MarinERA Facilitating the Coordination of National and Regional Marine RTD Programmes in Europe

MarinERA Publication No. 1

A Preliminary Description of MarinERA Member State Marine Research Funding Programmes and Implementation Procedures

May 2006

MarinERA: Facilitating the Coordination of National and Regional Marine Research Programmes in Europe (2004 – 2008).

MarinERA, a EU 6th Framework Programme ERA-NET, is a partnership of leading Marine Research Funding Organisations from 13 European countries, supported by the Marine Board – European Science Foundation. Together these organisations invest over €80 million per annum in competitive marine research.

The specific objectives of the MarinERA Project are to:

1. Map European Marine Research Programmes and Specialised Infrastructures to contribute towards the development of the marine component of the European Research Area, facilitating the creation of an internal market and quantifying the existing European marine research capacity.
2. Facilitate the networking of Marine Research Funding Agencies in the European Union, leading to a more cost effective and efficient use of EU Member State and Associate Member State resources including scientific personnel, specialist infrastructures and planned investments;
3. Contribute to the development of a European Marine Research Policy, identifying future challenges and opportunities and the priority research programmes that need to be put in place to address / benefit from them;
4. Provide a basis for sharing available resources to address priority issues that are beyond the capacities of individual EU Member State and Associate Member States;
5. Progress the reciprocal (mutual) opening of EU Member State and Associate Member State Marine Research Programmes - a key objective of the European Research Area.

The MarinERA Project Partners are:

- IFREMER - French Institute for Exploitation of the Sea (Ifremer) - France
- Marine Institute - Ireland
- Research Council of Norway (RCN) - Norway
- Jülich Research Centre GmbH –Project Management Organisation Jülich (FZJ-PTJ) - Germany
- Spanish Ministry of Education and Science (MEC) - Spain
- Academy of Finland (AKA) - Finland
- Netherlands Organisation for Scientific Research (NWO) - The Netherlands
- Natural Environment Research Council (NERC) - UK
- General Secretariat for Research and Technology, Ministry of Development (GSRT) - Greece
- Fundação para a Ciência a Tecnologia (Foundation for Science and Technology, FCT) - Portugal
- Belgian Federal Public Planning Service Science Policy (BELSPO) - Belgium
- Science and Innovation Administration, Ministry of the Flemish Community (AWI) - Belgium
- Malta Council for Science and Technology (MCST) - Malta
- Ministry of Scientific Research and Information Technology (MSRIT) – Poland
- Marine Board – European Science Foundation - Strasbourg, France

MarinERA

MarinERA: building the confidence to create a favourable climate in which to pursue the enhanced co-operation and reciprocal opening of EU Member State and Associate Member State Marine Research Funding Programmes.

During the lifetime of the MarinERA Project, it is proposed to extend membership to those European coastal/marine countries who are not currently partners.

For further information on the MarinERA Project see: www.marinera.net

MarinERA:
Facilitating the Coordination of National and Regional Marine RTD Programmes in Europe 2004 - 2008

MarinERA Report No 1 (2006)

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May 2006.

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Disclaimer: While every attempt has been made to ensure the accuracy of the data contained herein, difficulties in disaggregating data on marine research funding from broader research funding programmes and misunderstanding in terminologies (as inevitably arises in multilingual projects) may lead to some misinterpretation of the data received. Hence this report is titled a "Preliminary Description of MarinERA Member State Research Funding Programmes and Implementation Procedures" As the project matures, such inaccuracies will be identified and corrected.

EXECUTIVE SUMMARY

Note to Reader: In reading this report it is essential to note that the Marine Research Funding Programmes described here are those that are:

- managed by MarinERA partner organisations and
- competitive, defined here as subject to open, publicly advertised calls for proposals which are independently reviewed.

This Report does not include descriptions of competitive marine research programmes managed by other MarinERA Member State organisations or core marine research funding provided directly by the Exchequer to National Marine Research Institutions.

1. The MarinERA Project (2004-2008) is an ERA-NET Project supported under the EU 6th Framework Programme.

2. As an ERA-NET, the principle aim of MarinERA is to network research activities conducted at a national level, to promote better coordination of research activities between EU Member States and Associate Member States and ultimately to establish appropriate mechanisms to foster and implement the mutual opening of Member State and Associate Member State Research Programmes.

3. The MarinERA partnership consists of 14 Marine Research Funding Organisations (2 from Belgium) from 13 participating countries who manage 17 identified Research Funding Programmes. The Marine Board (European Science Foundation) provides project management and administrative services.

4. Each MarinERA partner manages a competitive (defined here as subject to open, publicly advertised calls for proposals which are independently reviewed) research funding programme that can support marine research projects.

5. The primary aim of this Report, is as a reference document, that can be used to provide a preliminary description of the MarinERA Member Organisation Marine Research Funding Programmes and Implementation Procedures:

   - as an input to subsequent Work Packages (identification of barriers to co-operation, development of common evaluation procedures and performance indicators, development of MoUs for multi-lateral projects, etc.).

   - to inform Marine Research Funding Programme Managers of the programmes and procedures used in MarinERA partner States in order to *"build confidence to create a favourable climate in which to pursue the central MarinERA objective of enhanced co-operation and reciprocal opening of EU Member State and Associate Member State Marine Research Funding Programmes"*.

6. It must be emphasised that this Report provides a descriptive profile rather than an analysis of MarinERA partner Marine Research Funding Programmes. A description is needed in order to inform Marine Research Programme Managers of how research is organised in other partner countries as this will provide a basis for future cooperation. A detailed analysis is not warranted as the described Programmes are continually changing and evolving and will, it is anticipated, evolve even more radically in the post 2006 period in line with EU Member State and Associate Member State commitments to the Lisbon and Barcelona Agendas.

7. Data presented in this Report was collected by way of a questionnaire developed over a series of Workshops and one-to-one feedback over the period March 2005 to March 2006.

8. The diversity, range and dynamics of research funding structures and arrangements demonstrated by the MarinERA partner organisations reflects a diversity and complexity shown to populate the European research landscape by similar studies.

9. Of the **14 MarinERA Research Funding Organisations** participating in MarinERA:

   - **6** are represented by **Government Ministries** or Special Offices within Government Ministries.
   - **4** are represented by Research Councils.
   - **4** are represented by **Institutes or Project Offices** with a mandate to manage a competitive marine research-funding programme.

10. The aims / objectives of the **17 Research Funding Programmes** reviewed in this Report fall into three broad categories:

    - **Develop national research capacities and capabilities** to support the sustainable development of marine/ecosystem resources and address nationally identified marine research issues (Government Ministries and Agencies).
    - **Support basic research** which addresses global/regional societal / environmental challenges (e.g. Research Councils).
    - **Provide access to specialist marine research infrastructures** (e.g. research vessels) (2 Programmes).

11. Of the 15 Research Funding Programmes (excluding the two Research Vessel Support Programmes) described, **seven have a specific marine research focus**, the remainder funding more general "earth ecosystem" or "sustainable development" research which have a marine component.

12. Initial estimates suggest that the MarinERA partner Funding Organisations manage research budgets in excess €3.4 billion/annum of which circa **€80 million / annum** is available for competitive marine research. In addition, the MarinERA partner organisations operate a research fleet of 39 specialist marine research vessels with an annual operating cost of in excess of €144 million / annum.

13. National budgets for marine research provided directly by exchequer funding to core marine research in public institutions and universities are estimated to be at least an order of magnitude higher. This will be the subject of a separate MarinERA Report.

14. This Report confirms the findings of similar reports that the European Research Area is characterised by a diversity and complexity of research funding structures and organisations.

15. In spite of the diversity of current research funding programmes, there is a **recognition of the advantages of co-operation** in terms of adding value to existing national budgets, sharing the cost (and risk) of large scale projects, providing better access to specialist expertise and research infrastructures. Thus **diversity is seen as a challenge rather than a barrier to co-operation**.

16. A preliminary exchange of views suggests that the most **significant challenge to cooperation will be the synchronisation of the differing funding cycles** (10, 7, 5, 4, 3 year and annual cycles) and start/end dates of MarinERA Research Funding Programmes. The reason being that, while there is a certain amount of flexibility within the Programme budget period, Member Organisations cannot commit funding to projects whose duration falls outside their programme budget period.

17. Eight specific topics (marine ecosystems, fisheries science, oceanography, marine technology, climate change, economics/socials sciences, marine geosciences, marine biotechnology) are common to over 50% of the identified research funding programmes and provide a good starting point for multi-lateral co-operation.

18. Although variation is seen in the mode of implementation of Research Funding Programmes (reflecting the nature and rules/regulations of the Funding Organisation: (Research Council, Government Ministry, Independent Agency), the **similarities are often greater than the differences**.

Marine Research – A Dynamic and Changing Environment

A defining characteristic of the Marine Research Programmes described in this Report is their inherent dynamics and flexibility to change. All Programmes are continually evolving and changing in response to new research challenges, increased understanding of the marine environment, improved technologies and social and economic conditions. Hence, this Report can only describe the situation as it is now. As Research Programme managers increasingly recognise the advantages of international co-operation in sharing the cost (and risk) of major research projects and in providing access to a greater pool of research expertise and specialist infrastructures, it is anticipated that co-operation will increasingly become the norm.

MarinERA, in providing a forum in which Marine Research Funding Programme Managers can share information and "best practice" on how National Funding Programmes are managed and implemented, provides a catalyst for the organisation of multilateral European Marine Research Funding Programmes that will characterise the European Marine Research Area of the future.

