, DG Research, April 2003.

Figure 2 – Overall "mechanistic" view of the ERA-NET scheme



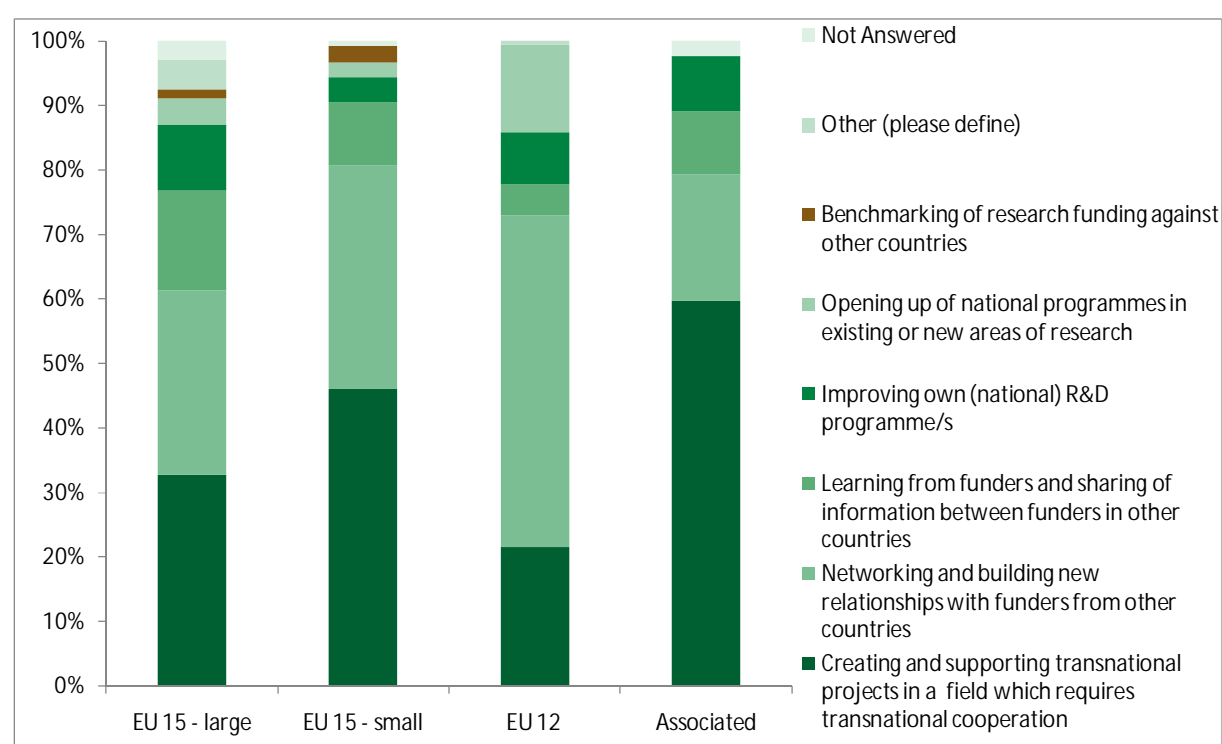
10

¹⁰ The figures in the process boxes come from the results of the participant survey. The fact that they do not equate to 100% is mainly due to the percentage of non-response.

Before FP6, most participants had some pre-existing relationships with at least one of the other ERA-NET participants. Over the duration of the scheme, most ERA-NET participants reported that their relationships with other participants had strengthened at least to some degree. By 2008, over 900 participants from over 40 countries had taken part in the ERA-NET scheme¹¹. On average, countries were involved in 22 ERA-NETs. A majority of organisations were involved in 1 to 5 ERA-NETs, with participation in more than one ERA-NET being more prevalent among organisations in the EU15 Member States.

The most common rationales for participation were the creation and support of transnational R&D projects and building up of new relationships (Figure 3). Organisations from EU12 Member States¹² were, to a large extent, seeking to network and to build new relationships with their peers in other countries. As for organisations in EU15 Member States and Associated¹³ countries, they were mostly interested in the creation and the support of joint calls leading to the funding of transnational research projects.

Figure 3 - Organisation main rationale for joining by country group¹⁴



The Commission invested €181.76m in the scheme mainly to facilitate networking and coordination, travel and administration. On average, the EC contribution per ERA-NET amounted to €2.56 million. The EC funding covered up to 78 per cent of participants' overall costs of participation, according to the results from the participant survey.

The large majority of participants recognised the value of the ERA-NET scheme and were prone to invest additional resources to fully participate in the ERA-NET coordination

¹¹ EU15 Member States tended to be the most involved.

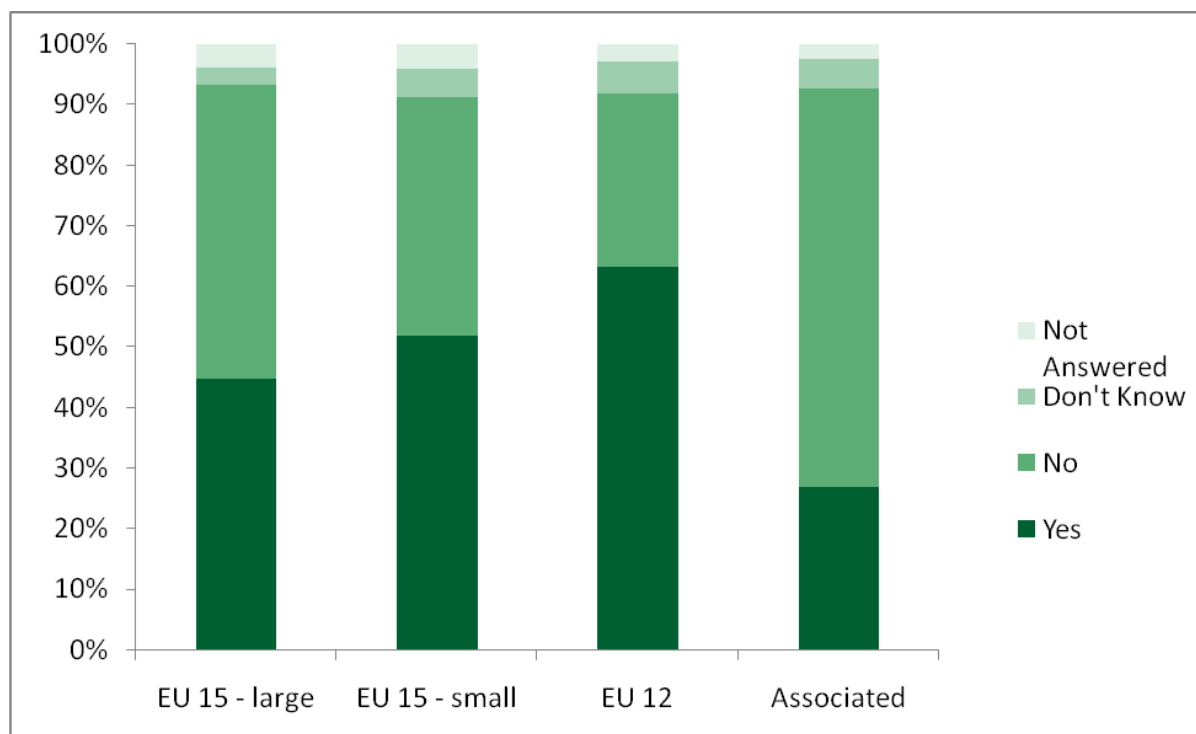
¹² EU12 Member States included the newest EU Member States as follows: Bulgaria, Czech Republic, Cyprus, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Romania, Slovakia, Slovenia.

¹³ Included Albania, Croatia, FYROM, Iceland, Israel, Norway, Serbia and Montenegro, Switzerland, and Turkey.

¹⁴ Smaller EU15 Member States consisted of: Austria, Belgium, Denmark, Finland, Greece, Ireland, Luxembourg, The Netherlands, Portugal, Sweden and larger EU15 Member States consisted of: France, Germany, Italy, Spain, and United Kingdom. For definitions of other country groupings, see previous footnotes. Results from Third countries have not been included in the graphical depictions due to too the very small size of the data set.

actions. In addition, the figures below show that a fair majority of participants from EU12 Member States considered the cost of their participation to be fully covered (Figure 4). EC funding covered the participation costs of most of the participants in the International Cooperation, Social Sciences and Humanities, and Regional ERA-NETs (Figure 5).

Figure 4 – Extent to which EC funding covered 100 per cent of all time and resources invested in participating in the ERA-NET by country group¹⁵

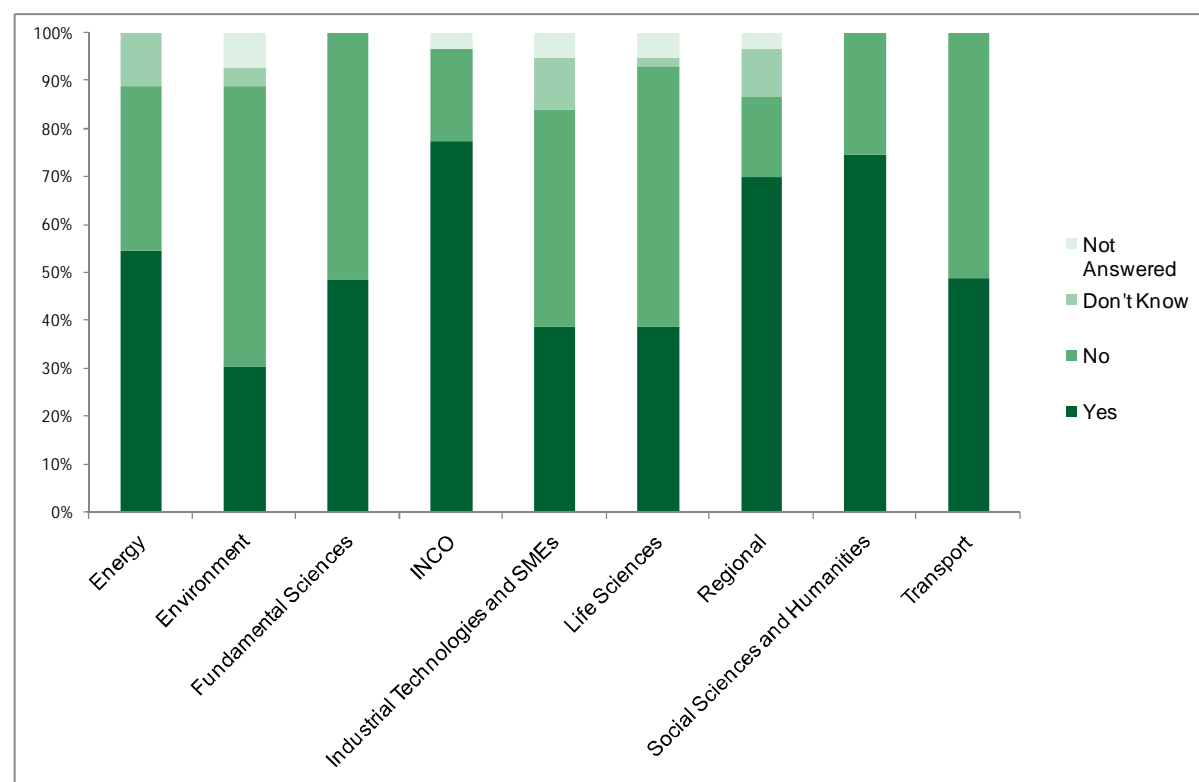


Additional inputs into the ERA-NET scheme consisted of participant's financial resources (e.g. participants recruiting dedicated staff, using external support for labour-intensive or expert activities, etc.), or human resources (e.g. time devoted by participants). Participants involved in the set-up of joint calls, a resource-intensive activity, experienced higher costs of participation than the average.

The fact that participants put additional resources and effort into the scheme provides a first indication of strategic buy-in by the participants with regard to the scheme. For thematic areas such as Social Sciences and Humanities, International Cooperation and Regional ERA-NETs, EC funding covered the 100% of all resources to a higher extent than for other themes (75, 77, and 70 per cent respectively – see Figure 5). This may be due to the nature of the involvement of participants in these themes where the number of joint calls launched, activities regarded as quite resource intensive by participants, has not been particularly high compared to other thematic areas.

¹⁵ The question asked to participants was: "Did the EC funding cover all the time and resources your organisation invested in participating in this ERA-NET?".

Figure 5 – Extent to which EC funding covered 100% of all time and resources invested in participating in the ERA-NET by theme¹⁶



1.5.1 Scheme processes

The type of activities participants undertook appeared to be in line with their initial rationale for joining their ERA-NETs¹⁷. The ex-ante typology of activities undertaken in relation to the four steps of the work programme is outlined in the table below.

Table 1: Typology of activities undertaken under FP6 ERA-NETs

Step of the work programme	Typology of activities
1) Systematic exchange of information and good practices on existing programmes and activities	<ul style="list-style-type: none"> • network development and coordination; • mapping of the research field; • development of databases; • development of websites; • identification of best practices; and • content development and dissemination activities (via print and media products).
2) Identification and analysis of common strategic issues	<ul style="list-style-type: none"> • collection, analysis and measurement of barriers to cooperation; • identification and analyses of gaps; • identification of topics for potential cooperation (via workshops); • strategy development and foresight activities (vision documents, strategy papers).
3) Planning and development	<ul style="list-style-type: none"> • developing governance arrangements and corresponding structures

¹⁶ The question asked to participants was: "Did the EC funding cover all the time and resources your organisation invested in participating in this ERA-NET?".

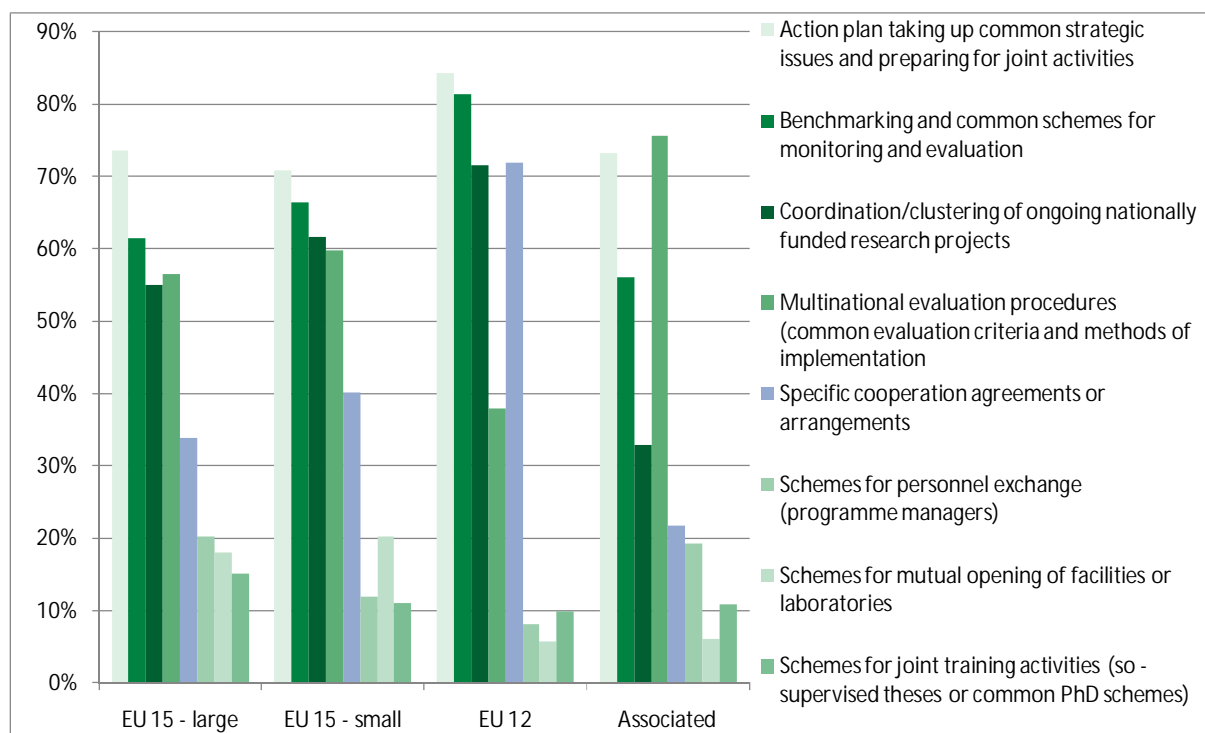
¹⁷ For instance and as evidenced by the participant survey, EU12 Member States' main rationales for participation were to network, and to build new relationship with funders of other countries. When looking at activities performed, participants in this country group (i.e. EU12) were mainly involved in setting up specific cooperation agreements or arrangements.

Step of the work programme	Typology of activities
of joint activities between national and regional programmes	(e.g. cooperation agreements and arrangements); <ul style="list-style-type: none"> • preparation of clustering (working groups, workshops, projects and procedures); and • coordination or clustering of ongoing nationally funded research projects.
4) Implementation of joint transnational activities, including joint calls and joint programmes	<ul style="list-style-type: none"> • implementation of joint calls (e.g. procedures, IPR agreements); • implementation of joint programmes; • managing access to research infrastructures (e.g. mutual opening of facilities or laboratories); and • implementation of schemes for personal development of researchers (joint training, researchers mobility).

The main activities other than joint calls/programmes that participants engaged in, as evidenced by the participant survey, included (Figure 6):

- developing an action plan to deal with common strategic issues and to prepare for joint activities (75 per cent of participants);
- undertaking benchmarking initiatives and putting in place common schemes for monitoring and evaluation (67 per cent of participants);
- coordination or clustering of ongoing nationally funded research projects (59 per cent of participants); and
- generating multinational evaluation procedures (55 per cent of participants).

Figure 6 - ERA-NET joint activities organisations were involved in by country group¹⁸



Overall, organisations from EU12 Member States were involved in more activities (other than joint calls) than their EU15 counterparts and the Associated countries¹⁹. These

¹⁸ These were activities related to step 2 and step 3 only of the standard process for each ERA-NET, activities other than joint calls.

Member States were largely interested in developing new relationships and establishing specific cooperation agreements with their peers (e.g. programme owners or managers) in other countries - an important aspect of developing the European Research Area.

EU15 Member States and Associated countries were more involved in activities leading to the funding of joint calls²⁰. Associated countries seemed to be the most strategic actors in their engagement in ERA-NETs and clearly oriented towards developing and funding joint calls. EU15 Member States tended to be involved in all types of activities, although small EU15 Member States were less keen than larger EU15 Member States on joint activities (other than joint calls) such as joint training activities and personnel exchanges. Most of EU15 Member States saw FP6 ERA-NETs mainly as an instrument for funding transnational R&D projects via joint calls for proposals.

Similarly, from a thematic point of view, ERA-NET participants in the Fundamental Sciences, Life Sciences, Environment and Industrial Technologies and SMEs themes were more oriented towards the preparation, development and funding of joint calls than other themes.

On the whole, participants in FP6 ERA-NETs had the flexibility to undertake joint activities as they anticipated and desired and, as a result, were generally satisfied with their engagement in ERA-NETs.

1.5.2 Scheme outputs

The ERA-NET scheme generated tangible outputs (i.e. pilot calls, joint calls and joint programmes) as well as intangible outputs (i.e. non-quantifiable). These are detailed in the section below.

Tangible outputs

By and large, the level of contribution from ERA-NET participants in pilot calls, joint calls and joint programmes rose gradually to reach a total of €0.6 billion in 2006 and €1.1 billion by 2008²¹. The majority of participants estimated that somewhat less than 25 per cent of the budget of the national programmes involved had been put into ERA-NET joint calls or programmes. The exact figure could not be ascertained in a robust manner but may be significantly lower than 25%²². The relatively modest share of national programme budgets invested into joint calls was particularly prevalent for larger EU15 Member States and Associated countries.

Pilot calls

In general, pilot calls were undertaken to test the possibility for developing fully-fledged calls (e.g. joint calls) and, in most cases, these led to joint calls. Twelve ERA-NETs undertook a total of 22 pilot calls (by December 2008). Out of these ERA-NETs, five launched more than one pilot call. Based on data for fourteen of these pilot calls, the total amount of funding amounted to nearly €15 million although this included one pilot call worth €9 million. Therefore, the average funding for pilot calls tended to be in the region of tens or hundreds of thousands of Euros. ERA-NETs in the Fundamental Sciences and the Industrial Technologies and SMEs themes contributed the most to pilot calls.

Joint calls

¹⁹ That being said, EU12 Members States scored consistently lower with regard to joint actions oriented towards researchers (e.g. schemes for personnel exchange, joint training, and mutual opening up of research facilities).

²⁰ Evidence gathered via the Coordinator survey.

²¹ These are conservative estimates. When compared to EC funding given to participant to cover their cost of participation, this level of funding contribution led to a leverage effect of 1 to 5.

²² Anecdotal evidence indicates that it was much lower than 25%.

Up to December 2008, ERA-NETs had planned, launched and completed 115 joint calls²³. 54 ERA-NETs developed and funded at least one joint call. In total, more than €773 million was committed to joint calls across 42 countries. Although the majority of this funding was public, more than 14 per cent of the total originated from non-public sources²⁴. This translated into an average funding of €6.7 million per call. Among country groups, the largest contributors to joint calls were larger EU15 Member States (Figure 7). Among the thematic areas, the largest contributions were made in the Industrial Technologies and SMEs, Life Sciences, Fundamental Sciences, and Environment themes (Figure 8).

²³ This represented 18 planned, 21 launched and 76 completed calls.

²⁴ Respondents to coordinators' questionnaire were asked to specify estimated total private contributions to funded projects. These contributions may have potentially come from industry-related organisations.

Figure 7 - Call activity by country group

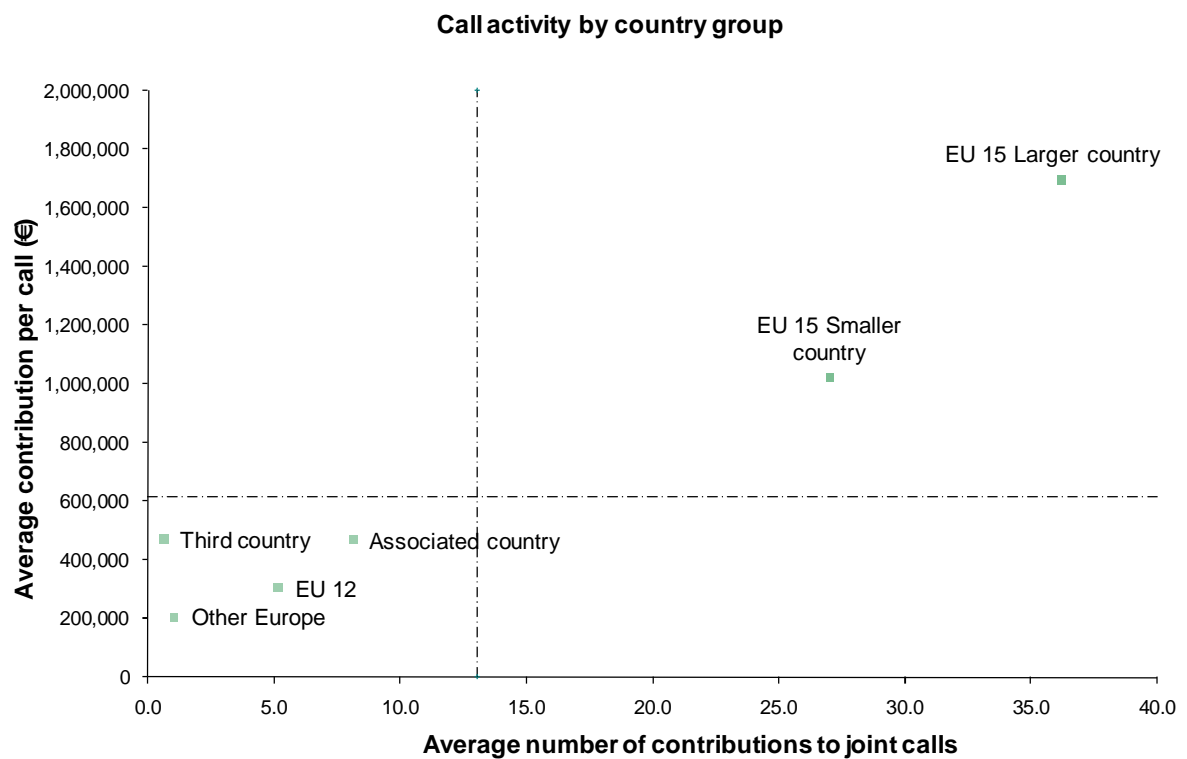
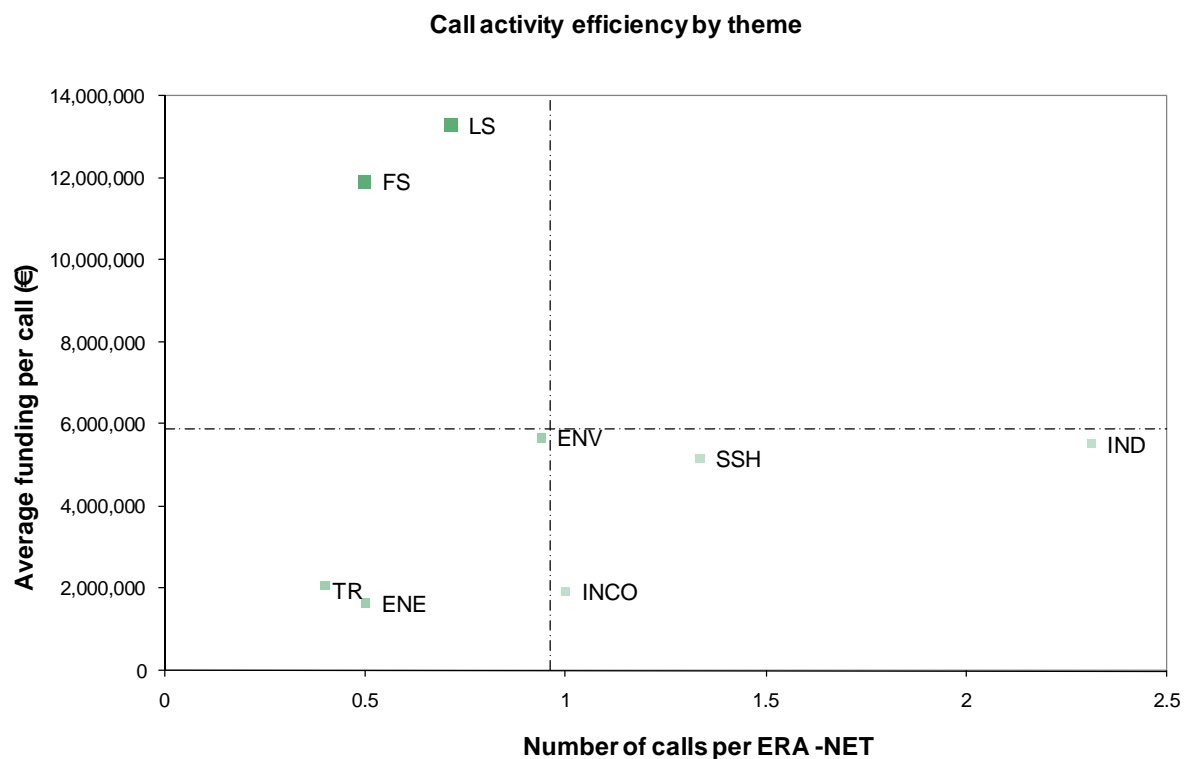


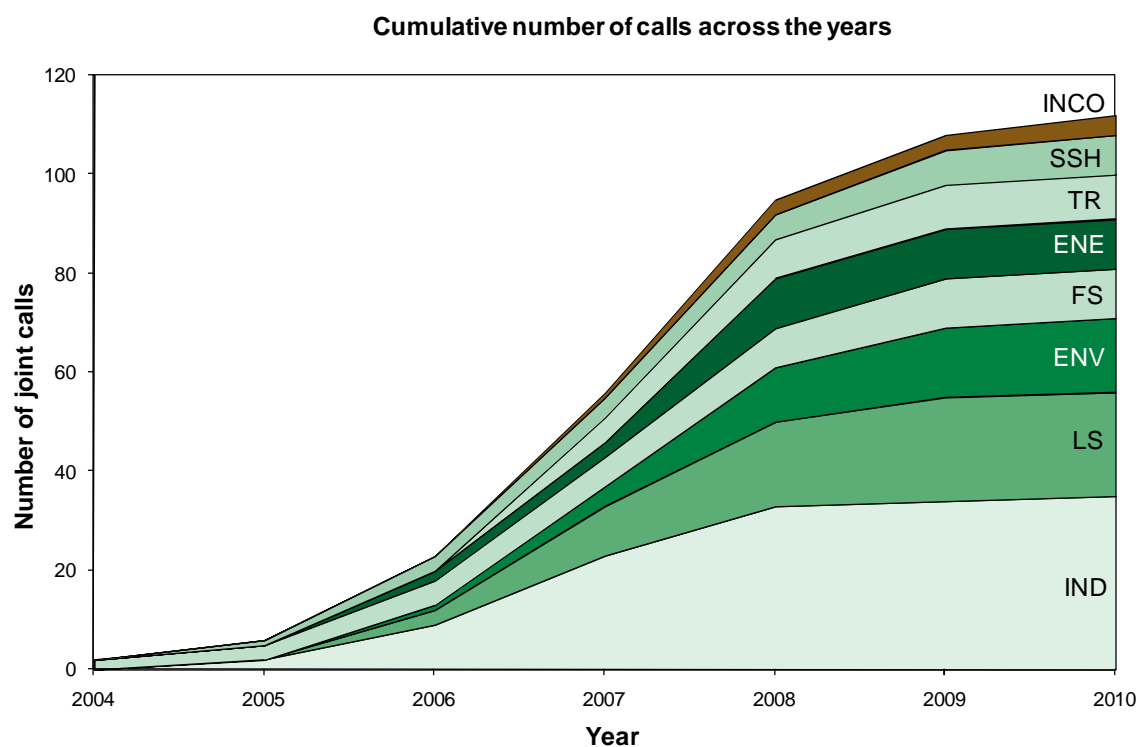
Figure 8 - Call activity by theme in numbers of calls and average funding



The following figures show the number of contributions to joint calls (

Figure 9) and their funding contributions over time (Figure 10) under the ERA-NET scheme.

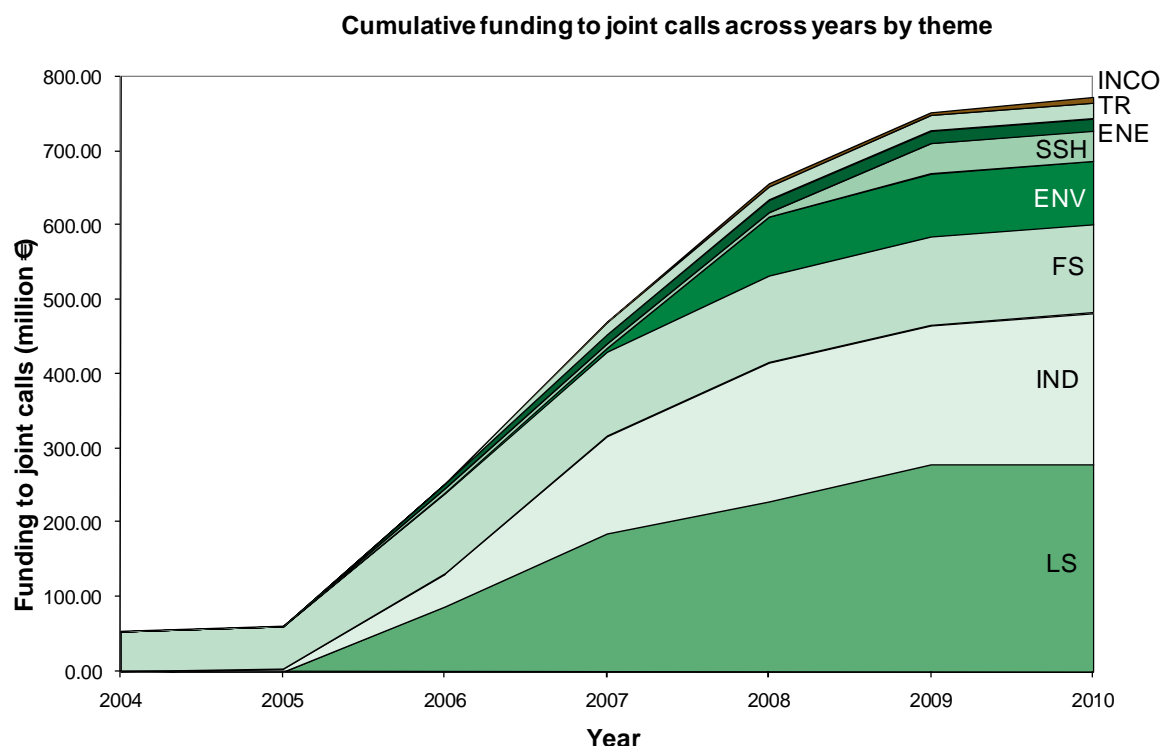
Figure 9 - Number of joint calls organised over time, 2004 to 2010²⁵



²⁵ This refers to actual data up to December 2008. Thereafter, activity refers to planned calls.

As shown in figure 10, most funding contributions were made in three thematic areas: Life Sciences, Industrial Technologies and SMEs, and Fundamental Sciences. Fundamental Sciences ERA-NETs were relatively more efficient in organising and committing to the funding of joint calls early on as is evident in the figure below.

Figure 10 - Amount of funding committed to joint calls over time, 2004 to 2010²⁶



Joint programmes

By December 2008, 13 ERA-NETs had launched at least one joint programme²⁷. Two of these had also launched a second programme bringing the overall number of joint programmes to 15. None of these 15 programmes had reached completion at the time of the present evaluation (December 2008) and three were due to commence in 2009 or later. Information about the total public funding put forward for these programmes was obtained for 8 of the 15 programmes and totalled €376 million.

Looking at the distribution of joint programmes across themes, two themes – Fundamental Sciences and INCO had yet to launch one (as of December 2008). ERA-NETs within the Industrial Technologies and SMEs thematic area launched the relatively largest number of joint programmes (as was the case with joint calls) although the ERA-NETs in the Transport domain could be considered as the most active if measured by the number of launched programmes in relation to the number of joint calls within the thematic area. By far, and compared to other themes, ERA-NETs in the Environment thematic area committed the most funding into joint programmes²⁸. ERA-NETs in the Transport and Social Sciences and Humanities themes were the only ones to contribute all funding via a

²⁶ This refers to actual data up to December 2008. Thereafter, activity refers to planned calls.

²⁷ A definition of joint programme is a coordination of national programmes that funds activities that are not, strictly speaking, chosen as the result of a single joint call, i.e. spanning several joint calls with a similar scientific objective.

²⁸ This finding needs to be treated with caution as the bulk of the contributions (i.e. €230m) came from one ERA-NET (ECORD).

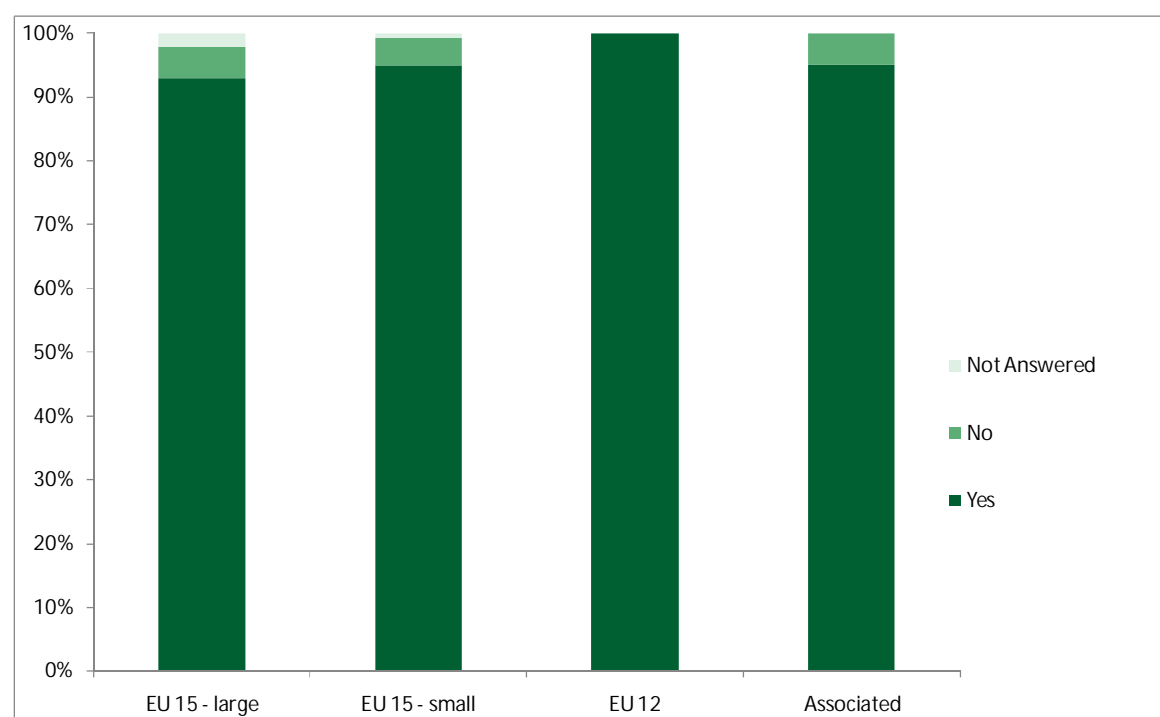
real common pot²⁹. In terms of country groups, smaller EU15 Member States were the most involved in joint programmes while larger EU15 Member States were the largest contributors.

²⁹ The definition of a real common pot is a funding mode whereby all partners contribute to a common call budget without regard to the nationality of the successful applicants in the funded call.

Intangible outputs

The ERA-NET scheme delivered many direct and indirect benefits. This contributed to an overwhelming and widespread sentiment among participants that their participation had been worthwhile (Figure 11) and reflects the advantages of following a real bottom-up approach in implementation, as initially intended through the design of the FP6 ERA-NET scheme.

Figure 11 - Extent to which participation in the FP6 ERA-NET was worthwhile by country group³⁰



A majority of participants reported the following key benefits:

- creation of new networks, as well as deepening and expansion of existing ones;
- new collaboration agreements within and outside the European Union;
- greater understanding of R&D procedures in other countries; and
- development and adoption of new evaluation protocols and procedures.

Other important benefits mentioned included:

- opportunities for networking with other programme managers and programme owners and European scientific communities;
- increased knowledge of scientific communities across Europe;
- increased knowledge of, and cooperation with, funding agencies across Europe³¹;
- new opportunities for transnational collaborative research;
- creation of a 'critical mass' at European level for undertaking transnational R&D activities;
- mutual learning about the design of joint activities between programme owners and programme managers thus enabling transnational R&D cooperation; and

³⁰ Participants were asked the following question: "Overall would you say that your participation in the FP6 ERA-NET has been worthwhile?"

³¹ This has led to the establishment of new collaboration agreements in the Balkan region for instance (SEE-ERA-NET).

- creating a forum for discussing R&D policy and priorities in specific research fields at European level.

Importantly, the benefits outweighed the costs of participation for a majority of participants. Programme managers and research beneficiaries benefited the most from the ERA-NET scheme compared with national policy stakeholders³² although networking activities generated benefits for all participants. There was some evidence to suggest that these benefits in turn generated a variety of other benefits. However, these were difficult to capture since their realisation depended on the nature of the countries' research landscape, R&D priorities and thematic areas³³. As for research beneficiaries, a key benefit was the access to funds for transnational cooperation that they would otherwise not have had access to³⁴.

Participation in joint calls had a positive influence on the realisation of benefits. The Industrial Technologies and SMEs, Environment, Life Sciences and Transport themes experienced the most long-term benefits from participation (e.g. higher quality of research generated, new types of projects generated, and access to foreign research communities). Among the country groupings, smaller EU15 Member States, followed by larger EU15 Member States, showed more evidence of having generated longer-term benefits than other country groupings. Moreover, for a third of participants, multiple ERA-NET participation brought benefits in the shape of greater efficiencies of participation³⁵.

A majority of coordinators thought that "global approaches" to ERA-NETs would be beneficial in the future. This refers to International ERA-NETs that would span across various continents. Some participants also acknowledged that the inclusion of non-European research programmes in future ERA-NETs would bring added value to the scheme.

1.6 Lessons learned

Key drivers for participating in the ERA-NETs were to learn from one another and to exchange good practices. The immediate effects of this knowledge-transfer and exchange of experience manifested itself in the adoption of practices such as the use of international evaluation panels for reviewing proposals that had previously been done domestically. The behavioural impacts originating from this knowledge-transfer are likely to be more long-term, hence it would seem justified to ensure that future schemes provide some room for knowledge-sharing activities.

Early agreement on common principles, procedures and definitions between participants was paramount to the well functioning of the ERA-NETs as well as their activities. Useful practices included early development of joint guidelines, common application forms, and common evaluation procedures for joint calls or, more generally, joined up dissemination strategies or common glossaries of definitions.

Most importantly, it transpired that participants defined and adopted practices in line with their ability to engage in joint calls and funding models as authorised by national rules³⁶. In the majority of cases, this meant funding joint calls via virtual pots³⁷ and targeting primarily participant countries' own researchers. To facilitate smoother implementation of joint calls, good practice would include ensuring participants' understanding of the relative

³² National policy stakeholders may have benefited from the benchmarking of R&D programmes, the enhanced knowledge of R&D priorities in other countries, and lessons learned from participants.

³³ Factors influencing the realisation of benefits were for instance the level of advancement of specific research fields and R&D priorities in specific themes.

³⁴ For instance in the transport thematic area, researchers with no previous international experience reported to have benefited from joint calls.

³⁵ This finding arose from the results of the participant survey. Refer to Volume 1, Annex 3, questions 5.3 and 7.2.

³⁶ In the Industrial Technology and SMEs thematic area, participation by national funders in ERA-NETs increased the Europeanisation of national research funding landscapes and was seen as an indicator of buy-in.

³⁷ The definition of virtual pots is a funding mode whereby each partner funds, a priori, participants from its country.

autonomy over funding held by other participants before committing to joint calls. This should be done hand-in-hand with the development of common principles and procedures, as highlighted above.

The participant survey highlighted several other obstacles for undertaking transnational coordination of, and cooperation between, R&D programmes:

- the misalignment of national thematic programme priorities were seen as a problem by a majority of participants;
- national administrative procedures and legal conditions were seen as problematic for a majority of participants across all countries; and
- EC administrative procedures or legal requirements were seen as a problem that had been overcome by more than one third of participants.

Despite these obstacles, the impact analyses showed that participants were generally able to cope with national procedures or legal requirements to participate in joint calls. They also valued the EC contribution to the Coordination Action processes despite the accompanying bureaucracy.

Key success factors included:

- multiple participations in ERA-NETs;
- engagement in other transnational initiatives;
- clarity of role of coordinators, participant and wider governance arrangements; and
- systems for exchanging and sharing information.

1.7 Scheme outcomes

The outcomes of the FP6 ERA-NET scheme were measured in terms of their impact on national R&D landscapes, including the degree to which they impacted upon the opening up of national programmes as well as on the structuring of the European Research Area.

1.7.1 Definitions and expectation of impact

Key concepts underpinning the definition of these areas of outcomes and what the expected outcomes were, ex-ante of the scheme implementation, are outlined below. This section is then followed by a summary of the key findings by area of outcome.

Effect on the landscape of publicly funded national and/or regional research programmes

The most obvious effects that this type of scheme might have on the landscape of publicly funded national/regional research programmes would include its impact on the national/international nature of R&D programmes, national thematic priorities, national R&D budgets, the programme portfolio and programming practices.

The expectation of a bottom-up scheme like ERA-NET with relatively limited resources was that it would neither immediately nor directly influence national, or indeed European, research landscapes, but rather build a basis for future initiatives. The ERA-NET scheme was expected to fill a gap in the 'market' between Framework Programmes and national R&D programmes. It was also expected to reduce fragmentation and duplication of research in Europe through testing how nations could optimally commit resources for funding transnational R&D cooperation activities. The expectation was that some countries would embrace the opportunity and that others would not and that overall, the impact on national research landscapes themselves (in terms of the direction and structuring of national R&D programming) would be modest at this early stage.

Opening up of national programmes

A commonly accepted definition of opening up of national R&D programmes is the adoption at national level of the principle to fund also non-resident researchers. This might be achieved via committing funding contributions to a real common pot allowing the best proposals to be funded independently of nationality or place of residence. The definition of "mutual opening up" is more restrictive. It implies that rules and procedures for supporting

joint activities are aligned between programmes from different countries in a systematic manner.

The ERA-NET scheme was expected to have made some progress in terms of opening up of programmes to non-resident researchers but that results would vary hugely between countries. Countries allowing for a greater degree of openness would have done so either because of the relative strength or the weakness of the particular research capacity in the country, or due to the degree of strategic buy-in of the scheme from the national policy and programming layers. The degree of opening up was also thought to vary by thematic areas and the strategic importance of these at national level.

With regard to mutual opening up, it was expected that many national programmes would take a rather cautious approach, in that foreign participation would be possible but not actively promoted.

Another measure of "opening up of national programmes" would be the extent to which national programmes enable national researchers to participate in a transnational project funded nationally. This is the typical approach for calls with a virtual common pot, where each national programme funds its national researchers. Consequently, the national programme is opened for transnational cooperation allowing for national researchers to engage in cross-border research but based on national funding. In this way, the national programme is open for transnational cooperation but is funding only its national researchers and not funding non-resident researchers. This can be interpreted as a sign of the basic readiness of national programme owners / managers to open up their programmes, even when and where national rules or policies are restrictive towards the funding of non-residents.

Structuring effect

A definition of the structuring effect is the "organisation and configuration" of the fabric of Research in Europe via the improved coordination of national and regional research activities and policies with a view to focus and further integrate research in Europe. Better information on ongoing research funding and research activities in Europe would constitute a necessary part of the structuring of the European Research Area.

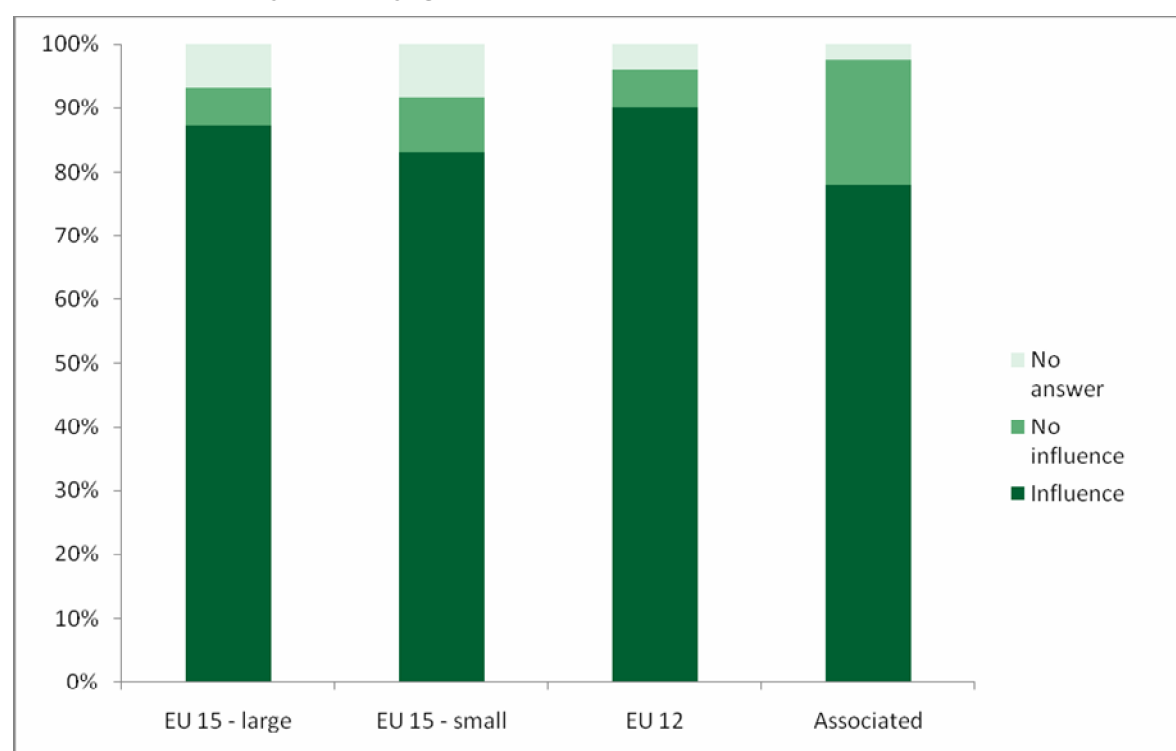
The ERA-NET scheme would have been expected to generate a combined effect of identifying compatible national and regional programmes in Europe, and establishing a 'critical mass' of resources in particular areas. These would have been as follows: strengthening of excellence through competition at European level and via transnational collaboration, and through exercising a catalytic effect on national initiatives and improving the coordination of activities of Member States. In addition, it would be expected that a particular aggregation of national resources to particular research areas would lead to the harmonisation of funding in specific research fields so as to deliver greater benefits for research beneficiaries.

1.7.2 Results indicating the impact on national programmes

Overall, and as expected, given the voluntary, bottom-up nature of the scheme, participants considered its direct impact on national programmes to be relatively small. Many changes in national landscapes have occurred but ERA-NET is only one of a number of influencing factors (other ERA-related activities like CREST/OMC were also operating in parallel) and attribution of effects is difficult. The impact of the ERA-NET scheme on national programmes manifested itself mostly through the generation of new opportunities to enable transnational research activities in the themes of the ERA-NETs (Error! Reference source not found.). This was the case in all country groups and all thematic areas. In addition, there was also evidence of a reduction in duplication between national programmes and the inclusion of new themes in existing programmes, although to a more limited extent³⁸.

³⁸ This finding arose from the results of the participant survey.

Figure 12 - Degree to which ERA-NET participation enabled new opportunities for undertaking transnational R&D activities in the theme of the ERA-NET by country group³⁹



The direct impact of ERA-NET participation on national programmes was greatest in the smaller EU15 countries and in the Associated countries, although the degree of this impact was still relatively low⁴⁰. This was in line with expectations in that smaller countries were expected to take on a more active role where they had a strategic interest⁴¹. They were also expected to be able to better align national programming to their participation in the ERA-NETs in order to maximise cross-fertilisation.

Factors limiting the level of impact on national R&D programmes appeared to be mainly down to the role assigned to the ERA-NET scheme by participants. The flexibility of the scheme, due to its bottom-up nature, was seen to complement rather than supplement national policies. ERA-NET was often viewed as a practical means of achieving aspirational objectives to increase the international orientation of businesses and researchers⁴². It filled a gap between national research policies and the transnational research agenda generated at European level through Framework Programmes. Moreover, the scheme created a level playing field⁴³ for transnational cooperation and coordination of R&D programmes activities allowing for “à la carte” involvement from participants.

Overall, national R&D policies and structures were more important in determining transnational programming policies than the objectives of the ERA-NET scheme or the

³⁹ Participants were asked: “To what degree has your participation in this ERA-NET influenced your country’s national programme(s)? - New opportunities to enable transnational R&D activities in the theme of the ERA-NET”.

⁴⁰ Only 16% of respondents deemed the influence of ERA-NET on national R&D policy as being “fairly high”.

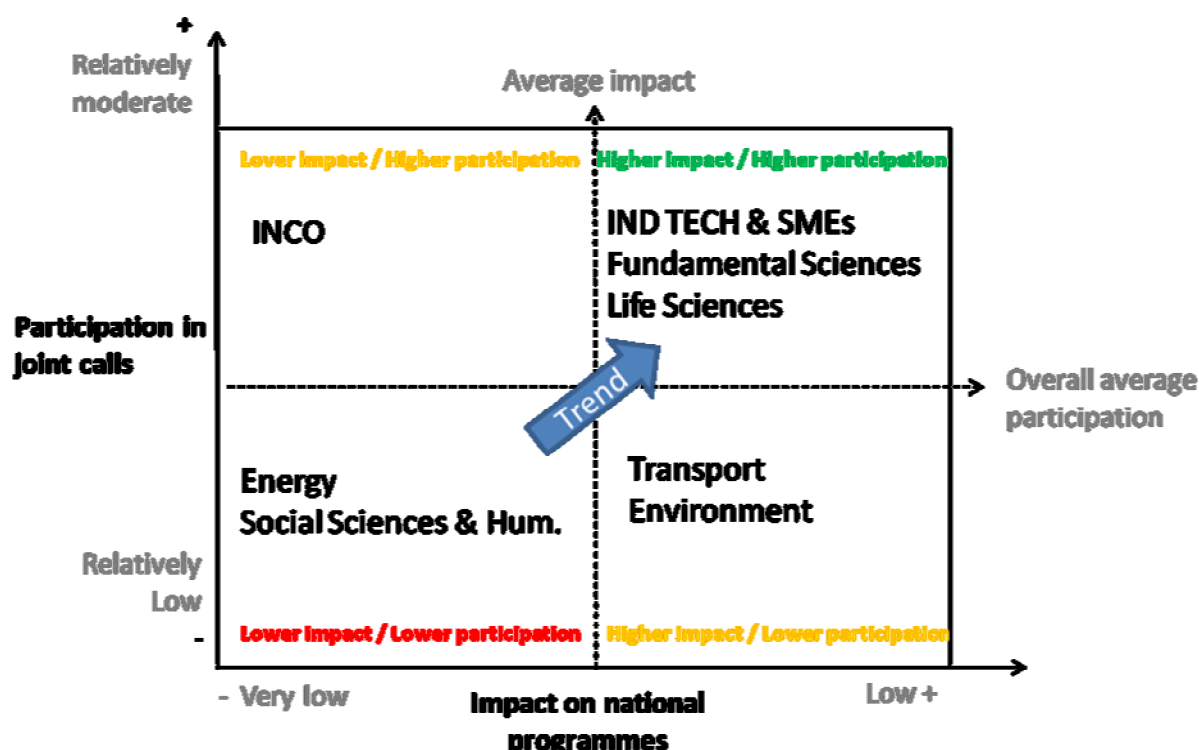
⁴¹ For instance in Austria, joint calls were more likely to take place in areas where national programmes already existed.

⁴² For instance in France, FP6 ERA-NET was seen as a vehicle to fund research excellence and strengthen relationships on a multilateral level.

⁴³ In other words the ERA-NET scheme created the conditions for transnational cooperation and coordination of R&D programmes activities to take place.

availability of EC funding. However, thematic drivers⁴⁴ alone were not sufficiently strong in order to change national policy or national programming. However, the ERA-NET scheme had a catalytic function⁴⁵ and the impact on national programmes was more important when there was strategic buy-in from policy-makers at national level⁴⁶. Factors such as the participation in joint calls had a positive influence on the impact of ERA-NETs on national programmes by providing practical evidence of benefits⁴⁷. This applied to all themes and country groups but was more prevalent in the Industrial Technologies and SMEs, Fundamental Sciences, and Life Sciences thematic areas (see figure below)⁴⁸.

Figure 13 – Extent to which participation in ERA-NET joint calls impacted on national programmes by theme⁴⁹



The existence of prior relationships was high across all themes but had no direct positive impact on national programmes for all themes, bar Fundamental Sciences.

⁴⁴ Thematic drivers should be understood as the thematic priorities and focus of the ERA-NETs.

⁴⁵ In other words, the ERA-NET scheme increased the impact on national programme when there was a strategic buy-in from policy makers.

⁴⁶ For Instance participants who rated their country amongst the top in their theme responded that there was a stronger influence of their ERA-NET participation on national research policy beyond the ERA-NET theme.

⁴⁷ This finding arose from the impact analysis where the relationship between benefits from the ERA-NET scheme and participation in joint calls was tested. A strong positive association between the two variables was evidenced.

⁴⁸ The "trend" in Figure 13 depicts a positive association between the extent of the impact of the ERA-NET scheme on national programmes and the extent of participation in joint calls. For instance, the more ERA-NET participants contributed to joint calls the higher the impact on their national programme. The weighting scales on the x and y axes correspond to the ranking given by participants when responding to the participant survey. For instance, when asked about "To what degree has your participation in this ERA-NET influenced your country's national programme" participants were given the following options: "No influence", "Low degree of influence", "Moderate degree of influence", "High degree of influence". Participant's responses were then averaged out to come up with the picture as presented above.

⁴⁹ Note that the impact analysis by "activities other than joint calls" was performed without leading to powerful results.

Opening up of national programmes

Apart from the clear evidence that the ERA-NET scheme provided an incentive and new opportunities to undertake transnational cooperation between national and regional R&D programmes, there was also some evidence of opening up of national programmes to non-resident researchers. Despite its novelty, the ERA-NET scheme has to some extent influenced the adoption of new eligibility criteria in certain countries that allowed for funding of non-resident researchers. As a result, and as evidenced by a majority of participants⁵⁰, the ERA-NET scheme has opened up access to research communities and groups that were not previously present in research activities of their country. At national level, there was also recognition of the value of national researchers joining forces with foreign researchers to undertake joint transnational research. In short, the ERA-NET scheme created the conditions for the opening up of national programmes to non-resident researchers during and after FP6. It is to be noted that joint calls also played a significant part in the opening up as participation in joint calls had a positive influence on the access to foreign research communities and / or groups.

Notwithstanding, there was less evidence of tangible actions relating to the “mutual opening” of national programmes. A minority of participants opened up facilities and laboratories to foreign nationals and the vast majority of joint calls used virtual pots as the preferred financing mode. Fifteen joint programmes were financed, mainly in the fields of Environment⁵¹, Social Sciences and Humanities⁵², Industrial Technologies and SMEs, and Transport for which two used real common pots.

By and large, funding contributions to real common pots, as a main indicator of “opening up”, showed that Associated countries channelled the highest percentage of their contribution via this funding mode (45 per cent), compared to 24 per cent for larger EU15 Member States, 16 per cent for smaller EU15 Member States and 9 per cent for EU12 Member States⁵³. As for the thematic areas, Fundamental Sciences and Social Sciences and Humanities demonstrated the highest degree of openness having channelled most of their funding contributions to joint calls and joint programmes via real common pots.

Overall, national policies and landscapes⁵⁴ imposed constraints on the opening up of funding to non-residents. It is not obvious that opening up can therefore be expected to become the default policy across all themes or countries post-FP6. In other words, whereas the ERA-NET scheme created the conditions for opening up of national programmes to non-residents, the mutual opening of national programmes on a larger scale may require not only more time but also a behavioural shift by national policy-makers. At the national level there was however recognition of the huge value added from national researchers undertaking joint transnational research with researchers abroad, as facilitated via the scheme. In this way national programmes have become more open with some countries allowing funding to follow the researcher. This model of opening up is linked to the idea of a virtual common pot mode of funding and has been largely used in joint calls. This constitutes an innovative form of opening up national programmes, with funding reserved for national researchers.

⁵⁰ As many as 41.9 per cent of participants considered that the ERA-NET scheme had influenced the adoption of new eligibility criteria that allow for funding of non-resident researchers against 42.9 per cent who thought ERA-NET had had no influence in this area. Unsurprisingly, the figure was highest amongst associated countries (68.3 per cent) and EU12 countries (55.8 per cent) compared with about one third of participants in EU15 Member States. The interpretation of these findings is that many participants are looking seriously at how the funding of non-resident researchers can be achieved (when desirable) but the actual use of such eligibility criteria may continue to be exceptional rather than the norm.

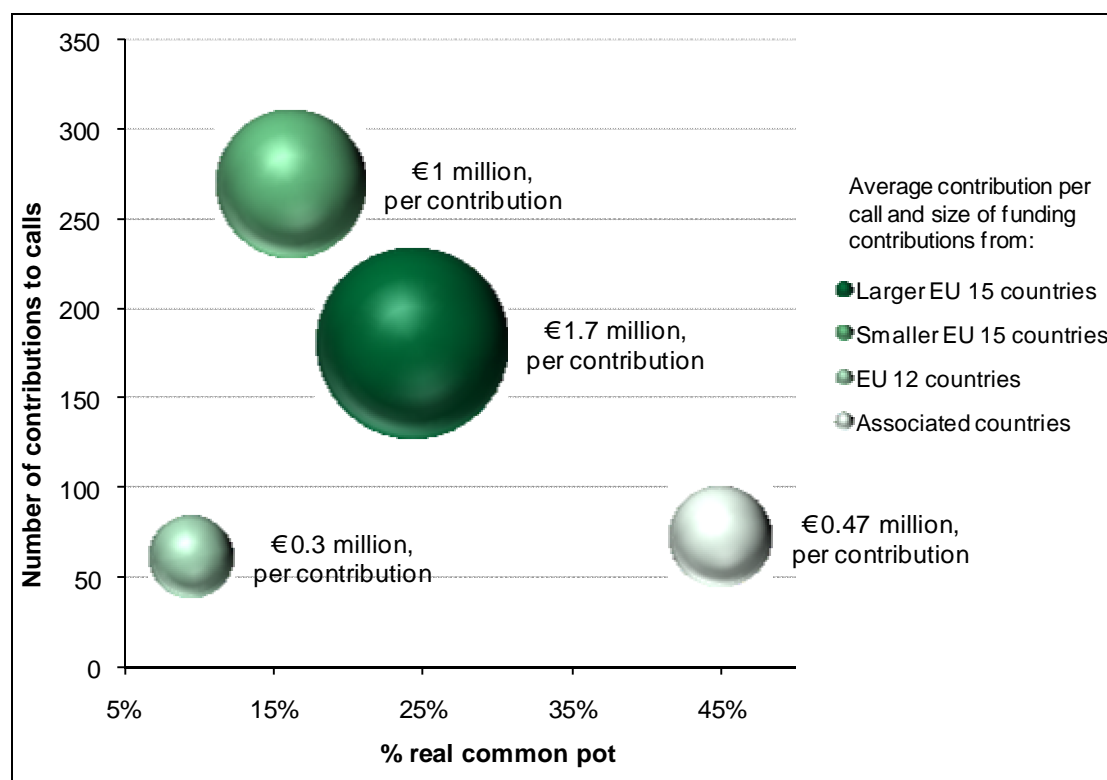
⁵¹ For instance ECORD.

⁵² For instance NORFACE.

⁵³ The percentages in Figure 14 are related to the number, rather than the value, of contributions. The percentage by value is much lower because most of the real common pot calls were implemented with relatively low budgets.

⁵⁴ This is to say that national circumstances (e.g. legislation, structures, behaviour) determined the extent to which the opening-up of funding to non-resident occurred.

Figure 14 - Number of contributions to joint calls by country group and funding mode



1.7.3 Structuring of the ERA

Although the structuring effect of the FP6 ERA-NET scheme on the ERA was relatively limited, this was not the sole objective of the scheme. In fact, given that such effects would only be visible over a longer time period, and the assessment was made relatively early on during implementation, it is thus remarkable that even some structuring effects were observed. It is also remarkable that some structuring effects can be observed, given that this was the first time that an EU RTD funding instrument was used to create networks of public sector administrations.

Participation in joint calls had a positive influence on the structuring effect of the ERA-NET scheme. This applied across all thematic areas but was most prominent for Industrial Technologies and SMEs, Life Sciences, and Environment. These three domains accounted for over 70% of the cumulative joint call funding over the period from 2003/4 until 2010.

INCO, Fundamental Sciences and Social Science and Humanities ERA-NETs were less prone than other themes to contribute to the structuring effect. In specific research fields however, a stronger structuring effect tended to be evidenced where key participants or coordinators already had a strong position in the research field⁵⁵.

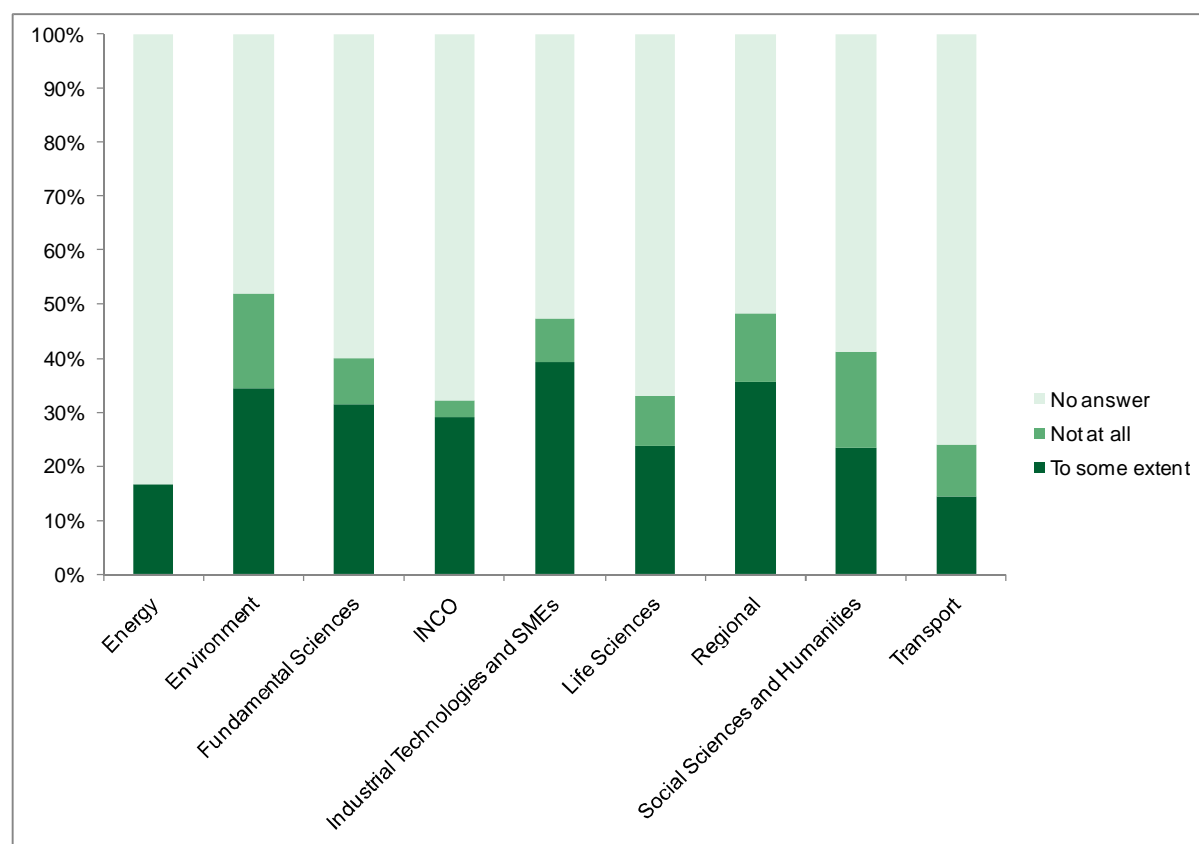
In several ERA-NETs, in particular in the International Cooperation and Life Sciences thematic areas, the importance of the theme in national research programmes increased as a result of ERA-NET involvement. In the Industrial Technologies and SMEs as well as in the Social Science and Humanities fields this was also the case to some extent, but was much more limited in the Fundamental Sciences, Transport and Environment themes and hardly apparent at all in the Energy theme. In addition, a vast majority of participant

⁵⁵ For instance in the fields of Marine Sciences and Astroparticles Physics.

organisations reported that their involvement in specific ERA-NETs had influenced national research policy beyond the theme of these ERA-NETs. The high degree of interaction between ERA-NET participants and policy stakeholders may have facilitated the recognition, at national policy level, of the increased importance of transnational coordination and cooperation of R&D programmes in the theme of the ERA-NETs and beyond.

However, the ERA-NET scheme was itself not seen as the prime vehicle for structuring of themes, although some structuring undoubtedly occurred⁵⁶. The overall effect was likely to be more long-term through influencing country thematic positions via funding of national programmes. This is not surprising given the importance of national R&D funding structures.

Figure 15 - Change in importance of the theme through ERA-NET participation by theme



In addition, ERA-NET involvement led to increases in national programme budgets in the theme of the ERA-NETs for around half of participants and mostly within International Cooperation, Environment, Transport and Fundamental Sciences. However, the extent to which these budget increases contributed to the structuring effect of the ERA-NET could not be determined. It is unlikely that these have contributed greatly to increases in the amount of programme budgets invested in transnational R&D projects outside of the ERA-NETs.

Despite a relatively limited structuring effect within the themes, existing relationships strengthened and extended across the ERA for a majority of participants. A number of bilateral and trilateral cooperation agreements were established as a result of ERA-NET participation. This was most prominent for EU12 Member States in specific areas⁵⁷.

⁵⁶ In some science fields, the ERA-NET scheme was seen as a means for participant organisations to achieve critical mass (Fundamental Sciences, Life Sciences, Industrial Technology and SMEs) and fomenting transnational research among national beneficiaries.

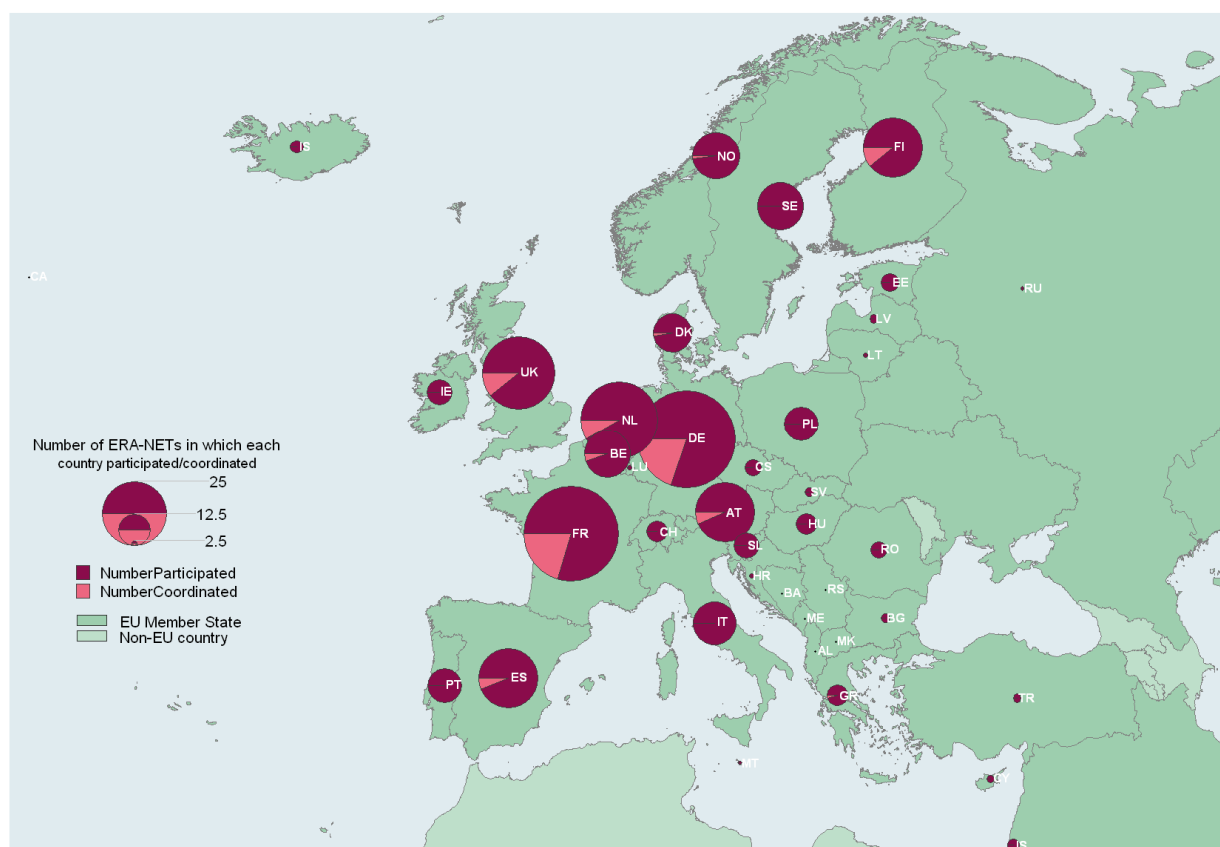
⁵⁷ This was particularly the case in SEE ERA-NET.

Importantly, pre-existing relationships between ERA-NET participants were not a sole determinant of success. For instance, some of the most successful ERA-NETs were the ones where few participants knew one another and were able to go further in the implementation of joint calls⁵⁸.

Some of the networks created by ERA-NET participation over the period evaluated have been visualised in the figures below.

⁵⁸ This was particularly the case in ERA-CHEMISTRY.

Figure 16 - Overview of ERA-NET participation and coordination

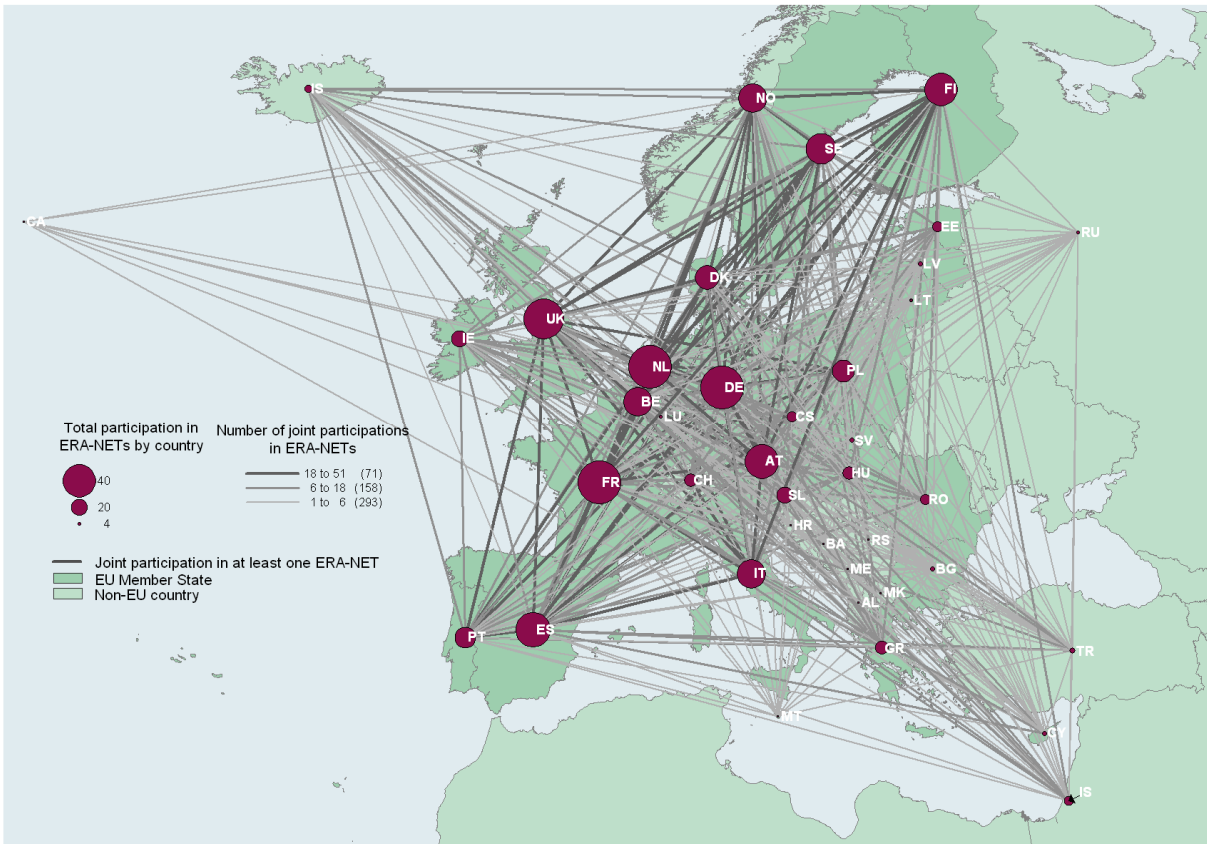


The figure above (Figure 16) provides an overview of ERA-NET participant and coordinating countries. Member States with a high absolute number of ERA-NET coordination (such as Austria, Finland, France, Germany, and The Netherlands) can be seen as "leading" countries in transnational R&D cooperation generated by the ERA-NET scheme when compared to their R&D spend. A high number of ERA-NET coordinators could also be seen as an indicator of strategic buy-in into the scheme and an eagerness to coordinate national programmes with those of other European countries. EU15 coordinated most of the ERA-NETs over the period. The level and extent of ERA-NET participation appears to have been higher among the EU15 than the EU12 Member States. Outside of the EU27, Norway was one of the Associated countries that took part in the most ERA-NETs.

The two figures (Figures 17 and 18) below give an idea of the collaboration between pairs of countries in the ERA-NET scheme and hence their involvement in joint activities⁵⁹. It is to be noted that no EU27 Member States are missing from the picture implying that all EU27 Member States have participated more than once in an ERA-NET and hence in ERA-NET related activities. These figures also show that all EU27 Member States have participated more than once in an ERA-NET, and highlight that participation in multiple ERA-NETs was higher in EU15 Member States than in EU12 Member States, as demonstrated by the strength of the links in Figure 17 (i.e. line thickness in the figures).

⁵⁹ For instance, Finland, Norway and Sweden have lots of ERA-NETs in common which is shown by the thickness of the line between the three countries in Figure 17. Additionally, these three countries participated in many ERA-NETs overall, which is evidenced by the size of their bubbles. Figure 18 gives an indication of joint participation in joint calls between countries. To add to the above, when compared to Figure 17, Figure 18 demonstrates that the three Nordic countries have participated in more joint calls compared to their level of overall ERA-NET participation. This is evident when comparing the size of their bubbles in Figure 18.

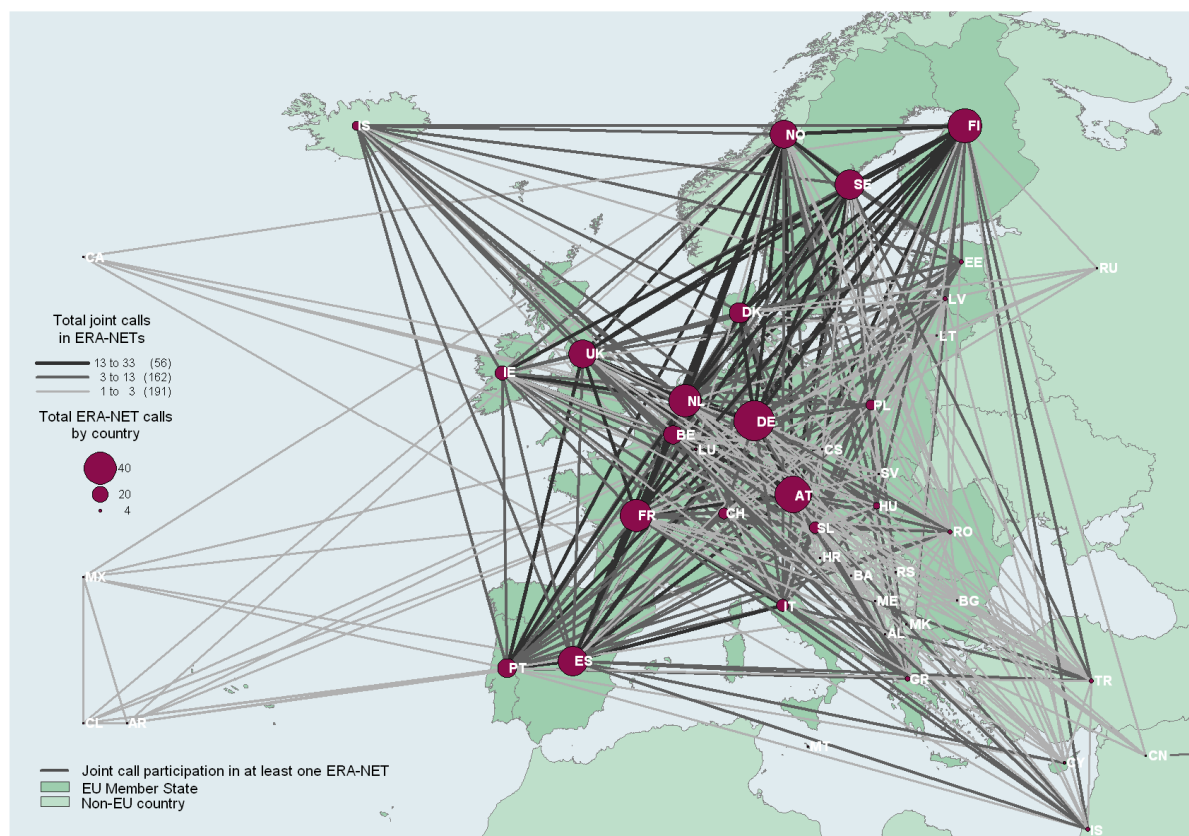
Figure 17 - Number of joint participations in ERA-NETs by country



Whereas Figure 17 above shows how many ERA-NETs countries signed up to, the figure (

Figure 18) shows the number of joint calls countries participated in across all ERA-NETs. Overall, it shows that EU15 Member States appeared to have participated in more joint calls than other countries. Among small EU15 Member States, Nordic countries, the Netherlands, and Austria appeared to have been relatively more engaged in ERA-NET joint calls than other comparable countries. However, it is interesting to compare the initial commitment to the scheme, measured through the number of ERA-NETs countries signed up to from the start (Figure 17), with the extent to which this was matched in the actual funding of joint calls through these ERA-NETs (Figure 18). This shows that some countries' initial commitment was matched by their strong participation in joint calls (e.g. Germany, Austria, Sweden) whereas others participated less in joint calls (e.g. UK, IT). Reasons for this are found in the country reports in Volume 2 of the study.

Figure 18 - Joint activities of all ERA-NETs as measured by joint call activity by country



A number of additional findings can be derived from similar analyses by thematic area. For instance, participants in Energy, Environment, Life Sciences, and Transport ERA-NETs undertook a fewer number of joint calls compared to the number of ERA-NETs they participated in. In the Industrial Technologies and SMEs and International Cooperation ERA-NETs, the level of participation in joint activities matched the level of joint ERA-NET participation. As for the Fundamental Sciences thematic area, the level of participation in joint calls was proportionally higher than joint ERA-NET participation across all countries⁶⁰. Social Sciences and Humanities ERA-NETs stood out since, on the whole, not all participants in this theme participated in joint activities, but the ones that did contributed significant funds through the real common pot model, showing a real eagerness for cooperation via the funding of transnational projects but only for a relatively small number of, for the most part, Northern European countries.

⁶⁰ This is due to the fact that participants in Fundamental Sciences ERA-NETs knew one another before FP6 and used the ERA-NET scheme as a vehicle to fund transnational research projects.

Additionality

The additionality of the ERA-NET scheme, i.e. whether ERA-NET activities led to results that would not have been possible without the scheme, was also considered. Evidence from both the case studies and the surveys suggest that the additionality of the scheme was positive. The vast majority of ERA-NET coordinators indicated that the transnational activities (i.e. peer networking and joint calls) would not have been possible without EC funding. Similarly, many coordinators felt that the transnational activities of their ERA-NETs could continue with reduced EU funding in the future, although about a quarter of them were of the view that their ERA-NETs could only continue with the current levels of funding.

There were clear changes in behaviour and perceptions of the benefits of transnational R&D cooperation as a result of ERA-NET participation. These changes were mainly positive and due to the results of the networking and experience gained through the joint ERA-NET activities. For instance, national policy-makers seemed to have taken account of the need for transnational R&D cooperation over the FP6 ERA-NET period as evidenced by modest⁶¹ increases in the budgets allocated to transnational cooperation, although this varied across country groups and thematic areas.

1.8 Overall conclusions

- The FP6 ERA-NET scheme can be regarded as a success when considering its initial objectives, to foster the cooperation between, and coordination of, national research activities through the linking of national research programmes.
- The scheme managed to attract a wide range of relevant public sector stakeholders across the ERA and provided them with a platform from which to network and to build new relationships with peers in other countries; thus forming a backbone of funding for transnational research in support of the development of the ERA.
- The scheme allowed participants to undertake joint activities aimed at coordinating national programmes, enabled the exchange and implementation of best practices, and prepared the ground for funding joint calls and programmes.
- The scheme resulted in the funding of transnational research projects via joint calls and programmes where the national funding contributions exceeded the EC contribution by a factor of five. Funding bodies committed more than €1.1 billion funding contributions (as of December 2008) to undertake joint activities (compared to circa €0.6 billion in 2006). Participants undertook:
 - 115 joint calls representing more than €773 m in estimated funding overall;
 - 15 joint programmes representing more than €376 m in estimated funding⁶²; and
 - 22 pilot calls representing more than an estimated €14 m.
- The scheme delivered a wealth of intangible outputs, such as the establishment of new relationships and networks between funders, as well as opportunities for research beneficiaries who would otherwise be excluded from the regular Framework Programmes to engage in transnational research⁶³.
- The scheme influenced positively the perception of benefits associated with transnational R&D cooperation across the ERA.

⁶¹ Note that the influence of the ERA-NET scheme on these increases was evidenced as being quite low.

⁶² Note that this figure is based on 13 programmes out of the 15 created in total.

⁶³ In some instances the ERA-NET scheme gave some SMEs an opportunity to participate in transnational research activities with relatively small financial contributions.

- The most tangible impact of the ERA-NET scheme on national programmes related to the creation of new opportunities for enabling transnational R&D activities. It filled a gap between national research policies and the transnational research agenda generated at European level through the Framework Programmes for research.
- To varying degrees, the scheme led to increases in budgets invested in transnational R&D projects and influenced national research policy.
- The impact on higher-level ERA objectives, such as overcoming fragmentation of research in Europe, was limited by national R&D policies and structures and the role assigned to the scheme by national participants.

The ERA-NET scheme created the conditions for opening up of national programmes to non-residents. Actual opening up of funding to non-residents and mutual opening of national programmes occurred but was constrained by national policies and landscapes. Mutual opening up of national programmes on a larger scale will require further efforts from national policy makers to be matched by initiatives at EU level.

- Some structuring of research landscapes at the ERA level occurred in specific research fields although the ERA-NET scheme itself was not seen as the prime reason for this.
- The degree of transnational networking and joint call activities undertaken, as part of the scheme, would not have been possible without EC funding.
- Longer-term additionality of the FP6 ERA-NET scheme will most probably be seen in its FP7 derivatives and in enabling national policy-makers to draw mutual benefits from better coordination of R&D funding in Europe.

The Final Report of the study relative to the Evaluation and impact assessment of the ERA-NET scheme and the related ERA-NET actions under the 6th Framework Programme comprises four volumes.

Volume 1:

- Executive Summary
- Answers to main research questions (Key research questions Q1 to Q5);
- Answers to deliverables (key deliverables D1-D14);
- Supporting annexes

Volume 2:

- Country case studies (Sub-deliverables SD1-SD15);
- Supporting annexes

Volume 3:

- Thematic case studies (Sub-deliverables SD16-SD24)
- Supporting annexes

Volume 4:

- Good practice guides (SD25-SD27);
- Social network analyses (SD28-SD31).

The report contains all the evidence gathered throughout the course of the evaluation as well as economic, impact and descriptive network analyses.

2. Acknowledgements

The evaluation team would like to thank the ERA-NET participants, coordinators, and beneficiaries as well as European and National level policy stakeholders for their contributions to the study in the form of interviews, survey responses and participation in validation workshops. It would also like to thank the Steering Committee members and the country and thematic validators for valuable inputs and suggestions.

3. Introduction

This section outlines the objectives of the evaluation and the structure of the report.

3.1 Objectives of the study

The Commission set out five key research questions to be answered by the current evaluation, these were:

- Q.1: Whether FP6 ERA-NET participation had an effect on the landscape of publicly funded national/regional research programmes in certain targeted EU countries (situation before FP6 – vs. situation to date), and how it did so (prioritisation, positioning, national law and institutional rules regulating research careers and practices, available pool of expertise, evaluation capacity, programming methodology, programme and project management etc)?
- Q.2: Whether FP6 ERA-NETs had a structuring effect in certain targeted research fields that ERA-NETs address (situation before FP6 – vs. situation to date), and to which extent they did so?
- Q.3: Which direct benefits (addressing the coordination of programmes, see FP6 applicable work programme steps 1-4) and indirect benefits (e.g. networking between people, informal contacts or reconfiguration of partnerships, leverage effects on national finances, review of national research agendas, etc) have been generated through the ERA-NET scheme in FP6 and how can the impacts be measured for both types of benefits?
- Q.4: Have FP6 ERA-NETs helped to mutually open up national programmes in ERA? If yes, to what extent and what is needed to assure that this result becomes a durable lasting effect within ERA?
- Q.5: What are the lessons learned for all possible stakeholders (ministries, agencies, researchers doing ERA-NET funded transnational projects) and where can these lessons be traced (legislative acts, codes of conduct, programmes, evaluations and studies, institutional web-sites, publications or public presentations, etc).
- The Commission also set out a number of specific Deliverables and Sub-deliverables, these were:
 - D.1: Evidence that significant numbers of relevant stakeholders were attracted to participate in ERA-NETs;
 - D.2: Evidence that preferential configurations have come to existence (number of participants, preferential links, relative concentration of coordinators if applicable, etc);
 - D.3: Evidence that sharing of expertise took place;
 - D.4 Evidence that strategic planning at national programme level occurred in anticipation of the multi-national configuration;

- D.5 Evidence that joint actions were launched and national/regional resources mobilised accordingly;
- D.6 Evidence that joint actions may have taken various forms, as a result of initiatives arising from different ERA-NET actions, and construction of a typology of those forms;
- D.7 Evidence that joint actions have themselves been successful in terms of attracting and satisfying the needs of the research community, within and beyond Europe;
- D.8 Evidence that joint actions have become more firmly embedded in the national policymaking consciousness of national and regional administrations, and that these administrations are better equipped to deal with them;
- D.9 Evidence that structuring effect has taken place at the level of ERA and "opening of national research programmes" has been achieved;
- D.10 Economic efficiency of the scheme in general (e.g. in terms of cost-benefit ratios);
- D.11 Implementation efficiency (i.e. satisfaction by the users of the ERA-NET scheme, guiding principles imposing themselves across all ERA-NETs; including sub-deliverables
- SD. 25-S.D27);
- D.12 Evidence of the Additionality of the ERA-NET scheme (e.g. the 'added value' of the scheme versus other options, for programme owners, programme managers and the research community);
- D.13 Economic Impact of the ERA-NET scheme (both in terms of impact on the level and reallocation of research funding considering other sources of funding in the EU, and in terms of the eventual impact through the generated transnational research supported);
- D.14 Country (see Q.1/T.2, adding consideration to global cooperation, 3rd countries) and topic specific (see Q.2/T.3) socio- economic analysis with clear scoring of "economic efficiency" and "additionality" (sub deliverables SD.1-SD.24);
- D.15 Set of slides covering the key study results (D.1-D.14) in a PowerPoint compatible format;
- Sub-deliverables: SD1-SD15: country specific investigations
 - SD1: France
 - SD2: UK
 - SD3: Germany
 - SD4: Italy
 - SD5: Netherlands
 - SD6: Austria
 - SD7: Finland
 - SD8: Portugal
 - SD9: Slovenia
 - SD10: Poland
 - SD11: Romania
 - SD12: Norway
 - SD13: Turkey
 - SD14 Russia
 - SD15 Croatia
- SD16-SD24: Impact in 9 areas of ERA-NET
 - SD16: Energy
 - SD17: Environment

- SD18: Life Science
 - SD19: Industrial Technologies and SMEs
 - SD20: Transport
 - SD21: Social Science and Humanities
 - SD22: International cooperation
 - SD23: Regional programmes coordinated in ERA-NETs
 - SD24: Fundamental science.
- SD25-SD27: Good practice guides, including:
 - SD.25: Guiding principles for strategic decision-making to support policy-makers and programme owners in their choices "when to coordinate and/or to open national/regional programmes via ERA-NET";
 - SD.26: Guiding principles for all possible joint and trans-national research actions implemented e.g. joint calls and/or for joint programming. A document which summarises the best practices of all real implemented ERA-NET joint calls/programmes so far under FP6. Beside all practical arrangements for joint calls and/or for joint programming this guide should in particular include a part describing best practice solutions concerning IPR issues of joint calls or programmes and solutions for the projects financed out of these joint activities;
 - SD.27: Guiding principles for information exchange/sharing (e.g. use of CERIF standard). A document which summarises the best practices of the most commonly implemented ERANET information exchange practices so far under FP6;
- SD28-31: Descriptive network analysis, including:
 - SD28: FP7 countries vis-à-vis their public spending in RTD– result as sub-deliverable
 - SD29: Various legal entities recorded as ERA-NET participants by their country of origin – result as sub-deliverable
 - SD30: Joint activities of all ERA-NETs (e.g. joint calls/joint programmes and others) – result as sub-deliverable
 - SD31: ERA-NET financed project participants in trans-national projects started (funded transnational projects out of a joint call) – result as sub-deliverable

These questions, deliverables and sub-deliverables are referred to throughout the report.

The study team adopted a mixed methods approach in order to answer the research questions and to deliver the required deliverables. More detail on this is provided in the below chapters.