A Preliminary Description of MarinERA Member State Marine Research Funding Programmes and Implementation Procedures

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ANNEXES

1. A Preliminary Description of MarinERA Partner Marine Research Funding Programmes and Implementation Procedures

1.1. Introduction

The ERA-NET Scheme (Annex 1) was established, as a pilot programme within the 6th EU Framework Programme (2002-2006), to promote the creation of a European Research Area (ERA) by providing financial support to Public Bodies responsible for financing or managing research activities carried out at national or regional level in order to:

- network research activities conducted at national or regional level.
- progress towards the mutual opening of national or regional research programmes.

The MarinERA project, representing 13 European coastal states, represents a positive response from the European marine science community to this challenge.

This Report focuses on Work Package 1: The collection and exchange of information on MarinERA Member State Marine Research Funding Programmes and more specifically on:

WP 1.1. Database/Map of MarinERA Member State Marine Research Funding Programmes

Description of the *"competitive"* Marine Research Funding Programmes implemented by the MarinERA member organisations.

WP 1.2: Best Practice in Programme implementation.

Description of the implementing procedures, evaluation processes, criteria used etc., in implementing the above Marine Research Funding Programmes.

Figure 1.1.
The MarinERA partner countries.

The aim of this Report is to provide a preliminary description of the MarinERA Partner Organisation Marine Research Funding Programmes and Implementation Procedures:

- as an input to subsequent Work Packages (WP 2: identification of barriers to co-operation, development of common evaluation procedures and performance indicators and WP3: development of Memoranda of Understanding (MoUs) for multi-lateral projects, etc.).
- to inform Marine Research Funding Programme Managers of the programmes and procedures used in partner MarinERA Partner Organisations in order to *"build confidence to create a favourable climate in which to pursue the central MarinERA objective of enhanced co-operation and reciprocal opening of EU Member State and Associate Member State Marine Research Funding Programmes"*.

1.2. Methodology

In order to collect the required data on MarinERA Partner Organisation Marine Research Funding Programmes and Implementation Procedures, a 1st Work Package 1 Workshop was convened in March 2005 in Howth (Ireland). This meeting was attended by a representative of the BONUS ERA-NET (BONUS for Baltic Sea Science: http://www.bonusportal.org) as they were in the process of finalising a similar report for the BONUS Project.

The Howth Workshop prepared a draft Questionnaire, ensuring, where feasible, synergies and common Programme descriptors with the BONUS Project and confirmed that the focus of the MarinERA Project was on Competitive Marine Research Funding Programmes (see Box 1.1) and not research funding provided by government directly to state research institutions for core research programmes.

Box 1.1. Competitive Research Funding Programmes.

The word *competitive* is used throughout this text to refer to research funding programmes that are subject to open and *competitive calls for proposals*, are *publicly advertised* and are *reviewed by an independent scientific evaluation panel*. It is these open and competitive programmes that are the most amenable to mutual opening.

The draft MarinERA Questionnaire was tested by Germany, Ireland and Norway and presented to the 1st MarinERA Marine Programme Managers Meeting in Brest (France) in June 2005. The Brest Meeting suggested a number of revisions and members agreed to complete and return the Questionnaire (Rev1) by July 2005.

In September 2005, a 2nd Work Package 1 (WP1) Workshop was held in Aberdeen (Scotland) to review the replies received. These replies were compiled and presented to the 2nd MarinERA Marine Programme Managers Meeting in Athens (Greece) in October 2005.

At the Athens Meeting (October 2005), it was agreed that a standard "one-fits-all" questionnaire could not adequately describe the diversity illustrated by MarinERA partner Marine Research Programmes and that there were very significant sources of marine research funding outside the MarinERA partnership. Accordingly, it was agreed that a revised questionnaire and "free text" description of the organisation of marine research funding in the MarinERA Member States (A Country Profile) was warranted.

The revised Questionnaire (Rev2) was drafted after the Athens Meeting and sent electronically to Member Organisations for completion by 23rd December 2005 (Annex 2).

Copies of completed Questionnaires are stored on the MarinERA Intranet site (www.marinera.net) where they are accessible to all MarinERA partners.

Box 1.2. Research Funding Programme: For the purposes of the MarinERA Project, a Research Funding Programme is here defined as a suite of research funding actions (e.g. projects, fellowships/scholarships, studies and investigations) that are linked together to achieve a stated goal (e.g. promote basic research, build RTD capacity, etc.).

Programme: a list of activities (Directory definition)

1.3. Structure of this Report

This report is structured along the lines set out below. A detailed analysis of the returned questionnaires is contained in Annex 3 (Marine Research Funding Programmes) and Annex 4 (Implementation Procedures).

Chapter 1. Introduction

Introduction to the aims and objectives of Work Package 1.1 / 1.2 of the MarinERA Project

Chapter 2. Partner Organisations

Describes the 14 MarinERA partner organisations, their roles and functions in financing competitive marine research programmes.

Chapter 3. Key Findings

Summarises the detailed questionnaire analysis contained in Annex 3 (Marine Research Funding Programmes) and Annex 4 (Implementation Procedures) describing general trends, highlighting similarities and differences in approach, identifying barriers and opportunities.

Chapter 4. Concluding Remarks

Provides some preliminary conclusions and identifies future steps to be taken in relation to the MarinERA Project.

Annex 1. The ERA-NET Scheme

A brief description of the EU FP6 ERA-NET Scheme.

Annex 2. MarinERA Questionnaire

A copy of the Questionnaire circulated to MarinERA partners to describe their Marine Research Funding Programmes.

Annex 3. Marine Research Funding Programmes

A summary description of the 17 competitive marine research programmes managed by the MarinERA partners.

Annex 4. Marine Research Funding Programme Implementation Procedures

A summary description of the management procedures used to implement the 17 research programmes described.

Annex 5. Marine Research Programme Contact Points

A listing of the individual MarinERA partners who completed the MarinERA Questionnaire.

Annex 6. MarinERA Partner Profile

A brief description of each MarinERA partner organisation.

Annex 7. Preliminary Data on RV Operational Costs

A preliminary identification of MarinERA partner research vessel operating costs (refers to question 3.2. of the MarinERA Questionnaire).

2. MarinERA: Partner Organisations

2.1. Introduction

The MarinERA partnership comprises 14 Marine Research Funding Organisations from 13 participating countries (Table 2.1). The Marine Board (European Science Foundation) provides project management and administrative services.

All participating countries are represented by one organisation with the exception of Belgium which is represented by two funding organisations:

- the Belgian Federal Public Planning Service Science Policy (BELSPO) and
- the Science & Innovation Administration, Ministry of the Flemish Community (MVG).

The geographic distribution of participating countries is illustrated in Figure 1.1. and a short biography of each participating organisation is contained in Annex 6.

2.2. A Diversity of Research Funding Organisations

Reflecting the great diversity and the wide range of research funding structures and organisations that populate the European research landscape and consistent with the eligibility criterion that ERA-NET Partners must be "Public Bodies responsible for financing or managing research activities carried out at national or regional level" and the MarinERA criterion that these Public Bodies must be "responsible for managing open and competitive research programmes", the MarinERA project draws its partnership from a diversity of Government Ministries, Research Councils and special Research Funding Agencies (Table 2.1).

Table 2.1. MarinERA Partner Government Ministries and Research Funding Agencies

Country	Main Ministry	Representative Organisation (MarinERA Partner)	Status
Belgium (BE)	Federal Public Planning Service Science Policy (BELSPO). Ministry of the Flemish Community	Federal Public Planning Service Science Policy). Science & Innovation Administration, Ministry of the Flemish Community (MVG)	Office of Ministry
Finland (FI)	Ministry of Education	Academy of Finland (AKA)	Research Council
France (FR)	Ministries (4) of: Higher Education and Research. Agriculture and Fisheries. Transport and Housing. Ecology & Sustainable Development.	Ifremer: French Research Institute for Exploitation of the Sea.	Research Institute
Germany (DE)	Federal Ministry for Education & Science (BMBF)	Project Management Organisation Jülich (FZJ-PTJ)	Special Research Funding Agency
Greece (GR)	Ministry of Development	General Secretariat for Research & Technology (GSRT) / Hellenic Centre for Marine Research (HCMR)	Office of Ministry
Ireland (IE)	Ministry of Communications, Marine & Natural Resources	Marine Institute (MI)	Research Institute
Malta (MT)	Office of the Prime Minister	Malta Council for Science & Technology (MCST)	Research Funding Agency
Netherlands (NL)	Ministry of Education, Culture and Sciences	Netherlands Organisation for Scientific Research, NWO	Research Council
Norway (NO)	Ministry of Education and Research	Research Council of Norway (RCN)	Research Council
Poland (PL)	Ministry of Scientific Research & Information Technology (MSRIT)	Ministry of Scientific Research & Information Technology (MSRIT)/ Institute of Oceanology (IO)	Office of Ministry
Portugal (PT)	Ministry for Science, Technology and Higher Education	Science & Technology Foundation (FCT)	Office of Ministry
Spain (ES)	Ministry for Education & Research	Spanish Ministry for Education & Research (MEC)	Office of Ministry
UK	Office of Science and Technology Department of Trade and Industry	Natural Environment Research Council (NERC)	Research Council

As an illustration of the diversity of the 14 Research Funding Organisations participating in the MarinERA Project, partner organizations can be divided into three broad categories:

- **Government Ministries**, or Special Offices within Government Ministries (Belgium, Greece, Poland, Portugal, Spain).
- **Research Councils** (Finland, Netherlands, Norway, UK).
- **Institutes or Project Offices** with a mandate to manage a competitive marine research-funding programme (France, Germany, Ireland, Malta).

For operational purposes, the Greek General Secretariat for Research & Technology (GSRT) may from time to time be represented by the Hellenic Centre for Marine Research (HCMR), while the Polish Ministry of Scientific Research & Information Technology (MSRIT) is represented by the Institute of Oceanology (IO).

Short mission statements for each of the MarinERA partners are included in Table 2.2.

Table 2.2. MarinERA Partner Organisation Mission Statement (Q2.3)

Country	Mission
Belgium	The **Belgian Federal Public Planning Service Science Policy (BESLPO)** is tasked with the preparation, execution and evaluation of science policy and its extensions in support of Federal Authority competences and with the development of a permanent knowledge resource within scientific and technical spheres at the service of the Federal Authority. BESLPO is responsible for 10 Research Institutions (Budget: €517 million / annum) with circa €13 million /annum going to the marine sector of which € 5 million/annum is devoted to competitive marine research. The **Science and Innovation Administration (AWI)** of the Science, Innovation and Media Department of the Ministry of the Flemish Community, Belgium has responsibility for the science and technological innovation policy for Flanders (Belgium). AWI is responsible for funding 3 Research Institutions (Budget: €390.6 million / annum) of which €12 million is devoted to marine science.
Finland	The Academy of Finland (AKA) is a research funding organisation. AKA covers all scientific disciplines and consists of the Academy Board, as highest executive organ, which is responsible for the science policy line and four Research Councils which decide on research funding within their respective fields and act as experts in science policy issues. The Administrative Office has responsibility for administration and its development. The mission of the **Academy of Finland (AKA)** is to promote high-quality basic research. Its main tools in pursuing this task are long-term quality-based funding, reliable evaluation and science policy expertise
France	**Ifremer**'s mission statement is to: "ensure better knowledge, assessment, value enhancement and streamlining in the exploitation of marine resources". This mission is achieved through the implementation of programmes to: o improve knowledge and means to protect and restore the marine environment. o enhance the socio-economic development of the maritime world. o provide assistance to the government, public authorities and organisations concerned with scientific, technical or economic research. o create and manage facilities of nation interest (fleet). o gather, disseminate and enhance national and international oceanographic information. o contribute to implementing of agreements and conventions for international cooperation in the marine field. Ifremer has an operational budget of circa €160 million / annum of which circa €30 million / annum is available on a competitive basis for accessing the research fleet.
Germany	The **PTJ (Project Management Organisation Jülich)** is a government funding and project management organisation that covers a variety of research disciplines including biology, energy, material and chemical technology, environmental and geosciences as well as marine and polar research. PJT has budget of circa €500 million / annum. The division PTJ-MGS (Marine, Polar- and Geosciences, Shipping and Marine Technology), located in Rostock-Warnemuende, manages the government Marine & Polar Research Programmes (including the budget for Geosciences) with a budget of circa €25 million / annum.
Greece	The **General Secretariat for Research and Technology (GSRT)** is the national body responsible for scientific development and the management of the National Plan for Research, Development and Technological Innovation. GSRT is responsible for supporting, supervising and financing the research activities of research institutes and productive industry, focussing on areas that are important for the national economy and for the improvement of the quality of life. GSRT promotes the transfer and dissemination of advanced technologies, encourages activities aimed at raising public awareness of research and technology issues and represents Greece at international marine fora (including the EU).

Table 2.2. MarinERA Partner Organisation Mission Statement (Q2.3)	
Ireland	The **Marine Institute** is the national marine science and technology agency with the general brief to: *"to undertake, to co-ordinate, to promote and to assist in marine research and development and to provide such services related to marine research and development that, in the opinion of the institute, will promote economic development and create employment and protect the marine environment"* (Marine Institute Act 1991). The Marine Institute has a dual mandate as both a research institute carrying out research in support of government policy in relation to fisheries, aquaculture, salmon management, marine environment and health, oceanography and maritime shipping an transport (Budget: €19 million / annum). The Marine Institute is also mandated to manage the competitive National Development Plan Marine RTDI Measure (2000-2006) with a budget of €36 million for specialist infrastructure and €16 million for competitive research spanning this 7 year period.
Malta	The **Malta Council for Science & Technology (MCST)** was set up in 1988 to provide strategic advice to Government on science, technology and innovation policy. This mandate was extended in 1995 to manage the national budgetary allocation for the development of science and technology in Malta. In 2005, MCST's role has been strengthened, through its new location within the Office of the Prime Minister, to play a more strategic coordinating role in scientific research and technological innovation through the development of cross-ministerial policy approaches. MCST is currently working on a major priority-setting exercise, based on a wide-ranging consultation process, for targeting government investments in the National RTDI Plan to be launched in mid-2006.
Netherlands	The **Netherlands Organisation for Scientific Research (NWO)** was established in 1950 to promote basic research at Dutch universities and research institutes and to raise the quality of that research. The NWO comprises seven research councils, among them the Council for Earth and Life Sciences. The Netherlands Organisation for Scientific Research manages a research budget of over €450 million / annum of which circa €20 million / annum is allocated to competitive marine research. NWO also funds the Royal Netherlands Institute for Sea Research with a basic 6-year budget of around €6 million / annum.
Norway	The **Research Council of Norway (RCN)** plays a vital role in developing and implementing Norway's national research strategy, acting as a: • Government adviser, identifying present and future needs for knowledge and research; • Funding agency for independent research programmes and projects, strategic programmes at research institutes, and Norwegian participation in international research programmes; • Co-ordinator, initiating networks and promoting co-operation between RTD institutions, ministries, business and industry, public agencies and enterprises, other sources of funding, and users of research. The Norwegian Research Council manages of research budget of over €570 million / annum of which circa €40 million / annum is allocated to marine research.
Poland	The **Ministry of Scientific Research and Information Technology (MSRIT)** is the National Body responsible for scientific development that is implemented through the National Plan for Research, Development and Technological Innovation. The marine research is predominantly on the Baltic Sea and is carried out on a competitive basis by research institutes and universities
Portugal	**Fundação para a Ciência e Tecnologia (FCT)** (Portuguese Science & Technology Foundation) was established in 1997, within the Ministry of Science, Technology and Higher Education, to provide a mechanism to support and fund research activities in institutions, research groups and individuals on the basis of independent evaluations of merit and to enter into co-operative agreements with universities, and public and private institutions. FCT covers all fields of science, from natural sciences to humanities and seeks to aiming at enhance science and technology capacity and research excellence. FCT manages a research budget of circa €195 million / annum. The 2005 – 2007 Programme for the Enhancement of Marine Science & Technology (PDCTM) has a budget of €10 million.
Spain	The **Spanish Ministry of Education and Science (MEC)** is the National Body responsible for scientific development and it manages the National Plan for Research, Development and Technological Innovation. The current Marine Resources and Technology Programme (2004-2007) has an approximate budget of €34 million, with an annual adjustment of the available budget for the year and with a general increasing tendency.
United Kingdom	The **Natural Environment Research Council (NERC)** promotes and funds, on a competitive basis, high-quality strategic and applied research, survey, training and knowledge transfer in the environmental sciences, to advance knowledge of planet Earth as a complex, interacting system in order to gather and apply knowledge, create understanding and predict the behaviour of the natural environment and its resources, and communicate all aspects of this work. The scope of NERC funding covers the full range of atmospheric, earth, biological, terrestrial and aquatic sciences, from the deep oceans to the upper atmosphere, and from the poles to the equator. The Natural Environment Research Council manages an annual research budget of over €430 million (2000 – 2004) of which circa €55 million per annum has been used for marine science (marine research, specialist marine research infrastructures and NERC Marine Research Centres.)

Table 3.1. Competitive Marine Research Programme managed by MarinERA Partners				
Country	**Name of RTD Programme**	**Duration**	**Managed by**	**Website**
Belgium	SPSDII. Second scientific support plan for a sustainable development policy	2000 – 2006 marine part: 2002 -2006	Belgian Science Policy	www.belspo.be
	SSD. Science for a sustainable development	2005 – 2013 marine part: 2006 - 2010		
	STEREO. Research programme for Earth Observation	2001 – 2006 marine part: 2002-2006		
Greece	Natural Environment & Sustainable Development	2003 - 2007	General Secretariat for Research and Technology	www.gsrt.gr
	Food- Agricultural Development & Aquaculture			
Portugal	Programa Dinamizador das Ciências e Tecnologias do Mar (PDCTM) Programme for the Enhancement of Marine Science and Technology	2005 - 2007	Fundação para a Ciência e Tecnologia (FCT)	www.fct.mces.pt
Spain	Spanish Programme of Marine Resources and Technology	2004 - 2007	Ministry of Education and Science	www.mec.es
Finland	BIREME. Baltic Sea Research Programme	2003 – 2005 Russian-Finnish collaborative projects 2004-2006	Academy of Finland	www.aka.fi/BIREME
Netherlands	System Earth National Cruise Programme	2003 – 2007 1999 - 2009	Netherlands Organisation for Scientific Research	www.nwo.nl www.now.nl/zeegaandonderzoek
Norway	Oceans and Coastal Areas (2006 -2015)	2006 - 2015	The Research Council of Norway	www.forskningsradet.no
UK	Science for a Sustainable Future	2000 - 2004	Natural Environment Research Council	www.nerc.ac.uk/funding
Germany	Marine Research	Annual	Julich (PTJ), Division MGS	http://www.fz-juelich.de/portal
Ireland	Marine RTDI Measure (2000 - 2006)	2000 - 20006	Marine Institute	www.marine.ie/marinertdi
Malta	National RTDI Programme for Malta	Annual	Malta Council for Science & Technology (MCST)	www.mcst.org.mt/RTDI/
France	French Oceanographic Fleet Scientific Use National Coastal Environment Programme (PNEC)	Annual 2004 - 2008	IFREMER	www.Ifremer.fr/flotte/index.html www.programme-pnec.org

3. Key Findings from Analysis of Questionnaires

3.1. Introduction

The main objectives of Work Packages 1.1 and 1.2. of the MarinERA Project are to describe the MarinERA partner competitive marine research funding programmes and their implementation procedures.