3.2 Structure of this report

This draft final report is divided into 4 main Volumes supported by a number of annexes. In addition to an executive summary, an introductory chapter, a background chapter, and an outline of the methodology and work programme, main findings are presented over the following four Volumes:

Volume 1:

- Executive Summary
- Answers to main research questions (Q1-Q5);
- Answers to deliverables (D1-D14);
- Supporting annexes.

Volume 2:

- Country case studies (SD1-SD15);
- Supporting annexes.

Volume 3:

- Thematic case studies (SD16-SD24)
- Supporting annexes.

Volume 4:

- Good practice guides (SD25-SD27);
- Social network analyses (SD28-SD31);
- Supporting annexes.

4. Background and structure of the ERA-NET scheme

Before outlining the findings of the current evaluation, this section aims to provide a brief overview of the history and context of the ERA-NET scheme based on reviews of literature, other documentation and stakeholder interviews undertaken during the inception phase⁶⁴.

4.1 Background to and context of the ERA-NET Scheme

At the dawn of the 21st century Europe was facing significant economic, social and environmental challenges. The awareness of such challenges was growing both at academic and at political level⁶⁵. At the same time society held high expectations for research. More, and better, research and development (R&D) appeared capable of improving economic performance, promoting employment, improving public health, tackling demographic, cohesion and environment challenges⁶⁶. A European transition to a knowledge-based economy through more, and better, investment in the knowledge triangle of research, education and innovation was therefore perceived as the key to facing these challenges.

Until 2000 research activities and resources had been fragmented, with research and innovation policies being pursued largely independently at national, EU and regional levels. By far the largest share of funding for research had until then been allocated nationally, according to national priorities and national rules, normally excluding non-resident researchers from taking part.

At the Lisbon summit in 2000 Europe formulated its response to the economic and social challenges when the political leaders decided to set an agenda for change. Research policy at the national as well as at the European level became an important element in the Lisbon strategy.

An integrated European Research Area (ERA) was seen as a powerful concept created to facilitate the progress towards a better organisation of research activities and policies in Europe. Building up the ERA was identified as a shared objective, the idea for it having its roots in the wider spectrum of Community policies, where research and innovation were expected to play a major role in the transition to a knowledge-based economy. In this way the economic and political context was a favourable basis for building a European Research Area.

The idea of the European Research Area grew out of a need to deal with the weaknesses related to science and technology. Other weaknesses were lack of human resources in the form of limited numbers of researchers, limited economic resources for research at national level and fear of brain drain. Limited research cooperation was the dominant situation. At the national level, in each of the Member States, researchers would often study the same problems without cooperation and in a way duplicating research across Europe. Some of the researchers involved in this research would be organised in groups that would be in competition with other groups working within the European Community on the same issues. Looking at the same problems and applying different methods is not necessarily undesirable, albeit it might be more expensive than if such groups were working together. Competition is in general seen as a fruitful driving force, but at the European level there was a fear of too much fragmentation, both at the national level, and across Europe.

⁶⁴ A list of stakeholders consulted as part of the inception interviews can be found in Annex 2; inception interview guides can be found in Annex 6; outputs from the scoping phase including summaries of literature and interview findings can be found in Annex 7; a list of information sources consulted during the scoping and inception phases can be found in Annex 10.

⁶⁵ European Commission, 2007 p.13

⁶⁶ European Commission, 2007 p.13-14

Convergence in European research priorities had taken place over the years⁶⁷, but much more was sought, based on the belief that divergence of research priorities across Europe was leading to a waste of resources. There is an expectation of more cross-border cooperation by researchers and has been for some time, but there are barriers which make this difficult including national “peculiarities”.

Since the ERA was initiated there has been an increase in the willingness among policy-makers to support European research cooperation. The idea that European cohesion and European integration could be enforced, especially among researchers, had been supported, and the goal that an integrated European research area should be established was supported by policy-makers in all Member States.

Since the launch of ERA, the context has evolved considerably and a number of initiatives have been taken. ERA has transformed from a theoretical concept to a practical policy approach embodying many different dimensions, but the original ERA objectives are still valid. “The core objectives – how to overcome Europe’s S&T weaknesses and fragmentation, and achieve a coherent and effective European research policy – are still at the heart of the ERA concept”⁶⁸.

Despite this there has so far been little evidence, in general, that national policy-makers have taken ownership of the ERA concept, or have advanced far in their practical reflections on how national policy can contribute to constructing ERA, by building policy coherence across borders and across policy levels (European Commission, 2007 p.9).

The ERA concept itself has been subject to gradual changes. Its initial focus was on how to improve the efficiency and effectiveness of fragmented research efforts and systems in Europe, and how to get a better return of investment. Gradually, its scope was broadened to include the need for more public and private investment in research, and later to encompass the necessity for improving coherence and synergies between research and other EU policies in order to achieve the renewed Lisbon strategy (European Commission, 2007 p. 8).

At a meeting of the Competitiveness Council in April 2008, EU ministers responsible for research made a renewed commitment to the ERA and launched the “Ljubljana Process”. It aims to improve the political management of the European Research Area by sharing the responsibility for its development between the European Commission and the EU Ministers. The council also called for a long-term vision for ERA to be endorsed by the Member States before the end of 2008.

4.2 Overview of the ERA-NET scheme and Co-ordination actions

This section provides an overview of co-ordination actions (acknowledging that co-ordination actions are a subset of specific support actions).

The ERA-NET activity was initiated and perceived as one way to overcome some of the obstacles to research cooperation and it was in this way intended as a powerful instrument to help build up ERA and strengthen its foundations. The objective of the ERA-NET was to develop synergy between existing national activities and to enhance the complementarity between community actions and those of other European scientific co-operation organisations in all fields of science.

The idea was that ERA-NET could function as a platform for open debate of actors and stakeholders which should help forming a vision of how the European Research Area could develop further. The activity possible within the ERA-NET philosophy was directed towards public authorities, such as, research funding agencies and research councils. This meant that it was directed towards those who already worked with research policy at the national level.

⁶⁷ Siune, 2005

⁶⁸ European Commission, 2007 p.8

The objective of the ERA-NET scheme was presented as to step up the cooperation and coordination of research activities carried out at national or regional level in the Member States and Associated States through:

- the networking of research activities conducted at national or regional level; and
- the mutual opening of national and regional research programmes.

The scheme was intended to contribute to making a reality of the European Research Area by improving the coherence and coordination across Europe of research programmes. The scheme should also enable national systems to take on tasks collectively that they would not have been able to tackle independently. Cross-disciplinarity at the European level was one such task, but the focus was primarily on bigger research programmes.

Both networking and mutual opening require a progressive approach. The ERA-NET Scheme was, therefore, introduced with a long-term perspective, which also allowed for differences in the organisation of research in different Member States and Associated States.

The idea of ERA-NET built upon the expected added value of Europeans getting together to discuss and develop ideas about how to get more out of European investments in R&D, and also to help developing the common knowledge base necessary for the coherent development of policies.

The ERA-NET Scheme has been perceived as a privileged playing field on which national and regional actors experiment, on a real scale, with various forms and structures which can eventually contribute to giving substance to the whole ERA. The advantage of the ERA-NET Scheme was that it allowed for greater European collaboration among different nation-specific councils, etc. The question in relation to this perception is whether the "playing field" actually led to new substance? This is one of the main questions being addressed by the current study.

There remain obstacles which may still prevent the ERA-NET functioning as the optimal European platform for new integrated programmes financed from national funds. These include; diversity among nations regarding research traditions; differences in educational skills and in natural resources; differences in the quality of infrastructure, and, to some degree, diversity of forms of problems, be they natural or social.

From the start, the ERA-NET instrument was addressing the inefficiency and fragmentation inherent in a system comprising of numerous research funding schemes, spread across many policy levels. At the same time, the invitations to participate in ERA-NETs were sent to those who were involved in the national systems, and often to those responsible for building up the national system.

The key to the ERA-NET is its "bottom up" approach and "variable geometry". For participating countries it is especially these aspects of ERA-NET which make them very interesting. The ERA-NET networks aimed at the coordination of programmes and in particular they encouraged the establishment of joint calls or joint programmes⁶⁹.

The objectives of the scheme as defined in the 2000 Communication were to:

- implement the principle of reciprocal opening of national programmes to potential participants from other Member States;
- put in place mechanism for information exchange on existing national programmes; and
- encourage evaluation of national research activities by international panels.

These objectives were to be achieved via a four step process:

1. Systematic exchange of information and good practices on existing programmes.
2. Identification and analysis of common strategic issues.

⁶⁹ ToR, p.3

3. Development of joint activities between national and regional programmes.
4. Implementation of joint trans-national research activities.

These can be simplified and thought of in terms of; networking, analysis, planning and doing.

All in all the intention was more consistent use of public instruments and resources⁷⁰ and thus help to develop the common knowledge-base necessary for the coherent development of policies.

The introduction of ERA-NET was met with great interest and the degree of interest indicated that it responded to needs that were acknowledged. National and regional programme owners were expected to be reluctant to restructure their programmes in a way which would enable the development of genuine joint programmes. On the other hand Member States strategies and policies for stimulating R&D activity have evolved considerably towards richer and more complex series of measures, tailored to the particular situation of the Member State in question⁷¹.

⁷⁰ European Commission, 2007 p.22

⁷¹ European Commission, 2007 p.9

Overall, 71 FP6 ERA-NET co-ordination actions were funded through the ERA-NET scheme. The breakdown of these across the FP6 thematic areas is indicated in the table below.

Table 2 - Overview of ERA-NETs

Theme	No ERA-NETs	Average no countries	Average no partners	Average duration (months)
Transport*	4	12.3	16.8	43.3
Life Sciences	15	11.5	15.1	49.1
Environment*	16	11.6	14.9	51.9
Fundamental Sciences	5	12.6	16.4	48.0
INCO	4	10.8	14.0	54.0
Industrial Technologies and SMEs*	16	12.2	16.8	50.6
Energy	5	12.4	17.0	48.4
Social Sciences and Humanities	6	12.0	14.7	52.5
Total/ average	71	11.9	15.7	49.7

* Note: The three ERA-NETs with Regional focus were spread across the Transport, Industrial technologies and SMEs, and Environment themes.

The number of ERA-NETs by theme varied greatly between a handful and up to as many as 16. On average, approximately 16 participants took part in each ERA-NET although this varied by theme. The duration of the ERA-NETs were on average around 50 month or just over 4 years. ERA-NETs were set up at different stages of the FP6 duration meaning that some have finished whilst other are still ongoing⁷².

The funding provided by the Commission to each ERA-NET to cover networking and travel expenses amounted to approximately €2.56 million per ERA-NET⁷³.

⁷² Due to unreliable information, it was not possible to report on exact start and end dates.

⁷³ This figure is based on information provided in the projects' Descriptions of Work and thus presents an average funding applied for by the 71 projects.

5. Methodology and work plan

5.1 Outline of the overall approach

The current study has aimed to assess the impact of the ERA-NET scheme ex-post of implementation through adopting a 'before/after' design⁷⁴. Overall, the study has adhered to a mixed-methods approach to data collection and analysis using both qualitative and quantitative methods. Furthermore, a combination of desk work, surveys, fieldwork and a common impact and economic framework for analysis was applied to deliver the study requirements set out by the Commission. Consultations with relevant stakeholders were undertaken as follows:

- Inception phase: 27 interviews were made with programme managers and programme owners in 10 countries and at EU level
- Data collection phase: A participant survey was conducted over the summer 2008 aiming at more than 900 participants and achieved a 48 per cent response rate. A coordinator survey was conducted over the second half of 2008 and achieved a response rate of 91.5 per cent.
- Fieldwork phase: The interviews were undertaken with ERA-NET stakeholders in 15 of the 40 countries taking part in the scheme. The number of interviews by country ranged between handfuls in some countries to a couple of dozen in other countries. The same interviewees were chosen to represent thematic areas – the number of interview per theme ranged between 12 and 25 depending on the theme.

More specifically, the approach taken to data collection and analyses included:

- Reviews of information and data. These have involved methodical reviews of ERA-NET Action contracts' Descriptions of Work, ERA-NET Action websites and published literature.
- Interviews with key stakeholders during the scoping phase which have informed approaches taken so far in the study, such as the development of typologies and data collection activities.
- Data collection via surveys. Two separate surveys were undertaken, one aimed at ERA-NET coordinators, and one at participants. The participant survey was aimed at all participants of the ERA-NET scheme, and was conducted online. The coordinator survey questionnaire, a repeat of an earlier survey conducted by the Commission in 2006 (included in Annex 1 of the Terms of Reference of the study), was implemented via email.
- Programme and ERA-NET level quantitative analyses focusing on the aggregate impacts of the scheme (linking to main questions and deliverables), and based impact and economic analyses at thematic and country grouping levels, including bi-variate analyses⁷⁵, based on coordinator and participant survey results.
- Descriptive network analyses based on data collected through the online surveys, existing demographics on the participants, and coordinators and secondary data on R&D spending.

⁷⁴ Given that the evaluation team was not involved in developing the baseline prior to the implementation of the scheme, the 'before/after' here refers to the approach taken to the data and evidence collection. Where data was collected by the Commission during earlier phases of the implementation, this has been used as a tool to establish the change vis-à-vis the current situation. Where data was not available at baseline, the approach has been designed to ensure that the situation before the scheme was implemented is established separately to the situation after implementation and that specific enquires are made into the contribution of any reported effects to the ERA-NET scheme. In the absence of experimental or quasi-experimental designs, therefore direct causality or attribution cannot be established with confidence.

⁷⁵ Models for multi-variate analyses were built and tested but due to the heterogeneity of the scheme, it was not possible to control for all possible variables which is why a bi-variate approach was followed.

- Country case study analyses. For the 15 countries for which case studies were undertaken, the country reports were based on analyses of qualitative feedback collected during fieldwork as well as country specific feedback received through the coordinator and participant surveys.
- Thematic case study analyses. The thematic reports were based on feedback from a select number of thematic stakeholders interviewed as part of fieldwork in the 15 countries, and supplemented by descriptive statistics from the coordinator and participant surveys.
- Good practice analyses. Good practices reported were mainly based on qualitative inputs from stakeholders in the 15 countries interviewed as part of the field work.

More details on the approach taken with regard to the different aspects of the work programme can be found in Annex 9 of this Volume as well as in various Annexes of Volumes 2-4.

5.2 Outline of the work plan

The various methods and approaches described above were distributed across five main tasks in the work plan. These were:

Task 0: Scoping

- a) Review of information and data
- b) Interviews

Task 1: Data analysis and descriptive network analysis

- c) Surveys (which links to D1-D9)
- d) Descriptive network analysis (which links to SD28-SD31)

Task 2: ERA-NET scheme and its impact in selected countries

- e) Country analysis (which links to D14, SD1-SD15)

Task 3: ERA-NET schemes and its impact in selected research fields

- f) Thematic analysis including impact and economic analysis (which links to D14, SD16-SD24)

Task 4: Analysis of the value added and lessons learned concerning the ERA-NET scheme

- g) Programme level analysis, aggregate impact and economic analysis (which links to D1-D13)

Task 5: Good practice guidance documents

- h) Good practice (which links to D11, SD25-SD27)

Each of the tasks linked to the deliverables and research questions outlined in the ToR. All Tasks have been completed to date. A more detailed outline of the methodology and work plan can be found in Annex 9 of this Volume.

6. Findings in response to main research questions

The aim of the following chapter is to outline the study findings in relation to the main five research questions in the Terms of Reference drawing on evidence gathered from various data collection and analyses exercises. Findings related to the five main questions are presented under different subheadings depending on the source of the data, or the type of analysis undertaken. For example: key findings from the participant survey; key findings from the coordinator survey; key findings from the impact analysis; and key findings from the case studies. These are followed by overall conclusions in respect of each research question, based on the synthesis of the various data sources and analyses. All supporting data can be found in Annexes to this report⁷⁶.

Moreover, at the beginning of each section, as far as possible, a paragraph outlining the expectations of impact is provided in order to contextualise the findings.

6.1 Impact on National Research Landscapes

The following section presents the evidence collected and analyses undertaken to assess:

“Q1: Whether FP6 ERA-NET participation had an effect on the landscape of publicly funded national/regional research programmes in certain targeted EU countries (situation before FP6 – vs. situation to date) and how it did so (prioritisation, positioning, national law and institutional rules regulating research careers and practices, available pool of expertise, evaluation capacity, programming methodology, programme and project management etc)?”

The main focus on this section is, therefore, to establish both who was involved from a national perspective, and the extent to which their involvement in the ERA-NETs changed their behaviours in respect to national programming and, transnational cooperation including the amount of funding put forward. It will also try to ascertain whether participation in the ERA-NET has influenced National R&D policy beyond transnational cooperation. In the process, the extent to which pre-existing relationships were in place, and how they evolved, will be examined. This will provide a first picture of what preferential relationships, if any, have grown.

Expectations of impact

The expectation of a bottom-up scheme like the ERA-NET with relatively limited resources, and coordinated on a voluntary basis between national funding bodies, is that it would not immediately restructure the National or indeed European Research landscapes. The expectation would have been that the ERA-NET scheme would fill a gap in the ‘market’ between Framework Programmes and National R&D programming. It would further have been expected to be an important stepping stone towards reducing fragmentation and duplication of research in Europe through testing out ways in which nations could coordinate resources in a more optimal way. The expectation was that some countries would embrace the opportunity, whilst others would not, and that the overall impact on the direction and structuring of National R&D programming in National Research landscapes would be modest.

Moreover, there is an expectation that additional contributions towards the running costs (in addition to the €2.56 million per ERA-NET average funding by the Commission⁷⁷), as well as the degree of additional funding provided for joint activities, joint calls and programmes in particular, provide an indication of the strategic buy-in for the scheme from the country perspective. It is also anticipated that countries which operate shorter-term and more flexible programming, and where there is the greatest potential for fomenting a

⁷⁶ Descriptive statistics from the coordinator and participant surveys can be found in Annex 5 and detailed outputs from the impact analysis can be found in Annex 8.

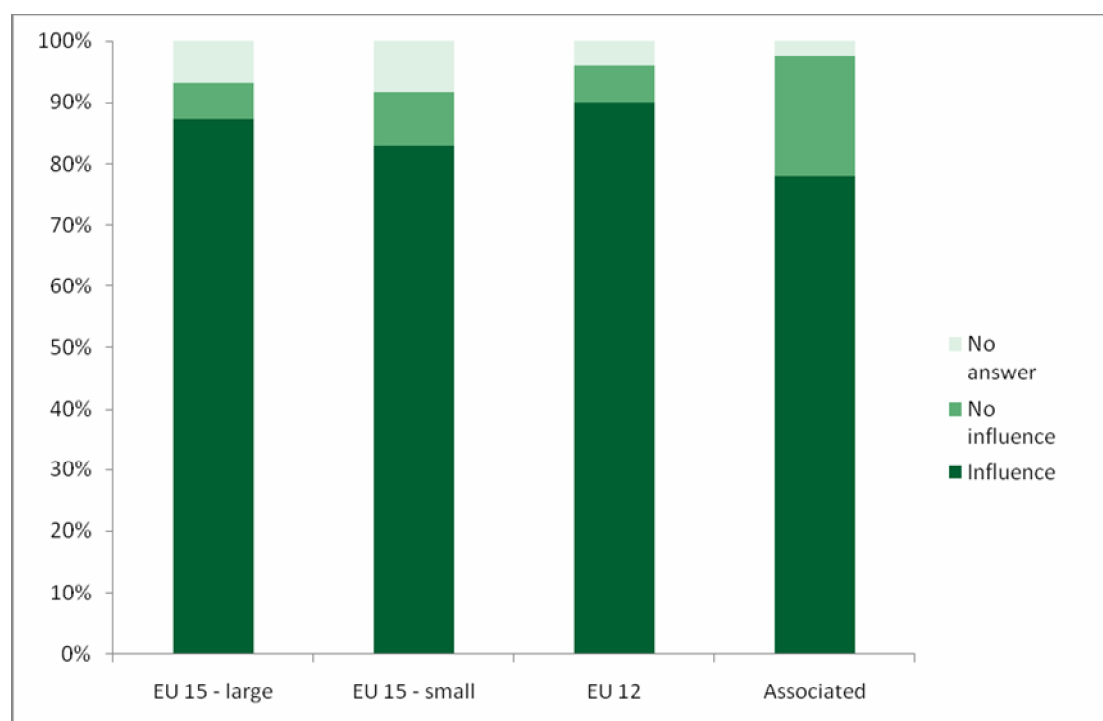
⁷⁷ This figure is based on information provided in the projects’ Descriptions of Work and thus presents an average funding applied for by the 71 projects.

research area of strategic interest to that country, via greater transnational cooperation, will be at the centre of the ERA-NETs. It is expected that such countries will input substantial amounts of funding and effort. Finally, it is expected that associated countries will tend to align their national programmes with ERA-NETs, as they already do this for the European Framework Programme.

Key findings from the Participant Survey

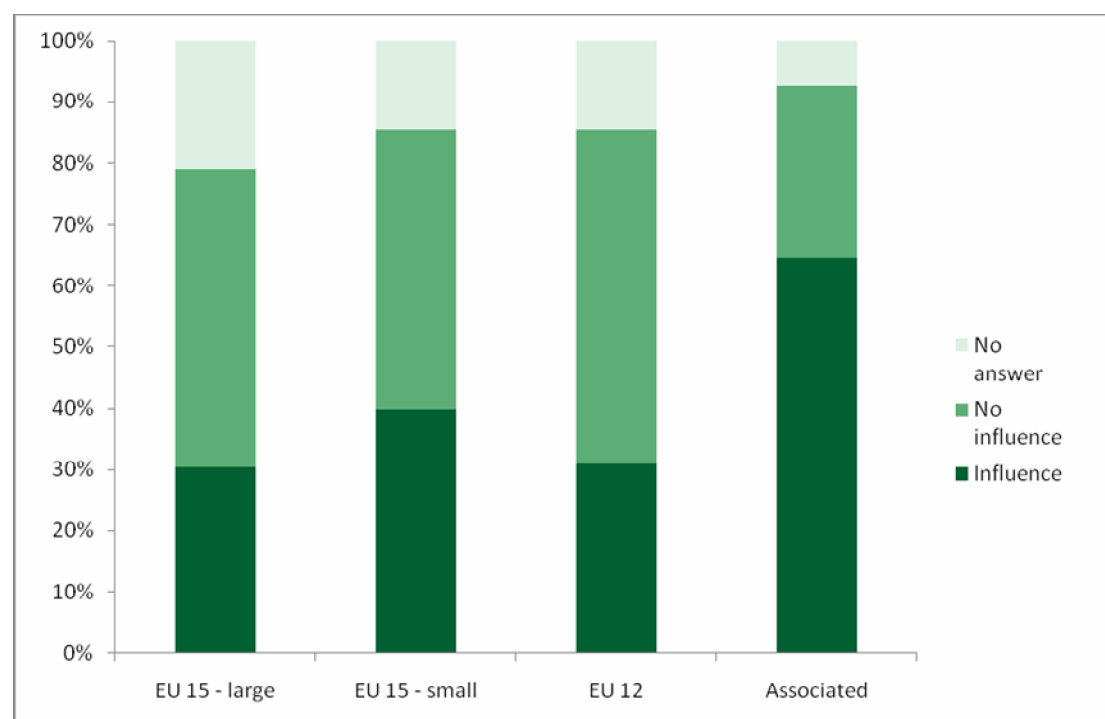
Looking at the data arising from the participant survey, one of the overall findings is that the vast majority of participants (85.5 per cent) consider the ERA-NET scheme to have influenced national programme(s) in terms of providing “new opportunities to enable transnational (TNR) R&D activities in the theme of the ERA-NET”. The countries in which the proportion of this influence was regarded as ‘high’ was greatest in the EU12 Member States. Although the overall impact was strong for the EU15 Member States, the proportion of participants that regarded the influence as low was greater in the smaller EU15 Member States than for all other categories of countries. Hence overall, it would seem that from a participant perspective the ERA-NET scheme is perceived as a valuable instrument for promoting transnational cooperation between stakeholders.

Figure 19 - To what degree has your participation in this ERA-NET influenced your country's national programme(s)? - New opportunities to enable transnational R&D activities in the theme of the ERA-NET



Some of the other key variables involved in determining whether the ERA-NET scheme has had an effect on National Research Landscapes and Programming involve the extent to which it has triggered or fomented changes in national programming. Since ERA-NETs are supposed to be ‘coordinating’ the relevant national programmes, the expectation is that ideally this should reduce duplication. However, this is not easy due to national programmes often being too ‘broad’ to be effectively linked to the ERA-NET activities, at least in the short term. It is not, therefore, surprising that only around a third of participants (37.5 per cent) regarded the scheme as having had an influence on a reduction in duplication between programmes. Among the EU27, the smaller EU15 Member States reported influence just above the average, at around 40 per cent. As many as 64.6 per cent of participants from the Associated countries reported that their ERA-NET participation had been an influence in the reduction of duplication between national programmes.

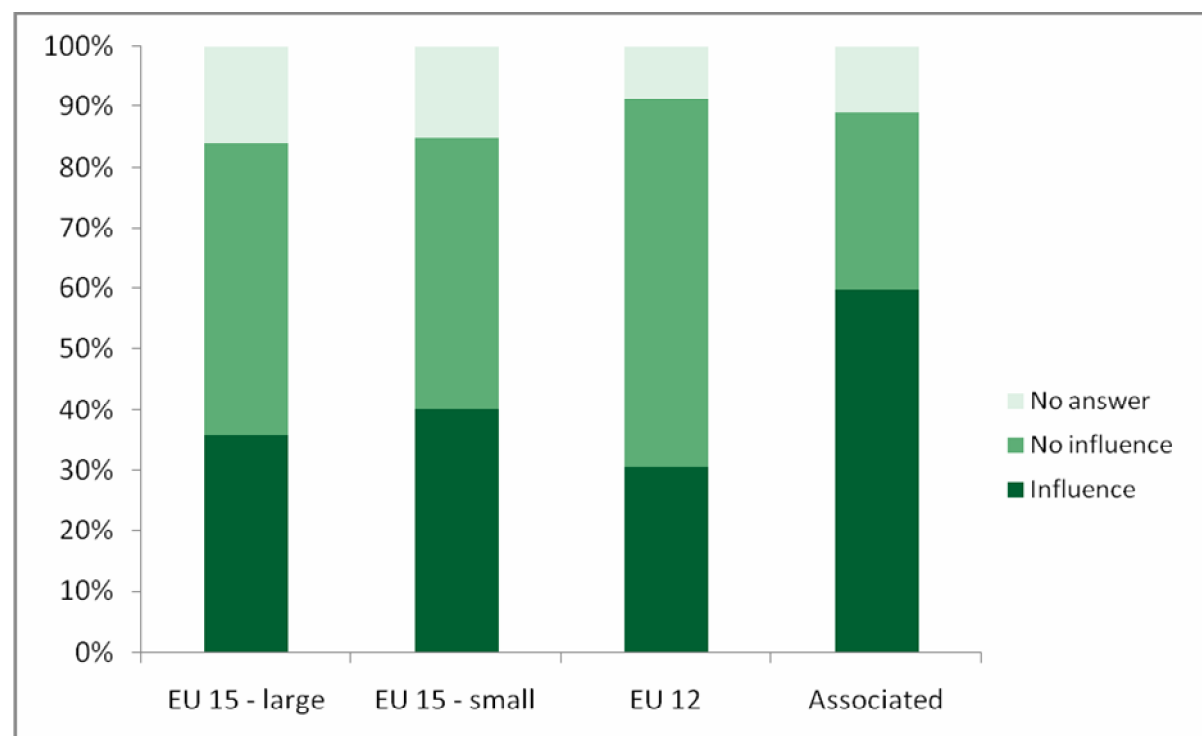
Figure 20- To what degree has your participation in this ERA-NET influenced your country's national programme(s)? - Reducing duplication between National programmes in your country



Based on additional detail from qualitative survey responses, a considerable number of participants explained that it is still too early to draw conclusions from their participation in the ERA-NET with regard to any substantial amendments to research programme management practices at national. Two participants mentioned the establishment of a specific programme dedicated to the ERA-NETs and another one stated that a national funding instrument had been aligned with ERA-NET calls and that a governmental agency in charge of programming R&D, managing funding, and R&D law, had been created.

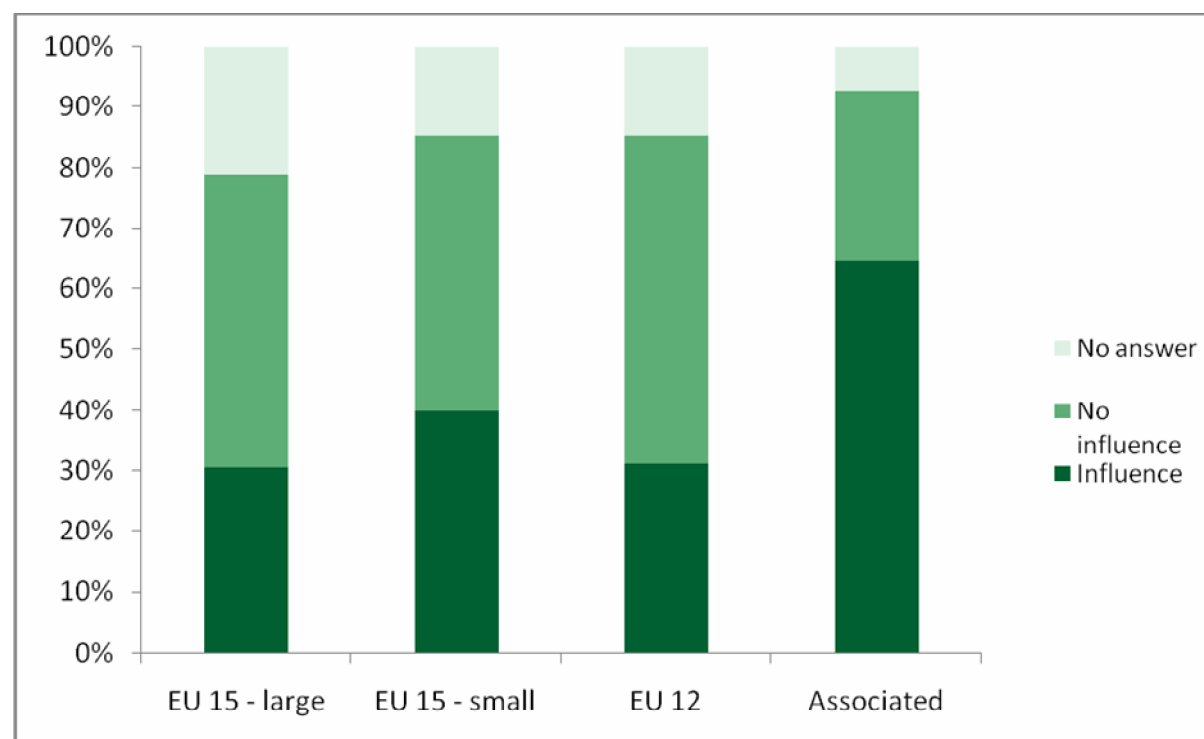
Although programmes in some countries, particularly the larger EU15 Member States, would be too broad or too inflexible to link to the themes of each ERA-NET, the expectation of the scheme was that where countries had a more open design of programmes i.e. the smaller EU15 and the EU12 Member States, their national programmes would become more thematic as a result of ERA-NET participation. Looking at the participant responses, there seems to be evidence to support part of this hypothesis. Among the EU27, influence was the highest in the smaller EU15 Member States, and thus, in line with expectations. Further, the influence seems to have been greater in the larger EU15 than in the EU12. Among non-EU27, the influence in this area is remarkably high for the Associated EEA countries, where two thirds of respondents reported an influence.

Figure 21- To what degree has your participation in this ERA-NET influenced your country's national programme(s)? - Existing programme(s) now covering new theme(s)



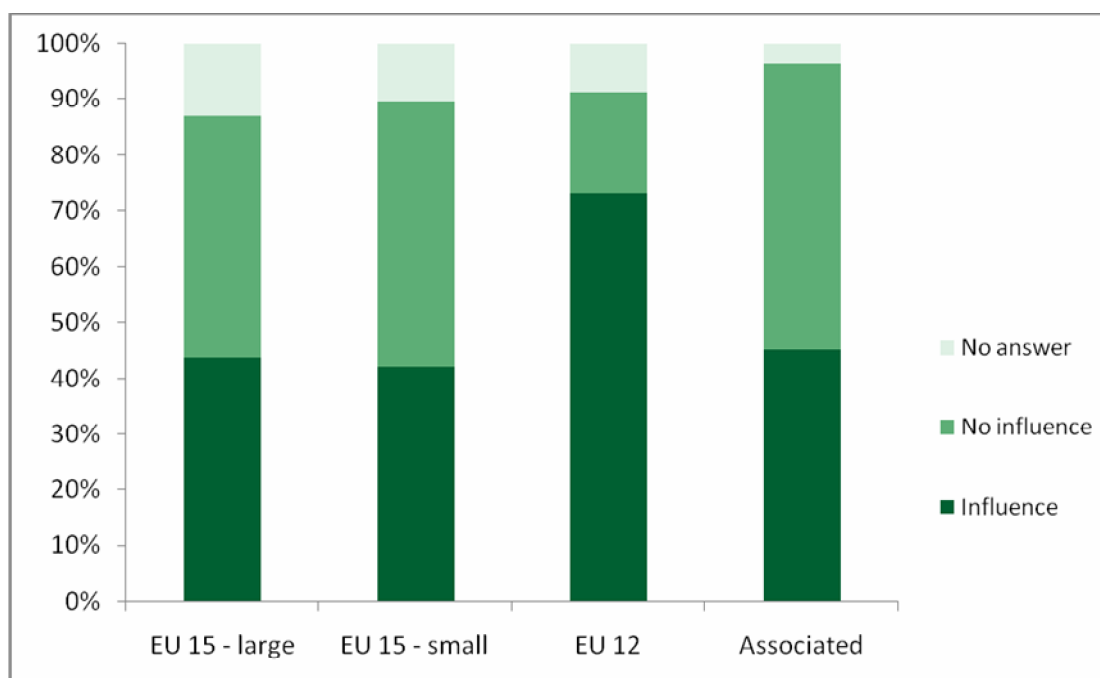
A similar, although slightly different, picture emerges from the respondents in regard to the degree to which the ERA-NET scheme influenced the decision to put new programmes in place to respond to new themes. Here again, among the EU27, the influence is reported to have been the highest among the smaller EU15 Member States followed by the larger EU15 Member States. The degree to which ERA-NET participation was reported to have triggered new programmes was smaller for the EU12 than the degree to which it had influenced existing programmes. Outside of the EU27, the Associated countries again reported a lower degree of influence on the creation of new programmes compared to influence on existing programmes. This might be because they are already aligning their R&D programming with the Community Framework Programme.

Figure 22- To what degree has your participation in this ERA-NET influenced your country's national programme(s)? - New programme(s) put in place in response to new theme(s) identified



A main rationale of the scheme was that peer networking, benchmarking and joint activities would lead to the spread of good practices and stimulate innovation in programme designs. This aspect of the programme would appear to have materialised. Half of the participants responded that their involvement in the ERA-NET had indeed led to new programme assessment and/or evaluation criteria being applied within the national programmes. Overall, the EU12 reported the greatest influence among the EU27, with 73 per cent of participants from the EU12 reporting an influence on evaluation and assessment criteria.

Figure 23- To what degree has your participation in this ERA-NET influenced your country's national programme(s)? - New programme assessment / evaluation criteria



Key findings from the Coordinator Survey

The coordinator survey revealed that overall, among the ERA-NETs that took part in the survey⁷⁸, ERA-NETs had carried out or had intended to carry out 115 joint calls at the time of measurement⁷⁹. Each country was involved in more than one joint call; on average there were 14.2 financial contributions to calls by any given country. The following diagrams show the distribution of funding contributions to calls by country group, and by type of funding. As is evident from the data, the smaller EU15 Member States were involved in the largest number of calls, whereas the larger EU15 Member States provided the overall largest funding, as indicated by the size of the bubbles in the below figures.

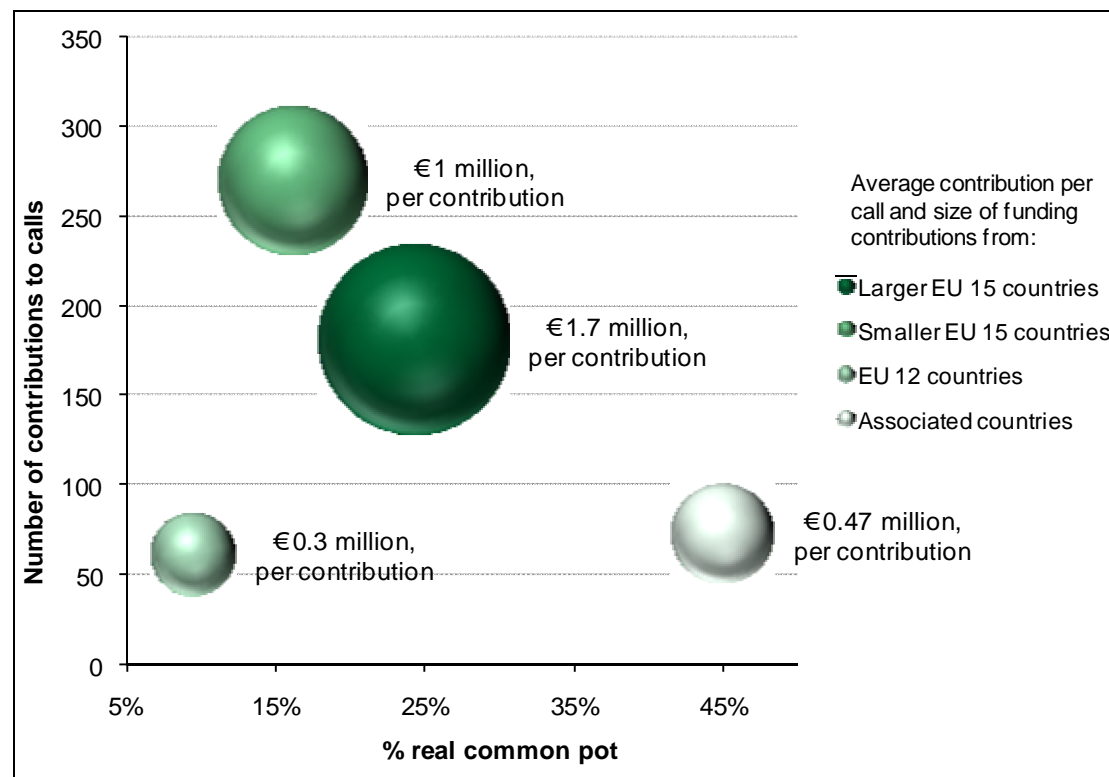
The two figures below present the same information in a slightly different way:

- The first figure presents the number of funding contribution in percentages of real common pot contributions: a funding mechanism through which funding partners agree to put financial resources in common to fund joint actions, regardless of the nationality of the successful research performing organisations.
- The second figure presents the number of funding contributions in percentages of virtual pots: a funding mechanism through which funding partners agree to put financial resources in common to fund joint actions. and fund the joint action only if one of their national research performing organisations is successful.

⁷⁸ The survey covered 54 out of 71 ERA-NETs, representing 76.1 per cent of the overall.

⁷⁹ Between July and October 2008.

Figure 24 – Number of contributions to joint calls by country group and percentage of real common pot

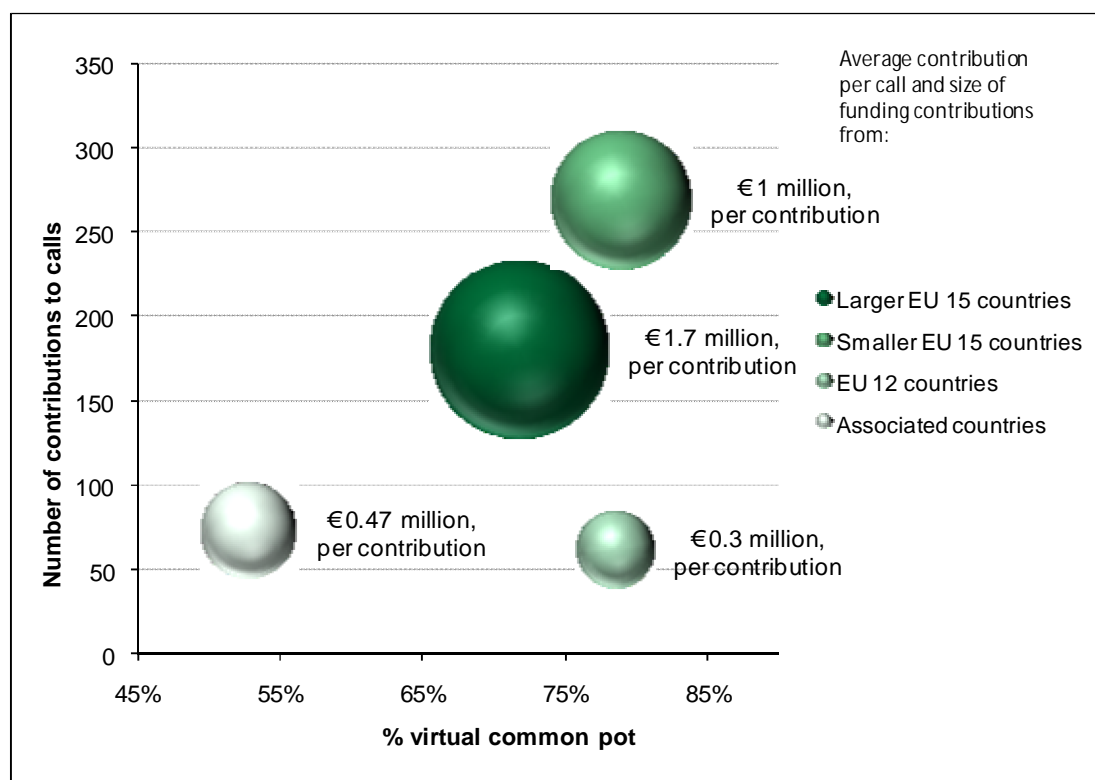


Although the involvement of Associated countries was small relative the EU15 Member States, their percentage of funding channelled via a real common pot was by far the largest. Third countries and other European countries do not appear in the figure as their participation was negligible, with only a handful of calls.

The above real common pot funding refers to seven ERA-NETs that reported funding information at a country level. Real common pot funding for EURYL represents 77 per cent of the total real common pot funding, while funding for NORFACE covers 21 per cent of the total real common pot funding, meaning that the real common pot funding contributions for the other five ERA-NETs are minor.

At a country level, of the EU15 larger countries, UK and Germany made most funding contributions, 16 and nine respectively, whereas Italy made the least (n=3). Germany contributed most funding (48 per cent of the EU15 larger countries real common pot funding) with Italy contributing the least (five per cent). Of the smaller EU15 Member States which made real common pot contributions, Finland and Sweden made the most individual funding contributions (17 each), while Greece made the least (n=4). Netherlands contributed most funding (34 per cent of total real common pot funding for smaller EU15 states), with Greece contributing the least (two per cent). Of the Associated countries, although Norway made most funding contributions (n=14), Switzerland provided the most funding (60 per cent of associated countries real common pot funding). Of the EU12 Member States, Slovenia made most funding contributions (n=5) and Hungary contributed the most funding (68 per cent of the total real common pot funding for the EU12 Member States).

Figure 25 – Number of contributions to joint calls by country group and percentage of virtual pot



Through an analysis of the networks of relationships between countries involved in the ERA-NET it is possible to better understand the behaviours of the various countries participating in joint activities and funding of ERA-NET joint projects, this is further elaborated upon under the Volume 4 of this study.

Virtual pot funding relates to 31 ERA-NETs who reported funding information at a country level. Funding for EUROTRANS-BIO represents 36 per cent of the total virtual pot funding.

At a country level, of the EU15 larger countries, Germany and France made most funding contributions, 54 and 48 respectively, whereas Italy and UK the least, 15 and 22 respectively. Germany contributed most funding (36 per cent of the EU15 larger countries via virtual pots) whilst the UK contributed the least (11 per cent). Of the smaller EU15 Member States, Austria and Finland made most individual funding contributions via virtual pots, 52 and 31 respectively, with Luxembourg and Greece making the least (three and two respectively). Austria contributed most funding via virtual pots (41 per cent of the total EU15 smaller countries) and Greece the least (0.4 per cent). Of the Associated countries who made virtual pot contributions, Norway made most funding contributions via virtual pots (n=22) whereas Turkey the least (n=4). Norway contributed the most funding via virtual pots (55 per cent of the associated countries). Of the EU12 Member States, Poland and Slovenia made most funding contributions via virtual pots, nine and eight respectively, with Poland contributing the most funding via virtual pots (59 per cent of the EU12 Member States).

Key findings from the Impact analysis⁸⁰

As described above, the impact of the FP6 ERA-NET scheme on national programming appears to have been relatively moderate, except when it comes to enabling transnational

⁸⁰ The impact analysis run by country grouping did not lead to conclusive or robust results and were therefore not included.

R&D activities in the theme. No overall pattern of impact could be derived from the impact analysis relative to national programmes. However, it is interesting to consider the influence of the following factors on FP6 ERA-NET impact on national programmes:

- the overall cost of participation⁸¹;
- participation in joint calls;
- pre-existing relationships; and
- overlaps with other ERA-NETs in the country.

It would have been expected that the overall cost of participation would positively influence national programmes (e.g. the more funding a country put into the ERA-NET scheme the more impact it had on national programmes as a whole). A high cost of participation may have indicated either a high degree of strategic buy-in into the theme of the ERA-NET, or issues around efficiencies. Participation in joint calls would also have been expected to have a positive influence on national programmes, for the same reasons.

As for the influence of pre-existing relationships on the impact of the scheme on national R&D landscapes, one would have expected such relationships to generate a positive influence. The more ERA-NET participants knew one another the quicker they would have been expected to be able to move to the higher echelons of collaboration i.e. joint calls and programming. Moreover, overlaps with other ERA-NETs would have been expected to have a negative influence on national programmes. The more overlaps between ERA-NETs in one country, the more difficult it would be to coordinate and participate in ERA-NET activities, this would mainly affect organisations involved in one or more ERA-NETs.

The impact on National Programmes has been explored by taking into account participant's responses to the participant survey⁸², particularly:

- impact on reduction in duplication of national programmes;
- impact on new programmes put in place in responses to new themes;
- impact on design of programmes; and
- impact on programme budgets.

Discrete analyses are detailed in Annex 8, the figures below offer a schematic view of the influence of the selected factors on the impact on national programmes.

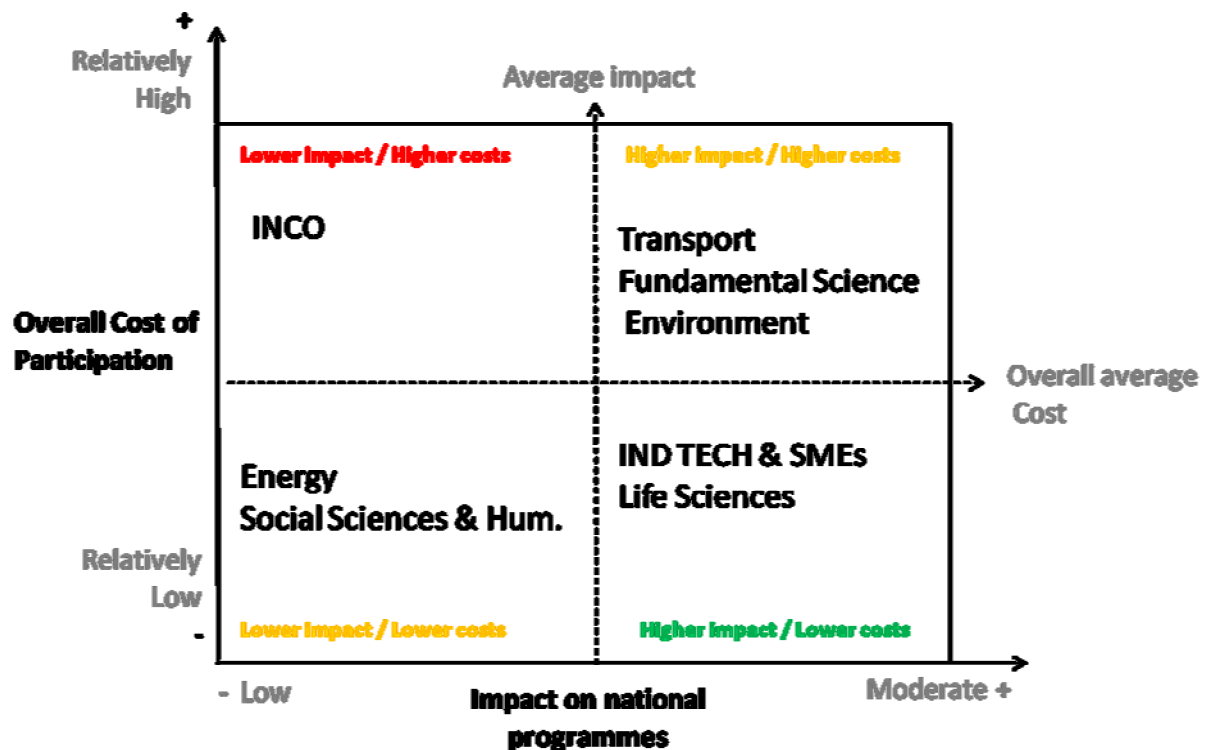
Influence of overall cost of participation on ERA-NET impact on national programmes

The extent to which the overall cost of participation has influenced national programmes is unclear. However, significant differences emerged between thematic areas but no positive or negative associations could be evidenced. The influence of the overall cost of participation on national programmes was more prominent in Transport, Fundamental Sciences, Environment, Industrial Technologies and SMEs and Life Sciences. An interesting feature is the position of Industrial Technologies and SMEs and Life Sciences themes in the quadrants; they consistently appear as having higher influence on national programmes for a lower overall cost of participation.

⁸¹ Overall cost of participation has been defined as EC funding and additional funding the participant put in additional to the EC to fund their cost of participation in ERA-NET activities.

⁸² Based on sub-questions 5.3 of the participant questionnaire.

Figure 26 - Influence of overall cost of participation on ERA-NET impact on national programmes

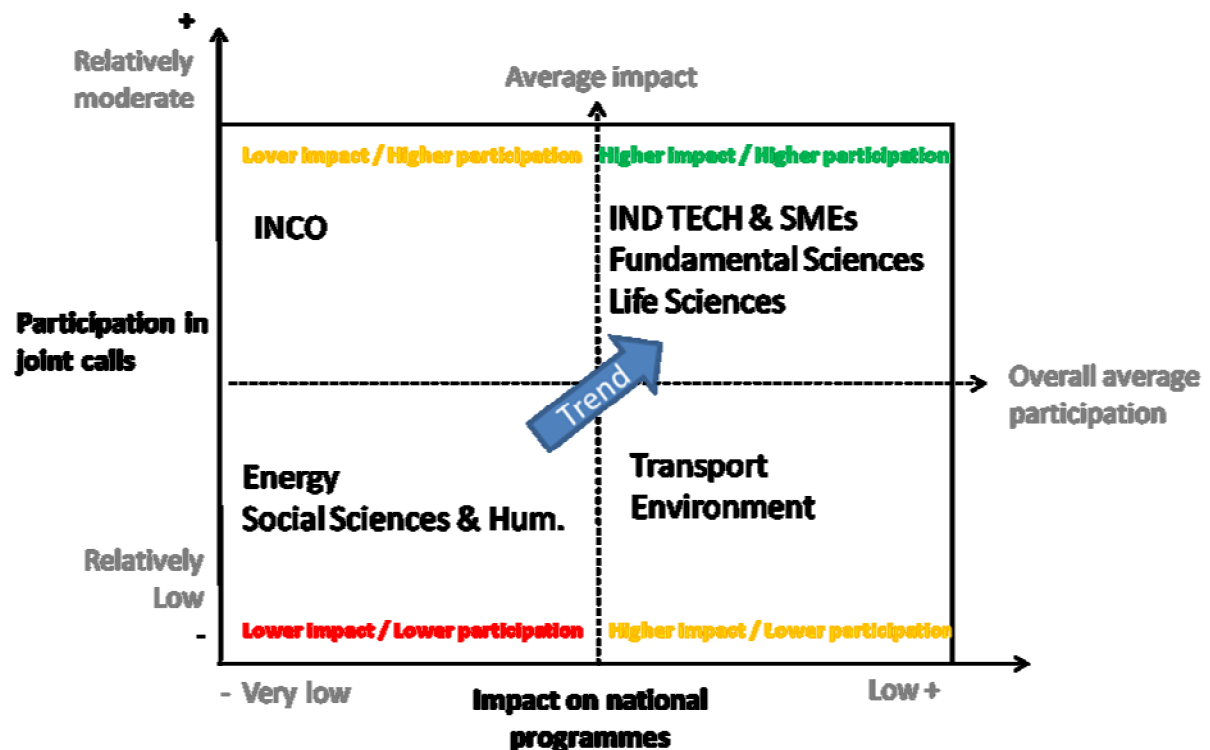


Influence of participation in joint calls on ERA-NET impact with regard to national programmes

The extent to which participation in joint calls generated by ERA-NETs have influenced national programmes is relatively small. There seems even to be evidence demonstrating that the higher the participation in joint calls, the more likely it is that ERA-NETs have had some impact on national programmes. This influence of joint calls on the impact on national programmes is more prominent for Transport, Fundamental Sciences, Environment, Industrial Technologies and SMEs and Life Sciences themes⁸³. On the other hand participation in joint calls in the themes of Social Sciences and Humanities, Energy and International cooperation appears not to have influenced ERA-NET impact on national programmes.

⁸³ The Energy thematic area exhibits low participation in joint calls and a consistently low relative influence of ERA-NET short-term impacts on national programmes. International Cooperation exhibits high participation in joint calls but consistently low relative influence of ERA-NET on short-term impacts on national programmes. Transport shows average participation in joint calls but consistently higher relative influence of ERA-NET on short-term impacts on national programmes. Industrial Technologies and SMEs shows consistently high participation in joint calls and consistently higher relative influence of ERA-NET on short-term impacts on national programmes.

Figure 27 - Influence of joint calls on ERA-NET impact on national programmes⁸⁴



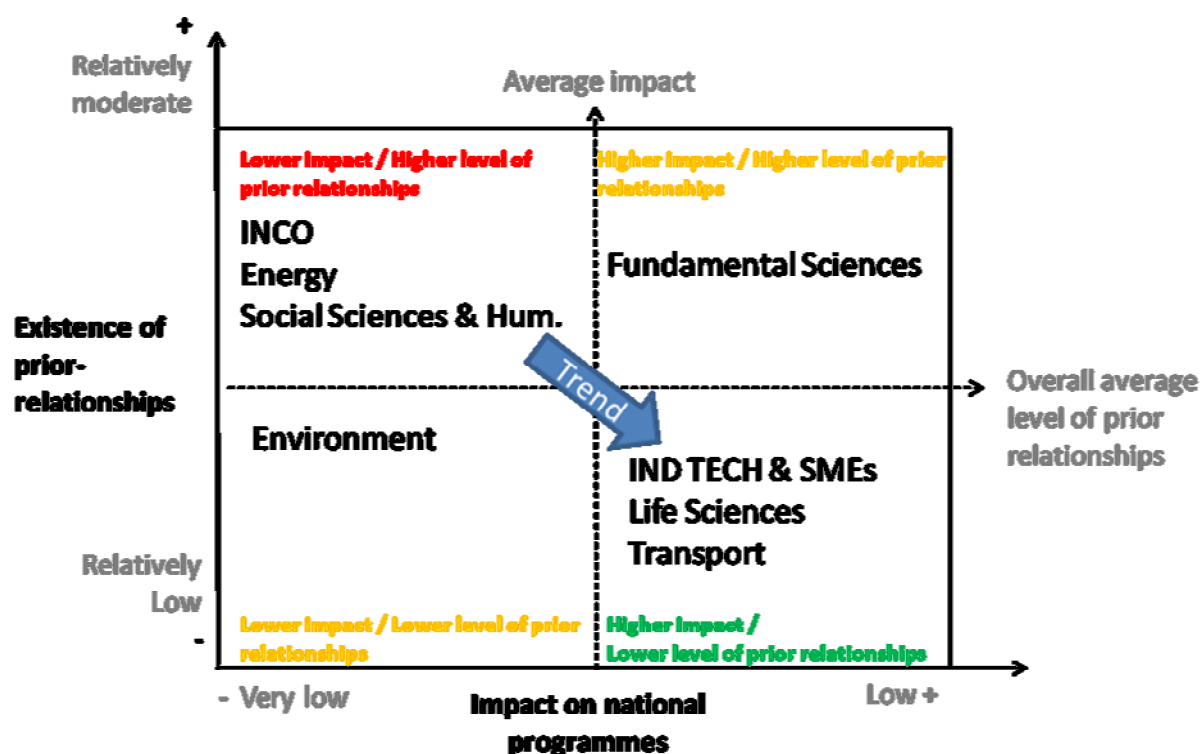
Influence of pre-existing relationships on ERA-NET impact on national programmes

The extent to which pre-existing relationships prior to ERA-NET participation have influenced national programmes is relatively low. However, there seems to be a negative association between ERA-NET impact on national programmes and the existence of relationships prior ERA-NET involvement. The "trend" in the figure below is a way to represent this negative linear association between two variables (e.g. between existence of prior relationship and impact on national programmes). This finding is at odds with the expectation of impact, and should be interpreted with care given the overall low level of influence of pre-existing relationships on ERA-NET impact on National Programmes.

This lack of influence of prior relationships on ERA-NET impact on national programmes is more prominent for Transport, Fundamental Sciences, Industrial Technologies and SMEs and Life Sciences themes. Interestingly, in the Fundamental Sciences theme there seems to be a positive association between the existence of prior relationships and the impact on national programmes. This may be due to the transnational nature of R&D activities in this theme being in existence prior the start of the ERA-NET scheme, and the higher propensity to devise common approaches and R&D strategies in this theme than in other themes (e.g. sharing the use of research infrastructures).

⁸⁴ Note that the impact analysis by "activities other than joint calls" was performed without leading to powerful results.

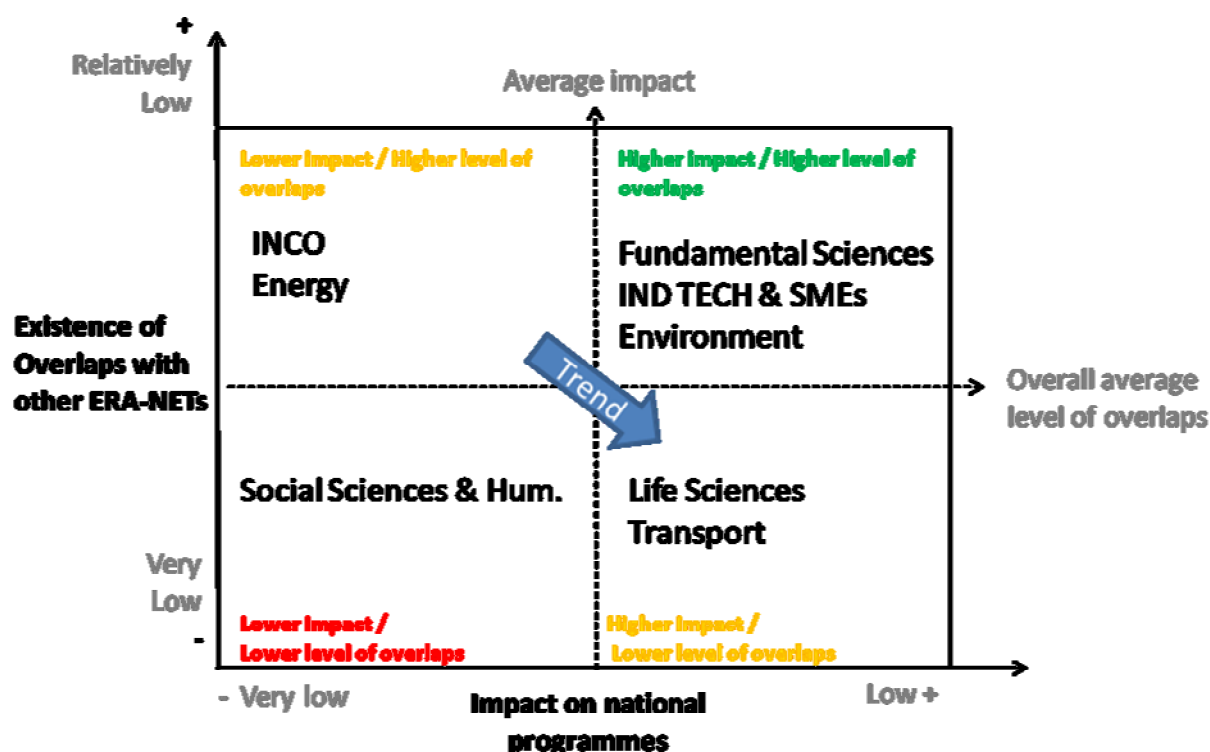
Figure 28 - Influence of pre-existing relationships on ERA-NET impact on national programmes



Influence of overlaps with other ERA-NETs in the country on ERA-NET impact with regard to national programmes

The extent to which overlaps with other ERA-NETs in the country have influenced national programmes is relatively low. However, there seems to be a negative association between ERA-NET impact on national programmes and the degree of overlaps with other ERA-NETs in the country. In other words, the more the thematic focus of one ERA-NET overlaps with that of other ERA-NETs the less likely it is to have had a positive influence on national programmes. One assumption is that overlaps in the theme of the ERA-NETs may have led to difficulties in coordinating participation efforts at country level and thus led, to some extent, in duplication of efforts. The degree to which overlaps with other ERA-NETs in the country lessens ERA-NET impact on national programmes is more prominent for International cooperation and the Energy themes. This is surprising since the number of ERA-NETs in this theme was particularly low in comparison to other themes.

Figure 29 - Influence of overlaps with other ERA-NETs in the country on ERA-NET impact on national programmes



Key findings from the typology analysis

Introductory remarks to the typology analyses:

The typologies are presented in more depth in Annex 3. Their expected characteristics and types of impacts associated with them were tested by performing initial analysis by type and focus of ERA-NET. The figures presented as part of the typology analysis represent the inputs, level of activity, and impacts for ERA-NETs falling into individual categories in the typology presented briefly below and in more depth in Annex 3. It is important to note that very little can be concluded for categories where very few ERA-NETs find themselves. These include, in particular, 'applied societal research aiming to address a scientific discipline or a technology domain', 'basic research focusing on a sector', and 'basic research aiming to address a specific topic or issue'.

Typologies were developed prior the impact analyses along two dimensions:

- the type of R&D projects funded by national programmes
 - basic/Generic R&D (scientific or socio-economic);
 - applied Industrial R&D; and
 - applied Societal R&D.
- The focus of the ERA net actions
 - a scientific or technology domain;
 - sector; and
 - specific issue.

As a result the ERA-NETs were regrouped in the following typologies:










	Type 1: Basic Research	Type 2: Applied Industrial	Type 3: Applied Societal
Focus 1: Scientific discipline or technology domain	ASPERA, ASTRONET, BIODIVERSA, Complexity-NET, ERA-CHEMISTRY, ECORD, ERA-PG, ERA-SAGE, ERASysBio, EUPHRESCO, EUROPOLAR, HERA, iMERA, MARINERA, Neuron, PathoGenoMics, NORFACE	ERA-IB, ERA-NET BIOENERGY, ERA-SPOT, FENCO-ERA, MATERA, MNT ERA-NET, NanoSci-ERA, PV-ERA-NET, HYCO	ACENET ERA-NET, SKEP,
Focus 2: Sector	INNER,	AirTN, ERA-STAR REGIONS, ERA-NET TRANSPORT, EUROTRANS-BIO, MANUNET, WOODWISDOM-NET	CORE Organic, ERABUILD, ERA-NET ROAD, MariFish, SAFEFOODERA
Focus 3: Specific topic /issue	CO-REACH, EULANEST, EURYI, SEE-ERA-NET	COMPERA, CORNET, EraSME, ETRANET, MARTEC, PRIOMEDCHILD SUSPRISE, VISION	ALLIANCE-O, AMPERA, BONUS, CIRCLE, CoCanCPG, CRUE, ERA-AGE, ERA-ARD, E-Rare, EU-SEC, EUWI-ERA, FORSOCIETY, HESCULAEP, IWRM.Net-CA, NET-BIOME, NEW OSH ERA, SNOWMAN, URBAN-NET, WORK-IN-NET

Looking at the extent of impact of the scheme on national programmes, in general, it is clear that the impact was quite low. However, on examining variations across the nine typologies developed as part of the study⁸⁵, it appears that the ERA-NETs which fall into the categories 'basic research addressing a scientific discipline or a technology domain' (Type 1, focus 1) and 'applied societal research focusing on a sector' (Type 3, Focus 2) stand out as having reported the highest levels of impact on national programmes. In the former case this result does not seem to be compatible with the hypothesis that the impact of these basic research focused ERA-NETs (so-called Type 1) would be low since there are already a number of networks in the area. However, since ERA-NETs are networks of the funding bodies, the higher level of impact on national programmes evidenced by this typology analysis is not necessarily counter-intuitive. The inclusive character of the scheme allowing for more New Member State participation can also contribute to this impact, since these countries are often in the process of developing their research programmes.

In the case of the latter typology (i.e. 'applied societal research focusing on a sector' or Type 3 /Focus 2), the findings are consistent with the hypothesis that ERA-NETs focusing on applied societal research (so-called Type 3) might have higher impact due to the synergies present in this type of R&D (see figure below).

⁸⁵ The typologies are presented in more depth in Annex 3.










Figure 30 - Extent of the impact on national programmes

	Type 1: Basic research	Type 2: Applied Industrial	Type 3: Applied Societal
Focus 1: Scientific discipline or technology domain	 1.15	 0.87	 0.93
Focus 2: Sector	 0.79	 1.05	 1.16
Focus 3: Specific topic / Issue	 0.74	 0.93	 1.08

Key: Figures range from 0 = no impact, 1 low impact, 2 moderate impact, and 3 high impact.

Similarly, with regard to the scheme's impact on national research policy ERA-NETs focusing on applied industrial R&D (so-called Type 2) particularly within a specific sector (focus 2) or addressing a specific topic or issue (Focus 3) show the highest levels of impact (see figure below). By contrast, 'basic research addressing a specific discipline or a technology domain' category (Type 1, Focus 1) has a relatively low impact score. This could be attributed to the broad research policy in this area being more long term and less flexible than national programmes in other areas. It is to be noted that overall the impact scores here are relatively low across all of the categories, and differences are not very substantial

Figure 31 - Extent of the impact on national research policy

	Type 1: Basic research	Type 2: Applied Industrial	Type 3: Applied Societal
Focus 1: Scientific discipline or technology domain	 1.30	 1.24	 1.07
Focus 2: Sector	 1.60	 1.60	 1.24
Focus 3: Specific topic / Issue	 1.33	 1.57	 1.51

Key: Figures range from 0 = no impact, 1 low impact, 2 moderate impact, and 3 high impact.

Key findings from the Case studies

Findings from the country and thematic case studies are in line with the evidence gathered from the participant and coordinator surveys - that is that the ERA-NET scheme did not have a major impact on national programmes and R&D policy. Specific impacts have been evidenced from the case studies, however, these appear to be driven mainly by national circumstances. From a country perspective, these included:

- development of processes and procedures to enable R&D transnational activities to take place (Slovenia and Norway);
- making of a new funding instrument for R&D projects (Romania);
- better coordination of specific national programmes and research institutions (France and the Netherlands);
- improvement and expansion of transnational R&D collaboration and relationships in specific areas (Portugal and UK);
- enablement of a more rapid progress towards ambitions to have more strategic priorities by thematic area and internationalisation of R&D spending (Italy); and
- development of an embryo of common programming in an un-politicised environment (Germany).

Specific impacts evidenced in the thematic case studies included:

- creation of opportunities for international collaborative research and increased profile of transnational R&D activities within the research communities (e.g. in the Social Science and Humanities, Industrial Technologies & SMEs themes);
- increases in budgets earmarked to fund projects in specific thematic area (e.g. Environment and Transport);
- creation and coordination of national programmes in specific research fields (ERA-ARD, ASPERA and SEE ERA-NET); and
- national R&D programme designs and management informed by good practices drawn from ERA-NET participation (EU12 Member States in Life Sciences thematic area).

Key conclusions regarding the impact on National R&D landscapes

- The impact of the ERA-NET scheme on national programmes has been relatively small. However, the scheme has influenced particular aspects of national programmes, such as:
 - the generation of new opportunities to enable transnational (TNR) R&D activities in the theme of the ERA-NET across all country groups;
 - the reduction of duplication between national programmes, but mainly in Associated countries; and
 - the inclusion of new themes in existing programme, but mainly in Associated countries.
- Factors influencing the impact of ERA-NET on national programmes were as follows:
 - Most importantly, participation in joint calls was likely to have a positive influence on the impact of ERA-NETs on national programmes, and this across all themes⁸⁶.
 - The existence of relationships prior to ERA-NET participation was unlikely to have a positive influence on the impact of ERA-NETs on national programmes for all themes except Fundamental Sciences.

In sum, country policies and structures were more important in determining transnational programming policies than the objectives of the ERA-NET scheme and availability of EC funding. Thematic drivers alone have not been sufficient strong in order to change national policy or programming.

⁸⁶ Refer to Figure 9: "The extent to which participation in joint calls generated by ERA-NETs have influenced national programmes is relatively small. There seems even to be evidence demonstrating that the higher the participation in joint calls, the more likely it is that ERA-NETs have had some impact on national programmes. This influence of joint calls on the impact on national programmes is more prominent for Transport, Fundamental Sciences, Environment, Industrial Technologies and SMEs and Life Sciences themes⁸⁶. On the contrary participation in joint calls in the themes of Social Sciences and Humanities, Energy and International cooperation appear not to have influenced ERA-NET impact on national programmes. "

6.2 Structuring effect across thematic areas

The following section looks at preliminary findings from the participant and coordinator surveys to try and assess:

“Q.2: Whether FP6 ERA-NETs had a structuring effect in certain targeted research fields that ERA-NETs address (situation before FP6 – vs. situation to date), and to which extent they did so?”

The main focus on this section therefore is to establish the extent to which the scheme may have influenced the degree of uniformity in targeted thematic sectors by for instance increasing cooperation and reducing duplication in R&D funding and programming in these specific areas. It will also look at the extent to which the scheme has made a difference in supporting the development of new thematic programming areas, or strengthened existing ones.

Expectations of impact

In line with the Commission's guidelines for Future European Union Policy to support research (Comm (2004)353), European Added Value stems from a combined effect of establishing a 'critical mass' of resources in particular areas (e.g. microelectronics, telecommunications, biotechnologies and aeronautics); strengthening excellence through competition at European level and transnational collaboration; exercising a catalytic effect on national initiatives; and improving the coordination of activities of Member States.

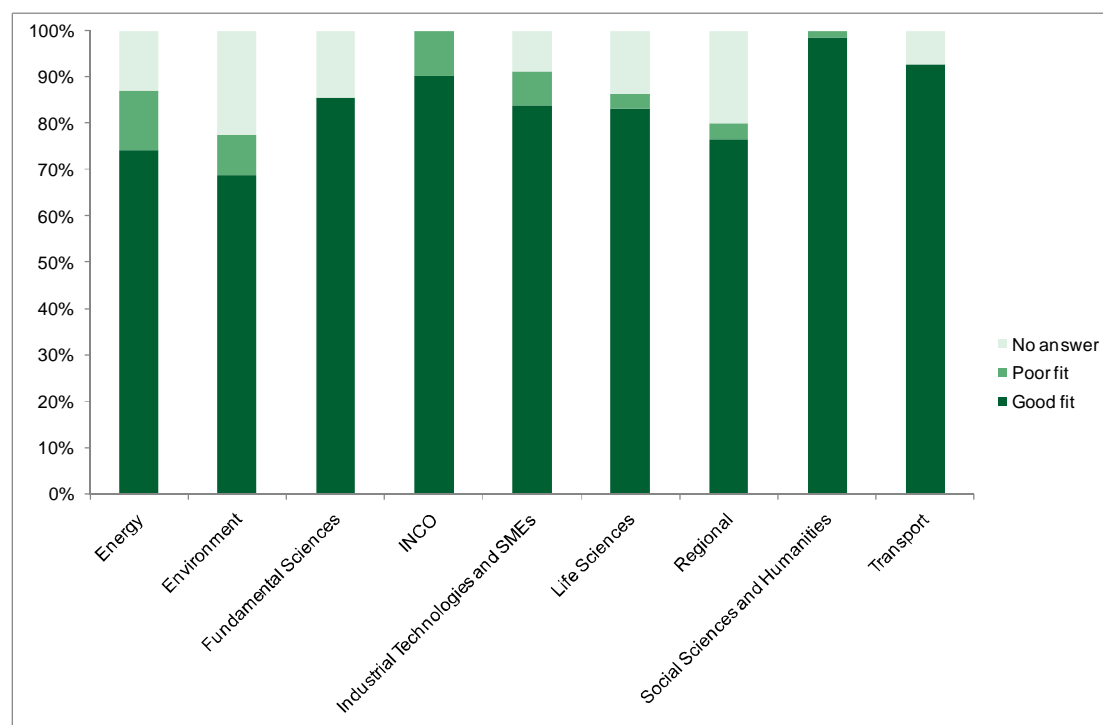
The expectation would be that certain areas, particularly involving societal and or more academic-led research, would be more clearly aligned to FP6 themes because of their international nature. Similarly, the alignment would be expected to be less strong for industrial and applied research. The expectation would also be that the scheme may have generated more tangible transnational cooperation in areas where there is a perceived need for joint action.

In addition, it should now be possible to examine whether there has been a particular aggregation of resources (from the point of view of nations) to particular research areas, and whether the funders believe such an aggregation is enabling their beneficiaries (e.g. researchers) to do better research.

Key findings from the Participant Survey

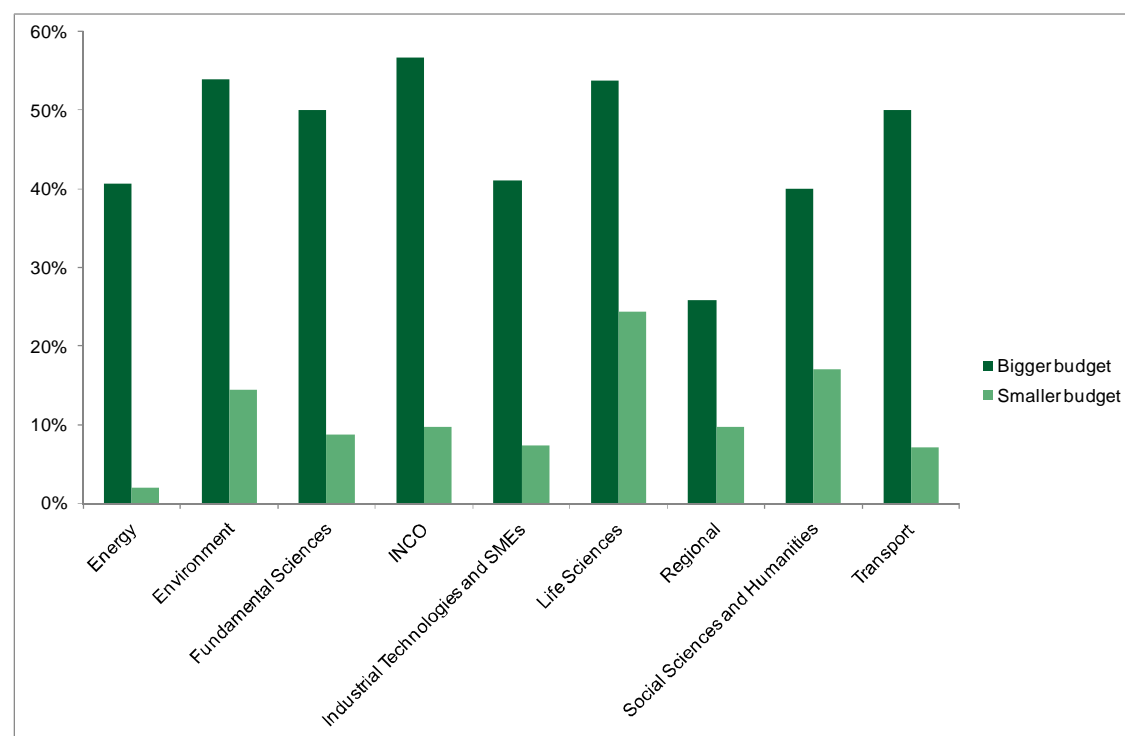
Overall 84 per cent of the participants reported a good fit between their national R&D programmes and the theme of their ERA-NET. The greatest degree of fit was reported for the areas of Social sciences, Transport and INCO. National R&D programmes in areas such as Energy, Environment and Regional ERA-NETs seemed to fit quite well with ERA-NET, although to a lesser extent than with the others.

Figure 32- How would you rate the degree of fit between your national R&D programme relevant to the theme and this ERA-NET?



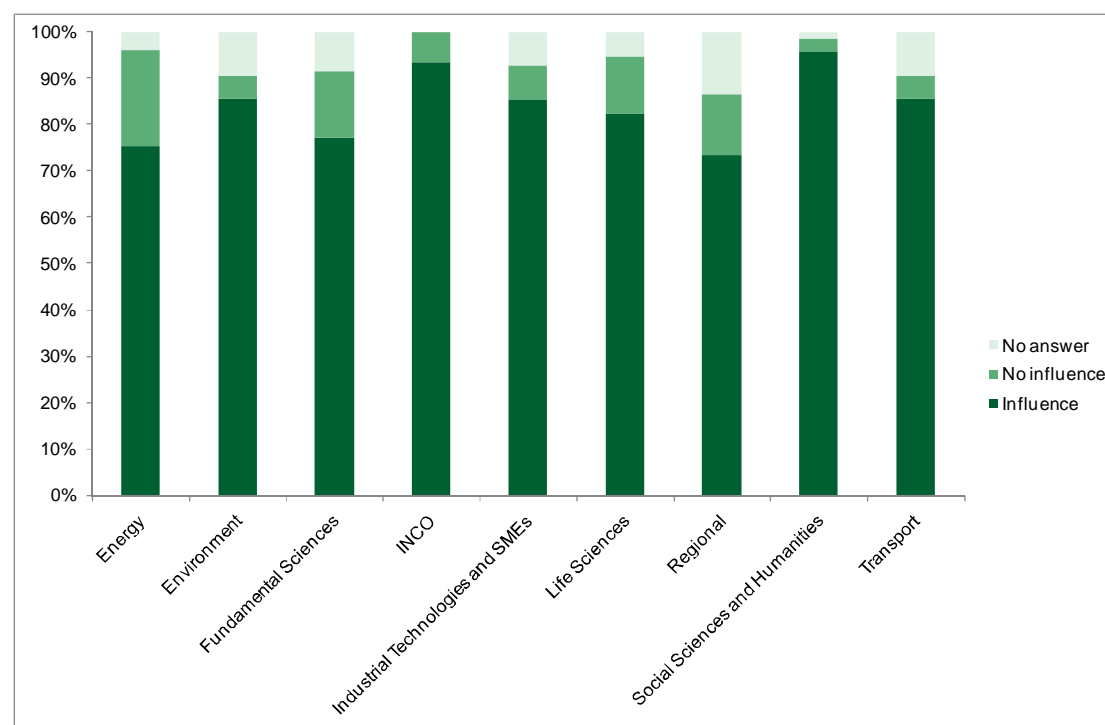
An essential indicator of whether the scheme has influenced national programming is whether it has enabled bigger programme budgets in the relevant theme of the ERA-NET. Encouragingly, 46 per cent of participants has seen an increase in national programme budgets in the themes of the ERA-NET as a result of their participation. A much smaller proportion (13 per cent) thought that it had led to smaller budgets.

Figure 33 – To what degree has your participation in this ERA-NET influenced your country's national programme(s)? Bigger or Smaller Budgets



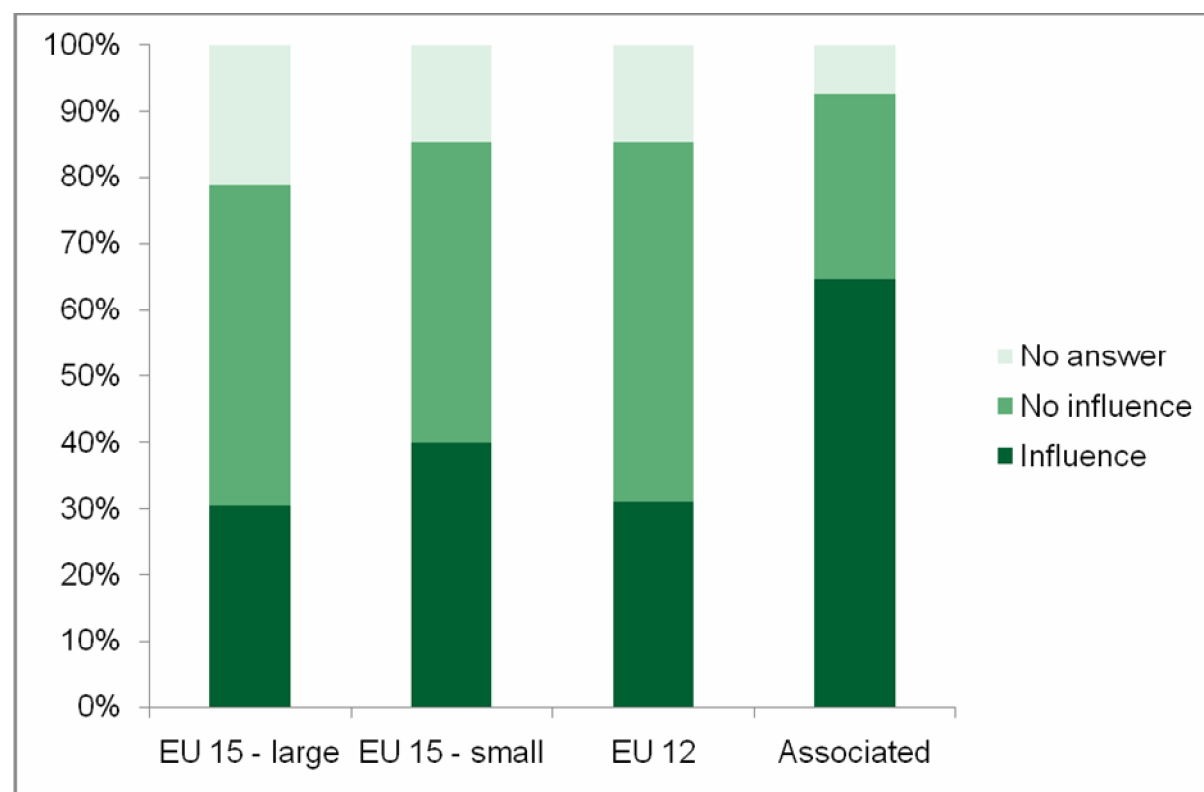
As described in the previous chapter under Q1, from the participant perspective, the scheme seems to have had a tangible influence on the creation of new opportunities to enable transnational R&D activities in the theme of the ERA-NET. This was most prominent for Social Sciences and Humanities, INCO, and Transport themes which all reported a higher than average influence.

Figure 34 -To what degree has your participation in this ERA-NET influenced your country's national programme(s)? - New opportunities to enable transnational R&D activities in the theme of the ERA-NET



As reported under Q1, over a third of participants (37.6 per cent) reported that their participation in the ERA-NET has reduced duplication among national programmes. Most themes, with the exception of Fundamental Sciences, Energy, and Social Sciences and Humanities, reported higher than average influence on duplication, INCO reported the highest influence with 48.4 per cent of responses.

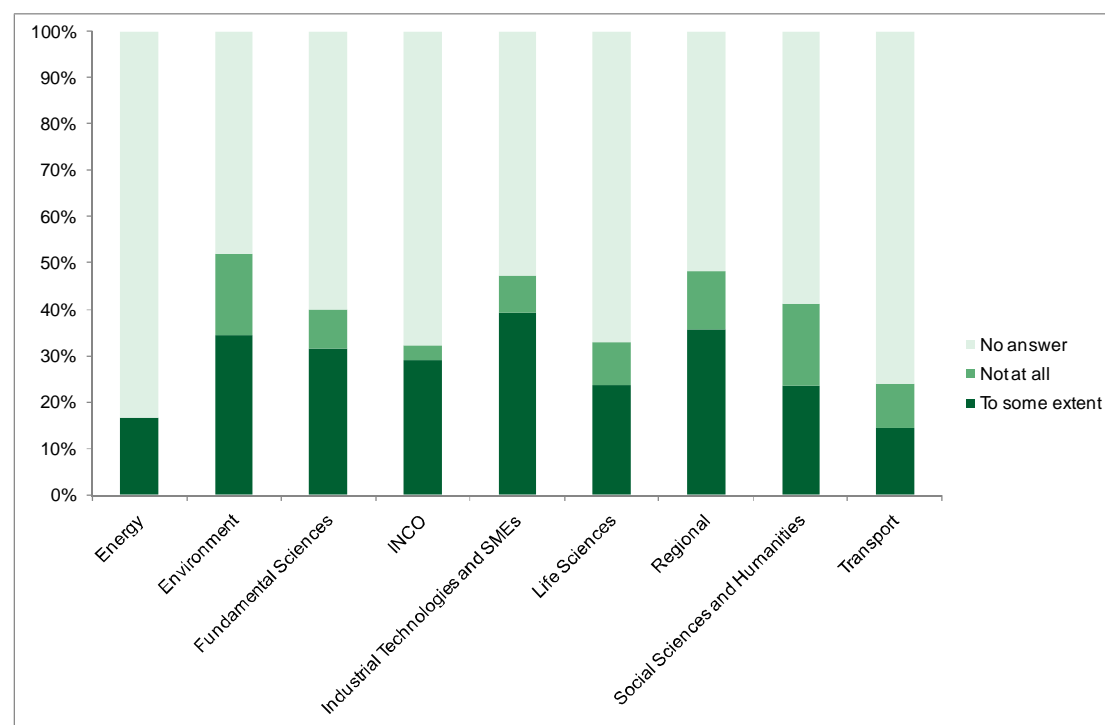
Figure 35-To what degree has your participation in this ERA-NET influenced your country's national programme(s)? - Reducing duplication between National programmes in your country



Finally, 28.6 per cent of participants stated that the importance of their thematic area had changed in their national research programme as a result of their participation in ERA-NET. This was particularly the case for smaller EU-15 countries, where 43.1 per cent of participants thought the change in importance of their theme at national level could be attributed to ERA-NET, compared with only 23.9 per cent in the larger EU-15 countries. However, only 13.8 per cent of EU12 participants attributed the change in importance of their theme to ERA-NET⁸⁷. Across themes, the percentage of participants who attributed an increase in importance to their ERA-NET experience varied between 39.3 per cent for industrial technologies and SMEs and 14.3 per cent for transport ERA-NETs. For participants in regional, environment (34.4 per cent), fundamental sciences (31.4 per cent) and INCO (29 per cent) ERA-NETs the impact of ERA-NET in raising the importance of their thematic area was also above average.

⁸⁷ Refer to participant questionnaire - question 6_5.

Figure 36 - If there has been a change in the importance of the theme to what extent do you think this was due to the ERA-NET?



Key findings from the Coordinator Survey

The coordinator survey also asked if the ERA-NET involved programmes from third countries. The results indicated that this was relevant for a minority of the ERA-NETs (33.8 per cent). The countries most often involved were Canada and Russia. Majority of the social sciences and humanities projects (66.7 per cent). However, had involved programmes from third countries. The results are shown in the table below.

Table 3 - Level of involvement from non-EU and non-associated states in ERA-NETs

Theme	Yes	%	No	%	Unknown	%	Total
Transport	0	0.0%	3	75.0%	1	25.0%	4
Life Sciences	6	40.0%	8	53.3%	1	6.7%	15
Environment	7	43.8%	7	43.8%	2	12.5%	16
Fundamental Sciences	0	0.0%	5	100.0%	0	0.0%	5
INCO	3	75.0%	1	25.0%	0	0.0%	4
Industrial Technologies and SMEs	4	25.0%	11	68.8%	1	6.3%	16
Energy	0	0.0%	4	80.0%	1	20.0%	5
Social Sciences and Humanities	4	66.7%	1	16.7%	1	16.7%	6
Total	24	33.8%	40	56.3%	7	9.9%	71

At a call level, of the 115 calls, only 17 (14.8 per cent) involved programmes from third countries. In a vast majority of cases (75.7 per cent) programmes from third countries

had not been involved.⁸⁸ The situation was, however, different in joint programmes where 66.7 per cent (n=10) had third country partners and 33.3 per cent (n=5) did not.

The coordinator survey also asked about motivations that could explain the topic/area of the joint call from the perspective of the FP6. In relation to joint calls and programmes, the most common motivations were:

- The scientific area/topic is addressed in the Framework Programme but additional efforts/research seems necessary.
- The scientific area/topic is NOT directly (or NOT well) addressed in the Framework Programme and the call is complementing topics of FP6

One of the main motivations for programmes to launch specific types of projects was "the Europeanisation/Transnationalisation" of your national research system for 26.2 per cent of the respondents.

For joint calls the main motivation was the issue which the scientific area/topic addressed in the Framework Programme, but additional efforts/research seemed necessary. For the joint programmes on the other hand the main motivation was that the scientific area/topic was not directly addressed in the Framework programme.

Description of the importance of different motivations for joint calls is shown in the table for joint programmes below.

Table 4 - Description of the motivations that could explain the selected area/topic of the call in relation to the FP6

Motivations that can explain the selected topic/area of the joint call	Number	Percentage
The scientific area/topic <u>is addressed in the Framework Programme</u> but additional efforts/research seems necessary. This call is addressing similar areas/topics of the FP but via another type of projects	50	43.1%
The scientific area/topic <u>is NOT directly (or NOT well) addressed</u> in the Framework Programme and the call is complementing topics of FP6	28	24.1%
The scientific nature of the area/topic was <u>NOT the main motivation for the joint call</u> , other reasons were more important; please comment below	16	13.8%
The scientific area/topic of the call is fully outside of the FP6 activities	3	2.6%
Other	11	9.5%
Unknown	8	6.9%
Total	116	83.6%

Table 5 - Description of the motivations that could explain the selected area/topic of the programme in relation to the FP6

Motivations that can explain the selected topic/area of the joint programme	Number	Percentage
The scientific area/topic <u>is addressed in the Framework Programme</u> but additional efforts/research seems necessary. This call is addressing similar areas/topics of the FP but via another type of projects	3	20.0%
The scientific area/topic <u>is NOT directly (or NOT well) addressed</u> in the Framework Programme and the call is complementing topics of FP6	7	46.7%
The scientific nature of the area/topic was <u>NOT the main motivation for the joint call</u> , other reasons were more important; please comment below	1	6.7%

⁸⁸ In 14 of the calls it is unknown if programmes from third countries were involved.

Motivations that can explain the selected topic/area of the joint programme	Number	Percentage
The scientific area/topic of the call is fully outside of the FP6 activities	1	6.7%
Other	2	13.3%
Unknown	1	6.7%
Total	15	100.0%

Key findings from the Impact analysis with regards to the structuring effect⁸⁹

Results from the impact analysis show that the structuring effect of the FP6 ERA-NET scheme appears to have been relatively moderate. No overall pattern of impact could be derived from the impact analysis relative to the structuring effect. However, the FP6 ERA-NET scheme's structuring effect can be put into perspective by examining results according to the following factors:

- the overall cost of participation⁹⁰;
- participation in joint calls;
- participation in activities other than joint calls
- pre-existing relationships; and

It would have been expected that the overall cost of participation would contribute to the structuring effect since the more a country uses time and resources the more likely it is to coordinate its national programmes in specific theme, with other participant countries, or to invest into a new research field. A high cost of participation might also have indicated a strategic buy-in into the theme of the ERA-NET. Participation in joint calls was also expected to have had a positive influence on the structuring of specific thematic areas or research fields. For instance, the more funding channelled into transnational research projects the more joined-up and aligned national programmes in a specific thematic area would become. Participation in activities other than joint calls was also expected to contribute positively to the structuring effect.

As for the influence of pre-existing relationships, one would have expected these to have a positive influence. For instance the more ERA-NET participants' knew one-another, the quicker they would have been able to commit to fund of joint calls and programming.

To determine the level of structuring effect, the participant survey responses relative to long-term impacts on countries national programmes were used (as opposed to the short-term impacts). These included:

- ERA-NET impact on higher quality projects impact on reduction in duplication of national programmes;
- ERA-NET impact on new types of research projects;
- ERA-NET impact on new types of researchers benefiting from joint calls/programmes;
- ERA-NET impact on access to foreign research communities.

Discrete analyses are detailed in Annex 8, the figures below offer a schematic view of the influence of the selected factors on the level of structuring effect.