The main deliverables of Work Package 1.1 are summarised in Tables 3.1. (opposite) and Table 3.2 (Annex 3), which list the main features of the MarinERA partner marine research funding programmes and provide web-site addresses for further information. A description of implementation procedures is included in Annex 4.

3.2. Partner Profiles

It has already been pointed out in Chapter 2 that the 14 Research Funding Organisations participating in the MarinERA Project, can be divided into three broad categories:

- **Government Ministries (6)**, or Special Offices within Government Ministries (Belgium (2), Greece, Poland, Portugal, Spain).
- **Research Councils (4)** (Finland, Netherlands, Norway, UK).
- **Institutes or Project Offices (4)** with a mandate to manage a competitive marine research-funding programme (France, Germany, Ireland, Malta).

Thus from the outset, one can anticipate a diversity in approach to and organisation of marine research funding programmes.

3.3. Research Funding Programmes

The diversity in research funding organisations outlined above is reflected in the aims / objectives of the 17 Research Funding Programmes described. These fall into three broad categories:

- **To develop national research capacities and capabilities** to support the sustainable development of marine/ ecosystem resources and address nationally identified marine research issues (Government Ministries and Agencies).
- **To support basic research** which addresses global/regional societal / environmental challenges (e.g. Research Councils).
- **To provide access to specialist marine research infrastructures** (e.g. research vessels) (2 Programmes).

It is also noteworthy that of the 15 Research Funding Programmes (the two Research Vessel Support Programmes are excluded here), only seven (<50%) have a specific marine research focus, the remainder supporting more general "earth ecosystem" or "sustainable development" research which have a marine component.

3.4. Indicative Marine Research Budgets

Definitive figures on marine research budgets/expenditure are difficult to disaggregate, particularly from the Programmes that have a broader "ecosystem" remit. Data provided requires interpretation and may include costs other than research (e.g. infrastructures). In addition, there are some discrepancies between figures given, for example between those in Table 3.2 (Annex 3) and those in Annex 6.

Extrapolating from the figures available (and noting that there are some discrepancies in the data):

- A conservative estimate would suggest that the research budgets managed by nine of the MarinERA partner organisations is in excess of €3.4 billion /annum (data from Annex 6).
- **€80 million / annum** is earmarked for competitive marine research (Annex 3, Table 3.2).
- Only three countries (Germany, Spain and the UK) fund individual projects in excess of €3.5 million, the size of a EU FP Specific Targeted Research Project (STREP).
- MarinERA partner organisations operate a research fleet of 39 specialist marine research vessels with an annual operating cost of in excess of **€144 million / annum**.
- In addition to the above, national budgets for marine research provided directly by exchequer funding to core marine research in public institutions and universities are probably at least an order of magnitude higher than that available for competitive marine research.

3.5. Funding Cycles

Research Programme duration varies considerably from country to country. Cycles range from 10 year (Norway) to seven year (Belgium, Ireland), five year (France, Greece, Netherlands, UK), four year (Spain), three year (Finland, Portugal) and annual (Germany, Malta) Programmes being managed by participating organisations (Figure 3.1). A further observation is that member organisation Research Programmes are not synchronised on an annual basis (i.e. they do not start or end on the same year).

Figure 3.1. Research Funding Programme Cycles

Country / Year	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Germany																
Malta																
Ireland																
Belgium SPSDII																
UK																
Belgium STEREO																
Netherlands System Earth																
Greece																
Finland																
France PNEC																
Spain																
Belgium SSD																
Portugal																
Norway																
EU 7th Framework Programme		FP6						FP7								

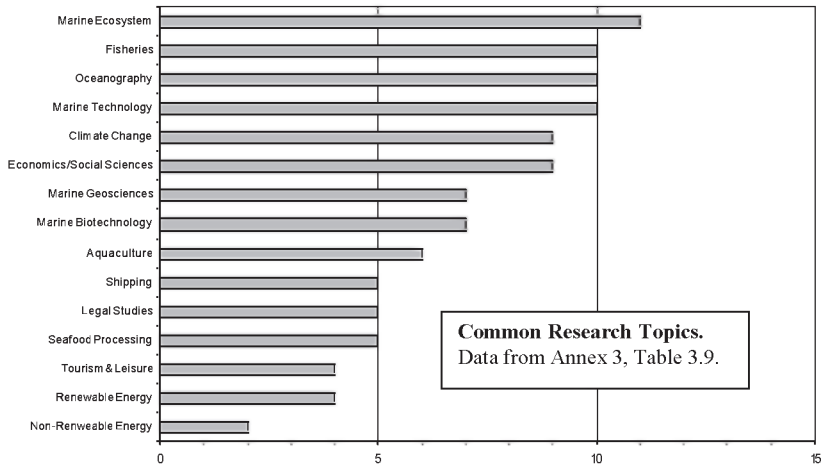
3.6. Marine research priorities

Of 15 broad research areas identified (excluding Research Vessel Programmes) (Figure 3.2):

- Marine ecosystems research is a topic common to 11 Member State Programmes.
- Fisheries research, oceanography and marine technology are common to 10 Member State Programmes.
- Climate Change and Economic/Social Sciences are common to 9 Member State Programmes.
- Marine Geosciences and Biotechnology are common to 7 Member State Programmes.

This data provides a useful identification of areas of common interest and therefore those most likely to provide as basis for collaborative research.

Figure 3.2: Topics of common interest to Member State Marine Research Funding Programmes



3.7. Additional topics covered by Member State Research Programmes.

In addition to scientific topics, (e.g. Figure 3.2), many Member State Research Funding Programmes grant-aid a range of other support actions including Desk Studies, Scholarships and Fellowships and Exchange Visits and Technology Transfer activities. These also provide an opportunity for future collaborative actions (Annex 3, Table 3.13).

3.8. Funding for foreign researchers in National Marine Research Programmes .

Five countries (Belgium, Ireland, Malta, Portugal and the UK) indicate that they can fund researchers from other countries, while six countries support special exchange mechanisms (Finland, France Germany, Netherlands, Norway and Spain).

3.9. Implementation procedures

Details of the implementation procedures used in the 15 competitive marine research funding programmes (excluding the two research vessel programmes) are fully described in Annex 4 and will provide an important input to Work Package 2.

A point to note is that the methodology used tends to emphasise differences rather than similarities. Thus, while great variation is seen in the mode of implementation of Research Funding Programmes (reflecting the nature and rules/regulations of the Funding Organisation: Research Council, Government Ministry, Independent Agency), the similarities are often greater than would appear to be the case.

For example, all Programmes:

- issue competitive publicly announced calls for proposals.
- have published guidelines for project proposers/applicants.
- Use "scientific excellence" as a primary selection criterion.
- include an independent expert evaluation of proposals received, with feedback to the proposer/applicant.
- publish the results of successful projects.

Of particular interest were the answers to the questions:

> *Q4.6: Is your RTD Programme based on the EU Framework Model?*
>
> *Q4.8: Is your evaluation procedure based on the EU Framework Model?*

Both questions received a 50% *"Yes"* and a 50% *"No"* response. On the basis of the answers to other questions, one would have anticipated a 100% *"Yes"* answer. This begs the question as to how familiar national research programme managers are with international (in particular EU) research programme structures and procedures.

Regardless of the above, the common approach to project evaluation and assessment, used in most programmes, means that once there is agreement to joint funding and identification of topics of common interest, the mechanics of collaboration on joint calls (i.e. implementation procedures) should be reasonably straight forward.

4. Concluding Remarks

4.1. Introduction

It is important to reiterate that the aim of this Report is to provide a reference document that can be used to:

- input to and inform subsequent MarinERA Work Packages (identification of barriers to co-operation, development of common evaluation procedures and performance indicators, development of MoUs for multi-lateral projects, etc.).
- inform Marine Research Funding Programme Managers of the programmes and procedures used in MarinERA partner Member States in order to *"build confidence to create a favourable climate in which to pursue the central MarinERA objective of enhanced co-operation and reciprocal opening of EU Member State and Associate Member State Marine Research Funding Programmes"*.

A detailed analysis at this time is not warranted. It is clear that the described Programmes are continually changing and evolving and will, it is anticipated, evolve even more radically in the post 2006 period in line with EU Member State and Associate Member State commitments to the Lisbon and Barcelona Agendas.

4.2. The European Research Area: A Complex and Diverse Landscape.

A recent 2005 Report[1], prepared for the EU on national research programme management, based on 117 returned questionnaires, described the national programme landscape in the European Research Area as **extremely diverse and complex, with a wide range of funding structures and organisations**. The Report went on to say that this situation is quite dynamic, particularly in the new Member States, and that there were indications that it will become more dynamic as the national administrations move towards their 2010 Barcelona R&D investment targets. The current review of Marine Research Funding Programmes supports this view.

4.2.1. Barriers & Opportunities

The diversity of Funding Organisations and Funding Programmes described has implications for the MarinERA Project in working to achieve its objective of better co-ordinating research programmes, issuing collaborative calls for proposals and ultimately mutually opening calls for proposals.

However, the **MarinERA partnership has already demonstrated an ability to manage joint projects** as illustrated by the joint UK – Netherlands - Norwegian: *RAPIDS - North Atlantic Thermohaline Circulation Project* (Box 4.1). The initial discussions and planning of the RAPIDS joint initiative took place during planning meetings for the MarinERA Project. Once their was agreement between the Research Programme Managers (NERC, NWO and NRC) that a tri-lateral project was to their mutual benefit, RAPIDS was established and implemented within a very short time period.

The diversity, complexity and dynamics of current research funding structures and organisations thus poses **a challenge rather than a barrier co-operation**. The fact that 14 Funding Organisations have come together under the MarinERA banner to explore options for greater co-operation and ways to overcome obstacles bodes well for the future. Add to this the growing recognition of the advantages of international co-operation in sharing the cost (and risk) of major research projects and in providing access to a greater pool of research expertise and infrastructures, and it is inevitable that co-operation will increasingly become the norm.

A preliminary exchange of views suggests that the **most significant challenge to cooperation will be the synchronisation of the differing funding cycles** (10, 7, 5, 4, 3 year and annual cycles) and start/end dates of MarinERA Research Funding Programmes. The reason being that, while there is a certain amount of flexibility within the Programme budget period, Member Organisations cannot commit funding to projects whose duration falls outside their programme budget period. This is problematic as over 50% of the MarinERA partner Programmes end in 2006/2007 (Table 3.1) and at the present point in time, partners are unable to give commitments until their new programmes are fully in place (e.g. in 2007 / 2008).

On a more positive note, of 15 broad research topics identified (Figure 3.2), eight topics (Marine Ecosystems, Fisheries, Oceanography, Marine Technology, and Climate Change, Economic & Social Sciences, Marine Geosciences and Marine Biotechnology) are common to over 50% of MarinERA partner Programmes. These topics thus provide a focus for exploring future research co-operation, though it is not inconceivable that other topics (e.g. renewable energy, aquaculture) would provide a focus for more regionally based co-operation.

[1] Increasing the impact of National Research Programmes through Transnational Co-operation and Opening (October 2005), EU Contract Ref: PP-CT-M2-2004-0004.

4.3. The Next Steps

This Report, as stated at the outset, is a Reference Document describing the aims/objectives, and management and implementation procedures of the competitive Marine Research Funding Programmes managed by the MarinERA partner organisations. The next steps will include:

4.3.1. Input to other MarinERA Work Packages (WPs)

Using the data collected to inform further MarinERA Work Packages such as:

- Identification of Barriers to Co-operation (WP 2.2).
- Development of Common Evaluation Procedures and Performance Indicators (WP 2.3).
- Development of MoUs for Multi-lateral Projects (WP3.2).

4.3.2. Achieving greater co-operation

Using the information collected to inform Marine Research Funding Programme Managers of the programmes and procedures used in MarinERA Partner States in order to create a favourable climate in which to pursue the central MarinERA objective of enhanced co-operation and reciprocal opening of EU Member State and Associate Member State Marine Research Funding Programmes.

4.3.3. Expand the Geographical Range of the MarinERA Project

The MarinERA partnership currently represents 13 Coastal States within the European Marine Research Area. Steps are planned to extend the coverage of competitive *Marine* Research Funding Programmes to include, where feasible, Croatia, Cyprus, Denmark, Estonia, Italy, Latvia, Lithuania, Slovenia, Sweden and Bulgaria, Iceland, Romania and Turkey.

4.3.4. Keeping the Marine Research Programme description current

A characteristic of the Marine Research Funding Programmes described is their dynamics and their flexibility to change. They are all continually evolving and changing in response to new research challenges, better understanding of the marine environment and marine ecosystem function, improved and emerging technologies and social and economic conditions. This Report can only describe the situation as it is now.

Indications are that new Marine Research Funding Programmes will come on stream in 2007/2008. These will draw on past experience, will hopefully draw on the exchange of experiences discussed within the MarinERA Forum over the past year and will align to the commitments of the Lisbon and Barcelona Agendas in terms of research and innovation, the knowledge-economy and increasing research budgets to 3% of Gross Domestic Product (GDP). In other words – they will change.

The WP 1 Team is currently examining ways of keeping MarinERA Marine Research Funding Programme information current using the Intranet, and especially the MarinERA website.

The MarinERA project, in providing a forum in which Marine Research Funding Programme Managers can share information and "best practice" on how National Funding Programmes are managed and implemented, provides a catalyst for the organisation of multilateral European Research Funding Programmes that will characterise the European Research Area of the future.

BOX 4.1. RAPIDS: Rapid Climate Change

In 2003, the Netherlands Organisation for Scientific Research (NWO), the Research Council of Norway (RCN) and the United Kingdom's Natural Environment Research Council (NERC) issued a €4 million Joint International Call for Proposals in the area of rapid climate change. The aim of the Joint Programme was to build on the substantial ongoing investments made by all three Research Councils on the science of rapid climate change, in pursuit of objectives that would benefit from a cross-national effort, involving researchers from at least 2 of the 3 nations. In order to facilitate the identification of suitable co-workers in the three participating countries, a database was set up for scientists to submit their own details and subsequently search for co-workers in another country.

The joint call was announced in October 2003. Thirty-five outline bids, of a value of EUR22 million, were considered at a NERC-NWO-RCN Meeting. Fifteen bids were invited to proceed to full bids and of the 12 submitted, 5 projects were selected following the final funding meeting.

The jointly funded projects were:

- Punctuated disintegration of the NW European ice sheet and rapid climate change.
- Variations of the Atlantic MOC during rapid changes: calibration, modelling and paleoceanographic observations (VAMOC.)
- Impact of changing freshwater flows on the THC and European climate.
- To what extent was the Little Ice Age a result of a change in the THC?
- Mass balance and freshwater contribution of the Greenland ice sheet: a combined modelling and observational approach.

The characteristics of the approach taken were a jointly designed strategic research project, a single review and evaluation process and funding decisions made jointly. The approach also provided 'added value' to the activities currently being carried out. Nonetheless, there are areas in which improvements could be made, such as increasing funding flexibility and regarding data management issues.

Overall this approach was successful due to a number of key reasons:

- a strong science case
- a strong strategic case
- provided value for money
- was Programme Manager driven
- had few 'restrictions'
- undertaken in the context of CREST/ERA

ANNEXES

ANNEX 1.

The ERA-Net Scheme (www.cordis.lu/fp6/coordination.htm)
Objective: to provide financial support to cover for the administrative (but not research) costs related to:

- The networking of research activities conducted at national or regional level.
- The mutual opening of national or regional research programmes.

The ERA NET Scheme comprises two financial supports:

- **Co-ordination Actions** (duration up to 5 years) provides financial support for administrative activities related to networking and mutual opening. Grant-aid: €3m max. – up to 100% of eligible costs
- **Specific Support Actions** (12-18 months) supports the preparation of future ERA-NETS. Grant-aid: €200k, up to 100% of eligible costs.

An ERA-NET partnership

– At least 3 Member States or Associated States of which at least 2 are Member States or candidate Accession States.

– Must be Public Bodies responsible for financing or managing research activities carried out at national or regional level. Can receive financial assistance (administrative, not research) to under take all or a combination of the following activities or other National Bodies that finance or manage such research activities, e.g. research associations, private research and innovation organisations, and charities.

Eligible Activities:

1. Information exchange between programme managers:
- Actual running of projects in the respective programmes.
- National or regional research priorities.
- Existing evaluation practices.
- Programme management approaches.

2. Strategic activities: Identification and analysis of:
- Mutual complementarities between ERA-NET partners.
- Research activities that could lead to the design of future multinational schemes.
- Administrative or legal barriers that hinder transnational co-operation.
- New opportunities and gaps in research and stimulation of new interdisciplinary work.
- Common evaluation systems.

3. Implementation of joint activities:
- A posteriori clustering of nationally or regionally funded research projects.
- The systematic use of multinational evaluation procedures.
- Joint training activities.
- Mutual opening of facilities and laboratories.

4. Transnational research activities:
- Development of transnational and joint strategies and/or programmes.
- Common calls for proposals.
- Transnational evaluation and dissemination.
- Transnational funding of research activities.

Timetable for Implementation: 1st deadline – 2nd June 2003, 2nd deadline March 2004, following which it is anticipated that there will be a deadline every 6 months up until October 2005. See: http://www.cordis.lu/fp6/coordination.htm

Further information:
http://europa.eu.int/comm/research/fp6/coordination/era-net_en.htm

ANNEX 2

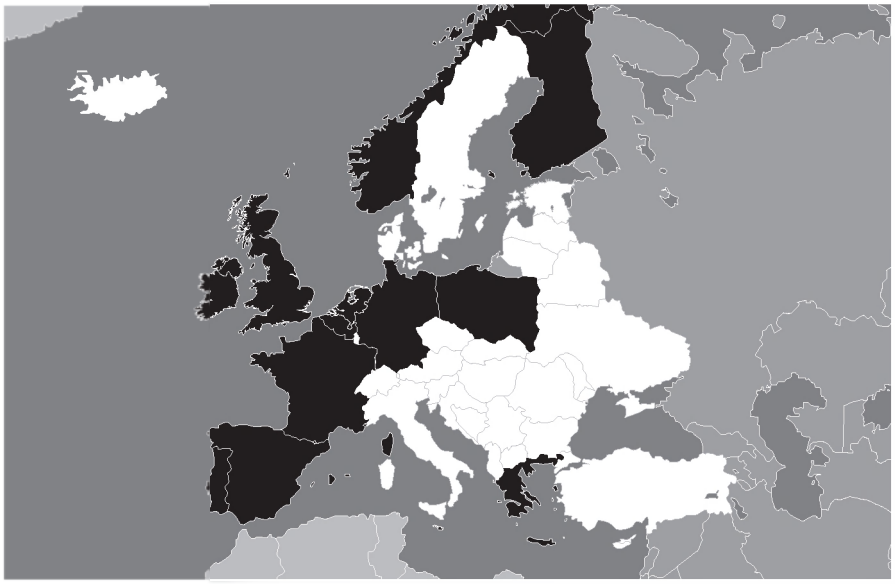
MarinERA

Facilitating the Coordination of National and Regional Marine RTD Programmes in Europe

2004-2008

Work Package 1

Country and Marine RTD Programme Profiles (Rev2)



[COUNTRY NAME]

Profile completed: [date]

Revised (Rev2) - Athens, October 2005.