Influence of overall cost of participation on the ERA-NET scheme's structuring effect

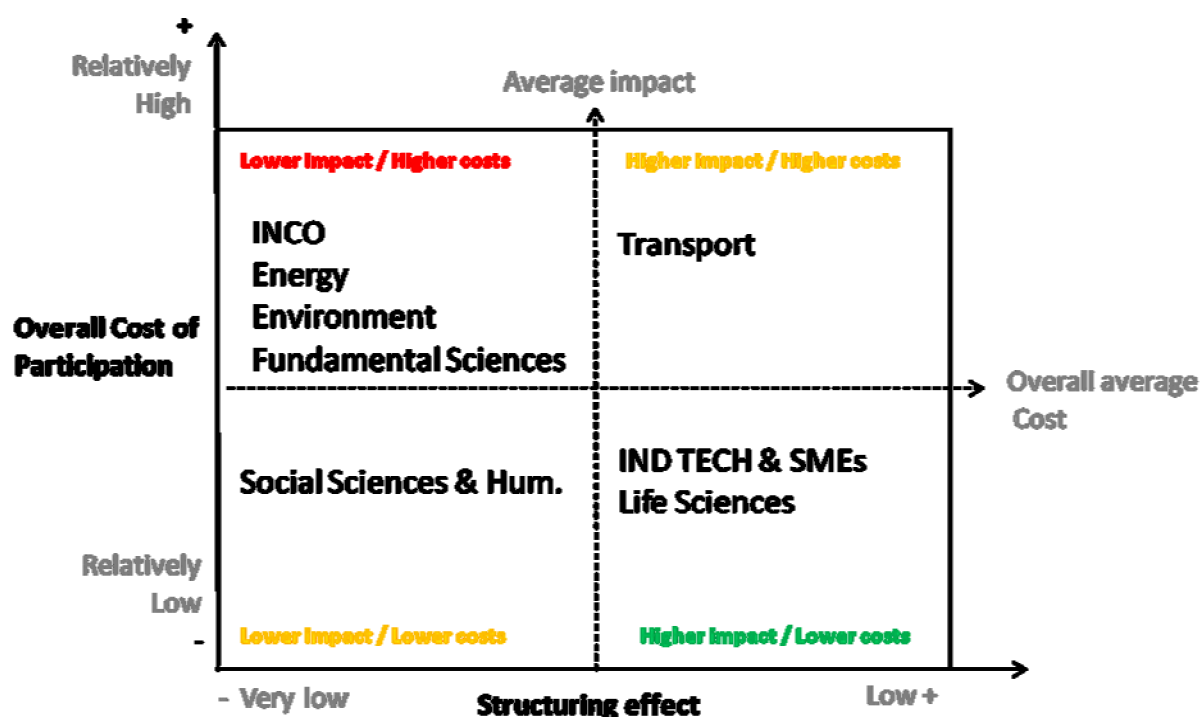
The extent to which the overall cost of participation contributed to the structuring effect is unclear. Significant differences did emerge between thematic areas, however, no positive or negative associations could be evidenced. The structuring effect was more prominent in Transport, Industrial Technologies and SMEs, and Life Sciences. An interesting feature is the position of Industrial Technologies and SMEs and Life Sciences themes in the

⁸⁹ Discrete impact analyses are presented in Annex 8.

⁹⁰ Overall cost of participation has been defined as EC funding and additional funding the participant put in additional to the EC to fund their cost of participation in ERA-NET activities.

quadrants where they consistently appear as having had higher influence on the level of the structuring effect for a lower overall cost of participation. Discrete analyses are detailed in Annex 8, the picture below offer a schematic view of the influence of the overall cost of participation on the impact on national programmes.

Figure 37 - Influence of overall cost of participation on the ERA-NET scheme's structuring effect

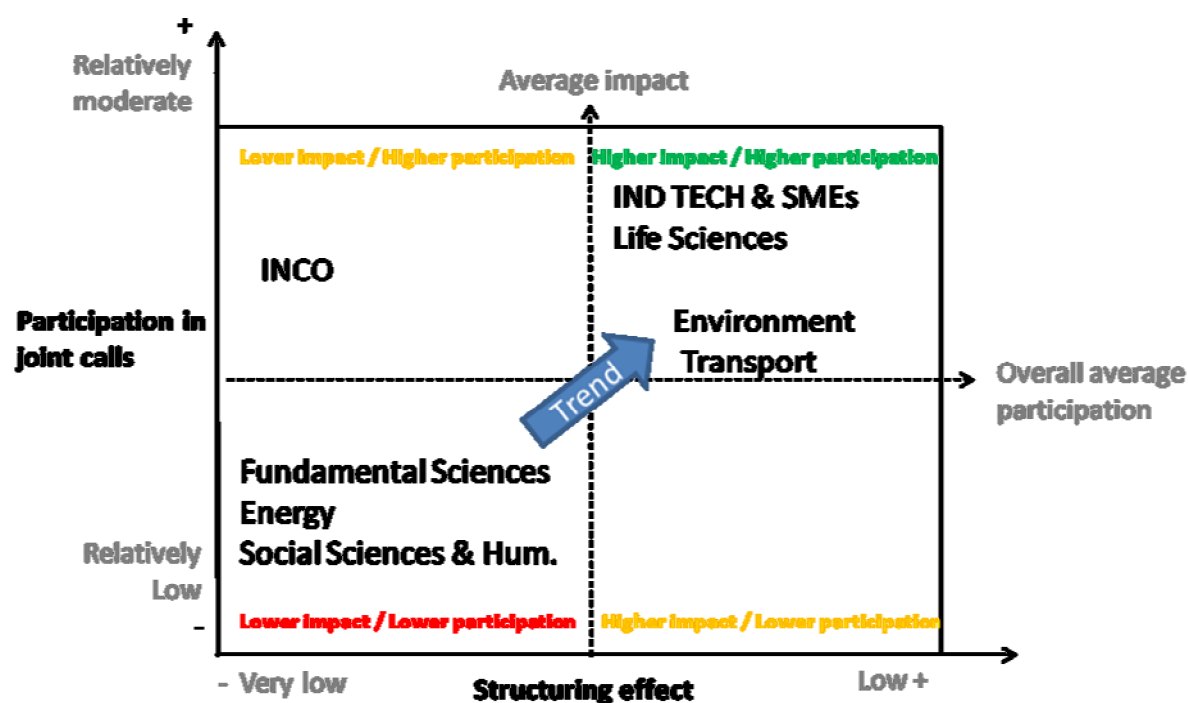


Influence of participation in joint calls on the ERA-NET scheme's structuring effect

The extent to which participation in joint calls generated by ERA-NETs has influenced national programmes is relatively low. There seems to be evidence demonstrating that the higher the participation in joint calls, the more likely it is that ERA-NETs have had an influence on the structuring effect. The "trend" in the figure below is a way to represent this positive association between two variables (e.g. between participation in joint calls and structuring effect). It indicates that the more a country participates in joint calls the more likely it is to have a structuring effect on the research fields.

This influence of joint calls on the level of structuring effect (albeit low) was more prominent for the Industrial Technologies and SMEs and Life Sciences themes, and to a lesser extent Transport and Environment. On the contrary, participation in joint calls in the themes of Social Sciences and Humanities, Energy and Fundamental Sciences appeared not to have influenced ERA-NET's level of structuring effect. Interestingly, INCO ERA-NETs appeared to have had a relatively lower influence on the structuring effect than other themes despite a higher engagement in joint calls.

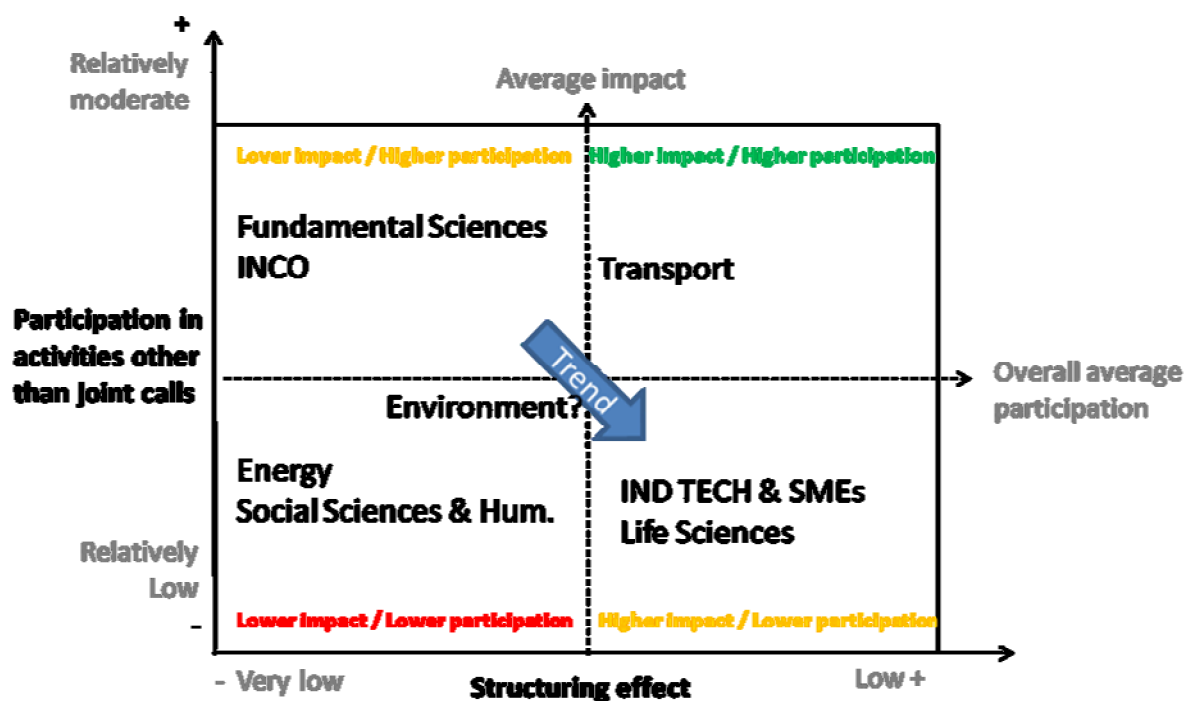
Figure 38 - Influence joint calls on the ERA-NET schemes' structuring effect



Influence of activities other than joint calls on the ERA-NET schemes' structuring effect

The extent to which activities other than joint calls have influenced national programmes is relatively low. However, there seems to be a negative association between the ERA-NET scheme's structuring effect and the participation in activities other than joint calls, with the exception of the thematic area on Transport. This finding reinforces the point that joint calls are an important factor of the ERA-NET's structuring effect, although other activity may also have an indirect influence on the structuring effect (e.g. for creating the conditions for joint calls to take place).

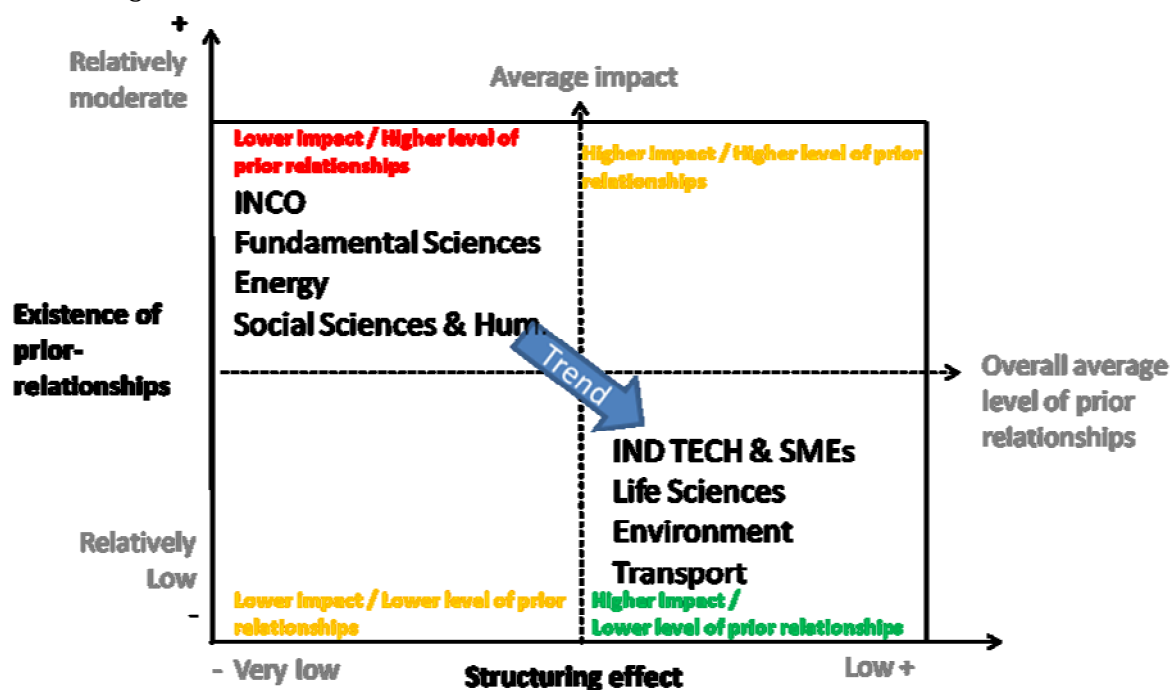
Figure 39 - Influence of activities other than joint calls on the ERA-NET schemes' structuring effect



Influence of pre-existing relationships on the ERA-NET schemes' structuring effect

The extent to which pre-existing relationships prior to ERA-NET participation have had an influence on the structuring effect is relatively low. However, there seems to be a negative association between the ERA-NET scheme's structuring effect and the existence of relationships prior to involvement in ERA-NET. This lack of influence of prior relationships on the ERA-NET schemes' structuring effect is more prominent for Fundamental Sciences, INCO, Energy and Social Sciences and Humanities. This may be because of the already transnational nature of R&D activities in these thematic areas (with the exception of the Energy field).

Figure 40 - Influence of pre-existing relationships on the ERA-NET schemes' structuring effect



Key findings from the Impact analysis with regards to additionality of the ERA-NET scheme

The additionality of the FP6 ERA-NET scheme appears to have been moderate. No overall pattern of impact could be derived from the impact analysis relative to additionality of the ERA-NET scheme. However, it is interesting to consider the influence of the following factors on FP6 ERA-NET's structuring effect:

- the overall cost of participation;
- pre-existing relationships; and
- overlaps with other ERA-NETs in the country.

It would have expected that the overall cost of participation would contribute to the additionality of the ERA-NET scheme since the more a country uses time and resources, the more likely it is to expect added value and benefits from ERA-NET participation. A high cost of participation might also indicate a higher willingness to invest into the theme of the ERA-NET, and therefore, higher expectations in terms of added value.

As for the influence of pre-existing relationships, one would expect them to have had a positive influence. For instance the more ERA-NET participants knew one another the more they would have derived value and synergies from their ERA-NET engagement. Lastly, overlaps with other ERA-NETs would have been expected to have a negative influence on additonality. The more overlaps between ERA-NETs in one country, the more difficult the coordination and participation in ERA-NET activities would have become.

To determine the level of additionality, the participant survey questions relative to impacts generated outside ERA-NETs were used, including:

- extent to which participation triggered trans-national cooperation outside of the ERA-NET;
- extent to which participation led to an increase in the amount of programme budget invested in trans-national projects outside of the ERA-NET;
- degree to which ERA-NET participation influenced national policy beyond the theme the ERA-NET.

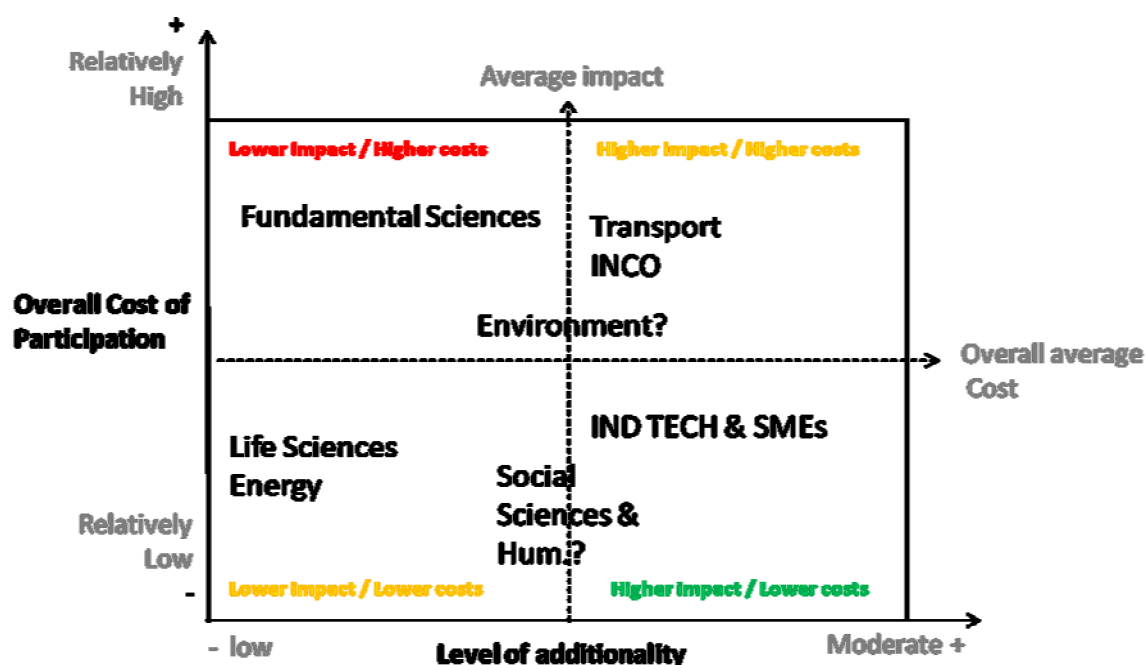
The influence of ERA-NET participation on the triggering of transnational R&D cooperation outside of the ERA-NET is one indicator of the additionality of the scheme. An increase in influence can demonstrate that the ERA-NET scheme has had an additional impact on other field of research not necessarily related to the fields of ERA-NETs. The influence of ERA-NET participation on the amount of programme budget invested in trans-national projects outside of the ERA-NET is another indicator of the additionality of the scheme. An increase in influence can demonstrate that the ERA-NET scheme has had an additional impact on programme budgets invested in different fields of research. The degree to which ERA-NET participation has influenced national policy beyond the theme the ERA-NET is the third indicator. ERA-NET participation could have had an effect on policies related to transnational R&D cooperation. Discrete analyses are detailed in Annex 3, the figures below offer a schematic view of the influence of the selected factors on the level of structuring effect.

Influence of overall cost of participation on the degree to which ERA-NET participation has added value beyond the scope of the ERA-NET

The extent to which overall cost of participation has had an influence on the additionality of the scheme has been limited. No overall associations could be evidenced. Industrial technologies and SMEs, INCO and Transport thematic areas seemed to have generated a higher level of additionality than Life Sciences, Energy and Fundamental Sciences⁹¹.

⁹¹ Note that the Environment theme appeared as having a higher cost of participation than other theme and the level of additionality was broadly in line with the average; as for Social Sciences and Humanities the overall cost of participation was lower than the average for other themes and the level of additionality was broadly in line with the average.

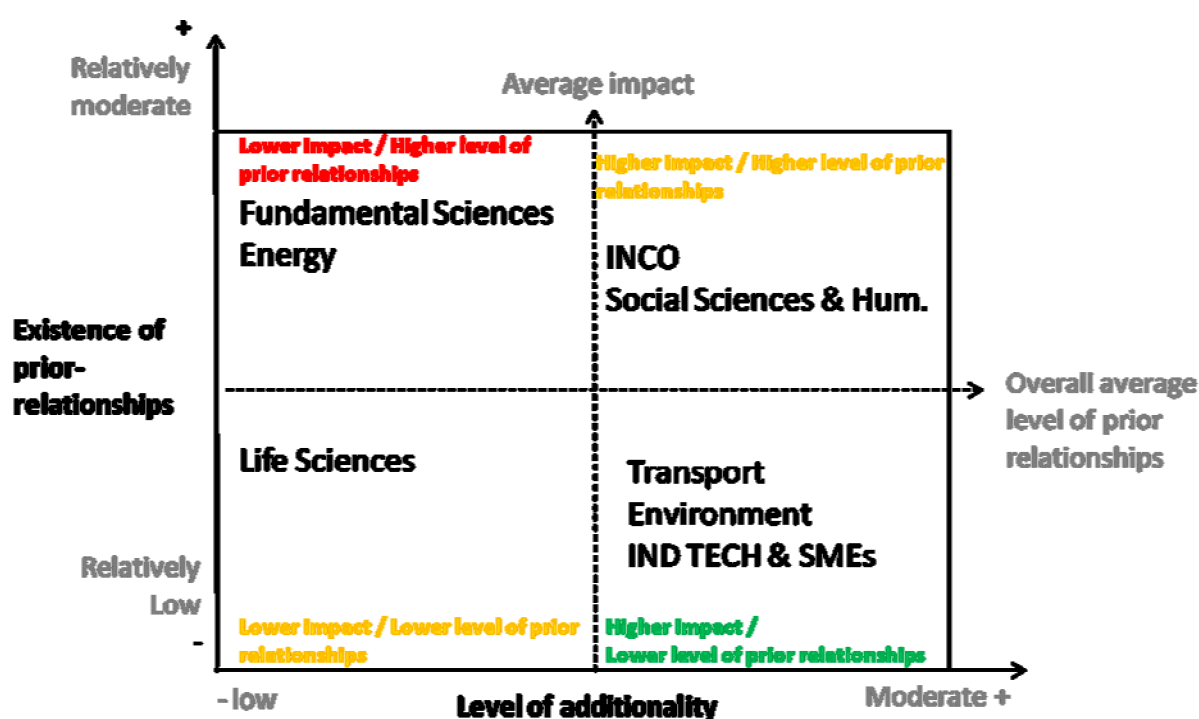
Figure 41 - Influence of overall cost of participation on the degree to which ERA-NET participation has added value beyond the scope of the ERA-NET



Influence of pre-existing relationships on the degree to which ERA-NET participation has added value beyond the scope of the ERA-NET

No overall associations could be evidenced. Industrial technologies and SMEs, INCO, Social Science and Humanities, Environment and Transport thematic areas seemed to have generated a higher level of additionality than Life Sciences, Energy and Fundamental Sciences.

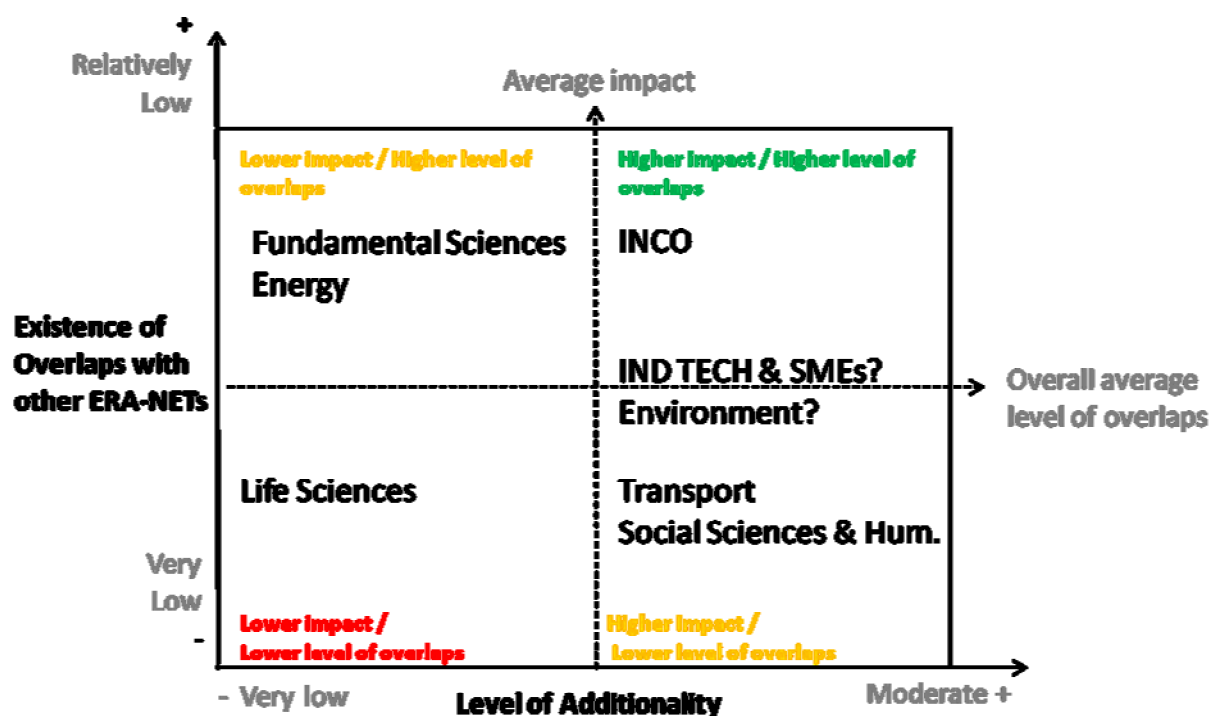
Figure 42 - Influence of pre-existing relationships on the degree to which ERA-NET participation has added value beyond the scope of the ERA-NET



Influence of overlaps on the degree to which ERA-NET participation has added value beyond the scope of the ERA-NET

No overall associations could be evidenced. Industrial technologies and SMEs, INCO, Social Science and Humanities, Environment and Transport thematic areas seemed to have generated a higher level of additionality than Life Sciences, Energy and Fundamental Sciences⁹².

Figure 43 - Influence of pre-existing relationships on the degree to which ERA-NET participation has added value beyond the scope of the ERA-NET



Key findings from the typology analysis

The figures below are based on the results of the participant questionnaire⁹³. It shows that ERA-NETs in the 'basic research addressing a specific discipline or a technology domain' category (Type 1, Focus 1) have a relatively higher impact on national research landscapes than other categories, although impact scores here are quite low across all categories. This result is similar to the findings related to impact on national programmes. The assumption here may be that the aforementioned category found in the ERA-NET scheme, a suitable instrument to further foster their collaboration in transnational research activities, leading to more harmonisation/structuring in the research field.

This is also consistent with the hypothesis that the inclusive nature of the scheme will contribute to higher impact in the Focus 1 ERA-NETs (i.e. scientific discipline or technology domain).










The other two categories with higher impact scores are Type 2 ERA-NETs focusing on a sector or addressing a specific topic or an issue (Type 2, focus 2 & 3). This is not quite consistent with the hypothesis that the impact will be limited due to the need for a change

⁹² Note that Industrial technologies and SMEs and Environment appeared as having a higher level of additionality than other theme but the existence of overlaps in these themes were in line with the average across all themes.

⁹³ Participant questionnaire: question 7.2.

of culture in ministries and industry, but it does seem to be compatible with the findings regarding joint activities. Type 2 ERA-NETs were seen as slightly more likely to engage in joint calls, and Type 2 ERA-NETS focusing on a sector were the most active in other ERA-NET activities. This would suggest that, at least for these categories, there might be a link between the impact on the research landscape and the extent of participation in joint activities.⁹⁴

Figure 44 – Typology analysis - Extent of the structuring effect










	Type 1: Basic research	Type 2: Applied Industrial	Type 3: Applied Societal
Focus 1: Scientific discipline or technology domain	 1.72	 1.48	 1.26
Focus 2: Sector	 2.02	 1.72	 1.60
Focus 3: Specific topic / Issue	 0.81	 1.72	 1.61

Key: Figures range from 0 = no structuring effect, 1= weak structuring effect, 2 fairly weak structuring effect, 3 fairly significant structuring effect, and 4 significant structuring effect.

Overall, most categories with enough ERA-NETs to draw any conclusions reported broadly the same moderate levels of additionality resulting from ERA-NET participation. The two categories that stand out are 'basic research addressing a specific domain' (Type 1, Focus 1) and 'applied societal research to address a specific topic or issue' (Type 3, Focus 3). In the former case the low level of additionality might be attributed to the large number of opportunities and initiative to engage in transnational research, and already internationalised thematic areas (e.g. Fundamental Sciences, Life Sciences, Social Sciences). This is consistent with the hypotheses presented earlier.

In the latter case, as suggested in the hypotheses, the higher added value might be a result of the higher levels of commonality as well as of the synergies that are likely to be present in the areas addressed by these ERA-NETs. Lower levels of additionality for the other Type 3 category however suggest that the characteristics of applied societal research are alone not sufficient to generate higher added value.

Figure 45 – Typology analysis – level of Additionality

	Type 1: Basic research	Type 2: Applied Industrial	Type 3: Applied Societal
Focus 1: Scientific discipline or technology domain	 28%	 32%	 31%
Focus 2: Sector	 50%	 35%	 32%
Focus 3: Specific topic / Issue	 41%	 33%	 39%

⁹⁴ The typologies are presented in more depth in Annex 3. Their expected characteristics and types of impacts associated with them were tested by performing initial analysis by type and focus of ERA-NET. The figures presented as part of the typology analysis represent the inputs, level of activity, and impacts for ERA-NETs falling into individual categories in the typology presented in Annex 3. It is important to note that very little can be concluded for categories where very few ERA-NETs find themselves. These include in particular 'applied societal research to address a scientific discipline or a technology domain', 'basic research focusing on a sector', and 'basic research to address a specific topic or issue'.

Key: Percentages represents the extent of the impact on additional transnational cooperation and extent of the impact on programme budget for transnational cooperation.

Key findings from the Case studies

Findings from the country and thematic case studies are in line with the evidence gathered from the participant survey and coordinator survey, that is, that the ERA-NET scheme did not have a major structuring effect. However, the extent to which this is true varied according to countries and themes:

- Overall, existing cooperation has strengthened and enlarged across the ERA.
- A structuring effect tended to be evidenced in fields where participants had already a strong research position (e.g. Portugal in Life Sciences and Marine Sciences, Norway and Finland in Social Sciences, Astroparticle Physics in France, Life Sciences in Austria).
- A number of new research fields were invested in by specific countries (e.g. Astroparticle Physics in the Netherlands, collective research in Poland).

At a thematic level:

- In the Environment field, the ERA-NET field enabled Europe to gain more influence and to be fully integrated within the leading international players in specific scientific fields (e.g. Marine Science).
- For transport, a structuring effect was evidenced whenever there was a convergence between the ERA-NETs and the structuring of a national policy, as was the case in Denmark. Transport did not suffer from overlaps to the same extent than other thematic areas.
- For Life Sciences, there was an indication of a structuring effect at the European Research Area level as many of the ERA-NET's defined common future R&D priorities and engaged with wider stakeholder groups.
- For Industrial Technology and SMEs, there were indications of development of new disciplines thanks to the ERA-NET scheme and greater awareness of specific topics mostly through networking.
- Fundamental Sciences was a mature research area for transnational cooperation, by definition this meant the structuring effect of the scheme was somewhat limited, except in the specific case of Astroparticle Physics (ASPERA).
- Structuring effects at European level in the Energy field were hampered by a lack of focus on particular research questions.
- In the large EU15 Member States, there was no discernible structuring effect on the International Cooperation theme as a result of the ERA-NET Scheme. Through the scheme, some smaller countries (e.g. Netherlands, Slovenia, & Finland) developed a new approach toward the advancement of their activities with China, which hitherto, had been fragmented.
- In Social Sciences and Humanities, there was a limited structuring effect on the design and contents of national SSH programmes. However, specific countries were able to invest in new topics (such as foresight and migration to the research agenda of Romania and Finland, respectively), and collaboration between scientific communities increased over the period.

Additionality considerations have been explored in sections 7.12 and 7.14. Below is a summary of the findings.

- Findings regarding additionality and efficiency in specific themes largely mirror the country-level findings. Particular examples of added value are generally centred on ERA-NETs already identified in the country-level findings. This includes ECORD in the area of Environment; ASPERA, ASTRONET, and ERA-CHEMISTRY in Fundamental Sciences; NORFACE in Social Sciences and Humanities; or CORNET and ERASME in the area of Industrial Technologies and SMEs. Generally, there were few clear thematic patterns related to the additionality of the scheme that could be identified.

Key conclusions regarding impact on structuring of themes

- The structuring effect of the ERA-NET scheme has been relatively limited. The scheme seemed to have had influence over the following:
 - ERA-NET themes fitted quite well with the ones of the national R&D programmes in the ERA.
 - A greater proportion of participants reported that the increase of the importance of the theme in their country research programme could be attributed to their involvement in the scheme. ERA-NET participation has influenced the importance of the theme in countries' research programme to a large extent for International Cooperation and Life Sciences theme, to some extent for Industrial Technologies and Social Science and Humanities, to a limited extent for Fundamental Sciences, Transport and Environment and hardly at all for the Energy theme.
 - Participation in the ERA-NET scheme has also led to an increase in national programme budgets in the theme of the ERA-NET for a small majority of participants.
- Factors influencing the impact of ERA-NET on national programmes were as follows:
 - Participation in joint calls was likely to have a positive influence on ERA-NETs structuring effect, and this across all themes but more prominently for Industrial Technologies and SMEs, Life Sciences, Environment, Transport.
 - INCO, Fundamental Sciences and Social Science and Humanities ERA-NETs have not contributed to the same extent as other schemes to the structuring effect. This may be due to participants in these themes already being well networked prior to the FP6 ERA-NET scheme, and their influence over the structuring of the European Research Area being limited by the existence of these relationships.
 - Participation in activities other than joint calls seemed to have had a negative influence on the ERA-NET scheme's structuring effect.
 - Pre-existing relationships also seemed to have had no positive influence on the ERA-NET scheme's structuring effect.
- The additionality of the ERA-NET scheme has been relatively moderate. Indicators of additionality like the "triggering of transnational cooperation activities outside of the ERA-NET" or "increases in the amount of programme budgets invested in transnational R&D projects outside of the ERA-NET" were regarded by participants as having been low to moderate. However, the vast majority of participant organisations reported that their involvement in specific ERA-NETs influenced national research policy beyond the theme of these ERA-NETs.

6.3 Direct and Indirect Benefits

The following section looks at evidence gathered and analyses undertaken to try to assess:

Q.3: Which direct benefits (addressing the coordination of programmes, see FP6 applicable work programme steps 1-4) and indirect benefits (e.g. networking between people, informal contacts or reconfiguration of partnerships, leverage effects on national finances, review of national research agendas, etc) have been generated through the ERA-NET scheme in FP6 and how can the impacts be measured for both types of benefits?

The main focus on this section is hence to establish what the main benefits of the scheme have been.

Expectations of impact

The concept of the European Research is predicated upon the notion that transnational cooperation in research activities, and among funding agents and policymakers can generate benefits that would not have been possible in a purely national setting under the same funding volumes. For instance, it is expected that countries might have opened new channels of communication via ERA-NET sponsored networks and that they might have used those networks to exchange information on good practices, or collaborated with other organisations. This in turn, would generate clear added value. Due to the diversity and bottom-up nature of the scheme, it was not expected that all ERA-NETs would necessarily aspire to move through all of these steps. However, benefits should have been derived from participation even where organisations did not engage in deeper collaboration.

At a general level, the expectation for the ERA-NET scheme would have been that countries would have started to coordinate their research efforts and that they would, therefore, have had less incentive to work in isolation in a purely national context. Furthermore, organisations involved in multiple ERA-NETs would have benefited most from their participation. This effect should be clearest in countries with no (or little) pre-existing transnational or bilateral cooperation. This is because these countries are, for the first time, able to participate as equal members in the European networks, and form official relationships with their counterparts in Europe. This in turn changes the magnitude and depth of the type collaboration these countries are able to engage.

More specifically, four distinct outcomes/benefits would have been expected to be derived from engagement in ERA-NET:

- Systematic exchange of information and good practices on existing programmes (this will be addressed in Q5 below);
- Identification and analysis of common strategic issues;
- Development of joint activities between national and regional programmes;
- Implementation of joint trans-national research activities.

Finally, in addition to these direct outcomes/benefits, it was expected that a number of indirect benefits will also have been generated. These would have included, among others, developing trust and interest in other research policy frameworks, changing attitudes towards transnational cooperation as a result of interaction (positive or negative), or the development of personal relationships that lead to transnational collaboration outside the ERA-NET. In many cases, such indirect benefits may have constituted the main value added of the ERA-NET scheme for participating organisations.

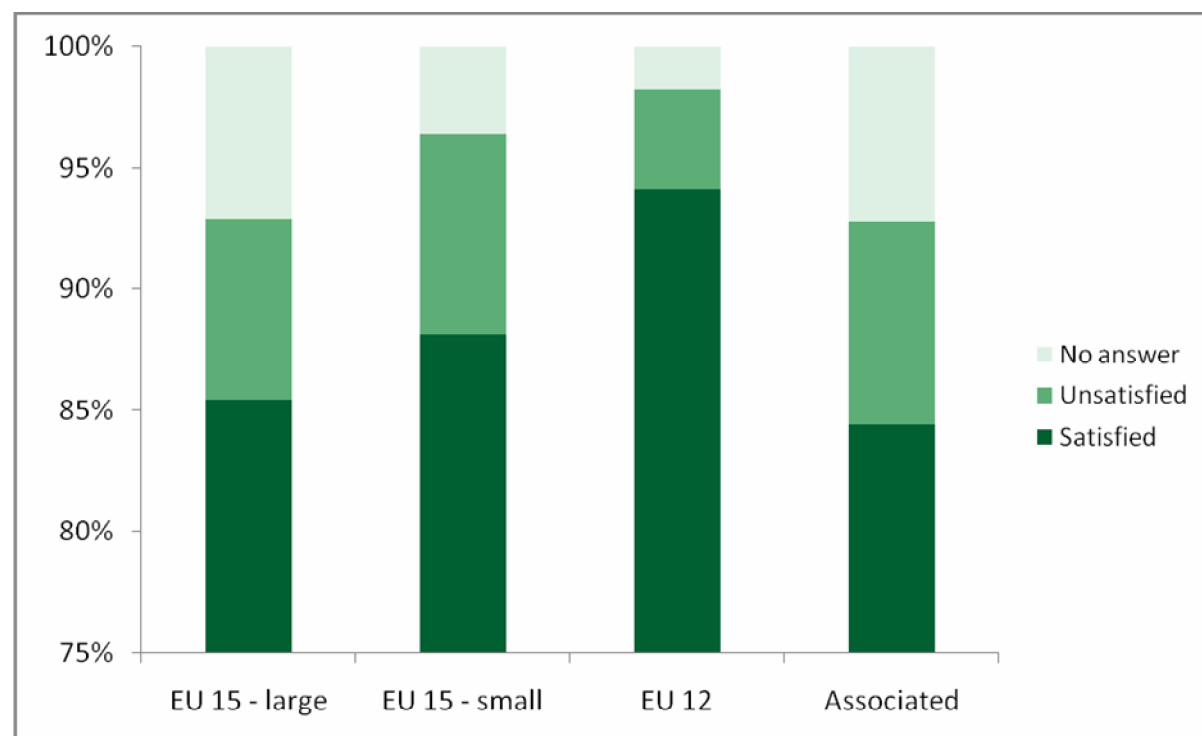
The 'leverage effects on national finances' and 'review of national research agendas' would be regarded as outcomes not benefits and hence covered under Question 1 in previous sections.

Key findings from the Participant Survey

Overall Satisfaction

The levels of overall satisfaction with the transnational cooperation within the ERA-NETs were high. 88.2 per cent of the participants reported being satisfied with this aspect of the programme. Responses were above 80 per cent for all country groupings and among participants from the EU12, 94 per cent of respondents reported that they were satisfied overall with transnational cooperation in their ERA-NETs.

Figure 46– How satisfied are you with the overall level of transnational cooperation within this ERA-NET



At a thematic level, overall satisfaction was near complete for social science and regional ERA-NET with 97.3 per cent and 100 per cent respectively. ERA-NETs in industrial technologies/SMEs also reported above average satisfaction levels⁹⁵.

Interaction with Partners

In terms of frequency of interaction with partners, the majority of participants stated that they interacted with up to a quarter of ERA-NET participants on a weekly basis. Smaller countries, however, interacted with a slightly lower share of their ERA-NET partners than larger participant countries. Yet, around 15 per cent of participants had monthly contacts with up to three quarters of other participants in the ERA-NETs in which they were engaged, and the majority of participants in all country groupings had interaction on an annual basis with at least three quarters of their partners⁹⁶. On a thematic basis, weekly contact was most prevalent in the fundamental sciences, followed by the regional ERA-NETs and international cooperation.

Overall, 66 per cent of participants indicate that they had had some prior relationships with partners in their ERA-NETs and this is particularly the case for EU-12 countries

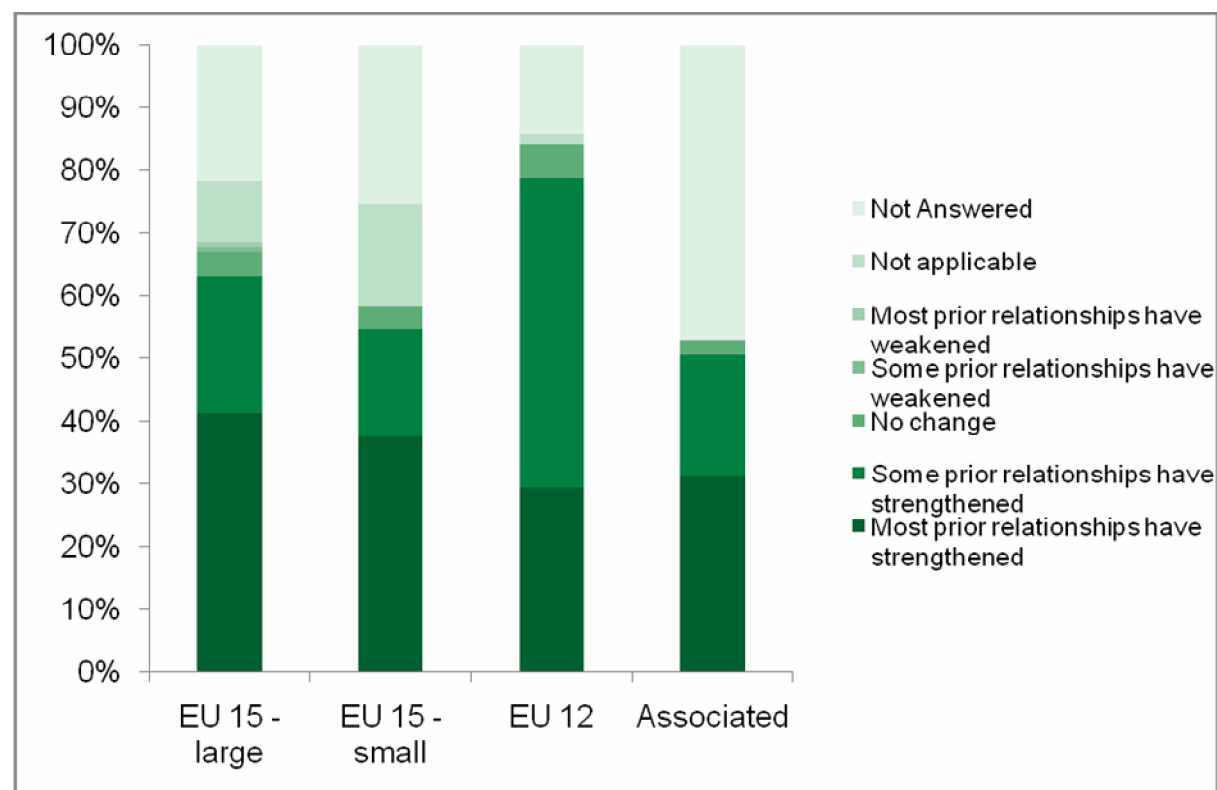
⁹⁵ Refer to participant questionnaire - question 6-9.

⁹⁶ Refer to participant questionnaire - question 3_4.

where 81.9 per cent⁹⁷ of participants report such prior contacts, which suggests that longer-term established networks may have been an important factor for accessing the ERA-NETs. In contrast, associated countries and smaller countries in the EU-15 grouping were less well connected with other ERA-NET participants before the scheme was set up with 39.8 per cent and 33.6 per cent respectively reporting no prior relationships⁹⁸. Across themes, 35.6 per cent of participants in social science ERA-NETs indicated that they had had no prior relationships with the other participants in their ERA-NET compared with 25.7 per cent of all participants. In energy, INCO, industrial technologies and SMEs and in regional ERA-NETs, more than 70 per cent of participants had prior relationships with other ERA-NET participants⁹⁹.

Perhaps one of the most positive messages coming out of the participant survey is the extent to which ERA-NET participation strengthened relationships with other participants. Where prior relationships existed, the majority of participants indicated that at least some of these relationships had strengthened (62.7 per cent), especially for participants from the EU12 (78.9 per cent) and larger EU15 Member States (63.4 per cent). Less than 1 per cent of participants reported a weakening of prior relationships over the course of ERA-NET and, very importantly, only 3.9 per cent of participants did not notice any change in their prior relationships over the course of ERA-NET. These figures show that there is scope for promoting new partner relationships within the ERA-NET scheme since EU12 Member States generally did not have as many prior relationships as countries in the EU15 groupings and they reported a significant strengthening of relationships which started under ERA-NET.

Figure 47– If there were prior relationships, which statement best describes how these relationships evolved during your participation in this ERA-NET?



Across thematic areas, there was little variation in how ERA-NET involvement affected prior relationships with all themes clustered closely around the average of 62.7 per cent.

97 This high figure is subject to caution it should be read as “81.9 per cent” of participants had established prior relationships with a minority of partners participating in the ERA-NET.

98 Refer to participant questionnaire - question 5_5.

99 Refer to participant questionnaire - question 5_5.

However, a strengthening of prior relationships was reported by 71 per cent of participants in INCO ERA-NETs¹⁰⁰.

Direct Benefits of Joint Calls, Programming and Activities

In terms of the types of direct benefits derived from their ERA-NET experience at national level, more than a third of participants reported some evidence that the quality of nationally generated and/or national funded projects and proposals had increased. Moreover, more than 40 per cent of participants found some evidence that ERA-NET participation had led to researchers benefiting from joint actions, activities, and calls who had not previously engaged in cross-border cooperation. In terms of the size of joint calls, the majority of participants reported that ERA-NET joint calls covered between zero and 25 per cent of their national budget. This was the case across all country groupings except for the EU12 grouping where a large share of participants (59.3 per cent) did not provide an answer to this question¹⁰¹.

The table below summarises participant responses to questions about the effects of ERA-NET joint calls, joint programming and other joint activities. The table distinguishes between country and thematic responses¹⁰²:

Table 6– Benefits of Joint Calls, Programming and Activities

Type of Benefit	By Country	By Theme
Access to foreign research communities/groups not present in the country of the participant.	Large EU 15 countries reported a higher influence than the average (above 54 per cent).	INCO, Regional, Life Sciences, and Energy ERA-NETs reported a higher influence than the average (above 54 per cent).
New types of research projects funded (through joint calls/programmes).	Associated countries and smaller EU15 Member States reported a higher influence than the average (above 46.2 per cent).	INCO, Life Sciences and Environment reported a higher influence than the average (above 46.2 per cent).
New researchers (with no prior international or European experience) benefiting from joint calls/programmes.	Smaller and larger EU15 Member States reported a higher influence than the average (above 41.4 per cent).	INCO, Environment and Life Sciences participants reported a higher influence than average (above 41.4 per cent).
New researchers (with no prior international or European experience) benefiting from joint activities.	Smaller and larger EU15 Member States reported a higher influence than the average (above 40.2 per cent).	INCO, Environment and Energy reported a higher influence than average (above 40.2 per cent).
Quality projects generated at national level (i.e. higher quality proposals).	Associated, smaller and larger EU15 Member States reported a higher influence than the average (above 39.1 per cent).	INCO, Environment, Fundamental Sciences, Life Sciences and Transport participants reported a higher influence than average (above 39.1 per

100 Refer to participant questionnaire - question 5_6.

101 Refer to participant questionnaire - question 5_8a.

102 Refer to participant questionnaire - question 7_2f.

Type of Benefit	By Country	By Theme
		cent).
New types of research projects generated (i.e. reflected in proposals received).	Smaller EU15 Member States and Associated countries reported a higher influence than the average (above 37.9 per cent).	INCO, Life Sciences and Environment participants reported a higher influence than average (above 37.9 per cent).
Higher quality projects funded at national level (through joint calls/programmes).	Smaller EU15 countries reported a higher influence than the average (above 35 per cent).	INCO, Environment and Transport participants reported a higher influence than average (above 35 per cent).

Benefit of multiple participation in ERA-NETs

Overall, multiple engagement in ERA-NET brought some benefits for 36 per cent of the participants¹⁰³. Multiple engagement proved particularly beneficial for Associated Countries (66 per cent responded positively to the question). On the contrary, multiple participation in ERA-NETs did not appear to have brought particular benefits for EU12 Member States (18 per cent), although a majority of organisations deemed the question as not relevant. It may be the case the organisations in EU12 Member States were not, in large, involved in multiple ERA-NETs. From a thematic perspective, participants in Fundamental Sciences and Energy ERA-NETs regarded multiple participation in ERA-NETs as having been positive (64 per cent and 58 per cent respectively).

In line with these quantitative findings, additional qualitative information provided by the participants confirms that the primary benefit of participating in FP6 ERA-NET had been to establish a large network of contacts with other funding agencies, and to understand the research landscape and funding mechanisms in other countries in order to build up a basis for FP7. Exchange of knowledge and common procedures, as well as additional funding were also mentioned by a significant number of respondents. In terms of strategic programming, a few participants mentioned benchmarking and the influence of ERA-NET in setting national priorities. For others, increased recognition of added value through joint research, in addition to ownership and a strengthened position at national level were of particular relevance. On the scientific front, a small number of participants mentioned the facilitation of a valuable European dialogue on climate change adaptation and an impetus for ageing research programmes.

Key findings from the Coordinator Survey

The coordinators were asked to describe the most important actions undertaken by their ERA-NETs so far. They primarily mentioned issues relating to joint working. In particular, joint calls were often mentioned. In addition, some other actions were considered important and are summarised in the following bullet points:

- the improvement, introduction and coordination of the exchange of information and good practices;
- benchmarking and mapping of research programmes and facilities etc. in participating countries;
- facilitating regular interaction and opportunities for exchange of information;
- focusing on set of common interests;
- developing common process indicators and standards;
- building links between countries and funding bodies;
- on-going dissemination activities via reports, workshops, conferences;

¹⁰³ Refer to participant questionnaire – question 8_3.

- development of procedures for initiating, procuring and managing collaborative research; and
- identifying potential plans for joint research programme and/or setting up joint research programmes.

Coordinators were asked whether they thought global approaches in ERA-NETs can be a future benefit for their ERA-NET. A majority (67.6 per cent) thought that global approaches will be beneficial. This was particularly felt in the fields of Environment and Industrial Technologies and SMEs. The results are indicated in the table overleaf.

Table 7– Can global approaches in ERA-NETs be of future benefit in ERA-NETs by theme

Theme	Yes	%	No	%	Unknown	%	Total
Transport	1	25.0%	1	25.0%	2	50.0%	4
Life Sciences	10	66.7%	3	20.0%	2	13.3%	15
Environment	13	81.3%	1	6.3%	2	12.5%	16
Fundamental Sciences	3	60.0%	2	40.0%	0	0.0%	5
INCO	3	75.0%	1	25.0%	0	0.0%	4
Industrial Technologies and SMEs	13	81.3%	3	18.8%	0	0.0%	16
Energy	2	40.0%	2	40.0%	1	20.0%	5
Social Sciences and Humanities	3	50.0%	2	33.3%	1	16.7%	6
Total	48	67.6%	15	21.1%	8	11.3%	71

In the case of joint calls, with respect to 80 (69.6 per cent) of the 115 calls coordinators indicated that global approaches can be of future benefit for ERA-NET joint calls. Only in relation to 16 (13.9 per cent) of the calls was the position the opposite.¹⁰⁴ The opinion was the same in relation to joint programmes, with 73.3 per cent of coordinators indicating that global approaches can be of future benefit for their programme and only 13.3 per cent (n=3) did not think that this was the case.¹⁰⁵

Key findings from the Impact analysis

The impact analysis tested the extent to which joint calls and pre-existing relationships were influential in delivering three types of benefits to the participants:

- higher quality projects generated;
- new types of research projects generated; and
- access to foreign research communities/groups not present in the country facilitated.

¹⁰⁴ For 20 of the calls it is not known if global approaches can be a future benefit for ERA-NET joint calls.

¹⁰⁵ For 2 of the programmes it is not known if future approaches can be a future benefit for ERA-NET programmes.

Evidence of higher quality project generated

Overall evidence of higher quality projects generated as a result of joint activities was fairly weak. Pre-existing relationships did not have a positive influence on the extent to which ERA-NET participation led to higher quality projects, whereas participation in joint calls had a positive influence on the higher quality projects generated as a result of ERA-NET participation. In sum, participation in ERA-NET joint calls may have contributed to the generation of high quality projects to a small extent¹⁰⁶. Thematic areas like Industrial Technologies and SMEs, Life Sciences, and Transport recorded a higher than average percentage of higher quality projects generated and funded as a result of joint activities.

Evidence of new type of research projects generated as a results of joint activities

Overall evidence of new types of research projects generated as a result of joint activities was fairly weak. Nevertheless, participation in joint calls had a positive influence on new types of research projects generated as a result of ERA-NET participation. On the contrary, pre-existing relationships were unlikely to have a “positive influence” on the extent to which ERA-NET participation led to new type of research projects. In sum, participation in ERA-NET joint calls may have directly influenced the generation of new type of projects, benefit which was limited to a minority of participants¹⁰⁷.

Evidence of Access to foreign research communities/groups not present in respective countries

Overall evidence of increased access to foreign research communities/groups not present in the country was somewhat significant. Participation in joint calls had a positive influence on the access to foreign research communities/groups as reported by participants.

On the contrary, pre-existing relationships were unlikely to have a “positive influence” on access to foreign research communities. In sum, participation in ERA-NET joint calls may have directly influenced the participants’ access to foreign research communities not present the respective country¹⁰⁸. Few thematic differences on the extent to participants have benefited from improved access to foreign research communities were evidenced. For Life Sciences evidence of this benefit was fairly significant whereas for Fundamental Sciences evidence of this benefit was weak.

Key findings from the Case studies

Findings from the country and thematic case studies are in line with the evidence gathered from the participant survey and coordinator survey, that is, that the ERA-NET scheme did deliver direct and indirect benefits. A long list of direct benefits can be drawn out of the case studies reflecting a positive attitude towards participation in the ERA-NET Scheme. Overall benefits reported by participants included:

- Networking with funding agencies and European scientific communities.
- Increased knowledge of scientific communities across Europe.
- Increased knowledge of and cooperation with funding agencies across Europe.
- New opportunities for collaborative research.
- Creating a critical mass at European level to undertake transnational R&D activities.
- Learning on the design of joint activities enabling transnational R&D cooperation.
- Creating a forum for discussing R&D Policy and priorities in specific research fields.

Main benefits reported in specific countries were as follows:

¹⁰⁶ Refer to Annex 8 for detailed information.

¹⁰⁷ Refer to Annex 8 for detailed information.

¹⁰⁸ Refer to Annex 8 for detailed information.

- In Austria, indirect benefits were the most valuable result of ERA-NET participation across all thematic areas and involved national institutional learning and cross-border networking with peers, as well as development of trust and knowledge sharing. Several participants indicated that there had been significant value added in cross-border cooperation financed through the ERA-NET.
- In Croatia, main benefits for National Policy Stakeholders and Participants included networking with funding agencies from other countries, establishing new and stronger cooperation relationships, learning about the set up of R&D programming and funding in other countries to embed good practices in national programming system, and improved knowledge of the national and European science communities.
- In France, benefits reported included the increased reputation of research fields and related organisations in Europe and internationally, better understanding of other national programmes; and access to database of contacts and projects.
- In Finland, the direct benefits from participation in ERA-NETs were primarily the creation of new contacts and learning how other financiers in Europe operate and what their priorities were. In some instances, the ERA-NETs also enabled opening up of bilateral or regional programmes to wider collaboration and stimulated joint working between regional programmes.
- In Germany, most participants thought the majority of benefits from ERA-NET were at the level of programme managers. Indirect benefits were most prominent, with an emphasis on networking and the creation of a stable institutional structure for cross-border research.
- In Italy, ERA-NETs have allowed participants to gain practical experience of working together on the design and implementation of international activities, including joint calls.; policy-level support for international R&D appears to have increased, probably because of the relatively high participation of Ministries; relationships with peers in other countries have broadened (beyond traditional cultural peers) and deepened (through investment in some Joint Calls).
- In the Netherlands, participants have benefited from the greater knowledge of other national research systems, enlarged and consolidated networks, new opportunities to conduct strategic discussions on policies and programmes, sharing of know-how on techniques available in other countries.
- In Norway, researchers have benefited from the scheme through increased access to greater transnational networks.
- In Poland, most of the identified benefits were benefits to ERA-NET Participants, in particular the learning about research policy management, commercialisation and technology transfer and building networks of contacts. Research beneficiaries found that not having to deal with administrative issues of their European partners allowed more focus on substantive issues.
- In Portugal, the main benefits include the increased cooperation and trust between funding agencies; increased participation of Portuguese beneficiaries in international consortia; learning from other participants on how to run large-scale international programmes and joint actions.
- In Russia, main benefits reported were the use of evaluation methods, project and financial management tools similar to those of the FP for the Russian Research Development Programme since 2007.
- In Romania, the main benefits included the better integration of Romanian Science Communities into the ERA, networking benefits leading to more opportunities for collaborative research and the enhanced visibility of Romanian research teams
- In Slovenia, a main direct benefit included the establishment of contacts to colleagues in other European countries.
- In Turkey, overall, indirect benefits were the most important benefits of the programme. They were primarily related to network building and learning about research policy and the procedures for implementation of research projects and programmes in other countries.
- In the UK, the main direct benefits of participation in the ERA-NETs included networking and acquiring of new contacts in Europe; learning about the funding mechanisms, operations and priorities of European countries and helping to create a critical mass of knowledge.

Main benefits reported in the thematic case studies were in line with the above. Benefits specific to the thematic areas were as follows:

- Energy: Direct benefits for policy stakeholders and participants centred on generating interest in energy technologies, recruiting competent personnel to ministries, allocating additional funding to the thematic field and supporting higher quality research than would have otherwise been possible.
- Environment: The most obvious benefit was the development of common perspectives on R&D priorities to better address common national issues and/or global challenges. Internationalisation of the research community was a valuable outcome in some countries as this was perceived to improve the quality of research results.
- Fundamental Sciences: Main benefits reported by participants were the increased reputation of some science fields and of the research organisations involved in the field, increased awareness of other national programmes and their focus and other ways of working across the ERA.
- Industrial Technologies and SMEs: Improvements in collaborative relationships between Ministries in the Member States and the channelling of funding contributions to joint calls in the field.
- International cooperation: Networking and establishing closer personal contacts with similar organisations or those with similar interests and priorities was a vital benefit for policy-makers and research institutes.
- Life Sciences: The most commonly cited benefit was the enabling function of the ERA-NET to define common priorities with other R&D funding organisations across Europe. Benefits for the research community were less clear partly because most of the funded projects were not yet completed.
- Social Sciences and Humanities: there has been an increase in transnational collaborative research as a result new research topics were introduced in some countries (Foresight and Immigration).
- Transport: Networking among policy-makers was seen as a direct benefit of the scheme.

Key conclusions regarding direct and indirect benefits

As demonstrated from the above section, most participants were satisfied by their participation in ERA-NETs. Benefits outweighed the costs for a majority of participants. Programme managers and research beneficiaries seemed to have benefited the most from the ERA-NET scheme compared to National policy stakeholders. The networking activities generated benefits for all the participants. These, in turn, generated a wealth of other benefits difficult to capture here since their realisation depend on the countries' research landscape maturity, R&D priorities and thematic areas.

Participation in joint calls seemed to have had a positive influence on the realisation of these benefits. Industrial technologies, Environment, Life Sciences and Transport are thematic areas that experienced longer-term benefits the most (e.g. higher quality of research generated, new types of projects generated, access to foreign research communities). In terms of countries, smaller EU15 Member States followed by larger EU15 Member States, appeared to have seen more evidence of long-term benefits than other country groupings. Multiple participation brought benefits for more than a third of participants.

Lastly, a majority of coordinators thought that global approaches to ERA-NETs will be beneficial in the future.

6.4 Opening up of National Programmes

The following section looks at evidence gathered and analyses undertaken to try and assess:

Q.4: Have FP6 ERA-NETs helped to mutually open up national programmes in ERA? If yes, to what extent and what is needed to assure that this result becomes a durable lasting effect within ERA?

One of the most powerful indicators of opening up is the extent to which countries have invested additional resources into the ERA-NET joint activities, joint calls and programmes in particular, and the degree to which that funding has been made available with no strings attached i.e. allowing the best proposals to be funded independently of nationality or place of residence. Hence the focus of this section is on depth of transnational cooperation and the amount invested which is accessible to non-resident beneficiaries.

Expectations of impact

The expectation is that some progress will have been made in terms of opening up of programmes to non-resident researchers through allowing for funding of these via joint calls and programmes, but that results will vary hugely between countries. Where countries have allowed for a greater degree of openness this is likely to be a function of the relative strength or the weakness of the particular research capacity in the country (e.g. Belgium and Cyprus would be expected to have an interest in opening up to benefit domestic researchers), as well as the degree of strategic buy-in to the scheme from the national policy and programming layers.

Some thematic areas would be expected to have progressed further towards openness than others, e.g. societal ERA-NETs where there is no potential for commercial outcomes would be expected to have reached a higher degree of openness than perhaps applied industrial ERA-NETs. Overall, the degree to which countries have inputted funds into real common pots accessible to other countries' beneficiaries and/or explicitly changed their assessment criteria to allow for non-residents to apply for funding, will in effect have 'opened up' to a strong degree. In the same way, where countries have invested in virtual pots, thus only funding resident beneficiaries, indicates a degree of openness to the extent that these countries researchers are able undertake joint projects with their counterparts with whom they may not have worked previously. Most countries are expected to have signed up to virtual pots and only a small percentage to common ones. Barriers to stronger degree of openness would stem from legal restrictions as well as policy barriers.

Key findings from the Participant Survey

The extent to which the ERA-NET scheme has enabled National Programmes to open up and bring together a consortium of researchers from a range of countries provides an indication of whether the ERA-NET scheme has had an impact on national research landscape.

Geographical coverage

The first step in achieving a successful opening up of national programmes requires relevant stakeholders to be included in the ERA-NET. When prompted about this, 53 per cent of participants considered that some European countries were missing as either contracted or associated partners in their ERA-NETs, which contrasts with only 18 per cent of respondents answering that none were missing. Among the country groups, responses ranged between over two thirds of the Associated countries (68.7 per cent) responding that European countries were missing compared to only 37 per cent of the EU12 Member States. The EU15 large country respondents were the most confident in responding that no countries were missing, representing 26 per cent of the respondents from this group. The less pressing need for Associated country participant organisations to gain access to

more countries outside of the existing ERA-NETs may be because their baseline in terms of transnational cooperation is lower to begin with or because they are already benefiting from bilateral relationships with other key players beside the EU.

From a thematic perspective, participants in the Regional themes were the most likely to respond that European countries were indeed missing, representing 70 per cent in both instances. This is in contrast to Social Sciences and Humanities participants of which 32 per cent reported that no countries were missing. Social Sciences and Humanities and INCO reported the highest percentage of 'don't know' responses.

Impact on Extent of Cross Border Research

The first indication of the "opening up" effect relates to the extent to which ERA-NET has generated new opportunities for transnational R&D activities within their national programmes. As noted in Figure 3 (Q1), 85.5 per cent of participants estimate that ERA-NET has indeed created new cross-border opportunities in their area ranging from 78 per cent for Associated countries to 90 per cent among the EU12¹⁰⁹. Again, as described in Figure 6.2.3 (Q2), across themes, new opportunities enabling transnational R&D activities were reported by 95.9 per cent of participants in the Social Science and Humanities theme and 93.3 per cent of participants in INCO ERA-NETs. More than 80 per cent of participants in Environment, Industrial Technologies & SMEs, Life Sciences and Transport also thought that their ERA-NET experience had led to new opportunities for cross-border R&D¹¹⁰.

As a result of these new opportunities, 13.6 per cent of participants indicated that the ERA-NET experience had led to an increase in the amount of national programme budget channelled into transnational R&D outside of the ERA-NETs, against 63 per cent who said that there had been no change. This was especially true for the larger EU15 grouping where this answer was given by 15.1 per cent of participants¹¹¹. In terms of themes, participants in INCO ERA-NETs were the most likely (28.1 per cent) to attribute an increase in budgets for transnational R&D projects outside of the ERA-NET to their ERA-NET experience followed by 19.4 per cent for regional ERA-NETs¹¹².

More specifically, almost a third of participants (31.4 per cent) indicated that they had undertaken transnational cooperation outside of the ERA-NET as a direct result of their ERA-NET activities. This was particularly the case among associated countries (56.6 per cent) and larger countries within the EU15 grouping (31.9 per cent).

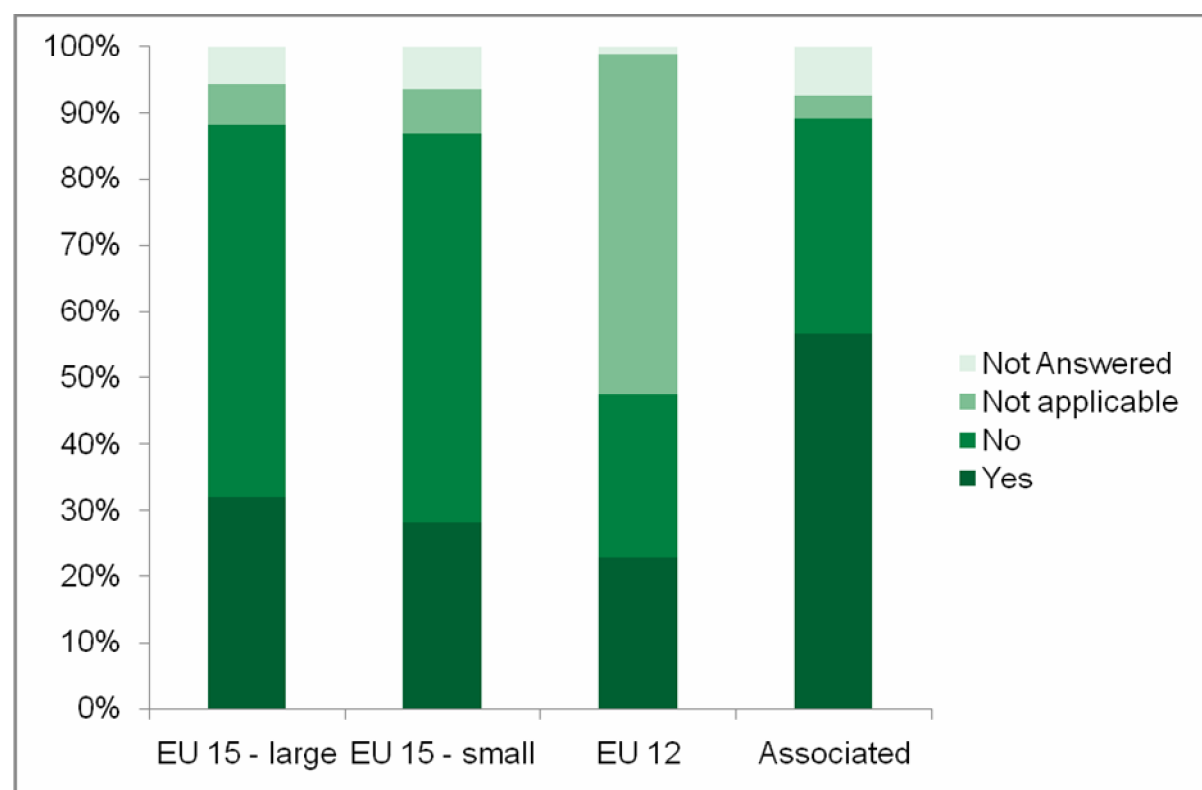
¹⁰⁹ Refer to participant questionnaire - question 5_3h.

¹¹⁰ Refer to participant questionnaire - question 5_3h.

¹¹¹ Refer to participant questionnaire - question 5_9.

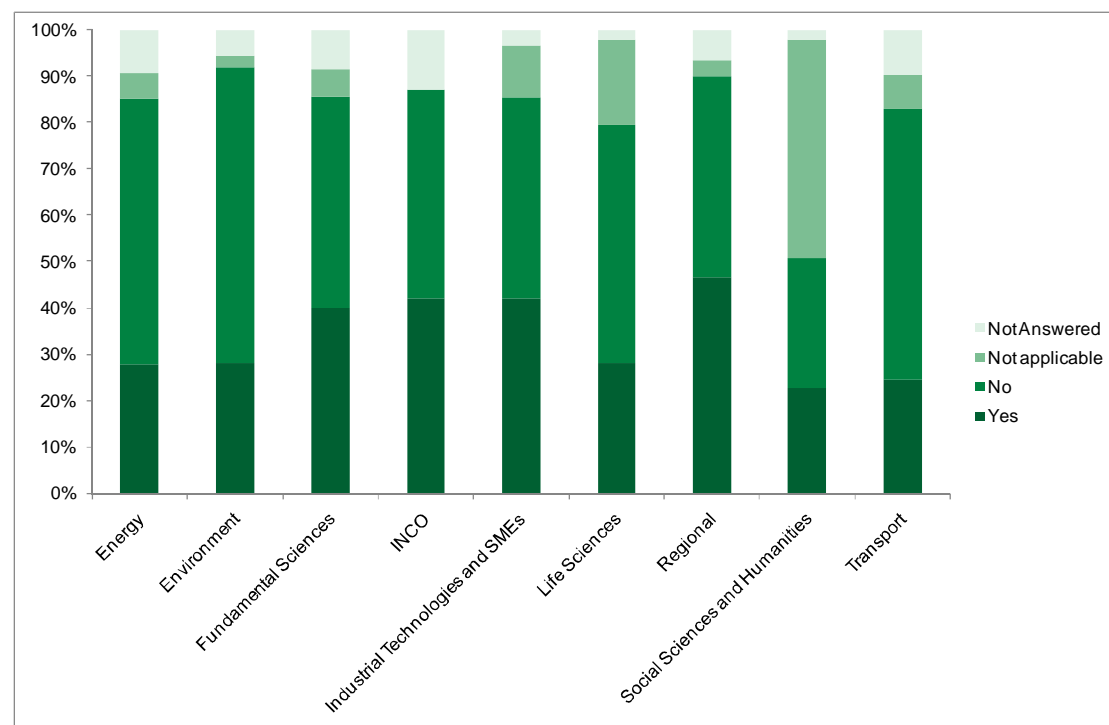
¹¹² Refer to participant questionnaire - question 5_9.

Figure 48 - Has your participation in this ERA-NET triggered transnational cooperation outside of the ERA-NET?



Across thematic areas, cooperation outside of the ERA-NET scheme was particularly prevalent among regional ERA-NETs (46.7 per cent) with Fundamental Sciences, INCO and Industrial Technologies and SMEs also above 40 per cent compared with a low of 22.6 per cent in the Social Sciences and Humanities. About two thirds of respondents in the area of Environment (64 per cent) responded that participation had not triggered more transnational cooperation.

Figure 49 - Has your participation in this ERA-NET triggered transnational cooperation outside of the ERA-NET?



Shared Use of Facilities

A second step in the opening up of research activities across borders lies in the shared use of existing facilities. 14.7 per cent of participants stated that they had engaged, as part of their ERA-NET activities, in schemes for mutual opening of facilities or laboratories against 44.5 per cent who had not engaged with such schemes. Both large and small EU15 countries reported above average engagement with such schemes¹¹³. Across themes, initiatives for shared use of facilities were reported by more than 30 per cent of participants in Fundamental Sciences and more than a quarter of participants in Regional ERA-NETs. Environment, Life Sciences and Social Sciences and Humanities also reported above average engagement with this type of activity¹¹⁴.

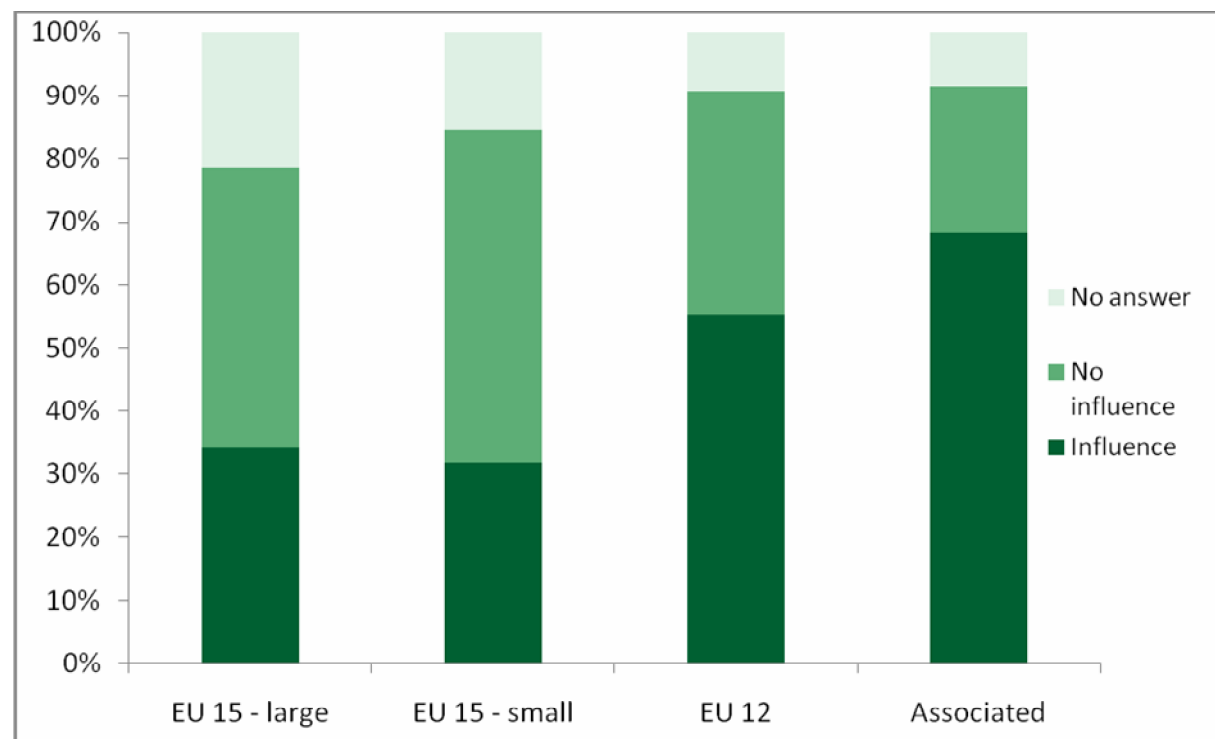
Funding of Non-resident Researchers

Most significant in terms of mutual opening up of national research programmes was the fact that as many as 41.9 per cent of participants considered that the ERA-NET scheme had influenced the adoption of new eligibility criteria which allowed for funding of non-resident researchers against 42.9 per cent who thought ERA-NET had had no influence in this area. Perhaps unsurprisingly, the figure was highest amongst associated (68.3 per cent) countries and EU12 Member States (55.8 per cent) compared with about one third of participants in both EU15 groupings.

¹¹³ Refer to participant questionnaire - question 4_2f.

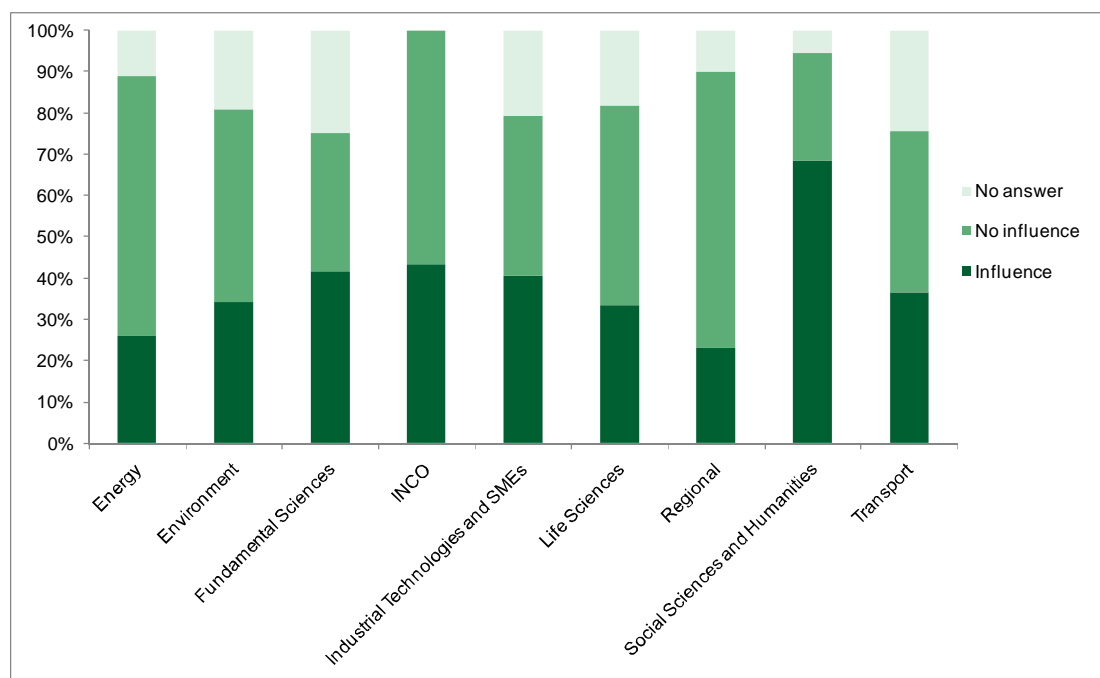
¹¹⁴ Refer to participant questionnaire - question 4_2f.

Figure 50 - To what degree has your participation in this ERA-NET influenced your country's national programme(s)? - New eligibility criteria allowing funding of foreign researchers in the area



Across themes, 68.5 per cent of participants in Social Sciences and Humanities estimate that eligibility criteria allowing funding of non-resident researchers were influenced by ERA-NET participation. This is followed by 43.3 per cent of participants in INCO ERA-NETs, with Fundamental Sciences and Industrial Technology and SMEs, also close to the average around 40 per cent. The thematic analysis suggests that ERA-NET influence on changes in eligibility criteria to allow funding of non-resident researchers can be explained to a large extent by thematic characteristics of the Social Sciences and Humanities. This may be due to there being no issue around Intellectual Property in this field. As a result, researchers in this discipline have a greater interest in cross border cooperation.

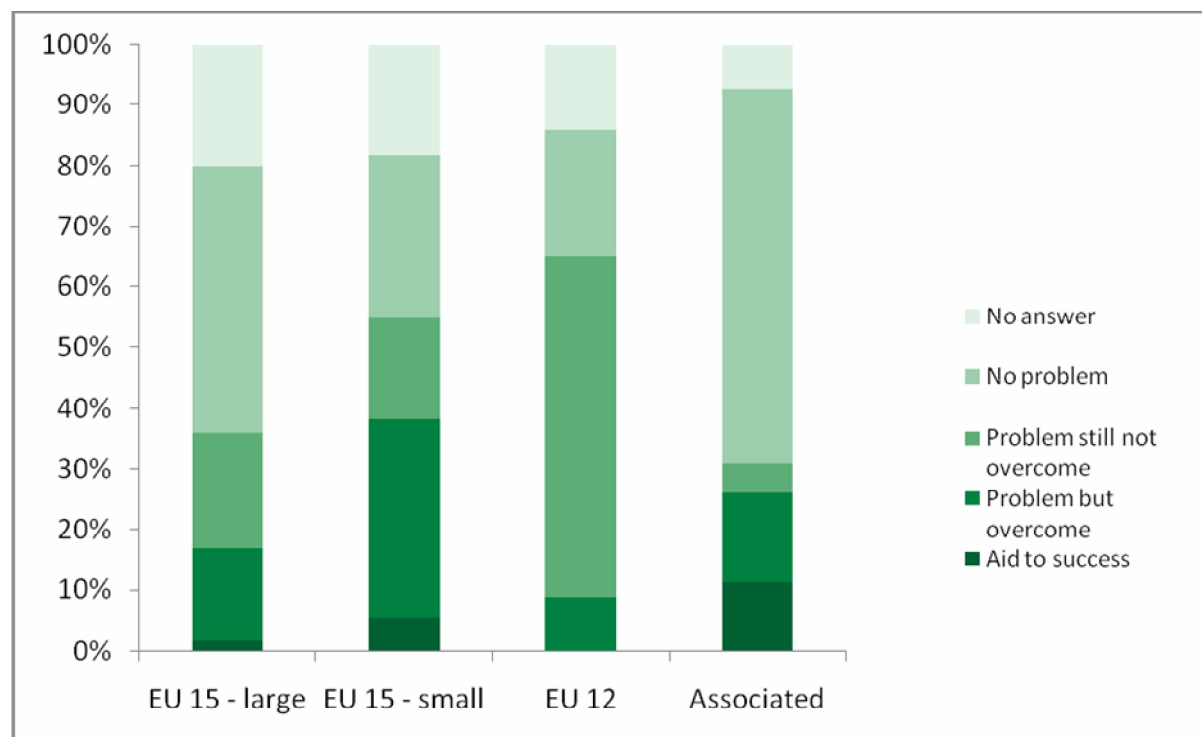
Figure 51 - To what degree has your participation in this ERA-NET influenced your country's national programme(s)? - New eligibility criteria allowing funding of foreign researchers in the area



Finally, changes in national legal frameworks for cross-border cooperation may be an important success factor for opening up of national research programmes. Indeed, national legal programme conditions (e.g. funding of non-residents, IPR) were identified as an obstacle to exploiting the full potential of ERA-NET participation by 44.9 per cent of participants across all countries and themes. Moreover, for 19.6 per cent of participants these initial problems have now been overcome. Among EU12 Member States, 65.1 per cent of participants saw national legal provisions as a problem against 34.3 per cent in larger EU15 Member States. In addition, 49.4 per cent of smaller EU15 Member States thought national legal frameworks were problematic with regard to exploiting the full potential of ERA-NET. However, of later group 32.4 per cent reported that initial national legal problems had now been overcome.

Legal aspects may be just one explanatory factor for the barriers to funding non-residents. Other factor may include political barriers because of lack of precedents, clarity of rules or lack of justification of benefits.

Figure 52 - Did any of the following factors either help or hinder your organisation to exploit the full potential of its participation in this ERA-NET? - National legal programme conditions (e.g. funding of non-residents IPR)



As already seen in the previous section on the benefits of ERA-NET activities, a majority of participants had some evidence that ERA-NET had opened up access to foreign research communities and groups that were not previously present in their country¹¹⁵. Across themes, a majority of participants in Energy, Environment and INCO reported some evidence that ERA-NET had opened access to foreign research communities and groups that were not previously present in their country. This figure was lowest for Social Sciences and Humanities at 22.6 per cent¹¹⁶.

On the whole, these figures indicate that the scheme has indeed helped to open up National Programmes. This is despite the fact that enquiries about the rationale for participation revealed that only around five per cent of participants joined the ERA-NET scheme to enable the opening up of programmes in an existing or new area of research. Without wanting to lessen the impact that these result suggest, there is potentially a risk that respondents interpreted the question not to mean non-resident researchers (NNRs) residing in a different country but researchers of foreign origin residing in the funding country. It is expected that the ongoing field work will be able to shed more light on this issue.

¹¹⁵ Refer to participant questionnaire - question 7_2.

¹¹⁶ refer to participant questionnaire - question 7_2.

Key findings from the Coordinator Survey

The following section also provides insights into the propensity to open-up national programmes and the extent to which partners are engaging and working together.

The coordinators were asked about the number of programmes/countries that participated by making funding contributions to a joint call. In the case of many of the calls six to ten programmes/countries provided funding (equivalent to 40 per cent overall). The analysis further shows that in a majority of the calls the programmes/countries that participated in funding the calls covered over half of all the ERA-NET partners. These are shown in the tables below.

Table 8 -Description of the number of national programmes/countries participating in the call

Number of national programmes/countries participating in the call	Number	Percentage
1 to 5	26	22.6%
6 to 10	46	40.0%
11 to 15	26	22.6%
16 to 20	8	7.0%
Unknown	9	7.8%
Total	115	100.0%

Table 9 - Description of the percentage of national programmes/countries participating in the call as a proportion of all the ERA-NET partners

Percentage of national programmes/countries participating over total number of ERA-NET participants	Number	Percentage
1 to 25%	10	8.7%
26 to 50%	27	23.5%
51 to 75%	26	22.6%
76 to 100%	42	36.5%
Unknown	10	8.7%
Total	115	100.0%

These trends were similar in the case of programmes as is shown in tables overleaf.

Table 10 - Description of the number of national programmes/countries participating in the programme

Number of national programmes/countries participating in the programme	Number	Percentage
1 to 5	1	6.7%
6 to 10	5	33.3%
11 to 15	4	26.7%
16 to 20	2	13.3%
Unknown	3	20.0%
Total	15	100.0%

Table 11 - Description of the percentage of national programmes/countries participating in the programme as a proportion of all the ERA-NET partners

Percentage of national programmes/countries participating over total number of ERA-NET participants	Number	Percentage
1 to 25%	0	0.0%
26 to 50%	3	20.0%
51 to 75%	0	0.0%
76 to 100%	7	46.7%
Unknown	5	33.3%
Total	15	100.0%

Key findings from the Impact analysis

The impact analysis tested the extent to which joint calls, activities other than joint calls and pre-existing relationships were influential in providing access to foreign research communities / groups not present in the respective countries.

Evidence of Access to research communities / groups not present in respective countries

Overall evidence of access to research communities / groups not present in the respective countries as a result of ERA-NET participation was significant. A loose positive association could be evidenced between the participation in joint calls and the access to non-resident researchers. Pre-existing relationships and participation in joint activities other than joint calls were negatively associated with the access to foreign research communities. In sum, participation in ERA-NET joint calls may have contributed to giving access to foreign research communities/groups not present in own country, although the association was not strong enough to affirm this for sure¹¹⁷. Life Sciences, recorded higher than average access to foreign research communities as a result of ERA-NET participation, as opposed to Fundamental Sciences which recorded lower than average access.

Key findings from the Case studies

Findings from the country and thematic case studies are in line with the evidence gathered from the participant survey and coordinator survey, that is, that the ERA-NET scheme did create opportunities to undertake transnational cooperation activities both in Europe and beyond. Evidence is scarce, however, when it comes to demonstrating that the ERA-NET scheme has influenced and or facilitated the funding of non-resident researchers or their participation to national programmes.

- In Austria, virtual pots were preferred by Austrian participants for administrative reasons - funding of foreigners under an ERA-NET real common pot was more complex than doing so directly under Austria's national programme.
- In Croatia, no foreign individual or organisation was directly funded by Croatia. Croatian interviewees expressed scepticism towards a real common pot system due to already small budgets for R&D at the national level.
- In France, most funding contributions were made through virtual pots. Real common pots were extensively used but largely confined to Fundamental Sciences.
- In Italy, administrative procedures were modified in some cases to enable participation in joint calls. Most of the funding to joint calls was done through a virtual pot mode of financing.
- In Germany, BMBF developed guidelines for joint calls, as a result of its ERA-NET experience and stipulating a general preference for virtual pots. Real common pots were foreseen only on a case-by-case basis.
- In the Netherlands, no rule prevented the funding of non-resident researchers in the Netherlands and participants funded several joint calls through a real common pot

¹¹⁷ Refer to Annex 8 for detailed information.

- In Norway, participation in the ERA-NET scheme or individual ERA-NETs has opened up Norwegian funding to non-Norwegians or allowed Norwegian R&D money to be put into common pots in specific cases.
- In Poland, participants preferred the virtual pot mode of funding due to their mission to support Polish researchers.
- In Romania, under FP6, the preference and policy of the Romanian state was oriented towards virtual pots. Real common pots, allowing for funding of non-resident researchers or organisations, required specific approval from the Ministry of Finance and was hence regarded as too cumbersome.
- Slovenia contributed to five real common pots, which constitutes over a third of Slovenian financial contributions and can be seen as a step towards opening up of Slovenian R&D programming.
- In Turkey, National Turkish research programmes were not opened up to foreign beneficiaries. Turkish law specifically prohibits the funding of non-resident researchers and organisations, and there is no indication of any changes in this respect in the foreseeable future.
- In the UK, there were no real common pots in the energy field and there was a sentiment that opening up had not been very successful in this area.

As for the thematic areas, evidence of opening up included:

- Energy, there were no joint calls funded through real common pots and there was a sentiment that opening up had not been very successful in this area. Generally, there was not enough political willingness to engage in common pots in energy which may have been due to the field being governed by strong industrial interests.
- Environment, participants experimented the funding of joint call through the 'mixed-mode' or distributed common pot as well as the pooling of national resources on major international research projects. This apparent openness appeared stronger than in other ERA-NET domains although most of the joint calls were funded through virtual pots.
- Industrial Technologies and SMEs, no evidence has been found to conclude that the ERA-NET scheme in general has contributed to the opening up of national programmes to foreign beneficiaries in Industrial technologies and SMEs. More than 90 per cent of all joint calls were financed via virtual pots
- International Cooperation, national laws and regulatory constraints seemed to have a negative influence on the opening up of national programmes in the theme.
- A key feature of Fundamental Sciences ERA-NETs was their relatively high degree of openness. This was demonstrated by the amount of funding contributions channelled via real common pots under this theme (e.g. more than €104m, corresponding almost entirely to EURYI funding contributions). This represented 90 per cent of all funding contributions made to joint calls in the theme. The remaining 10 per cent was funded through virtual pots for the most part.
- Life Sciences, many participants were keen to support transnational R&D collaboration in Europe (and policy-level support for this appeared to be increasing). However, there was virtually no commitment to real common pots, which were regarded as too difficult to achieve for the type of bottom-up cooperation.
- Social Sciences and Humanities, there was limited evidence of funding of non-resident from national R&D programmes and limited opening national programmes to non-resident research communities.
- In transport, strong industrial interests tended to hamper the opening up of national programmes in transport-related ERA-NETs. Around 10 per cent of joint calls were channelled through a real common pot which indicates a relatively modest degree of opening up.

Key conclusions regarding impact on opening up of national programmes

Robust evidence demonstrates that the ERA-NET scheme created new opportunities to undertake transnational R&D cooperation over the period. These opportunities seemed to have been present across all thematic areas, but most particularly among Regional, Fundamental Sciences, INCO and Industrial Technologies and SMEs ERA-NETs. The scheme

also influenced the adoption of new eligibility criteria that allowed for funding of non-resident researchers to some extent. As a result, a majority of participants had some evidence that ERA-NET had opened up access to foreign research communities and groups that were not previously present in their own country. In sum, the ERA-NET schemes created conditions for opening up of national programmes during and post-FP6.

As for tangible actions demonstrating the degree of openness, such as schemes for mutual opening up of facilities or laboratories and contribution to joint calls using a real common pot, the picture is less optimistic. A minority of participants open their facilities and laboratories to foreign nationals and a vast majority of joint calls used virtual pots as a financing mode. A number of 15 joint programmes were financed, mainly in the fields of Environment (e.g. ECORD), Social Sciences and Humanities (e.g. NORFACE), Industrial technologies and SMEs and Transport. Overall, opening up of funding of non-residents is curtailed by national policy and landscapes and it is not obvious that opening up can therefore be expected to become the default policy across all themes or countries post FP6.

6.5 Best practice and lessons learned

The following section looks at evidence gathered and analyses undertaken to try to assess:

Q.5: What are the lessons learned for all possible stakeholders (ministries, agencies, researchers doing ERA-NET funded transnational projects) and where can these lessons be traced (legislative acts, codes of conduct, programmes, evaluations and studies, institutional web-sites, publications or public presentations, etc).

Expectations of impact

It is expected that early FP6 ERA-NET experience will have generated a number of lessons, some of which will have been incorporated in the development of subsequent activities under the ERA-NET scheme. These lessons would be visible at the more strategic as well as the operational level.

On the one hand, a higher level of strategic involvement of policy-makers in a participating country should help to maximise the influence or cross-fertilisation of the scheme on national policy. Hence why it should have been easier to achieve political buy-in for the scheme were ministries participate directly in the ERA-NET (at the strategic level) rather than on a delegated, agency level. At the same time, when putting agencies in charge of ERA-NET activities at the operational level, it more stakeholder buy-in would be expected. On the other hand, one of its most distinguishing characteristics of the bottom up nature of the ERA-NET scheme, means that participants may have become involved initially without much consideration of synergy with national policy. Therefore ERA-NET participation would be expected to have had greater impact where dedicated structures for participating have been set up (e.g. for delegation, coordination, joint activities, joint calls, etc.). Lessons learned are likely to have fed back to the national policy and programming level and taken into account for subsequent transnational research policy such as the countries strategy for involvement in FP7.

Key findings from the Participant Survey

A first step in generating lessons from the FP6 ERA-NET experience lies in the identification of factors that might have helped or hindered the full potential of the ERA-NET scheme¹¹⁸. Identification of Success Factors and Obstacles

National thematic programme priorities were seen as a success factor by 16.5 per cent of participants against 25.6 per cent who saw them as a problem. However, among those 25.6 per cent, a third (13 per cent) indicated that this problem had successfully been overcome as a result of the initial ERA-NET experience. Interestingly, thematic priorities were seen as a success factor by 41 per cent of Associated countries, much higher than the average of all participants. Across themes, national thematic priorities were a success factor for more than one in five participants in energy, regional, social sciences and humanities as well as transport.

National cultures or research traditions were seen as a problem by 28.6 per cent of participants, though half of these also thought this problem had been overcome over the course of the ERA-NET experience. Again, the share of participants from Associated countries who reported national culture as a problem was above average at 50.6 per cent. Across themes, two thirds or more of the participants in the Fundamental and Social Sciences and Humanities thought that national cultures were presented no problem for exploiting the potential of the ERA-NET.

Lack of national level resources (i.e. additional funding) were seen as a problem by more than half of all participants, though a quarter also thought that this problem had been overcome over the course of FP6. Surprisingly, national resources were less of a problem for EU12 Member States (33.7 per cent) than for the EU15 Member States or

¹¹⁸ Refer to participant questionnaire - question 8_1.

indeed Associated countries. Associated countries were the most able to overcome resource issues. Also, the availability of national resources was seen as a success factor by more than 10 per cent of participants, and particularly in the field of Energy where this was a positive factor for about one in five participants.

National administrative procedures were seen as problematic for 57 per cent of participants across all countries though half of the participants who identified this as a problem also thought it had been overcome. National administrative procedures were reported to be a continuing source of problems for a large proportion of EU12 (55 per cent) and Associated countries (48 per cent).

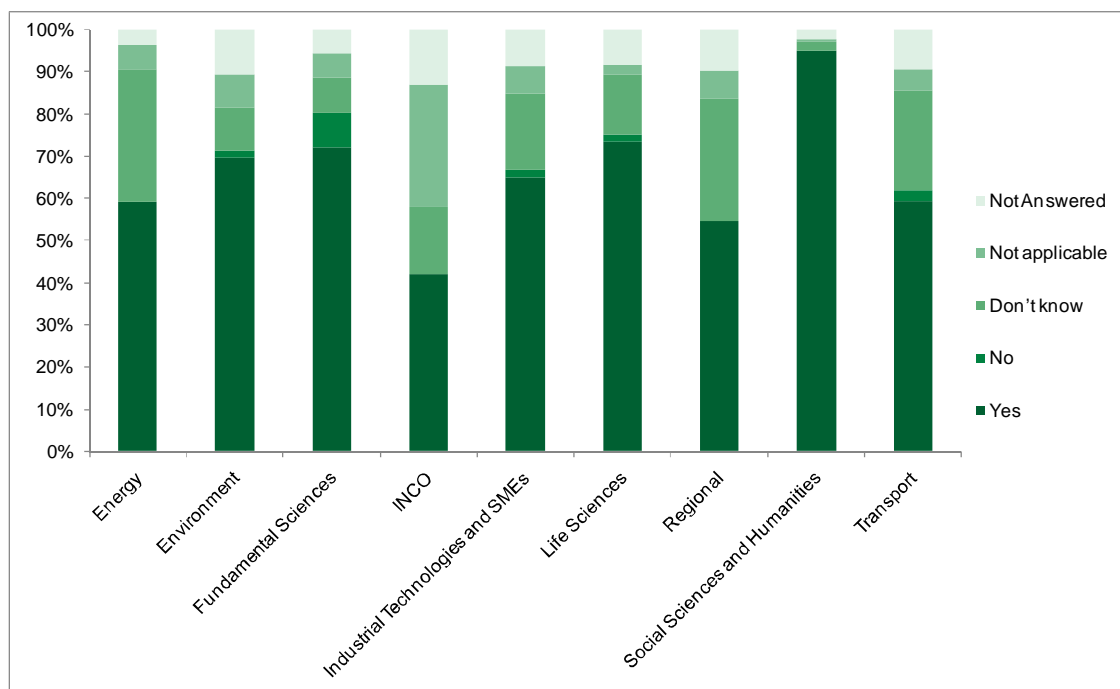
About 25 per cent of participants thought national legal programme conditions continued to pose a problem in exploiting the full potential of the ERA-NET scheme. However, 19.6 per cent stated that this had been overcome. It should be noted that 34.9 per cent of countries did not think national legal conditions to be a problem for funding non-resident researchers or dealing with IPR issues across borders. This was especially the case in larger EU15 Member States. In contrast, a majority of the participants from EU12 Member States reported national legal programmes as a problem that still needed to be overcome. Across themes national legal frameworks were seen as a particular problem by participants in the areas of Fundamental Science, INCO, Industrial Technologies and SMEs and in Transport. In contrast, this was less of an issue in Energy, Environment and Regional ERA-NETs.

EC administrative procedures or legal requirements were seen as a problem that had been overcome by more than one third of participants with a further third stating that this had not been a problem for them. EC administrative procedures or legal requirements posed the biggest initial problems, now overcome, for the EU12 and Associated countries (64.5 per cent and 52.4 per cent of participant responses respectively).

Generation of Lessons Learned

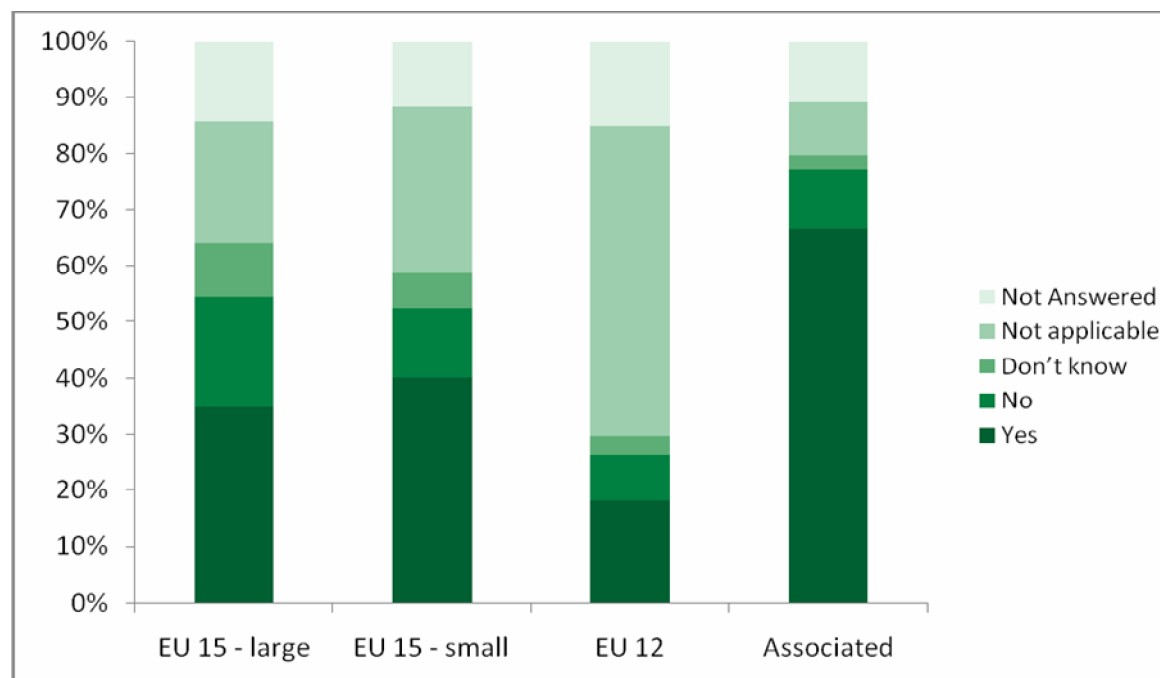
Having identified problems and success factors, it is important to examine whether the appropriate lessons were derived from these insights. More than 70 per cent of participants across all ERA-NETs indicated that lessons were generated from their FP6 ERA-NET experience. This picture was consistent across country groupings, though larger EU15 Member States had a slightly lower rate with just below 60 per cent of participants indicating that lessons learnt would allow for more efficient implementation of the ERA-NET scheme in the future. Across themes, this rate was particularly high among the Social Sciences and Humanities with more than 95 per cent indicating that lessons learnt would allow for more efficient implementation in future. A majority of participants in all themes (except INCO) shared this opinion.

Figure 53 - If this ERA-NET is set to continue beyond FP6 do you think lessons have been learnt that would allow it to be implemented more efficiently in the future or to improve its effectiveness?



One of the lessons arising from ERA-NET relates to the impact of involvement in multiple schemes. Overall, 36.1 per cent of participants indicated that being involved in multiple ERA-NETs had been beneficial for them compared with 13.4 per cent who thought this had not been beneficial. Across country groupings, engagement with multiple ERA-NETs was considered particularly beneficial by the smaller EU15 Member States and by Associated countries. In contrast, almost 20 per cent of participants from the larger EU15 Member States thought involvement in multiple ERA-NETs had not been beneficial.

Figure 54 - If your organisation was involved in more than one ERA-NET did this bring any benefits to your participation in this ERA-NET?



Across themes, INCO participants were the most likely to state that multiple ERA-NET involvement had not been beneficial to them (35.5 per cent) compared with 63.9 per cent of participants in Fundamental Science and 40.7 per cent in Industrial Technologies and SMEs who found such involvement beneficial. It should also be noted that in the Social Sciences and Humanities theme, 67.1 per cent of participants said that this question did not apply to them (presumably because they were only involved in a single ERA-NET)¹¹⁹.

Feedback of Lessons into ERA-NETs

In terms of examining how lessons learned at an early stage fed into later ERA-NETs to improve the efficiency of the scheme, it is useful to compare set-up costs of earlier and later ERA-NETs. On a country basis, no clear message emerges from the analysis with only 6.7 per cent of participants stating that set-up costs for later ERA-NETs had been lower, compared with 11.4 per cent who think they had remained the same, and 14 per cent who thought set-up costs had increased over the course the ERA-NET programme. However, it should be noted that 67.9 per cent of participants were unable to answer this question. This suggests that these figures should be interpreted with care, and that financial efficiency was not a primary concern for some participants¹²⁰. On a thematic basis, set-up costs appear to have decreased most in the Social Sciences with 17.1 per cent of participants indicating that this was the case. At the same time, more than 20 per cent of participants in the Environment, INCO, Regional and Transport ERA-NETs themes thought set-up costs had increased over time. It is not clear from the data why set-up costs might increase. It is possible that this can be explained by the larger number of participants and greater geographical coverage of later ERA-NETs or rises in inflation across Europe over the period¹²¹.

Another lesson fed back by the participants relates to the importance of the role of coordinators for the success of the overall scheme and individual ERA-NETs. Overall, 83.2

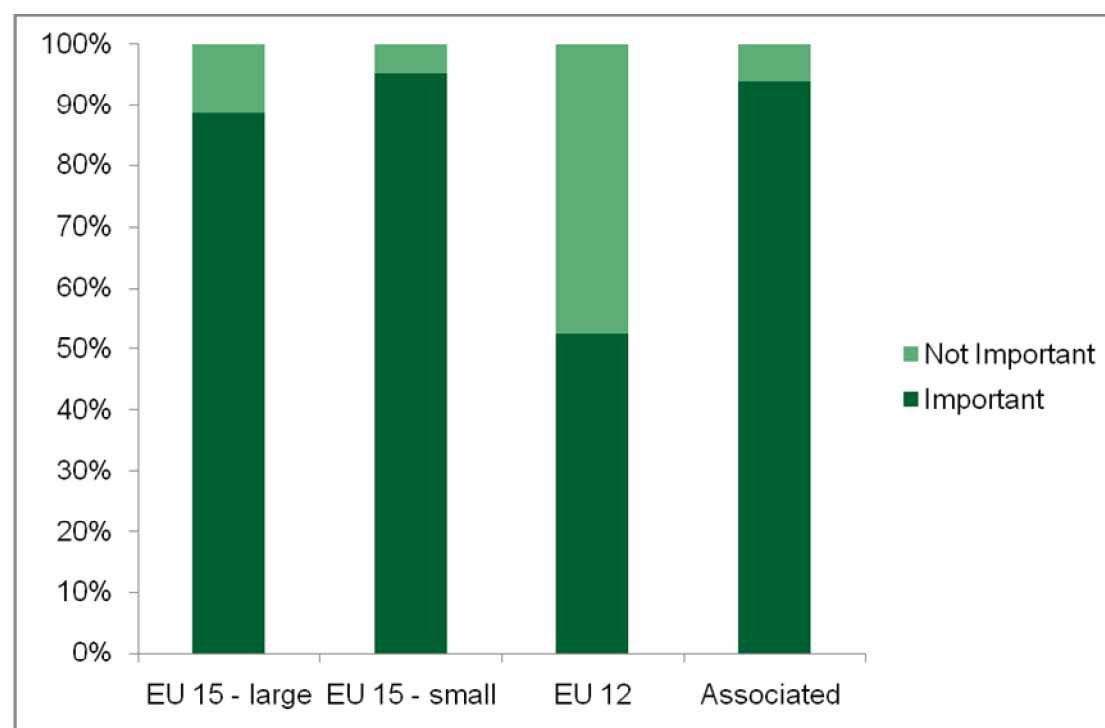
¹¹⁹ Refer to participant questionnaire - question 8_3.

¹²⁰ Refer to participant questionnaire - question 8_4.

¹²¹ Refer to participant questionnaire - question 8_4.

per cent of participants thought the performance of the coordinators was important for the success of ERA-NETs in general and this figure was highest for the EU15 and Associated countries. A majority of the participants from EU12 Member States (52.6 per cent) still thought that the coordinator was an important factor in determining success¹²². Interestingly, when asked about the performance of their ERA-NET approximately 90 per cent of participants, thought that the role of the coordinator had been an important success factor.

Figure 55 – To what extent has the coordinator been important to the ‘success’ of your ERA-NET?

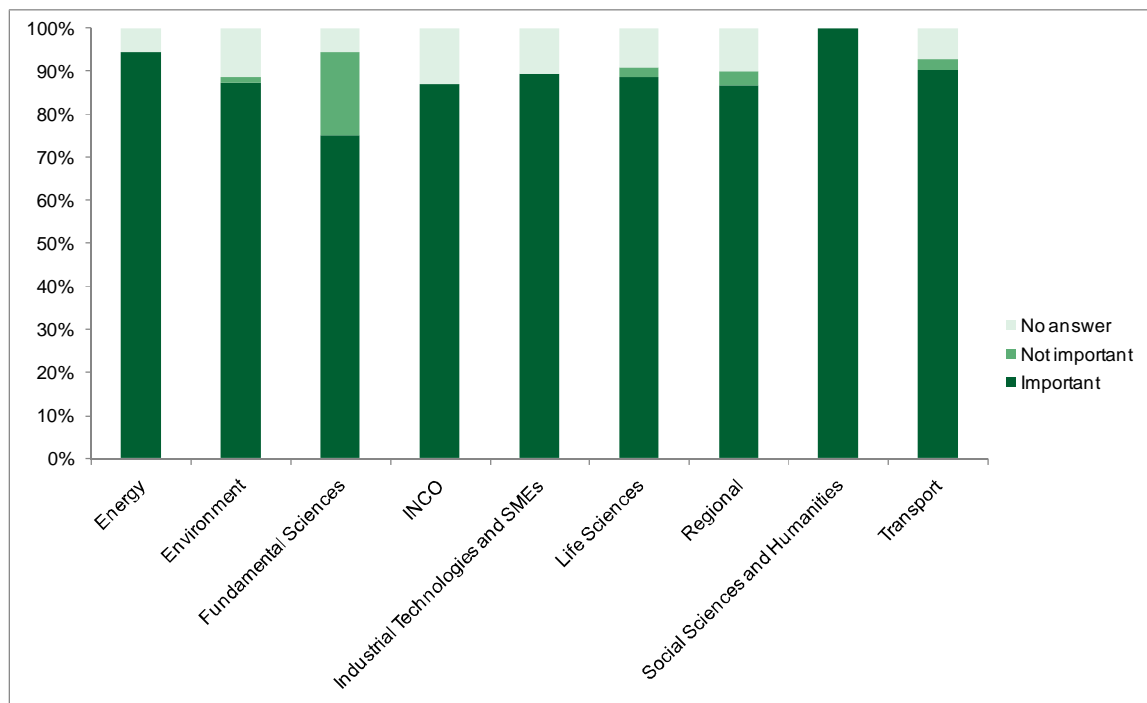


Across themes, the importance of the coordinator was consistently rated very highly by participants (above 80 per cent). In the Social Sciences and Humanities theme the coordinator was still valued by a majority of 52.7 per cent who thought they were important for the success of “ERA-NETs in general”¹²³. Again, in relation to individual ERA-NETs, there is some interesting variation across themes. Whereas all Social Science participants thought the coordinator had been important for the success of their “specific ERA-NET”, this figure drops to 75 per cent in the Fundamental Sciences. Nevertheless, across all themes, the role of the coordinator was seen as highly important for the success of individual ERA-NETs.

¹²² Refer to participant questionnaire - question 8_5.

¹²³ Refer to participant questionnaire - question 8_6.

Figure 56 - To what extent has the coordinator been important to the 'success' of your ERA-NET?

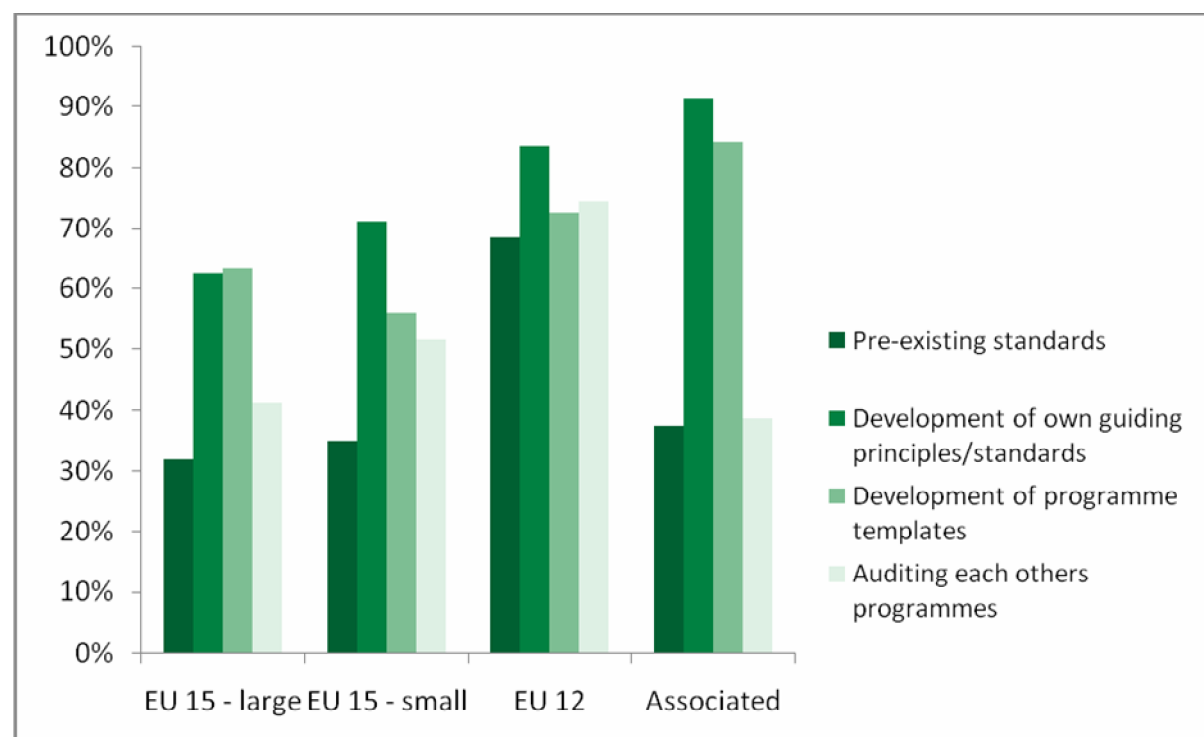


The open-ended answers revealed that changes in the managerial staff of the ERA-NETs had had an effect in practical terms. Some participants highlighted examples of new managers having better qualifications and greater understanding, as well as more active involvement in the ERA-NET scheme overall. On the other hand, concerns were raised around the level of commitment of the new managers in some of the cases.

Finally, participants were also asked about the information exchange systems which they established in their ERA-NET to implement lessons learned, and to foster good practises. Overall, the development of own standards and guiding principles was seen as an important success factor by 73.4 per cent of participants. This is compared with 65.3 per cent of participants who mentioned the development of programme templates, 51.9 per cent who mentioned auditing the programmes of other participants and 41.9 per cent who mentioned pre-existing standards such as CERIF. The fact that own standards and programme templates were seen as more important than existing standards testifies to the bottom-up nature of the ERA-NET scheme, the diversity of practises that it generated and the ensuing difficulty of developing appropriate standards and guidance which are applicable across the full range of ERA-NETs.

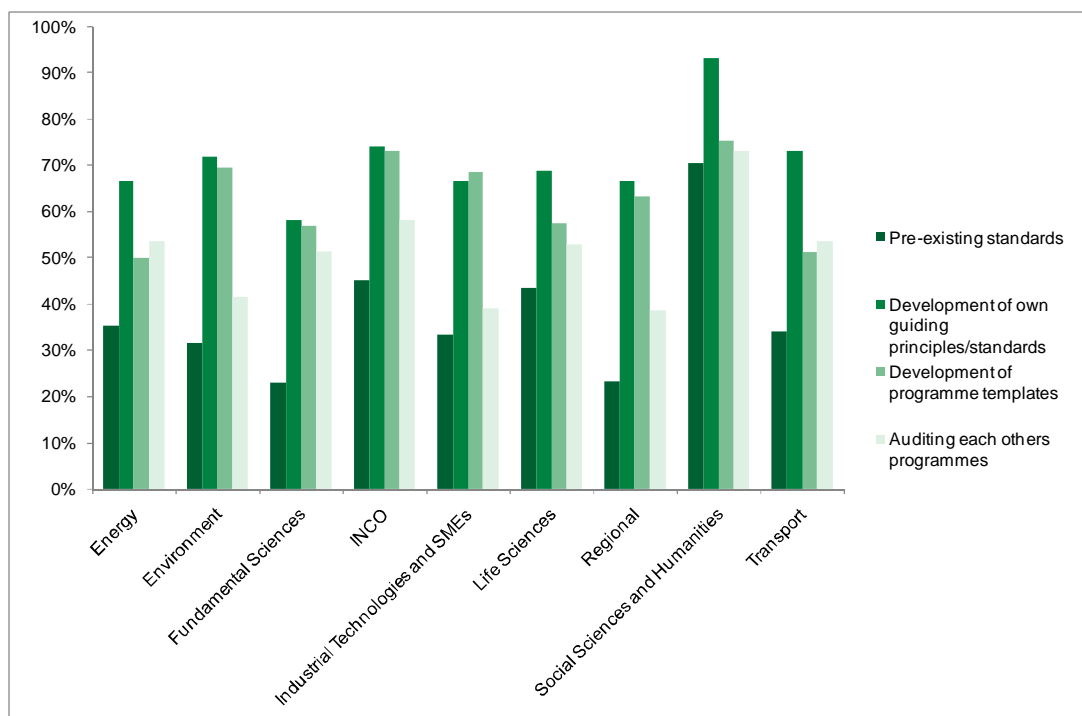
Across country groupings, the participants from EU12 Member States were most positive about the importance of the various information exchange tools including pre-existing standards (68.4 per cent). This compares with less than a third of EU15 Member States who thought such pre-existing standards were important for good cooperation. Among the participants from EU15 Member States, only the more bottom-up tools of developing own standards and guidelines and programme templates were considered important for good cooperation by a majority of participants.

Figure 57 - What information exchange systems were developed within your ERA-NET and how important are these to the quality of the cooperation?



Across themes, pre-existing standards were considered important for good cooperation by more than 70 per cent of participants in the Social Sciences and Humanities compared with less than half of participants in all other themes. In comparison, a majority of participants across all themes found own standards and guidelines, and programme templates important for cooperation, though important differences across themes remain. Finally, in terms of auditing the programmes of others, Regional ERA-NETs and Industrial Technologies and SMEs were least positive about this tool with less than 40 per cent of participants considering this important for good cooperation compared with over 70 per cent in the Social Sciences and Humanities. Across the other themes, opinions were split with around half of participants considered this an important tool.

Figure 58 - What information exchange systems were developed within your ERA-NET and how important are these to the quality of the cooperation?



Key findings from the Coordinator Survey

The coordinators were asked what would in their opinion be most beneficial actions that could be undertaken by the ERA-NET. The opinions were similar to what some coordinators had reported as the most beneficial actions undertaken thus far. For example, joint calls and programmes were often mentioned as beneficial actions that could be undertaken by the ERA-NET. This is natural given that more ERA-NETs have progressed further and are also closer to being completed. This also potentially indicates that the ERA-NETs have common aspirations across the board. The actions considered beneficial for future actions are summarised below.

- developing easy methods and procedures for cooperation at various levels;
- extending ERA-NETs further in Europe and beyond;
- having deeper integration levels for broader topics ;
- establishing tools to manage common calls;
- establishing permanent structures to take programmes further;
- harmonisation of procedures between ERA-NET members;
- developing ways of storing, analysing and sharing of knowledge;
- building a model to dealing with IPR issues in R&D projects;
- facilitating interaction between researchers; and
- developing training instruments.

Key findings from the impact analysis

The impact analysis tested the extent the following factors had an influence on the extent of participant involvement in ERA-NET activities, such as participation in joint calls and participation in activities other than joint calls:

- national thematic programme priorities;
- national admin procedures and legal programme conditions; and
- engagement in other transnational initiatives.

It would be anticipated that the first two factors would hinder the extent of the participant's engagement in joint activities, whereas the last one would help participant organisation to exploit the full benefits of their ERA-NET engagement.

Influence of the national thematic programme priorities on the extent of involvement in ERA-NET activities

Overall, and as stated above, national thematic programme priorities tended to hamper participation in joint activities. However, the results of the impact analysis shows that whenever national priorities were seen as helpful by participants, participants were able to participate in joint calls to a higher extent than otherwise. This is particularly clear for Industrial Technologies and SMEs, Environment and Life Sciences. However, there appears to be a negative association between helpful national priorities and the participation in activities other than joint calls. The lessons learned may be that the strict definition and alignment of national programme priorities with the ones of the ERA-NETs is a factor of success for the countries' contributing to joint calls¹²⁴.

Influence of national admin procedures and legal programme conditions on the extent of involvement in ERA-NET activities

Overall, national admin procedures and legal programme conditions appeared to have hindered participation in ERA-NETs. However, from the diagrams below, it seems that ERA-NET participants, despite limiting national procedures and legal conditions, were able to work around them to participate in joint activities. This is especially the case for Industrial Technologies and SMEs, Environment and Life Sciences when it comes to their participation in joint calls¹²⁵. It should be noted that the same remarks also apply to EC admin procedures or legal programme conditions¹²⁶.

Influence of engagement in other transnational initiatives on the extent of involvement in ERA-NET activities

Overall, engagement in other transnational initiatives appeared to have helped participation in ERA-NETs. This is particularly the case for the participation in joint calls where there appears to be a positive association between the engagement in other transnational initiatives and participation in joint calls, except for the Energy and Social Science and Humanities themes.

Key findings from the Case studies

The findings from the case studies are in line with evidence analyses from other sources.

A key driver for participating in the ERA-NET was to learn from one another and exchange good practices. This was an aspect that most interviewees reported to have materialised and added value. Examples of immediate effects of this knowledge-transfer are evidenced in the number of case study countries adopting the practice of using international evaluation panels for reviewing proposals, something which had previously been done domestically. There are likely to be more long-term behavioural impacts originating in this knowledge-transfer which at the point of evaluation were not possible to quantify. To ensure that any future schemes allow for sharing of knowledge would, therefore, seem justified.

Through the case studies it transpired that early agreement on common principles, procedures and definitions between participants on issues other than funding was paramount to the effective functioning of the ERA-NETs as well as their activities, including joint calls. Examples included joint guidelines, common evaluation procedures, and common application forms for joint calls or more generally joined up dissemination strategies or common glossaries of definitions.

¹²⁴ Refer to Annex 8 for further information

¹²⁶ Refer to Annex 8 for further information

Other areas of good practices included the importance of a good coordinator, ensuring national level coordination to avoid duplication, and the importance of achieving effective buy-in from senior policy-makers in the country, whilst maintaining a bottom-up approach.

Through the case studies there was evidence that the national research landscape (including the Member State's funding policies and political constraints) defined practices concerning the ability to engage in joint calls and what funding model to adopt. In the majority of cases this meant funding joint calls via virtual pots and targeting primarily participant countries' own researchers. To facilitate smoother implementation of joint calls, good practice would include ensuring that participants have an understanding of the relative autonomy over funding held by each participant before engaging in joint calls. This should be done hand in hand with the development of common principles and procedures as high-lighted above.

A more detailed summary of lessons learned and good practices can be found in Volume 4 of this report.

Key conclusions regarding good practice

The participant survey high-lighted several obstacles for undertaking transnational R&D cooperation.

- National thematic programme priorities were seen as a problem by a majority of participants.
- Lack of national level resources (i.e. additional funding) was seen as a problem by more than half of all participants.
- National administrative procedures and legal conditions were seen as problematic for a majority of participants across all countries.
- EC administrative procedures or legal requirements were seen as a problem that had been overcome by more than one third of participants.

Despite these obstacles, the impact analyses showed participants were able to work around national and EC procedures/legal requirements to participate in joint calls. National thematic priorities could in some cases act as a catalyst for participants to exploit the full benefits of their engagement in ERA-NETs.

Success factors included:

- Multiple participation in ERA-NETs and engagement in other transnational initiatives were seen as helpful by a majority of participants.
- The role of coordinators for the success of the overall scheme and individual ERA-NETs was seen as crucial.
- Information exchanges and sharing of information were also regarded as a key success factor by a majority of participants.

7. Findings in relation to deliverables

The findings presented in this chapter focus on answering 14 deliverables, or sub-questions, outlined in the Terms of Reference (D1-D14). The findings are mainly based on the evidence gathered through the participant and coordinator surveys and to a lesser degree the case studies.

7.1 Attraction of relevant stakeholders to the ERA-NETs

This section reports on the evidence gathered and analyses undertaken in relation to Deliverable 1 (D.1):

“Evidence that significant numbers of relevant stakeholders were attracted to participate in ERA-NETs”.

Expectations of impact

The expectation would have been that the ERA-NET scheme would increase the international orientation of some participants, that the degree to which participants were attracted to participate and play an active role would be a function of the strategic importance of the theme for the country, and where they would position themselves, in particular vis-à-vis other European countries. For instance it was expected that some participants would be very proactive whereas others would participate as observers. There was also an expectation that most countries would be of the view that key European countries would be missing from the ERA-NETs.

Key findings from the Participant Survey

Main research question 3 already discusses the geographical coverage of the ERA-NETs. In this section we delve more deeply into the reasons why organisations from different countries and in different themes joined ERA-NET.

Type of organisation

The analysis of the participant questionnaire responses has revealed that the type of organisation and number of ERA-NETs per organisation, alongside country group, are important variables to understanding whether the relevant stakeholders were attracted to participate in the FP6 ERA-NET programme. Most of the participants in FP6 ERA-NET were governmental (63 per cent) and private non-profit (20 per cent) organisations. Public commercial organisations represented in much lower numbers¹²⁷.

Level of Involvement

The level of involvement of participants with the ERA-NET scheme varied. In most cases (64 per cent), participants reported that their organisations had participated in one to five ERA-NETs during FP6. In 12 per cent of the cases the participation level reached the six to 10 range¹²⁸. Among the 22 countries that were involved in more than six ERA-NETs, a small number (Norway, Germany, France, Sweden, Austria and Spain) were involved in between 10 to 20 ERA-NETs. They provided some evidence to suggest that the participant organisations might understand the full potential of the programme better as they started gradually hosting more projects. Funding opportunities were reported to be particularly important for organisations with fewer ERA-NETs, as well those from the private, non-profit sector.

Rationale for joining

¹²⁷ Refer to participant questionnaire - question 2_15.

¹²⁸ Refer to participant questionnaire - question 1_2.

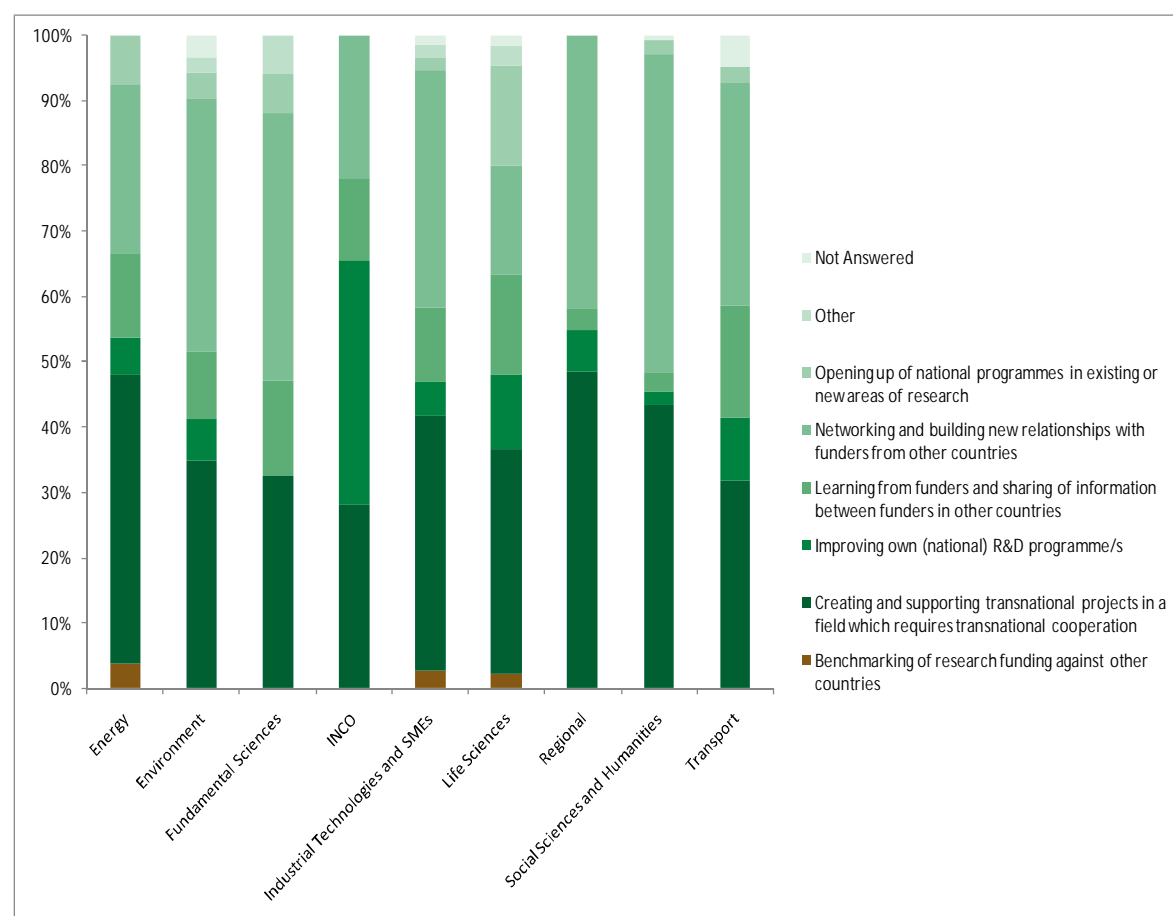
FP6 ERA-NET was generally perceived as an opportunity to access a higher number of stakeholders. When asked about the rationale behind the decision to participate in the programme, 38 per cent of the participants answered that their organisations were mainly seeking to create and support projects in fields that required transnational cooperation. Participants in the Life Sciences, Industrial Technologies and SMEs, and Energy themes reported this as their main rationale.

Around a third of the organisations (35 per cent) were mainly seeking to network and build new relationships with funders from other countries. Participants from the Social Sciences and Humanities, Environment and Fundamental Science themes reported this as their main rationale.

In 10 per cent of the cases the rationale was to learn from and share information with funders in other countries. Participants from the Life Sciences theme reported the highest numbers of participants providing this as a rationale (15 per cent) and Social Sciences and Humanities the lowest (three per cent).

Overall, around seven percent participated to improve national or own R&D programmes and five percent aimed to open up of programmes in an existing or new area of research. Among ERA-NETs in the life sciences field around 15 per cent, three times the average, responded that the main rationale was to open up programmes. A substantial number of INCO participants (37 percent and five times the average) reported the main rationale to have been to improve (own) national programmes.

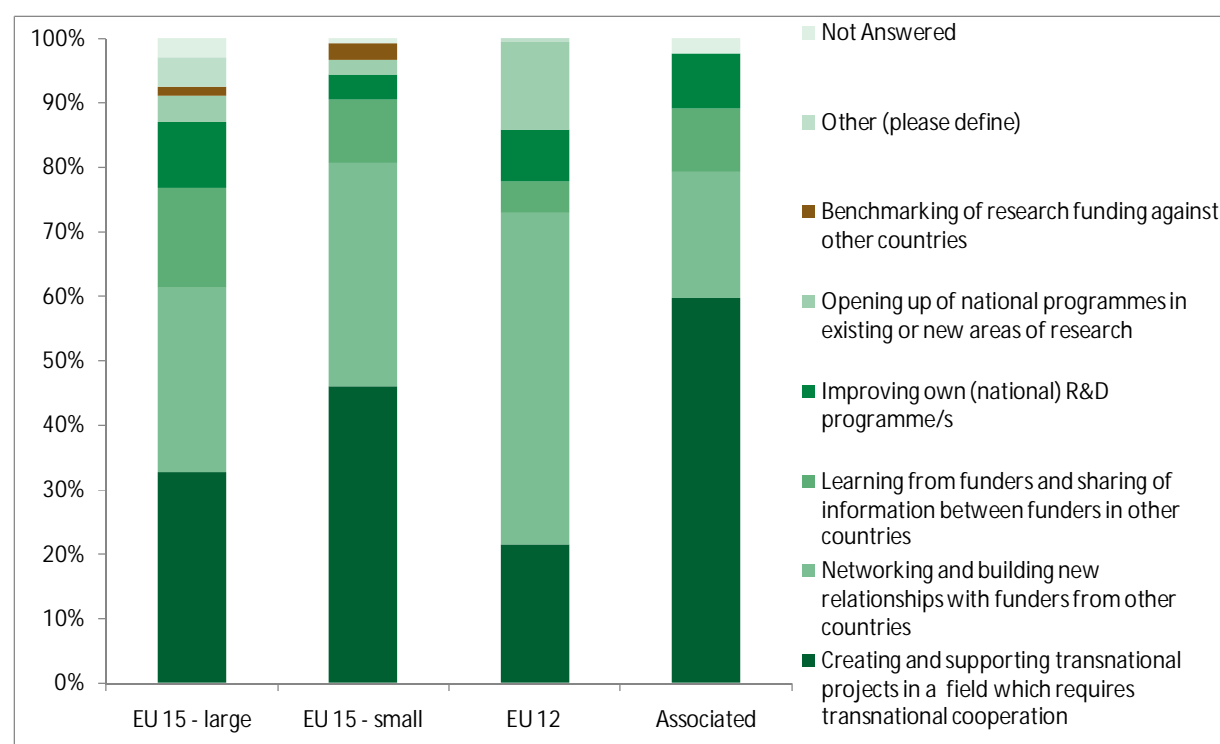
Figure 59 - What was your organisation's main rationale for participating in this ERA-NET?



More specifically, based on additional detail from open-ended questions, several participants mentioned opening up to the Baltic Sea region, the Western Balkan countries, China, the tropical countries and Latin America. Finally, some participants also mentioned that ERA-NET involvement could support individual researchers' careers through joint research activities and involvement in "cutting-edge" topics where a critical mass is required. Progress in a scientific field, as well as enhancing time and cost effectiveness were also mentioned as rationales for joining ERA-NET.

On a country basis, Associated countries displayed a special interest in promoting new transnational projects, as stated by 60 per cent of the respondents from those countries. EU12 organisations were mainly seeking to network and build new relationships with international funders (51 per cent of respondents) but also displayed the highest proportion of those wanting to open programmes (13.5 percent). The main rationale for the large and small EU15 country participation was to create and support transnational projects in fields which required transnational cooperation (32.8 per cent of the large EU15 response and 46 percent of the small EU15 response).

Figure 60 - What was your organisation's main rationale for participating in this ERA-NET?



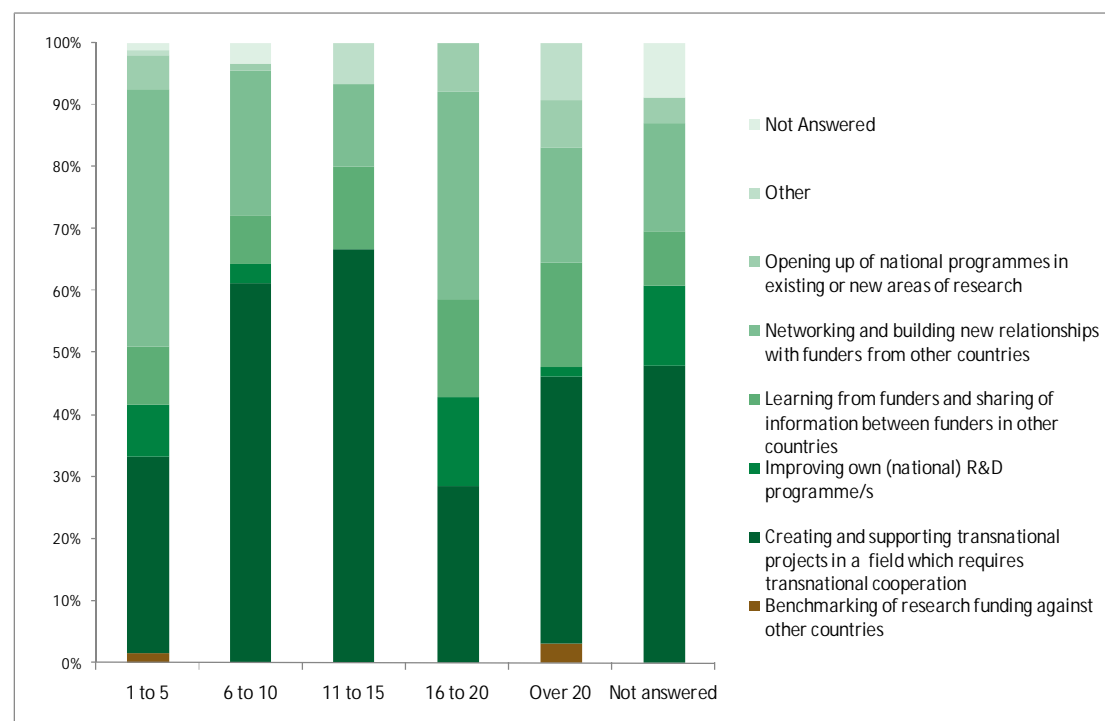
The reasons for participating in the ERA-NET scheme also varied depending on the type of organisation. Private non-profit organisation respondents reported that networking and building new relationships with international funders was the main reason to participate in around two thirds of cases (65 per cent). International organisations were particularly willing to set up projects that require transnational cooperation (57 per cent of the respondents)¹²⁹.

Interestingly, drivers to participate in FP6 ERA-NET differed systematically with the number of ERA-NETs that the organisation hosted. Those with more intense participation (six to 10 ERA-NETs) highlighted the capacity to undertake transnational initiatives as the main rationale for participation, as stated by 67 per cent of participants. In contrast, organisations with lower numbers of ERA-NETs (one to five) chose networking and building

¹²⁹ Refer to participant questionnaire - question 2_15 & question 2_16.

new relationships with international funders in 41 per cent of the cases. This may suggest that the possibilities which are offered by FP6 ERA-NET in terms of enabling transnational projects are perceived more clearly as the organisations gain familiarity with the programme, or it may be an indication of strategic buy-in.

Figure 61 – Rationale for joining ERA-NET by number of ERA-NETs joined



In terms of reasons for deciding not to participate in an ERA-NET, participants most frequently indicated a lack of interest/different national priorities (mainly in the EU15 Member States), lack of topic relevance, lack of corresponding national programmes, existing involvement in similar ERA-NETs or lack of national funding and staff capacity limits. Historical links with other country level organisations, organisational issues on the national level, lack of appropriate procedures, reluctance to set up a real common pot, already high number of participants in some ERA-NETs, high evaluation costs and lack of awareness of specific ERA-NETs were also mentioned occasionally.

Regarding particular countries, respondents focused on organisational issues such as ongoing re-structuring within the national landscape (in larger EU15 Member States) or within agencies, (in larger and smaller EU15 Member States) lack of a mandate to contribute to activities outside the country (participant from larger EU15 Member States) as well as communication difficulties such as cumbersome administrative procedures (EU12 Member States) or problems identifying relevant people within the country (EU12 Member States). Furthermore, some participants raised attention to the importance of inclusion in relevant informal networks for ERA-NET participation, and that the research communities in specific fields within some smaller countries were considered too small to participate in cross-country programmes.

Finally, participants also provided arguments as to why certain other countries should have participated in their ERA-NET. These included the availability of excellent research facilities and funding among some non-participating countries, the cross-border nature of certain research topics such as Transport, Energy, Climate change, Phytosanitary and Contamination, as well as a desire for geographical balance and proximity and wide coverage. More specifically it was mentioned that countries with relations to China as well as EU as neighbours such as Serbia, Macedonia, Ukraine and Russia could be valuable partners.

Key findings from the Coordinator Survey

The coordinator survey asked what kinds of organisations were eligible for funding in the calls. The results show that different types of organisation were relatively equally eligible for funding overall, although universities and research organisations were still a slight majority. This is illustrated in the table below:

Table 12 - Description of actors eligible for funding in the calls

Actors eligible for funding in the call	Number	Percentage
Universities	101	27.3%
Research organisations	103	27.8%
Industry (large companies)	69	18.6%
SMEs	75	20.3%
Other	22	5.9%
Total	370	100.0%

The themes most likely to involve industry and SME funding were Transport, Life sciences and Industrial technologies and SMEs. Conversely, this proportion was particularly low for the fundamental sciences.

Moreover, the coordinator survey investigated reasons why some partner organisations did not participate in the call. Coordinators were able to indicate multiple reasons. The main reason appears to be that partners were interested but could not participate for reasons of timing, legal and administrative issues. This is indicated in the table below.

Table 13- Reasons of non-participation in calls

Reason for non-participation in the calls	Number	Percentage
Some partners were/are interested, but could not participate for reasons of timing, legal issues, administrative issues etc.	75	45.5%
Some partners were/are not interested in the subject of the call	35	21.2%
Some partners preferred first to observe, but might participate in future calls	32	19.4%
Other	23	13.9%
Total	165	100.0%

The reasons for non-participation in the programmes reflected those of the joint calls. The most common reason was that partners were interested but could not participate for reasons of timing, legal and administrative issues (45.5 per cent). The other main reasons were that partners preferred first to observe but might participate in future calls (19.4 per cent, n=5) and partners were not interested in the subject of the programme (21.2 per cent).

The coordinators were then asked which reasons motivated their joint call for the purpose of launching specific types of projects. They were able to provide more than one motivation per call. The most important motivations were:

- "Europeanisation/Trans-nationalisation" of your national research system;
- Science and excellence driven research close to University environments; and
- Small and targeted trans-national RTD projects (few partners-few countries)

The main motivations for programmes to launch specific type of projects were largely the same as for joint calls. These are shown in the table below.

Table 14 - Description of the motivations to launch a specific type of project via joint calls and programmes

Motivations for joint call in order to launch specific type of projects	Joint calls		Joint programmes	
	Number	Percentage	Number	Percentage
"Europeanization/Trans-nationalisation" of your national research system	62	26.2%	8	19.0%
Science and excellence driven research close to University environments	50	21.1%	12	28.6%
Small and targeted trans-national RTD projects (few partners-few countries)	52	21.9%	6	14.3%
SME support measures	29	12.2%	4	9.5%
Support to national research programmes in form of mobility schemes and other measures (post doc)	17	7.2%	4	9.5%
Infrastructure support	11	4.6%	2	4.8%
International Cooperation strategies (INCO countries and beyond)	13	5.5%	3	7.1%
Targeted strategic RTD projects for large companies (like STREPS in the FP)	3	1.3%	3	7.1%
Total	237	100.0%	42	100.0%

Key conclusions

Participants in FP6 ERA-NETs were, for the most part, governmental and private non-profit organisations¹³⁰. The participant survey shows that the majority of participants were involved in a programme manager capacity. From a policy perspective, the main reasons for participation were to create and support projects in fields that required transnational cooperation. Participants in the Life Sciences, Industrial Technologies and SMEs, and Energy themes reported this as their main rationale. Reasons for non-participation were linked to the availability of excellent research facilities, the lack of interest in the focus of the ERA-NET or the lack of interest for transnational cooperation (as opposed to bilateral/trilateral cooperation) in some themes.

The EU12 Member States were generally more likely than the EU15 Member States and Associated countries to participate in the scheme with the intention to network and build relationships with funders from other countries, and less likely to do so in order to create or support transnational projects. This could be a result of there being fewer existing relationships between the research funders of the EU12 and the EU15 Member States, due to both historical legacies and the relatively recent entry into the European Union. Associated countries were more likely than others to participate in the scheme in order to create or support transnational projects, which could be a manifestation of a more strategic approach to the scheme.

The level of involvement of participants with the ERA-NET scheme varied. In most cases participants reported that their organisations had participated in one to five ERA-NETs during FP6. Funding opportunities were reported to be particularly important for organisations with fewer ERA-NETs, as well those from the private, non-profit sector.

¹³⁰ In line with the FP6 terminology, the following categories were used to survey ERA-NET participants:

- Governmental organisation (i.e. (local, regional or national public or governmental organisations, e.g. hospitals, schools, libraries...).
- Private Organisation, Non Profit (i.e. any privately owned non profit organisation).
- Public Commercial Organisation (i.e. commercial organisation established and owned by a public authority).
- Private Commercial Organisation including Consultant (i.e. any commercial organisations owned by individuals either directly or by shares).

Countries which participated most were from EU15 Member States and had a strong R&D position already. This, when seen in conjunction with the high level of joint call activity among the EU15 Member States, also indicates a more strategic approach to ERA-NET participation. Although organisations in the EU12 and Associated countries participated in the scheme to a lesser extent, there was involvement from each of the countries, demonstrating the wide-ranging attraction to the scheme. A visual representation of the participants involved in ERA-NETs is provided in Volume 4 of this report.

7.2 Existence of preferential configurations

This section reports on the evidence gathered and analyses undertaken in relation to Deliverable 2 (D.2):

“Evidence that preferential configurations have come to existence (number of participants, preferential links, relative concentration of coordinators if applicable, etc)”.

Expectations of impact

To some extent, the expectation would have been that the EU15 Member States would be more likely to engage in more and stronger bilateral collaborations as a result of the ERA-NET scheme and building on previous links. It would also be expected to see that basic science R&D funders would be well networked and informed of the scheme at an early stage, given their previous history of bilateral and multilateral collaboration. There was also an expectation that specific countries would tend to collaborate on specific themes of strategic importance to them.

Key findings from the Participant Survey

In order to ascertain whether preferential configurations have come to exist, the participant survey data analysis centred on i) the type of relationships between partners; ii) the undertaking of joint activities; and iii) the factors (national and international) intervening in the participation of the organisations. These topics were explored by i) country; ii) theme; iii) type of organisation; iv) status of organisation within FP6 ERA-NET; v) number of ERA-NETs per organisation; and vi) ranking position of organisation within the theme. The following section reports findings in the instances where patterns emerged through cross-tabulation of these variables.

Prior Relationships by Type of Organisation

Prior relationships have already been discussed in Q3 but here some additional details around this question are looked into in more detail. Among types of organisations, private not-for-profit organisations stood out as having had the highest level of prior relationships (87 per cent)¹³¹. Unsurprisingly, organisations whose status was as an ‘associate’ in the ERA-NET rather than a contracted partner had a lower level of prior relationships (47 per cent). Contracted partners were slightly above average at 69 per cent¹³². In addition, a larger share of participants from private not-for-profit organisations revealed that they had strengthened their prior relationships (87 per cent) than in the overall sample (63 per cent)¹³³. However, only 50 per cent of the associate organisation respondents considered that their prior relationships had strengthened, as opposed to 65 per cent in the case of contractors/partners¹³⁴.

Participation in joint calls

The way in which the configurations described above interacted with FP6 ERA-NET can be approached by investigating the participation in joint calls. Section 6.3 (Q3) already discussed the benefits from participation in joint calls and other activities but this section provides additional detail on levels of participation in ERA-NET activities. 37 per cent of participants stated that their organisations had participated in all of the joint calls, 19 per cent had participated in a minority of calls, 17 per cent in a majority, and 12 per cent had acted as observers, thus not actually participating in the joint-call option. In the case of the Associated countries the proportion of participants in all joint calls was 66 per cent. In contrast, EU12 Member States stood out for the high percentage of their ‘participation in a minority of joint calls’ (45 per cent).

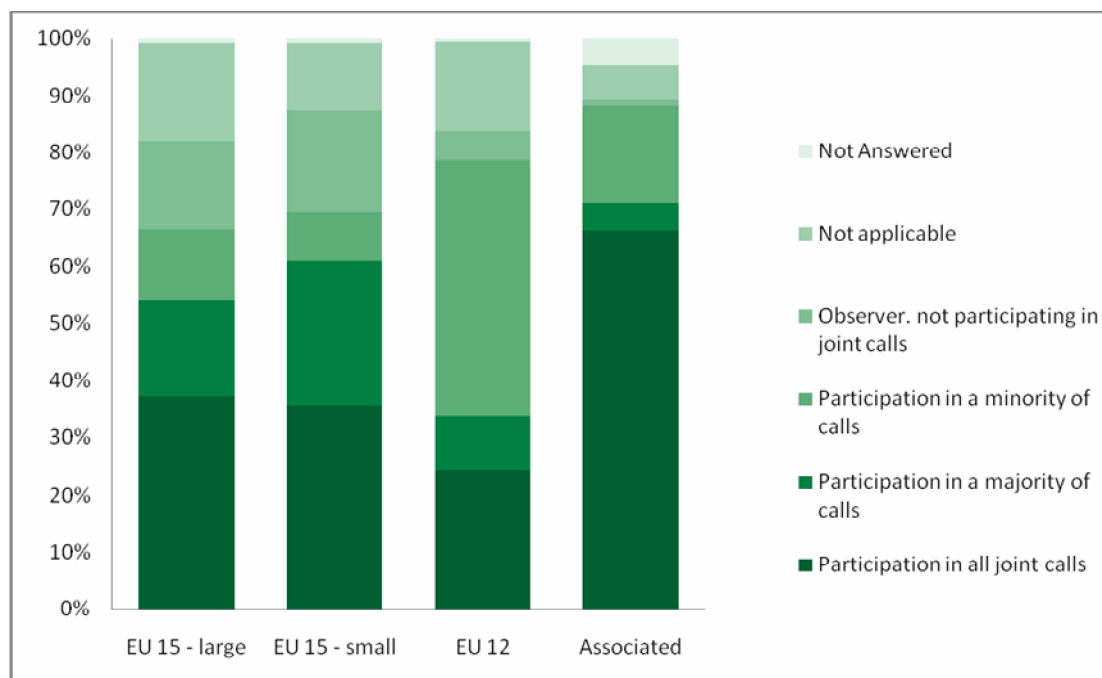
¹³¹ Refer to participant questionnaire - question 5_5 & question 2_15.

¹³² Refer to participant questionnaire - question 5_5 & question 2_2.

¹³³ Refer to participant questionnaire - question 5_5 & question 2_15.

¹³⁴ Refer to participant questionnaire - question 5_6 & question 2_2.

Figure 62 - Which of the following four statements best describes your participation in joint calls in this ERA-NET?

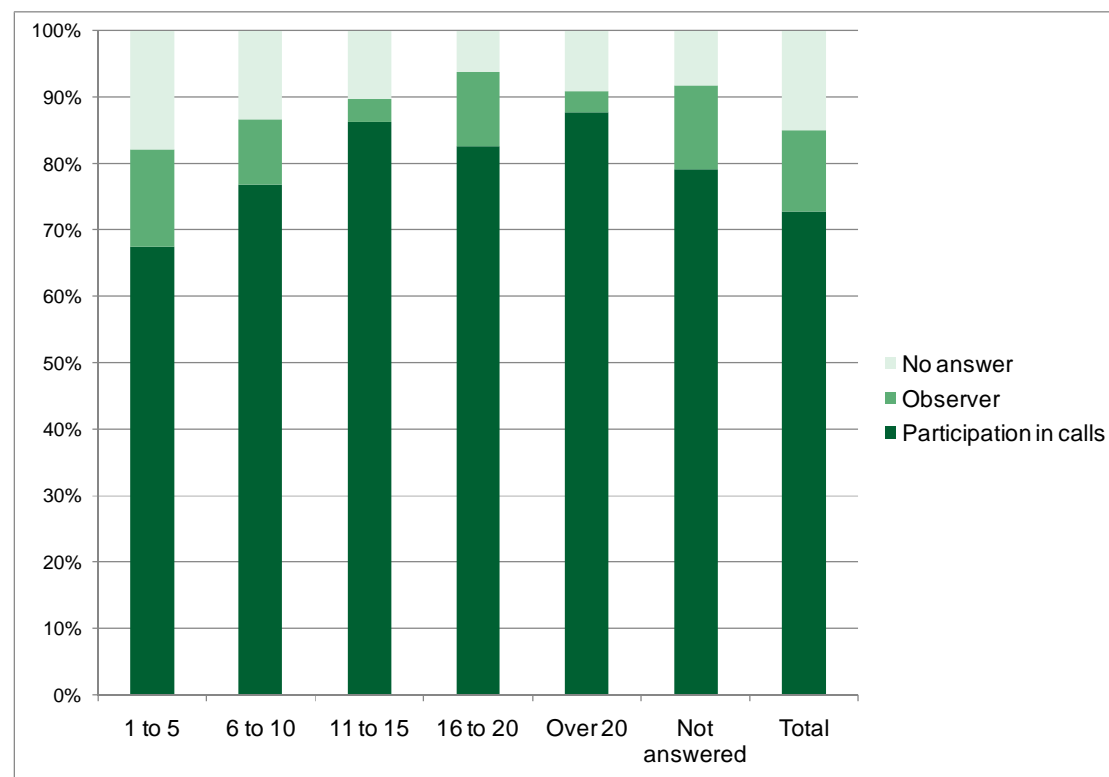


The analysis by theme found participation rates were distributed quite evenly across the remaining themes¹³⁵. Fundamental Sciences, Energy and Transport ERA-NETs involved more observers on average than other themes (above 20 per cent).

Another key variable to understand participation in joint calls seemed to be the number of ERA-NETs per organisation. The findings from the participant survey suggested that the more ERA-NETs in the organisation, the higher participation in joint calls. For instance, those organisations with one to five ERA-NETs participated in joint calls in 67 per cent of cases; those with six to 10 did so in 77 per cent of the cases, and those with 11 to 15 in 86 per cent of the cases.

¹³⁵ Refer to participant questionnaire - question 4_1.

Figure 63– Participant Status by number of ERA-NETs joined

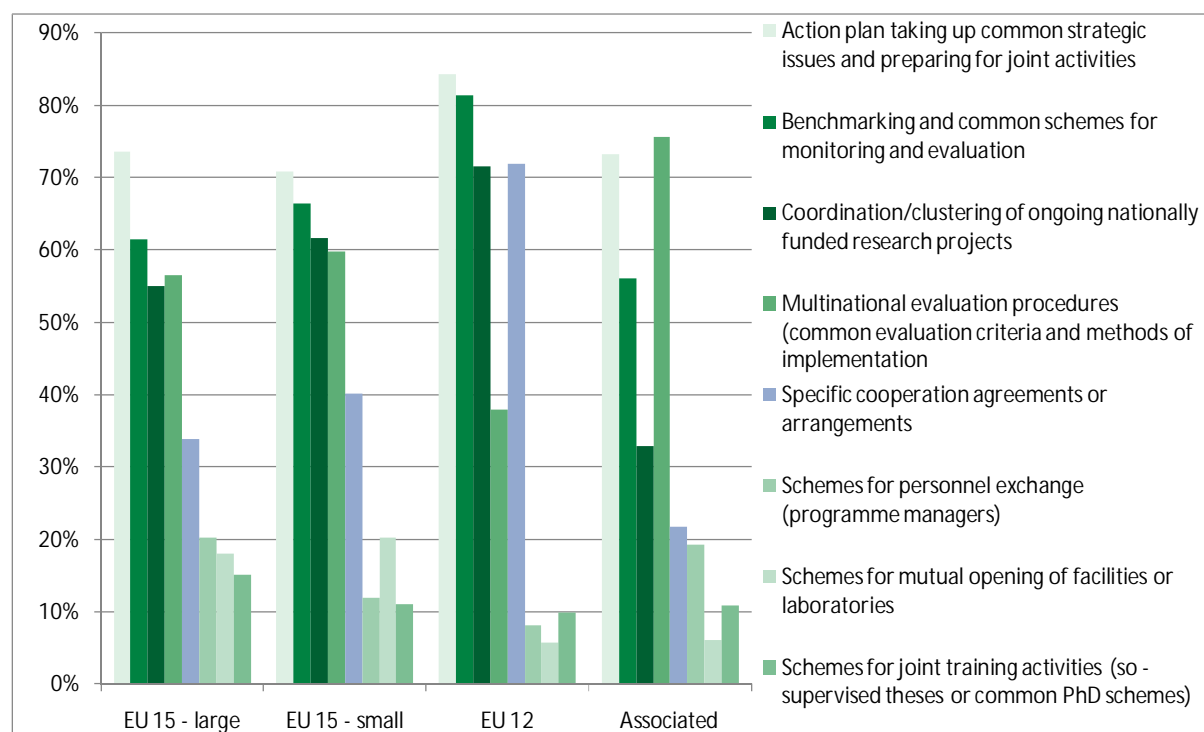


Participation in other joint activities

Levels of participation in other joint activities were also explored in the participant survey:

- Coordination or clustering of ongoing nationally funded research projects was undertaken in 59 per cent of the cases. This proportion was 71 per cent in the case of EU12 country respondents and 33 per cent in the case of Associated country respondents.
- Work on benchmarking and common schemes for monitoring and evaluation was part of the activities of 67 per cent of the sample. Once again the EU12 Member States stood out for the relatively higher importance of these activities, and Associated countries for the relatively lower importance.
- Efforts were channelled towards multinational evaluation procedures in 55 per cent of the cases. Considerably less often were these activities in the case of EU12 Member States (38 per cent), and more often in the case of Associated countries (76 per cent).
- The setting up of specific cooperation agreements or arrangements was within the list of completed activities in 43 per cent of the cases overall and 72 per cent of the EU12 country cases.
- Equally frequent were activities engaged with the planning of actions to take up common strategic issues and prepare joint activities. 75 per cent of the overall sample and 84 per cent of the EU12 group undertook these types of activities.
- Schemes for joint training activities did not seem to play a pivotal role within the scope of the ERA-NET activities, judging by the 49 per cent of respondents answering no to this question and the 40 per cent of no answers.
- Similar comments apply to the development of schemes for personnel exchange and mutual opening of facilities or laboratories.

Figure 64- In which ERA-NET joint activities other than joint calls did you participate?



In conclusion, the Participant Questionnaire suggested that the EU12 Member States made more frequent use of pre-existing relationships when it came to participating in FP6 ERA-NET, and so did private non-profit organisations. The consequences of these findings in terms of opening organisations to new cooperation opportunities and strengthening of preferential configurations should be considered.

On the other hand, organisations whose status was 'associate to ERA-NET project' built on prior relations to a lower degree and seemingly strengthened their ERA-NET relationships also to a lower degree than the rest, which might be taken as a base to re-think the role of these participants.

The EU12 and Associated countries were more active in the participation in joint calls, and generally joint activities, than the rest. This finding may validate the hypothesis that FP6 ERA-NET is perceived as a development opportunity, especially by new EU Member States. Organisations which are involved in a higher number of ERA-NETs tend to participate to a greater extent in joint calls. This is consistent with the hypothesis that increased familiarity with the programme may better enable organisations to fully participate in the different activities.

Key findings from the Coordinator Survey

There was a clear indication from the coordinators that different types of joint activities have taken place. Up to December 2008, 115 joint calls have been intended by 59 (83 per cent) of the ERA-NETs of which 76 have been completed, 21 launched and 18 planned. In total, €773,710,849 has been invested in joint calls across 42 countries. Overall, individual contributions for joint calls varied from less than €20000 (for the bottom 10 per cent of the sample) to €16 million across countries and ERA-NETs. Most joint calls funding was channelled via EUROTRANS-BIO (€171 million) which represents 22.1 per cent of the total funding for joint calls. At a country level, Germany contributed most funding to joint calls (€120 million) representing 15.5 per cent of total funding contributions to joint calls.

The majority of the funding has come from public investment with 14.3 per cent being invested through private funding. This is shown in the table overleaf:

Table 15 - Description of the number of joint calls and the related funding

Type of call	Number of calls	Total public funding	Total private funding	Total overall funding
Planned	18	97,111,000	0	97,111,000
Launched	21	116,545,140	8,905,327	125,450,467
Done	76	449,709,473	101,439,909	551,149,382
Total	115	663,365,613	110,345,236	773,710,849

These calls have been subject to different purpose based on the need felt by the consortium. The majority of calls have been fully fledged calls addressing strategic research interests (55.7 per cent), although, a significant proportion have also been test calls to explore possibilities and methods for future cooperation (39.1 per cent). This is indicated in the table below.

Table 16 – Description of the Pilot or test calls vs fully fledge calls

Theme	Pilot or test call	%	A fully fledged call	%	Other or Unknown	%	Total
Transport	3	30.0%	7	70.0%	0	0.0%	10
Life Sciences	7	33.3%	13	61.9%	1	4.8%	21
Environment	9	60.0%	6	40.0%	0	0.0%	15
Fundamental Sciences	3	30.0%	6	60.0%	1	10.0%	10
INCO	2	50.0%	2	50.0%	0	0.0%	4
Industrial Technologies and SMEs	17	45.9%	19	51.4%	1	2.7%	37
Energy	2	20.0%	8	80.0%	0	0.0%	10
Social Sciences and Humanities	2	25.0%	3	37.5%	3	37.5%	8
Total	45	39.1%	64	55.7%	6	5.2%	115

In addition, 15 (21.1 per cent) of the ERA-NETs have also launched a joint programme. Two of the 13 ERA-NETS have also launched a second programme although none of the programmes have yet been completed. Information about the total public funding for the programmes is available in relation to eight of the programmes, totalling €376,102,000. This figure is a “best estimate” since the ERA-NETs could not disclose actual funding, but often gave best estimate. No information is available whether private funding has been utilised in programmes.

Moreover 13 (18.3 per cent) ERA-NETS have undertaken in total 22 pilot actions. The duration and funding levels of pilot actions vary greatly, as does the topic of the action. They range from conference series to studies, with the duration and levels of funding reflecting this variety. The coordinators were also asked about the intentions of the pilot actions. In half of the cases (50 per cent) the intention was to test and improve procedures for future cooperation, this is indicated in the table overleaf.

Table 17 - Description of the intentions of the pilot call

Intentions of the pilot action	Number	Percentage
Test and improve procedures for future cooperation	15	50.0%
Raise awareness of the ERA-NET in the research community	7	23.3%
Other	8	26.7%
Total	30	100.0%

Investigating the activities at ERA-NET theme level, with respect to calls, Fundamental sciences and Industrial technologies, and SMEs and Life Sciences have been the most active. They have made the greatest number of calls with respect to the number of ERA-NETs within these themes. Similarly, at a programme level, Transport, Social Sciences and Humanities and Industrial technologies and SMEs have been the most active. Fundamental Sciences related ERA-NETs, in particular, have been active when it comes to number of pilot activities.

Key findings from the Case studies¹³⁶

Case studies showed that ERA-NETs were often started based on pre-existing relationships, mainly at programme manager level (e.g. EU15). Sometimes involvement was even driven by beneficiaries with existing international networks who were pushing for the involvement of their funders in ERA-NETs in their research area (mainly EU12). One of the consequences of the bottom-up nature of the scheme was that it was inclusive, and not very selective. This meant that as participation progressed not all participants had the same levels of either expertise, knowledge or commitment.

Key conclusions

Prior relationships before FP6 ERA-NET scheme were in place for most of the participants. There is evidence that these relationships strengthened over the course of the FP6 period for all participating countries. The existence of prior relationships, when considered in isolation of other variables, seemed not to have been a key factor of success in ERA-NETs. However, when considered jointly with other variables, such as the participation in joint calls, pre-existing relationships seemed to have helped further the realisation of benefits.

A more important factor of success in ERA-NETs seemed to have been the participation in joint calls. Countries that participated most in joint calls came from the EU15 Member States and Associated Countries. As commented above, these are countries with an already strong R&D position, indicating a more strategic approach to ERA-NET participation and a higher willingness to fund transnational R&D projects. Participants involved in multiple ERA-NETs (i.e. EU15 Member States) were also more likely to participate more in joint calls. In contrast, the EU12 Member States tended to participate more than their European counterpart in activities other than joint calls.

In terms of the themes, Fundamental sciences and Industrial technologies and SMEs and Life Sciences were the most active with respect to joint calls. Transport, Social Sciences and Humanities, and Industrial technologies and SMEs were the most active in terms of joint programmes.

¹³⁶ For more details, please refer to good practice chapters in Volume 4.

7.3 Sharing of expertise

This section reports on evidence gathered and analyses undertaken in relation to Deliverable 3 (D.3):

“Evidence that sharing of expertise took place”.

Expectations of impact

In line with the four steps of the development of ERA-NET as envisaged by the scheme, peer networking, benchmarking and joint activities would have been expected to lead to the spread of good practices and to stimulate the adoption of new and innovative practices.

Key findings from the Participant Survey

The evidence provided by the participant survey in terms of sharing of expertise was analysed from the perspectives of i) country group; ii) theme; iii) existence of prior relationships with partners; iv) ERA-NETs per organisation; and v) type of organisation. Systematic patterns appeared with regards to the first three perspectives. These will be presented here.

Information Exchange Systems

Sharing of expertise requires suitable communication channels. The participant survey explored the information exchange systems in place within the ERA-NETs. Question 5 already explored some of these responses but here additional detail is provided.

Pre-existing standards, like CERIF, were assessed as very important for good cooperation by 21 per cent of participants. 12 per cent chose the ‘fairly important’ option and nine per cent chose ‘not very important’. Most importantly, 45 per cent of participants reported that these standards had not been used.

A high proportion of the EU12 country participants (43 per cent) considered pre-existing standards to be very important. Associated countries registered considerably higher frequencies than the rest in the ‘fairly important’ category (29 per cent). As for the EU15 small countries the majority of the participants answered that the standards had not been used (56 per cent).

In terms of themes, 65 per cent of the Social Sciences and Humanities participants considered pre-existing standards to have been very important. 71 per cent of the Fundamental Science participants and 67 per cent of the Regional theme participants had not used this type of information-exchange system.

The development of own guiding principles/standards was considered to have been very important (42 per cent) or fairly important (26 per cent) for cooperation by the majority of participants. In the case of the EU12 Member States, the ‘very important’ category registered 55 per cent of the answers and the ‘fairly important’ category 28 per cent. The corresponding percentages for Associated countries were 54 per cent and 29 per cent. It must be noted that EU15 large country participants chose the ‘not applicable, not used’ category at a higher level (20 per cent) than the overall sample (15 per cent).

The development of own guiding/principles was largely used by Social Sciences and Humanities (84 per cent of the participants within this group assessed this option as very important), as well as Life Sciences (37 per cent reported that this was fairly important for good cooperation). In contrast, 31 per cent of the Fundamental Sciences participants had not used this type of information exchange system.

Programme templates were assessed as very important (32 per cent) or fairly important (23 per cent) by the majority of the participants. 22 per cent of the sample did not use this information exchange tool and 10 per cent considered that it was not very important. The country group analysis revealed that EU12 country participants registered higher

frequencies for the 'very important' category (52 per cent) than the overall sample, as well as Associated country participants (48 per cent). The smaller EU15 Member States stood out for the higher weight of the 'not applicable, not used' category (32 per cent).

Social Sciences and Humanities participants registered higher frequencies (66 per cent) for the option 'very good for cooperation' when asked about programme templates. 55 per cent of the INCO respondents chose the 'fairly important' category. 39 per cent of the Fundamental Sciences participants and 36 per cent of the Transport participants had not used this information exchange option.

The results from the question on the importance of auditing each others' programmes less certain, as the answers of the overall sample distributed quite evenly across all of the categories. 30 per cent of the respondents reported not having used this option. 20 per cent considered that it was a fairly important tool, 17 per cent considered that it was very important, 15 per cent chose the 'not very important' option, and five per cent stated that it was not important at all.

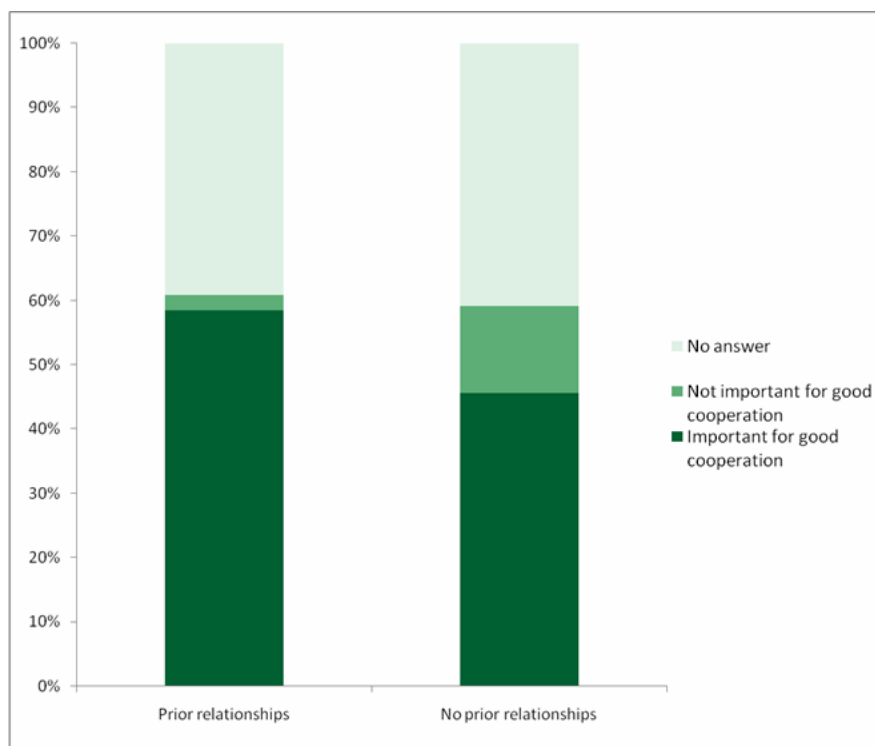
The main differences presented by each country group with respect to the overall sample were the following:

- 43 per cent of the EU12 Member States participants considered that auditing of each others programmes had been very important.
- 30 per cent of the participants from Associated countries were of the opinion that this tool had not been important at all.
- The proportion of the participants from EU12 Member States that had not used this tool was relatively low (17 per cent) in comparison with the overall sample, as well as that of Associated countries (21 per cent).

Auditing of each others programmes was considered to have been very important for good cooperation by 47 per cent of the Social Sciences and Humanities participants. In contrast 35 per cent of the INCO participants stated that this type of information exchange system had not been very important, and 23 per cent had not used it at all. In a similar way 43 per cent of the Fundamental Sciences participants and 49 per cent of the Regional theme participants had not used this option at all.

Interestingly, the investigation of the information exchange systems listed above from the perspective of the existence, or not, of relationships between the participants prior to FP6 ERA-NET revealed that those participants with prior relationships consistently placed more importance on the information exchange systems than those without prior relationships. A potential explanation for this may be that organisations with higher exposure to international cooperation understand the value of these types of systems to coordinate transnational work better.

Figure 65– Importance of information exchange systems for cooperation by extent of prior relationships



Frequency of Contact

Having analysed what information exchange systems were put in place, another set of questions looked at the impact that these systems might have had on the frequency of contact between the participants.

- Weekly contact: 54 per cent of participants reported to have had weekly contact with up to 25 per cent of the participants within their ERA-NETs. Higher frequency categories applied to a minority (six per cent of the overall sample had had weekly contact with between 26 to 50 per cent of the participants, and two per cent with 51 to 75 per cent of the participants).
 - EU15 small country participants registered the highest proportion corresponding to the zero to 25 per cent bracket (71 per cent).
 - Thematically, Industrial Technologies and SME participants had weekly contact with zero to 25 per cent of the participants in 66 per cent of the cases.
- Monthly contact: 45 per cent of participants maintained monthly contact with zero to 25 per cent of the other participants. 14 per cent of the participants maintained contact with 26 to 50 per cent of the other participants, and another 14 per cent did so with 51 to 75 per cent of the other participants. It must be noted that monthly contact was maintained with 76 to 100 per cent of the participants in 12 per cent of the cases.
 - EU15 large countries maintained monthly contact with 76 to 100 per cent of the participants in 17 per cent of the cases. The zero to 25 per cent bracket was particularly high for EU12 Member States (56 per cent).
 - Participants in the Environment field had monthly contact with 76 to 100 per cent of the other participants in 24 per cent of the cases. Similarly

INCO and Fundamental Sciences participants registered relatively high frequencies in this category (20 and 19 per cent respectively). Monthly contact with 51 to 75 per cent of the other participants occurred in 20 per cent of the INCO and Life Sciences cases.

- Quarterly contacts: 20 per cent of participants reported quarterly contact with zero to 25 per cent of the other participants. In 15 per cent of the cases with 26 to 50 per cent, and in six per cent with 51 to 75 per cent.
- Annual contacts: 11 per cent of participants reported annual contact with the majority of the other participants with up to 25 per cent of participants. Across the whole sample, in 61 per cent of participant had annual contacts with up to 76 per cent to 100 per cent of other participants.
 - Respondents from EU12 Member States registered the highest proportion of 76-to-100-per cent answers (74 per cent), and registered the lowest proportion of zero-to-25-per-cent answers (three per cent).
 - Thematically, Social Sciences and Humanities stood out for the high percentage of participants stating that they had annual contact with 76 to 100 per cent of the participants (92 per cent). Similarly 10 per cent of the Regional theme participants had annual with 51 to 100 per cent of the participants¹³⁷.

While these figures are interesting, care should be taken in interpretation as some respondents may have included their weekly contacts in monthly, quarterly and annual figures, whereas other might not. It is therefore somewhat unclear from the data how respondents interpreted this question.

In conclusion, pre-existing information exchange systems seemed to be useful for the ERA-NET participants in general terms, although equally important were systems designed for each specific project. Programme templates were also appropriate to facilitate the exchange of information.

On a country basis, EU12 and Associated countries seemed to be the groups that made the most of use of these options. Thematically, this was particularly the case for the Social Sciences and Humanities. Figures on frequency of contact should be interpreted with care as these may have been interpreted differently by different participants.

Key findings from the Coordinator Survey

The coordinator survey asked the coordinators to indicate the objectives of the ERA-NET scheme that had been met. The respondents were able to indicate all the answers that apply. According to the coordinators, the objectives most likely to have been met were:

- Exchange of good practice;
- Join forces to provide common answers to common problems;
- Avoiding overlap and build up expertise; and
- Access to expertise from other countries.

This is indicated in the table overleaf.

¹³⁷ Refer to participant questionnaire - question 3_4 b, c & t.

Table 18 - Description of the objectives of the ERA-NET scheme that have been met

Objective	Number	Percentage
Exchange of good practice	58	15.3%
Join forces to provide common answers to common problems	56	14.8%
Avoiding overlap and build up expertise	56	14.8%
Access to expertise from other countries	55	14.6%
Achieving critical mass, to ensure better use of scarce resources	39	10.3%
Developing common approaches (e.g. ethics, standards)	38	10.1%
Addressing global issues	34	9.0%
Speaking with "one voice " to third countries	22	5.8%
Addressing specific geographical issues	20	5.3%
Total	378	100.0%

Key findings from the Case studies¹³⁸

The case studies provide many examples of knowledge sharing and transfer between ERA-NET participants taking place. The centrepiece for effective information sharing was to develop agreements on common principles and procedures for engagement. These could, for instance, take the form of common guidelines, assessment criteria and application forms for joint calls, or common glossaries of terms for overall understanding of each other's programmes.

Other practices to enable good communication involved:

- regular meetings as these facilitated communication, fostered close working relations, and helped to create personal contacts;
- mapping of research activities of participating countries and sharing of national surveys and directories of experts as this provided knowledge of mutual research interests as well as themes for future research;
- construction of websites as dissemination and information exchange tools;
- visits to partnering countries as this facilitated direct insight into the operating procedures of other participant organisations, knowledge which then helped decisions around appropriate funding models to adopt for joint calls;
- national open days for the ERA-NETs as these had the potential to attract international researchers outside the EU.

In regard to the use of CERIF as a system of information exchange, only one interviewee had heard of it, indicating that it was not widely used by ERA-NETs. This may be due to a bias in the sampling frame. However, it may also reflect that notwithstanding the fact that participants recognised the importance of information exchange systems, they might not be aware of the CERIF standard.

Key conclusions

Pre-existing standards, for example like CERIF, appeared not to have been used to a large extent and were not considered as essential for ensuring good transnational cooperation. In contrast, guiding principles, procedures and programme templates were considered more important, perhaps due to their direct applicability to ERA-NET actions. In comparison to the EU15 Member States, ERA-NET participants from the EU12 Member States and Associated countries were particularly keen to adopt pre-existing standards, guiding principles and programme templates. This may show a higher willingness to learn

¹³⁸ For more details, please refer to good practice chapters in Volume 4.

from ERA-NET participation and implement internationally recognised good practices. As for themes, participants in Social Sciences and Humanities, and INCO ERA-NETs considered good practices as important and useful for ensuring a successful cooperation.

7.4 Strategic planning at national programme level in anticipation of the multi-national configuration

This section reports on evidence gathered and analyses undertaken in relation to Deliverable 4 (D.4):

“Evidence that strategic planning at national programme level occurred in anticipation of the multi-national configuration”.

Expectations of impact

As mentioned under Q1, the expectation of a bottom-up scheme like the ERA-NET, with relatively limited resources and coordinated on a voluntary basis between national funding bodies, is that it would not immediately restructure the National or indeed European Research landscapes. The expectation is that some countries would embrace the opportunity, whilst others would not, and that the overall impact of the direction and structuring of National R&D programming on National Research landscapes would be modest.

Nevertheless, we would expect to see some evidence of how ERA-NET influenced strategic planning at national programme level (before and after FP6 ERA-NET scheme), and evidence of the impact of strategic planning on ERA-NET efficiency. Moreover, the expectation is that additional contributions for the running costs (in addition to the €2.56 million on average that the Commission put forward to the ERA-NETs) as well as the degree of additional funding provided for joint activities, joint calls and programmes in particular, provides an indication of the strategic buy-in for the scheme from the country perspective. It is expected that the countries which will be at the centre of the ERA-NETs, inputting substantial amounts of funding and effort will be those where programming is shorter-term and more flexible, and where there is the greatest potential for fomenting a research area of strategic interest to that country, via greater transnational cooperation.

Key findings from the Participant Survey

Section 7.4 differs from section 7.1 and section 7.2 in that it focuses on the relationship between the organisations and the national programmes in preparation for the ERA-NETs. Section 7.1 revolves around the process of engagement with relevant stakeholders and section 7.2 explores how external factors influence ERA-NET configurations and the results of this on the participation in calls. In this section elements of strategic planning which have not yet been discussed (in section 6.1) are explored.

Relation to national programme

A first approach to the information provided in the Participant Questionnaire might suggest that transforming national programmes was not largely perceived as one of the likely impacts of FP6 ERA-NET. As mentioned in section 6.1, when asked about the rationale for participating in FP6 ERA-NET only seven per cent of the participants stated that they were seeking to improve national R&D programmes. In the case of the larger EU15 Member States the corresponding proportion was 10 per cent¹³⁹.

The ERA-NETs were generally set up in line with national programmes. Overall the degree of fit between the national R&D programmes relevant to each of the themes and the specific ERA-NETs was good, as stated by 84 per cent of the participants. All of the country groups presented a similar pattern¹⁴⁰. The thematic analysis revealed that Social Sciences and Humanities projects were particularly well aligned with R&D national programmes, as stated by 99 per cent of the participants¹⁴¹.

¹³⁹ Refer to participant questionnaire - question 2_16 c.

¹⁴⁰ Refer to participant questionnaire - question 2_11 c.

¹⁴¹ Refer to participant questionnaire - question 2_11 t.

In terms of factors that helped or hindered the development of ERA-NETs, 29 per cent of participants answered that more strategic R&D programming/planning supported the development of the ERA-NETs, against only 0.5 per cent who stated that it had been an obstacle, 35 per cent who considered that it had had no effect, and 28 per cent who answered that the question was not applicable. Also in the case of setting up new types of R&D programmes, 24 per cent of the participants were of the opinion that the ERA-NET projects had benefited from this, which must be balanced with the fact that 33 per cent considered that it had had no effect and 30 per cent for whom the question was not applicable. As for the Barcelona three per cent targets, 16 per cent of the participants regarded them helpful for the ERA-NETs, versus 39 per cent who chose the 'no effect' option and 36 per cent for whom the question was not applicable¹⁴².

However, the ultimate success of the participation in FP6 ERA-NET seemed more directly influenced by certain national factors. While 45 per cent of the respondents considered that national thematic programme priorities had presented no problem for the development of their ERA-NETs, 16 per cent stated that these had helped, for 13 per cent they had been a problem now overcome, and for another 13 per cent they had been a problem that had not yet been overcome. Similarly a high proportion of the sample (46 per cent) regarded the national cultures or research traditions as not problematic for the effects of their participation in FP6 ERA-NET. However, a number of respondents highlighted that this was a problem still to be overcome (14 per cent) or a problem already overcome (15 per cent). In 10 per cent of the cases national cultures or research traditions helped to the successful participation.

National resources (e.g. staff, time, finances) were perceived as a problem by 54 per cent of the sample. Whereas 30 per cent declared they overcame the problem there remained 24 per cent who considered that national resources were a problem which had not yet been overcome. Only in 10 per cent of participant viewed national resources as an enabler of their participation.

The majority of the respondents considered that national administrative procedures were either a problem which had been overcome (30 per cent), or a problem still to be overcome (28 per cent). Whilst in 25 per cent of the cases these were not a problem at all. National legal conditions were generally not a problem for the participation in FP6 ERA-NET (35 per cent), although for a good proportion of the sample this was a problem still to be overcome (25 per cent) or a past problem (20 per cent)¹⁴³.

Interaction with programming stakeholders

The question on strategic planning at national level prior to the participation in FP6 ERA-NET was specifically explored in the Participant Survey. The majority of the participants (82 per cent) stated that their organisations had interacted with R&D policy and programming stakeholders prior to becoming ERA-NET partners. EU12 and Associated countries registered even higher percentages (92 and 90 per cent respectively)¹⁴⁴. Thematically, Social Sciences and Humanities, and Transport projects reported a particularly high level of interaction (99 and 98 per cent)¹⁴⁵. The analysis by type of organisation revealed that private non-profit organisations had the highest frequencies of interaction (93 per cent)¹⁴⁶.

When asked about the intensity of the interaction with programming stakeholders, 38 per cent of the participants assessed the interaction of their organisations as fairly intense and 21 per cent as intense. The 'fairly mild interaction' option registered 20 per cent of the answers. The EU12 Member States stood out for their relatively high frequencies in the 'fairly intense' category (67 per cent)¹⁴⁷. The thematic analysis

¹⁴² Refer to participant questionnaire - question 6_7.

¹⁴³ Refer to participant questionnaire - question 8_1a-e.

¹⁴⁴ Refer to participant questionnaire - question 3_8 c.

¹⁴⁵ Refer to participant questionnaire - question 3_8 t.

¹⁴⁶ Refer to participant questionnaire - question 3_8 & question 2_15.

¹⁴⁷ Refer to participant questionnaire - question 3_9 c.

suggested that Social Sciences and Humanities had a more intense interaction with programming stakeholders (71 per cent of the answers within this group concentrated in the 'fairly intense' category)¹⁴⁸.

Another question within the Participant Questionnaire followed up the initial interaction with programming stakeholders during the implementation of the ERA-NETs. 90 per cent of the respondents reported the existence of an ongoing interaction with programming stakeholders. In the EU12 Member States this proportion reached 94 per cent¹⁴⁹.

Particularly high interaction levels, which corresponded to 97 to 100 per cent of the answers to the question above, were registered by Social Sciences and Humanities, Transport, INCO, and Energy themes¹⁵⁰. Private non profit organisations also interacted with programming stakeholders more than the rest of types of organisations during the implementation of FP6 ERA-NET¹⁵¹.

The intensity of ongoing interaction was also explored in the Participant Survey. In 39 per cent of the cases the participants considered that the interaction was fairly intense. The 'intense interaction' category was selected by 22 per cent of the respondents, and the 'fairly mild' category by 28 per cent. The country analysis revealed that the organisations of 64 per cent of the participants from EU12 Member States had fairly intense interaction with programming stakeholders during the implementation of their ERA-NETs¹⁵². Thematically Social Sciences and Humanities and Life Sciences registered particularly high frequencies for the 'fairly intense interaction' category (71 and 43 per cent respectively). The Transport and INCO theme participants stood out for the high proportions of answers concentrated in the 'intense interaction' (36 and 45 per cent respectively)¹⁵³.

In terms of the timing of coordination provisions, 10 per cent of the respondents stated that structures had been put in place in anticipation of the ERA-NET starting, eight per cent had done so from day one, 12 per cent within the first six months, six per cent within the first year, and eight per cent after the first year. The smaller EU15 Member States registered the highest frequencies for the 'in anticipation' category (21 per cent), and so did the larger EU15 Member States for the 'from day one' category (11 per cent). Associated countries stood out for the high percentage in the 'within the first six months category' (30 per cent)¹⁵⁴.

¹⁴⁸ Refer to participant questionnaire - question 3_9 t.

¹⁴⁹ Refer to participant questionnaire - question 3_10 c.

¹⁵⁰ Refer to participant questionnaire - question 3_10 t.

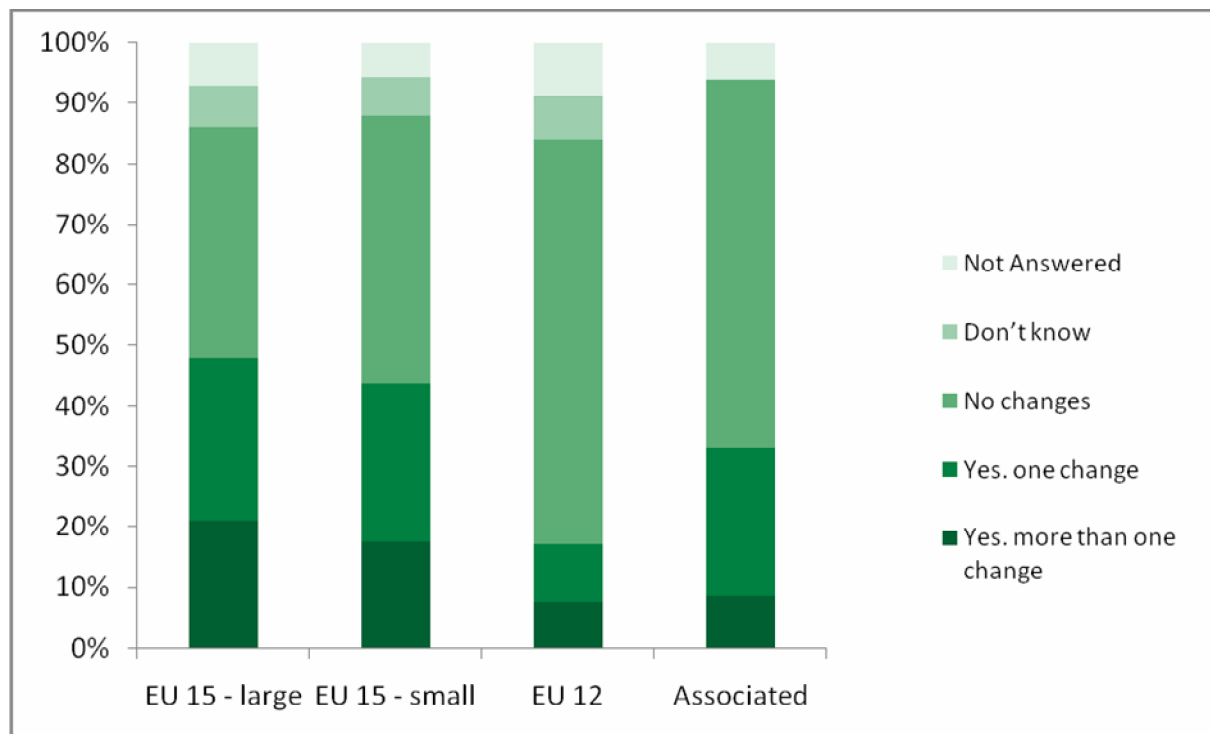
¹⁵¹ Refer to participant questionnaire - question 3_10 & question 2_15.