Revised (Rev1) - Brest, June 2005.

Drafted (Original) Howth, March 2005

MarinERA

BACKGROUND

Work Package 1 (Information Exchange) of the MarinERA Project (2004-2008) represents the baseline aspect of this ERA-NET in that it provides background information and therefore the building block for future co-operation & co-ordination between Member State Marine Research Programmes.

Work Package 1 consists of three components:

WP 1.1. Database/Map of Member State Marine RTD Programmes (IE)

- Description of the "competitive[2]" Marine Research Funding Programmes implemented by the MarinERA member organisations.

WP 1.2: Best Practice in Programme implementation (NO)

- Description of the implementing procedures, evaluation processes, criteria used etc., in implementing the above Marine Research Programmes.

WP1.3: Database/Mapping of European Marine Research Infrastructures (D)

- Information on the specialist marine research infrastructures available to the European research community

The deliverables:

- A database / catalogue of Member State Marine Research Funding Programmes
- *A Guide for Best Practice in Marine Research Programme Management*
- Web-enabled *directory of Member States Marine RTD infrastructure facilities*

NOTE: THIS QUESTIONNAIRE RELATES TO WP1.1 And WP1.2 ONLY

Synergies with BONUS ERA-NET

In order to create synergies with our sister BONUS ERA-NET (BONUS for Baltic Sea Science: http://www.bonusportal.org) an attempt has been made, in as far as is possible, to collect a common set of Marine Research Programme descriptors.

MarinERA Country & Marine RTD Programme Profile (Rv2) Athens, October 2005.

A preliminary analysis of responses received to the Questionnaire (agreed at the 1st Marine Programme Managers (MPM) Meeting in Brest, June 2005) was presented to the 2nd MPM Meeting (Athens, October 2005). From this analysis it was agreed that a standard *"one-fits-all"* questionnaire could not adequately describe the diversity illustrated by MarinERA partner marine research Programmes. Accordingly it was agreed that a revised questionnaire and "free text" description of the organisation of marine research funding in the MarinERA Member States was warranted.

This document represents the revised Questionnaire (Rev2) and addresses the issues raised at the MPM Meeting in Athens and seeks to provide a better profile and description of the marine research funding mechanisms in the MarinERA Member States.

2 By competitive is meant research funding programmes which are subject to open and *competitive calls for proposals*, are *publicly advertised* and are *reviewed by an independent scientific evaluation panel*. It is these open and competitive programmes that are the most amenable to mutual opening.

1. MARINE RTD COUNTRY PROFILE (INSERT)

GUIDELINES

A preliminary analysis of MarinERA participating countries illustrates that there is great variation in the type of organisation (e.g. Research Councils, Ministries, Agencies), structure of funding programmes supporting competitive marine RTD (e.g. Targeted Marine RTD Programmes, broad Earth Ecosystem Programmes, etc.) and duration (annual, 5 year, longer). A standard "one-fits-all" questionnaire/profile cannot therefore do justice or fully describe the various Marine RTD support structures across Europe. In addition, whilst the Marine ERA Project focuses on those marine RTD Funding Programmes which are (a) managed by MarinERA partners and (b) are "competitive" and therefore amenable to future "mutual opening", there are in most cases other significant sources of marine RTD funding which are not the responsibility of the MarinERA partners and would not be captured in the partner Questionnaire.

In order to adequately describe the status of Marine RTD Funding across the MarinERA partner countries, it was therefore decided to offer the possibility of a "free text" County Profile to describe the organisation of marine research and funding structures in the MarinERA member states.

This Country Profile or summary (2 pages maximum) should include:

1. An overview of the organisation of competitive RTD funding (including competitive marine RTD funding) in the Member State. Trends (e.g. increase/decrease,) in funding and evolving mechanisms should be identified.
2. An outline description of the main RTD Programme (particularly that spanning the period 2000-2005) managed by the MarinERA partner and its relevance to marine RTD (further developed in Q3)
3. The identification of other significant Member State marine RTD funding sources.
4. Plans for marine RTD funding in the post 2006 period.

Additionally, It is planned to provide comparative and baseline figures on:

1. Competitive Marine RTD Funding 2000-2004 (see Question 3.1)
2. Marine RV operating costs (2004) (see Question 3.2)

It is the intention that this Country Marine RTD Profile will be published as part of the MarinERA Project and will be available on the public part of the MarinERA website.

Country Profile: To assist in compiling a Country Profile some general/standardised statistics are given in Annex 1. These include:

1. Population, Land area, GDP and GERD
2. Areas of coastline, territorial sea, EEZ and Continental Shelf

Whilst the reference for this information is given, you are asked to check them against your own national records.

2. MarinERA Partner Profile

2.1. MarinERA Partner

2.2. Type of Organisation

- Research Council ☐
- Government Ministry ☐
- Agency Mandated by Ministry to Implement Marine RTD Programme ☐
- Other ☐

{Other - Define}

2.3. Organisation brief or mission statement

3. Comparative Marine RTD Funding Profile

3.1. Competitive Marine RTD Funding (2000-2004)

In order provide a baseline and comparative estimate of funding for competitive marine RTD, MarinERA partners are asked to calculate, in as much as is possible, the amount of funding from their principle RTD programme spent on marine RTD in each of the years 2000 to 2004 inclusive. This may include accessing data from a previous programme.

Year	2000	2001	2002	2003	2004
Amount €million					

Reference Source of information: (e.g Annual Report, Programme Report)

3.2. Research vessel fleet operating costs

As a research vessel / research vessel fleet represents a significant investment in marine RTD infrastructure, you are asked to indicate the **total Fleet operational cost** incurred in the year 2004 (includes all operation costs, crew, food, fuel & lubs, maintenance, shore based staff, etc., but not scientific personnel unless attached to research vessel operational budget) for your national fleet

Where more than one institute operates research vessels these should be indicated separately

	Operating Organisation	**Number of Research Vessel (>30m length)**	**Annual operational budget € million (2004)**
1			
2			
3			

Supporting Information (see www.eurocean.org - Infrastructures – Research Vessels)

Operating Organisation	Name of Research Vessel	Length (m)

3.3. MarinERA RTD Programme Profile

3.3.1. Name of RTD Programme

3.3.2. Overall Programme Budget € million

Budget available to Marine RTD[3] (if appropriate) € million %

3.3.3. Duration of Programme: YYYY to YYYY OR Annually approved budget €

3.3.4. Breakdown of RTD Programme Budget (if appropriate)

- Specialist Infrastructure Funding %
- Competitive RTD Programme %
- Other %

3.3.5. Strategic Objectives of RTD Programme

{List}

3.3.6. Bottom up vs Top Down / Basic vs Applied

What % of the programme is user-defined % / what is % top down %

What % of the programme supports Basic[4] R&D % / Applied R&D %

3 In some cases a component (eg 20%) of broader Environmental or Earth Science RTD Programme is allocated specifically to marine RTD, if this is the case indicate the amount earmarked for marine. Where there is no specific allocation to marine RTD but the amount depends on the number of successful competitive proposals received enter NA (Not Applicable).

4 As per OEC's Frascati Manual (Basic: *"to acquire new knowledge, without any particular application or use in view"; Applied: directed towards a specific practical aim or objective"*)

3.3.7. Components of RTD Programme		3.3.8. Eligible Participants	
Desk Studies	☐	Public Research Institutes	☐
Fellowships / Scholarships	☐	Third Level /Universities	☐
Strategic Research Project	☐	Private Sector	☐
Applied Industry Research	☐	Local/Regional Authorities	☐
Exchange Visits / Technology Transfer	☐	Non-Government Organisations	☐
Conferences / Workshops	☐	Other [Describe]	☐
Other [Describe]	☐		

3.3.9. Priority Topics (if relevant)

{Please list – may change from year to year}

3.3.10. Scope of Research

Tick (X), as appropriate			
Aquaculture	☐	Marine Geosciences	☐
Biological Oceanography	☐	Marine Leisure & Tourism	☐
Climate Change	☐	Marine Technology (incl. Instrumentation & Sensors)	☐
Economics	☐	Non-Renewable Ocean Energy (Oil / Gas)	☐
Fish Biology & Fishery	☐	Physical Oceanography	☐
Legal Studies	☐	Renewable Ocean Energy	☐
Marine Biogeochemistry	☐	Seafood Quality & Processing	☐
Marine Biotechnology / Biodiscovery	☐	Shipping & Maritime Transport	☐
Marine Ecosystem Studies	☐	Social Sciences	☐
Other major categories:			
☐			
☐			
☐			

3.3.11. Indicative size of supported research projects (expand if necessary):

€ ☐ million to € ☐ million

Grant-aid rate ☐ %

3.4. Applied Research / SME-led Research Programme Component

3.4.1. SME / Applied Research Component

Free text: Describe initiatives taken to include industry / SMEs *Are SME/Research Institution partnerships actively encouraged – if so how?* *Are there different grant-aid rates available to SME or SME/Research Institution partnerships?*

3.4.2. Indicative size of SME/Applied research projects:

€ [ ] million to € [ ] million

Grant-aid rate [ ] %

3.5. International Co-operation

3.5.1. Participation of Researchers From Other Countries

Can researchers from other countries receive direct research funding? Yes ☐ No ☐

Are there special mechanisms to facilitate researchers from other countries? Yes ☐ No ☐

Are there special mechanisms to facilitate Researcher Exchanges? Yes ☐ No ☐

Free text: Describe *Can researchers from other countries receive direct research funding?* *If yes - Is there a limit to this funding ?*

3.5.2. Conditions under which other countries can participate

{Describe}

3.6. Source of Additional Information

{Website address}

4. IMPLEMENTATION PROCEDURES

A separate sheet should be completed for each major RTD Programme managed/implemented by your organisation only where implementation procedures differ.