¹⁵² Refer to participant questionnaire - question 3_11 c.

¹⁵³ Refer to participant questionnaire - question 3_11 t.

¹⁵⁴ Refer to participant questionnaire - question 6_2 c.

Figure 66 - Your programme owner, e.g. a Ministry, will employ persons responsible for overall control of the national R&D programming policy in the theme of this ERA-NET in your country. To the best of your knowledge during this ERA-NET's operation have these persons changed?



Thematically Social Sciences and Humanities projects stood out for their stability as well, as 92 per cent of the respondents reported no changes in the persons responsible for the national R&D programming¹⁵⁵.

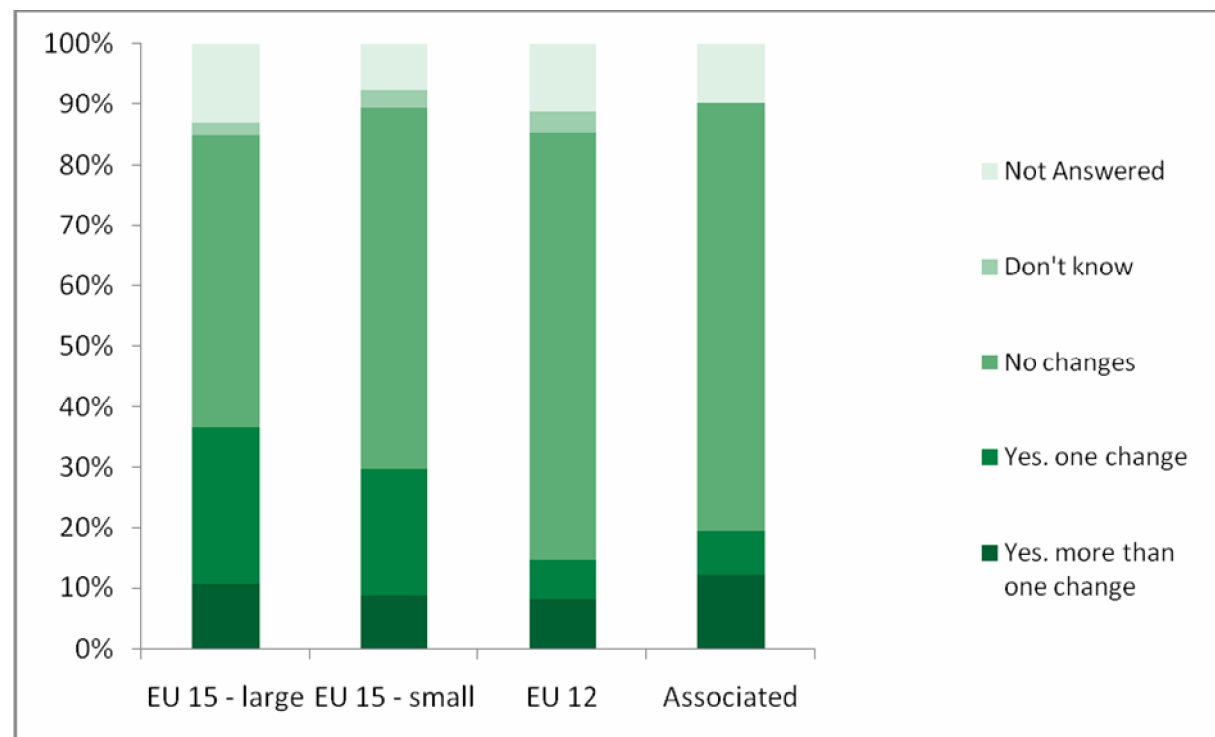
- Of those respondents who reported changes, the majority (73 per cent) assessed those changes as irrelevant for their ERA-NETs. In 15 per cent of the cases the change was perceived as unfavourable, and in nine per cent of the cases as favourable.
- Associated countries seemed particularly affected by the changes, as 37 per cent of the respondents reported unfavourable effects. On the other hand EU15 large countries experienced the changes in a relatively favourable way, as stated by 12 per cent of the participants¹⁵⁶.

The participant survey also explored changes in the persons performing programme-management roles. 60 per cent of the participants reported no changes at this level. One change happened in 18 per cent of the cases, and more than one change was reported in nine per cent of the overall sample. The EU12 and Associated countries seemed particularly stable in terms of programme managers (in both cases 71 per cent of the participants selected the 'no change' option). The larger EU15 Member States countries registered one change in 26 per cent, and more than one change in 10 per cent of the cases.

¹⁵⁵ Refer to participant questionnaire - question 2_6 c.

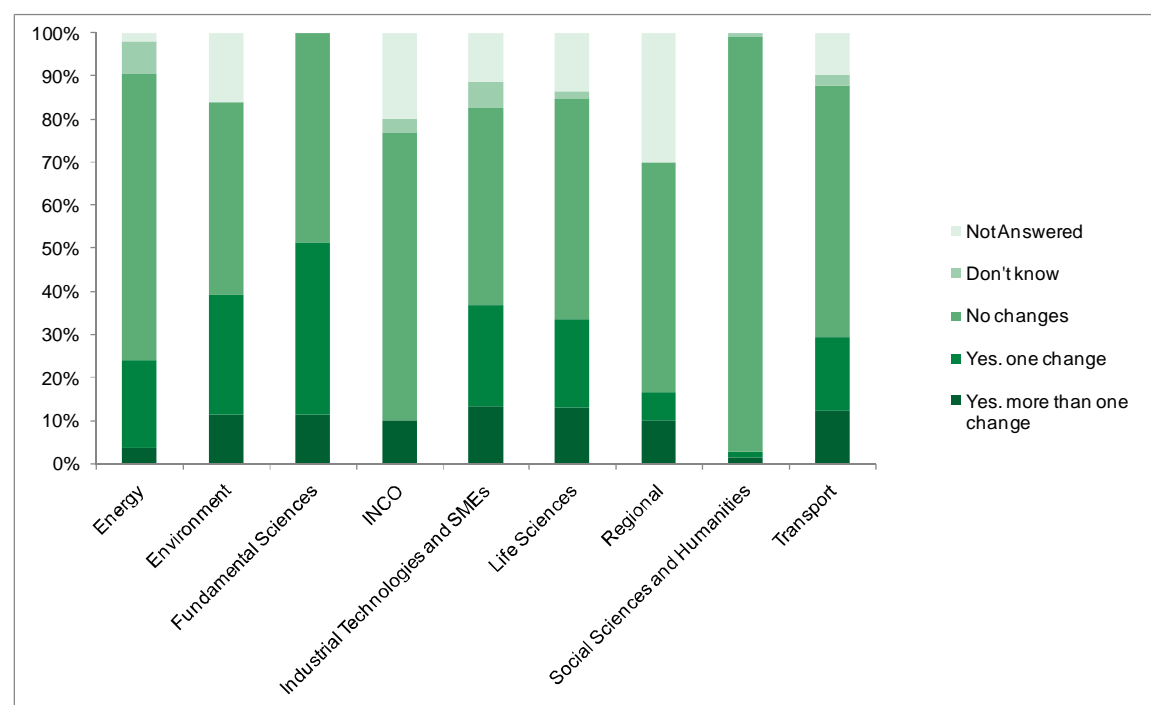
¹⁵⁶ Refer to participant questionnaire - question 2_7 c and question 2_6 'yes'.

Figure 67 – In the case of the programme manager, to the best of your knowledge during this ERA-NET's operation have these persons changed?



The thematic analysis revealed that in 97 per cent of the cases the programme managers for Social Sciences and Humanities did not change. This contrasts with Fundamental Sciences, where one change happened in 40 per cent, and more than one change in 11 per cent of the cases. Similarly 28 per cent of the Environment ERA-NETs experienced one change, and 11 per cent more than one change.

Figure 68 – In the case of the programme manager, to the best of your knowledge during this ERA-NET's operation have these persons changed?



When prompted to assess the impact of the changes in programme-management personnel, the participants stated that these had made no difference in 60 per cent of the cases. An unfavourable impact was reported in 18 per cent, and a favourable one in 17 per cent of the cases. The smaller EU15 Member States seemed to benefit from this type of changes relatively more than the rest (24 per cent)¹⁵⁷. However, it should be noted that sample sizes in the thematic analysis for assessment of changes are limited, which may affect the conclusions which can be drawn at this level of disaggregation.

Each country opted for different arrangements regarding the national coordination of the ERA-NETs. A single national coordinator was appointed in 15 per cent of the cases, the range across the country groups actually varying between 13 and 17 per cent¹⁵⁸. A team of several coordinators seemed a better preferred option, as stated by 24 per cent of the respondents. In the case of Associated countries 45 per cent of the participants reported the existence of coordinator teams¹⁵⁹. Coordination meetings for all national participants happened in 37 per cent of the cases. Again Associated countries made an outstanding use of this option, as revealed by 56 per cent of the participants from this country group¹⁶⁰. However, by far the most frequent coordination option was organisation-specific coordination meetings, which were used in 49 per cent of the cases. The smaller EU15 Member States registered the highest frequencies in this option (59 per cent), which contrasted with the EU12 Member States' lowest frequencies (35 per cent)¹⁶¹.

In conclusion, the participant survey provided evidence of high levels of interaction between the organisations and national R&D programming prior to the multi-national configuration. The levels of interaction were generally assessed as intense. Similarly high and intense were the levels of interaction during the implementation of the ERA-NETs.

¹⁵⁷ Refer to participant questionnaire - question 2_9 c & question 2_8 'yes'.

¹⁵⁸ Refer to participant questionnaire - question 6_1a & c.

¹⁵⁹ Refer to participant questionnaire - question 6_1b & c.

¹⁶⁰ Refer to participant questionnaire - question 6_1c.

¹⁶¹ Refer to participant questionnaire - question 6_1c & d.

The EU12 Member States registered particularly high and intense levels both prior to and during the implementation of the ERA-NETs.

Changes in the persons responsible for the overall control of the national R&D programming happened in approximately half of the cases. The EU12 Member States and Social Sciences and Humanities themes were relatively more stable than the rest. However, the changes were perceived as irrelevant for the performance of the ERA-NETs in most of the cases. Similar comments apply to changes in programme-management positions.

Among the coordination arrangements mostly used, coordinator teams and organisation-specific coordination meetings were the most frequent across all organisations.

Key findings from the Case studies¹⁶²

Through the case studies, it emerged that the organisational structures put in place in participant organisations to deal with ERA-NET involvement, and the extent to which this was strategic, varied widely between countries and institutions. This was in part a reflection of the bottom-up nature of the scheme.

The national R&D context and the structure of national funding bodies were some of the main factors defining the degree of strategic planning made at national level, and the level within countries (Ministry, Research Council, etc.). In countries where research councils had a high degree of autonomy to set their own research agendas with respect to research domains and transnational collaboration (e.g. the UK and Finland), decisions to participate, and pre-planning associated with this, were mainly undertaken at the Programme Manager level. In other countries, where R&D programming was more centralised and/or intertwined with policy-making (e.g. Slovenia, Romania), the decision to participate and planning would have been undertaken mostly at Programme Owner level.

The advantage of the former model was that ERA-NET themes which were not already on the agendas for transnational collaboration of these agencies could effectively be considered. Furthermore, these research councils had the latitude to allocate monies from their research budgets to fund joint calls.

Some countries worked with longer time horizons for programming (e.g. France and Germany), and were thus considerably constrained in their freedom of action to take part in the actual funding of calls where this could not be justified through existing programmes and priorities.

The most frequent organisational solutions which were put in place to deal with the involvement in the ERA-NETs by participant organisations included 'ear-marking' of existing staff for handling the participation; hiring of new staff to deal exclusively with the ERA-NET; outsourcing of the day-to-day management of the scheme to a third party (university, research organisation or private sector); or a mix of the above options.

There was no apparent tendency of countries within certain country groupings to act in a uniform way. For instance, additional staff was hired in Slovenia as well as France and Finland. Croatia and Turkey used mainly existing staff as did Germany, Portugal, Italy, and the Netherlands. The UK outsourced the day-to-day management of ERA-NETs to third parties and retained a minimal involvement by existing staff for more strategic inputs.

The case studies' findings suggest that coordination at national level, in terms of sharing of information and knowledge between national participants in different ERA-NETs, left a lot to be desired, particularly where participation was highly decentralised and/or compartmentalised by themes. According to one Austrian interviewee, the bottom-up nature of the scheme meant that Austrian participants developed guidelines for participation largely in isolation of one another. Sharing of knowledge and a more strategic view of ERA-NET participation only emerged several years into implementation.

¹⁶² For more details, please refer to good practice chapters in Volume 4.

Key conclusions

Evidence gathered from the participant survey shows that little strategic planning at programme level was undertaken in anticipation of the multinational configuration.

A few ERA-NET participants (10 per cent) set up coordination structures at national level before the start of their involvement in ERA-NETs. As for governance structures at country level, organisation-specific coordination meetings were used by a majority of participants (49 per cent), while single national coordinators were appointed in only 15 per cent of the cases. EU15 Member States appeared to have been slightly more strategic in their approach of ERA-NETs, but not to a much greater extent than others. The ERA-NET scheme appeared to have complemented rather supplemented national R&D programmes.

However, the majority of participants interacted with R&D policy and programming stakeholders prior to ERA-NET engagement. Participants kept interacting with national policy level during the implementation of their ERA-NETs, more specifically in the EU12 Member States and for the Social Sciences theme. It should be noted that a minority of participants engaged in the ERA-NET scheme with the view to improve national R&D programmes.

National thematic priorities have helped a strong minority of participants to best exploit the full benefits of their ERA-NET participation. As a result of ERA-NET participation a strong minority of participant have implemented new types of R&D programmes. It is further to be noted that ERA-NET themes may have helped to best exploit the full benefits of participation. This is due to the degree of fit of national programmes having been regarded as good by all participants, and especially in the Social Sciences and Humanities area.

The success of participation in FP6 ERA-NET seemed more directly influenced by certain national factors such as national cultures or research traditions, national resources (time and budgets) or national administrative procedures.

7.5 Joint actions launched and national/regional resources mobilised

This section reports on the evidence gathered and analyses undertaken in relation to Deliverable 5 (D.5):

“Evidence that joint actions were launched and national/regional resources mobilised accordingly”.

Some of the findings outlined in this section have already been discussed under the previous section 7.2 “Existence of preferential configurations” in what concerns participation in joint calls and other joint activities. Hence, for more details around these issues, reference should be made to the previous section. Findings presented in this section are around i) the extent to which EC funding covered the resources required by the ERA-NETs; ii) the allocation of national programme budget to the ERA-NET; and iii) the effect of the ERA-NETs on the management of national programme budgets.

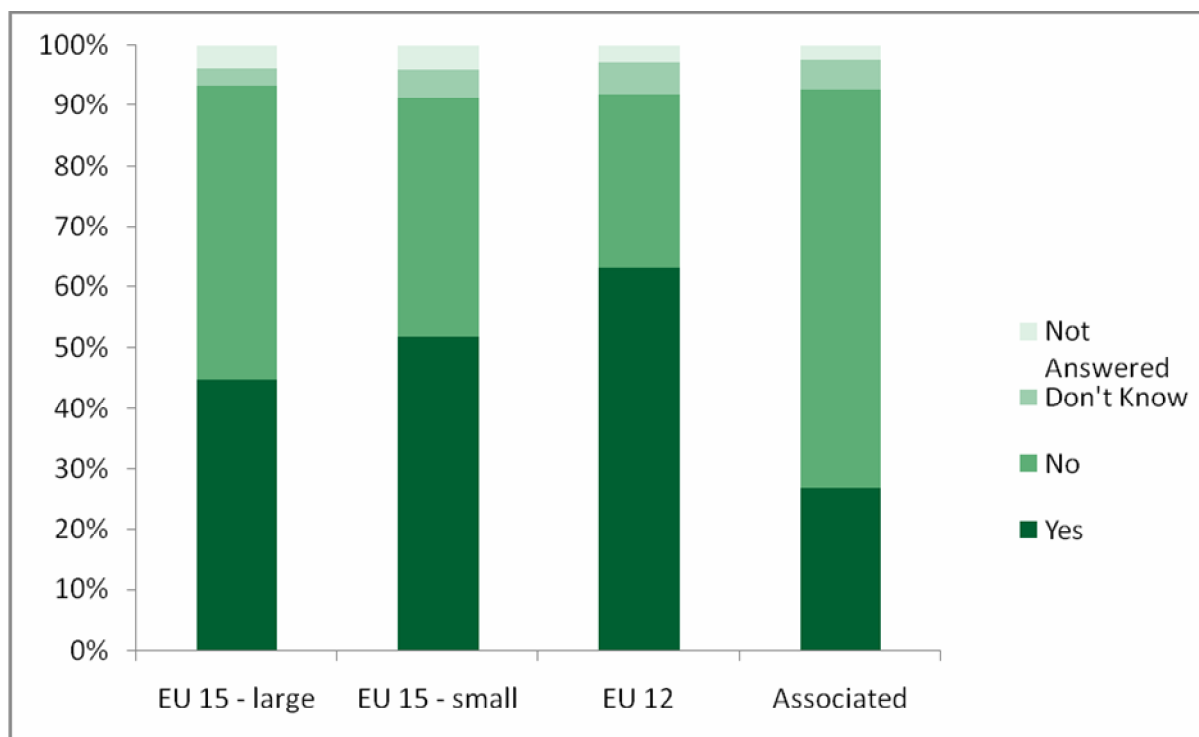
Expectations of impact

One of the expectations of impact in this area is that there would a correlation between the significance of contributions from national administration towards the cost of resources used to run the ERA-NET and level of strategic interest in the area.

Key findings from the Participant Survey

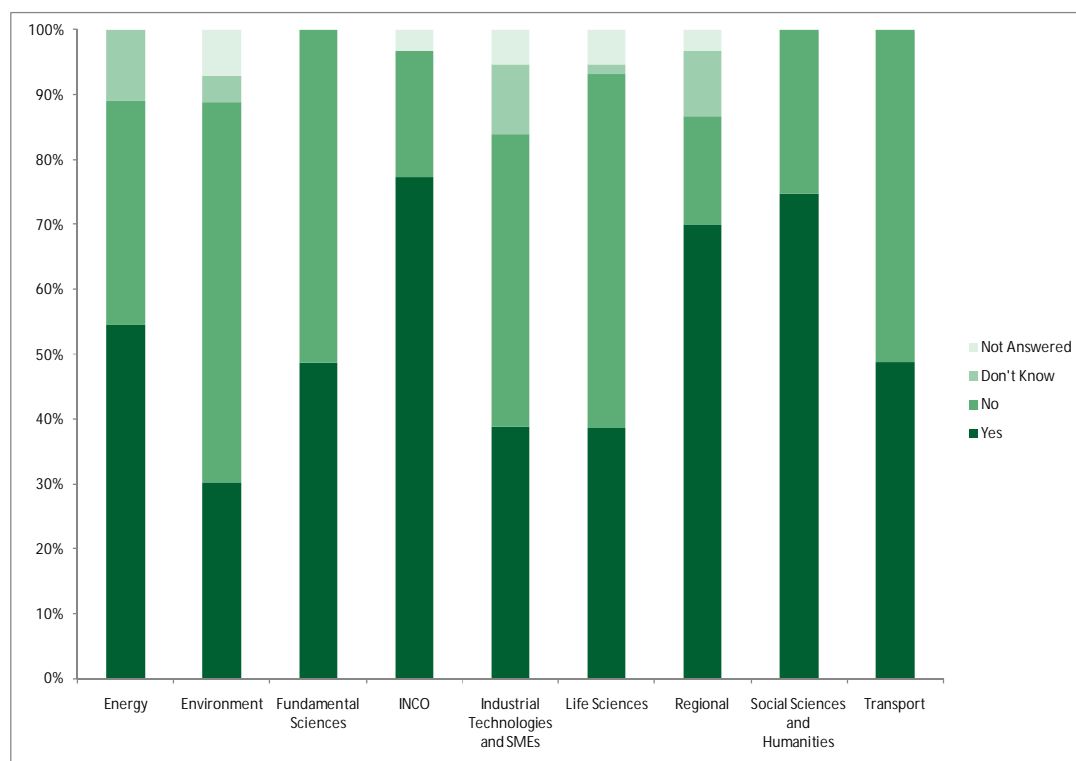
The extent to which the EC funding covered the time and resources required by the organisations to participate in the ERA-NETs varied across the different country groups. 49 per cent of the overall sample considered the EC funding covered all of the resources, whereas 43 per cent considered that it did not. The participants from EU12 Member States considered that the resources had been covered in 63 per cent of the cases and the smaller EU15 Members States in 52 per cent. In contrast, 66 per cent of the Associated country participants reported that the EC funding had not been sufficient to cover all of the required resources.

Figure 69–Did the EC funding cover all the time and resources your organisation invested in participating in this ERA-NET?



Thematically, Social Sciences and Humanities, INCO and Regional ERA-NETs reported higher frequencies than average in terms of the EC funding covering all of the resources (75, 77, and 70 per cent respectively). This may be due to the nature of the involvement of participants in these themes where the number of joint calls launched has not been particularly high compared to other thematic areas. Activities related to joint call were seen as quite resource intensive by the participants. This may explain the higher frequencies reporting that EC funding covering all the cost of participation in these specific thematic areas.

Figure 70: Did the EC funding cover all the time and resources your organisation invested in participating in this ERA-NET?



Of those participants who responded that the EC funding had not covered all of the resources, six per cent estimated that it had covered zero to 25 per cent of the resources, 11 per cent estimated that it had covered 26 to 50 per cent, 17 per cent estimated that it had covered 51 to 75 per cent, and 10 per cent estimated that it had covered 76 to 100 per cent.

Interestingly, national resources (e.g. staff, time and finances) were seen as a factor helping participants exploiting the full benefit of their participation in ERA-NETs for more than 34 per cent of cases. Less than a third of participants (i.e. 29.6 per cent) considered that although national resources were a problem, this could be overcome. These figures are broadly in line with the averages of the country groupings although national resources tended to be more problematic in the EU15 Member States and Associated countries than in the EU12 Small Member States¹⁶³. In terms of theme, national resources were mostly a problem for Energy, Environment, Life Sciences and Fundamental Sciences (for 76 per cent, 60 per cent, 57 per cent, and 57 per cent of participants respectively).

The participant survey investigated the percentage of national programme budget put into joint calls and joint programmes in each of the ERA-NETs. The majority of the participants estimated that up to 25 per cent of the national programme budget had been put into joint calls and programmes (62 per cent), the larger EU15 Member

¹⁶³ Refer to participant questionnaire - question PQ8_1, by C,

States and Associated country respondents particularly concentrating their answers in that bracket (71 per cent in both cases)¹⁶⁴.

EC funding covered the time and resources required by the organisations to participate in FP6 ERA-NET in approximately 50 per cent of the cases. Respondents from the EU12 and smaller EU15 Member States estimated slightly higher coverage levels than the rest. When this was not the case (e.g. EC funding not covering 100 per cent of the resources), EC funding was likely to have covered at least 25 per cent of the cost of participation. The contribution of the national programme budgets into joint calls and activities was estimated to be not higher than 25 per cent.

Key findings from the Coordinator survey

The coordinator survey analysis covers 54 out of 71 ERA-NETs, covering 76.1 per cent of all ERA-NETs. Data relating to seven of these ERA-NETs has only been recoded up to January 2007, as these ERA-NETs did not respond to the latest survey distributed between July and October 2008. To ensure as representative results as possible, these ERA-NETs were included in the descriptive analysis presented in this report. It is important to note that these seven ERA-NETs are likely to have undertaken more joint activities than what they had reported by January 2007 but this is not captured in the analysis. Therefore, it is likely that ERA-NETs have undertaken more joint activities than those which we have been able to report.

Joint calls

Up to December 2008, the ERA-NETs had planned (18), launched (21) and completed (76) a total of 115 joint calls. Between zero and six joint calls were intended by any given ERA-NET, averaging 1.95 calls per ERA-NET. In total, €773,810,749 was invested in joint calls across 42 countries. Although the majority of this funding was public, 14.3 per cent of the total originated from private sources. This translated into an average funding per call of €6,728,789.

These results are summarised in the table below.

Table 19 - Summary of joint calls

Type of call	Number of calls	Total public funding	Total private funding	Total overall funding	Average funding per call
Planned	18	97,111,000	0	97,111,000	5,395,056
Launched	21	116,545,140	8,905,327	125,450,467	5,973,832
Done	76	449,809,373	101,439,909	551,249,282	7,253,280
Total	115	663,465,513	110,345,236	773,810,749	6,728,789

Looking at joint call activity across themes, Industrial technologies and SMEs pursued the most joint calls, 37 in total. Each ERA-NET within this theme was involved in two joint calls on average. However, Transport surfaces as the most 'active' theme with which each ERA-NET was involved in, with on average, to 2.5 calls. The least active ERA-NET theme was INCO. This was also the theme within which the least funding was committed per call. Overall, the Life Sciences and Fundamental Sciences themes committed the largest amounts of funds to joint calls, see table below for more details.

¹⁶⁴ Refer to participant questionnaire - question PQ5_8, by C,

Table 20 - Joint calls per theme

Theme	Number of ERA-NETS per theme	Number of joint calls	Number of calls per theme	Total public funding	Total private funding	Total overall funding	Average funding per call
Transport	4	10	2.5	14,176,926	6,656,696	20,833,622	2,083,362
Life Sciences	15	21	1.4	238,697,999	40,331,235	279,029,234	13,287,106
Environment	16	15	0.9	84,770,497	283,474	85,053,971	5,670,265
Fundamental Sciences	5	10	2.0	119,197,000	0	119,197,000	11,919,700
INCO	4	4	1.0	7,705,000	0	7,705,000	1,926,250
Industrial Technologies and SMEs	16	37	2.3	141,975,002	62,333,831	204,308,833	5,521,860
Energy	5	10	2.0	15,633,594	740,000	16,373,594	1,637,359
Social Sciences and Humanities	6	8	1.3	41,309,495	0	41,309,495	5,163,687
Total	71	115	N/A	663,465,513	110,345,236	773,810,749	6,728,789

When examining the funding contributions at national level¹⁶⁵, corresponding to themes and countries involved in joint calls, it emerges that smaller EU15 Member States were the most active whereas larger EU15 Member States provided the most funding. Associated countries were more active in joint calls than EU12 Member States and they contributed more funds than the EU12 Member States. Other European countries and third countries were hardly involved in any joint calls. Looking at the models through which funding was provided, 74 per cent of funds (€473,309,273) were contributed via virtual pots and 21.2 per cent via real common pots (€135,962,336). Mixed mode i.e. a combination of virtual and real common pots accounted for only 4.7 per cent (€30,383,000) of the funding.

Among individual countries, Germany, Austria and Finland were involved in the most number of calls, between 43 and 51. Germany and Austria also invested the highest amount of funding into joint calls. Switzerland channelled 83.1 per cent of its funding via real common pots and Hungary 73.3 per cent. For other countries this was much lower, less than 50 per cent.

At a theme level, interestingly, Fundamental Sciences and Social Sciences and Humanities were the only domains that channelled significant amounts of funding via the real common pots. Moreover, this funding was between 80-100 per cent of the total funding for these themes. It is likely that this can be related to the type of research which is undertaken within these themes.

More details in relation to these figures can be found in the following three tables.

¹⁶⁵ Please note that the total national level funding does not add up to the total public and private funding. This is due to the fact that not all coordinators that responded to the survey were able to allocate the funding to the country level. For example, coordinators might have known the total funding being allocated to the call but not how it was going to be distributed across the countries.

Table 21 - Funding of joint calls by theme and type of funding

Theme	No joint calls	total national level funding allocated	Average per call	Amount real common pot	% real common pot	Amount virtual pot	% virtual pot	Amount mixed mode	% mixed mode	Unknown	% unknown
Transport	10	20,833,622	2,083,362	430,000	2.1%	20,403,622	97.9%	0	0.0%	0	0.0%
Life Sciences	21	279,029,234	13,287,106	1,116,000	0.4%	276,890,234	99.2%	40,000	0.0%	983,000	0.4%
Environment	15	85,053,971	5,670,265	375,000	0.4%	42,678,971	50.2%	42,000,000	49.4%	0	0.0%
Fundamental Sciences	10	119,197,000	11,919,700	104,937,000	88.0%	5,650,000	4.7%	8,610,000	7.2%	0	0.0%
INCO	4	7,705,000	1,926,250	0	0.0%	6,875,000	89.2%	830,000	10.8%	0	0.0%
Industrial Technologies and SMEs	37	204,308,833	5,521,860	338,550	0.2%	192,427,283	94.2%	11,543,000	5.6%	0	0.0%
Energy	10	16,373,594	1,637,359	0	0.0%	16,373,594	100.0%	0	0.0%	0	0.0%
Social Sciences and Humanities	8	41,309,495	5,163,687	41,309,495	100.0%	0	0.0%	0	0.0%	0	0.0%
Total / average	115	773,810,749	6,728,789	148,506,045	19.2%	561,298,704	72.5%	63,023,000	8.1%	983,000	0.1%

Table 22 - Joint calls funding contributions by types of funding and type of country

Country	N° funding contributions to calls	total funding (€)	Average per call (€)	Amount real common pot (€)	% real common pot	Amount virtual pot (€)	% virtual pot	Amount mixed mode (€)	% mixed mode	Unknown (€)	% unknown
EU 15 Larger country	181	307,460,496	1,698,677	74,190,071	24.1%	220,364,425	71.7%	12,816,000	4.2%	90,000	0.0%
EU 15 Smaller country	270	276,217,837	1,023,029	44,177,504	16.0%	217,798,333	78.9%	14,032,000	5.1%	210,000	0.1%
EU 12	62	18,858,233	304,165	1,775,108	9.4%	14,778,125	78.4%	2,305,000	12.2%	0	0.0%
Associated country	73	34,138,043	467,644	15,299,653	44.8%	18,018,390	52.8%	820,000	2.4%	0	0.0%
Other Europe	2	410,000	205,000	0	0.0%	0	0.0%	410,000	100.0%	0	0.0%
Third country	5	2,350,000	470,000	0	0.0%	2,350,000	100.0%	0	0.0%	0	0.0%
Unknown	4	520,000	130,000	520,000	100.0%	0	0.0%	0	0.0%	0	0.0%
Total / average	597	639,954,609	1,071,951	135,962,336	21.2%	473,309,273	74.0%	30,383,000	4.7%	300,000	0.0%

Table 23 - Joint calls funding contributions by type of funding and individual country

Country	N° funding contributions to calls	total funding (€)	Average per call (€)	Amount real common pot (€)	% real common pot	Amount virtual pot (€)	% virtual pot	Amount mixed mode (€)	% mixed mode	Unknown (€)	% unknown
Germany	51	119,925,346	2,351,477	35,839,110	29.9%	78,396,236	65.4%	5,600,000	4.7%	90,000	0.1%
Austria	45	97,289,377	2,161,986	5,070,643	5.2%	88,720,734	91.2%	3,288,000	3.4%	210,000	0.2%
Finland	43	41,876,358	973,869	5,447,185	13.0%	30,520,173	72.9%	5,909,000	14.1%	0	0.0%
The Netherlands	41	41,324,990	1,007,927	14,803,330	35.8%	25,621,660	62.0%	900,000	2.2%	0	0.0%
France	40	65,271,078	1,631,777	9,212,643	14.1%	52,727,435	80.8%	3,331,000	5.1%	0	0.0%
Spain	37	49,244,710	1,330,938	10,630,000	21.6%	37,394,710	75.9%	1,220,000	2.5%	0	0.0%
Sweden	36	26,002,539	722,293	5,829,256	22.4%	19,882,283	76.5%	291,000	1.1%	0	0.0%
UK	35	41,080,022	1,173,715	14,658,318	35.7%	24,656,704	60.0%	1,765,000	4.3%	0	0.0%

Norway	34	15,638,860	459,966	5,735,610	36.7%	9,903,250	63.3%	0	0.0%	0	0.0%
Denmark	25	17,085,310	683,412	5,115,810	29.9%	9,875,500	57.8%	2,094,000	12.3%	0	0.0%
Portugal	23	6,397,670	278,160	2,081,340	32.5%	3,936,330	61.5%	380,000	5.9%	0	0.0%
Belgium	22	35,081,653	1,594,621	3,060,000	8.7%	31,781,653	90.6%	240,000	0.7%	0	0.0%
Ireland	18	4,631,940	257,330	1,659,940	35.8%	2,542,000	54.9%	430,000	9.3%	0	0.0%
Italy	18	31,939,340	1,774,408	3,850,000	12.1%	27,189,340	85.1%	900,000	2.8%	0	0.0%
Slovenia	14	1,672,943	119,496	254,268	15.2%	1,358,675	81.2%	60,000	3.6%	0	0.0%
Switzerland	13	11,137,643	856,742	9,250,643	83.1%	1,677,000	15.1%	210,000	1.9%	0	0.0%
Poland	12	10,361,000	863,417	200,000	1.9%	8,695,000	83.9%	1,466,000	14.1%	0	0.0%
Iceland	11	1,983,030	180,275	113,400	5.7%	1,869,630	94.3%	0	0.0%	0	0.0%
Hungary	8	1,637,000	204,625	1,200,000	73.3%	207,000	12.6%	230,000	14.1%	0	0.0%
Greece	7	1,800,000	257,143	800,000	44.4%	900,000	50.0%	100,000	5.6%	0	0.0%
Estonia	6	237,140	39,523	90,840	38.3%	146,300	61.7%	0	0.0%	0	0.0%
Israel	6	1,893,000	315,500	0	0.0%	1,483,000	78.3%	410,000	21.7%	0	0.0%
Romania	6	2,225,000	370,833	0	0.0%	2,190,000	98.4%	35,000	1.6%	0	0.0%
Latvia	5	939,000	187,800	0	0.0%	725,000	77.2%	214,000	22.8%	0	0.0%
Nordic Innovation Center	5	790,000	158,000	310,000	39.2%	80,000	10.1%	400,000	50.6%	0	0.0%
Turkey	5	3,285,510	657,102	200,000	6.1%	3,085,510	93.9%	0	0.0%	0	0.0%
Unknown	4	520,000	130,000	520,000	100.0%	0	0.0%	0	0.0%	0	0.0%
Cyprus	3	565,000	188,333	30,000	5.3%	535,000	94.7%	0	0.0%	0	0.0%
Luxembourg	3	901,000	300,333	0	0.0%	901,000	100.0%	0	0.0%	0	0.0%
Slovakia	3	273,000	91,000	0	0.0%	273,000	100.0%	0	0.0%	0	0.0%
Lithuania	2	390,000	195,000	0	0.0%	90,000	23.1%	300,000	76.9%	0	0.0%
Czech Republic	2	248,150	124,075	0	0.0%	248,150	100.0%	0	0.0%	0	0.0%

Albania	1	20,000	20,000	0	0.0%	0	0.0%	20,000	100.0%	0	0.0%
Bosnia and Herzegovina	1	30,000	30,000	0	0.0%	0	0.0%	30,000	100.0%	0	0.0%
Bulgaria	1	310,000	310,000	0	0.0%	310,000	100.0%	0	0.0%	0	0.0%
Canada	1	700,000	700,000	0	0.0%	700,000	100.0%	0	0.0%	0	0.0%
Croatia	1	50,000	50,000	0	0.0%	0	0.0%	50,000	100.0%	0	0.0%
FYROM	1	50,000	50,000	0	0.0%	0	0.0%	50,000	100.0%	0	0.0%
Nordic Forest Research Co-operation Committee	1	150,000	150,000	0	0.0%	150,000	100.0%	0	0.0%	0	0.0%
Russia	1	380,000	380,000	0	0.0%	0	0.0%	380,000	100.0%	0	0.0%
Serbia and Montenegro	1	80,000	80,000	0	0.0%	0	0.0%	80,000	100.0%	0	0.0%
Argentina	1	500,000	500,000	0	0.0%	500,000	100.0%	0	0.0%	0	0.0%
China	1	150,000	150,000	0	0.0%	150,000	100.0%	0	0.0%	0	0.0%
Mexico	1	1,000,000	1,000,000	0	0.0%	1,000,000	100.0%	0	0.0%	0	0.0%
Nordic countries consortium	1	2,887,000	2,887,000	0	0.0%	2,887,000	100.0%	0	0.0%	0	0.0%
Total / average	597	639,954,609	1,071,951	135,962,336	21.2%	473,309,273	74.0%	30,383,000	4.7%	300,000	0.0%

Joint programmes

To date, and as far as is known by the data made available, 13 ERA-NETs have launched a joint programme. Two of these also launched a second programme bringing the overall number of programmes launched to 15. None of these 15 programmes have reached completion and three are due to commence at a later date. Information about the total public funding being put forward for these programmes has been obtained for eight of the 15 programmes and totals € 376,102,000.

Considering the distribution of programmes across themes, two themes, Fundamental Sciences and INCO, have yet to launch one. ERA-NETs within the Industrial Technologies and SMEs theme have overall, intended most programmes (as was the case with calls). The Transport domain ERA-NETs have, however, been the most active, with the most programmes in relation to the numbers of projects within the field. The Environment theme has, in comparison to other domains, invested by far the most funding into joint programming, although comparatively little per programme. With regard to channelling funding via themes, Environment invested most funding per programme. Interestingly, Social Sciences and Humanities, and Transport are the only themes to invest all related funding via a real common pot.

The results, by theme, are shown in the tables below. It should be noted that the total public funding reported relates only to 11 programmes, not all of the 15 programmes reported.

Table 24 - Joint programmes by theme

Theme	Number of ERA-NETS per theme	Number of programmes	Number of programmes per theme	Total funding
Transport	4	2	0.50	14,650,000
Life Sciences	15	1	0.07	4,000,000
Environment	16	4	0.25	302,022,000
Fundamental Sciences	5	0	0.00	0
INCO	4	0	0.00	0
Industrial Technologies and SMEs	16	5	0.31	20,700,000
Energy	5	1	0.20	6,500,000
Social Sciences and Humanities	6	2	0.33	28,230,000
Total	71	15	N/A	376,102,000

Table 24 - Joint programmes by theme and type of funding

Theme	No programmes	total funding	Average per programme	Amount real common pot	% real common pot	Amount virtual pot	% virtual pot	Other	% other
Transport	2	14,650,000	7,325,000	1,650,000	11.3%	0	0.0%	13,000,000	88.7%
Life Sciences	1	4,000,000	4,000,000	0	0.0%	4,000,000	100.0%	0	0.0%
Environment	4	302,022,000	230,505,500	0	0.0%	2,000,000	0.2%	230,000,000	23.2%
Fundamental Sciences	0	0	0	0	0.0%	0	0.0%	0	0.0%
INCO	0	0	0	0	0.0%	0	0.0%	0	0.0%
Industrial Technologies and SMEs	5	20,700,000	4,140,000	0	0.0%	20,700,000	100.0%	0	0.0%
Energy	1	6,500,000	6,500,000	0	0.0%	6,500,000	100.0%	0	0.0%
Social Sciences and Humanities	2	28,230,000	14,115,000	28,230,000	100.0%	0	0.0%	0	0.0%
Total / Average	15	376,102,000	25,073,467	29,880,000	3.0%	33,200,000	3.3%	243,000,000	18.6%

Looking at joint programmes from a country perspective, the smaller EU15 Member States were the most involved whereas the large EU15 Member States provided the most funding. The EU12 Member States and Associated countries were also involved in joint programmes, although to a lesser extent. In comparison to other country groups, Associated countries were the least likely to channel funding via real common pots. At the country level, Germany and UK were most involved in joint programmes, and contributed the most amount of funding. Of the larger EU15 Member States, Italy was not involved in any joint programmes, and UK and Germany were the only larger countries to channel significant amounts of their funding via real common pots. More details can be found in the tables below.

Table 25 - Joint programmes funding contributions by country group and type of funding

Country	No programmes	total funding	Average per programme	Amount common pot	% common pot	Amount virtual pot	% virtual pot	Other	% other
EU 15 Larger country	19	25,703,760	1,352,829	12,023,760	46.8%	5,680,000	22.1%	8,000,000	31.1%
EU 15 Smaller country	30	21,744,800	724,827	10,787,800	49.6%	5,130,000	23.6%	5,827,000	26.8%
EU 12	7	565,320	80,760	390,320	69.0%	175,000	31.0%	0	0.0%
Associated country	8	3,195,920	399,490	1,595,920	49.9%	1,600,000	50.1%	0	0.0%
Other Europe	0	0	0	0	0.0%	0	0.0%	0	0.0%
Third country	0	0	0	0	0.0%	0	0.0%	0	0.0%
Unknown	0	0	0	0	0.0%	0	0.0%	0	0.0%

Total / Average	64	51,209,800	800,153	24,797,800	48.4%	12,585,000	24.6%	13,827,000	27.0%
--------------------	----	------------	---------	------------	-------	------------	-------	------------	-------

Table 26 - Joint programmes funding contributions by individual country and type of funding

Country	No programmes	total funding	Average per programme	Amount common pot	% common pot	Amount virtual pot	% virtual pot	Other	% Other
Germany	6	11,412,240	1,902,040	6,112,240	53.6%	1,500,000	13.1%	3,800,000	33.3%
UK	6	12,131,520	2,021,920	5,761,520	47.5%	2,170,000	17.9%	4,200,000	34.6%
Denmark	5	3,165,200	633,040	1,465,200	46.3%	1,300,000	41.1%	400,000	12.6%
Finland	5	3,058,320	611,664	1,158,320	37.9%	1,000,000	32.7%	900,000	29.4%
The Netherlands	5	3,197,000	639,400	2,890,000	90.4%	80,000	2.5%	227,000	7.1%
Norway	5	2,930,960	586,192	1,530,960	52.2%	1,400,000	47.8%	0	0.0%
Spain	4	880,000	220,000	150,000	17.0%	730,000	83.0%	0	0.0%
Austria	3	1,430,000	476,667	1,380,000	96.5%	50,000	3.5%	0	0.0%
Iceland	3	264,960	88,320	64,960	24.5%	200,000	75.5%	0	0.0%
Ireland	3	1,092,560	364,187	1,092,560	100.0%	0	0.0%	0	0.0%
Portugal	3	1,076,800	358,933	876,800	81.4%	200,000	18.6%	0	0.0%
Sweden	6	8,724,920	1,454,153	1,924,920	22.1%	2,500,000	28.7%	4,300,000	49.3%
Estonia	2	64,960	32,480	64,960	100.0%	0	0.0%	0	0.0%
France	3	1,280,000	426,667	0	0.0%	1,280,000	100.0%	0	0.0%
Slovenia	2	175,360	87,680	175,360	100.0%	0	0.0%	0	0.0%
Latvia	1	75,000	75,000	0	0.0%	75,000	100.0%	0	0.0%
Poland	1	150,000	150,000	150,000	100.0%	0	0.0%	0	0.0%
Romania	1	100,000	100,000	0	0.0%	100,000	100.0%	0	0.0%
Total / Average	64	51,209,800	800,153	24,797,800	48.4%	12,585,000	24.6%	13,827,000	27.0%

Pilot calls

12 ERA-NETs intended to undertake a total of 22 pilot calls to date. Only one of the 22 was planned to take place in the future and most were currently ongoing. Five of the 12 had launched more than one pilot call. Information about public funding available was provided for fourteen pilot calls amounting to €14,752,000 in total although this included the funding of one pilot call worth €9 million. Hence, generally, funding for pilot action/project tended to be worth in the region of tens or hundreds of thousands of Euros. The total private funds dedicated to pilot calls were €3,800,000, relating to the one large project only.

Looking at pilot activity from a theme perspective, taking into account the one pilot call worth €9 million, ERA-NETs in the Industrial technologies and SMEs theme invested most overall funding into pilots. This project apart, the Fundamental Sciences projects had the highest average funding. This was also the theme in which, at an activity level, ERA-NETs were involved in the most pilots. However, they were all related to one ERA-NET and were short in duration. More details can be found in the table below:

Table 27 - Pilot actions by theme and type of funding

Theme	Number of ERA-NETS per theme	Number of pilot actions	Number of pilots per theme	Total public funding	Total private funding	Total overall funding
Transport	4	1	0.3	96,000	0	96,000
Life Sciences	15	5	0.3	740,000	0	740,000
Environment	16	0	0.0	0	0	0
Fundamental Sciences	5	6	1.2	804,000	0	804,000
INCO	4	2	0.5	0	0	0
Industrial Technologies and SMEs	16	3	0.2	9,200,000	3,800,000	13,000,000
Energy	5	4	0.8	112,000	0	112,000
Social Sciences and Humanities	6	1	0.2	0	0	0
Total	71	22	N/A	10,952,000	3,800,000	14,752,000

In relation to the country level, as with calls and programmes, the smaller EU15 Member States were the most active in pilot calls, whereas the larger EU15 Member States provided the most funding. Among individual countries, Austria, France, Finland and Germany were the most active. Overall the most funding was provided by Germany, Portugal and Spain. More details can be found in the following tables.

Table 28 - Pilot actions funding contributions by country group and funding

Country	N° funding contributions for pilot actions	total funding (€)	Average per pilot action
EU 15 Larger country	26	6,652,100	255,850
EU 15 Smaller country	49	3,168,600	64,665
EU 12	12	64,200	5,350
Associated country	9	373,700	41,522
Other Europe	0	0	0
Third country	1	15,000	15,000
Unknown	1	5,500	5,500
Total / Average	98	10,279,100	104,889

Table 29 - Pilot actions funding contributions by individual country and funding

Country	N° funding contributions for pilot actions	total funding (€)	Average per pilot action
Austria	9	84,700	9,411
France	9	689,200	76,578
Finland	9	648,700	72,078
Germany	9	4,081,700	453,522
The Netherlands	8	44,700	5,588
Portugal	8	2,094,200	261,775
Switzerland	7	72,200	10,314
Spain	7	1,877,200	268,171
Poland	6	31,400	5,233
Belgium	6	87,400	14,567
Hungary	6	32,800	5,467
Ireland	6	43,400	7,233
Sweden	2	161,500	80,750
Norway	2	301,500	150,750
Denmark	1	4,000	4,000
UK	1	4,000	4,000
Unknown	1	5,500	5,500
European coalition	1	15,000	15,000
Total / Average	98	10,279,100	104,889

Information about virtual and real common pots was not relevant for the pilot activities.

Key findings from the Impact Analysis

The effects of the ERA-NETs on national programme budgets were explored in the Participant survey¹⁶⁶. 46 per cent of participants had seen an increase in national programme budgets in the theme of the ERA-NET as a result of their participation. A much smaller proportion (13 per cent) thought that it had led to smaller budgets. The survey also explored the impact of ERA-NET participation on the availability of programme budgets outside the ERA-NET¹⁶⁷. Previous impact analyses highlighted an association between increases in national programme budgets in the theme and the following factors:

- Participation in joint calls: there seemed to be a tendency that higher participation in joint calls led to ERA-NETs having some positive impact on national programmes budgets.
- Overlaps with other ERA-NETs in the country: A negative association was found between overlaps specific ERA-NETs had with other ERA-NETs in the country and the influence of the scheme on programme budgets¹⁶⁸. In other words the more overlaps there are in a country between ERA-NETs the less likely the impact on national programme budgets.

¹⁶⁶ Refer to participant questionnaire section 6.2.

¹⁶⁷ Refer to participant questionnaire section 7.13.

¹⁶⁸ Refer to participant questionnaire section 6.1. for both bullet points.

Key findings from the typology analysis

The figure below shows the extent to which the European Commission funding covered the costs of participation in the ERA-NET. Disregarding the 'applied societal research to address a scientific discipline or a technology domain' (Type 3, Focus 1), and 'basic research focusing on a sector' (Type 1, focus 2) categories, where the percentages were the highest there were also too few ERA-NETs involved to draw any conclusions. It thus appeared that Type 2 ERA-NETs were more likely to report that the EC funding had covered the cost of participation. This could possibly be attributed to the fact that these ERA-NETs were more likely to include industry as part of the consortia, whose contributions, even outside of the joint calls, could have lead to a reduction in participation costs for the funding bodies. There appears to be no clear pattern across different areas of focus.

Figure 71 - Extent to which EC funding covered cost of participation in ERA-NET¹⁶⁹

	Type 1: Basic research	Type 2: Applied Industrial	Type 3: Applied Societal
Focus 1: Scientific discipline or technology domain	44%	54%	67%
Focus 2: Sector	80%	52%	40%
Focus 3: Specific topic / Issue	45%	58%	49%

Regarding the extent of joint call participation across the different typology categories, no category (once again excluding the 'basic research focusing on a sector' – Type 1, Focus 2) stands out as comprising of ERA-NETS which were considerably more or less active in joint calls. The earlier section presented a hypothesis that Type 2 projects would require a culture change in ministries and businesses in order to secure cooperation. The slightly higher extent of participation in joint calls suggests that this might not be as much of a challenge. On the other hand, the high level of commonality and synergies that one would expect in the 'applied societal R&D to address a specific topic or issue' (Type 3, Focus 3) category does not seem to lead higher joint call participation.

Figure 72 - Extent of participation in joint calls

	Type 1: Basic research	Type 2: Applied Industrial	Type 3: Applied Societal
Focus 1: Scientific discipline or technology domain	1.89	2.07	1.87
Focus 2: Sector	1.60	2.14	2.06
Focus 3: Specific topic / Issue	2.11	2.13	1.97

¹⁶⁹ The typologies are presented in more depth in Annex 8. Their expected characteristics, and the types of impacts associated with them, were tested by performing initial analysis by type and focus of ERA-NET. The figures presented as part of the typology analysis represent the inputs, level of activity, and impacts for ERA-NETs falling into individual categories in the typology presented in Annex 8. It is important to note that very little can be concluded for categories where very few ERA-NETs find themselves. These include in particular 'applied societal research to address a scientific discipline or a technology domain', 'basic research focusing on a sector', and 'basic research to address a specific topic or issue'.

Key: Extent of participation in joint calls (3 = participation in all joint calls, 2 = in majority, 1 in minority, and 0 in none).

Figure 73 - Extent of participation in activities other than joint calls

	Type 1: Basic research	Type 2: Applied Industrial	Type 3: Applied Societal
Focus 1: Scientific discipline or technology domain	70%	63%	69%
Focus 2: Sector	79%	73%	64%
Focus 3: Specific topic / Issue	76%	68%	70%

Key: Table showing the average participation in benchmarking and common schemes for monitoring and evaluation, action plan taking up common strategic issues and preparing for joint activities, coordination/clustering of ongoing nationally funded research projects and specific cooperation agreements or arrangements, multinational evaluation procedures, and schemes for joint training activities, personnel exchange, and mutual opening of facilities or laboratories.

The above figure shows the extent of participation in ERA-NET activities other than joint calls. As for the participation in joint calls, no category particularly stands out. No wide variation in the extent of involvement in activities other than joint calls could be evidenced making the interpretation of the findings difficult.

Key conclusions

EC funding covered the time and resources required by the organisations to participate in the ERA-NETs for a small majority of ERA-NET participants. Member States more frequently involved in the ERA-NET scheme, in terms of number of participation or number of funding contributions (e.g. the larger EU15 Member States, Associated countries and to a lesser extent the smaller EU15 Member States), tended to put additional funding in to cover their cost of participation.

Thematically, Social Sciences and Humanities, INCO and Regional ERA-NETs reported higher frequencies than average in terms of the EC funding covering all of the resources. This may be due to the nature of the involvement of participants in these themes, or the fact that the number of joint calls launched was lower than for other thematic areas. Additionally, activities related to joint calls were seen as quite resource intensive by the participants. This may explain the higher frequencies showing that EC funding covered all the cost of participation in these specific thematic areas.

In terms of contribution to the financing of research projects, the largest contributors to joint calls were larger EU15 Member States. Among the thematic areas, the largest investments were made in the Industrial Technologies and SMEs, Life Sciences, Fundamental Sciences, and Environment themes.

7.6 Types of joint actions, initiatives arising from different ERA-NET actions, and typologies

This section reports on evidence gathered and analyses undertaken in relation to Deliverable 6 (D.6):

“Evidence that joint actions may have taken various forms, as a result of initiatives arising from different ERA-NET actions, and construction of a typology of those forms”.

Expectations of impact

It would have been expected that countries would only engage in the work programme where they explicitly or implicitly regarded the benefits as being greater than the costs. It would also have been foreseen that any typology developed would regard the initial level of ambition of the work programme as an important variable in distinguishing between types of ERA-NETs. Moreover, it was thought that joint actions would be made easier for those participants whose funding of national projects resembled the funding of joint calls within the ERA-NETs.

An ex-ante analysis of ERA-NET work programmes showed that more than 1,000 specific joint actions were planned across the 71 ERA-NETs at the outset of the scheme. The breakdown of actions across the 4 steps of the work programme was as follows:

- systematic exchange of information and good practices on existing programmes and activities (43 per cent);
- identification and analysis of common strategic issues (29 per cent);
- planning and development of joint activities between national and regional programmes (five per cent);
- implementation of joint transnational activities, including joint calls and joint programmes (23 per cent).

Actions pertaining to each of the steps of the work programme can be categorised as follows:

Steps of the work programme	Typology of actions
Systematic exchange of information and good practices on existing programmes and activities	<ul style="list-style-type: none">• Network development and coordination• Mapping of the research field• Development of databases• Development of websites• Identification of best practices• Content development and dissemination activities (via print and media products)
Identification and analysis of common strategic issues	<ul style="list-style-type: none">• Collection, analysis and measurement of barriers to cooperation• Gap analyses• Identification of topics for potential cooperation (via workshops)• Strategy development and foresight activities (Vision document, strategy papers)
Planning and development of joint activities between national and regional programmes	<ul style="list-style-type: none">• Developing governance arrangements and corresponding structure(e.g. cooperation agreements and arrangements)• Preparation of clustering (working groups, workshops, projects and procedures)• Clustering of ongoing nationally funded research projects
Implementation of joint transnational activities, including joint calls and joint programmes	<ul style="list-style-type: none">• Implementation of joint calls (e.g. procedures, IPR agreements)• Implementation of joint programmes• Managing access to research infrastructures (e.g. mutual opening of

Steps of the work programme	Typology of actions
	<ul style="list-style-type: none"> facilities or laboratories) Implementation of schemes for development of researchers (joint training, researchers mobility)

Key findings from the Participant Survey

The level of participation in ERA-NET of joint activities undertaken over the period has been described in the earlier section 7.2. Results from the participant survey showed that 73 per cent of participant organisations participated in at least one joint call. Associated countries were particularly likely to participate in joint calls (81 per cent). Similarly, participation in joint activities was widespread and can be compared against the four steps of the work programme as described in the following table.

Steps of the work programme	Participation in joint activities as evidenced by the participant questionnaire
Systematic exchange of information and good practices on existing programmes and activities	<ul style="list-style-type: none"> Work on benchmarking and common schemes for monitoring and evaluation was part of the activities of 67 per cent of the sample. Once again the EU12 Member States stood out for the relatively higher importance of these activities and Associated countries for the relatively lower importance.
Identification and analysis of common strategic issues	<ul style="list-style-type: none"> The planning of actions to take up common strategic issues and prepare joint activities was undertaken by 75 per cent of the overall sample and 84 per cent of the EU12 group.
Planning and development of joint activities between national and regional programmes	<ul style="list-style-type: none"> The setting up of specific cooperation agreements or arrangements was within the list of completed activities in 43 per cent of the cases overall and 72 per cent of the EU12 country cases. Coordination or clustering of ongoing nationally funded research projects was undertaken in 59 per cent of the cases. This proportion was 71 per cent in the case of EU12 country respondents and 33 per cent in the case of Associated country respondents.
Implementation of joint transnational activities, including joint calls and joint programmes	<ul style="list-style-type: none"> 73 per cent of the participant organisations participated in at least one joint call. Schemes for joint training activities did not seem to play a pivotal role within the scope of the ERA-NET activities, judging by the 49 per cent of respondents answering no to this question and the 40 per cent of no answers. Similar comments apply to the development of schemes for personnel exchange and mutual opening of facilities or laboratories.

As already stated, the EU12 Member States were keener to be involved in all types of activities compared to the EU15 Member States and Associated countries¹⁷⁰. Associated countries seemed to be more strategic in their engagement in ERA-NETs and oriented towards joint calls funding and development. The EU15 Member States tended to be involved in all types of activities across the board, although smaller EU15 Member States were less keen than larger EU15 Member States on joint activities directly oriented towards researchers.

Key findings from the Coordinator Survey

There was a clear indication from the coordinators that different types of joint activities had taken place. Up to December 2008, 115 joint calls have been intended by 59 (83 per cent) of the ERA-NETs of which 76 have been completed, 21 launched and 18 planned. In total, €773,710,849 has been invested in joint calls across 42 countries. The majority of the funding has come from public investment with 14.3 per cent being invested through private funding. This is shown in the table below.

Table 30 - Description of the number of joint calls and the related funding

Type of call	Number of calls	Total public funding	Total private funding	Total overall funding
Planned	18	97,111,000	0	97,111,000
Launched	21	116,545,140	8,905,327	125,450,467
Done	76	449,709,473	101,439,909	551,149,382
Total	115	663,365,613	110,345,236	773,710,849

These calls have been subject to different purpose based on the needs felt by the consortium. Majority of the calls have been fully fledged calls addressing strategic research interests (55.7 per cent), however, a significant proportion have also been test calls to explore possibilities and methods for future cooperation (39.1 per cent). This is indicated in the table below.

Table 31 – Description of the Pilot or test calls vs. fully fledge calls

Theme	Pilot or test call	%	A fully fledged call	%	Other or Unknown	%	Total
Industrial Technologies and SMEs	17	45.9%	19	51.4%	1	2.7%	37
Life Sciences	7	33.3%	13	61.9%	1	4.8%	21
Environment	9	60.0%	6	40.0%	0	0.0%	15
Energy	2	20.0%	8	80.0%	0	0.0%	10
Transport	3	30.0%	7	70.0%	0	0.0%	10
Fundamental Sciences	3	30.0%	6	60.0%	1	10.0%	10
Social Sciences and Humanities	2	25.0%	3	37.5%	3	37.5%	8
INCO	2	50.0%	2	50.0%	0	0.0%	4
Total	45	39.1%	64	55.7%	6	5.2%	115

In addition, 13 (18.3 per cent) of the ERA-NETs have also launched a joint programme. Two of the 13 ERA-NETS have also launched a second programme, although none of the programmes have yet been completed. Information about the total funding for the programmes is available in

¹⁷⁰ That being said EU12 Members States scored consistently lower with regard to joint actions oriented towards researchers (e.g. Schemes for personnel exchange, joint training, mutual opening of research facilities).

relation to 11 of the programmes, totalling €996,102,010. This figure is a “best estimate” since the ERA-NETs could not disclose actual funding but often gave best estimate. No information is available whether private funding has been utilised in programmes.

Moreover 13 (18.3 per cent) ERA-NETS have undertaken in total 22 pilot calls. The duration and funding levels of pilot calls vary greatly, as do the topics of the actions. They range from conference series to studies, with the duration and funding levels reflecting this variety. The coordinators were also asked about the intentions of the pilot calls. In half of the cases (50 per cent) the intention was to test and improve procedures for future cooperation. This is indicated in the table below.

Table 32 - Description of the intentions of the pilot call

Intentions of the pilot action	Number	Percentage
Test and improve procedures for future cooperation	15	50.0%
Raise awareness of the ERA-NET in the research community	7	23.3%
Other	8	26.7%
Total	30	100.0%

Investigating the activities at ERA-NET theme level, with respect to calls, Life Sciences, Industrial technologies and SMEs, and Environment have been the most active. They have made the greatest number of calls with respect to the number of ERA-NETs within these themes. Similarly, at a programme level, Transport, Social Sciences and Humanities and Industrial technologies and SMEs have been the most active. Fundamental Sciences related ERA-NETs in particular have been active when it comes to number of pilot activities.

The coordinators were also asked about the level at which the funding rules for calls are defined. In 16 calls (13.9 per cent) agreed that common funding rules applied to all participants. In a third of the calls (33 per cent) some common rules had been agreed, while national rules still applied to participants. In over a third of the calls (37.4 per cent) only national rules applied. This is shown in the table below.

Table 33 - Description of the level at which funding rules for calls are defined

The way rules regulation funding are defined	Number	Percentage
Only national rules apply	43	37.4%
Some common rules have been agreed while national rules still apply to participants	38	33.0%
Agreed common funding rules apply equally to all participants	16	13.9%
Other	1	0.9%
Unknown	17	14.8%
Total	115	100.0%

Analysis at a theme level clearly shows that Social Sciences and Humanities is the only theme where a significant proportion of calls (75.0 per cent) have agreed that common funding rules are to be applied equally to all participants. Fundamental sciences have in over 50 per cent of their calls implemented some common rules.

With regards to joint programmes the distribution of levels at which funding rules are defined is relatively equal between the different regulation rules. This is shown in the table below.

Table 34 - description of the level at which funding rules for programmes are defined

The level at which joint programme funding rules are defined	Number	Percentage
Only national rules apply	4	26.7%
Some common rules have been agreed while national rules still apply to participants	4	26.7%
Other	4	26.7%
Agreed common funding rules apply equally to all participants	3	20.0%
Total	15	100.0%

In addition, the coordinators were asked their views on the whether the implementation of the ERA-NET calls differed from the implementation of the national calls. The majority (52.2 per cent) felt that it was not much more complex whereas 37.4 per cent felt that ERA-NET calls were much more complex than national calls.¹⁷¹

The coordinator survey also asked about the main motivations to address a particular topic via transnational call. The coordinators had the opportunity to indicate several motivations. The most common motivations were:

- Sharing competencies and associated work
- Access to expertise from specific countries

The full list of motivations and their importance is indicated in the table below.

Table 35 - Motivations behind addressing a topic via transnational call

Motivations to address a topic via transnational call	Number	Percentage
Sharing competencies and associated work	91	27.7%
Access to expertise from specific countries	70	21.3%
Achieving critical mass	55	16.8%
Addressing global issues	43	13.1%
Developing common approaches (e.g. ethics, standards)	35	10.7%
Addressing specific geographical issues	24	7.3%
Other	10	3.0%
Total	328	100.0%

The main motivations at regarding addressing a topic via transnational programme were:

- Sharing competencies and associated work
- Achieving critical mass

The main motivations are shown in the table below.

¹⁷¹ With respect to 12.7% of the 102 calls it is unknown how they compare to national calls

Table 36 - Motivations behind addressing a topic via transnational programme

Main motivations to address the topic via transnational programme	Number	Percentage
Achieving critical mass	11	22.0%
Sharing competencies and associated work	10	20.0%
Addressing global issues	8	16.0%
Developing common approaches (e.g. ethics, standards)	7	14.0%
Access to expertise from specific countries	7	14.0%
Addressing specific geographical issues	5	10.0%
Other	2	4.0%
Total	50	100.0%

The coordinators were also asked about the broad research areas that were the target of the call. Applied industrial research and basic fundamental research were the most common areas. Only a few calls were addressed to innovation support measures. More than one research area could be the target of the call. The results are indicated in the table below.

Table 37 - Broad research area that was the target of the call

Broad type of research that was the target of the call	Number	Percentage
Applied/industrial research	70	45.2%
Basic/fundamental research	60	38.7%
Innovation support measures	17	11.0%
Other	8	5.2%
Total	155	100.0%

With regards to programmes, basic/fundamental research was the main target of the programme (38.7 per cent) followed by applied industrial research (45.2 per cent). Innovation support measures were the target of two programmes (11 per cent).¹⁷²

Key findings from the Impact Analysis

As already demonstrated in section 6 of this report (Volume 1), the extent of participation in joint calls was associated with higher and positive short term impacts (e.g. on national programmes and budgets), medium term impacts (e.g. on the triggering of transnational cooperation outside the theme of ERA-NETs) and on long-term impacts (e.g. on the quality and type of research project funded). On the contrary, the more the participants were engaged in joint activities other than joint calls, the less likely impacts were evidenced.

Key conclusions

The EU12 were keener to be involved in all types of activities compared to EU15 Member States and Associated countries¹⁷³. Associated countries seemed more strategic in their engagement in ERA-NETs and oriented towards joint calls funding and development. The EU15 Member States tended to be involved in all type of activities across the board, although the smaller EU15 Member States were less keen than the larger EU 15 Member States on joint activities directly oriented towards researchers.

As for the themes, Fundamental Sciences, Industrial Technologies and SMEs, Life Sciences, Environment and Energy ERA-NETs, reported a relatively higher participation in joint calls than for

¹⁷² Other areas were the target of the 3 programmes (12.0%).

¹⁷³ That being said EU12 Members States scored consistently lower with regard to joint actions oriented towards researchers (e.g. Schemes for personnel exchange, joint training, mutual opening of research facilities).

other themes. Interestingly, Fundamental Sciences and International Cooperation reported higher than average level of participation in activities other than joint calls along with Transport and Environment themes. This may show that these thematic areas also require additional coordination, planning and implementation efforts to deliver their work programme and to take part in transnational R&D activities.

7.7 Role of joint actions in attracting and satisfying the needs of the research community, within and beyond Europe

This section reports on evidence gathered and analyses undertaken in relation to Deliverable 7 (D.7):

“Evidence that joint actions have themselves been successful in terms of attracting and satisfying the needs of the research community, within and beyond Europe”.

Expectations of impact

There are two elements specific to this deliverable that necessitates highlighting: i) needs of the research community; and ii) satisfaction. The expectation would have been that countries that had a competitive advantage in an area may have had a different rationale for participating and may not necessarily have wanted to engage to the same level as those who were looking to strengthen capabilities in the area.

Key findings from the Participant Survey

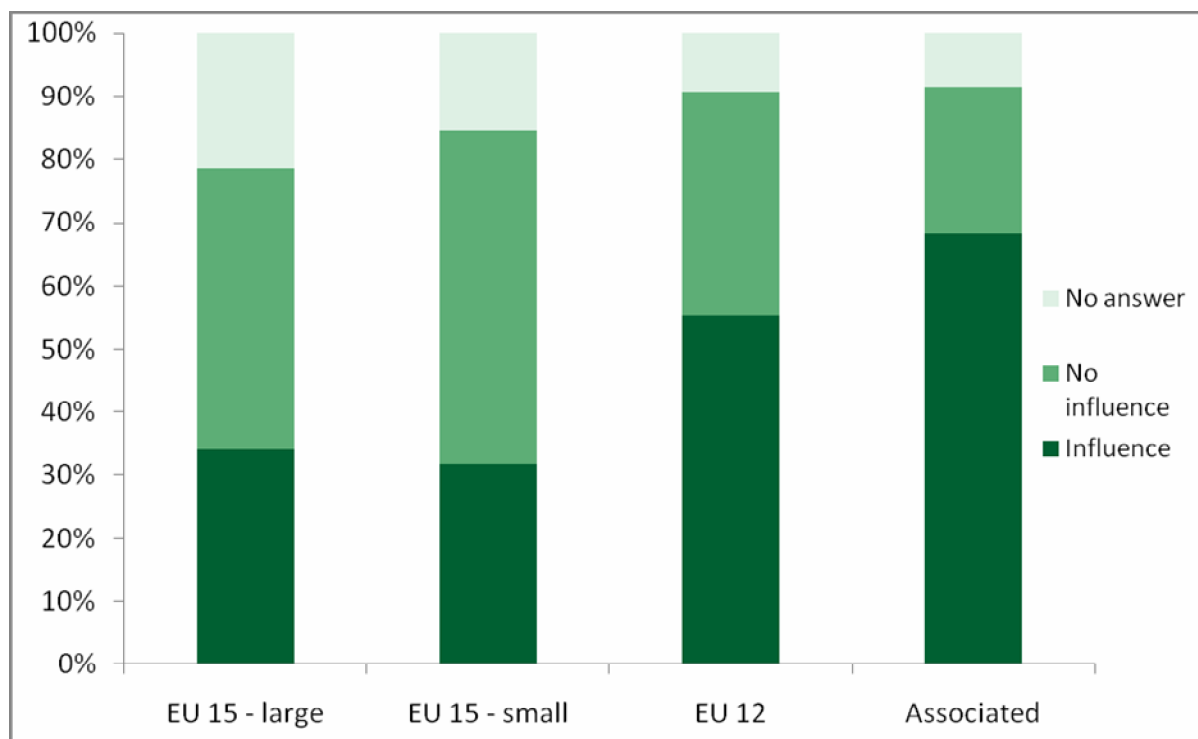
Little evidence has been gathered in terms of the need and satisfaction of the research community, as understood by “researchers” or “Research beneficiaries”. However, the participant survey touched on the benefits of the scheme for this stakeholder group. The following questions were asked to ERA-NET participants:

- To what degree has your participation in this ERA-NET influenced the adoption of new eligibility criteria allowing funding of foreign researchers in the area?
- Have you seen evidence of the following effects at national level of new researchers (with no prior international or European experience) benefiting from joint activities?
- Have you seen evidence of the following effects at national level of new researchers (with no prior international or European experience) benefiting joint calls/programmes?
- Have you seen evidence of the following effects at national level of access to foreign research communities/groups not present in my country?

Funding of non-resident researchers

With regard to the first question and as demonstrated in section 6.4, a key finding was that 41.9 per cent of participants considered that the ERA-NET scheme had influenced the adoption of new eligibility criteria that allow for funding of foreign researchers against 42.9 per cent who thought ERA-NET had had no influence in this area. The figure was highest amongst Associated (68.3 per cent) countries and EU12 Member States (55.8 per cent), compared with about one third of participants in both EU15 groupings.

Figure 74 - To what degree has your participation in this ERA-NET influenced your country's national programme(s)? - New eligibility criteria allowing funding of foreign researchers in the area



Across themes, 68.5 per cent of participants in Social Sciences and Humanities estimate that eligibility criteria allowing funding of non-resident researchers were influenced by ERA-NET participation. This is followed by 43.3 per cent of participants in INCO ERA-NETs, with Fundamental Sciences and Industrial Technology and SMEs also close to the average around 40 per cent. The thematic analysis suggests that ERA-NET influence on changes in eligibility criteria to allow funding of non-resident researchers can be explained to a large extent by thematic characteristics of the Social Sciences and Humanities. This may be based on the fact that there is no issue around Intellectual Property in this field. As a result, researchers in this discipline have a greater interest in cross border cooperation. In conclusion, the ERA-NET scheme created the conditions for the funding of non resident foreign researchers. However, in practice EU Member States may not have used this possibility to a full extent, due to obvious political constraints. The creation of an “internal market of researchers” through the increased mobility of researchers is still to be achieved. The ERA-NET scheme has contributed to the laying down of the foundations for this to occur.

New Researchers benefiting from joint calls/ programmes

Overall, participants considered that the ERA-NET scheme contributed to the creation of opportunities for researchers to participate to transnational research projects. 46 per cent of respondents saw some evidence of new researchers benefiting from joint calls/programmes. By country groups, Associated countries, smaller and larger EU15 Member States reported a higher influence than the average (above 41.4 per cent). The EU12 Member States reported the smallest degree of influence (30 per cent). It is to be noted that the EU 12 Member States did not participate to joint calls to the same extent than their EU counterparts. By thematic area, INCO, Environment and Life Sciences participants reported a higher influence than average (above 41.4 per cent).

New Researchers benefiting from joint activities

Overall, participants considered that the ERA-Net scheme contributed to the creation of opportunities for researchers to participate in joint activities. 40 per cent of respondents saw some evidence of new researchers benefiting from joint activities. By country groups, Associated countries and EU15 Member States reported a higher influence than the average (above 40 per cent). The EU12 Member States reported the smallest degree of influence (22 per cent). By thematic area, INCO, Environment and Energy participants reported a higher influence than average (above 40 per cent).

Access to foreign researchers not present at national level

Overall, participants considered that the ERA-NET scheme had an influence on their access to foreign research communities. The Larger EU 15 countries reported a higher influence than the average (above 54 per cent). In terms of thematic areas, INCO, Regional, Life Sciences, and Energy ERA-NETs reported a higher influence than the average (above 54 per cent). No significant difference between country and theme was noted, except for in Social Sciences, where 28 per cent of the respondents saw evidence of access to research community. This may be due to the already transnational nature of this thematic area.

Key findings from the Coordinator Survey

No finding arising from the coordinator survey results was evidenced.

Key findings from the Impact analysis

No finding arising from the impact analysis was evidenced.

Key findings from the Case studies

From the case studies, most of the research beneficiaries interviewed were highly positive in terms of the benefits experienced when participating in transnational projects resulting from the ERA-NET scheme. Although interviewees painted a very positive picture of the benefits delivered, attention must be paid to optimism bias. This is due to the fact that successful applicants to joint calls are highly satisfied as opposed to those who have not been successful. Main benefits could be found in:

- Participation in transnational R&D projects
- Networking with peers in other countries
- Participation in conferences / seminars in their fields of expertise

Key conclusions

The scheme has, to some extent and despite the total novelty of ERA-NET, already influenced the adoption of new eligibility criteria in certain countries which allowed for funding of non-resident researchers. As a result, and as evidenced by a majority of participants the ERA-NET scheme, access to foreign research communities and groups that were not previously present in the research activities of their countries, has opened up. At the national level, there was also recognition of the value of national researchers joining forces to undertake transnational research. The political desire is there to support researchers who want to work with their peers in other countries. In summary, the ERA-NET schemes created the conditions for the opening up of national programmes to non-resident researchers during and after FP6. It is to be noted that joint calls also played a significant part in the opening up, as participation in joint calls had a positive influence on the access to foreign research communities/groups.

In terms of benefits, evidence gathered shows that new researchers benefited from both joint calls/joint programmes, and joint activities. The higher benefits delivered for new researchers as a result of joint calls/joint programmes occurred in country groups which were the most involved in joint calls/joint programmes. Benefits for new researchers which derived from joint activities were positive but to a lesser extent than in the case of benefits derived from joint calls/joint programmes.

7.8 Embeddedness of joint actions in the national policymaking consciousness and readiness to deal with them

This section reports on the preliminary evidence gathered and analyses undertaken in relation to Deliverable 8 (D.8):

“Evidence that joint actions have become more firmly embedded in the national policymaking consciousness of national and regional administrations, and that these administrations are better equipped to deal with them”.

Expectations of impact

Expectations in this area were that the more of the national budget spent in a more coordinated manner, the more the subsequent aggregated effect of the ERA-NET scheme would ensure that transnational cooperation, and the ERA-NET scheme in particular, would become a topic on the policy agenda of most participant countries.

Key findings from the Participant Survey

In order to assess how embedded joint actions were in the national policy making, attention must be paid to the following elements:

- Percentage of the budget of national programmes that have been put in joint calls and joint programmes.
- Changes in the amount of programme budgets that have been invested in transnational R&D projects outside the ERA-NET.
- Influence of ERA-NETs on national research policy.
- Lessons drawn from ERA-NET participation and their contribution to future implementation efficiency and effectiveness of similar schemes.
- Existence of and degree of interaction between research organisation R&D policy or programming stakeholders.

Overall funding contributions represented less than 25 per cent of the budget of national programmes for the majority of participants (62 per cent)¹⁷⁴. There was no significant difference between country groups. In terms of thematic areas, there were significant differences as participants in Life Sciences, Industrial Technology and Environment ERA-NETs reported higher than average percentages of total programme budgets put into joint calls/programmes in the ERA-NET (12 per cent, eight per cent and six per cent respectively, refer to the impact analysis in this section for further detail). This is line with the coordinator survey results, these thematic areas being amongst the main contributors to joint calls in FP6 ERA-NET along the Fundamental Sciences theme.

Increases in the amount of national programme budgets that were invested in transnational R&D projects outside of the ERA-NET materialised in 13.5 per cent of the cases while the vast majority of participant countries (63 per cent) experienced no change at all. Participants in Associated countries were more frequently reporting budget increases (24 per cent) while participants in EU12 Member States were the least likely to report such increases (nine per cent). Larger and smaller EU15 Member States percentages were broadly in line with the average (15 per cent and 11 per cent respectively). In terms of thematic areas, increases reported by participants were more prominent in International cooperation (28 per cent), Regional ERA-NETs (19 per cent), Industrial Technologies and SMEs (17 per cent), and Transport (17 per cent).

National policy-makers seemed to have taken account of the need for transnational R&D cooperation over the FP6 ERA-NET period. This is evidenced by budgets allocated to transnational cooperation and increases in programme budgets, although this varied across country groups and thematic areas. The readiness for joint actions was the clearest among Associated countries as demonstrated in previous sections by their own rationale for participation and higher participations in joint calls. A similar comment can be made about EU15

¹⁷⁴ Note that the degree of non-response was quite high (30%). Refer to the participant survey results - question 5_8.

Member States although this applied to a lesser extent. Although EU12 Member States appeared to have been conscious of the benefits of joint actions they tended to be relatively less engaged in joint calls.

In addition, the influence of ERA-NETs on national research policy was fairly low although the majority of participants (63 per cent) acknowledged that FP6 ERA-NETs had had some degree of influence on National R&D policy (see impact analysis in section 6.2). The EU12 Member States and Associated countries' involvement in ERA-NETs was more likely to influence national research policy beyond the theme of their ERA-NETs (80 per cent and 77 per cent of participant organisations said so respectively), whereas larger and smaller EU15 Member States R&D policy were the least likely to have been influenced by ERA-NET participation. National R&D policy seemed to have been influenced by ERA-NET participation but the extent of this influence is debatable as the degree of influence reported was fairly low across the board.

As a result of ERA-NET participation, lessons learned were drawn at country and ERA-NET level. The participant survey asked whether lessons learnt would allow future ERA-NETs to be implemented more efficiently in the future, or to improve their effectiveness. Feedback from participants was unequivocal, as 71 per cent thought that lessons had been drawn and that these would help to improve the efficiency and effectiveness of ERA-NET in the future. The EU12 Member States reported a higher rate of positive responses (80 per cent) compared to participant in the larger EU Member States (60 per cent). The degree to which lessons learnt were fed back directly to national policy stakeholder in order to inform R&D policy may be important. In effect, the results from the participant survey show that the vast majority of ERA-NET participants interacted with R&D policy or programming stakeholders in their respective countries in relation to ERA-NETs both before, and during the implementation. The interaction with policy stakeholder was also regarded as intense¹⁷⁵. Evidence gathered shows that lessons learned have been drawn from participation in ERA-NETs and that these may have been facilitated by the intense interaction which took place before and during ERA-NET implementation.

Key findings from the Coordinator Survey

No finding arising from the coordinator survey results was evidenced.

Key findings from the Impact analysis

No finding arising from the impact analysis was evidenced.

Key findings from the Case studies

From the case studies it appears that funding of programmes was often centralised to the ministerial level overseeing the research area relevant to a particular ERA-NET. Those at this level were seldom able to contribute directly to the ERA-NETs joint calls; instead the bulk of funding was channelled via contributions of research councils and within existing programme budgets. The extent to which the research councils, in turn, could contribute was often dependent on the level of flexibility and leverage they had over their existing budgets. In countries where research councils had higher degrees of autonomy they were able to contribute more easily to joint calls.

Key conclusions

Overall funding contributions represented less than 25 per cent of the budget of national programmes for the majority of participants. Although there was no marked difference between country groupings, participants in Life Sciences, Industrial Technology and Environment ERA-NETs reported higher than average percentages of total programme budgets put into joint calls/programmes in the ERA-NET. In addition to the Fundamental Sciences theme, these thematic areas were amongst the main contributors to joint calls during FP6.

Increases in the amount of national programme budgets invested in transnational R&D projects outside of the ERA-NET materialised for a minority of participant organisations. Participants in Associated countries were more frequently reporting budget increases. In terms of thematic

¹⁷⁵ Refer to participant survey results – questions 3.8 to 3.11.

areas, increases reported by participant were more prominent in International cooperation, Regional ERA-NETs, Industrial technologies and SMEs and Transport.

National policy-makers seemed to have taken account of the need for transnational R&D cooperation over the FP6 ERA-NET period. This was evidenced by budgets allocated to transnational cooperation and increases in programme budgets, although there were variations across country groups and thematic areas. As a result, National R&D policy seemed to have been influenced by ERA-NET participation and lessons learned, and may have been facilitated by the intense interaction which took place before and during ERA-NET implementation.

7.9 Structuring effect at the level of ERA and "opening of national research programmes"

This section reports on the evidence gathered and analyses undertaken in relation to Deliverable 9 (D.9):

"Evidence that structuring effect has taken place at the level of ERA and "opening of national research programmes" has been achieved".

Expectations of impact

As presented earlier (in section 6.2), the expectation regarding the structuring effect would be that certain areas, particularly involving societal and or more academic-led research, would be more clearly aligned to FP6 themes because of their international nature.

With reference to the opening up of national programmes, the hypothesis presented in section 6.4 was that some progress will have been made in terms of opening up of programmes to non-resident researchers through allowing for funding of these via joint calls and programmes, but that this would vary across countries. Some thematic areas would be expected to have progressed further towards openness than others. For example, societal ERA-NETs where there was no potential for commercial outcomes would have been expected to reach a higher degree of openness than perhaps applied industrial ERA-NETs.

Key findings from the Participant Survey

Section 6.2 provided a summary of participant survey findings related to the structuring effect across thematic areas. The focus for this section has been on the following indicators:

- degree of fit between national R&D programme relevant to the theme and the ERA-NET;
- influence on national programmes; and
- extent to which a change in the importance of the theme within the national research programme could be attributed to the ERA-NET.

The findings show that most participants reported a good fit between their national R&D programmes and the theme of their ERA-NET (84 per cent), in particular in the areas of Social Sciences, Transport and INCO. This was less the case in areas like Energy, Environment and Regional ERA-NETs.

With regards to the influence on national programmes, the analysis focused on size of budgets, new opportunities for transnational R&D activities, and reduced duplication between national programmes in the country. 46 per cent of participants reported that the ERA-NET enabled bigger programme budgets, while 85.5 per cent reported that the ERA-NET participation enabled transnational R&D activities in the theme of the ERA-NET. 37.6 per cent of participants reported that participation in ERA-NET reduced duplication between national programmes in their country.

Overall, more than a quarter (28.6 per cent) of participants reported that the ERA-NET was the cause of a changing importance of their ERA-NET's theme within the national programme. This was particularly the case for the smaller EU15 Member States and Industrial Technologies and SMEs thematic area.

Section 6.4 provided a detailed summary of participant survey findings related to the opening up of national programmes. The effect on opening up was broken down into four categories of indicators:

- geographical coverage;
- transnational cooperation outside of ERA-NET;
- shared use of facilities; and
- funding of non-resident researchers.

With regards to geographic coverage of relevant stakeholders, the first step for achieving successful opening up, 53 per cent of participants considered that some European countries were missing as either contracted or associated partners in their ERA-NETs, while only 18 per cent of respondents answered that none were missing.

The first key indication of opening up is whether the ERA-NET led to more transnational cooperation. The summary of findings from section 6.2 above has already shown that 85.5 per cent of respondents believed that their ERA-NETs created new cross-border opportunities. Around a third of participants reported that they had undertaken transnational cooperation outside of the ERA-NET as a direct result of their ERA-NET activities. However, only 13.6 per cent of participants indicated that the ERA-NET experience had led to an increase in the amount of national programme budget channelled into transnational R&D outside of the ERA-NETs.

In terms of shared use of facilities, 14.7 per cent of participants stated that they had engaged, as part of their ERA-NET activities, in schemes for mutual opening of facilities or laboratories against 44.5 per cent who had not engaged with such schemes.

The most significant of the indicators of opening up is the funding of non-resident researchers. The key finding in this regard is the fact that as many as 41.9 per cent of participants considered that the ERA-NET scheme had influenced the adoption of new eligibility criteria which allowed for funding of non-resident researchers, against 42.9 per cent who thought ERA-NET had had no influence in this area. Across themes, 68.5 per cent of participants in Social Sciences and Humanities estimated that eligibility criteria allowing funding of non-resident researchers were influenced by ERA-NET participation. This was followed by 43.3 per cent of participants in INCO ERA-NETs, with Fundamental Sciences and Industrial Technology and SMEs also close to the average (around 40 per cent).

It is also important to consider the possible barriers to funding of non-resident researchers: national legal programme conditions (e.g. funding of non-residents, IPR) were identified as an obstacle to exploiting the full potential of ERA-NET participation by 44.9 per cent of participants across all countries and themes. Moreover, for 19.6 per cent of participants these initial problems have now been overcome.

On the whole, the above figures suggest that there is evidence of the opening up of national programmes due to ERA-NET.

Key findings from the Coordinator Survey

The coordinator's survey can shed some light in particular on the structuring effects at the level of the European Research Area (ERA).

One of the indications of a structuring effect of the ERA-NET was, however, the individual country and country group's participation in the ERA-NET scheme. It is important to note that the data below comes from the analysis of the ex-ante information, since no questions regarding country participation in ERA-NETs were asked in the coordinator survey. The implication of this is that these numbers might not be fully compatible with the numbers reported in the country reports, as the ERA-NET consortia changed over time.

Ten countries participated in more than half of ERA-NETs (Germany, France, Netherlands, United Kingdom, Spain, Austria, Finland, Sweden, Belgium, and Norway). Germany and France were particularly active and participated in 60 and 58 ERA-NETs respectively with, on average of, over 1.7 participants per ERA-NET.

Table 38 - ERA-NET participation by country

Country	Number of ERA-NETs participated in ¹⁷⁶	% of ERA-NETs participated in	Number of participations	Participants per ERA-NET
Germany	60	85%	107	1.78
France	58	82%	102	1.76
Netherlands	54	76%	68	1.26

¹⁷⁶ This includes coordinators, as well as participants

Country	Number of ERA-NETs participated in ¹⁷⁶	% of ERA-NETs participated in	Number of participations	Participants per ERA-NET
United Kingdom	49	69%	62	1.27
Spain	43	61%	57	1.33
Austria	42	59%	59	1.40
Finland	40	56%	50	1.25
Sweden	38	54%	50	1.32
Belgium	36	51%	48	1.33
Norway	36	51%	39	1.08
Italy	34	48%	46	1.35
Denmark	30	42%	34	1.13
Poland	27	38%	44	1.63
Portugal	25	35%	28	1.12
Ireland	20	28%	20	1.00
Slovenia	20	28%	20	1.00
Greece	17	24%	21	1.24
Hungary	16	23%	18	1.13
Switzerland	15	21%	16	1.07
Czech Republic	12	17%	13	1.08
Romania	12	17%	13	1.08
Estonia	12	17%	12	1.00
Israel	11	15%	13	1.18
Iceland	9	13%	9	1.00
Turkey	7	10%	7	1.00
Cyprus	6	8%	6	1.00
Slovakia	5	7%	8	1.60
Bulgaria	5	7%	5	1.00
Latvia	5	7%	5	1.00
Luxembourg	4	6%	4	1.00
Russia	4	6%	4	1.00
Lithuania	3	4%	3	1.00
Malta	2	3%	2	1.00
Croatia	2	3%	2	1.00
Montenegro	1	1%	1	1.00
Bosnia and Herzegovina	1	1%	1	1.00
Canada	1	1%	1	1.00
FYROM	1	1%	1	1.00

Source: Ex-ante data from descriptions of work

Examining these findings in aggregate form, as part the country groupings, it is not surprising to find that the EU15 larger countries (Germany, France, United Kingdom, Italy, and Spain) were the most active in terms of the ERA-NET participation on average. It is, however, worth noting, the fact that Associated countries participated in more ERA-NETs than the EU12 Member States, but on average provided less participants per ERA-NET. This can in part be attributed to the fact that many EU12 Member States often did not have programme managers that could participate in ERA-

NETs, which is why both a programme owner (i.e. a ministry) and a research performer that would be responsible for day-to-day ERA-NET activities would participate.

Table 39 - ERA-NET participation by country group

Country group	Average number of ERA-NETs participated in	Average % of ERA-NETs participated in	Number of participations	Average number of participants per ERA-NET
EU 15 Larger countries	48.8	69%	374	1.50
EU 15 Smaller countries	30.6	43%	382	1.21
EU 12	10.4	15%	149	1.13
Associated countries	13.8	19%	73	1.03

Source: ex-ante data

The above information suggests that the structuring effect was relatively moderate among the EU15 Member States and relatively weak in the EU12 countries. This is demonstrated by their low participation in the scheme, especially compared to Associated countries. The structuring effect on the ERA level was thus limited. A visualisation of ERA-NETs participation can be found in the network analysis in Volume 4.

Looking at the extent of joint programming, which can be seen as indication of structuring as well as opening up, 15 joint programmes were launched or will be launched, with most joint programmes being in the area of Industrial Technologies and SMEs and Environment (five and four respectively). Looking at the average number of programmes per theme, however, the most active thematic areas were Transport and Social Sciences and Humanities. It is important to note that not all of the ERA-NETs provided funding data, so the table below does not provide complete information.

Table 40 - Joint programming by theme

Theme	Number of ERA-NETS per theme	Number of programmes	Number of programmes per theme	Total public funding
Transport	4	2	0.50	14,650,000
Life Sciences	15	1	0.07	4,000,000
Environment	16	4	0.25	302,022,000
Fundamental Sciences	5	0	0.00	0
INCO	4	0	0.00	0
Industrial Technologies and SMEs	16	5	0.31	20,700,000
Energy	5	1	0.20	6,500,000
Social Sciences and Humanities	6	2	0.33	28,230,000
Total	71	15	N/A	376,102,000

Examining the situation at the country level, the number of participations in programmes was highest for the EU15, with the EU12 Member States and Associated countries participating only marginally. Also in this case not all ERA-NETs provided country-level funding information, in particular ECORD, the €230 million programme which makes up the bulk of the funding data in the table above. The funding information is, therefore, very incomplete.

Table 41 - Joint programming by country group

Country	No programmes	Total funding	Average per programme	Amount real common pot	% real common pot	Amount virtual pot	% virtual pot	Other
EU 15 Larger country	19	25,703,760	1,352,829	12,023,760	46.8	5,680,000	22.1	8,000,000
EU 15 Smaller country	30	21,744,800	724,827	10,787,800	49.6	5,130,000	23.6	5,827,000
EU 12	7	565,320	80,760	390,320	69.0	175,000	31.0	0
Associated country	8	3,195,920	399,490	1,595,920	49.9	1,600,000	50.1	0
Total / Average	64	51,209,800	800,153	24,797,800	48.4	12,585,000	24.6	13,827,000

Joint call participation is also an indication of opening up, albeit a weaker one. This is described in more detail elsewhere in the report, but the patterns mirror that of joint programming, especially at country level. On the thematic level, Industrial Technologies and SMEs and Transport ERA-NETs were most active in joint calls, followed by Energy and Fundamental Sciences ERA-NETs.

Key findings from the Impact analysis

The key findings from the impact analysis regarding structuring were presented in section 6.2. They generally showed that the structuring effect of the FP6 ERA-NET scheme appeared to have been relatively moderate. No overall pattern of impact could be derived from the impact analysis relative to the structuring effect. However, the FP6 ERA-NET scheme's structuring effect can be put into perspective by examining results according to the following factors:

- the overall cost of participation¹⁷⁷;
- participation in joint calls;
- pre-existing relationships; and
- overlaps with other ERA-NETs in the country.

In all the cases, there were few clear patterns that could be observed and on the whole the above factors had little influence on the structuring effect.

The impact analysis findings relating to opening up of national programmes can be found in section 6.4. The analysis tested the extent to which joint calls, activities other than joint calls and pre-existing relationships were influential in providing access to foreign research communities, or groups not present in the respective countries. A loose positive association could be evidenced between the participation in joint calls and the access to non-resident researchers. Pre-existing relationships and participation in joint activities other than joint calls, considered in isolation, were not a success factor associated with the access to foreign research communities. This implies that participation in ERA-NET joint calls was a necessary condition to giving access to foreign research communities or groups not present in own country, however, this association is not strong enough to draw definite conclusions

Key findings from the Case studies

Stakeholder feedback from the case studies indicated that most countries preferred a virtual pot model to a real common pot for funding transnational R&D. The justifications for this involved political considerations. Others, particularly from the EU12 Member States, reported that it would be difficult to justify funding non-residents when national R&D budgets were considered too low in the first place. There were also instances in which different instructions within the same country took a different approach to the funding mode and whether to fund non-residents (e.g. which type of funding and whether to participate in real common pots varied between funders in Finland and France).

Key conclusions

The above findings show the following:

The ERA-NET scheme had a moderate structuring effect. The participant survey has shown that:

- ERA-NET themes fitted quite well with the ones of the national R&D programmes in the ERA.
- A greater proportion of participants reported that the increase of the importance of the theme in their country research programme could be attributed to their involvement in the scheme.
- Participation in the ERA-NET scheme has also led to an increase in national programme budgets in the theme of the ERA-NET for a small majority of participants.

¹⁷⁷ Overall cost of participation has been defined as EC funding and additional funding the participant put in additional to the EC to fund their cost of participation in ERA-NET activities.

The existence of joint programming also seems to confirm that some structuring is taking place. However, relatively low levels of participation from the EU12 Member States suggests that the structuring effect was considerably weaker for these countries.

In terms of opening up of national programming, there is strong evidence that ERA-NET scheme created the condition for opening of national programmes during and post FP6. This evidence consists of participant survey results, evidence of joint programming and the impact analysis. These suggest that joint call participation has contributed to increased access to give access to foreign research communities or groups not present in own country.

7.10 Economic efficiency of the scheme

This section reports on the evidence gathered and analyses undertaken in relation to Deliverable 10 (D.10):

“Economic efficiency of the scheme in general (e.g. in terms of cost-benefit ratios)”.

Expectations of impact

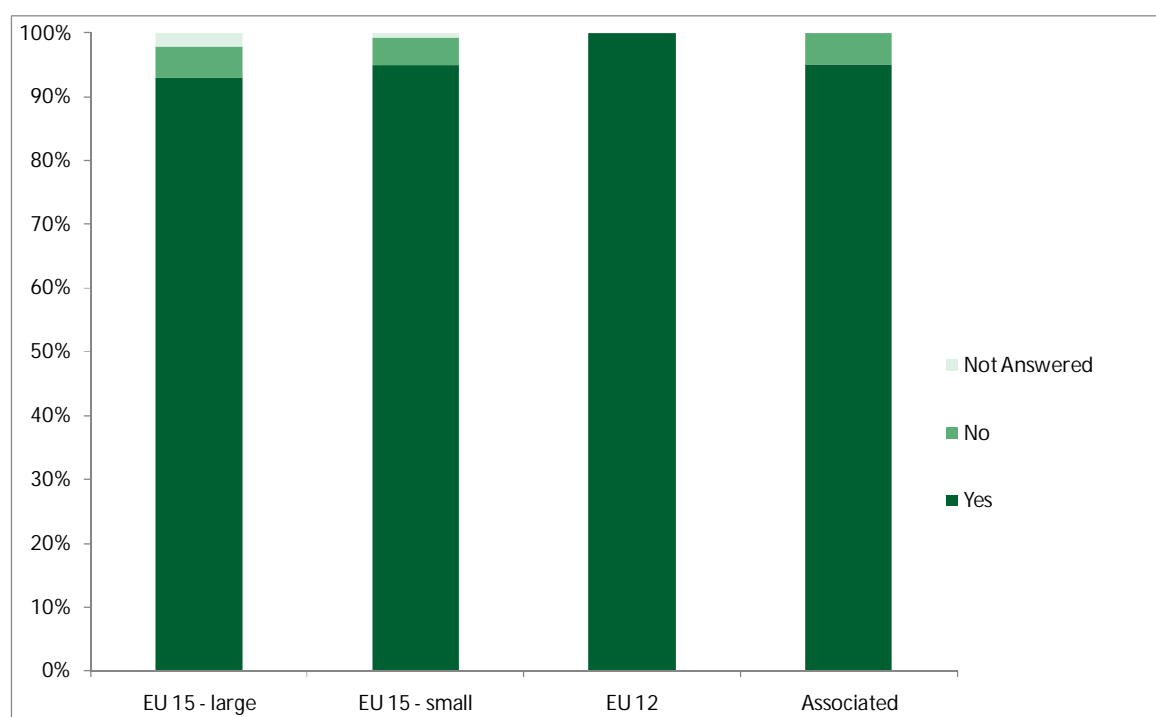
In order to make conclusions of the economic efficiency of the ERA-NET scheme, the analysis investigated various factors which were expected to have an influence on economic efficiency. These included:

- the ERA-NET participation costs in association with the contributions that participant organisations made through the scheme for joint research, defined as leverage effect;
- whether participation in the ERA-NETs was considered worthwhile by participants;
- perception of start-up costs;
- whether ERA-NETs overlapped with other ERA-NETs in participant countries;
- the strength of links between ERA-NETs and Technology Platforms; and
- influence of EC funding in transnational activities.

Key findings from the Participant Survey

Section 7.5 offers findings on how the resources necessary for the ERA-NETs were covered by EC and national funding. In addition, section 7.7 discusses satisfaction with the scheme. As mentioned in that section, over 90 per cent of participants in all country groups (and 100 per cent of the EU12 Member States) thought that their involvement with ERA-NET had been worthwhile.

Figure 75 - Overall would you say that your participation in the FP6 ERA-NET has been worthwhile?



On a thematic basis, there is greater variation in terms of the overall impression of participants. The share of participants who thought their ERA-NET participation had been worthwhile was above average in Social Sciences, INCO and Industrial Technologies, and SMEs. ERA-NETs in the field of

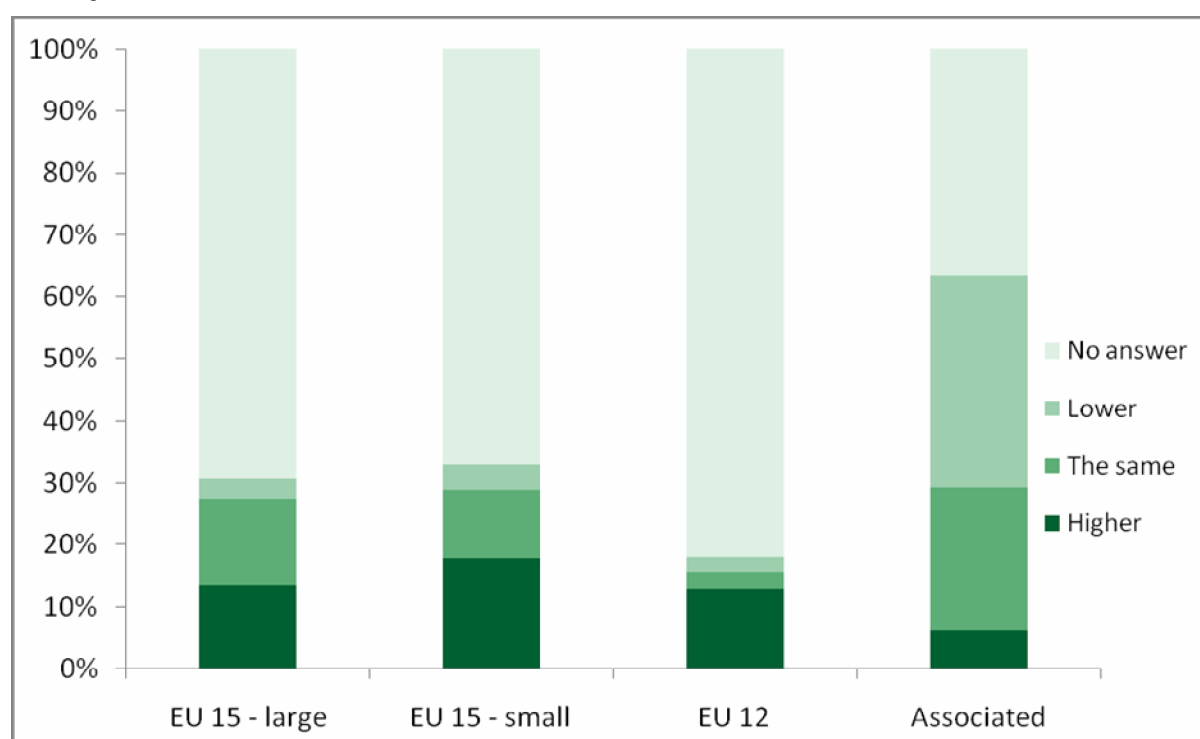
Energy, Environment, Life Sciences, and Transport also had more than 90 per cent of participants reporting that their engagement had been worthwhile¹⁷⁸.

Start-up Costs

In addition to the findings under section 7.5, participants stated that the start-up costs for the earlier ERA-NETs in which they had participated had been higher in 14 per cent of the cases. Seven per cent stated that the start-up costs had been lower, and 11 per cent stated that the costs had been the same. The proportion of respondents from Associated countries who considered that the start-up costs had been lower or the same were considerably higher than the rest of country groups (34 and 23 per cent respectively).

Relatively more Transport, INCO and Environment theme respondents tended to consider that the start-up costs had been higher in earlier ERA-NETs (27, 23 and 23 per cent respectively). Whereas, Social Sciences and Humanities respondents stated that the start-up costs for the earlier ERA-NETs had been lower more often than the rest (17 per cent).

Figure 76 - Do you think the start-up costs were higher or lower for the earlier ERA-NETs you were involved in?¹⁷⁹



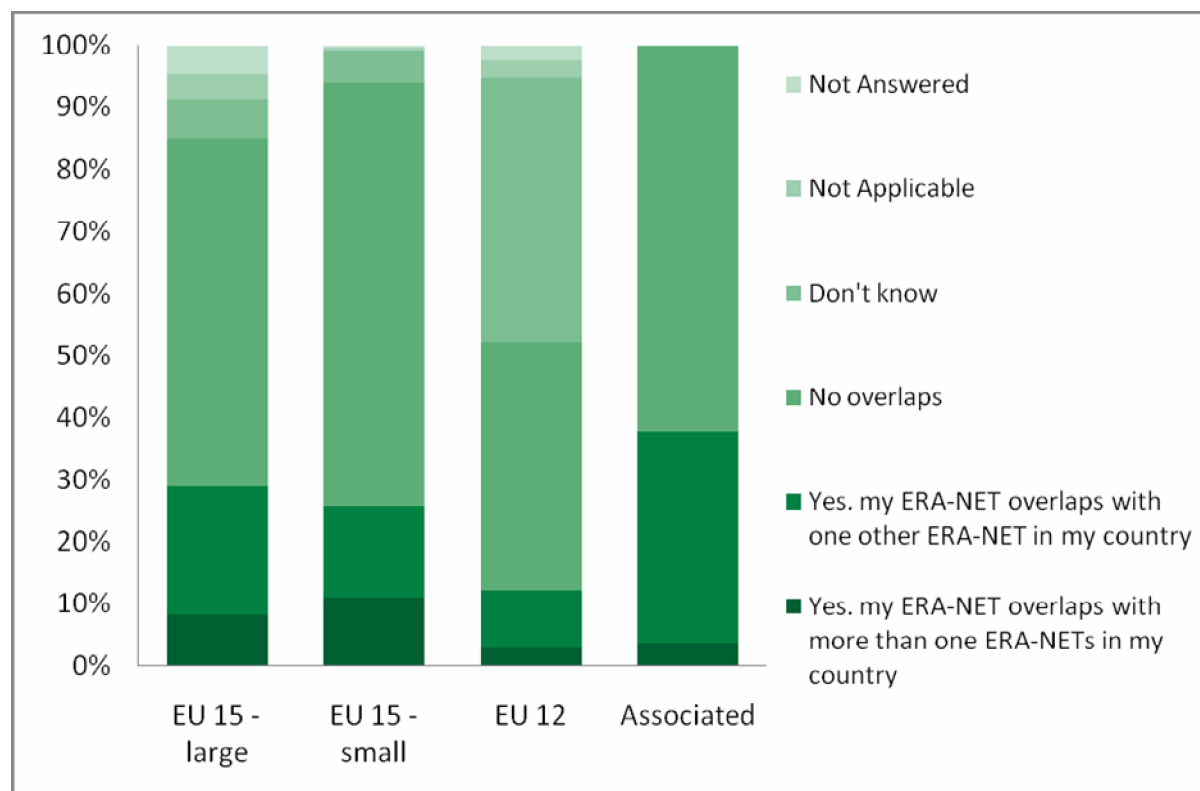
Overlaps

From a country perspective, the extent to which participants regard the ERA-NETs as overlapping with other ERA-NETs will provide some indication of the extent to which there has been duplication of efforts. The majority of respondents (57.5 per cent) did not see an overlap between ERA-NETs compared to just under a fifth (17.5 per cent) who said there was overlap. The smaller EU15 and Associated countries were less likely than the others, bar Third countries, to report on overlaps. At the same time, participants from the Associated countries were also more likely to report overlaps between at least their ERA-NET and one other ERA-NET. The participants in larger EU15 Member States were also more likely than the average to report an overlap between their ERA-NET and at least one other. Among those ERA-NETs reporting overlaps between their ERA-NET and more than one other ERA-NET in their country, the small EU15 country participants responded above average as did the larger EU15 Member States.

¹⁷⁸ Refer to participant questionnaire – Question 5_1.

¹⁷⁹ Refer to the participant survey – Question 8_4.

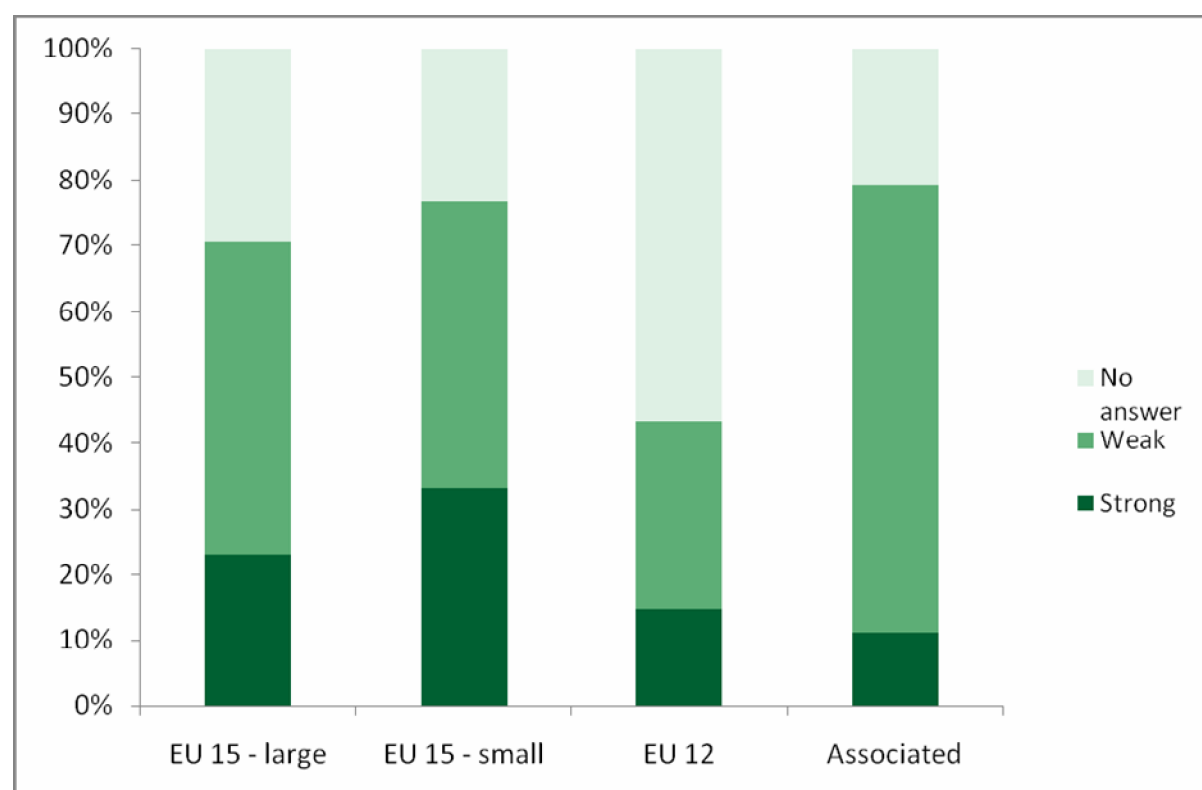
Figure 77 - Does this ERA-NET overlap with other ERA-NETs in your country?



From a thematic perspective, the majority of respondents (57.5 per cent) did not see an overlap between ERA-NETs compared to just under a fifth (17.5 per cent) who said there was overlap. Participants from the Fundamental Sciences, Transport and Industrial Technologies and SMEs themes were the least likely to report any overlaps between ERA-NETs at national level. Energy, Regional and INCO participants were the most likely to report that their ERA-NET overlapped with one other ERA-NET in their country.

Looking at how the ERA-NET fits within national policy compared with other intergovernmental schemes, in terms of Technology Platforms, participants reported that links between them and the ERA-NETs were strong in about a quarter (23 per cent) of the cases, and weak in 44 per cent of the cases. Participants in Transport, Industrial Technologies and SME, and Energy ERA-NETs reported stronger links than the average. The country group which reported stronger than average links was the smaller EU15 Member States (33.2 per cent). Taking into account both weak and strong links, participants from EU12 Member States overall reported the least links to Technology Platforms.

Figure 78 - How strong are the links between this ERA-NET and Technology Platforms?

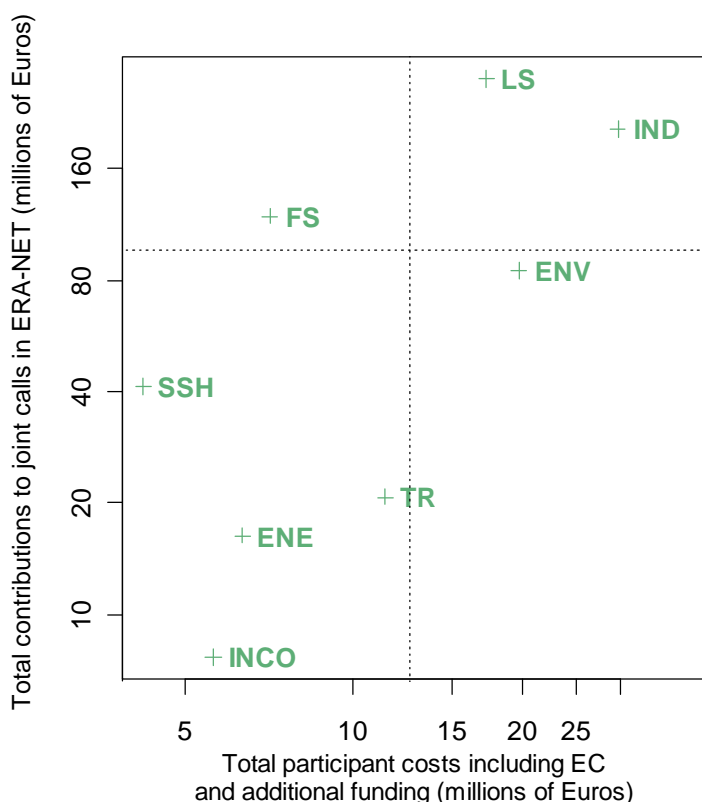


Key findings from the Economic analysis

The economic analysis looked into the economic efficiency of the scheme. To this effect, it investigated the ERA-NET participation costs in association with the contributions that participant organisations made through the scheme for joint research. This was taken to indicate the leverage effect. The leverage effect is reported at a theme level and based on the typologies (see figure below).¹⁸⁰

¹⁸⁰ Please note that these results should be treated with caution. The participant costs are not directly comparable to contributions to joint calls for the same organisations. In addition, the data had gaps relating to costs and contributions. Therefore, the results should be treated as estimates and as a general proxy.

Figure 79 - Leverage effect by theme



The following figure (see below) shows the total participation costs to ERA-NETs¹⁸¹ in association with the funding contributed to joint calls across the themes. Although the results should be treated as a proxy they provide useful insight regarding investment in ERA-NETs. The findings indicate that:

- Life Sciences and Fundamental Sciences seem to have been most efficient in terms of having low cost of participation compared to the investment made in joint research via these themes.
- Although Industrial Technologies and SMEs made a significant investment to research via ERA-NETs, the leverage effect was comparably lower as these ERA-NETs also incurred the highest participation costs to ERA-NETs.
- Social Sciences and Humanities in contrast incurred the smallest participation costs but made relatively high contribution via joint calls to research
- International Cooperation was the only thematic area where the cost of participation was higher than the amount contributed to joint research.

The figure below shows the leverage effect across the nine typologies. The leverage effect can be defined as using EC funding to cover the participation and networking costs. This is done in order to induce contributions to pilot calls, joint calls, and joint programmes, thereby generating a multiple of the original EC funding. The leverage effect was calculated as the average participation cost per organisation¹⁸² against the average amount organisations contributed to fund research projects via joint calls. This provides an indication of the overall investment in ERA-NETs at a typology level. In particular, the findings show that:

- Basic research with scientific discipline or technology domain focus (Type 1, Focus 1) had the highest leverage effect (low cost of participation compared to funding provided to research via joint calls) as evidenced by a ratio of 6.0.

¹⁸¹ This is measured as the funding received from the Commission together with additional funding that organisations contributed in order to participate effectively.

¹⁸² The average cost per organisation took into account the both the funding received from the Commission and the additional funding invested by the participant organisations.

- Overall, the applied industrial sector had a high leverage effect, in particular those that focussed on a topic or on a specific issue (Type 2, Focus 3) as by the ratio of 5.7
- Generally, applied societal ERA-NETs (Type 3) tended to have the lowest leverage effect, as evidence by ratios ranging from 1.3 to 2.0.

Figure 80 - leverage effect by typology

	Basic research	Applied Industrial	Applied Societal
Scientific discipline or technology domain	ASPERA, ASTRONET, Complexity-NET, ECORD, ERA-CHEMISTRY, ERA-PG, ERA-SAGE, ERASysBio, EUPHRESKO, EUROPOLAR, HERA, iMERA, MARINERA, Neuron, NORFACE, PathoGenoMics 6.0	ERA-IB, ERA-NET BIOENERGY, ERA-SPOT, FENCO-ERA, HYCO, MATERA, MNT ERA-NET, NanoSci-ERA, PV-ERA-NET 3.7	ACENET ERA-NET, BIODIVERSA, SKEP 1.3
Sector	INNER 5.1	CORE Organic, ERABUILD, ERA-NET ROAD, MariFish, SAFEFOODERA 4.1	CORE Organic, ERABUILD, ERA-NET ROAD, MariFish, SAFEFOODERA 1.3
topic / Issue specific	CO-REACH, EULANEST, EURYI, SEE-ERA-NET 3.1	COMPERA, CORNET, EraSME, ETRANET, MARTEC, PRIOMEDCHILD, SUSPRISE, VISION 5.7	ALLIANCE-0, AMPERA, BONUS, CIRCLE, CoCanCPG, CRUE, ERA-AGE, ERA-ARD, E-Rare, EU-SEC, EUWI-ERA, FORSOCIETY, HESCUAEP, IWRM.Net-CA, NET-BIOME, NEW OSH ERA, SNOWMAN, URBAN-NET, 2.0

Key conclusions

- Life Sciences and Fundamental Sciences seem to have been most efficient in terms of having low cost of participation compared to the investment made in joint research via these themes.
- INCO was the only thematic area where the cost of participation was higher than the amount contributed to joint research.
- Basic research with scientific discipline or technology domain focus had the highest leverage effect (low cost of participation compared to funding provided to research via joint calls)
- Overall, the applied industrial sector had a high leverage effect, in particular those that focussed on a topic or on a specific issue
- Generally, applied societal ERA-NETs tended to have the lowest leverage effect.
- Most organisations were of the view that participation in the ERA-NETs has been worthwhile
- A slight majority of respondents did not see an overlap between ERA-NETs which provides some indication that there has not been high level duplication of efforts
- The links between ERA-NETs and Technology Platforms were highest for the EU15 Member States
- ERA-NETs could continue with reduced EC funding in the case of just over third of the ERA-NETs

7.11 Implementation efficiency

This section reports on the preliminary evidence emerging from analyses of the participant and coordinator surveys in relation to Deliverable 11 (D.11):

"Implementation efficiency (i.e. satisfaction by the users of the ERA-NET scheme, guiding principles imposing themselves across all ERA-NETs; including sub-deliverables SD. 25-S.D27)".

With regards to implementation efficiency, the economic analysis looked into number of joint calls and research funding allocated through the calls over time. The overall focus was on call activity at country, theme and typology level. The results to this effect are presented in this section.

Expectations of impact

It would be expected that implementation efficiency would improve with time and, therefore, that this would enable participants to move towards closer collaboration as the scheme matured. Hence, in order to make conclusions around the implementation efficiency of the ERA-NET scheme, the analysis has focused on investigating the following factors:

- numbers of joint calls and amount of funding committed to joint research across countries, themes and typologies;
- how the theme of calls and programmes were defined;
- how gaps in the funding for calls were defined.

Key findings from the Participant Survey

Section 7.7 analysed the link between the rationale for participation and the activities undertaken during the period. The comparison of these two elements gives a view of implementation efficiency. The main conclusions were that:

- the type of activities participants undertook as a result of their participation was in line with the initial rationale for joining in the first place.
- participants in FP6 ERA-NETs were thus able to undertake joint activities as anticipated and desired, and as a result, they were satisfied of their engagement in ERA-NETs.

The participant survey provided qualitative evidence of implementation efficiency. Section 6.5 reviewed the main obstacles to participation and concluded that these were of a national nature. Main obstacles for undertaking transnational R&D cooperation were as follows:

- national thematic programme priorities were seen as a problem by a majority of participants;
- lack of national level resources (i.e. additional funding) was seen as a problem by more than half of all participants;
- national administrative procedures and legal conditions were seen as problematic for a majority of participants across all countries; and
- EC administrative procedures or legal requirements were seen as a problem that had been overcome by more than one third of participants.

Despite these obstacles, the impact analyses showed that participants were able to work around national and EC procedures/legal requirements to participate in joint calls. National thematic priorities could in some cases act as a catalyst for participants to exploit the full benefits of their engagement in ERA-NETs.

Key findings from the Coordinator Survey

The coordinator survey indicated which mechanisms were used to fund joint activities and transnational R&D projects. It asked how the theme of the calls was defined, in which way the theme was defined, and if gaps in funding occurred how the situation was resolved.

Most often the theme was defined by the funding programmes, which was the case in 38.3 per cent (n=44) of the calls. In the case 33 (28.7 per cent) of the calls it was a combination of an expression of interest from the potential proposers and the funding programmes. This is illustrated in the table below.

Table 42 - Description of the way in which the theme of the call was defined

How the theme of the call was defined	Number	Percentage
By the funding programmes (top-down)	44	38.3%
By a combination of the two (top-down / bottom up)	33	28.7%
After an expression of interest from the potential proposers (bottom-up)	10	8.7%
Other	21	18.3%
Unknown	7	6.1%
Total	115	100.0%

The situation was slightly different in the case of programmes. Often the definition of the theme was via 'other' mechanism, which tended to be through a workshop held with stakeholders. In many instances the theme was also defined via a combination of an expression of interest from the potential proposers and the funding programmes. This is indicated in the table below.

Table 43 - Description of the way in which the theme of the programme was defined

How the theme of the programme was defined	Number	Percentage
By the funding programmes (top-down)	1	6.7%
After an expression of interest from the potential proposers (bottom-up)	2	13.3%
By a combination of the two	4	26.7%
Other	5	33.3%
Unknown	3	20.0%
Total	15	100.0%

If "gaps" in the funding occurred, so that some project participants in a selected project did not have sufficient funding, how was the situation resolved?

The coordinators were asked how situations with funding gaps were resolved. They were able to provide more than one solution, however, in instances this question was left unanswered and information is not available. In the case of the calls, the results show that in 27.8 per cent of the cases national authorities increased funding to cover the gap. In the case of 13 calls (13.4 per cent) there was a transnational transfer of funding whereby some partners funded project participants from other countries. This is indicated in the table below.

Table 44 - Description of how the funding gaps have been dealt with in joint calls

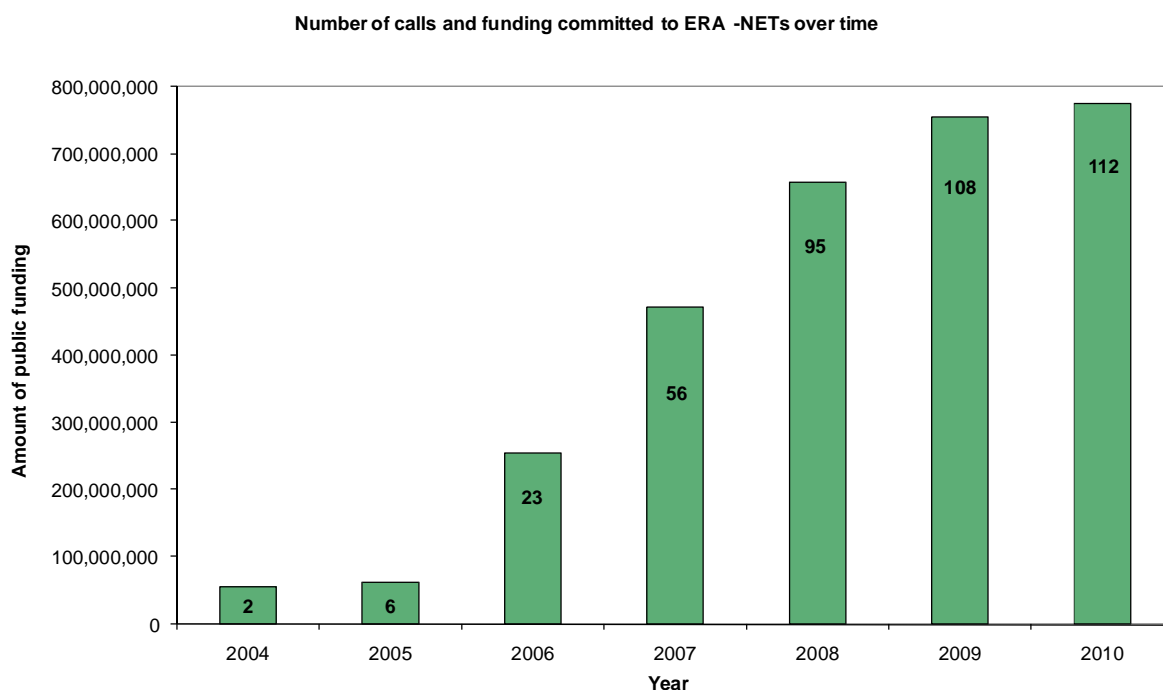
How gaps in the funding for calls were dealt with	Number	Percentage
Projects with insufficient funding were skipped	23	23.7%
Projects were implemented, but partners without funding were left out of the project	9	9.3%
The national authorities in question increased funding to cover the gap	27	27.8%
Transnational transfer of funding: Some partners funded project participants from other countries to close the gap	13	13.4%
Other	25	25.8%
Total	97	100.0%

There was very little information on a joint programme level regarding how funding gaps were dealt with. Thus no clear conclusions can be made, other than the fact that so far all the options have been relatively equally used.

Key findings from the Economic analysis

Figure 63 below provides an overview of the cumulative number of calls over time, including the amount of national research funding¹⁸³ channelled via these calls.

Figure 81 - Number of calls and amount of funding committed over time

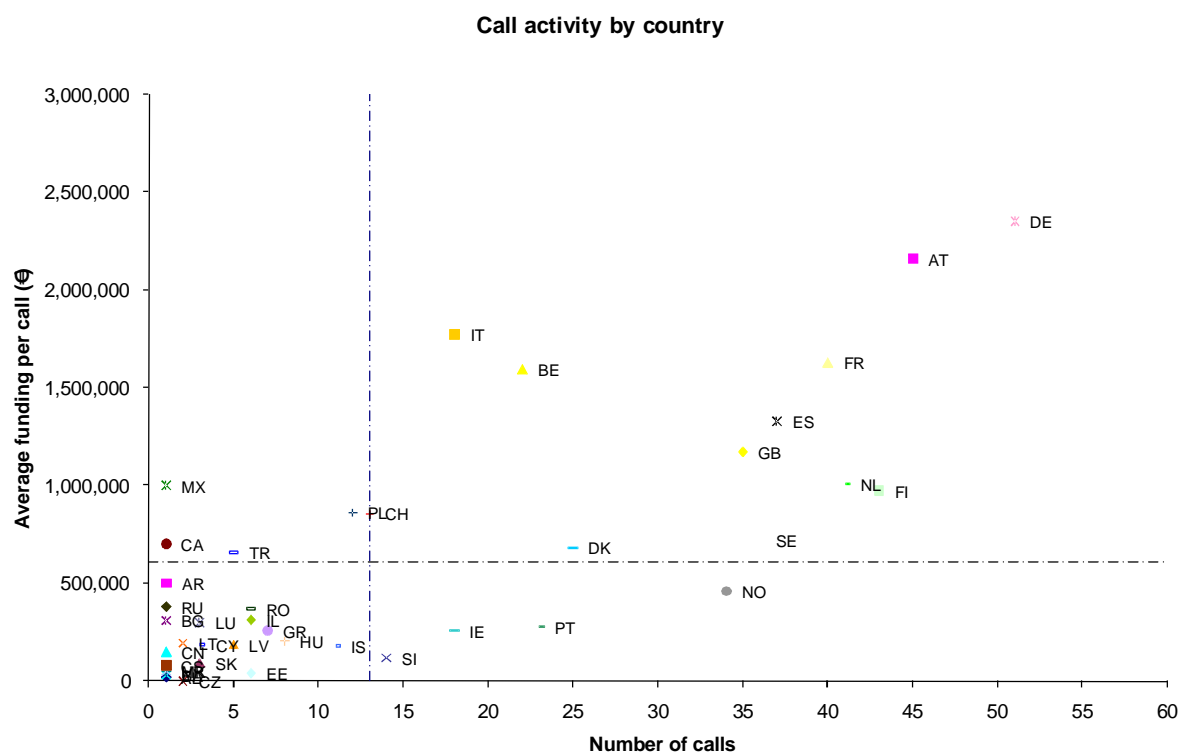


The above figure indicates that by the end of 2010 at least 112 calls would have been completed with over €700 million invested through these calls in joint research. The following figures illustrate the distribution of funding across countries and themes.¹⁸⁴

¹⁸³ This includes both public funding (€663,465,513) and private funding (€110,345,236)

¹⁸⁴ Please note that we have knowledge of at least 115 calls over time but only 112 are shown in the graphs. This is due to the fact that no information about any dates relating to three calls we provided and therefore no estimation could be done.

Figure 82 - Call activity at country level

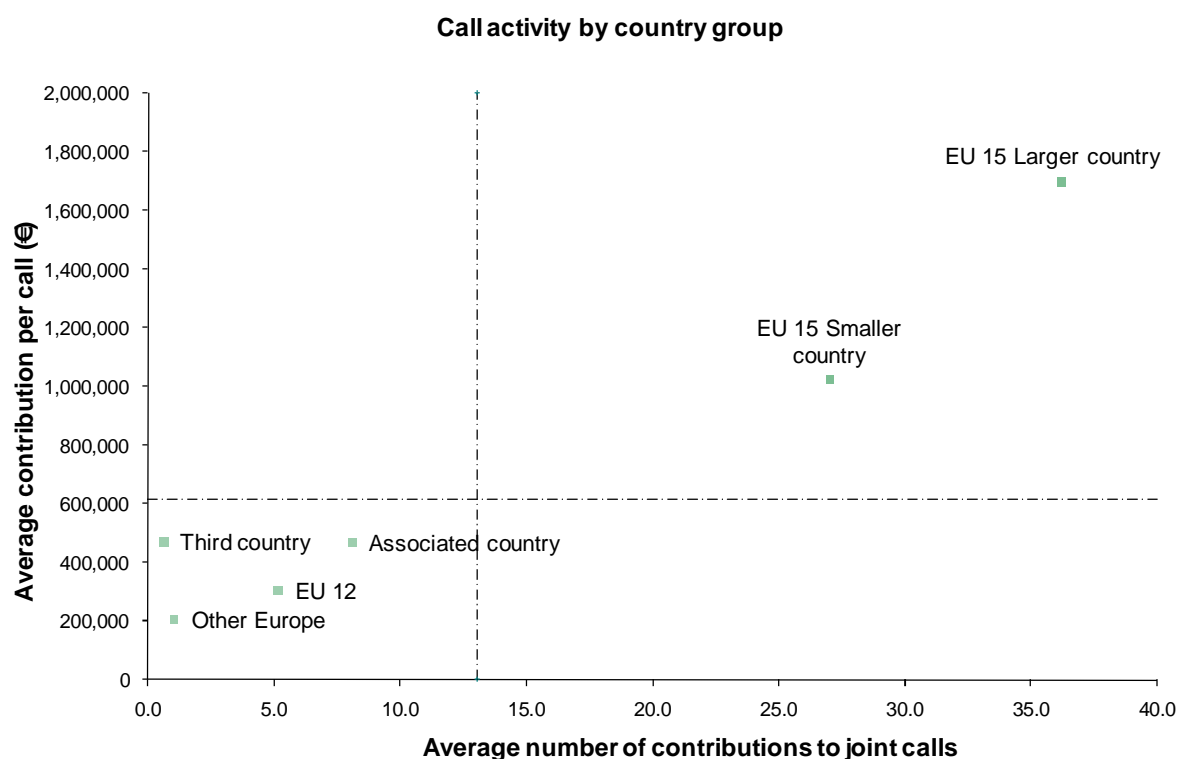


The figure above indicates the number of calls each country has participated to, in association with the average amount of funding these countries have contributed to joint calls. The findings show that:

- Germany and Austria participated in the highest number of calls and contributed the largest amount of funding for research via joint calls
- Italy and Belgium participated in comparatively fewer calls than other EU15 Member States but channelled a proportionally high amount of funding via these calls
- Finland and the Netherlands participated in a high volume of calls but contributed proportionally less funding to research, compared to other EU15 countries.
- Participation to calls outside of the EU15 Member States was relatively low

To contextualise these findings, the figure below summarises the call activity at a country group level. It shows the average number joint contributions to calls within a country group in association with the average amount of funding contributed to joint calls.

Figure 83 - Call activity by country group



The above figure also indicates that:

- EU15 Member States had the most significant involvement in ERA-NETs with the larger EU15 Member States being leaders in terms of the number of joint contribution they made to calls and the amount of research funding they contributed via calls.
- Overall, the larger and smaller EU15 Member States had the strongest involvement in ERA-NETs in terms of involvement in joint calls.
- As a group the EU12 Member States had a relatively minor involvement in joint calls, which falls behind that of associated countries. EU12 Member States also contributed less funding to joint calls on average than associated countries and third countries.

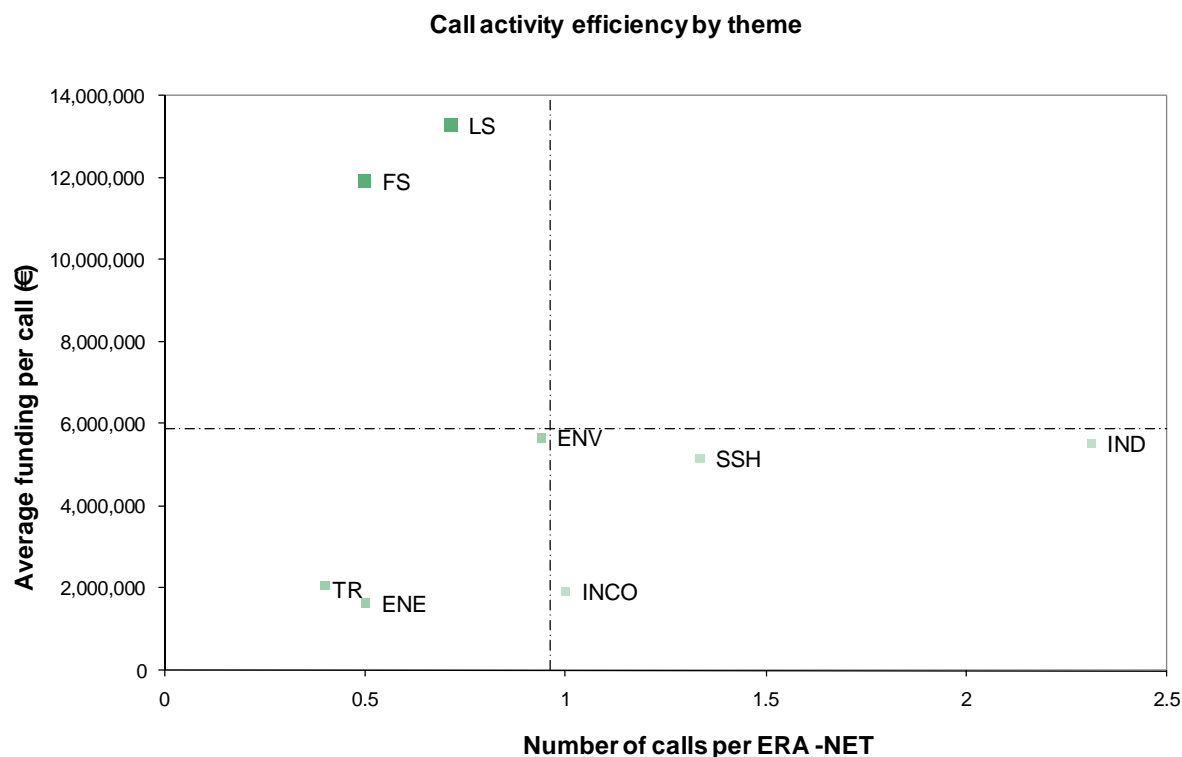
The box below indicates the highest contributors within each of the country groups.

<p>Top EU 15 large MS contributors were:</p> <ul style="list-style-type: none"> • Germany • France • Spain • UK 	<p>Top EU12 MS contributors were:</p> <ul style="list-style-type: none"> Poland Romania Slovenia Hungary
<p>Top EU15 small MS contributors were:</p> <ul style="list-style-type: none"> • Austria • Finland • The Netherlands • Belgium 	<p>Top associated country contributors were:</p> <ul style="list-style-type: none"> Norway Switzerland Turkey Iceland
<p>Top Third country contributors were:</p> <ul style="list-style-type: none"> • Mexico • Canada • Argentina • Russia 	

The three figures below (67, 68 and 69) present the joint call activity based on the thematic areas. They provide a view of implementation efficiency of the ERA-NET scheme in terms of output (number of joint calls compared to contributions to joint calls), and speed of implementation.

The figure below shows the average number of calls per theme¹⁸⁵, in association with the average amount of funding provided to joint calls.

Figure 84 - Call activity efficiency by theme

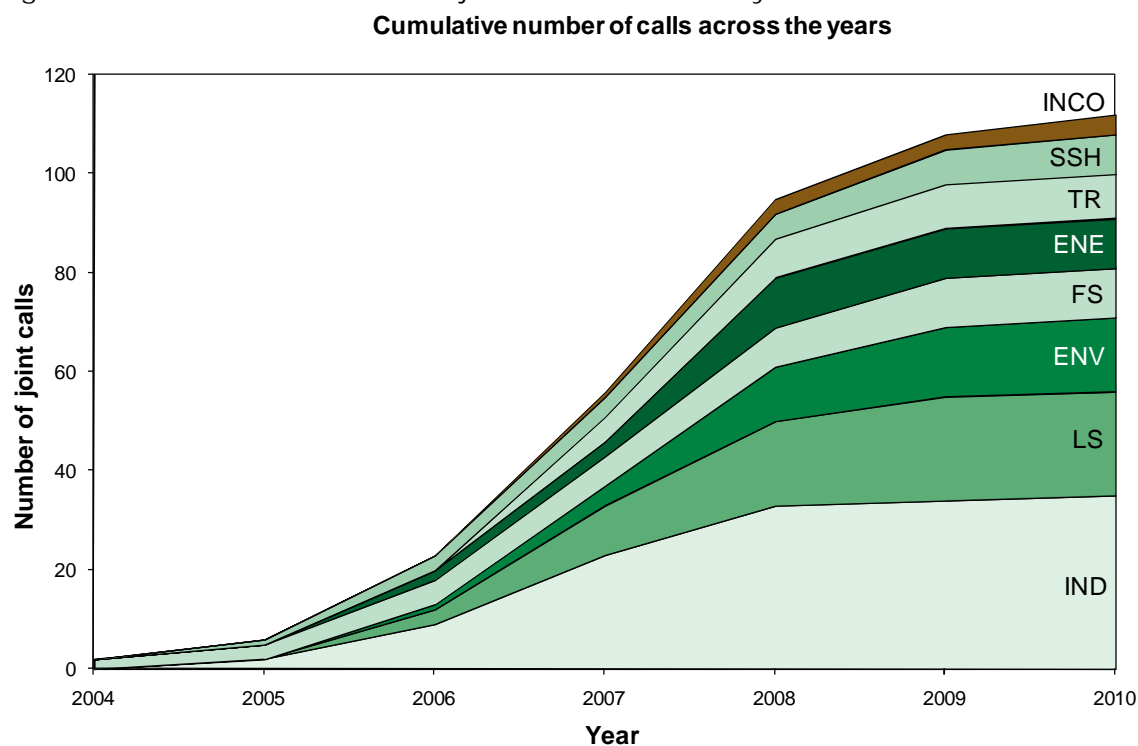


Moreover, the above figure shows that Industrial Technologies and SME were most efficient in terms of the number of calls implemented within these ERA-NETs. Life Sciences and Fundamental Sciences conversely had comparatively fewer calls per ERA-NET but a large amount of research funding was channelled via these calls. This implies that these areas tended to target more funding to a fewer number of calls. Transport and Energy themes had least number of calls per ERA-NET and contributed the least amount of funding via joint calls to research. Note that in the case of Transport significant funding contributions were made to joint programmes.

In conjunction with the above figures, the two figures below provide an overview of the joint call activity across the themes over time.

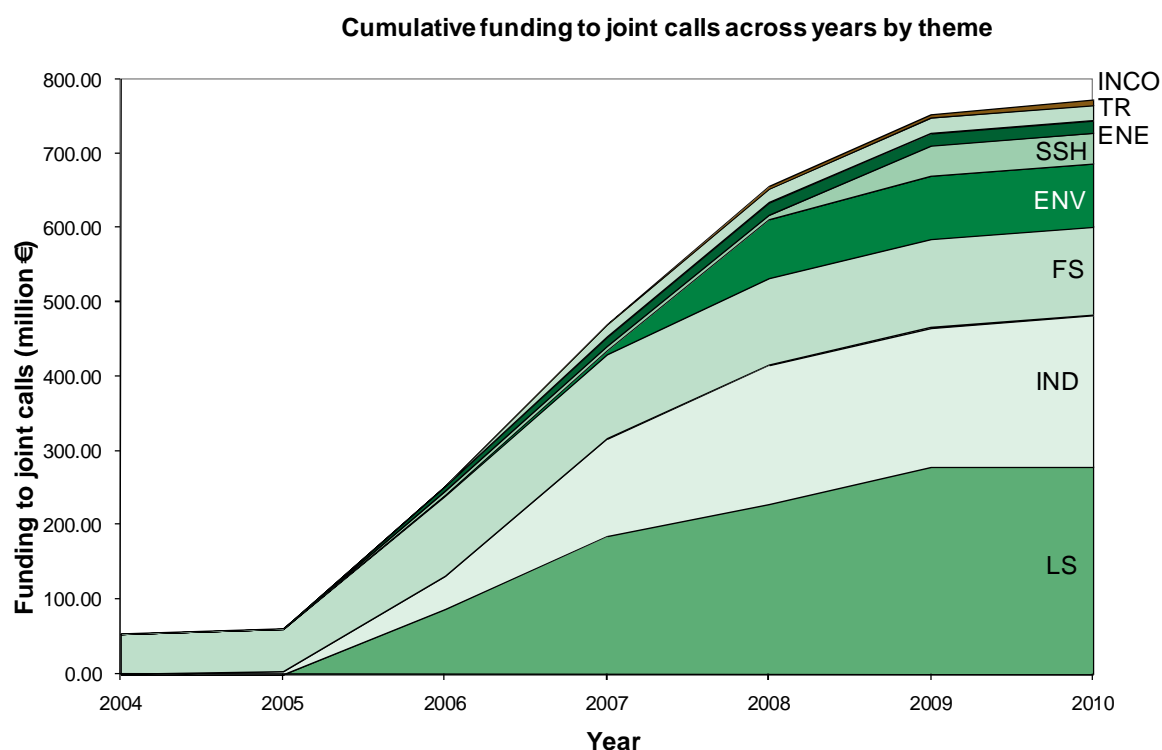
¹⁸⁵ This is calculated as the average number of calls per ERA-NETs within a theme

Figure 85 - Cumulative number of joint calls over time by theme



The figure above shows the cumulative number of joint calls over time. Themes with the highest number of calls are featured at the bottom of the graph. The figure illustrates that Industrial Technologies and SMEs, and Life Sciences ERA-NETs account for approximately half of the joint calls launched within the 71 ERA-NETs. International Cooperation, Social Sciences and Humanities and Transport have undertaken a fifth of all the ERA-NET calls. However, this is not surprising as they also include the fewest ERA-NETs.

Figure 86 - Cumulative amount of national funding committed to joint calls over time



The figure above indicates the cumulative amount of national funding¹⁸⁶ committed to joint calls over time. Themes that contributed the highest amount of national funding to joint research are featured at the bottom of the graph. The figure illustrates that Life Sciences account for approximately a third of all the national funding contributed to joint calls. The contributions made by International Cooperation, Transport and Energy consist of approximately five per cent of the total funding contributed to joint calls across the ERA-NETs. However, this is expected as these themes also had the fewest ERA-NETs.

In terms of implementation speed, Fundamental Sciences ERA-NETs were relatively more efficient in organising and committing to the funding of joint calls very early on under FP6 (e.g. 2004). Then Industrial technologies and SMEs and Life Sciences followed and began to commit to funding joint calls in 2006. By 2008, most of the funding contributions had been committed to across all themes.

Key findings from the Economic analysis

In addition to investigating implementation efficiency with respect to calls at a country and theme level, the economic analysis also looked into analysing differences in efficiency across the typologies.

The following two figures provide an overview of the call activity based on the nine typologies.

The figure below shows the average number of calls per typology. This is based on the average number of calls that ERA-NETs within a typology have undertaken.

Figure 87 - Average number of calls per typology

	Basic research	Applied Industrial	Applied Societal
Scientific discipline or technology domain	ASPERA, ASTRONET, Complexity-NET, ECORD, ERA-CHEMISTRY, ERA-PG, ERA-SAGE, ERASysBio, EUPHRESKO, EUROPOLAR, HERA, iMERA, MARINERA, 1.4	ERA-IB, ERA-NET BIOENERGY, ERA-SPOT, FENCO-ERA, HYCO, MATERA, MNT ERA-NET, NanoSci-ERA, PV-ERA-NET 2.3	ACENET ERA-NET, BIODIVERSA, SKEP 2.0
Sector	INNER 1.0	CORE Organic, ERABUILD, ERA-NET ROAD, MariFish, SAFEFOODERA 2.3	CORE Organic, ERABUILD, ERA-NET ROAD, MariFish, SAFEFOODERA 3.0
topic / Issue specific	CO-REACH, EULANEST, EURYI, SEE-ERA-NET 2.0	COMPERA, CORNET, EraSME, ETRANET, MARTEC, PRIOMEDCHILD, SUSPRISE, VISION 1.8	ALLIANCE-0, AMPERA, BONUS, CIRCLE, CoCanCPG, CRUE, ERA-AGE, ERA-ARD, E-Rare, EU-SEC, EUWI-ERA, FORSOCIETY, HESCUAEP, IWRM.Net-CA, NET-BIOME, NEW OSH ERA, SNOWMAN, URBAN-NET, 0.7

The above figure also shows that:

- Applied societal ERA-NETs with sector focus have undertaken most joint calls on average per ERA-NET, whereas Applied societal ERA-NETs with topic or issue focus have undertaken fewest joint calls on average per ERA-NET;

¹⁸⁶ This includes both public funding (€663,465,513) and private funding (€110,345,236)

- In general, sector focussed ERA-NETs appear to have undertaken more calls than ERA-NETs with issue or scientific discipline/technology domain focus, in particular in the applied industrial and applied societal research fields.

In conjunction with the above results, the figure below indicates the average amount of funding contributed to joint calls across the typologies. This is measured as the average amount of funding contributed per ERA-NET within each typology.

Figure 88 - Average amount (€) contributed to joint calls per ERA-NETs within typology

	Basic research	Applied Industrial	Applied Societal
Scientific discipline or technology domain	ASPERA, ASTRONET, Complexity-NET, ECORD, ERA-CHEMISTRY, ERA-PG, ERA-SAGE, ERASysBio, EUPHRESKO, EUROPOLAR, HERA, iMERA, MARINERA, 13,613,977	ERA-IB, ERA-NET BIOENERGY, ERA-SPOT, FENCO-ERA, HYCO, MATERA, MNT ERA-NET, NanoSci-ERA, PV-ERA-NET, 11,101,778	ACENET ERA-NET, BIODIVERSA, SKEP, 9,476,325
Sector	INNER, 6,009,594	CORE Organic, ERABUILD, ERA-NET ROAD, MariFish, SAFEFOODERA, 26,312,079	CORE Organic, ERABUILD, ERA-NET ROAD, MariFish, SAFEFOODERA, 4,614,110
Topic / Issue specific	CO-REACH, EULANEST, EURYI, SEE-ERA-NET, 27,761,750	COMPERA, CORNET, EraSME, ETRANET, MARTEC, PRIOMEDCHILD, SUSPRISE, VISION, 10,744,348	ALLIANCE-0, AMPERA, BONUS, CIRCLE, CoCanCPG, CRUE, ERA-AGE, ERA-ARD, E-Rare, EU-SEC, EUWI-ERA, FORSOCIETY, HESCUAEP, IWRM.Net-CA, NET-BIOME, NEW OSH ERA, SNOWMAN, 2,300,955

The above figure 70 indicates that:

- Basic research ERA-NETs with issue focus and applied industrial ERA-NETs with sector focus have contributed the largest amount funding via joint calls per ERA-NET
- Applied societal ERA-NETs with topic/issue focus have contributed least funding via joint calls per ERA-NET
- In general, applied societal ERA-NETs have contributed less funding via joint calls than ERA-NETs in the basic research or applied industrial field

Key conclusions

- Over 700M was invested in research via joint calls between 2004 and 2010¹⁸⁷.
- Participation in joint calls outside of the EU15 Member States was relatively low.
- As a group the EU12 Member States had a relatively minor involvement in joint calls, which falls behind that of associated countries. EU12 Member States also contributed less funding to joint calls on average than associated countries and third countries.
- Industrial Technologies and SMEs ERA-NETS were most efficient in terms of the number of calls implemented within these ERA-NETs. Life Sciences and Fundamental Sciences conversely had comparatively few calls per ERA-NET but a large amount of research funding was channelled via calls in these themes.
- Applied societal ERA-NETs with sector focus have undertaken most joint calls on average per ERA-NET, whereas applied societal ERA-NETs with topic or issue focus have undertaken fewest joint calls on average per ERA-NET.

¹⁸⁷ This figure is related to information received in autumn 2008.

- In general, sector focussed ERA-NETs appear to have undertaken more calls than ERA-NETs with issue or scientific discipline/technology domain focus, in particular in the applied industrial and applied societal research fields.
 - In general, applied societal ERA-NETs have contributed less funding via joint calls than ERA-NETs in the basic research or applied industrial field.
 - In most cases the theme of the call was defined by the funding programmes (top-down)
 - In many instances the theme of the programme was defined via a combination of an expression of interest from the potential proposers (bottom-up) and the funding programmes (top-down).
- With regards to gaps in funding for calls, the national authorities in question increased funding to cover the gap.

7.12 Additionality of the ERA-NET scheme

This section reports on the evidence gathered and analyses undertaken in relation to Deliverable 12 (D.12):

“Evidence of the Additionality of the ERA-NET scheme (e.g. the ‘added value’ of the scheme versus other options, for programme owners, programme managers and the research community)”.

Expectations of impact

The expectation in relation to additionality would be that:

- Participation in the ERA-NET scheme would have led to wider activities with other partners in Europe and internationally.
- Sharing of good practices would have led to innovation of programme designs, managing practices.
- National circumstances (e.g. strategic research objectives, composition of the national research landscape, etc) and other participating countries and thematic considerations would have played a key role in deciding how to engage in transnational R&D cooperation.
- Transnational ERA-NET funded projects would have achieved benefits that would not have been possible by investing the same money on purely national projects.

Key findings from the Participant Survey

Section 6.2 commented on the additionality of the ERA-NET scheme. The participant survey looked at three different indicators of additionality of the ERA-NET scheme:

- The influence of ERA-NET participation on the triggering of transnational R&D cooperation outside of the ERA-NET. An increase in influence can demonstrate that the ERA-NET scheme has had an additional impact on other field of research not necessarily related to the fields of ERA-NETs.
- The influence of ERA-NET participation on the amount of programme budget invested in trans-national projects outside of the ERA-NET. An increase in influence can demonstrate that the ERA-NET scheme has had an additional impact on programme budgets invested in different fields of research.
- The degree to which ERA-NET participation has influenced national policy beyond the theme the ERA-NET is the third indicator. ERA-NET participation could have had an effect on policies related to transnational R&D cooperation.

Section 6.2 concluded that the additionality of the FP6 ERA-NET scheme appears to have been moderate and that no overall pattern of impact could be derived from the impact analysis relative to additionality of the ERA-NET scheme. Indicators of additionality, such as, the “triggering of transnational cooperation activities outside of the ERA-NET” or “increases in the amount of programme budgets invested in transnational R&D projects outside of the ERA-NET” were regarded by participants as having been low to moderate. However, the vast majority of participant organisations reported that their involvement in specific ERA-NETs influenced national research policy beyond the theme of these ERA-NETs.

Key findings from the Coordinator Survey

The coordinator survey also asked whether transnational activities undertaken in the ERA-NETs would have been possible without the EU funding provided by the ERA-NET scheme. Of the 63 respondents, 56 (96.6 per cent) indicated that transnational activities would not have been possible without the funding. In addition, the coordinators were asked under what conditions the transnational activities of the ERA-NETs could continue in the future beyond the current contract. Many coordinators felt that the activities could continue with reduced EU funding, although about a quarter of the respondents were of the view that ERA-NET could only continue with the current level of funding. This is indicated in the table below.

Table 45 - Appreciation of conditions necessary for transnational activities to continue

Conditions necessary for transnational activities to continue	Number	Percentage
The ERA-NET could continue with reduced EU-funding	35	49.3%
The ERA-NET can only continue with the current level of EU-funding	15	21.1%
The ERA-NET could continue without EU-funding	2	2.8%
Other	12	16.9%
Unknown	7	9.9%
Total	71	100.0%

Key findings from the Case studies

Section 7.14 provides detailed evidence of the additionality of the ERA-NET scheme as reported by interviewed ERA-NET participants. Particular examples of added value at ERA-NET level includes ECORD in the area of Environment; ASPERA, ASTRONET, and ERA-CHEMISTRY in Fundamental Sciences; NORFACE in Social Sciences and Humanities; or CORNET and ERASME in the area of Industrial Technologies and SMEs. There were generally few clear thematic patterns related to the additionality of the scheme that could be identified.

Key findings from the typology analysis

Section 7.2 puts light on the additionality of the ERA-NET scheme from the perspective of the typologies. Main conclusions were that overall most categories with enough ERA-NETs to draw any conclusions reported broadly the same moderate levels of additionality resulting from ERA-NET participation. The two categories which stand out are 'basic research addressing a specific discipline or a technology domain' and 'applied societal research to address a specific topic or issue'. In the former case the lower level of additionality might be attributed to the large number of initiatives within or outside of the Framework Programmes.

In the latter case, as suggested in the hypotheses, the higher added value might be a result of the higher levels of commonality, as well as of the synergies that are likely to be present in the areas addressed by these ERA-NETs. Lower levels of additionality for the other type 3 categories however suggest that the characteristics of applied societal research are alone not sufficient to generate higher added value.

Key conclusions

The link between participation in specific ERA-NET related activities and the level of additionality could not be evidenced. The level of additionality of the ERA-NET scheme was regarded as moderate by the participants when measured against the three main indicators of additionality from the participant survey (i.e. extent to which participation triggered trans-national cooperation outside of the ERA-NET; extent to which participation led to an increase in the amount of programme budget invested in trans-national projects outside of the ERA-NET; degree to which ERA-NET participation influenced national policy beyond the theme the ERA-NET).

The results from case studies showed that FP6 ERA-NETs could have had potential added value on a number of levels, from building up networks of contacts, through generating projects that could not have been funded otherwise and raising awareness about new forms of research cooperation with the private sector, to generating more interest in certain research fields (Migration, foresight, Astroparticle Physics) or creating new programmes. Nevertheless, it is important to bear in mind that at this point it is very difficult to gauge the actual socio-economic value added, partly because the impact of the various changes brought about by the scheme under FP6 will only be realised in the longer term.

7.13 Economic Impact of the ERA-NET scheme

This section reports on the evidence gathered and analyses undertaken in relation to Deliverable 13 (D.13):

“Economic Impact of the ERA-NET scheme (both in terms of impact on the level and reallocation of research funding considering other sources of funding in the EU, and in terms of the eventual impact through the generated transnational research supported)”.

Expectations of impact

In order to make conclusions of the economic impact of the ERA-NET scheme, the analysis investigated:

- the average funding channelled via joint calls to research in association with the R&D spend of that country
- increase in the amount of programme budget that has been invested in transnational R&D projects outside of the ERA-NET

Key findings from the Participant Survey

Section 6.2 has widely covered elements of the economic impact. In this section a summary of findings is presented with cross reference to earlier sections.

Percentage of national programme budget put into joint calls and joint programmes

An indicator of economic influence is the percentage of national programme budget put into joint calls and joint programmes during the FP6 period. The majority of the participants estimated that up to 25 per cent of the national programme budget had been put into joint calls and programmes (62 per cent), larger EU15 Member States and Associated country respondents particularly concentrated their answers in that bracket (71 per cent in both cases)¹⁸⁸.

As for thematic areas, percentages of national programme budgets put into joint calls and joint programmes mirrored the country findings. Nevertheless, around 10 per cent of participants in Transport and Life Sciences ERA-NETs estimated that 26 per cent to 50 per cent of their national programme budgets had been put into joint calls and programmes.

Influence of the ERA-NETs scheme on national programme budgets in the relevant thematic area.

Another key indicator of economic impact is the influence of the scheme on national programme budgets in the theme of the ERA-NET. Figure 15 in section 2 found that 46 per cent of participant has seen an increase in national programme budgets in the theme of the ERA-NET as a result of their participation. A much smaller proportion (13 per cent) thought that it had led to smaller budgets.

Across all thematic areas, at least 40 per cent of participants reported that ERA-NETs had some degree of influence on the increase in programme budgets for the theme, except in regional ERA-NETs. International Cooperation (57 per cent), Life Sciences (54 per cent), Fundamental Sciences and Transport (50 per cent) were the thematic areas where the percentage of participants reporting a degree of influence was the highest. In Regional ERA-NETs and Energy ERA-NETs, a minority of participants reported that their ERA-NETs had a positive influence on the amount of their national programme budgets.

Influence of the ERA-NETs scheme on the amount of programme budgets that has been invested in transnational R&D projects outside of the ERA-NET.

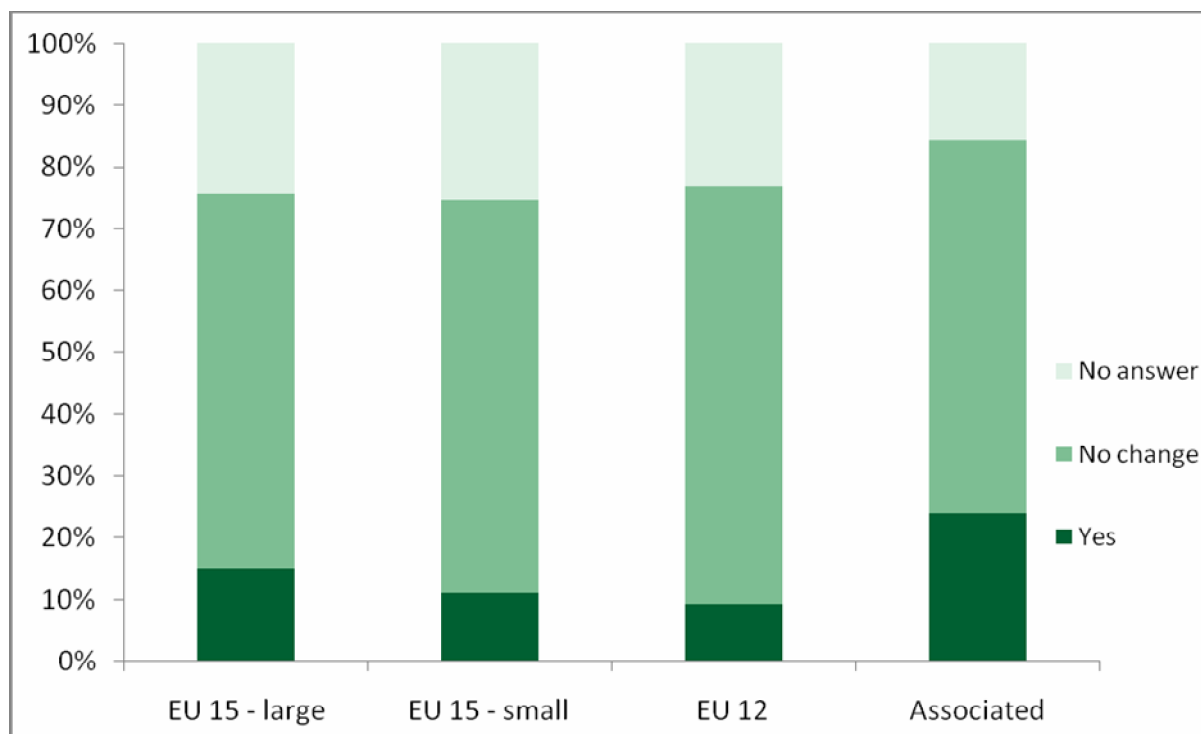
A third indicator of economic impact is the extent to which the ERA-NET scheme has had an impact on transnational R&D budgets as a whole. The following two figures show that the scheme only had a limited influence in this respect, as 13.5 per cent of ERA-NET participants thought that their experience led to an increase in the amount of programme budgets invested in transnational R&D projects outside of the ERA-NET. The biggest influence was reported by participants in Associated

¹⁸⁸ Refer to participant questionnaire - Question PQ5_8, by C,

Countries (24 per cent). The EU12 Member States reported the lowest degree of influence (nine per cent), this compared to the smaller and larger EU15 Member States (respectively 11 per cent and 15 per cent).

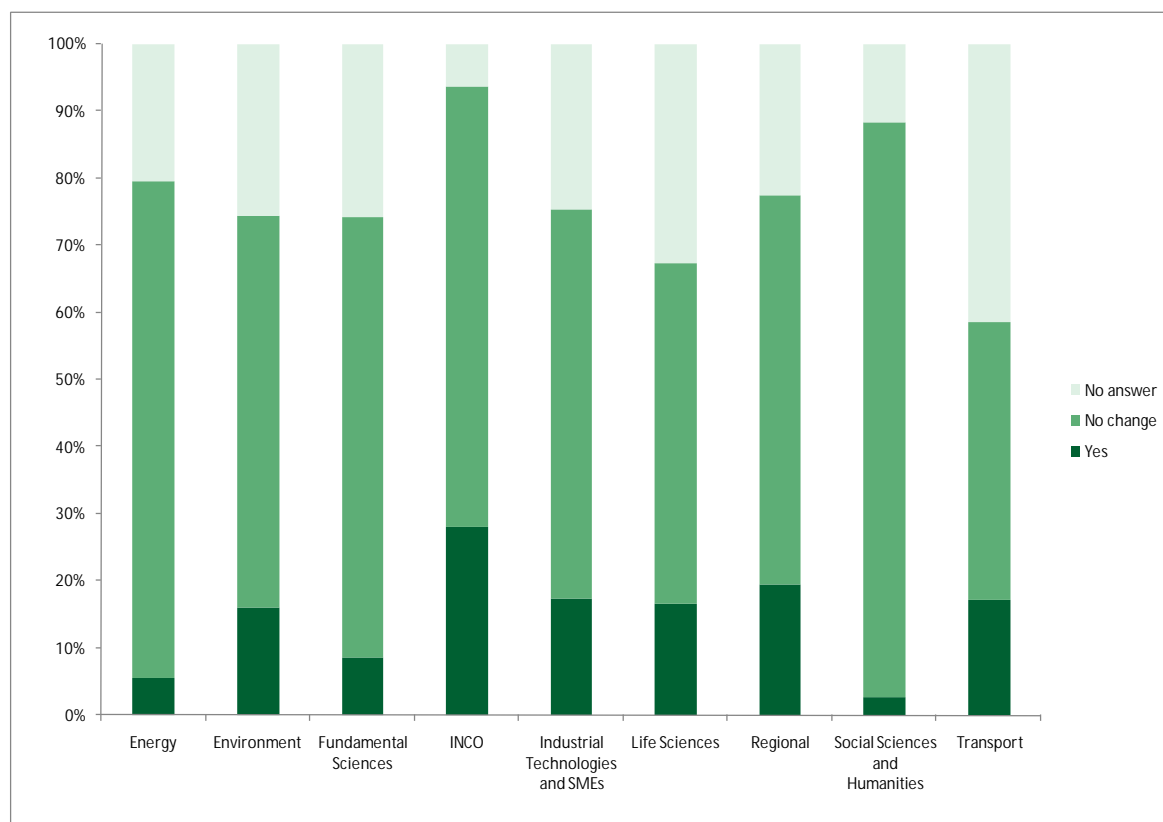
More specifically, almost a third of participants (31.4 per cent) indicated that they had undertaken transnational cooperation outside of the ERA-NET as a direct result of their ERA-NET activities. This was particularly the case among Associated countries (56.6 per cent) and larger countries within the EU15 grouping (31.9 per cent). The economic impact resulting from these additional transnational cooperation activities could not be evaluated.

Figure 89- Has the ERA-NET experience led to an increase in the amount of your programme budget that has been invested in transnational R&D projects outside of the ERA-NET?



As for the themes, participants in INCO, Regional, Industrial Technologies and SMEs, Transport, Environment and Life Sciences ERA-NETs reported a relatively higher degree of influence of their participation on the overall transnational R&D budgets in their countries (e.g. 28, 19, 17, 17, 17, 16 per cent respectively).

Figure 90 - Has the ERA-NET experience led to an increase in the amount of your programme budget that has been invested in transnational R&D projects outside of the ERA-NET?



Key findings from the Coordinator Survey

No results could be used as evidence supporting economic efficiency. However, the data collected in the coordinator survey has been used to inform the economic analysis (see below).

Key findings from the impact analysis

Previous impact analyses in section 6.1 highlighted an association between increase in the national programme budgets in the theme and the following factors:

- Participation in joint calls: there seemed to be a tendency that higher participation in joint calls led to ERA-NETs having some positive impact on national programmes budgets (refer to impact analysis section 6.1).
- Overlaps in with other ERA-NETs in the country: A negative association could be found between overlaps with other ERA-NETs in the country and influence on the programme budgets (refer to impact analysis section 6.1).

Key finding from the Economic analysis¹⁸⁹

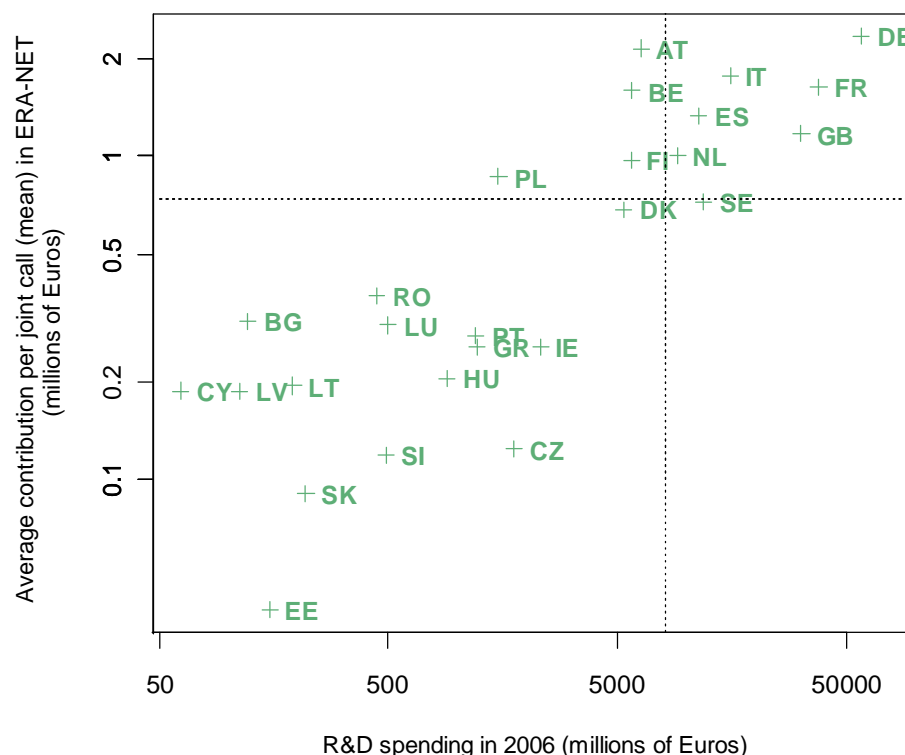
The economic analysis compared the average contribution per joint call across the EU27 countries against the counties' R&D spend in 2006. These findings provide a proxy for comparing the

¹⁸⁹ Note that section 7.11 around the implementation efficiency also contains valuable insights into the economic efficiency of the scheme.

financial contributions to joint calls and the R&D spend. However, as the measurement is the average funding per joint call¹⁹⁰ against a year's R&D spend (in 2006), the results should be treated with caution.

The analysis nevertheless provides best estimate as it was not possible to compare joint funding contributions in 2006 to R&D spend in 2006. This is due to the fact that research funding channelled via ERA-NETs is extremely small proportion of countries' annual R&D spends. Irrespective of this, the results based on average funding to joint calls in association with R&D spends in 2006 provide useful insight on the average investment in ERA-NET joint calls in the context of R&D spends. This is shown in the figure below.

Figure 91 - Average research funding channelled via calls versus R&D spend in 2006



The figure above indicates that there seems to be an association between the countries' R&D spend and the average funding contribution made via joint calls. The higher the countries' R&D spend, the higher the average amount contributed via joint calls to research. At a country level, Poland stands out as the average funding channelled via joint calls is comparatively higher than the R&D spend would warrant. This is clear when compared to other countries, in particular to Czech Republic with a similar level of R&D spend but a clearly a lower average funding contribution to research via joint calls.

Key conclusions

- There seems to be an association between the countries' R&D spend and the average funding contribution made via joint calls. The higher the countries' R&D spend, the higher the average amount contributed to research via joint calls.
- Increases in the amount of programme budgets invested in transnational R&D projects outside of the ERA-NET have been highest for the Associated countries and smallest for the EU12 Member States.
- Of the thematic areas, INCO ERA-NETs reported the highest increase in the amount of programme budgets invested in transnational R&D projects outside of the ERA-NET.

¹⁹⁰ This is calculated based on call funding data relating to 2004-2010, as reported in autumn 2008.

7.14 Country and topic specific socio-economic analysis

Deliverable 14 (D.14) will be fully explored in the Final Report. It involves:

“Country (see Q.1/T.2, adding consideration to global cooperation, 3rd countries) and topic specific (see Q.2/T.3) socio- economic analysis with clear scoring of “economic efficiency” and “additionality” (sub deliverables SD.1-SD.24)”.

Expectations of impact

With regard to this deliverable there would have been expectations about additionality, global cooperation and economic efficiency.

- **Additionality:** ERA-NET focus on cooperation research programmes so it would have been expected to set it apart from other initiatives such as CERN, EUREKA, or COST. The ERA-NET scheme would add value by offering an alternative route to classic transnational cooperation programmes.
- **Global cooperation:** In internationalised research, it would be expected that participants, in most advanced countries would have liked to include participants from other countries such as Canada, Japan, Korea, and the USA.
- **Economic efficiency:** It would have been expected that Commission funding would eliminate some barriers to cooperation among Member States and that this would have created a level playing field on which to fund excellent and innovative R&D projects.

Additionality and economic efficiency considerations have been already commented on in sections 6.2, 7.10, 7.11 and 7.12. Key findings from the case studies are reported in this section.

Key findings from the Case studies

Country-specific additionality and efficiency

Most stakeholders interviewed as part of the country case studies stated that the networks of contacts which ERA-NET participants developed through participating in the projects, as well as the associated personal learning, constituted most of the added value. These were generally seen as a direct result of ERA-NET participation and were benefits which could not necessarily have been realised to the same extent through other instruments. An example can be found in the Austrian report:

‘In bioenergy for instance, one participant stated that it was worth it because ERA-NET built up a network and it demonstrated that there was a demand for it among the research community’ (see Austrian country report).

Other clear examples of socio-economic added value were rarer. One of the more common forms of ERA-NET additionality, seen across the themes, was the fact that the scheme allowed funding of projects which could not have been funded by other instruments on national, European, or international level. This was the case in Austria, where ‘joint calls were of significant added value because the projects which were funded were too small for the framework programme and there was not enough expertise for funding through purely national programmes’ (see Austrian country report),. Additionally, in France:

‘One positive example on additionality was reported by one ECORD participant who argued that coordinating national programme budget created synergies which have enabled them to fund specific activities that would not have taken place otherwise (e.g. deep sea drilling mainly)’ (see French country report)

Similar forms of added value were reported in Germany, as well as in Romania, where the participant stated that projects in the areas of Environment and Energy could not have been funded nationally because ‘there was simply no appropriate partner for these themes in Romania’ (see German and Romanian country report).

A further example of potential ERA-NET added value, which was identified through interviews, was the role of industrial technology ERA-NETs in introducing new modes of cooperation between funding agents, research performers, and private enterprises. In Germany:

ERASME 'was seen as "groundbreaking" in terms of internationalising cooperation between SMEs and funding agents' (see German country report).

ERA-NETs had a similar effect in Turkey:

'A direct benefit has emerged in the field of industrial technologies, where ERA-NET participation helped generate several transnational research projects with the participation of private enterprises. It also gave direct impetus towards creating a special transnational programme where private enterprises obtained 10% additional funding if foreign partners were involved, thus providing further incentives for the internationalisation of private research' (see Turkish country report)

The creation of new research programmes, as in the Turkish case above, is another example of potential ERA-NET added value. This was the case in Poland, where participation in CORNET ERA-NET triggered the planning of a collective research programme (see Polish country report). In other countries ERA-NET participation has contributed to more interest in certain research fields. For example,

In Finland, 'as a result of NORFACE having a programme on migration, this topic became more influential in the country and as a result AKA will organise a follow-up for Finnish researchers' (see Finnish country report).

ERA-NET impact on the field of astroparticle physics in the Netherlands constitutes a similar example:

'This intense European coordination was used as a leverage to convince stakeholders to structure the research field at national level and spend resources on it. In the end of this process, the Dutch participant to ASPERA believes that the Netherlands is now well structured in the field of astroparticle physics (FOM has included astroparticle physics in its strategy and programmes), and that the country is a key player in a better structured European arena. All these processes developed in parallel and ERA-NET strongly contributed to this' (see Dutch country report).

There are also three other examples of additionality which are worth mentioning.

In the German case the added value of participation in the ASTRONET ERA-NET 'was that it could help develop a general astronomy strategy, unlike other schemes such as ESO'.

In the field of Chemistry in Germany 'the coordinators felt that significant progress had been made in terms of opening up research programmes, including an Open Initiative and bi and tri-lateral cooperation which would not have occurred as quickly without ERA-Chemistry' (see German country report).

Meanwhile in Russia one of the ERA-NET benefits identified was the re-engaging with Romania as a cooperation partner, which was neglected over the recent years' (see Russian country report)

All the above examples show that the FP6 ERA-NETs could have had potential added value on a number of levels, from building up networks of contacts, through generating projects which could not have been funded otherwise, and raising awareness about new forms of research cooperation with the private sector, to generating more interest in certain research fields or creating new programmes. Nevertheless, it is important to bear in mind that it is very difficult to gauge the actual socio-economic value added at this point, partly because the impact of the various changes brought about by the scheme under FP6 will only be realised in the longer term. Despite the input from the country case studies, it is also not always

clear to what extent the various impacts described above are directly attributable to the FP6 ERA-NETs, and to which extent they could have only been generated by these ERA-NETS and not by other national, European, and international instruments.

Efficiency

In terms of efficiency of the ERA-NET scheme, respondents across the sample of 15 case study countries generally believed that their participation was worthwhile. There was however some variation. In Finland the stakeholders believed that the costs did outweigh the benefits, however, participation was seen as a learning process, and thus, was generally considered worthwhile. In Poland on the other hand the stakeholders thought that the benefits would outweigh the costs in the long run, so the participation in the scheme was also generally seen as efficient.

There were also some specific examples of the ERA-NET having an impact on the efficiency of national research policy: 'In Romania, ERA-NETS were seen as a conduit to coordinating Romanian R&D policies with the ones of the ERA in an easier, faster and more concrete way than would be possible through other means' (see Romanian country report).

Theme-specific additionality and efficiency

Findings regarding additionality and efficiency in specific themes largely mirror the country-level findings. Particular examples of added value are generally centred on ERA-NETS already identified in the country-level findings. This includes ECORD in the area of Environment, ASPERA, ASTRONET, and ERA-CHEMISTRY in Fundamental Sciences, NORFACE in Social Sciences and Humanities, or CORNET and ERASME in the area of Industrial Technologies and SMEs. There were generally few clear thematic additionality patterns which could be identified. One example is the aforementioned Industrial Technologies and SMEs area, where research cooperation with enterprises was a commonly identified form of added value. Social Sciences and Humanities ERA-NETS constitute another example through helping introduce new research topics into national programmes, including foresight and migration.

Most stakeholders in specific themes believed that the participation in the scheme was worthwhile. The perception of costs and benefits did differ, but these differences were mostly attributable to the different perceptions of costs and benefits across the countries participating in the scheme.

Global approaches in the FP6 ERA-NETS

A number of non-EU27 Member States or non-associated countries were, on different levels, involved in the FP6 ERA-NET scheme. These included Argentina, Bosnia and Herzegovina, Canada, Chile, China, India, Japan, Mexico, New Zealand, Russia, South Korea, and the United States. There are few conclusions which can be drawn regarding these countries' involvement in the scheme, since on the whole it was marginal. The exceptions are some of the INCO ERA-NETS like CO-REACH, where establishing cooperation with third countries was one of the key aims of the ERA-NET.

In the case of CO-REACH, there were some issues to be resolved, yet the experience was generally whole positive

'Here it may be interesting to note that working with the Chinese in CO-REACH was rather bewildering to European participants. In the first instance it was difficult for the Chinese to understand the concept of an ERA-NET. Secondly, the Chinese as a rule did not fund interdisciplinary research as each Chinese funding agency had a specific disciplinary mandate. Furthermore, Chinese funding agencies were not autonomous and needed to receive approval from the Ministry of Science and Technology or Ministry of Education to fund any international project. Since the philosophy of the ERA-NET scheme was not clear to Chinese participants, it became difficult to pinpoint who should have participated in joint activities. Hence Chinese participation in CORE-REACH had been less than anticipated. Nonetheless CO-REACH can be said to have been successful because all parties expressed the will to continue the collaboration after CO-REACH' (See INCO thematic report).

In one case the benefit of a more global approach to the ERA-NET scheme was suggested by the representatives of the third countries at a UK ERA-NET open day:

'[...] representatives from countries such as China, India, Japan and the U.S. had suggested to members of that ERA-NET that global cooperation in that particular theme of research should be considered as a long term activity with possible participation from these countries' (See UK country report)

Nevertheless, the global aspect of the scheme has generally not been a major issue throughout the country and thematic case studies and few conclusions can be drawn.

Key conclusions

FP6 ERA-NETs could have had potential added value on a number of levels, from building up networks of contacts, through generating projects that could not have been funded otherwise and raising awareness about new forms of research cooperation with the private sector, to generating more interest in certain research fields (migration, foresight, astroparticle physics) or creating new programmes. Nevertheless, it is important to bear in mind that it is very difficult to gauge the actual socio-economic value added at this point, partly because the impact of the various changes brought about by the scheme under FP6 will only be realised in the longer term.

In terms of Economic efficiency, most participants regarded their participation in ERA-NETs as worthwhile, although perceptions of costs and benefits varied greatly across the countries participating in the scheme.

In terms of Global approaches to ERA-NETs, a number of non-EU27 Member States or non-associated countries were, on different levels, involved in the FP6 ERA-NET scheme. This included Argentina, Bosnia and Herzegovina, Canada, Chile, China, India, Japan, Mexico, New Zealand, Russia, South Korea, and the United States. Some participants mentioned that global approaches to ERA-NETs would be beneficial in some specific themes, however, the evidence was too scarce to draw robust conclusions.

Annex 1 - Glossary of terms

In the process of the evaluation, it became evident that the various participants in the ERA-NET scheme had a variety of definitions for the terms that the Commission used in its daily work on the scheme. Therefore, the purpose of the glossary below is to ensure that the readers of this evaluation have a uniform understanding of the terms that are employed throughout the report and that were used in the data collection instruments, such as the survey, the interviews guides, and the various analyses.

ERA-NET scheme or ERA-NET: the entire ERA-NET programme comprising all Coordination Action and Specific Support Actions.

ERA-NET actions or ERA-NETs: the 71 separate Co-ordination Actions that network national funding bodies

Four-step process: the process through which each ERA-NET action goes in the course of its duration:

1. Systematic exchange of information and good practices on existing programmes
2. Identification and analysis of common strategic issues
3. Development of joint activities between national and regional programmes
4. Implementation of joint trans-national research activities

ERA-NET themes / thematic areas: the 8 different science themes into which ERA-NETs were regrouped ex-post: that include

- Life Sciences
- Environment
- Industrial Technologies and SMEs
- Social Sciences and Humanities
- Fundamental Sciences
- Energy
- Transport
- International Cooperation (INCO)

Actors:

Programme participants: managers and owners of institutions (funding bodies) that are members of ERA-NET actions.

Programme managers: an agency / ministry / department within a ministry, responsible for a national / regional research funding programme.

Programme owners: institutions / official who supervises a funding body or department (e.g. programme manager), without being directly involved in an ERA-NET action.

Action coordinators: institutions (ministries / research councils) that coordinate individual ERA-NET actions.

Programme beneficiaries: The intended beneficiaries of projects funded under joint calls from individual Era-NETs such as universities, SMEs.

Global stakeholders: all participants, beneficiaries, or policy-makers directly or indirectly related to the ERA-NET scheme.

Activities

Actions: the activities of ERA-NETs,

Joint calls: funding of activities as a result of a call for proposals organised jointly by programme participants.

Joint programmes:

- a programme that funds activities that are not, strictly speaking, chosen as the result of a single joint call.
- a programme with an explicitly defined scientific objective spanning several joint calls.

Pilot calls: joint calls for proposal that are meant to test procedures for further cooperation.

International cooperation: scientific cooperation between EU Member States and developing, non-EU Member States.

European cooperation: science policy cooperation among EU Member States.

Transnational cooperation / research: policy / research activities that span across several Member States and/or Non-EU Member States.

Funding mechanisms of ERA-NET actions

Real common pots: All partners contribute to the common call budget without regard to the nationality of the participants in the funded

Virtual pots: While the projects are transnational, each partner funds, a priori, participants from its country

Mixed mode: allows that some countries contribute to a real common pot, while others only contribute via a virtual pot funding model.

Annex 2 - List of stakeholders consulted

This Annex provides details of stakeholders consulted during the scoping phase of the project as well as during the field work data collection.

Scoping phase interviewees

During the scoping phase of the project 27 interviews with strategic level stakeholders and programme managers were undertaken. The majority were conducted over the phone with some undertaken face-to-face. The purpose of these interviews was to understand the logic of the ERA-NET scheme and to test various impact measures. The tables below reflect the questionnaires that were used during the scoping phase of the project. The data collected during these interviews was used to design the Survey of Programme Managers and Programme Participants. Below are the actual guides that were used by interviewees.

In addition to the interviews, the evaluation team attended a network meeting for the ERA-NETs active in the area of environment.

Table 46 - List of stakeholders interviewed

Name	Institution	Country
Deniz Bayhan	(TTGV) Technology Development Foundation of Turkey	Turkey
Reinhard Belocky	FWF (Austrian Science Fund)	Austria
Roland Brandenburg	Austrian Funding Agency (FFG)	Austria
Lena Cappelen Endresen	Research Council of Norway	Norway
Giorgio Clarotti	European Commission, DG RTD	EC
Ivan Conesa-Alcolea	European Commission, DG RTD	EC
Eili Ervelä-Myréen	Academy of Finland	Finland
Fabienne Gautier	European Commission, DG RTD	EC
Luisa Henriques	Foundation for Science and Technology (FCT)	Portugal
Andy Henson	National Physical Laboratory	United Kingdom
Okan Kara	TUB•TAK (The Scientific and Technological Research Council of Turkey)	Turkey
Mariana Karepova	Austrian Funding Agency (FFG)	Austria
Mahmut Kiper	(TTGV) Technology Development Foundation of Turkey	Turkey
Luuk Klomp	Dutch Ministry of Economic Affairs	The Netherlands
Stefan Lampel	Forschungszentrum Jülich	Germany
Jerzy Langer	Polish Academy of Sciences	Poland
Mika Lautanala	Tekes (Finnish Funding Agency for Technology and Innovation)	Finland
Walter Mönig	Federal Ministry of Education and Research	Germany
Jörg Niehoff	European Commission, DG RTD	EC
Elzbieta Oleksy	University of Lodz	Poland
Marianne Parel	European Commission, DG RTD	EC
Rupert Pichler	BMVIT (Federal Ministry of Transport, Innovation and Technology)	Austria
Chris Reilly	Department for Innovation, Universities and Skills	UK
Ingeborg Schachner-Nedherer	BMWF (Austrian Federal Ministry of Science and Research)	Austria
Dick Schoorel	SenterNovem, The Netherlands	The Netherlands

Marc Van Achter	European Commission, DG RTD	EC
Wolfgang Wittke	European Commission, DG RTD	EC

Annex 3 - Typology analysis

Expectations around and types of ERA-NET Co-ordination actions for testing

During the inception phase, the 71 FP6 ERA-NET co-ordination actions funded through the overall ERA-NET scheme were classified along two dimensions in order to provide a useful ex-ante picture for testing during the study:

- type of R&D projects that are funded by the national programmes; and
- focus of the ERA-NET co-ordination actions.

The ERA-NET Coordination Actions were aimed at fostering better cooperation and mutual opening between national and regional R&D programmes and were thus expected to contribute to the development of a more integrated European Research Area. It was expected that the type of R&D projects that they would fund could be characterised into three main groups:

- basic research;
- applied Industrial R&D; and
- applied Societal R&D.

This was deliberately a simplification of the actual situation (given that there were many mixed-mode national programmes across Europe that funded different types of R&D projects). However, for the purposes of developing a simple typology for testing, these three types were used.

Another logical dimension for the development of a typology for testing was the focus of each ERA-NET co-ordination action. These were classified into three main areas of focus:

- a scientific or technology domain;
- sector; and
- specific issue.

Sector-specific industrial R&D programmes were seen to have been quite popular in many countries in the past but had generally been superseded by technology-specific programmes. This in turn would be a reflection of an ongoing trend in Europe from encouraging innovation in traditional industries to the development of knowledge-based industries (e.g. ICT, Life Sciences, nanotechnology). Some national policy-makers may have believed that this trend had gone too far and that there was an emergence of sector programmes in some countries (e.g. Finland, France, and Sweden). These were generally designed to complement, rather than to replace, the technology-based programmes and also the SME programmes.

In addition, the political case for public investment in R&D would increasingly have been based on addressing policy issues that were important in a specific country. This reflected a tightening of national budgets for R&D and also a trend towards more top-down, strategic R&D programmes as innovation moved up the policy agenda in Europe.

As shown in the figure below, this 3x3 typology allowed for segmentation of the 71 ERA-NET's into nine distinct categories. The most interesting observation from this analysis would be that around one third of the FP6 ERA-NET portfolio would be focussed on 'applied R&D to address societal issues'. This was seen as a very logical typology for inter-governmental collaboration. Over 50 per cent of the total could be regarded as 'applied societal' ERA-NETs. In contrast, there appears to have been only one co-ordination action (INNER) that could be considered to have carried out 'frontier R&D in a specific sector'.