Call for Proposal

4.1.

{Describe how calls are announced / publicised}

4.2. Can Proposals be Submitted Electronically? Yes ☐ No ☐
Can Proposals be Submitted by paper? Yes ☐ No ☐

4.3. Who May Apply? (same as Q3.3.8) Yes ☐ No ☐

{Other criteria – describe}

4.4 Language of the CALL

4.5 Language of the PROPOSAL

4.6. Is the RTD Programme broadly based on the EU Framework Model? Yes ☐ No ☐

Grant-Aid Levels

4. 7.Grant-aid Models (Tick X as appropriate)

Full costs (100% of all costs available) ☐

Shared Costs (eg 50% of full costs available) ☐

Additional Costs (only additional costs available) ☐

Other model ☐

{Elaborate if necessary}

4.7. Eligible Costs (Tick ✓ as appropriate)

Permanent staff costs

- paid in full ☐
- eligible for cost calculation, but not payable from the grant-aid package ☐

Temporary Staff costs ☐

Consumables ☐

Equipment ☐

Travel & Subsistence ☐

Sub-contracts ☐

Overheads ☐

Other ☐

Other comments

Evaluation Procedures

4.8. Is the Evaluation based on the EU Framework Model?

Yes ☐ No ☐

4.9. Other Evaluation Information

	Comment
• Internal evaluation	
• External evaluation - National	
• External evaluation - International	
• Selection of evaluators	
• Number of evaluators	
• Evaluator fee	
• Are evaluators anonymous?	
• Are the evaluators acting on their one or are their part of a panel?	
• Do the evaluators use a standard form?	
• Are the written evaluations available for the applicant?	
• Is it possible for the applicant to comment on the written evaluations?	

Evaluation Criteria

4.10.

[List evaluation criteria]

Grant-Aid Negotiations

4.11.

{Describe the process}

4.12. How Are Large Scale/Specialised Infrastructure Requirements Accommodated?

{Describe the process}

4.13. Schedule of Processing Applications

Call for Proposals	Pre/draft proposal	Submission	Evaluation	Grant-Aid Negotiations	Start Project
Month 1		Month	Month	Month	Month

4.14. Source of Additional Information

{Website address}

4.15. Gender / Environmental Policy

	Comment
• Gender Balance	
• Proactive gender strategy	
• Sustainable Development / Environmental Protection Policy	.

Reporting & Dissemination of Results

4.16. Interim Reporting

• What are the interim reporting requirements for the Programme?	
• What are the Interim Reporting requirements for funded projects?	

4.17. Final Project Reports

• What are the final reporting requirements for the Programme?	
• What are the final Reporting requirements for funded projects?	

Programme Evaluation

4.18. Programme Evaluation

Internal Evaluation ☐ External Evaluation ☐ Both ☐

4.19. Timing of a *Posteriori* Evaluation

4.20. Performance Indicators (e.g. input, output, impact)

{Describe / list performance indicators used to assess value / impact / success of Programme}

Name and Address of Contact Person:

Name and Address of Contact Person:	
Name	
Organisation	
Address	
Address	
Address	
Country	
Telephone (incl Country code)	
Email:	
Date Form was completed	

PLEASE RETURN BY 23rd December 2005 TO: Geoffrey.osullivan@marinera.net

Table 3.1. Competitive Marine Research Programme managed by MarinERA Partners				
Country	**Name of RTD Programme**	**Duration**	**Managed by**	**Website**
Belgium	SPSDII. Second scientific support plan for a sustainable development policy	2000 – 2006 marine part: 2002 -2006	Belgian Science Policy	www.belspo.be
	SSD. Science for a sustainable development	2005 – 2013 marine part: 2006 - 2010		
	STEREO. Research programme for Earth Observation	2001 – 2006 marine part: 2002-2006		
Greece	Natural Environment & Sustainable Development	2003 - 2007	General Secretariat for Research and Technology	www.gsrt.gr
	Food- Agricultural Development & Aquaculture			
Portugal	Programa Dinamizador das Ciências e Tecnologias do Mar (PDCTM) Programme for the Enhancement of Marine Science and Technology	2005 - 2007	Fundação para a Ciência e Tecnologia (FCT)	www.fct.mces.pt
Spain	Spanish Programme of Marine Resources and Technology	2004 - 2007	Ministry of Education and Science	www.mec.es
Finland	BIREME. Baltic Sea Research Programme	2003 – 2005 Russian-Finnish collaborative projects 2004-2006	Academy of Finland	www.aka.fi/BIREME
Netherlands	System Earth National Cruise Programme	2003 – 2007 1999 - 2009	Netherlands Organisation for Scientific Research	www.nwo.nl www.now.nl/zeegaandonderzoek
Norway	Oceans and Coastal Areas (2006 -2015)	2006 - 2015	The Research Council of Norway	www.forskningsradet.no
UK	Science for a Sustainable Future	2000 - 2004	Natural Environment Research Council	www.nerc.ac.uk/funding
Germany	Marine Research	Annual	Julich (PTJ), Division MGS	http://www.fz-juelich.de/portal/
Ireland	Marine RTDI Measure (2000 - 2006)	2000 - 20006	Marine Institute	www.marine.ie/marinertdi
Malta	National RTDI Programme for Malta	Annual	Malta Council for Science & Technology (MCST)	www.mcst.org.mt/RTDI/
France	French Oceanographic Fleet Scientific Use National Coastal Environment Programme (PNEC)	Annual 2004 - 2008	IFREMER	www.Ifremer.fr/flotte/index.html www.programme-pnec.org

ANNEX 3

MarinERA: Marine Research Funding Programmes

3.1. Introduction

Chapter 3 of this Report contains a summary description and, where possible, a comparison of the 17 competitive Marine Research Funding Programmes managed by 12 of the MarinERA Research Funding Partners. These 17 Programmes are identified and listed in Table 3.1.

Box 3.1: Poland

Because comparable data is not currently available for the Polish partner (Institute of Oceanology / Ministry of Scientific Research and Information Technology), Poland is not included in the Marine Research Funding Programme description. This gap will be addressed at a later date when the Research Programme description is extended to non-MarinERA partners including the Baltic States and Sweden.

Notwithstanding this, according to the BONUS ERA-NET Project (Report No. 3. 2005), the total funding for Baltic Sea research in Poland in 2004 was €4.9 million. Expenditure was principally on fisheries research (28%), technology & modelling (26%) and marine ecosystems studies (22%).

3.2. Methodology

The data presented here was compiled from data supplied by each MarinERA partner in the Country & Marine Research Programme Profile Questionnaire (Annex 2). This Questionnaire was drafted over a number of meetings in 2005 and revised in collaboration with the Marine Programme Managers Group (Brest, June 2005 and Athens, October 2005). In order to create synergies with the BONUS (Baltic Sea Science) ERA-NET, an attempt has been made, in as far as was considered possible, to collect a common set of Marine RTD Programme descriptors.

Box 3.2: Research Funding Programme: For the purposes of the MarinERA Project, a Research Funding Programme is here defined *as a suite of research funding actions (e.g. projects, fellowships/scholarships, studies and investigations) that are linked together to achieve a stated goal (e.g. promote basic research, build RTD capacity, etc.).*

Programme: a list of activities (Directory definition)

3.3. Analysis of Marine RTD Programme Questionnaires

What is immediately clear from a preliminary review of responses to the MarinERA Questionnaire is that:

(a) The aims / objectives of the 17 Research Funding Programmes identified fall into three broad categories:

- **Develop national research capacities and capabilities** to support the sustainable development of marine/ecosystem resources and address nationally identified marine research issues (Government Ministries and Agencies).
- **Support basic research** which addresses global/regional societal / environmental challenges (e.g. Research Councils).
- **Provide access to specialist marine research infrastructures** (e.g. research vessels) (2 Programmes – see box 3.3).

(b) Seven of the 15 Research Funding Programmes (excluding the two research infrastructure support programmes) listed have a specific focus on marine research. The remainder are general "Earth Ecosystem" or "Sustainable Development" Research Programmes with a marine research component. Finland, France, Germany, Ireland, Norway, Portugal and Spain implement focussed marine research funding programmes.

3.3.1. Research Programme Budgets (Q3.3.2)

Information on the competitive research component and annual/multi-annual duration of the MarinERA partner Marine RTD Programmes are listed in Table 3.2.

From this data an "average annual expenditure" value is calculated (Budget [€m] / Duration [number of years]) which provides an indicative measure of the level of competitive marine research funding available on an annual basis. In reality, this annual expenditure will vary greatly from year to year reflecting available cash flow, the size of projects funded and previously committed budgets.

Initial estimates indicate that the MarinERA partner Funding Organisations manage a competitive marine research budget of over €400 million with circa **€80 million available on an annual basis**.

In addition to the above, national budgets for marine research, provided directly by exchequer funding to core marine research in public institutions and universities, are probably at least an order of magnitude higher (Box 3.4).

Further, the MarinERA partner organisations operate a research fleet of 39 specialist marine research vessels with an annual operating cost of in excess of €144 million / annum.