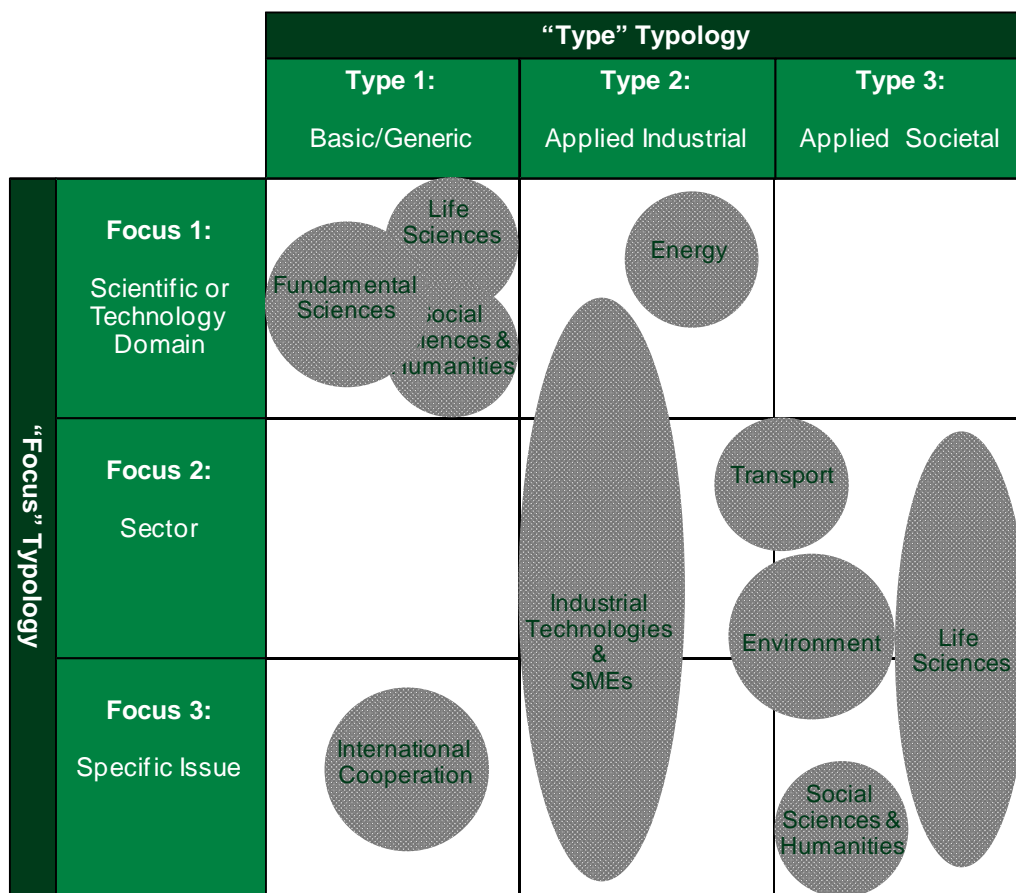
Figure 92 - ERA-NET grouping according to R&D programme type and ERA-NET focus

	Type 1: Basic Research	Type 2: Applied Industrial	Type 3: Applied Societal
Focus 1: Scientific discipline or technology domain	ASPERA, ASTRONET, BIODIVERSA, Complexity-NET, ERA-CHEMISTRY, ECORD, ERA-PG, ERA-SAGE, ERASysBio, EUPHRESCO, EUROPOLAR, HERA, iMERA, MARINERA, Neuron, PathoGenoMics, NORFACE	ERA-IB, ERA-NET BIOENERGY, ERA-SPOT, FENCO-ERA, MATERA, MNT ERA-NET, NanoSci-ERA, PV-ERA-NET, HY-CO	ACENET ERA-NET, SKEP,
Focus 2: Sector	INNER,	AirTN, ERA-STAR REGIONS, ERA-NET TRANSPORT, EUROTRANS-BIO, MANUNET, WOODWISDOM-NET	CORE Organic, ERABUILD, ERA-NET ROAD, MariFish, SAFEFOODERA
Focus 3: Specific topic /issue	CO-REACH, EULANEST, EURYI, SEE-ERA-NET	COMPERA, CORNET, EraSME, ETRANET, MARTEC, PRIOMEDCHILD SUSPRISE, VISION	ALLIANCE-O, AMPERA, BONUS, CIRCLE, CoCanCPG, CRUE, ERA-AGE, ERA-ARD, E-Rare, EU-SEC, EUWI-ERA, FORSOCIETY, HESCUAEP, IWRM.Net-CA, NET-BIOME, NEW OSH ERA, SNOWMAN, URBAN-NET, WORK-IN-NET

Source: ERA-NET web sites, action leaflets, European Commission

ERA-NETs in certain thematic areas also tend to be clustered in specific cells in the above matrix. The figure below provides an overview of some of these patterns:

Figure 93 - Outline of typology and thematic breakdown



This knowledge was applied in order to develop hypotheses for testing during the course of the current study. The expectation was that differences would be linked to differences in levels of commitment, behaviour and outcomes from the different types of ERA-NETs. These are described in more detail below.

- Type 1 ERA-NET co-ordinated actions basic/generic R&D:
 - Relevant stakeholders:
 - § Science Ministries, Research Councils, Academies of Science and European associations like ESF active in international networks and open to collaboration with their peers.
 - § Beneficiaries are mainly universities and, to a lesser extent, research institutes. Beneficiaries would almost always be 100% funded
 - Type of projects funded:
 - § Fundamental research well suited to transnational cooperation somewhat removed from the market (e.g. not close to market, direct applications is less obvious)
 - Expectation of impact:
 - § Potentially limited impact as the beneficiaries are already networked with their international peers, are the most avid users of the EU/FP and already have a joint programme run by ESF (known as EUROCORES). ERA-NET may provide more networking money and may allow new relationships to develop with New Member States.
- Type 2 ERA-NET co-ordinated actions relevant to applied industrial R&D
 - Relevant stakeholders:
 - § Participant includes Industry, Economy Ministries and Innovation, Technology Agencies, and to a lesser extent, existing European networks.

- § Potential beneficiaries include companies and universities - institutes, but the criteria for Joint Call applications generally require industry-driven projects (although the money might go to a university). Industry co-funding (typically 50 per cent) is generally required and some countries provide soft loan schemes for this type of R&D, rather than grants.
 - Type of projects funded:
 - § Applied industrial research strongly linked to technology policy, innovation and mission oriented. This type of research is more competitive, more protective and has limits as to how far participants wish to collaborate
 - Expectation of impact:
 - § Potentially limited impact in the short term as this type of cooperation requires a culture change in both the ministries (industrial R&D is generally regarded as a national issue) and the companies (many have a low collaborative culture even at national level). In general, industrial R&D programme managers may not have a prior network of relationships with their European peers. Potential for greater impact in the longer term as a means of helping companies to be more international.
 - § Such ERA-NETs might have more challenges in securing political commitment for joint activities which required co-funding through a common pot.
- Type 3 ERA-NET co-ordinated actions relevant to applied societal R&D:
 - Relevant stakeholders:
 - § Participants are generally Ministries and their agencies involved in social affairs (e.g. health, transport, environment, international development, etc). Research Councils may be involved in some ERA-NETs.
 - § Potential beneficiaries may include universities/institutes or companies depending on the focus of the R&D (e.g. the objective of EUROTRANSBIO is to help biotechnology SMEs' - so the focus would be on the sector)
 - Type of projects funded:
 - § Projects for which main funding mechanisms generally do not fall under competitive rules but rather financed by subsidies, research grants
 - Expectation of impact:
 - § Potentially high impact through synergies and joint activities (pooling of resources and reducing duplication of investment, etc ...). This would seem to be the most obvious type of R&D for ERA-NET's. Joined up R&D should produce faster, better solutions to societal challenges.
- Focus 1 ERA-NET co-ordinated actions focused on building competence in a scientific discipline or technology domain
 - Relevant stakeholders:
 - § Participants and beneficiaries are the same than for any of the above type. The focus is on the type of R&D funded.
 - Type of projects funded:
 - § Science-led projects whose nature depends on the specifics of the discipline or domain and with the aim to increase the breadth of science and technology in the area.
 - Expectation of impact:
 - § Potentially high because it offers more inclusion than the more elitist/competitive EU/FP and more strategic than the national activity in some countries (maybe a stepping stone between the two for some).
 - § Wide differentials in R&D intensity and investment across Europe may inhibit progress in some ERA-NETs. R&D intensive countries might not participate because of unclear benefits in an unequal consortium. This could especially be the case in industrial R&D

- because everyone is trying to build internationally competitive high-tech industries and also competing for inward investment.
- § Some countries may even prefer to coordinate their activities with 3rd countries like USA, Japan and China – as there is an option to involve such countries in ERA-NETs.
- Focus 2 ERA-NET co-ordinated actions focused on overcoming sector challenges through the use of technology
 - Relevant stakeholders: Similar to type 2
 - § Participant includes Industry, Economy Ministries and Innovation, Technology Agencies, and to a lesser extent, existing European networks.
 - § Potential beneficiaries include companies and university institutes, but the criteria for Joint Call applications generally require industry-driven projects (although the money might go to a university). Industry co-funding (typically 50 per cent) is generally required and some countries provide soft loan schemes for this type of R&D, rather than grants.
 - Type of projects funded:
 - § Economic sector led projects. The projects with this focus would be looking at coordinating industry-specific research and making it more competitive.
 - Expectation of impact:
 - § This may fill a space not well addressed by both EU/FP and national programmes as the emphasis tends to be on Focus 1 or Focus 3 objectives for publicly funded R&D. However, there may be some overlaps with Focus 1 if the sector is based on a technology (e.g. ICT, nanotechnology, biotechnology, etc).
 - § The main benefit is that such sectors in Europe become more knowledge-based and therefore better able to compete internationally on value against low-cost competition
 - Focus 3 ERA-NET co-ordinated actions focused on addressing specific topics or issues
 - Relevant stakeholders:
 - § Participants and beneficiaries are the same than for any of the above type. The focus is on the type of R&D funded.
 - Type of projects funded:
 - § Projects targeting common issues with additional geographical, societal, or industrial focus.
 - Expectation of impact:
 - § Maybe a fertile area as there is generally a high degree of commonality and therefore opportunity for mutual learning and collaboration between countries on such issues. This may include common industrial issues like SMEs and transformation of manufacturing, as well as the more obvious societal issues, like climate change and inequality. Some of these projects may also apply to focus 1 and focus 2.

Annex 3 – Participant Survey questionnaire

Introduction

Welcome to the ERA-NET Participant Survey Questionnaire!

This survey forms part of an evaluation and impact assessment of the ERA-NET scheme, and the related ERA-NET actions under the 6th Framework Programme. This survey, aimed at all ERA-NET participants (both project participants and coordinators), will provide a major input into this overall evaluation in conjunction with other data collection exercises.

We look forward to receiving your vital and valuable contribution, and we thank you in advance for taking part!

This questionnaire has 8 sections.

For those of you who participate in several ERA-NETs, you will be asked to specify on behalf of which ERA-NET to respond early on in the questionnaire.

Section 1 – Background

In this section we are interested in the number of ERA-NETs you are involved in.

1.1 - What country is your organisation based in?

1.2 - To the best of your knowledge, how many ERA-NETs has your organisation participated in as a contracted partner during FP6?

A contracted partner is officially part of the contract with the Commission and receives Commission funding for taking part

1.3 - If one or more, in how many of these FP6 ERA-NETs do you currently represent your organization?

Leave blank if your organisation is not a contracted partner to any ERA-NET

1.4 - In how many ERA-NETs has your organisation participated as an associated partner during FP6?

An associated partner is not formally part of the contract with the Commission but is still involved

1.5 - If one or more, in how many of these FP6 associated ERA-NETs do you currently represent your organisation?

Leave blank if your organisation is not an associated partner to any ERA-NET

Section 2 - Your ERA-NET

In this section we are interested in your participation in the ERA-NET scheme.

We want you to answer this questionnaire for your ERA-NET, or, if you are involved in more than one, the ERA-NET you are mainly involved in.

2.1 - On behalf of which ERA-NET do you want to respond?

Please answer for this ERA-NET from now on.

2.2 - What is your organisation's status in this ERA-NET?

Ü one

My organization participates as a contractor/partner	
My organization participates as an associate	

2.3 - And how would you describe your role in this ERA-NET?

1. Programme owner (institution, often a Ministry, responsible for supervision of funding bodies and ministry departments that manage programmes)

2. Programme owner and manager (organisation that is responsible for both programme supervision and management of actual programmes)

3. Experienced programme manager (often a well-established agency responsible for programme management over many years and regularly manages programmes on behalf of the programme owner)

4. Ad hoc programme manager (organisation brought in specifically to manage the country's involvement in this ERA-NET on behalf of the programme owner could be a university, third sector organisation, a private sector organisation, etc.)

Ü one

Programme owner	
Programme owner and manager	
Experienced programme manager	
Ad hoc programme manager	
Other, please describe	

If other, please describe

2.4 - Since when has your organisation been a contracted or associated partner in this ERA-NET?

Please enter starting year (e.g. 2004) for the relevant option and leave the others blank.

From the beginning of the prior SSA, please state year:

From the beginning of the FP6 Coordination Action, please state year:

During the FP6 Coordination Action, please state year:

During the preparation activities for FP7, please state year:

2.5 - And since when have you personally represented your organisation in this ERA-NET?
Please state the year.

2.6 - Your programme owner, e.g. a Ministry, will employ persons responsible for overall control of the national R&D programming policy in the theme of this ERA-NET, in your country.

To the best of your knowledge, during this ERA-NET's operation have these persons changed?

ü **one**

No changes	
Yes, one change	
Yes, more than one change	
Don't know	

2.7 - If yes, how favourable was this change?

ü **one**

Favourable impact (please explain)	
Unfavourable impact (please explain)	
No difference	

If you answered favourable or unfavourable, please explain:

2.8 - And in the case of the programme manager, to the best of your knowledge, during this ERA-NET's operation have these persons changed?

ü **one**

No changes	
Yes, one change	
Yes, more than one change	
Don't know	

2.9 - If yes, how favourable was this change?

ü one

Favourable impact (please explain)	
Unfavourable impact (please explain)	
No difference	

If you answered favourable or unfavourable, please explain:

2.10 - Which of the following themes is most closely related to the national programme associated with this ERA-NET?

Please choose one of the following themes and please only use 'other' in exceptional circumstances.

ü one

Energy	
Environment	
Life science	
Industrial technologies and SMEs	
Transport	
Social science and humanities	
International co-operation	
SMEs	
Fundamental sciences	
Others (please specify)	

If other, please specify:

2.11 - How would you rate the degree of fit between your national R&D programme relevant to the theme and this ERA-NET?

ü one

Good fit	
Fairly good fit	
Fairly poor fit	
Poor fit	
Don't know	
Not applicable	

2.12 - In your view, are any European countries missing as either contracted or associate partners in this ERA-NET?

ü one

Yes, please specify which country or countries	
No	
Don't know	

If yes, please specify countries:

2.13 - If yes, why do you think they are missing?

2.14 - Which countries would you rate as world-leading in the research area of this ERA-NET? Please state up to three.

World-wide: please specify the three leading countries in descending order starting with the most important:

In Europe: please specify the three leading countries in descending order starting with the most important:

2.15 - What is the legal status of your organisation as specified in the rules of participation under FP6?

☐ one

European Economic Interest Group	
Governmental	
International Organisation	
Joint Research Centre	
Private Organisation Non-Profit	
Private Commercial Organisation	
Public Commercial Organisation	
Other (please specify)	

If other, please specify:

2.16 - What was your organisation's main rationale for participating in this ERA-NET?

☐ one

Learning from funders and sharing information between funders in other countries	
Benchmarking of research funding against other countries	
Networking and building new relationships with funders from other countries	
Improving own (national) R&D programmes	
Creating and supporting transnational projects in a field which requires transnational cooperation	
Opening up of national programmes in existing or new areas of research	
Other (please specify)	

If other, please specify:

2.17 - How would you rate your country's research position within the theme of this ERA-NET?

☐ one

Among the top 3 in Europe	
Among the top 10 in Europe	
Neither	
Don't know	

Section 3 - Inputs into the ERA-NET

7.14.1 This section is concerned with the decision-making process to join the ERA-NET, resources that were applied and the orientation/experience of the participants. Please answer for the same ERA-NET as in the previous section.

3.1 - What was the original total amount of EC funding allocated to your organisation in your contract to participate in this ERA-NET?

Please estimate in thousands of Euro.

3.2 - Did the EC funding cover all the time and resources your organisation invested in participating in this ERA-NET?

ü one

Yes	
No	
Don't know	

3.3 - If no, what proportion of total resources and staff time spent on participating in the ERA-NET was covered by EC funding?

Please provide a best estimate of the resources covered by EC funding as a percentage.

3.4 - What has been the frequency of interaction between your organisation and other participants in the ERA-NET? Express your answer as a percentage of participants.

If not applicable, leave blank i.e. do not write anything

Estimate percentage of participants with whom you have had WEEKLY contact

Estimate percentage of participants with whom you have had MONTHLY contact

Estimate percentage of participants with whom you have had QUARTERLY contact

Estimate percentage of participants with whom you have had ANNUAL contact

3.5 - What proportion of your ordinary working time (on average) has been spent on this ERA-NET since you became involved?

Please provide an estimate of the percentage (%) of time dedicated by you on an annual basis since you became involved in this ERA-NET.

3.6 - Why do you represent your organisation in this ERA-NET?

Ü one

Specialist in the theme of the ERA-NET	
National R&D policy specialist	
European affairs specialist (e.g. FP)	
International cooperation generalist	
Other (please specify)	

If other, please specify:

3.7 - If you are involved in ERA-NETs other than the one you have so far answered for, what proportion of your ordinary working time (on average) have you dedicated to these other ERA-NETs?

Please provide an estimate of the percentage (%) of time dedicated by you on an annual basis since you became involved these other ERA-NETs.

Now return to answering for the ERA-NET you chose in the previous section

3.8 - Did your organisation interact with R&D policy or programming stakeholders in your country in relation to this ERA-NET before it became a partner of it?

Ü one

Yes	
No	

3.9 - If yes, how intense was this interaction? (select one)

Ü one

Intense interaction	
Fairly intense interaction	
Fairly mild interaction	
No interaction	
Don't know	

3.10 - Did your organisation interact with R&D policy or programming stakeholders in your country in relation to this ERA-NET during the implementation of it?

Ü one

Yes	
No	

3.11 - If yes, how intense was this interaction? (select one)

Ü one

Intense interaction	
Fairly intense interaction	
Fairly mild interaction	
No interaction	
Don't know	

Section 4 - ERA-NET Joint Activities

7.14.2 This section is concerned with ERA-NET participants' participation in joint activities and calls. Please answer for the same ERA-NET as in the previous section.

4.1 - Which of the following four statements best describes your participation in joint calls in this ERA-NET?

Ü **one**

Participation in all joint calls	
Participation in a majority of calls	
Participation in a minority of calls	
Observer, not participating in joint calls	
Not applicable	

If all or a majority of joint calls, what were the main reasons for your organisation's participation in the ERA-NET joint calls? Please describe:

--

If none or a minority of joint calls, what were the main reasons for your organisation's non-participation in the ERA-NET joint calls? Please describe:

--

4.2 - In which ERA-NET joint activities, other than joint calls, did you participate?

a) Coordination/clustering of ongoing nationally funded research projects

Ü **one**

Yes	
No	
Not applicable	

b) Benchmarking and common schemes for monitoring and evaluation

Ü **one**

Yes	
No	
Not applicable	

c) Multinational evaluation procedures (common evaluation criteria and methods of implementation)

Ü **one**

Yes	
No	
Not applicable	

d) Schemes for joint training activities (so-supervised theses or common PhD schemes)

Ü **one**

Yes	
No	
Not applicable	

e) Schemes for personnel exchange (programme managers)

Ü **one**

Yes	
No	
Not applicable	

f) Schemes for mutual opening of facilities or laboratories

ü one

Yes	
No	
Not applicable	

g) Specific cooperation agreements or arrangements

ü one

Yes	
No	
Not applicable	

h) Action plan taking up common strategic issues and preparing for joint activities

ü one

Yes	
No	
Not applicable	

i) Other, please specify

--

Section 5 A - Short-term Impacts

7.14.3 This section is concerned with the impact of the ERA-NET on you as an individual, on your organisation and on the national programme that you represent. Please answer for the same ERA-NET as in the previous section.

5.1 - Overall, would you say that your participation in the FP6 ERA-NET has been worthwhile?

ü one

Yes	
No	

Please elaborate:

--

5.2 - Which of the three following statements best describes your personal experience of this ERA-NET?

ü one

I got more out of it than I expected	
I got out of it what I expected	
I got less out of it than I expected	

5.3 - To what degree has your participation in this ERA-NET influenced your country's national programme(s)?

Discontinuation of existing programme(s) in some theme(s)

ü one

No influence	
Low degree of influence	
Moderate degree of influence	
High degree of influence	
Don't know	
Not applicable	

Reducing duplication between National programmes in your country

Ü one

No influence	
Low degree of influence	
Moderate degree of influence	
High degree of influence	
Don't know	
Not applicable	

Design of programmes with longer time horizon

Ü one

No influence	
Low degree of influence	
Moderate degree of influence	
High degree of influence	
Don't know	
Not applicable	

Design of programmes with shorter time horizon

Ü one

No influence	
Low degree of influence	
Moderate degree of influence	
High degree of influence	
Don't know	
Not applicable	

Bigger programme budgets for the theme

Ü one

No influence	
Low degree of influence	
Moderate degree of influence	
High degree of influence	
Don't know	
Not applicable	

Smaller programme budgets for the theme

Ü one

No influence	
Low degree of influence	
Moderate degree of influence	
High degree of influence	
Don't know	
Not applicable	

New programme assessment/evaluation criteria

Ü one

No influence	
Low degree of influence	
Moderate degree of influence	
High degree of influence	
Don't know	
Not applicable	

New opportunities to enable transnational R&D activities in the theme of the ERA-NET

Ü one

No influence	
Low degree of influence	
Moderate degree of influence	
High degree of influence	
Don't know	
Not applicable	

New eligibility criteria allowing funding of foreign researchers in the area

Ü one

No influence	
Low degree of influence	
Moderate degree of influence	
High degree of influence	
Don't know	
Not applicable	

Existing programme(s) now covering new theme(s)

Ü one

No influence	
Low degree of influence	
Moderate degree of influence	
High degree of influence	
Don't know	
Not applicable	

New programme(s) put in place in response to new theme(s) identified

Ü one

No influence	
Low degree of influence	
Moderate degree of influence	
High degree of influence	
Don't know	
Not applicable	

Other (if applicable, please elaborate)

--

5.4 - Has your organisation changed any of the following research programme management practices because of its participation in this ERA-NET?

Timing of calls

Ü one

Yes	
No	
Don't know	
Not applicable	

Nature of calls

Ü one

Yes	
No	
Don't know	
Not applicable	

Implementation of calls

Ü one

Yes	
No	
Don't know	
Not applicable	

Steps in the selection process

Ü one

Yes	
No	
Don't know	
Not applicable	

Enabling electronic submission

Ü one

Yes	
No	
Don't know	
Not applicable	

Monitoring and evaluation practices

Ü one

Yes	
No	
Don't know	
Not applicable	

Other (if yes, please elaborate)

--

5.5 - To what extent did your organisation have pre-existing relationships with participants in this ERA-NET prior to FP6?

Ü one

No prior relationships	
Prior relationships with a minority of participants	
Prior relationships with a majority of participants	
Not applicable	

5.6 - If there were prior relationships, which of the following 6 statements best describes how these relationships evolved during your participation in this ERA-NET?

Ü one

Most prior relationships have strengthened	
Some prior relationships have strengthened	
Most prior relationships have weakened	
Some prior relationships have weakened	
No change	
Not applicable (no prior relationships)	

5.7 - Has your participation in this ERA-NET triggered transnational cooperation outside of the ERA-NET?

Ü one

Yes (please specify)	
No	
Not applicable	

If you answered yes to the previous question, please specify:

--

5.8 - What is the percentage of your national programme budget that has been put into joint calls & joint programmes in your ERA-NET?

Please enter the percentage of total national programme budget (on an annual basis)..

--

5.9 - Has the ERA-NET experience led to an increase in the amount of your programme budget that has been invested in transnational R&D projects, outside of the ERA-NET?

Ü one

Yes	
No change	
Not applicable	

If yes, roughly what proportion of your programme budget was transnational before your involvement in ERA-NET? Please enter the percentage:

--

And again if yes, roughly what proportion of your programme budget is transnational now? Please enter the percentage:

--

Section 6 - Medium-term Impacts

This section is concerned with the impact of your ERA-NET on R&D policy in your country. Please answer for the same ERA-NET as in the previous section.

6.1 - What provisions have been made in your country to coordinate participation in ERA-NETs under FP6?

Single national coordinator for all ERA-NETs

Ü one

Yes	
No	
Don't know	
Not applicable	

Team of several coordinators at national level

Ü one

Yes	
No	
Don't know	
Not applicable	

Coordination meetings for all national participants

Ü one

Yes	
No	
Don't know	
Not applicable	

Organisation-specific coordination meetings

Ü one

Yes	
No	
Don't know	
Not applicable	

Other, please specify:

--

6.2 - If your country made any provisions, how far into the implementation of your ERA-NET were these structures/tools put in place?

Ü one

In anticipation of it starting	
From day one	
Within the first 6 months	
Within the first year	
After the first year	
Other, please specify	
Not applicable, no provisions made	

6.3 - Earlier we asked you to state your ERA-NET's theme, how important was this theme in your country's research programme before your organisation joined this ERA-NET?

Ü one

Very high	
Fairly high	
Fairly low	
Very low	
Don't know	
Not applicable	

6.4 - How important is this theme in your country's research programme now?

Ü one

Very important	
Fairly important	
Not very important	
Not at all important	
Don't know	
Not applicable	

6.5 - If there has been a change in the importance of the theme, to what extent do you think this was due to the ERA-NET?

Ü one

To a large extent	
To a fairly large extent	
To a fairly small extent	
To a small extent	
Not at all	
Don't know	
Not applicable, no change	

6.6 - Has your organisation's involvement in this ERA-NET influenced national research policy beyond the theme of this ERA-NET?

Ü one

High degree of influence	
Fairly high degree of influence	
Fairly low degree of influence	
Low degree of influence	
Not at all	
Don't know	

6.7 - Have any of the following external factors helped or hindered the effects of your organisation's participation in this ERA-NET?

a) Change in programme management agency

Ü one

Helped	
No effect	
Hindered	
Not applicable	

b) New R&D management structure

Ü one

Helped	
No effect	
Hindered	
Not applicable	

c) For existing programmes, more strategic R&D programming/planning

Ü one

Helped	
No effect	
Hindered	
Not applicable	

d) Externalisation of R&D programmes into agency/agencies

Ü one

Helped	
No effect	
Hindered	
Not applicable	

e) Setting up of new types of R&D programmes

Ü one

Helped	
No effect	
Hindered	
Not applicable	

f) Barcelona 3% targets

Ü one

Helped	
No effect	
Hindered	
Not applicable	

g) Other (if yes, please elaborate)

--

6.8 - How strong are the links between this ERA-NET and Technology Platforms?

ü one

Strong	
Fairly strong	
Fairly weak	
Weak	
Not applicable	

6.9 - How satisfied are you with the overall level of transnational cooperation within this ERA-NET?

ü one

Very satisfied	
Fairly satisfied	
Fairly unsatisfied	
Very unsatisfied	
Don't know	

Section 7 - Longer-term Impacts

This section is concerned with the impact of your ERA-NET on the thematic landscape in Europe including impact on science communities. Please answer for the same ERA-NET as in the previous section.

7.1 - Does this ERA-NET overlap with other ERA-NETs in your country?

ü one

No overlaps	
Yes, my ERA-NET overlaps with one other ERA-NET in my country	
Yes, my ERA-NET overlaps with more than one ERA-NET in my country	
Don't know	
Not applicable	

7.2 - Have you seen evidence of the following effects at national level as a result of this ERA-NETs joint calls, joint programming or other joint activities?

a) Higher quality projects generated at national level (i.e. higher quality proposals)

ü one

Significant evidence	
Fairly significant evidence	
Fairly weak evidence	
Weak evidence	
No evidence of change	
Not applicable	

b) Higher quality projects funded at national level (through joint calls/programmes)

ü one

Significant evidence	
Fairly significant evidence	
Fairly weak evidence	
Weak evidence	
No evidence of change	
Not applicable	

c) New types of research projects generated (i.e. as reflected in proposals received)

ü one

Significant evidence	
Fairly significant evidence	
Fairly weak evidence	
Weak evidence	
No evidence of change	
Not applicable	

d) New types of research projects funded (through joint calls/programmes)

ü one

Significant evidence	
Fairly significant evidence	
Fairly weak evidence	
Weak evidence	
No evidence of change	
Not applicable	

e) New researchers (with no prior international or European experience) benefiting from joint activities

ü one

Significant evidence	
Fairly significant evidence	
Fairly weak evidence	
Weak evidence	
No evidence of change	
Not applicable	

f) New researchers (with no prior international or European experience) benefiting from joint calls/programmes

ü one

Significant evidence	
Fairly significant evidence	
Fairly weak evidence	
Weak evidence	
No evidence of change	
Not applicable	

g) Access to foreign research communities/groups not present in my country

ü one

Significant evidence	
Fairly significant evidence	
Fairly weak evidence	
Weak evidence	
No evidence of change	
Not applicable	

h) Other effects (please specify)

--

Section 8 - Lessons Learnt

7.14.4 This section is concerned with understanding the lessons learnt that have affected the effectiveness and/or efficiency of your ERA-NET. Please answer for the same ERA-NET as in the previous section.

8.1 - Did any of the following factors either help or hinder your organisation to exploit the full potential of its participation in this ERA-NET?

a) National thematic programme priorities

ü one

Significant problem still not overcome	
Minor problem still not overcome	
Significant problem but overcome	
Minor problem but overcome	
Not been a problem at all	
Minor aid to success	
Significant aid to success	
Don't know	

b) National cultures or research traditions

ü one

Significant problem still not overcome	
Minor problem still not overcome	
Significant problem but overcome	
Minor problem but overcome	
Not been a problem at all	
Minor aid to success	
Significant aid to success	
Don't know	

c) National resources (staff, time, finances)

ü one

Significant problem still not overcome	
Minor problem still not overcome	
Significant problem but overcome	
Minor problem but overcome	
Not been a problem at all	
Minor aid to success	
Significant aid to success	
Don't know	

d) National administrative procedures (e.g. evaluation rules)

ü one

Significant problem still not overcome	
Minor problem still not overcome	
Significant problem but overcome	
Minor problem but overcome	
Not been a problem at all	
Minor aid to success	
Significant aid to success	
Don't know	

e) e) National legal programme conditions (e.g. funding of non-residents, IPR)

Ü one

Significant problem still not overcome	
Minor problem still not overcome	
Significant problem but overcome	
Minor problem but overcome	
Not been a problem at all	
Minor aid to success	
Significant aid to success	
Don't know	

f) EC administrative procedures or legal requirements

Ü one

Significant problem still not overcome	
Minor problem still not overcome	
Significant problem but overcome	
Minor problem but overcome	
Not been a problem at all	
Minor aid to success	
Significant aid to success	
Don't know	

g) Perceptions of benefits

Ü one

Significant problem still not overcome	
Minor problem still not overcome	
Significant problem but overcome	
Minor problem but overcome	
Not been a problem at all	
Minor aid to success	
Significant aid to success	
Don't know	

h) Engagement in other transnational initiatives (e.g. COST, EUREKA)

Ü one

Significant problem still not overcome	
Minor problem still not overcome	
Significant problem but overcome	
Minor problem but overcome	
Not been a problem at all	
Minor aid to success	
Significant aid to success	
Don't know	

i) Others, please specify and rate

--

8.2 - If this ERA-NET is set to continue beyond FP6, do you think lessons have been learnt that would allow it to be implemented more efficiently in the future or to improve its effectiveness?

ü one

Yes, please specify	
No, please specify	
Don't know	
Not applicable (ERA-NET will discontinue)	

Please specify:

--

8.3 - If your organisation was involved in more than one ERA-NET, did this bring any benefits to your participation in this ERA-NET?

ü one

Yes, please elaborate	
No	
Don't know	
Not applicable	

If yes, please elaborate:

--

8.4 - Do you think the start-up costs were higher or lower for the earlier ERA-NETs you were involved in?

ü one

Higher	
A little bit higher	
The costs are the same	
A little bit lower	
Lower	
Not applicable	

8.5 - How would you rate the importance of a good coordinator to the success of an ERA-NET in general?

ü one

Very important	
Fairly important	
Not very important	
Not at all important	

8.6 - To what extent has the coordinator been important to the 'success' of your ERA-NET?

ü one

Very important	
Fairly important	
Not very important	
Not at all important	

8.7 - What information exchange systems were developed within your ERA-NET and how important are these to the quality of the cooperation?

a) Pre-existing standards (e.g. CERIF)

Ü **one**

Very important for good cooperation	
Fairly important for good cooperation	
Not very important for good cooperation	
Not at all important for good cooperation	
Not applicable, not used	

b) Development of own guiding principles/standards

Ü **one**

Very important for good cooperation	
Fairly important for good cooperation	
Not very important for good cooperation	
Not at all important for good cooperation	
Not applicable, not used	

c) Development of programme templates

Ü **one**

Very important for good cooperation	
Fairly important for good cooperation	
Not very important for good cooperation	
Not at all important for good cooperation	
Not applicable, not used	

d) Auditing each others programmes

Ü **one**

Very important for good cooperation	
Fairly important for good cooperation	
Not very important for good cooperation	
Not at all important for good cooperation	
Not applicable, not used	

e) Other, please specify and rate

--

Contact Details

To aid following sections of the evaluation, please complete your contact details below. Your answers will be analysed and reported anonymously.

Name

Organisation

Address (Street and City and postcode)

Country

Email

Telephone number (including country code)

Thank you for participating in our survey.

Annex 4 - ERA-NET Coordinator Survey questionnaire



EUROPEAN COMMISSION
RESEARCH DIRECTORATE-GENERAL

Directorate B - European Research Area: research programmes and capacity
Coordination of national research programmes – major European initiatives

Survey on joint activities in ERA-NETs

Introduction:

The ERA-NET scheme was launched with the 6th Framework programme, and most ERA-NETs have started their work. Some are even close to the end of the network contract. This survey, addressed to all coordinators of the ERA-NETs, is intended to give an overall view of the results emerging from all ERA-NETs, the actual actions undertaken so far. In this way, it should contribute to the evaluation as well as to the further elaboration of the ERA-NET scheme.

The primary focus of the survey is transnational research activities (step four as described in the Work Programmes on Support for the Coordination of activities). In particular, we will ask you to provide information on present and future joint calls, joint research programmes and pilot calls. Obviously, this focus will not do justice to the wide range of different activities undertaken by the ERA-NETs. Indeed, not all ERA-NETs have transnational research as their early goal, and others that only started working recently have hardly had the time to elaborate that kind of activities. Nevertheless, the implementation of joint calls is an important objective for the ERA-NET scheme and will, consequently, be the primary focus of this survey.

In order to keep the procedure simple, we suggest that the questionnaire is filled in by the coordinator of the ERA-NET who should, in most cases, have the information we ask for readily available. Specific consultation of the whole consortium on this matter is not necessarily needed. Some of the information requested in the questionnaire might already have been provided at an earlier occasion, but not as systematic or detailed as here. Please fill in all applicable parts in order to allow the Commission to have complete up-to-date information.

Explanatory note:

Structure of the questionnaire

The survey is divided into 6 sections with a number of questions in each:

Section I: Overview of joint activities (all ERA-NETs)

Section II: Joint calls (ERA-NETs which have done, launched or currently plan joint calls)

Section III: Joint programmes (ERA-NETs which have joint programmes)

Section IV: Pilot actions (ERA-NETs which have pilot actions)

Section V: Other joint activities (all ERA-NETs)

Section VI: The ERA-NET scheme (all ERA-NETs)

Some questions on calls might not be relevant to all ERA-NETs, especially for those who have not yet made or planned any joint calls. This is reflected in the colours of the different sections:

Grey sections: The questions here apply to all ERA-NETs. (sections I, V and VI.)

Coloured sections (green, yellow and blue): should be answered by those ERA-NETs who have made joint calls, joint programmes and pilot actions respectively (sections II, III and IV).

The questions

For each box, at least one field has to be filled in unless it is explicitly stated that the question applies only to some respondents. The areas where an answer is expected are recognisable by having lighter shade than the rest of the box.

For multiple choice questions, please answer by putting an "X" in the light area corresponding to your choice(s). Please also write the "X", when "other" is chosen as an answer. In these cases, however, respondents are requested to explain further below in the field for "comments".

The ERA-NETs have international, national as well as regional partners. In order to avoid lengthy repetitions, we will refer only to "national" (programmes etc.) when we mean international, national or regional.

When the answer requested is an amount of money, please answer by stating the full amount in euros (NOT thousands or millions, please).

"Comments"

After each question, room is made for "Comments". In some cases, you will be specifically asked to explain your answer (for example when answering "other"). But even when this is not the case, please use this extensively to comment on the questions raised! Comments on any question will help us to better appreciate the results we will get from this survey.

Example:

Question asked fill in information requested (with X'es, text or numbers depending on the question)	Options for answering or precision of Lighter shaded areas to
99 Question in italic? (instructions on how to answer)	Option 1 99a
	Option 2 99b X
	Option 3 99c
	Other: please comment below 99d
Comments: Comments concerning the topic of the question or further explanation of the answer given above	
Room for comments; the box expands as you write.	

We kindly ask you to fill in the questionnaire and return in by e-mail BEFORE THE 20th DECEMBER to the following address:

Kalle Stahl Nielsen
DG Research, unit B1
E-mail: kalle-stahl.nielsen@ec.europa.eu
Telephone: 0032 2 29 918 05

Should you have any further questions or comments, please do not hesitate to contact us.
Thank you for your help!!

SECTION I: Overview of joint activities

Please identify your ERA-NET:

ID	Name of the ERA-NET		Contract no:	
	Start of the contract		Duration (months)	
	Number of partners:		Number of countries:	
	Contact to coordinator:			
	Name			
	Telephone			
	E-mail			
	Comments:			

If your ERA-NET is not yet advanced enough to report on joint activities, please proceed to question 4 in this section and sections V and VI

Joint calls:

1	We would like to know if the ERA-NET has undertaken any joint calls. If this is the case, please indicate the number of calls according to the stage of their implementation.	Number of calls that have been done (the final selection of projects for funding has been done)	1a	
		Number of calls that have been launched (the call has been published)	1b	
		Number of calls that have been planned (call not yet published but concrete planning of the call concerning the time schedule and budget has started)	1c	
		Other (please comment below):	1d	
		Comments:		

► Please fill in one "Description of a call" in section II for each of these calls.
If the ERA-NET has more than one call, please copy section II accordingly.

Joint research programmes

2	Did the ERA-NET set up a joint research programme ¹⁹¹ ?	Yes	2a	
		No	2b	
	Comments:			

► Please fill in the "Description of a programme" in section III.

Pilot actions/projects

3	Did the ERA-NET launch any pilot actions/projects implemented without a prior	Yes	3a	
		No	3b	

¹⁹¹ A joint research programme could be understood as a multi-annual programme defining (several) research activities to be implemented jointly by the participants (thus, the implementation goes beyond a single call).

	call for proposals?			
	Comments:			

► Please fill in the "Description of a pilot action" in section IV for each of these actions.
If the ERA-NET has more than one action, please copy section IV accordingly.

4	If NO joint activities have been undertaken, what do you see as the principal reason for this? (<u>please choose one answer only</u>)	Our ERA-NET is not yet ready to undertake joint research activities	4a	
		A joint call is too difficult and/or costly to organise	4b	
		Transnational research is not relevant in this field	4c	
		Other: please comment below	4e	
	Comments:			

► Please proceed to sections V and VI

SECTION II: Description of joint call	no.	1	(If the ERA-NET has more than one call, please make copies of this section and <u>fill in one copy for each call</u>)
Please indicate how far you are in the implementation of the call described hereafter using the categories defined in question 1 above (<u>one answer only</u>):			
<input type="checkbox"/> Done	<input type="checkbox"/> Launched	<input type="checkbox"/> Planned	

Theme:

5	Title and/or subject(s) of the call:	(Please write here)
	Comments:	

► Please provide us with an electronic copy of the joint call as it was/is launched or as it stands at its actual preparation phase (additional links to web pages are welcome).

Pilot or full call?

6	Which of the following two options most accurately characterises the call (<u>Please choose one answer only</u>)	A "pilot" or "test" call meant to explore possibilities and methods for future cooperation	6a	
		A fully fledged call addressing strategic research interests of the participants	6b	
		Other: please comment below	6c	
	Comments:			

Time Schedule:

7	Please indicate the following dates, incl. planned dates for future action: (dd/mm/yyyy),	Publication of call	7a	__/__/__
		Closing of call for pre-proposals (if applicable)	7b	__/__/__
		Closing of call for full proposals	7c	__/__/__
		Final funding decision	7d	__/__/__
		Start of funded projects	7e	__/__/__
	Comments:			

Budget

8	What is the total public funding of the call? (in €)	8	_____.000 €
	Comments:		

9	What is the estimated total private contribution to funded projects? (in €) (if applicable)	9	_____.000 €
	Comments:		

Partner participation

10	How many programmes participate by making funding contributions to the joint call?	Number of national programmes/countries participating in the call.	10a	
		Percentage of national	10b	%

		programmes/countries participating in the call over total number of participants in the ERA-NET		
	Comments:			

11	What is the funding contribution to the budget of each participating partner country (effective or planned)?			
	Country (region) ¹⁹²	Organisation (1)	Organisation (2)	Contribution (in €)
11a			000 €
11b			000 €
11c			000 €
11d			000 €
11e			000 €
11f			000 €
11g			000 €
11h			000 €
11i			000 €
11j			000 €
11k			000 €
11l			000 €
11m			000 €
11n			000 €
11o			000 €
	Comments:			

12	Very often, not all partner countries of the ERA-NET participate in the call, what is the reason in your case? <u>(Several answers possible)</u>	Some partners were/are not interested in the subject of the call	12a	
		Some partners were/are interested, but could not participate for reasons of timing, legal issues, administrative issues etc.	12b	
		Some partners preferred first to observe, but might participate in future calls.	12c	
		Other: please comment below	12d	
	Comments:			

Call definition:

13	How was the theme of the call defined? <u>(Please choose one answer only)</u>	By the funding programmes (top-down)	13a	
		After an expression of interest from the potential proposers (bottom-up)	13b	
		By a combination of the two	13c	
		Other: please comment below	13d	

¹⁹² If the partner in question is from a region, please indicate the country as well as the region (in brackets).

	Comments:
--	-----------

Minimum requirements for participants:

14	Minimum number partners from different countries required in the projects to be funded out of the joint call	14	
	Comments:		

15	What type(s) of actors are eligible for funding in the call? (several answers possible)	Universities	15a	
		Research organisations	15b	
		Industry (large companies)	15c	
		SMEs	15d	
		Other (please comment below)	15e	
	Comments:			

Publication, submission and evaluation:

Publication, submission and evaluation:				
16	How is the call published? <u>(Please choose one answer only)</u>	By each country separately	16a	
		Common call announcement supplemented by national call specifications	16b	
		Call announcement made by one partner or ERA-NET secretariat for all participants	16c	
		Other: please comment below	16d	
	Comments:			

17	How is the submission of proposals organised? <u>(Please choose one answer only)</u>	1 step procedure: One single submission	17a	
		2 step procedure: Pre-proposals or outline proposals first and full proposals later	17b	
		Other: please comment below	17c	
	Comments:			

If ONE-step procedure P please answer

18 ONE step procedure - please answer				
18	How are the proposals evaluated in the one-step procedure? (Please choose one answer only)	Nationally: the partner authority in each country selects which projects to support	18a	
		Centrally: peer-review by international expert group	18b	
		Other: please comment below	18c	
	Comments:			

If TWO-step procedure: P please answer

19				
19	1 st step: How are the pre-proposals / outline proposals evaluated? (Please choose one answer only)	Nationally: the partner authority in each country selects which projects to support	19a	
		Centrally: peer-review by international expert group	19b	
		Other: please comment below	19c	
	Comments:			

20	2nd step: How are the full proposals evaluated? <u>(Please choose one answer only)</u>	Nationally: the partner authority in each country selects which projects to support	20a	
		Centrally: peer-review by international expert group	20b	
		Other: please comment below	20c	
	Comments:			

Financing mode

21	How are the financial contributions from the participating partners organised? <u>(Please chose one answer only)</u>	"Virtual pot": While the projects are transnational, each partner funds, a priori, participants from its country	21a	
		"Common pot": All partners contribute to the common call budget without regard to the nationality of the participants in the funded projects.	21b	
		"Mixed mode": a part of the budget handled as common pot, while the rest is "virtual"	21c	
		Other: please comment below	21d	
Comments:				

22	If "gaps" in the funding occurred, so that some project participants in a selected project did not have sufficient funding, how was the situation resolved? <u>(Several answers possible)</u>	Projects with insufficient funding were skipped	22a	
		Projects were implemented, but partners without funding were left out of the project	22b	
		The national authorities in question increased funding to cover the gap	22c	
		Transnational transfer of funding: Some partners funded project participants from other countries to close the gap	22d	
		Other: please comment below	22e	
Comments:				

23	On what level are the rules regulating the funding defined? <u>(Please chose one answer only)</u>	Only national rules apply	23a	
		Some common rules have been agreed while national rules still apply to participants	23b	
		Agreed common funding rules apply equally to all participants	23c	
		Other: please comment below	23d	
Comments:				

Appreciation:

24	How do you see the implementation of the call as compared to national calls? (please comment)	<u>NOT</u> much more complex than national calls (in terms of time and resources, arbitration of priorities, evaluation and assistance to	24a	
----	---	---	-----	--

	(Please chose one answer only)	applicants)		
		Much more complex than national calls (please comment below)	24b	
Comments:				

Call content:

can content:				
25	What was/were the main motivation(s) to address this area/topic via a transnational call? <u>(several answers possible)</u>	Achieving critical mass	25a	
		Sharing competencies and associated work	25b	
		Access to expertise from specific countries	25c	
		Developing common approaches (e.g. ethics, standards)	25d	
		Addressing specific geographical issues	25e	
		Addressing global issues	25f	
		Other (please comment below)	25g	
Comments:				

26	In relation to FP6, which of the following motivations could explain the selected area/topic of the joint call? <u>(Please chose one answer only)</u>	The scientific area/topic of the call is fully outside of the FP6 activities	26a	
		The scientific area/topic <u>is NOT directly (or NOT well) addressed</u> in the Framework Programme and the call is complementing topics of FP6	26b	
		The scientific area/topic <u>is addressed in the Framework Programme</u> but additional efforts/research seems necessary. This call is addressing similar areas/topics of the FP but via another type of projects	26c	
		The scientific nature of the area/topic was <u>NOT the main motivation for the joint call</u> , other reasons were more important; please comment below	26d	
		Other: please comment below	26e	
Comments:				

27	What "broad" type of research in the scientific area/topic was/is the target of your call? <u>(Several answers possible)</u>	Basic/fundamental research	27a	
		Applied/industrial research	27b	
		Innovation support measures	27c	
		Other	27d	
	Comments:			

Type of measures supported by your joint call in view of the scientific area/topic

28	Which of the following reasons (if any) motivated your joint call, in order to launch a specific type of	SME support measures	28a	
		Small and targeted trans-national RTD projects (few partners-few countries)	28b	

projects that you want to foster in the area/topic selected? <u>(Several answers possible)</u>	Targeted strategic RTD projects for large companies (like STREPS in the FP)	28c	
	Science and excellence driven research close to University environments	28d	
	Support to national research programmes in form of mobility schemes and other measures (post doc)	28e	
	Infrastructure support	28f	
	"Europeanization/Trans-nationalisation" of your national research system	28g	
	International Cooperation strategies (INCO countries and beyond)	28i	
Comments:			

International Cooperation (with non-EU and non-associated countries)

29	Did your joint call involve programmes from non-EU Member States or non-associated states?	Yes	29a	
		No	29b	
30	If yes, from which countries and which organisations/programmes were involved?			
		Country	Organisation/programme	
	30a			
	30b			
	30c			
Comments:				
31	Would you think that global approaches in ERA-NETs can be a future benefit for ERA-NET joint calls?	Yes (please comment below)	31a	
		No	31b	
Comments:				

SECTION III : Description of joint programme

32	Title and/or subject(s) of the programme:	(Please write here)
	Comments:	

33	Please describe the principle activities of the programme, if necessary by enclosing relevant documents:	(Please write here)
	Enclosed documents:	

▢ Please provide us with an electronic copy of the official programme text (additional links to web pages are welcome).

Time Schedule:

34	Please indicate the following dates, including planned dates for future actions (dd/mm/yyyy)	Start of programme	34a	___/___/___
		End of programme	34b	___/___/___
Comments:				

Budget:

35	What is the total public funding of the programme	35	___ .000 €
	Comments:		

36	What is the estimated private funding to research activities of the programme? (if applicable)	36	___ .000 €
	Comments:		

Partner participation

37	How many programmes participate by making funding contributions to the joint research programme?	Number of national programmes/countries participating	37a	
		Number of national programmes/countries as a percentage of total number of participants in the ERA-NET	37b	%
Comments:				

38	What is the funding contribution to the budget of each participating partner country (effective or planned)?				
		Country (region) ¹⁹³	Organisation (1)	Organisation (2)	Contribution (in €)
	38a				___ .000 €
	38b				___ .000 €

¹⁹³ If the partner in question is from a region, please indicate the country as well as the region (in brackets).

38c				...000 €
38d				...000 €
38e				...000 €
38f				...000 €
38g				...000 €
38h				...000 €
38i				...000 €
38j				...000 €
38k				...000 €
38l				...000 €
38m				...000 €
38n				...000 €
38o				...000 €
Comments:				

39	Very often, not all partner countries of the ERA-NET participate in the programme, what is the reason in your case? <u>(Several answers possible)</u>	Some partners were/are not interested in the subject of the call	39a	
		Some partners were/are interested, but could not participate for reasons of timing, legal issues, administrative issues etc.	39b	
		Some partners preferred first to observe, but might participate in future calls	39c	
		Other: please comment below	39d	
Comments:				

Definition of the Programme:

Definition of the Programme:				
40	How was the theme of the programme defined? <u>(Please chose one answer only)</u>	By the funding programmes (top-down)	40a	
		After an expression of interest from the potential proposers (bottom-up)	40b	
		By a combination of the two	40c	
		Other (please comment below)	40d	
Comments:				

Financing mode

41	How are the financial contributions from the participating partners organised? <u>(Please chose one answer only)</u>	"Virtual common pot": While the projects are transnational, each partner funds, a priori, participants from its country	41a	
		"Common pot": All partners contribute to the joint programme budget without regard to the nationality of the participants in the funded projects.	41b	
		"Mixed mode": a part of the budget handled as common pot, while the rest is "virtual"	41c	

		Other: please comment below	41d	
	Comments:			

42	If "gaps" in the funding occurred, so that some project participants in a selected project did not have sufficient funding, how was the situation resolved? <u>(Several answers possible)</u>	Projects with insufficient funding were skipped	42a	
		Projects were implemented, but partners without funding were left out of the project	42b	
		Some partners increased funding of project participants from their own country to cover the gap	42c	
		Transnational transfer of funding: Some partners funded project participants from other countries to close the gap	42d	
		Other: please comment below	42e	
	Comments:			

43	On what level are the rules regulating the funding defined? <u>(Please chose one answer only)</u>	Only national rules apply	43a	
		Some common rules have been agreed while national rules still apply to participants	43b	
		Agreed common funding rules apply equally to all participants	43c	
		Other: please comment below	43d	
	Comments:			

Appreciation:

44	How do you see the implementation of the joint programme so far as compared to national programmes? <u>(Please chose one answer only)</u>	<u>NOT</u> much more complex than national programmes (in terms of time and resources, arbitration of priorities, evaluation and assistance to applicants)	44a	
		Much more complex than national programmes (please comment below)	44b	
	Comments:			

Call content:

45	What was/were the main motivation(s) to address this area/topic via a transnational programme? <u>(several answers possible)</u>	Achieving critical mass	45a	
		Sharing competencies and associated work	45b	
		Access to expertise from specific countries	45c	
		Developing common approaches (e.g. ethics, standards)	45d	
		Addressing specific geographical issues	45e	
		Addressing global issues	45f	
		Other (please comment below)	45g	
	Comments:			

46	In relation to FP6, which of the following motivations (if any) could explain the selected area/topic of the joint programme? (Please chose one answer only)	The scientific area/topic of the programme is fully outside of the FP6 activities	46a	
		The scientific area/topic <u>is NOT directly (or NOT well) addressed</u> in the Framework Programme and this joint programme is complementing topics of FP6	46b	
		The scientific area/topic <u>is addressed in the Framework Programme</u> but additional efforts/research seems necessary. This programme is addressing similar areas/topics of the FP but via another type of projects	46c	
		The scientific nature of the area/topic was <u>NOT the main motivation for the joint programme</u> , other reasons were more important; please comment below	46d	
		Other: please comment below	46e	
Comments:				

47	What "broad" type of research in the scientific area/topic was/is the target of your programme? (Several answers possible)	Basic/fundamental research	47a	
		Applied/industrial research	47b	
		Innovation support measures	47c	
		Other	47d	
	Comments:			

Type of measures supported by your joint call in view of the scientific area/topic

48	Which of the following reasons (if any) motivated your joint programme, in order to launch a specific type of projects that you want to foster in the area/topic selected? (Several answers possible)	SME support measures	48a	
		Small and targeted trans-national RTD projects (few partners-few countries)	48b	
		Targeted strategic RTD projects for large companies (like STREPS in the FP)	48c	
		Science and excellence driven research close to University environments	48d	
		Support to national research programmes in form of mobility schemes and other measures (post doc)	48e	
		Infrastructure support	48f	
		"Europeanization/Trans-nationalisation" of your national research system	48g	
		International Cooperation strategies (INCO countries and beyond)	48h	

	Comments:
--	-----------

International Cooperation (with non-EU and non-associated countries)

49	Did your joint programme involve programmes from non-EU Member States or non-associated states?	Yes	49a	
		No	49b	
50	If yes, from which countries and which organisations/programmes were involved?			
		Country	Organisation/programme	
	50a			
	50b			
	50c			
	Comments:			

51	Would you think that global approaches in ERA-NETs can be a future benefit for ERA-NET joint programmes?	Yes (please comment below)	51a	
		No	51b	
	Comments:			

SECTION IV: Description of pilot action/project no.	1	(If the ERA-NET has more than one pilot action, please make copies of this section and <u>fill in one copy for each action</u>)
---	---	--

Time schedule

52	Start date of the project (dd/mm/yyyy)	52a	
	Duration (months)	52b	
	Comments:		

Budget

53	What is the total public funding of the pilot action (in €)	53	_____.000 €
	Comments:		

54	What is the estimated total private contribution to the pilot action? (in €) (if applicable)	54	_____.000 €
	Comments:		

Participants

55	What is the contribution to the project budget of each project partner? <u>(the type of partners, not their names, please)</u>			
		Country (region) ¹⁹⁴	Type of partner (University, Research organisation, Industry, SME or other)	Contribution (in €)
	55a			_____.000 €
	55b			_____.000 €

¹⁹⁴ If the partner in question is from a region, please indicate the country as well as the region (in brackets).

	55c			____.000 €
	55d			____.000 €
	55e			____.000 €
	Comments:			

Appreciation

56	What were the intentions of the pilot action? (several answers possible)	Test and improve procedures for future cooperation	56a	
		Raise awareness of the ERA-NET in the research community	56b	
		Other: please comment below	56c	
	Comments:			

(If you have done more than one pilot action, please copy and paste the preceding section hereafter)

SECTION V: Other joint activities

57	What are, in your opinion, the three most important actions undertaken by your ERA-NET so far? (<u>Most important first</u>)	57a		
		57b		
		57c		
	Comments:			
58	What would, in your opinion, be the three most beneficial actions that <u>could</u> be undertaken by the ERA-NET? (<u>Most important first</u>) (the answer can include actions already being implemented by the ERA-NET)	58a		
		58b		
		58c		
	Comments:			
59	Has the ERA-NET developed other joint activities? (<u>Several answers possible</u>)	Coordination/clustering of ongoing nationally funded research projects	59a	
		Benchmarking and common schemes for programme monitoring and evaluation	59b	
		Multinational evaluation procedures (common evaluation criteria and methods of implementation)	59c	
		Schemes for joint training activities (e.g. co-supervised theses or common PhD schemes)	59d	
		Schemes for personnel exchange (programme managers)	59e	
		Schemes for mutual opening of facilities or laboratories	59f	
		Specific cooperation agreements or arrangements between different ERA-NET partners have been made	59g	
		Action plan taking up common strategic issues and preparing for joint activities	59h	
		Other concrete actions taken: please describe below	59i	
		Comments:		

SECTION VI: On the ERA-NET scheme

Goal attainment

60	The overall objectives of the ERA-NET scheme (the "whys") are listed below. Drawing upon the experiences from your ERA-NET, please indicate which of these objectives are met in your case (<u>several answers possible</u>)			
	a. Achieving critical mass, to ensure better use of scarce resources	60a		
	b. Join forces to provide common answers to common problems	60b		
	c. Addressing global issues	60c		
	d. Developing common approaches (e.g. ethics, standards)	60d		
	e. Addressing specific geographical issues	60e		
	f. Speaking with "one voice " to third countries	60f		
	g. Avoiding overlap and build up expertise	60g		
	h. Exchange of good practice	60h		
	i. Access to expertise from other countries	60i		
Comments:				

ERA-NET activities and EC funding:

61	Would the transnational activities undertaken by your ERA-NET have been possible without the EU funding provided by the ERA-NET scheme?	Yes	61a	
		No	61b	
Comments:				

62	Under what conditions can the transnational activities of the ERA-NET continue in the future, that is, beyond the duration of the current contract? (<u>please choose one answer only</u>)	The ERA-NET can only continue with the current level of EU-funding	62a	
		The ERA-NET could continue with reduced EU-funding	62b	
		The ERA-NET could continue without EU-funding	62c	
		Other (please comment below)	62d	
Comments:				

International Cooperation (with non-EU and non-associated countries)

63	Did your ERA-NET involve programmes from non-EU Member States and non-associated states?	Yes	63a	
		No	63b	
64	If yes, from which countries and which organisations/programmes were involved?			
		Country	Organisation/programme	
	64a			
	64b			
	64c			

	Comments:		
65	Would you think that global approaches in ERA-NETs can be a future benefit for your ERA-NET?	Yes (please comment below)	65a
		No	65b
	Comments:		

Annex 5 – Participant and coordinator survey: descriptive statistics

General overview of sampling methodology and statistics

The purpose of this section is to describe the method we adopted to undertake the data analysis. It will specifically explore:

- The steps taken to move from the sampling frame to the weighted sample of respondents; and
- Explain how weighted statistics add value to the evidence that we are reporting

1. Brief overview of the FP6 ERA-NET programme

The ERA-NET programme includes 71 ERA-NETs that were all invited to participate to the surveys that were sent to participants and coordinators. The participant survey results cover 70 ERA-NETs and the coordinator survey results 54 of the ERA-NETs.

The ERA-NET programme includes over 40 countries and different types of public and private sector institutions. They are mainly funding agencies but also few research organisations are included, particularly as beneficiaries of the ERA-NET scheme. The ERA-NET scheme covers eight main themes which are shown in the table below.

Table 47- Description of the distribution of themes across ERA-NETs

Theme	Number	Percentage
Environment	16	22.5%
Social Sciences and Humanities	6	8.5%
INCO	4	5.6%
Energy	5	7.0%
Life Sciences	15	21.1%
Fundamental Sciences	5	7.0%
Transport	4	5.6%
Industrial Technologies and SMEs	16	22.5%
Total	71	100.0%

The following sections will describe the sampling frame for the participant survey, which provides a presentation of the ERA-NET scheme at the level of individuals who are involved. The following sections will also describe the sample of participants who responded to the survey and the weighting that was done in order to make these respondents representative of the whole sampling frame.

2. The sampling

For the purposes of evaluating the FP6 ERA-NETs scheme, survey of the participants and coordinators was conducted. This included two surveys:

- a. Coordinator questionnaire (addressed to coordinators only) and

b. Participants survey (addressed to both coordinators and participants)

The sampling frame for the coordinator survey included all the 71 coordinators who were asked to respond to the survey, one from each of the ERA-NETs.

The sampling frame for the participants survey included information of all those involved in the ERA-NETs. This list of individuals was provided by the DG Research of the European Commission. The research team adopted this sample frame and tried to fill out any gaps in the database where possible. These included issues such as missing contact details.

Overall, 965 individuals were contacted. However, 82 individuals were later removed from the sample for reasons such as they were in the sample frame twice, or they were no longer involved in the ERA-NETs. As a result, 883 individuals comprised of the survey sample frame.

The following tables describe the sampling frame. The purpose of these is to show the total population to which the participants can be compared to, and are comparable to, as a result of the weighting of the data (which is to be explained in detail in the following sections).

Table 48 - Representation of themes in the sampling frame

Theme	Number	Percentage
Environment	206	23.3%
Social Sciences and Humanities	60	6.8%
INCO	47	5.3%
Energy	64	7.2%
Life Sciences	187	21.2%
Fundamental Sciences	51	5.8%
Transport	59	6.7%
Industrial Technologies and SMEs	209	23.7%
Total	883	100.0%

Table 49 - Representation of country groups in the sample frame

Country group	Number	Percentage
EU 15 Larger country	350	39.6%
EU 15 Smaller country	322	36.5%
EU12	119	13.5%
Associated country	70	7.9%
Other Europe	6	0.7%
Third country	13	1.5%
Unknown	3	0.3%
Total	883	100.0%

Table 50 - Representation of ERA-NETs in the sample frame

ERANET	Number	Percentage
AMPERA	8	0.9%
BIODIVERSA	18	2.0%
BONUS	13	1.5%
CIRCLE	14	1.6%
COMPERA	13	1.5%
CRUE	17	1.9%
ECORD	9	1.0%
EUROPOLAR	20	2.3%
EUWI - ERA - NET	15	1.7%
IWRM.Net-CA	12	1.4%
MariFish	11	1.2%
MARINERA	10	1.1%
NET-BIOME	9	1.0%
SKEP	16	1.8%
SNOWMAN	7	0.8%
URBAN-NET	14	1.6%
ERA-SAGE	7	0.8%
EU-SEC	9	1.0%
FORSOCIETY	15	1.7%
HERA	11	1.2%
NORFACE	8	0.9%
WORK-IN-NET	10	1.1%
CO-REACH	12	1.4%
ERA-ARD	14	1.6%
EULANEST	7	0.8%
SEE-ERA-NET	14	1.6%
ERA-NET BIOENERGY	11	1.2%
FENCO-ERA	13	1.5%
HY-CO	20	2.3%
INNER	13	1.5%
PV-ERA-NET	7	0.8%
ALLIANCE-0	6	0.7%
CoCanCPG	15	1.7%
CORE Organic	11	1.2%
EERA-AGE	12	1.4%
ERA-IB	16	1.8%
ERA-PG	14	1.6%
E-Rare	8	0.9%
ERASysBio	9	1.0%
EUPHRESKO	23	2.6%
EUROTRANS-BIO	10	1.1%
HESCUAEP	13	1.5%
NEURON	14	1.6%
PathoGenoMics	8	0.9%
PRIOMEDCHILD	6	0.7%
SAFEFOODERA	22	2.5%
ASPERA	17	1.9%
ASTRONET	10	1.1%

Complexity-NET	10	1.1%
ERA-CHEMISTRY	13	1.5%
EURYI	1	0.1%
AirTN	24	2.7%
ERA-NET ROAD	11	1.2%
ERA-NET TRANSPORT	9	1.0%
ERA-STAR REGIONS	15	1.7%
ACENET ERA-NET	9	1.0%
CORNET	18	2.0%
ERABUILD	11	1.2%
EraSME	16	1.8%
ERA-SPOT	8	0.9%
ETRANET	11	1.2%
IMERA	18	2.0%
MANUNET	11	1.2%
MARTEC	10	1.1%
MATERA	15	1.7%
MNT ERA-NET	19	2.2%
NanoSci-ERA	10	1.1%
NEW OSH ERA	18	2.0%
SUSPRISE	12	1.4%
VISION	11	1.2%
WOODWISDOM- NET	12	1.4%
Total	883	100.0%

3. The sample of respondents

This section presents the distribution of the 432 respondents who filled in more than 40 per cent of the questionnaire attending to the following criteria: i) ERA-NET; ii) country group; iii) country; iv) type of organisation; and v) theme. Absolute frequencies will be reported so that the actual sample sizes for each category can be examined. This is particularly useful for the correct interpretation of the descriptive statistics commented throughout the report, as it enables the reader to better assess the relevance of the emerging patterns. Overall, the response rate for the survey was 49 per cent.

Table 51 - Distribution of valid respondents by ERA-NET

ACENET ERA-NET	5
AirTN	15
ALLIANCE-0	4
AMPERA	3
ASPERA	9
ASTRONET	4
BIODIVERSA	5
BONUS	9
CIRCLE	2
CoCanCPG	7
COMPERA	6
Complexity-NET	4
CORE Organic	8
CO-REACH	6
CORNET	10
CRUE	8
ECORD	4
EERA-AGE	8
ERA-ARD	6
ERABUILD	8
ERA-CHEMISTRY	6
ERA-IB	4
ERA-NET BIOENERGY	7
ERA-NET ROAD	8
ERA-NET TRANSPORT	5
ERA-PG	6
E-Rare	2
ERA-SAGE	4
EraSME	7
ERA-SPOT	5
ERA-STAR REGIONS	14
ERASysBio	5
ETRANET	10
EULANEST	1
EUPHRESKO	14
EUROPOLAR	5

EUROTRANS-BIO	5
EU-SEC	2
EUWI - ERA – NET	5
FENCO-ERA	5
FORSOCIETY	4
HERA	4
HESCUAEP	5
HY-CO	8
iMERA	12
INNER	8
IWRM.Net-CA	7
MANUNET	6
MariFish	1
MARINERA	4
MARTEC	7
MATERA	11
MNT ERA-NET	14
NanoSci-ERA	6
NET-BIOME	4
NEURON	5
NEW OSH ERA	11
NORFACE	5
PathoGenoMics	5
PRIOMEDCHILD	1
PV-ERA-NET	3
SAFEFOODERA	8
SEE-ERA-NET	2
SKEP	8
SNOWMAN	5
SUSPRISE	3
URBAN-NET	8
VISION	6
WOODWISDOM-NET	2
WORK-IN-NET	8
Total	432

Table 52 - Distribution of valid respondents by country group

Country Group	Number	%
EU 15 - large	167	38.7
EU 15 - small	154	35.6
EU 12	66	15.3
Third country	1	0.2
Associated	43	9.9
Unspecified	1	0.0
Total	432	100.0

Table 53 - Distribution of valid respondents by country

Country code	Number	%
AL	1	.2
AT	23	5.3
BE	19	4.4
BG	2	.5
CA	1	.2
CH	10	2.3
CY	1	.2
CZ	7	1.6
DE	55	12.7
DK	16	3.7
EE	6	1.4
ES	26	6.0
FI	26	6.0
FR	41	9.5
GB	22	5.1
GR	7	1.6
HU	8	1.9
IE	8	1.9
IL	4	.9
IS	3	.7

IT	23	5.3
LT	2	.5
LU	1	.2
LV	3	.7
MK	1	.2
NL	26	6.0
NO	20	4.6
PL	19	4.4
PT	8	1.9
RO	5	1.2
SE	20	4.6
SI	9	2.1
SK	4	.9
TR	4	.9
Unspecified	1	.2
Total	432	100.0

Table 54 - Distribution of valid respondents by type of organisation

Type of organisation	Number	%
Governmental	295	68.3
Private Commercial Organisation	10	2.3
Private Organisation Non Profit	58	13.4
Public Commercial Organisation	11	2.5
International Organisation	8	1.9
Joint Research Centre	5	1.2
European Economic Interest Group	1	.2
Other	36	8.3
Not Answered	8	1.9
Total	432	100.0

Table 55 - Distribution of valid respondents by theme

Theme	Number	%
Energy	31	7.2
Environment	80	18.5
Fundamental Sciences	23	5.3
INCO	15	3.5
Industrial Technologies and SMEs	117	27.1
Life Sciences	87	20.1
Regional	24	5.6
Social Sciences and Humanities	27	6.2
Transport	28	6.5
Total	432	100.0

As can be seen in the tables above the sample size for Third country respondents is too small (only one respondent), which seriously limits the possibility of drawing firm conclusions on this category. The information available did not allow us to identify the country for one of the respondents. Similarly the sample sizes for organisations other than Governmental and Private Non Profit, and themes other than Industrial Technologies and SMEs, Life Sciences, and Environment are considerably small.

4. Methodology to model unit non-response

This section will set out the methodology employed to weigh up the survey responses, so that the survey results are representative of the whole sampling frame.

The attributes used to weigh up the survey responses were i) ERA-NET project; ii) organisation type; iii) country; and iv) theme. The data collected through the participant survey were weighted in order to produce analyses that were more representative of the sampling frame originally used. By determining the relationship between the variables available for all participants (auxiliary data) and whether they responded to the survey or not (using a logistic regression model), it was possible to produce a predicted probability that a participant would respond, dependent on their values for these auxiliary variables. By weighting the responses to the participant survey by the inverse of this predicted probability, it was possible to create analyses that were more representative of the participants than if no weighting had been incorporated.

We must make explicit that by modelling we produce a fictitious dataset that resembles the sampling frame with as much accuracy as modelling techniques allow. When reporting frequencies, it is standard practice to use relative frequencies (percentages), rather than absolute frequencies, as these do not directly stem from neither the sampling frame nor the sample of respondents.

5. Further survey-response transformations for the analysis

In the analysis of the survey responses, some of the answer categories offered to the respondents in the questionnaire were merged for reporting purposes. In this way the reporting of statistics may be done at two levels:

- General overview of the response frequencies using merged categories
- Detailed report of the response frequencies using the original categories

An example of how we merged questionnaire answer categories to facilitate the analysis is provided below:

Has your organisation's involvement in this ERA-NET influenced national research policy beyond the theme of this ERA-NET?

Questionnaire answer categories	Merged categories for analysis
High degree of influence	Influence
Fairly high degree of influence	
Fairly low degree of influence	
Low degree of influence	
Not at all	No influence
Don't know	No answer

6. Note for coordinator survey analysis

The descriptive coordinator analysis covers joint calls, programmes, pilot actions and other joint activities reported up to 5 October 2008.

The descriptive results show as representative picture as possible given the constraints on data availability. 58 ERA-NETs responded to the 2008 survey distributed between July and October 2008. In instances where an ERA-NET coordinator responded to 2006 survey but not 2008 survey, the data from 2006 survey was included in the analysis.

Information from 15 calls was included in the 2008 analysis. Of these 15 calls, six were planned and three launched, and as we do not know if they were completed, these are analysed as they were in the 2006 dataset. In general, if a respondent had not indicated whether a call had been planned, launched or completed, this was estimated from the dates provided in section 7 of the survey.

7. Presentation of data

For the purposes of the interim report, the descriptive and statistical analyses were undertaken and reported using country groupings. Given the time limitations, country by country analyses were not undertaken. Six country groupings were used. The following tables outlines which countries fall within which category.

Table 56 – Description of country categories

Countries in dataset	Associated	EU 12	EU 15 - large	EU 15 - small	Other Europe	Third country
Albania	1					
Austria				1		
Belgium				1		
Bosnia and Herzegovina					1	
Bulgaria		1				
Canada						1

Croatia	1					
Cyprus		1				
Czech Republic		1				
Denmark				1		
Estonia		1				
Finland				1		
Former Yugoslav Republic of Macedonia	1					
France			1			
French Polynesia (France)			1			
Germany			1			
Greece				1		
Greenland (Denmark)				1		
Hungary		1				
Iceland	1					
Ireland				1		
Israel	1					
Italy			1			
Kenya						1
Latvia		1				
Lithuania		1				
Luxembourg				1		
Montenegro					1	
Netherlands				1		
Netherlands Antilles (Netherlands)				1		
New Caledonia (France)				1		
Northern Ireland (United Kingdom)				1		
Norway	1					
Poland		1				
Portugal				1		
Romania		1				
Russian Federation					1	
Serbia	1					
Slovakia		1				
Slovenia		1				
Spain			1			
Sweden				1		
Switzerland	1					
Turkey	1					
United Kingdom			1			
Unspecified						
Grand Total	9	11	6	14	3	2

Annex 6 – Scoping phase: interview guides

Two interview guides were developed for the scoping phase of the ERA-NET evaluation. The schedules were intended to structure telephone and face-to-face interviews with key stakeholders in helping the study team to develop a better understanding of the ERA-NET scheme and its logic. The questions included centre around four main themes: background/context; inputs; outputs/processes; and outcomes.

Interviewees were given an opportunity to provide additional feedback and sign-post the team to relevant information sources for further enquiry.

The interviews will therefore be scoping what information is available for the main phase of the evaluation including policy documents and statements, studies and budgetary information for our before/after studies and assessment of impact due to the ERA-NET programme.

Table 57- Questionnaire 1 - Structure for interviews with ERA-NET programme managers

Guide for interviews with ERA-NET managers	
Interview ID	<p>What is your title? What is your role and what are your key responsibilities with regard to these areas and funding schemes?</p> <p>How long have you been in this position?</p> <p>What are your key roles and responsibilities as an ERA-NET manager Do you manage more than one ERA-NET and if so are they in one problem domain or research field?</p> <p>When did you take up this role? How much of your job involves ERA-NET management?</p>
Policy need	<p>Can you tell us about the general trends and drivers for European and international cooperation in the field of your ERA-NET – is it rising, steady, not relevant? Have the FPs been important sources of research funding in your domain?</p> <p>What were the motivations behind the ERA-NETs which you manage? Was the ERA-NET based on a previous collaboration between the partners? If so, how was this translated into an ERA-NET? If not, how were the partners put together?</p> <p>What were the expectations of the partners? Did they have different expectations from each other?</p> <p>Was your ERA-NET formed in a top-down strategic way by the partners or in a bottom-up way on the initiative of particular individuals?</p> <p>What was the policy need for an ERA-NET in your area? Did the need fit the model offered by the ERA-NET scheme? How and in what ways did it fit or not fit.</p>
Inputs	<p>What are the key inputs into your ERA-NETs? Can you comment on whether they are key inputs?</p> <p>EC funding Funding from partners Inputs/guidance from EC project officer Inputs/learning from other ERA-NETs National level support (financial and strategic)</p> <p>Is this typical across ERA-NETs (in your domain or beyond)?</p>

Guide for interviews with ERA-NET managers	
	What are the kinds of inputs you make to the functioning of the ERA-NET and what level of input do you make?
Implementation/ Process	<p>To what extent did the Call for Proposals mould your ERA-NET – was it useful or constraining to have to meet the EC requirements/notions of an ERA-NET? In what ways?</p> <p>What is the governance structure for your ERA-NET? What aspects of the governance structure are particularly significant for achieving success?</p> <p>How would you define a successful ERA-NET – can you give some concrete examples from your area/s?</p> <p>Does good practice vary in different phases of ERA-NETs (e.g. what would you consider good practice in the four stages of ERA-NET development identified by the Commission)?</p> <p>How important is the four stage process? Is it seen as a parallel or a linear logical progress that ERA-NETs are expected to go through?</p> <p>Would you say your ERA-NET projects are immature, or mature in achieving 'ERA' type objectives of European coordination in joint programming and planning – do you see evidence of progression as the ERA-NETS have gotten underway?</p> <p>What kinds of indicators of success do you look for (e.g. when you review inputs from partners)? What about signs of lack of progress/failure – what are these? Examples please.</p> <p>Are you aware of any negative consequences?</p> <p>What are the typical problems and barriers which your projects have faced? Does the national context matter or scientific domain matter in your experience?</p> <p>Have problems differed according to the stage the projects have been in? Which ERA-NETs have been more successful in overcoming these barriers and why do you think this is (what are the successful attributes)?</p> <p>How have/will the ERA-NET be taken forward (if applicable) – within EU funding e.g. ERA-NET Plus, Network of Excellence, IP – or through transnational cooperation outside the EU – or Article 169? Please specify.</p> <p>Have some partners dropped out of the project or further development of the ERA-NET? Does that matter? Has the ERA-NET been equally important for all partners?</p>
Impact	<p>How would you define the impact of your ERA-NET projects? At what levels – European policy, national policy, national programming, funding bodies, beneficiary level (scientific research) or beyond (society, private industry)?</p> <p>Prompt for immediate, medium and long term impacts. Ask for SOME specific examples.</p> <ul style="list-style-type: none"> • Which of these impacts you consider most important? Why? • Do you monitor in any way any of these impacts? How?

Guide for interviews with ERA-NET managers

	<ul style="list-style-type: none"> • Would you say that these impacts have been different for the various types of institutions involved in ERA-NETs? In what ways? <p>What kind of institutional data exists for measuring the impact? For example, can we measure changes in budget from national to joint programming? To funding posts of 'European' managers of research?</p> <p>Is there evidence of strategic level impacts, e.g. on the strategy of your organisation – e.g. from mission statements, cooperation agreements.</p> <p>Have there been unintended side effects (positive/negative)? For instance, ERA-NETs set out to provide networking opportunities and ended up having an impact on policy? Has experience in the ERA-NET caused a withdrawal from European cooperation?</p> <p>What are your perceptions about the additionality of the ERA-NET projects you manage (e.g. would they have happened in any case? Did they need funding or just a 'label'?). How might we measure this?</p> <p>Do you think the impacts of the ERA-NET are sustainable beyond FP6 and 7? Under what conditions might they be sustainable?</p>
CONCLUSION OF INTERVIEW	<p>Are there any issues that you feel are important but have not been discussed?</p> <p>Is there anything else you would like to add?</p>
Outlook	<p>What role can and should the Commission play in facilitating the creation of a European Research Area in relation to the scientific community and MS governments?</p> <p>Looking forward do you envisage any shift in the global research climate that will necessitate a shift in strategy of national funding bodies, ERA-NETs or European FP funding?</p> <p>What will be the role of the ERA-NETs vis-à-vis European Framework Programme funding?</p>
Conclusion of interview	<p>Are there any issues that you feel are important but have not been discussed?</p> <p>Is there anything else you would like to add?</p>
Practicalities/ sign-posting	<p>Is there anybody you think we should contact with regard to this work?</p> <p>Are you able to provide some references for any evaluations, impact assessments of economic appraisals undertaken for international research funding which can inform our work?</p>

Table 58 - Questionnaire 2 - Guide for interviews with high level stakeholders and programme owners

Guide for interviews with high level stakeholders and programme owners	
Interview ID	<p>What is your title? What are your key roles and responsibilities within your organisation?</p> <p>How long have you been in this position?</p> <p>In what capacity are you or have you had direct involvement in the ERA-NET programme? During what period (particularly before 2006?)</p>
BACKGROUND/ CONTEXT	<p>Could you describe in a few words how you understand the ERA-NET and its goals and objectives? ('Elevator pitch')</p> <p>Can you explain what are the pressures/drivers (if any exist) to internationalise research in your country/organisation?</p> <p>Have you had initiatives other than ERA-NET participation such as new laws, policy statements, changes of organisation to make research more internationalised and/or open to European cooperation? (before or in tandem with the ERA-NET scheme)</p> <p>Is international research cooperation prioritised in your laws and policies/strategy of your organisation?</p> <p>Is participation in EU research a priority for your country/organisation? For example, was participation in other parts of FP6 regarded as important?</p> <ul style="list-style-type: none"> o In what ways (if any) was your country/organisation involved in shaping the ERA-NET programme, and were there any aspects of the programme that were particularly important from the point of view of your country/organisation? Did you take part in shaping the calls? In what specific ways did you wish to influence them? o Why has your country/your organisation taken part in ERA-NET projects? What were the expectations when you joined? How were arguments about increased efficiency, critical mass, wider scope of programmes at European level translated into reasons for your participation? <p>In what ways is the development of the ERA important to the research strategy in your country/organisation? Do different stakeholders in your country/your domain have different needs? Such as...</p> <ul style="list-style-type: none"> o reducing fragmentation and duplication o More funding for niche science fields o Better science results? o Exchange experience / best practices in research policy and management o Retain scientists o Mobility of scientists in Europe o improve research in New Member States o Economies of scale o Not important – national focus is key o Not important – international (i.e. outside Europe) cooperation is key <p>Has the policy context for European coordination of research changed since the beginning of the FP6 ERA-NET programme? What about the present situation?</p>

Guide for interviews with high level stakeholders and programme owners

	<p>Was the involvement of your country/organisation strategic or bottom-up? By strategic, I mean, was it considered at a high level and to be part of the strategy of your country/organisation? Was it promoted/encouraged in a top down fashion in particular areas or encouraged generally? By bottom-up, I mean, did certain individuals decide to apply in their own programme areas without an overall organisational strategy? If bottom-up, did it become strategic? If strategic (top down), how was it received by institutions and administrations?</p> <p>Are there any tensions in relation to ERA-NET funding, overall strategy, and expectations in relation to national-level research?</p>
<p>INPUTS</p> <p>Note to interviewer: Emphasise quantification. Press for <u>exact</u> figures or, failing that, <u>approximate</u>, <u>estimated</u> or <u>guessed</u></p>	<p>EC level:</p> <ul style="list-style-type: none"> • What types of inputs has the EC provided in addition to funding? For example, has there been strategic level dialogue, lesson sharing etc about transnational cooperation between research funders and key research performers and national policy-makers? • To what extent was the EU funding necessary to bring about the effects of the ERA-NETs? <p>National / Regional:</p> <ul style="list-style-type: none"> • What national inputs were provided to support the ERA-NETs? <ul style="list-style-type: none"> ◦ funds provided to support the ERA-NET activities ◦ funds to support activities beyond the ERA-NET's life ◦ joint programmes / calls funding ◦ others: specific additional staff, resources to set up and manage consortia? (hosting meetings, web site development and maintenance, communication costs). ◦ Can we get these figures for our study? Where are they?
<p>OUTPUTS/ PROCESSES</p>	<ul style="list-style-type: none"> • Can you tell us more about the processes and procedures for monitoring the progress towards fulfilment of objectives of the ERA-NET(s) you are involved in/oversee? Does your organisation keep an overall view on the ERA-NETs which your country/organisation participates in? • What performance indicators, if any, are monitored to assess projects' progression towards their objectives? How regularly is this done/are they checked? Are they matched against any strategic plan relating to research in your country/ to your organisation's research? <hr/> <ul style="list-style-type: none"> • In what way is the performance monitoring information generated or assembled used to feed into overall policy or procedures e.g. to inform requirements under new calls? <p>To what extent have you engaged in national/regional/science domain level coordination and sharing of lessons and outcomes from your ERA-NET involvement? Or has your organisation been taking part in such activities at a European level?</p> <ul style="list-style-type: none"> • How have the ERA-NETs evolved over the period 2002-2006 – has there been learning, increased drive for European coordination in programmes, or no change? • What have been the obstacles to the functioning of the ERA-NET projects? Specify different types of obstacle and whether internal to the ERA-NETs themselves or whether external due to domestic procedures/regulations, etc. • What are the attributes of a successful ERA-NET? An unsuccessful one?

Guide for interviews with high level stakeholders and programme owners

<p>OUTCOMES</p>	<p>Do you think that the ERA-NET programme has brought about high level change in your country/organisation? Are there examples of evidence here, e.g. reorganisations, new policy/management posts, new policy/strategy statements, new forms of budget allocation, new forms of cooperation. Are there unexpected outcomes or undesirable outcomes?</p> <p>Do you have a view on the impacts of ERA-NETs on the development of the ERA, from the perspective of your country/organisation? In your opinion, are the impacts sustainable beyond FP6 and FP7?</p> <p>To what extent do you perceive the ERA-NET projects you support to have had an impact on:</p> <p>1. Immediate outcomes e.g. (show list to interviewee and highlight those that apply)</p> <ul style="list-style-type: none"> • Enabling coordinated transnational policy and funding communities in Europe • Exchange of good practice and mutual learning, in particular about design of transnational research calls and programmes and their implementation • Mutual learning and improved practice in research programme management (e.g. in evaluation of research, designing research programmes for greater impact) • Engagement of national policy-makers in the European agenda (ERA) • Creation of critical mass in research programmes • New knowledge / artefacts • Improving quality of Research Funding services • Generating new concepts and research directions • More media coverage of research • Improved international visibility (beyond Europe) and reputation of funding agencies • Further cooperation / synergies among ERA-NET participants. <p>2. Medium-term outcomes e.g. (show list to interviewee and highlight those that apply)</p> <ul style="list-style-type: none"> • Less duplication of research • More strategic coordination of research funding in Europe • Political pressure to improve standards of national funding agencies • Creating awareness amongst national policymakers of benefits of European cooperation in research programming • More involvement of regional authorities in research funding and management • Keeping researchers in Europe (instead of US / Japan) • Leveraging national and European research funding • Discover and develop emerging research fields • Improved access to research networks outside Europe • Cohesion effect: improving the quality of research policy and funding in lagging countries <p>3. Long-term outcomes e.g. (show list to interviewee and highlight those that apply)</p> <ul style="list-style-type: none"> • Research better aligned to international competitiveness, and European industrial and societal needs • Improved engagement of research users (industry and policy) • Inward investment of high-tech firms • Improved resources for scientific advice on pollution, environment and global climate change • Improved resources for scientific advice on socio-economic
-----------------	--

Guide for interviews with high level stakeholders and programme owners

	<p>problems</p> <ul style="list-style-type: none"> • Creation of extra jobs in the region –due to inward investment • Contributing to the international competitiveness of the European Research Area (Europe dominating in the scientific arena, attracting and maintaining talent) • Dissemination / popularisation of science in society/schools. <p>Is there anything you would like to add to any of these categories, why? Are there some that you would like to remove, why?</p> <p>What would you consider the most important outcomes stemming from ERA-NET scheme to have been and why?</p> <p>What evidence can you think of to substantiate these outcomes?</p> <p>Have there been any benefits/outcomes of the ERA-NET scheme outside the scientific community (society, industry, end-users)?</p> <p>Which are the most difficult areas in which to improve the impact of ERA-NET and why?</p>
Outlook	<p>What role can and should the Commission play in facilitating the creation of a European Research Area in relation to the scientific community and MS governments?</p> <p>What would be an alternative to setting-up/joining an ERA-NET?</p> <p>What are the pros and cons of ERA-NETs in relation to other forms of transnational research programme collaboration?</p> <p>Do you think your country/organisation's strategy will shift in the future in terms of participation in ERA-NETs in particular and joint programming/coordination in general?</p> <p>Looking forward, do you envisage any shift in the global research climate that will necessitate a shift in strategy of national funding bodies, ERA-NETs or European FP funding?</p> <p>What will be the role of the ERA-NETs vis-à-vis European Framework Programme funding?</p>
Conclusion of interview	<p>Are there any issues that you feel are important but have not been discussed?</p> <p>Is there anything else you would like to add?</p>
Practicalities/ sign-posting	<p>Is there anybody you think we should contact with regard to this work?</p> <p>Are there any impact studies or economic appraisals of international cooperation in research funding you are aware of?</p>

Annex 7 – Outputs from the scoping phase: literature reviews and interviews

This Annex summarises the outputs from the scoping phase of the work which underpins the survey questionnaire design and the background in the first part of this report.

This includes a summary of scoping interviews and summary of a review of published literature.

Summary of scoping interviews

During the scoping phase the evaluation team interviewed a number of ERA-NET stakeholders. This included programme owners, managers, and high-level policy-makers on national level, as well as European officials involved in designing and administering the ERA-NET scheme. The purpose of the interviews was to gain a better understanding of the scheme and its impacts in order to guide the questionnaire and the consequent fieldwork. A summary of the stakeholders interviewed, as well as the interview guides used can be found in an Annex of the Draft Structure report.

Both European officials and national-level stakeholders viewed the ERA-NET scheme as a tool for overcoming fragmentation, avoiding the duplication of research, structuring the European research field, and bringing about the European Research Area (ERA).

Most stakeholders agreed that, compared to other framework programme instruments, ERA-NET is a simpler mechanism that allows for relatively fast implementation and exploring a large range of subjects. Although in the view of some European officials ERA-NET projects are complementary to other FP projects and no duplication and displacement takes place, some national-level stakeholders fear that there might be more duplication and that the large number of ERA-NET co-ordination actions within some thematic areas could actually lead to more thematic fragmentation.

Interviewees generally agreed that an important aspect of ERA-NET scheme's additionality is its focus on cooperation research programmes, which sets it apart from other initiatives such as CERN, EYREKA, or COST. ERA-NET scheme, unlike these initiatives, is not an intergovernmental programme, but rather aims at the opening up of national programmes.

According to the interviewees, motivations of individual countries of organisations for getting involved in the ERA-NET scheme varied. For smaller countries the motivation was linked to their smaller size and need for accessing resources to achieve critical mass. Other policy-makers, especially in the Nordic countries, saw the ERA-NET as another instrument to pursue already existing internationalisation/Europeanization strategies. In some cases, joining an ERA-NET was a way of replacing existing relationships that did not work.

The choice of ERA-NETs in which to participate is generally a case-by-case, bottom-up process, often researcher-driven. Many national-level stakeholders noted that whereas at first their organisations tended to join many ERA-NETs on an ad-hoc basis, over a few years they became more selective and started taking more strategic decisions regarding ERA-NET participations.

The Commission funding for ERA-NETs is generally viewed as necessary input to overcome barriers to trans-national cooperation, keep the consortia together and manage them effectively. Most stakeholders, both in the European Commission and on national level believe that only some ERA-NETs would be able to continue functioning without Commission's support. Other important inputs identified by the interviewees include learning from the experiences of other ERA-NET, as well as national expertise and experience in managing European research cooperation.

As obstacles to participation, stakeholders identified lack of funding in some organisations, as well as legal barriers to participating in real common pots. Interviewees stressed the importance of focusing on national benefits to ensure that countries contribute to real common pots.

Interviewees differed on the subject of what constitutes a successful ERA-NET. For many it was a joint call, however it was also pointed out that an ERA-NET can be successful without a joint call. In terms of best practices for ERA-NET implementation, the interviewed stakeholders mentioned a

careful selection of compatible partners, as well as a governance structure that gives voice to all partners.

Programme managers saw the 'four-stage' framework as generally logical and useful one, but they tend to believe that the focus on networking and 'getting to know each other' does not add much value once the partners are already cooperating.

Most of the stakeholders agreed that impacts are difficult to pin down and it is still too early for potential ones to be visible.

Commission officials believed that the main impact that ERA-NET co-ordination actions would have on national landscape of publicly funded research programmes would be through the exchange of best practice. National-level stakeholders confirm this view, stating that many institutions are keen on learning and actually adopt new management or evaluation practices. Mutual learning and exchange of best practice are in fact the potential ERA-NET outcomes that have been mentioned most often in the scoping interviews. The programme owners, managers, and policy-makers however see few other impacts on the national landscape, stating, for example, that there have generally few changes in research policy strategies of their organisations.

Interviewees could also identify few concrete impacts that the ERA-NET scheme could have on specific research fields. Although the interviewees point towards less fragmentation and duplication, they admit that these effects are difficult to measure. National-level stakeholders generally thought that the scheme did not lead to the creation of new knowledge, although the exchange of best practice procedures regarding evaluation procedures could lead to better quality of research.

In terms of other direct and indirect impacts of the ERA-NET scheme, all stakeholders identified joint actions and the value they create as being a direct benefit. Short-term indirect benefits identified include networking and exchange of information and best practice, while in the long-term these also include achieving critical mass, improving quality of research through better selection procedures, and in even longer terms bringing about more European cohesion and possibly more European competitiveness. All interviewed stakeholders however agreed that it is far too early to identify any broad long-term impacts of the scheme.

European officials believe that the ERA-NET scheme has contributed to the openness of national research programmes, and some national-level interviewees also believe that this is the case. However, an opening of programmes takes time, and, whereas it is easy to observe the changes in programme regulations, it is more difficult to assess whether any use is being made of new opportunities.

Review of the existing evidence-base

We include below the findings that we have to date reflecting a review of the published literature.

Summary of published literature

A Rapid Evidence Assessment (REA) turned up three types of papers: evaluations of the various FP rounds; evaluations of specific FP schemes; or research papers that investigated or discussed the impacts of FP or similar schemes. These were largely conducted within the EU, although some included evidence pertaining to regional partnerships schemes such as the MENA region (Koelher & Wurzel, 2003). The literature also supported the commonly held supposition that measuring the impacts of research structuring is a difficult process, with many of the studies using proxy measures that raised some questions of validity. The articles generally covered assessments of the success of the FP schemes, the various projects and research funding and structuring in general. There was consistency in the finding that building productive and lasting transnational consortia was a difficult project, and one that suffered from significant barriers within Europe. Another finding was that cultural and linguistic barriers still played an important role in the ERA, both in terms of which researchers were exposed to which evidence and with whom they chose to collaborate. Several clusters were identified (Scandinavia, the Romance languages countries, UK-Ireland-Netherlands, Germany and Austria) as being linked strongly within the ERA, suggesting the idea of a coherent and consistent research community.

In terms of ERA-NETs themselves, Condell et al (2006) stated that the networks would be most effective when funding bodies and policy making institutions (ministries, regulators etc.) were brought together. Pohl (2005) suggested that networks for further research (whether through joint funding or co-ordination actions) should be focussed on generating solutions to 'real world' problems, rather than pursuing abstract lines of enquiry.

In another study, Zhang, Baden-Fuller and Mangematin (2007) suggested that those organisations with centralised R&D structures were better able to form strong and durable networks. Taken as a whole, the literature seems to support the proposition that the reason for this is that closely wedded policy and research arms enable the whole organisation to play an active part in a network.

The REA failed to find evidence of evaluations of programmes similar to the ERA-NET scheme that had been conducted previously. Specifically it is difficult to find any evidence that 'structuring impacts' are directly measurable. Several evaluations of different schemes did however suggest measurements of successful networking similar to ERA-NETs and we will describe them in detail here.

The measurable indicators possibly relevant to the impacts of the ERA-NETs in terms of successful operation or structuring were:

- creating or supporting networks;
- opening up national research communities to transnational collaboration;
- greater engagement of national funders with European projects or networks;
- supporting the formation of a single market for research/ERA; and
- focusing European research on 'real-world' rather than abstract problems.

In terms of networking, indicators fell into either directly measurable data (number of patents produced, number of collaborative articles written) or the style of networking developed by the projects. Bruce et al. (2004) considered the latter, suggesting that Networks who co-ordination activities across 'themes' rather than by area of research would be more successful at integrating their activities. Pohoryles (2006) took a different view, categorising networks into three types: hierarchical, individualist or communal. The former is more typical of networks involving private sector and industrial funders/partners, although the paper suggested that the communal style was the optimum for a productive network. Ormala and Vornotas (2005) placed primary importance on the diversity of the networks, suggesting that those best able to build lasting and productive relationships would be those that could attract and retain the active participation of government bodies, research councils and institutes in the public sector, independent research institutes and large and small/medium industrial and private sector members.

Although there was some disagreement in how best to measure the impact of 'opening up national research communities', all studies agreed that analysis of the numbers of articles written or patents granted by international collaborations was a worthwhile measure of research communities behaving in a more integrated way. The following impacts were thought to be measurable, although the reliability of these measures was less certain. Zhang et al. (2007) thought that 'improved quality of the research data', was measurable, stating that since successful research consortia building is supported by the diversity of the research base of the consortium's component members, a diverse range of patents produced would indicate a project with high data quality. However as this is supported by only one source, and is appropriate only for projects that may feed into a patent application process, this measure may be inappropriate for this evaluation. In terms of training users of equipment both Polt & Streicher (2005) and Room (2005) agreed that it was an important impact to measure, although were unclear as how best to go about it, self-report from the networks being the only measure suggested.

In terms of engagement of national funders with the European research community the evidence suggested two measures that might be useful for assessing the impact of the ERA-NET programme. Ormala and Vornotas (2005) noted that there is a tendency among research funders to allow European projects to displace funding from national priorities. They suggested that as national and European research priorities are different but equally important to the ERA, full engagement by research funders would entail no 'drop-off' of national projects as they became more engaged with transnational networks. This could be measured by self report or examination of the organisations accounts over the lifetime of the ERA-NETs. Koehler suggested that measuring the number of transnational/European events, seminars etc. contributed to over the life

of the project by the organisations taking part in the consortia (in this case ERA-NETs) would be a useful proxy to see how engaged they were with the development of the ERA.

Both Elera (2006) and Constantelou, Tsakanikas and Caloghirou (2004) proposed that one important measure of any European research scheme is the contribution it makes to the achievement of the Lisbon agenda and the emergence of a single market for research within Europe. This could be measured either by self-reported openness to collaboration of consortium members, number of active links within the ERA-NETs between the members or the number of active links within the networks that crossed the 'cultural-linguistic clusters' that Constantelou et al. (2004) identified.

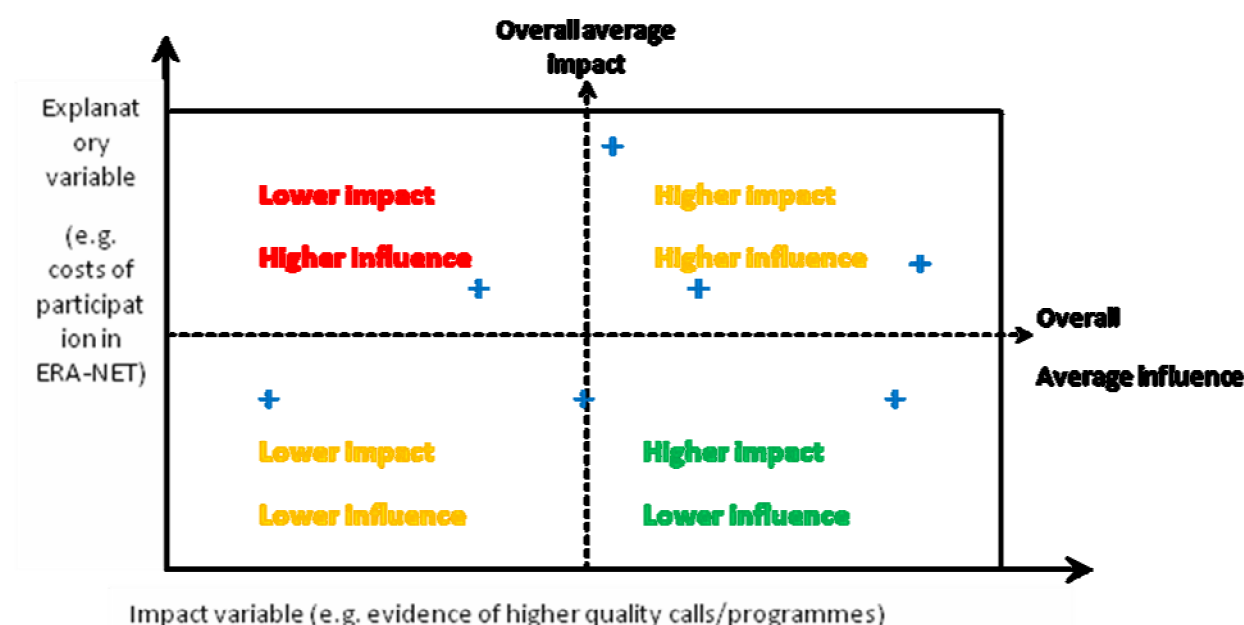
Finally Bruce et al. (2004) and Pohl (2005) both considered that the shift in focus of European research from abstract to 'real-world' problems was a useful indicator of success of the various ERA schemes. With its regional and inter-disciplinary co-ordination actions the ERA-NETs are a prime candidate for furthering this goal. Bruce et al. (2004) thought that this would best be measured by the number of projects (and by extension events, networking contacts and calls) that combined organisations and researchers from many different fields. Pohl (2005) saw the best measure to be the production of useable scientific advances throughout the life of a project. However, this is probably not something measurable in terms of ERA-NETs, as their actions are not focused directly on producing scientific advances.

Annex 8 – Detailed impact analysis outputs

The following impact diagrams use data from the survey of ERA-NET participants. They explore relationships between impacts and explanatory variables. These analyses have been summarized in the core of the document as follows:

The four quadrants of the diagrams represent average efficiencies (as shown in Figure 94, below). The overall average (mean) values for all respondents are plotted as dotted lines on each axis. Respondent groups are plotted using crosses on the diagram.

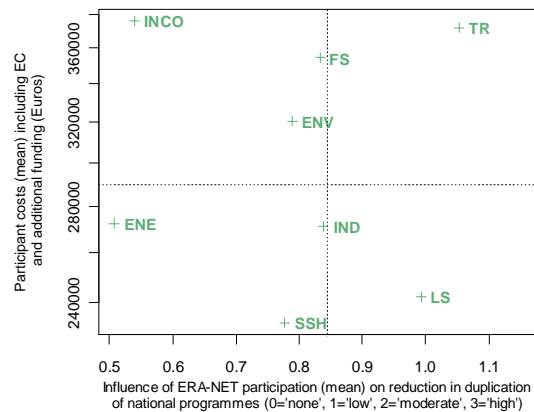
Figure 94 – Explanation of impact plots, showing efficiency quadrants and variable average (mean) lines



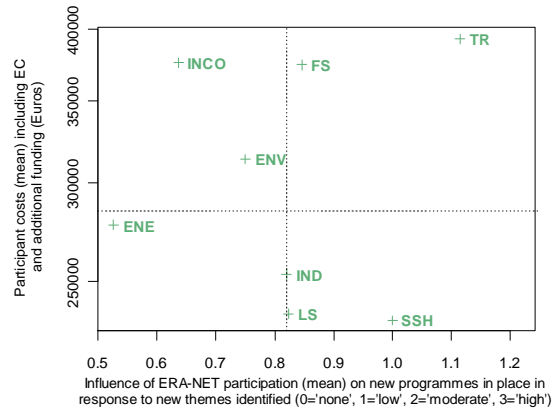
Note: It is important to note that slightly different data sets have been used to produce each of the diagrams. This is due to non-response to particular question items causing some respondents to be excluded from some diagrams. This does not in any way invalidate the relationships depicted, but must be kept in mind when drawing conclusions from the diagrams. The maximum data set available represented 48% of the total population of participants. The diagrams do not represent the entire set of possible responses to the questions posed; the axes only represent that proportion of the variable scales that contain the calculated thematic averages. Because relative differences in impacts and costs are being compared, absolute impacts may be low, despite a theme being described as having higher impacts compared to the overall average.

Figure 95 - Q1 - Influence of overall cost of participation on ERA-NET impact on national programmes

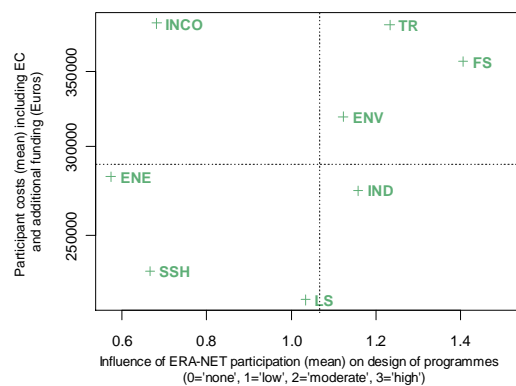
Influence of overall cost of participation on the impact on reduction in duplication of national programmes



Influence of overall cost of participation on the impact on new programmes put in place in responses to new themes



Influence of overall cost of participation on the impact on design of programmes



Influence of overall cost of participation on programme budgets

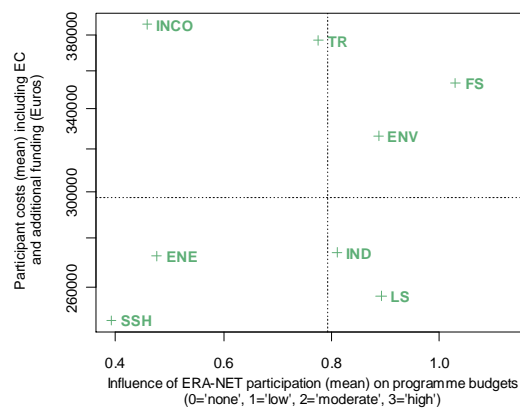
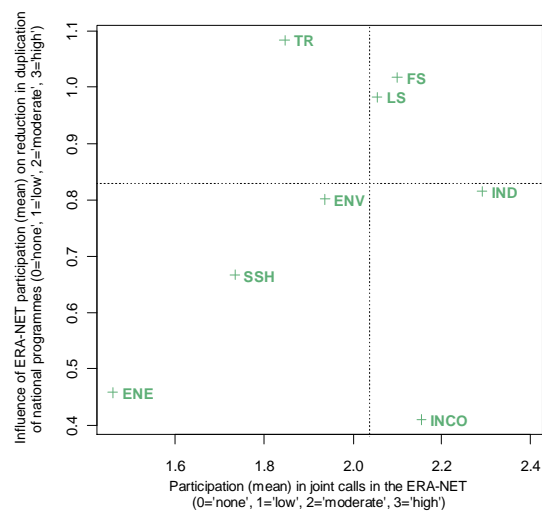
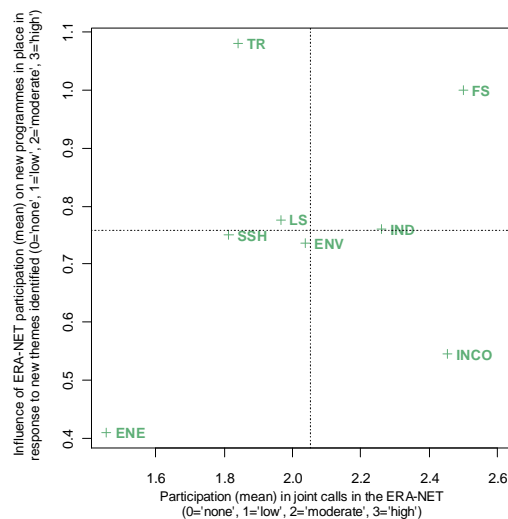


Figure 96 - Q1 - Influence joint calls on ERA-NET impact on national programmes¹⁹⁵

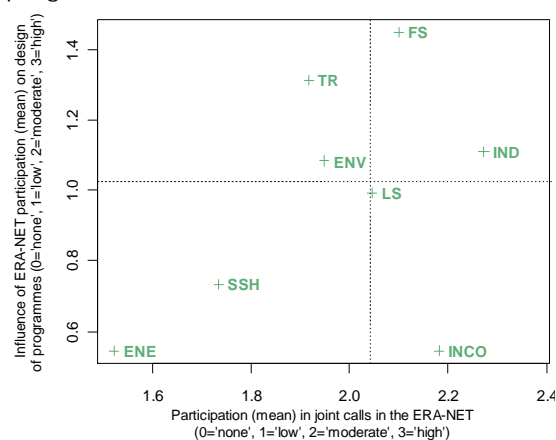
Influence of participation in joint calls on the impact of ERA-NETs on reduction in duplication of national programmes



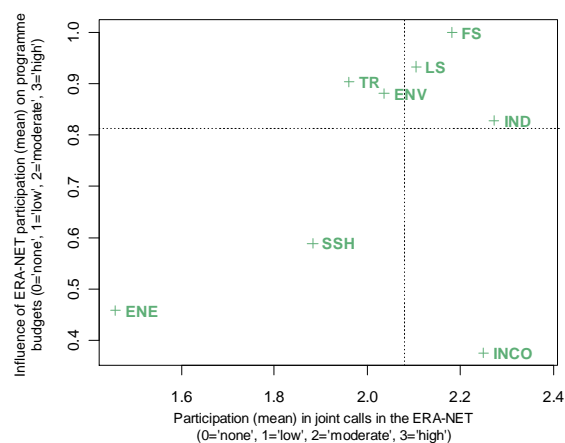
Influence of participation in joint calls on the impact of ERA-NETs on new programmes put in place in responses to new themes



Influence of participation in joint calls on the impact of ERA-NETs on the design of programmes



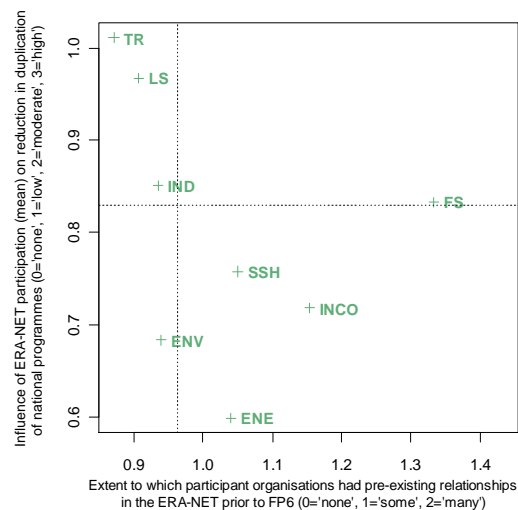
Influence of participation in joint calls on the impact of ERA-NETs On programme budgets



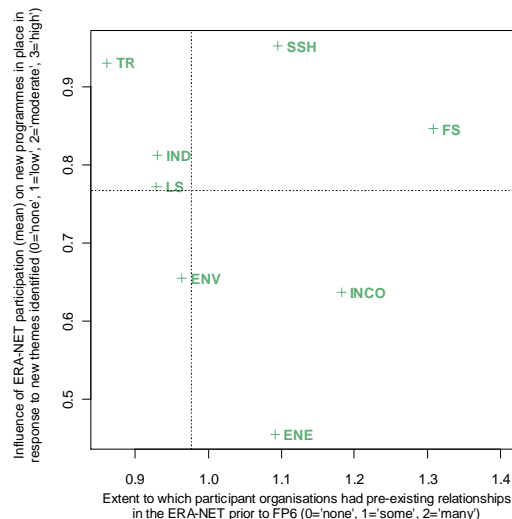
¹⁹⁵ Note that the impact analysis by “activities other than joint calls” have been performed without leading to powerful results.

Figure 97 - Q1 - Influence of pre-existing relationships on ERA-NET impact on national programmes

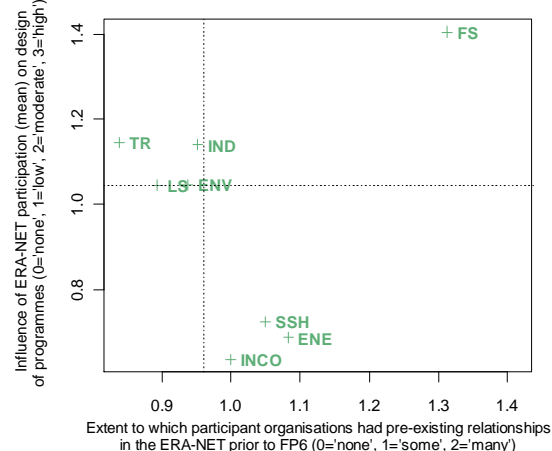
Influence of pre-existing relationships on the impact of ERA-NETs on reduction in duplication of national programmes



Influence of pre-existing relationships on the impact of ERA-NETs on new programmes put in place in responses to new themes



Influence of pre-existing relationships on the impact of ERA-NETs on the design of programmes



Influence of pre-existing relationships on the impact of ERA-NETs On programme budgets

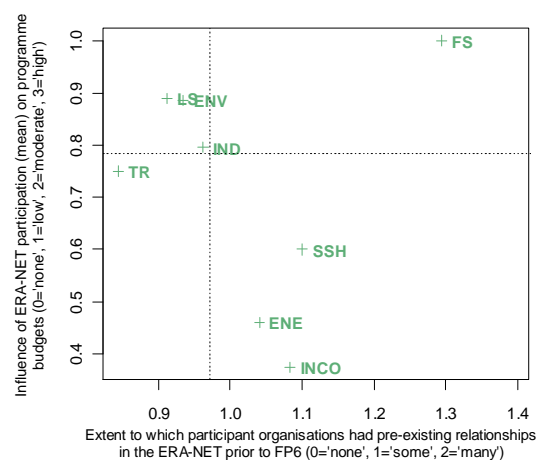
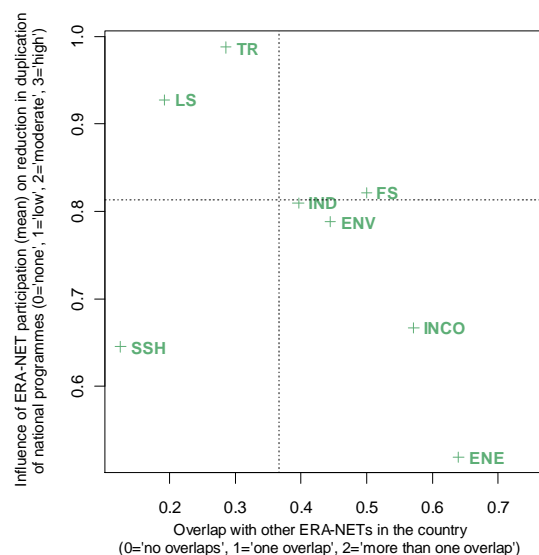
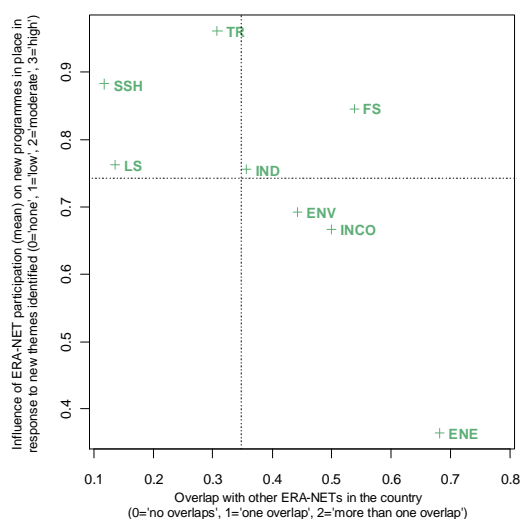


Figure 98 -Q1 - Influence overlaps with other ERA-NETs in the country on ERA-NET impact on national programmes¹⁹⁶

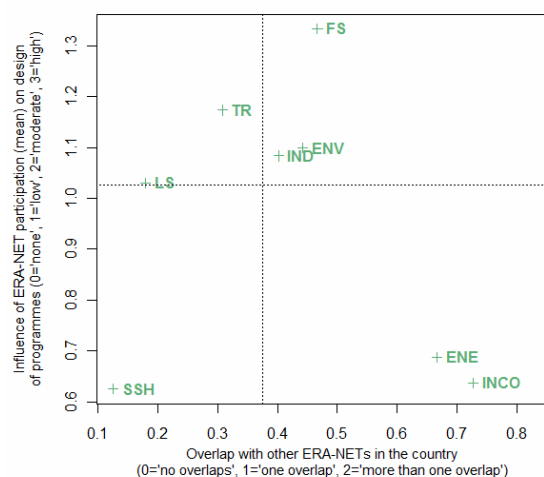
Influence of overlaps with other ERA-NETs in the country on the impact of ERA-NETs on reduction in duplication of national programmes



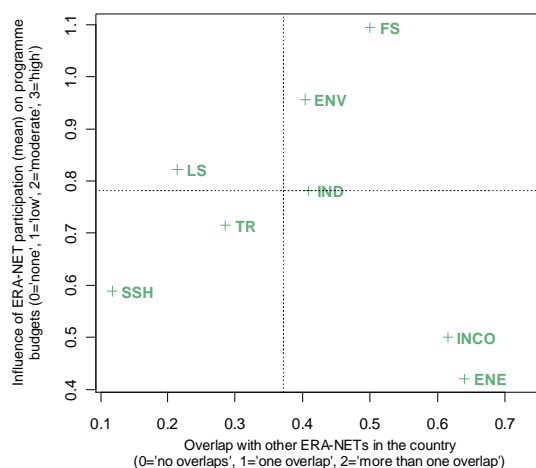
Influence of overlaps with other ERA-NETs in the country on the impact of ERA-NETs on new programmes put in place in responses to new themes



Influence of overlaps with other ERA-NETs in the country on the impact of ERA-NETs on the design of programmes



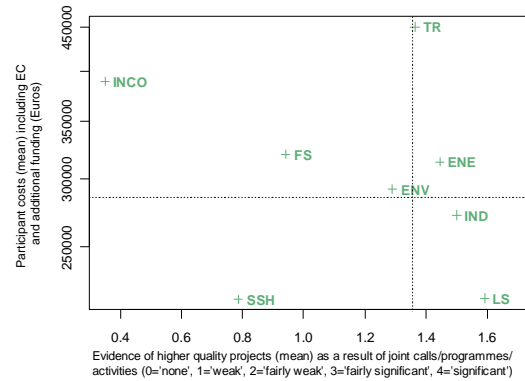
Influence of overlaps with other ERA-NETs in the country on the impact of ERA-NETs On programme budgets



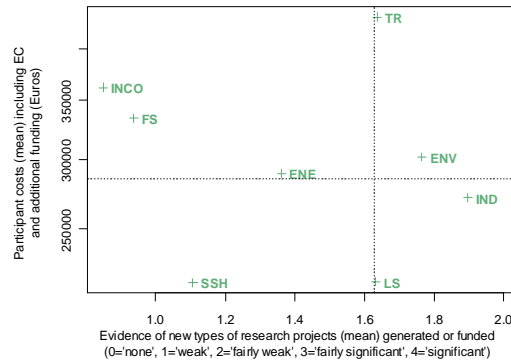
¹⁹⁶ Note that the impact analysis by “activities other than joint calls” have been performed without leading to powerful results.

Figure 99 - Q2 - Influence of overall cost of participation on the ERA-NET scheme's structuring effect

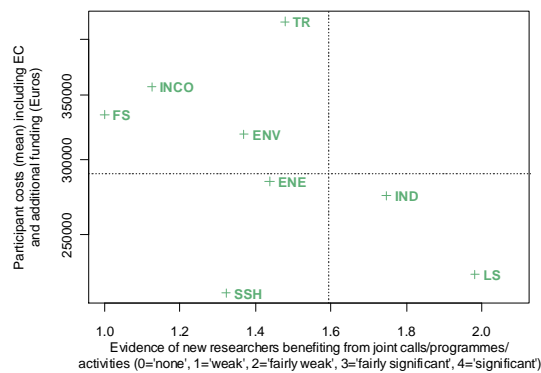
Influence of overall cost of participation on the impact on higher quality projects



Influence of overall cost of participation on the impact on new types of research projects



Influence of overall cost of participation on new types of researchers benefiting from joint calls / programmes



Influence of overall cost of participation on access to foreign research communities

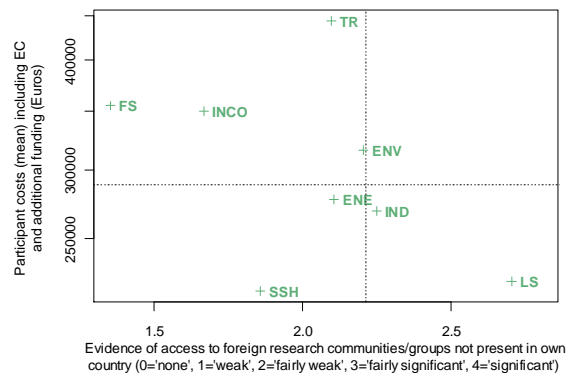
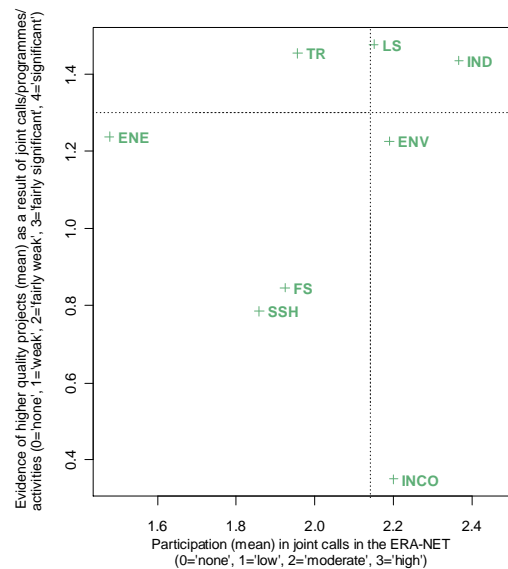
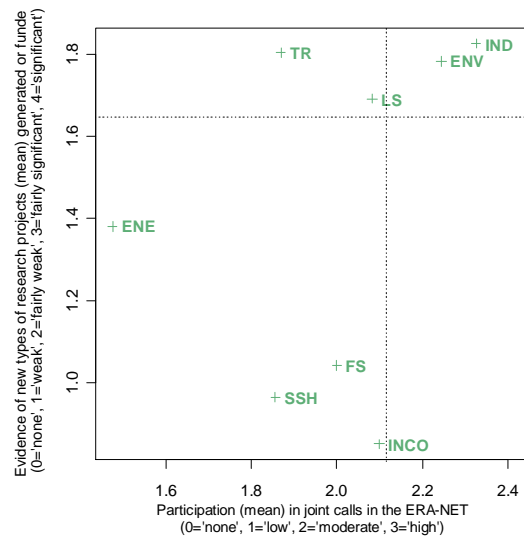


Figure 100 - Q2 - Influence joint calls on the ERA-NET schemes' structuring effect

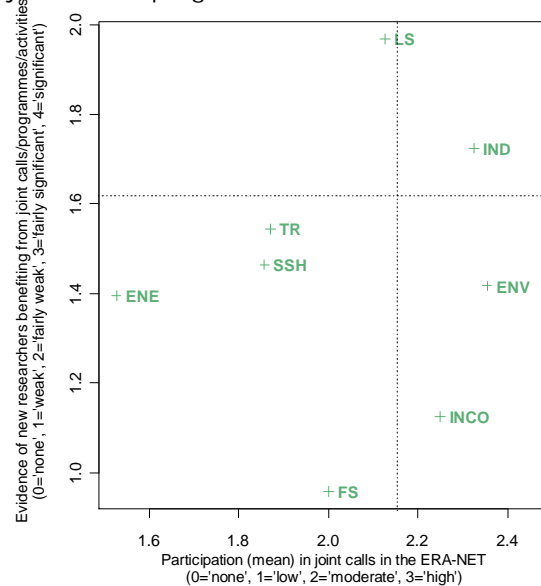
Influence of participation in joint calls on the impact on higher quality projects



Influence of participation in joint calls on the impact on new types of research projects



Influence of participation in joint calls on new types of researchers benefiting from joint calls / programmes



Influence of participation in joint calls on access to foreign research communities

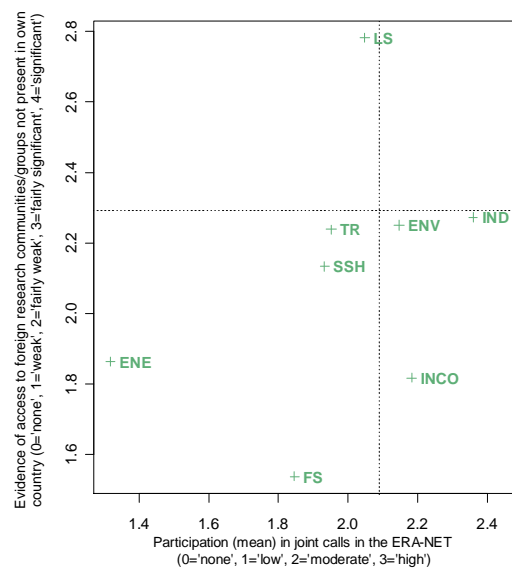
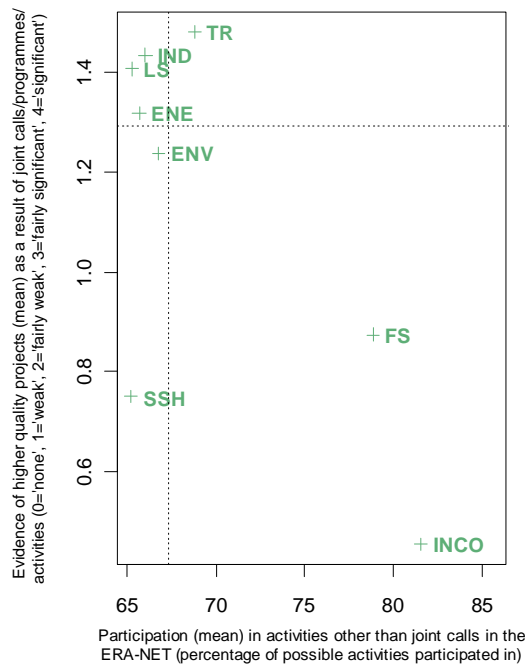
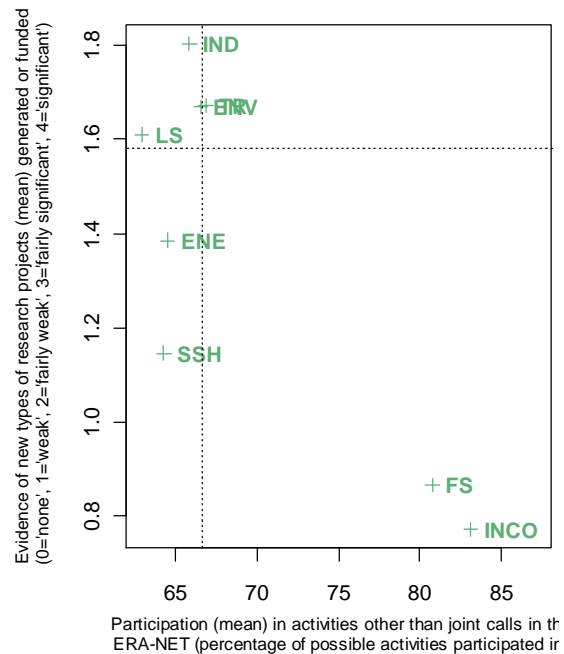


Figure 101 - Influence of activities other than joint calls on the ERA-NET schemes' structuring effect

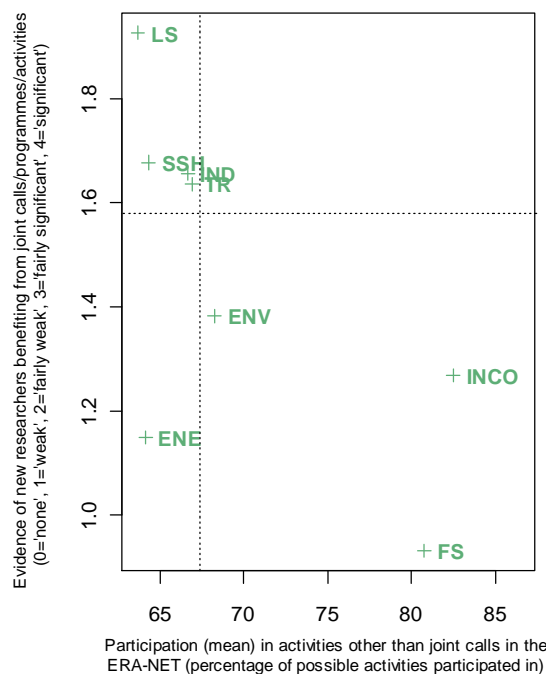
Influence of activities other than joint calls on the impact on higher quality projects



Influence of activities other than joint calls on the impact on new types of research projects



Influence of activities other than joint calls on new types of researchers benefiting from joint calls / programmes



Influence of activities other than joint calls on access to foreign research communities

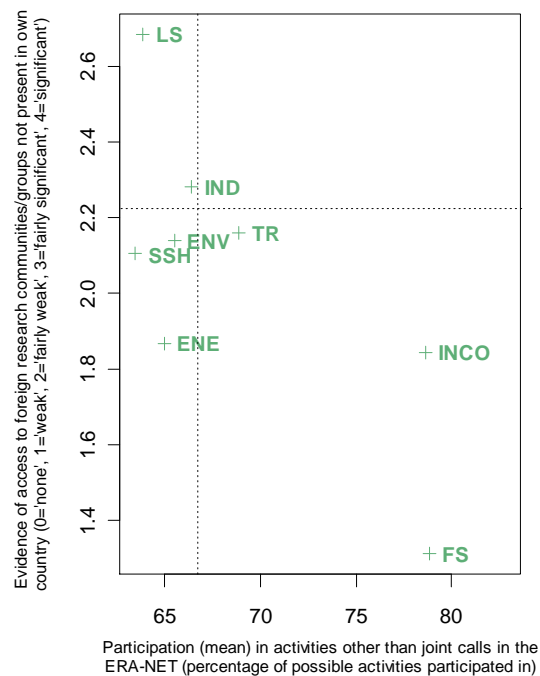
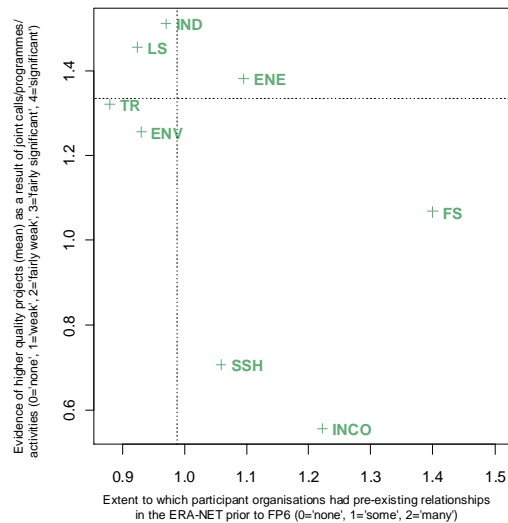
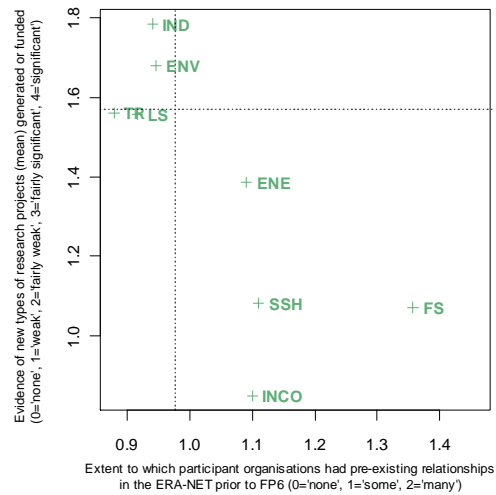


Figure 102 - Q2 - Influence of pre-existing relationships on the ERA-NET schemes' structuring effect

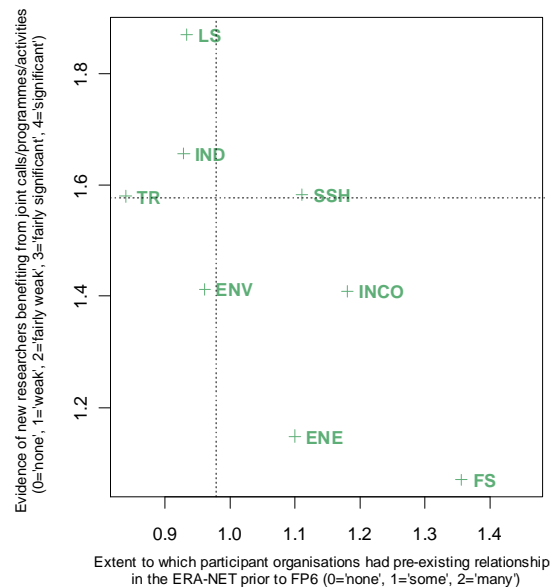
Influence of pre-existing relationships on the impact on higher quality projects



Influence of pre-existing relationships on the impact on new types of research projects



Influence of pre-existing relationships on new types of researchers benefiting from joint calls / programmes



Influence of pre-existing relationships on access to foreign research communities

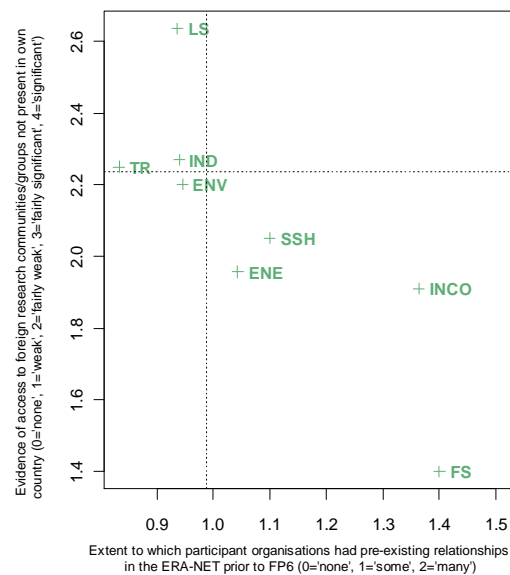
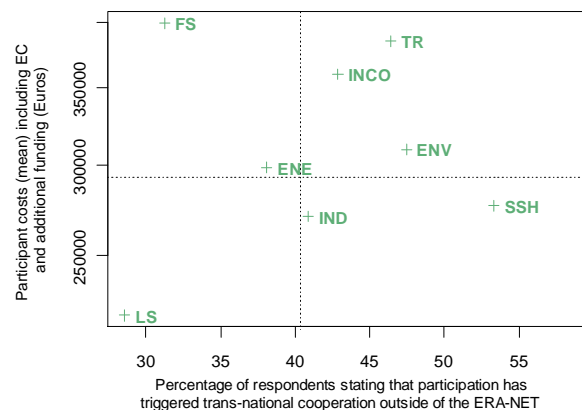
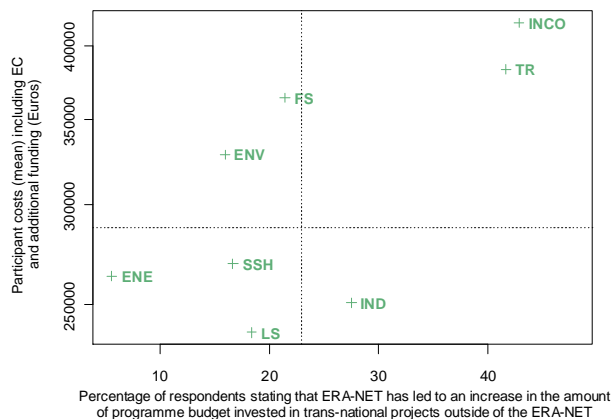


Figure 103 - Q2- Influence of various factors on the degree to which ERA-NET participation has triggered transnational cooperation outside of the ERA-NET.

Influence of overall cost of participation on the degree to which ERA-NET participation has triggered transnational cooperation outside of the ERA-NET.



Influence of overall cost of participation on the extent to which participation has led to an increase in the amount of programme budget invested in trans-national projects outside of the ERA-NET



Influence of overall costs of participation on the impact of ERA-NET participation on countries' national research policy

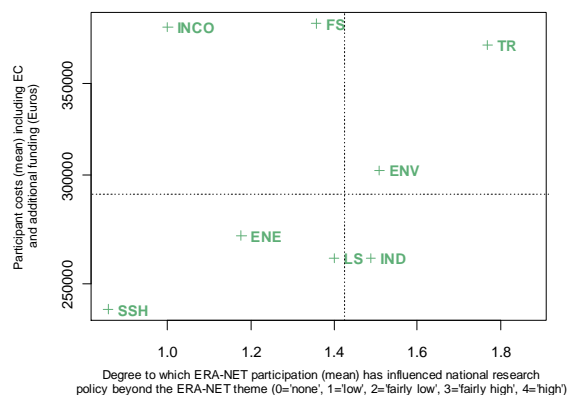
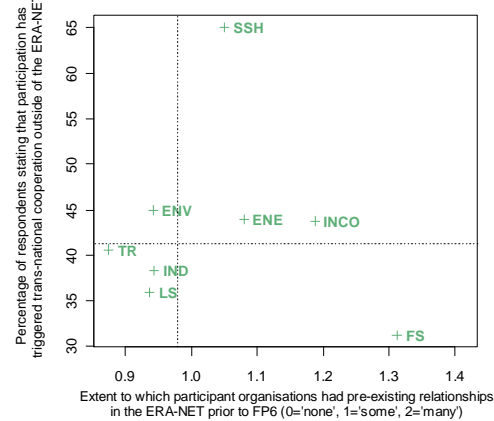


Figure 104 - Q2 - Influence of various factors on the extent to which participation has led to an increase in the amount of programme budget invested in trans-national projects outside of the ERA-NET

Influence of pre-existing relationships between participants on the degree to which ERA-NET participation has triggered transnational cooperation outside of the ERA-NET.



Influence of pre-existing relationships on the extent to which participation has led to an increase in the amount of programme budget invested in trans-national projects outside of the ERA-NET

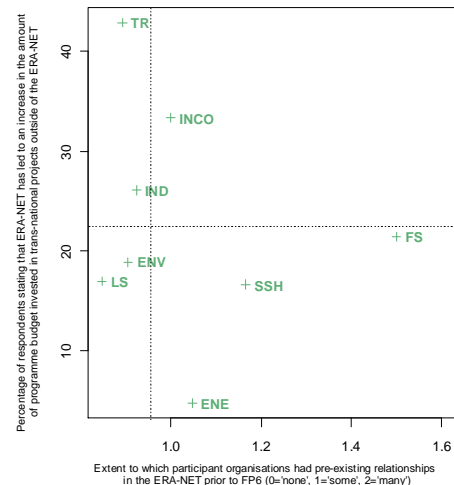
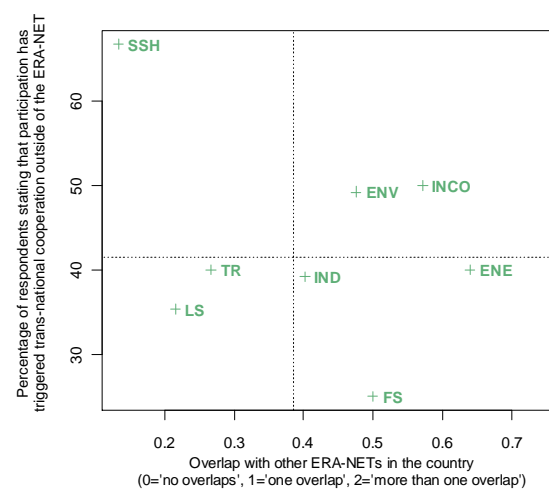


Figure 105 - Q2- Influence of pre-existing relationships on the degree to which ERA-NET participation has added value beyond the scope of the ERA-NET

Influence of overlaps with other ERA-NETs on the degree to which ERA-NET participation has triggered transnational cooperation outside of the ERA-NET.



Influence of overlaps on the extent to which participation has led to an increase in the amount of programme budget invested in trans-national projects outside of the ERA-NET

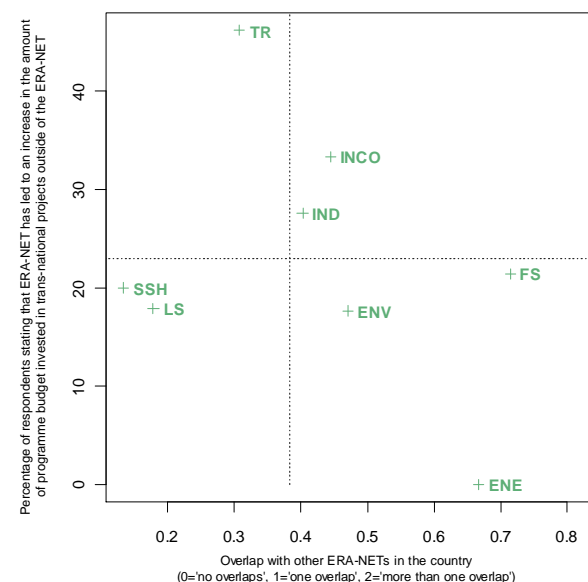
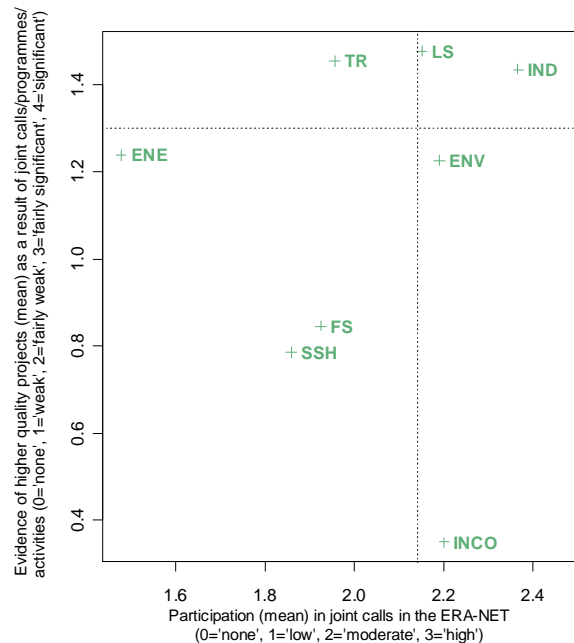


Figure 106 - Q3 - Influence of various factors on the higher quality projects generated as a result of joint calls/programmes/activities by participation in joint calls in the ERA-NET

Influence of joint calls on the higher quality projects generated as a result of joint activities



Influence of pre-existing relationships on the higher quality projects generated as a result of joint activities

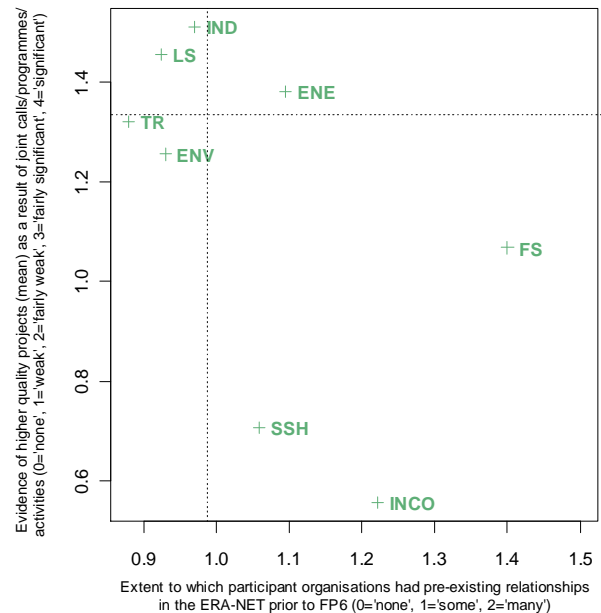
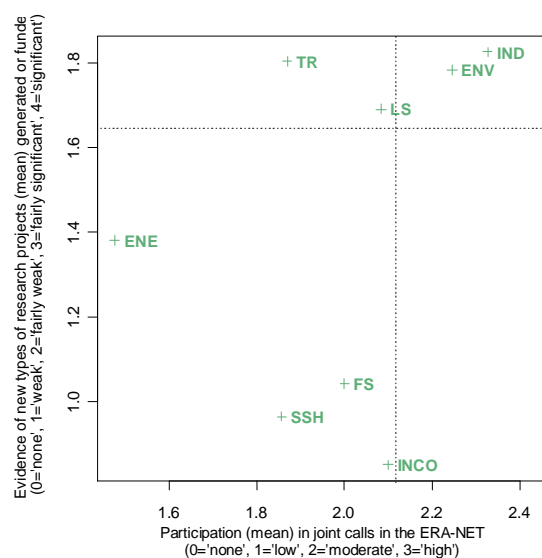


Figure 107 - Q3 - Influence of various factors on the new type of research projects generated or funded as a result of joint calls/programmes/activities

Influence of joint call participation on the new type of research projects generated or funded as a result of joint activities



Influence of pre-existing relationships on the new type of research projects generated or funded as a result of joint activities

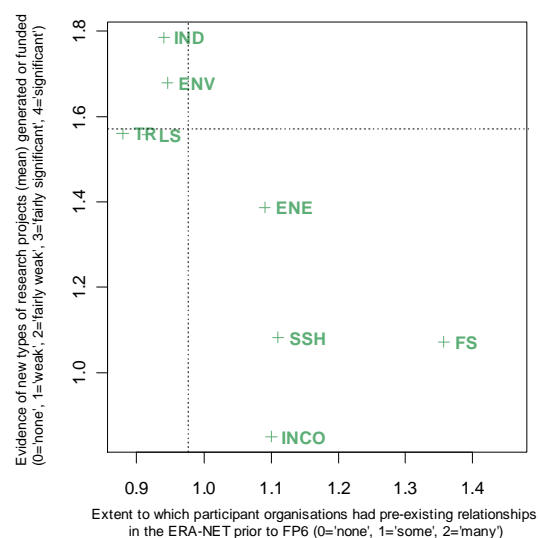
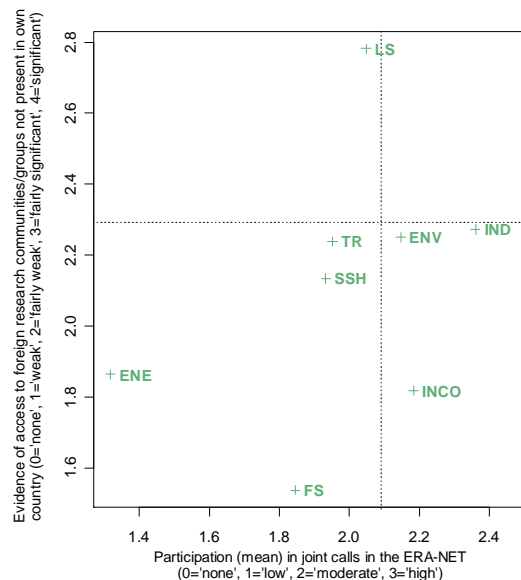


Figure 108 - Q3 - Influence of various factors on the access to foreign research communities/groups not present in respective countries

Influence of joint calls on access to foreign research communities/groups not present in own country



Influence of pre-existing relationships on access to foreign research communities/groups not present in own country

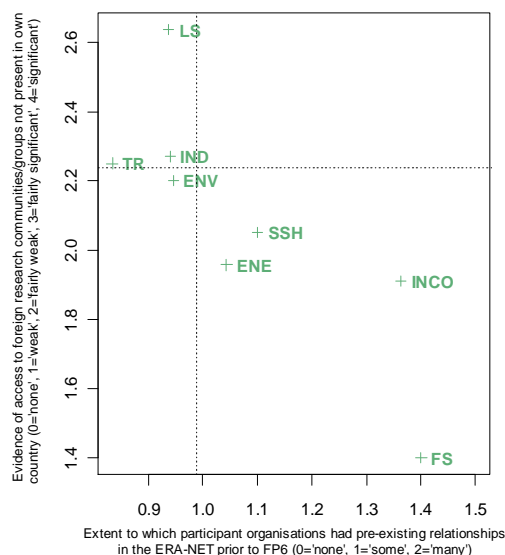
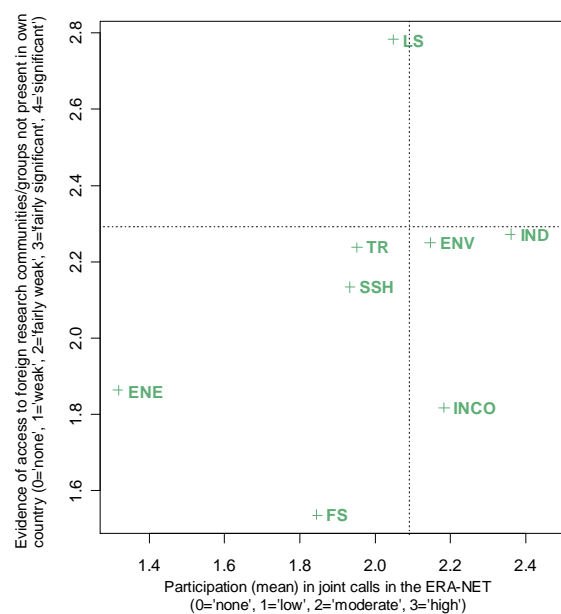
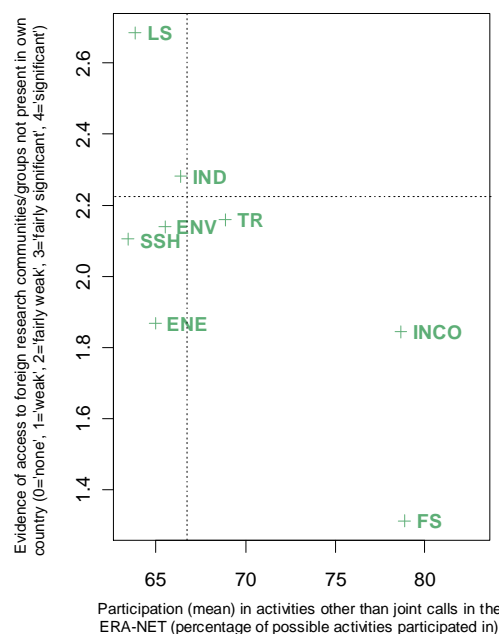


Figure 109 - Q4 - Influence of various factors on access to foreign research communities/groups not present in own country

Influence of joint calls on access to foreign research communities/groups not present in own country



Influence of activities other than joint calls on access to foreign research communities/groups not present in own country



Influence of pre-existing relationships on access to foreign research communities/groups not present in own country

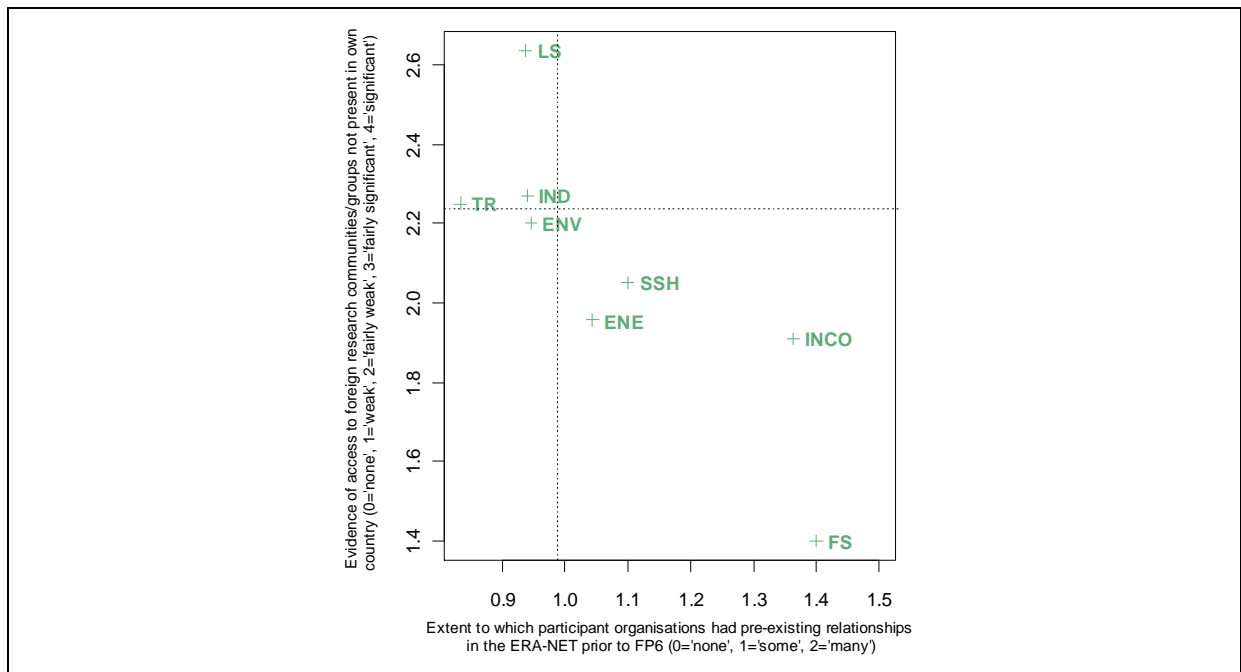
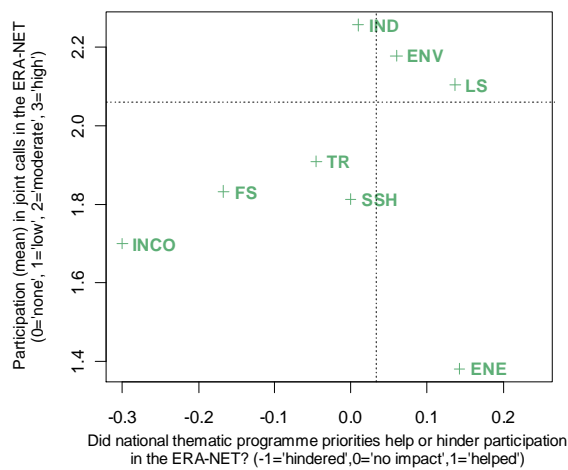


Figure 110 - Q5 - Influence of the national thematic programme priorities on the extent of involvement in ERA-NET activities

Influence of the national thematic programme priorities on the extent of involvement in joint calls



Influence of the national thematic programme priorities on the extent of involvement in activities other than joint calls

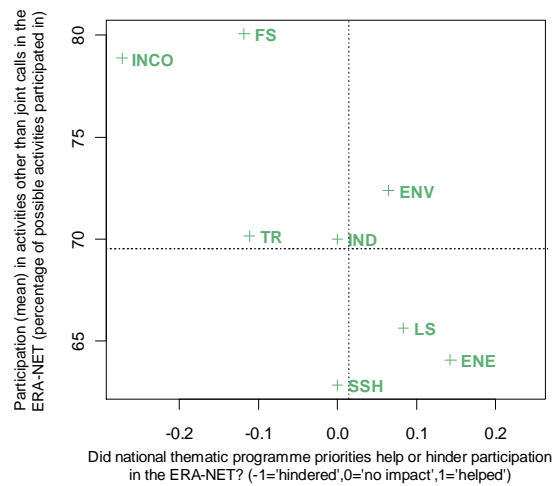
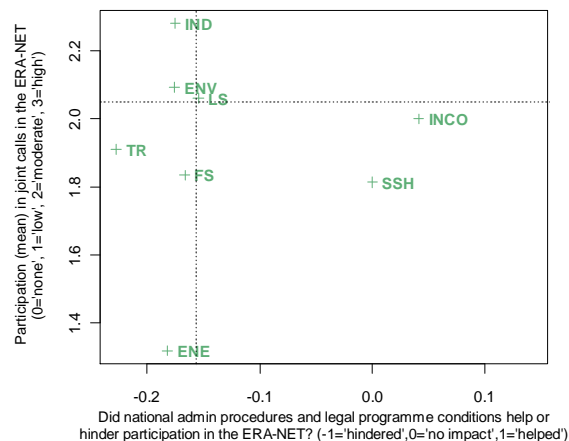
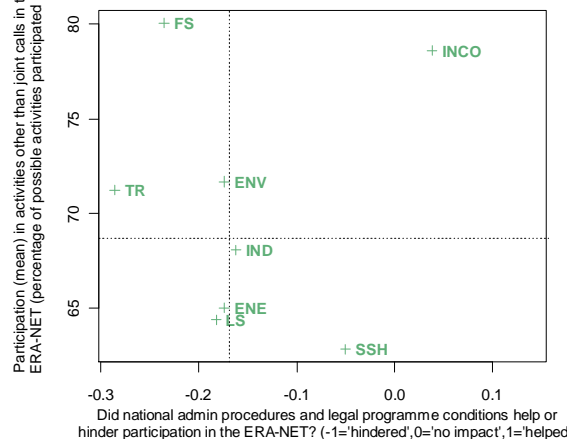


Figure 111 - Q5 - Influence of national admin procedures and legal programme conditions on the extent of involvement in ERA-NET activities

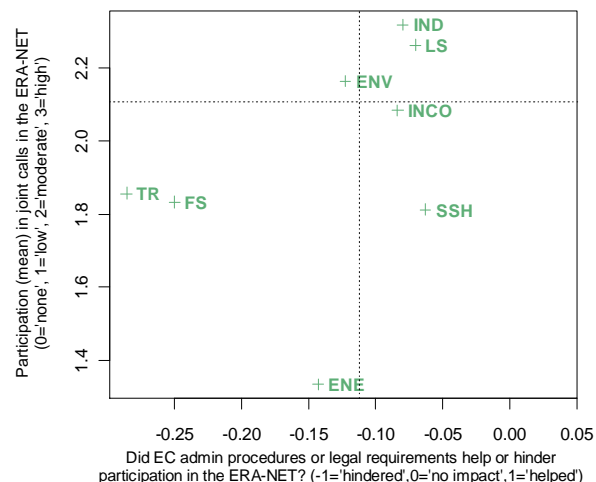
Influence of the national admin procedures and legal programme conditions on the extent of involvement in joint calls



Influence of the national admin procedures and legal programme conditions on the extent of involvement in activities other than joint calls



Influence of the EC admin procedures and legal programme conditions on the extent of involvement in joint calls



Influence of the EC admin procedures and legal programme conditions on the extent of involvement in activities other than joint calls

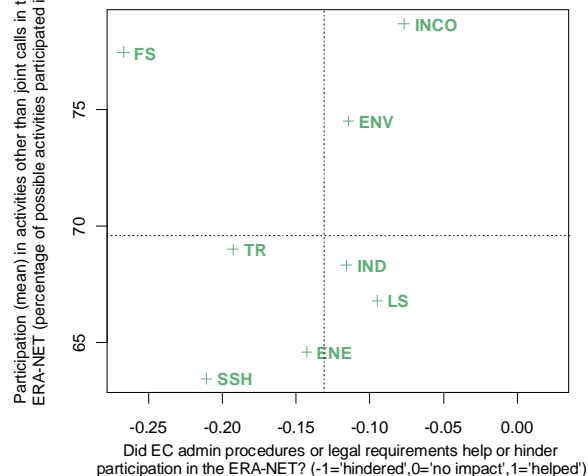
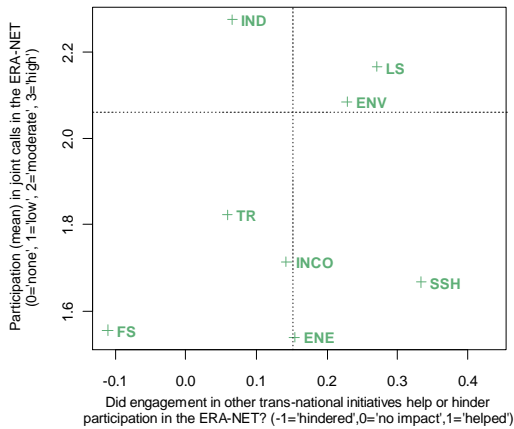
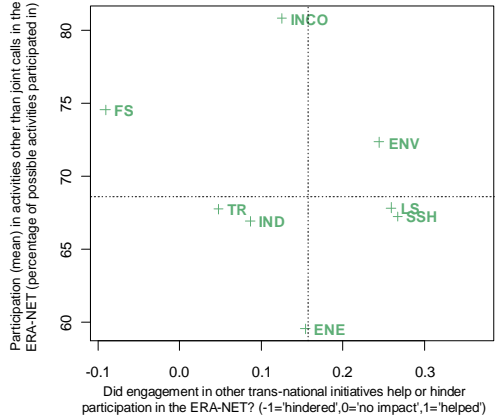


Figure 112 - Q5 - Influence of engagement in other transnational initiatives on the extent of involvement in ERA-NET activities

Influence of engagement in other transnational initiatives on the extent of involvement in joint calls



Influence of engagement in other transnational initiatives on the extent of involvement in activities other than joint calls



Annex 9 - Detailed methodology and work plan

We include this Annex at this development stage but we wish to revisit how we link back to the methodology across the whole of the Final report as this study progresses. We would like to minimise duplication of text (for example we may wish to include a summary of the method in the country studies, best practice guides etc) which may mean that this Annex is no longer required. Alternatively we may wish to cross reference to this Annex throughout the report. At the moment this Annex includes a summary of the methodology and work plan.

Review of information and data

The below subsections repeat some of the details provided in the Work plan for the study provided at the end of April (see separate document). This information is provided here only as a useful reminder of planned activities. We will draw upon findings from each of these activities to answers the main research questions and provide contents to deliverables and sub-deliverables in the Final report. In the Final report this section will be much shorter and more concise. The Final report will also have Annexes which list the sources, etc for these activities.

We have amended only country fieldwork based on ongoing discussion with the Commission.

i. Activity i: Review of programme-level documentation (Leader: Matrix)

In this task we will review relevant programme-level documentation. This will include European-level documentation (produced or commissioned by DG Research), national documentation such as national policy statements and guidance (generated by National or Regional Governments) and other literature pertaining to the ERA-NET scheme at the overall programme level. The key source of this literature will be the Commission and Steering Group, but more documentation will be sourced through scoping-phase interviews, desk based research, literature searches, and through following up on references provided in the reviewed literature. The documentation will be reviewed by the Matrix in-house team and summarised in a consistent manner with QA and inputs provided by the research policy experts and Karen Siune in particular. This activity will build on the programme-level documentation review conducted so far.

Deliverable: Consistent summary of key programme-level documentation. This in turn will be included in the Draft Structure and Draft Final Reports.

ii. Activity ii: Review of ERA-NET level documentation (Leader: Matrix)

In this task we will review ERA-NET level documentation. The key documents will be ex-ante descriptions of work (DoWs) provided by the Commission. These should be available for all existing ERA-NETs regardless of their life-cycle. This review of DoWs has been completed. Other ERA-NET level information, such as progress reports and/or deliverables of specific ERA-NETs will be reviewed on an ad-hoc basis, since they will not be available for all ERA-NETs.

Deliverable: Consistent summary of ERA-NET-level documentation. This in turn will be included, to varying degrees, in the Draft Structure and Draft Final Reports.

iii. Activity iii: Review of key websites (Leader: Matrix)

In this task we will review key websites pertaining to the ERA-NET scheme. This will include the CORDIS website, as well as the websites of individual ERA-NETs. Key information to be obtained will be indicators of life-cycles of individual projects, as well as more general programme-level information. We will conduct the website review once (during May 08), and will rely on the survey to provide updated information on the ERA-NETs in future phases.

Deliverable: Consistent summary of documentation available on the websites. This in turn will be included in the Draft Structure and Draft Final Reports.

7.14.5 Interviews

i. Activity i: Identification of interviewees (Leader: Matrix)

Using the input from the Commission, supplemented by desktop research, we will identify the relevant stakeholders to interview and construct a database with their names, roles, and contact details. We note that this has been completed reflecting previous work to date.

Deliverable: A spreadsheet containing list of potential interviewees and their contact details. This will be also be included in the Draft Structure and remaining deliverables on a continuous basis as the information is updated throughout the project.

ii. Activity ii: Interviews (Leader: Matrix)

In this activity we will conduct a number of interviews with relevant ERA-NET stakeholders, namely programme owners and managers. The interviews will follow an interview guide tailored to the role played by the interviewee. These interview protocols have already been developed and agreed with the Commission. The interviews with programme owners and managers will be mainly conducted on the telephone, whilst interviews with EC stakeholders will tend to be conducted face-to-face. These scoping interviews have already been conducted. A couple of additional telephone interviews may be conducted if a need is identified, by the research team during the revision of the Draft Structure Report and the development of survey questionnaires, to do so. This is also subject to availability of potential subjects given the relative short time span involved.

Deliverable: Completed set of scoping interviews with relevant stakeholders.

iii. Activity iii: Draft synthesis of interviews (Leader: Matrix)

In this activity we will synthesise the interviews conducted in activity ii in a consistent fashion with a focus on information that will inform the data collection and analysis stages of the study. This aims to provide a summary of all main points raised rather than transcripts of each individual interview.

Deliverable: Draft synthesis of scoping interviews. This will be included as part of the Draft Structure report.

iv. Activity iv: Comments on synthesis of interviews (Leader: Commission)

We invite the Commission to comment on our findings from the interviews.

Deliverable: Comments on synthesis of scoping interviews.

Activity v: Revision to synthesis of interviews (Leader: Matrix)

In this activity we will integrate the Commission's comments on the draft synthesis of interview findings and produce a final synthesis/write up of interviews.

Deliverable: Final synthesis of Interviews. This will be included as part of the revised Draft Structure report.

Surveys (which links to D1-D9)

i. Activity i: Designing the questionnaires (Leader: Matrix)

The first key task of this work package will be to design the questionnaires to:

- 1) project coordinators (first questionnaire); and
- 2) project participants (second questionnaire).

The design of the questionnaires will be based on the scoping phase tasks such as document reviews, interviews and logic model development. Although Matrix will lead the overall effort in that they will contribute to the overall joining up inputs from Ramboll and the external experts, the external experts here play a key role in developing relevant sets of questions. Andrew McCann's contribution will focus on overall questionnaire design; Angus Hunter will focus largely on relevant impact questions to ascertain ERA-NET level impacts particularly on participants themselves, whereas Karen Siune is expected to contribute to ERA and EAV questions and indirect impacts beyond participants themselves particularly on MS governments. Puay Tang is expected to contribute to best practice questions, including how to deal with IP, and questions relating to impacts on thematic areas.

An important part of developing questionnaires is piloting questionnaires with the participation of some of the target audience. This is a vital stage in the process since:

- a. a questionnaire which reflects some of the issues facing participants will lead to a greater response rate (and fewer abandoned questionnaires);
- b. it will enable us to use some of the specialist language (jargon), again giving participants stronger sense of identity with the questionnaire;
- c. a consultation process helps counteract the "ivory tower syndrome" where a questionnaire is seen as an annoying dictate, rather than part of a collective improvement process.

If at this stage any issues regarding the relevance or length of the questionnaires are identified the Commission will be informed.

The questionnaires will be developed in English. However, if required we will assist respondents with any linguistic queries by offering to guide them through the questionnaire by phone.

As for the technical development of electronic questionnaires, we will use in-house experts.

Deliverables: The outputs of this stage will be one electronic questionnaire for project coordinators and one project participants with a word format questionnaire for project coordinators (Annex 1).

ii. Activity ii: consolidation of contact details (Leader: Matrix)

Parallel to activity i, the second task of this work package will be to consolidate contact details of the survey respondents. For this task we will rely on data provided from the Commission. A preliminary invitation to participate in the survey will be sent out in advance to test the quality of the contact details. Additional efforts (desk based research) will then be applied to improve the quality of the contact details. The Commission's collaboration in enabling the team to access up-to-date contact details will be important.

Deliverable: The output to this activity will be a database of contact details of survey respondents.

iii. Activity iii: surveying project coordinators and project participants (Leader: Matrix)

The fourth task of this work package will be the actual surveying of project coordinators and project participants. The respondents will receive an electronic invitation to participate in the survey, followed by 2 electronic reminders if the questionnaires are not filled in by agreed deadlines. The electronic questionnaires will be open for a specified number of weeks. We are willing to discuss this further with the Commission. The Annex 1 questionnaires will be subject to the same deadlines.

Deliverable: The output to this activity will be a dataset of responses from project coordinators and project participants.

iv. Activity iv: Survey analysis and headline statistics (Leader: Matrix)

As stated above, the survey is to feed into the descriptive network analysis, country analysis, thematic analysis, programme level analysis, impact and economic analysis. This means that

detailed analysis will be undertaken to input into other work packages. This means that we will only present the headline statistics in relation to this work package. The headline statistics will provide information relating to number of respondents, country coverage (e.g. how many respondents by each MS), ERA-NETs etc.

Deliverables: Headline statistics for project coordinators and project participants.

Descriptive network analysis (which links to SD28-SD31)

i. Activity i: Extracting relevant data (Leader: Matrix, with inputs from in-house and external experts)

The first key task of this project is to extract relevant data from ERA-NET documentation, questionnaire, and fieldwork. The data to be extracted from the questionnaire will cover the following aspects of individual ERA-NETs: time frame, goals and objectives, domains and disciplinarity, budgets, participation, joint actions, achievements emanating from joint actions, and sustainability, use, and dissemination of knowledge. Supplementary data will be extracted from ex-ante analysis, websites of individual ERA-NET and desktop research. The data will be collected in a spreadsheet format.

Deliverable: The output of this stage will be a dataset containing the relevant information.

ii. Activity ii: Descriptive analysis (Leader: Matrix, with inputs from in-house and external experts)

In this task we will use the data extracted in the first task to describe the FP6 ERA-NET programme. This will be done by grouping the data according to multiple levels of analysis - individual ERA-NET level, country-level, thematic-area level, and programme level. For instance:

- Analysis from a country perspective will focus on countries involved in the ERA and their spending, comparing it with country level involvement in the ERA-NETs;
- Analysis from an owner and participant organisational perspective to see what legal entities are involved in what kinds of ERA-NETs and their origin;
- Analysis from an individual ERA-NET perspective looking at ERA-NET joint activities, participants in trans-national projects financed by ERA-NETs.
- Analysis from a thematic perspective will look for behavioural and outcome patterns of ERA-NETs across thematic areas.

Deliverable: The output of this stage will consist of a set of tables, figures and written output describing the involvement of various countries and institutions in FP6 and the ERA-NET scheme.

iii. Activity iii: Network analysis and visualisation (Leader: Matrix)

This task will be to visualise the involvement of countries and institutions in the ERA-NET scheme. It will draw on the data collected during Task 1 surveys and fieldwork for Task 2 and Task 3. First, we will visualise the official data on the ERA-NETs. This data will simply take into account the official participants and the number of ERA-NETs that they participated in. This model will then be further developed taking into account other data, such as EU funding, national funding (as far as matching/compatible data can be found), number of actors taking part (per field; per region; per country depending on the level of analysis), and funding in joint programmes. This will be performed using specific software. The result will be a set of visualisations of the FP6 and the ERA-NET scheme, showing the relative importance of particular countries and institutions.

Deliverable: Set of slides/images visualising involvement of countries and institutions in FP6 and the ERA-NET scheme. We will discuss with the Commission this output in more detail as this progresses.

Activity iv: Draft descriptive network analysis (Leader: Matrix)

Draft descriptive network analysis will be consolidated and given to the Commission for comment.

Deliverable: Draft descriptive network analysis.

iv. Activity v: Revision of descriptive network analysis (Leader: Matrix)

Client's comments will be integrated into the final version of the descriptive/network analysis, which will consist of written and visual output corresponding to each sub-deliverable. The descriptive/network analysis will be then integrated into the final report.

Deliverables in ToR: SD 28-31

Country analysis (which links to D14, SD1-SD15)

i. Activity i: Development of field work question schedule (Leader: Matrix)

It is envisaged that the field work question schedule will be informed by the survey exercise and where there is a lack of data, the field work tool with focus on closing information gaps. It is also envisaged that the field work tool will include more contextual questions than the survey in order to try and place the ERA-NET scheme impacts into the wider picture. Matrix will lead this activity in close cooperation with external experts and Ramboll.

Deliverable: Field work question schedule.

ii. Activity ii: Training for fieldworkers (Leader: Matrix)

A key task of this work package will be the training of fieldworkers. The purpose of this activity is to ensure a shared understanding of the purpose and the context of the case studies detailed below. This includes presentations and discussions on the findings from the survey and the descriptive network analysis, introduction of the question schedule, and allocation and logistics of undertaking the case studies. Please note that we expect a strong overlap between questions in the surveys and questions to explore in fieldwork.

The training will take the form of a one day work shop for all field workers to be organised and led by Matrix but in which team members will be asked to provide contributions. The training will include a power point presentation of findings to date, case study allocation (including distribution of country specific information) and templates for the question schedule and the country reports.

The field work training will include the involvement of the experts.

Deliverable: Field work training for fieldworkers.

iii. Activity iii: Fieldwork in 15 countries (Leader: Matrix)

The third task of this work package will be the actual fieldwork to be undertaken in 15 countries as stated in the ToR.

We are suggesting a flexible approach and suggest that we work closely with the Commission and national co-ordinators to plan to meet with as many appropriate contacts as possible. This includes focusing more senior staff, where possible, to interviewing specific interviewees.

Deliverable: The output to this activity will be notes that will feed into each of the 15 country case study reports.

iv. Activity iv: Nomination of expert commentators and liaison (Leader: European Commission)

To validate the case study reports, we have suggested that the Commission nominate a number of experts to provide feedback on the submitted draft case study reports. We will work with the Commission on this but we wish to ensure that the team's efforts are appropriately balanced between focus on delivery of the study, and using resources liaising with experts (for example, we would wish to minimise time spent sending reminders if comments are not forthcoming from experts).

Deliverable: Experts nominated by the Commission and Commission contacting these commentators on the team's behalf.

v. Activity v: Comments from experts to complete validation (Leader: Matrix)

To validate the case study reports, we will ask experts to comment on the case study reports. However, we will reserve the right not to incorporate feedback or suggestions put forward by these commentators where we believe that there these are not supported by sufficient amounts of evidence.

Deliverable: The output of this activity will be comments from experts. Where deemed relevant these comments will be used to input into finalised country case studies.

vi. Activity vi: Plan for coding from fieldwork interviews (Leader: Matrix)

The sixth activity of this work package will be to develop a coding plan for all case study interviews which ensures that we look at information generated from the field work in a consistent manner.

Definitions of codes for analysis are developed as part of developing the analytical framework which in turn links back to the TOR and the initial theory-building exercise (Task 0). This enables the data to be tested against the initial research questions and other developed hypotheses as well as to explore alternative explanations and hypotheses.

The coding structures will be based on:

- themes and topics identified during the scoping phase of the research;
- consultation with the experts supporting the evaluation; and
- the questions covered by the research or evaluation brief as well as other associated and subsidiary research questions.

Deliverable: Plan for coding.

vii. Activity vii: Coding of interviews (Leader: Matrix)

This activity consists of coding of case study interviews to facilitate analysis. This will allow the researchers to analyse, search and explore the information in a more consistent manner and will help to synthesise interview findings into country case study reports as well as analysis across countries,

Deliverable: Overall field work synthesis as part of deliverable 6.17 (Draft interim report) and 6.33 (Final report), along with the case study reports presented in activity iii of this work package.

Thematic analysis including impact and economic analysis (which links to D14, SD16-SD24)

For each thematic area we will undertake the following activities:

- Activity i: Extraction of relevant data from ERA-NET documentation, questionnaire and fieldwork.
- Activity ii: Descriptive analysis. To synthesis information from different sources by theme.

- ii. Activity iii: Impact analysis (see description in this document)
- iii. Activity iv: Economic analysis (see description in this document)

Deliverables: Draft thematic reports

Programme level analysis, aggregate impact and economic analysis (which links to D1-D13)

- i. Activity i: Development of a conceptual understanding of the costs and benefits of the ERA-NET programme

Drawing on the reviews of document and websites, and the stakeholder interviews already undertaken, a logic model will be developed that identifies the inputs, output and outcomes of the programme, as well as the factors that might confound or magnify these outputs and outcomes.

Deliverable: A diagram of the inputs, outputs and outcomes of the ERA-NET programme. In essence this is the logic model (and this links to the typologies).

-
- ii. Activity ii: Design the questionnaire for collecting data on costs and effects

Two sources will be drawn on to determine the content of the questionnaire. First, the likely short-term inputs, outputs and outcomes of the ERA-NET programme will be described by the logic model developed during Activity i. Second, the likely long-term value of the short-term outcomes of the programme will be determined through an interrogation of any existing economic models of the benefits of research networks. These two sources will ensure that the questionnaire focuses on the inputs, outputs, and outcomes that the programme are likely to impact to achieve and those which are likely to prove valuable to the EU in terms of potential improvements in economic performance and social value.

The questions will be designed to assess the change in input, outputs and outcomes before-after the implementation of the programme. The resulting questionnaire will be piloted on a sample of programme participants.

Deliverable: An electronic questionnaire for surveying participants and co-ordinators.

-
- iii. Activity iii: Survey of programme participants and co-ordinators

The electronic questionnaire will be sent to 75 per cent of legal entities involved in the programme. The sample will be stratified to ensure that it is representative of the different types of legal entity involved in the programme. For instance, the stratification will ensure that programmes from each country and field are represented in the sample. Contingent on their contact details being available, all participants in each legal entity sampled will be asked to complete the survey.

Deliverable: Data on the cost and effect of the programme.

-
- iv. Activity iv: The fieldwork programme

The answers to the questionnaire will be supplemented by qualitative fieldwork. The fieldwork will be designed to capture two types of data. First, data from legal entities participating in the programme, this will allow a more in-depth assessment of the impact of the programme. For instance, the fieldwork can be used to explore in more detail the quantities of resources employed to implement the programme, as well as some of the reasons why the programme is having the observed impact. Second, data from other stakeholders, such as programme managers. The

design of the fieldwork programme and the selection of the sample that will participate in the fieldwork will again be influenced by the logic model developed in Activity i.

Deliverable: In-depth qualitative data on the cost and effects of the programme.

v. Activity v: Analysis of questionnaire data

The following analysis will be undertaken on the responses to the electronic questionnaire:

- Descriptive analysis: means and variance of responses. This analysis will be undertaken at project, field, country and programme level. Sample size permitting, statistical tests will be conducted to determine whether there are differences in costs and effects between different fields and country types.
- Bi-variate and multivariate analysis: associations between effects and cost and the characteristics of participants and/or legal entities will be examined. The associations analysed will be determined by the logic model developed in Activity i. The use of multivariate analysis will enable the analysis to control for factors that may confound the effect of the programme.

It is anticipated that there will be some level of non-response to the questionnaire. Appropriate weighting and adjustments will be employed to ensure that the results of the above analysis is still representative.

Given the before-after nature of the research design, the analysis will be limited in its ability to isolate the effect of the programme. This will be overcome in two ways. First, the multivariate analysis will allow possible confounders to be controlled for. Second, the questionnaire will include questions that directly try to measure the counterfactual – what would have happened in the absence of the programme?

It is anticipated that the effects measured through the questionnaire will be multiple and will not be monetary in nature. Thus, the costs and effects estimated through the above analysis will be combined in the form of a cost-consequence analysis. That is, the cost of the programme will be presented alongside its effects, but will not be combined to produce a single estimate of value for money or efficiency (such as an incremental cost effectiveness ratio or a benefit-cost ratio).

Deliverables: An estimate of the cost and effects of ERA-NET at a programme, country, field and project levels.

Best practice (which links to D11, SD25-SD27)

i. Activity i: Drafting of guiding principles (Leader: Matrix)

In this activity we will use the survey results, as well as thematic, country, and programme-level analysis to produce a set of guiding principles for strategic decision-making, trans-national actions, and information exchange/sharing. The results of the fieldwork will be coded and, together with survey results and other collected data, will be presented and discussed in a workshop with experts included in the team. Guiding principles will be agreed between the Matrix team and the experts, and will be provided in the form of a draft section of the final report for the client to comment on.

Deliverable: Draft best practice guidance.

ii. Activity ii: Comments on guiding principles (Leader: Commission)

We invite the Commission to comment on the guiding principles.

Deliverable: Comments on guiding principles.

iii. Activity iii: Revision of guiding principles (Leader: Matrix)

In this activity we will integrate the Commission's comments on the draft guiding principles and produce the final best practice guidance that will constitute a section of the final report.

Deliverables in ToR: D 11, SD 25-27.

Annex 10 – Bibliography and information sources consulted

This Annex includes references to the published literature consulted as part of the scoping phase and additional references and sources of information consulted as part of the field work data collection.

Scoping phase literature references

Academy of Finland. (2006). Strategic Plan for ERA-NET.

Ackers, Louise (2005). Promoting Scientific Mobility and Balanced Growth in the European Research Area. *Innovation: The European Journal of Social Science Research*, vol. 18, no. 3, pp. 301-317.

Amanatidou, Effie and Guy, Ken (2008) Mutual Learning via the ERA NET Learning Platform and NNETWATCH, ERA NET Learning Platform and NETWATCH Launch Event, Brussels, 13-14 March 2008

Arnold, Erik . Clark, John . Muscio, Alessandro. (2005). What the evaluation record tells us about European Union framework programme performance. *Science and public policy*. Vol. 32, no. 5, 385-398.

Arranz, N.; Fernandez de Arroyabe, J. C. (2006). Joint R&D Projects: Experiences in the Context of European Technology Policy. *Technological Forecasting and Social Change*, vol. 73, no. 7, pp. 860-885.

Bruce, Ann; Lyall, Catherine; Tait, Joyce; Williams, Robin (2004). Interdisciplinary Integration in Europe: The Case of the Fifth Framework Programme. *Futures*, vol. 36, no. 4, pp. 457-470.

Condell, S. L.; Fyffe, T.; Moreno-Casbas, T.; Poortvliet, P.; Wilkinson, J.; Egea-Zerolo, B.; Jones, C. (2006). Applying to the European Research Area Network Scheme (ERA-NET): collaborative working for nursing and midwifery research. *International Nursing Review*, vol. 53, no. 4, pp. 297-300.

Constantelou, A Tsakanikas, A Caloghirou, Y (2004). Inter-country technological linkages in European Framework Programmes: a spur to European integration? *International Journal of Technology Management*, Vol 27, No 8, pp. 773-790.

Elera, Alvaro, De . (2006). The European research area: on the way towards a European scientific community? *European law journal*. Vol. 12, no. 5, 559-574.

ERA-NET Expert Review Group. (2006). ERA-NET Review 2006 – The Report of the Expert Review Group, December 2006.

European Commission. (2007). Commission Staff Working Document Accompanying the Green Paper 'The European Research Area: New Perspectives' {COM(2007)161}.

Federal Ministry of Economics and Technology (BMWi). (2007). Internationalisation of Networks, Barriers and Enablers.

Feron, Elise; Crowley, John (2003). From Research Policy to the Governance of Research? A Theoretical Framework and Some Empirical Conclusions. *Innovation: The European Journal of Social Science Research*, vol. 16, no. 4, pp. 369-393.

Follesdal, Andreas. (2006). A European Research Council (ERC) for the Social Sciences and Humanities: Pros and Cons. *European Political Science*, vol. 5, no. 1, pp. 21-32.

Guy, Ken . Amanatidou, Effie . Psarra, Foteini . (2005). Framework Programme 5 (FP5) impact assessment: a survey conducted as part of the five-year assessment of European Union research activities (1999-2003). Science and public policy. Vol. 32, no. 5, 349-366.

Hall, Peter (2005). Brain Drains and Brain Gains: Causes, Consequences, Policy. International Journal of Social Economics, vol. 32, no. 11, pp. 939-950.

Katz, J. Sylvan. (2005). Indicators for complex innovation systems. SPRU Electronic Working Paper Series. Paper no. 134.

Koehler, Sonja; Wurzel, Ulrich G, (2003). From Transnational R&D Co-Operation to Regional Economic Co-Operation: EU-Style Technology Policies in the MENA Region. Mediterranean Politics, vol. 8, no. 1, pp. 83-112.

Moulaert, Frank; Hamdouch, Abdelillah. (2006). New Views of Innovation Systems: Agents, Rationales, Networks and Spatial Scales in the Knowledge Infrastructure. Innovation: The European Journal of Social Science Research, vol. 19, no. 1, pp. 11-24.

Okubo, Yoshiko . Zitt, Michel. (2004). Searching for research integration across Europe: a closer look at international and inter-regional collaboration in France. Science and public policy. Vol. 31, no. 3, 213-226.

Optimat and VDI/VDE-IT. (2005). Examining the design of national research programmes.

Optimat and VDI/VDE-IT. (2005)(2). Good Practice Guide.

Ormal, Erkki . Vonortas, Nicholas S. (2005). Evaluating the European Union's Research Framework Programmes: 1999-2003. Science and public policy. Vol. 32, no.5, 399-406.

Pereira, Tiago Santos. (2002). International dimension of research in Portugal: the European Research Area and beyond. Science and public policy. Vol. 29, no. 6, 451-462.

Pohl, Christian (2005). Transdisciplinary Collaboration in Environmental Research. Futures, vol. 37, no. 10, pp. 1159-1178.

Pohoryles, Ronald J. (2006). INNOCULT Revisited: The Impact of EU Research Programmes on National Research Policies, Key Actors and Research Collaboration. Innovation: The European Journal of Social Science Research, vol. 19, no. 1, pp. 107-116.

Polt, Wolfgang . Streicher, Gerhard. (2005). Trying to capture additionality in Framework Programme 5 - main findings. Science and public policy. Vol. 32, no. 5, 367-374.

Reeve, Neville . Smith, Keith . Guy, Ken . Amanatidou, Effie . Psarra, Foteini . Polt, Wolfgang . Streicher, Gerhard . Siune, Karen . Schmidt, Evanthia Kalpazi.(2005). Evaluation of European Union framework programmes: the 2004 five-year assessment. Science and public policy. Vol. 32, no. 5, 335-406.

Room, Graham (2005). Policy Benchmarking in the European Union: Indicators and Ambiguities. Policy Studies, vol. 26, no. 2, pp. 117-132.

Schibany Andreas and Warta, Katharina (2006). Perspektiven der österreichischen Beteiligung an ERA-NET.

Schmidt, Evanthia Kalpazidou. (2006). RTD evaluation and policy in the European research area. Evidence & policy. Vol. 2, no. 2, 185-209.

Siune, Karen . Schmidt, Evanthia Kalpazidou . Aagaard, Kaare. (2005). Implementation of European research policy. Science and public policy. Vol. 32, no. 5, 375-384.

Siune, Karen. (2005). Convergence in European Research Policy: Strength or Weakness? Note from The Danish Centre for Studies in Research and Research Policy 2005/2.

Totlandsdal, A.I. Fudge, N. Sanderson, E.G. Bree, L., van. Brunekreef, Bert, (2007). Strengthening the science-policy interface: experiences from a European Thematic Network on Air Pollution and Health (AIRNET). Environmental science and policy. Vol. 10, no.3, 260-266.

Traunfellner, Marie-Katherine and Whitelegg, Katy. (2007). ERA-NET: Sinn und Zweck für die nationale Forschungs- und Technologiepolitik Entwicklung einer kohärenten Vorgehensweise für ERA-NET Beteiligungen des BMVIT.

Wickham, James (2004). Something New in Old Europe? Innovations in EU-Funded Social Research. Innovation: The European Journal of Social Science Research, vol. 17, no. 3, pp. 187-204.

Zhang, Jing . Baden-Fuller, C. . Mangematin, V. (2007). Technological knowledge base, R&D organization structure and alliance formation: evidence from the biopharmaceutical industry. Research policy. Vol. 36, no. 4, 515-528.

Field work literature references

Refer to annexes in Volumes 2-4.

Websites and other sources consulted

Cordis website: cordis.europa.eu

For ERA-NET specific website references, refer to annexes in Volumes 2-4.