Box 3.4. Actual Marine R&D Expenditure in MarinERA Member States

In preparing the MarinERA Marine RTD Programme Questionnaire it was realised that it would not be possible to capture the full extent of marine R&D funding available to MarinERA partner organisations (see below). Indeed, the level of R&D funding available to National Research Institutes and Universities for marine research, dwarfs that available through competitive programmes.

Institution (Data for 2004)	Competitive Programme (annual expenditure)	Total Annual Marine R&D Budget available to MarinERA partner
Ifremer (France)	€30 m (shiptime)	€160m
Julich (PTJ), Division MGS (Germany)	€24m	€40m
Research Council of Norway	€4.5m	€40m
Marine Institute (Ireland)	€1.7m	€19m

Box 3.3: Competitive Programmes providing research vessel time

Two of the 17 listed Programmes provide competitive calls for shiptime (research vessel) allocations supporting marine research, these are:

- The French Oceanographic Fleet Programme operated by Ifremer (€30m/annum).
- The Netherlands National Cruise Programme operated by NWO (€1.5m / annum).

Both the above Programmes provide research vessel time (funded by central government) on a competitive basis to the scientific community. In France, use and access to all Research Vessels and Submersibles are managed through a national programme. French Central Government has especially appointed Ifremer as a formal "Means Agency" for funding and managing that programme. Ifremer covers up to 95% of vessel costs (ship, specialised equipment, qualified crew and technicians and data management). The costs incurred in relation to campaign preparation (meetings, travel) and embarkation/disembarkation costs and the cost of the associated research (personnel, on-shore analysis, etc) must, however, be provided by the research team from other sources. Up to 28% of shiptime on the Ifremer fleet is allocated to non-French scientists.

Similarly, in the Netherlands, NWO operates a competitive National Cruise Programme wherein marine researchers can apply for research vessel time to support research programmes for which research funding has already been acquired.

In other MarinERA Partner States, specialist research vessels are made available to research groups on a competitive basis by the national research vessel operating authority. The difference being that here the research vessel costs are usually included in the competitive research grants awarded (e.g. NERC) and paid to the research vessel operating authority on a charter basis.

According to analysis carried out by EurOCEAN (www.eurocean.org), 24 European countries host a research vessel fleet of 177 vessels (greater than 30m in length) and 94 vessels (less than 30m in length). The count for research vessels greater than 30 m is UK (19), Germany (18), France (7), Norway (9), Netherlands (9), Spain (6), Portugal (6), Poland (4), Greece (4), Belgium (3), Ireland (2) and Finland (2). Of these, 39 research vessels are associated with the MarinERA partner organisations and the estimated running cost of 31 of these is in excess of €144 million / annum (Annex 7).

Barter arrangements: Ifremer (France), NERC (UK), BMBF (Germany) and NIOZ (The Netherlands) operate a ship and specialised barter scheme wherein shiptime / specialist equipment can be exchanged on the basis of a "credits" system.

(http://www.nerc.ac.uk/funding/marineplan/tripartite.shtml).

It is nowadays quite normal for the scientific complement on a large research vessel to represent researchers from a number of EU Member and Associate States.

Table 3.2. Indicative expenditure on competitive Marine Research amongst MarinERA Partner Programmes
(excluding research vessel support programmes – see Box 3.2)

Country	Name of RTD Programme * Exclusively marine RTD	Duration	Programme Budget[5] € million	Competitive Marine Research Budget6 € million	Average annual expenditure on competitive research (budget/duration)
Belgium	SPSDII. Second scientific support plan for a sustainable development policy	2000 – 2006 marine part: 2002 - 2006	58.00	10.3	2.6
	SSD. Science for a sustainable development	2005 – 2013 marine part: 2006 - 2010	65.40	10.0	2.5
	STEREO. Research programme for Earth Observation	2001 – 2006 marine part: 2002 - 2006	10.85	0.85	0.2
Greece	Natural Environment & Sustainable Development	2003 – 2007	35.80	10.7	2.1
	Food- Agriculture Development & Aquaculture	2003 - 2007	17.40	3.7	0.7
Portugal	Programa Dinamizador das Ciências e Tecnologias do Mar (PDCTM) Programme for the Enhancement of Marine Science and Technology*	Annual		3.44	3.4
Spain	Spanish Programme of Marine Resources and Technology *	2004 - 2007	34.30	34.3	8.6
Finland	BIREME. Baltic Sea Research Programme*	2003 – 2005	5.88	5.88	2.0
Netherlands	System Earth National Cruise Programme	2003 – 2007 Annual	100.00 1.5 / annum	20.0 -	4.0 -
Norway	Oceans and Coastal Areas *	2006 - 2015	100.00	100.0	10.0
UK	Science for a Sustainable Future	2000 - 2004	430 / annum	89.1	17.5
Germany	Marine Research*	Annual	40.00 / annum	24 / annum	24.0
Ireland	Marine RTDI Measure *	2000 - 2006	52.00	15.0	2.1
Malta	National RTDI Programme for Malta	Annual	-	Annual	0.7
France	Oceanographic Fleet Programme National Coastal Environment Programme (PNEC)*	Annual 2004 - 2008	30.00 / annum	- Annual	- 0.8
	Total				€81.2m

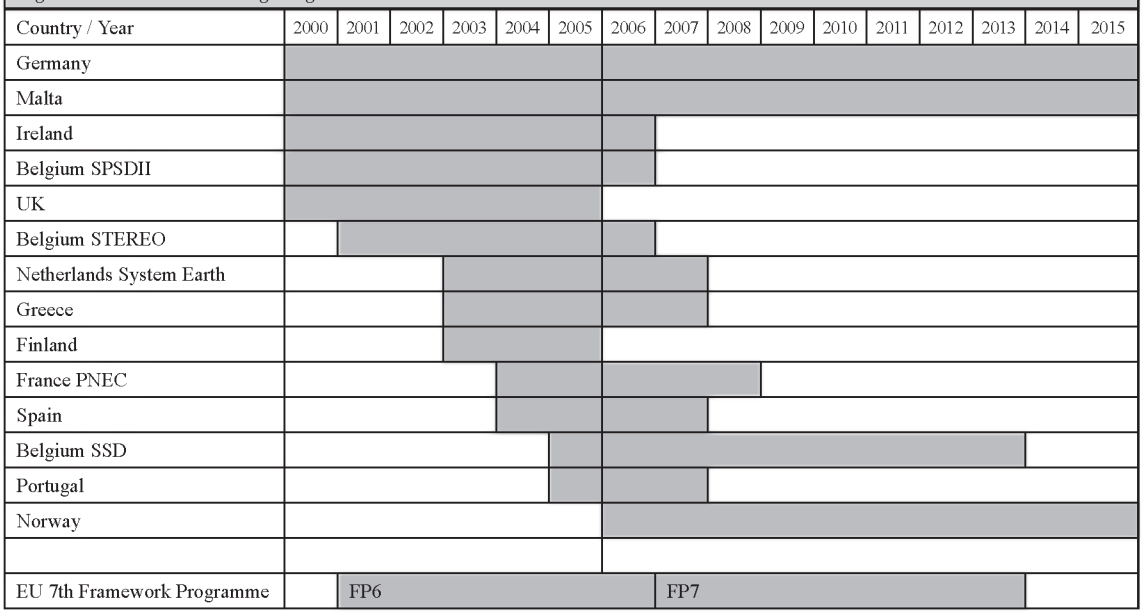
[5] The Programme may support sectors other than marine research.

[6] This column represents the expenditure on "competitive" RTD and excludes expenditure on infrastructure, research vessel operations and other related expenditure which is sometimes included in the overall Programme budget.

3.3.2. Research Programme Duration (Q3.3.3).

Research Programme duration varies considerably from country to country ranging from 10 year (Norway) to seven year (Belgium, Ireland), five year (France, Greece, Netherlands, UK), four year (Spain), three year (Finland, Portugal) and annual (Germany, Malta) Programmes being managed by participating organisations (Figure 3.1). A further observation is that member organisation Research Programmes are not synchronised on an annual basis (i.e. they do not start or end on the same year).

Figure 3.1. Research Funding Programme Durations



3.3.3. Breakdown of RTD Budgets (Q3.3.4)

In a number of countries (e.g. Netherlands, Germany, Ireland, Spain, UK) the RTD Programme budget may cover elements (e.g. infrastructure, own research institutes, etc) other than competitive research (Table 3.3).

Table 3.3. Marine RTD Programme Budget Breakdown (%)

Country/ Programme	Budget Breakdown (%) (Q3.3.4)		
	Competitive	Infrastructure	Other
Belgium	100		
Greece	100		
Spain	100		
Portugal	100		
Finland	100		
Norway	100		
France	100		
Netherlands	95	5	
Germany	50 -70	30 - 50	0-10
UK	37	29	37
Ireland	29	71	

3.3.4. Programme – Strategic Objectives (Q.3.3.5)

Table 3.4. summaries the strategic objectives of the 17 Research Programmes listed.

Table 3.4. Strategic Objectives of Member Organisation Research Programmes

Country/ Programme	Strategic Objectives of Marine RTD Programme (3.3.5).
Belgium - SPSDII	• To develop and consolidate a Belgian scientific expertise. • To support the country's authorities in developing sustainable development policies. • To develop/promote interdisciplinary research. • To encourage dialogue and exchange of information nationally and internationally. • To stimulate the participation of researchers in international research and assessment programmes.
Belgium - SSD	• To preserve and develop scientific potential • To offer the authorities of the country the scientific support that is necessary for policy implementation. • To allow Belgian researchers the opportunity of participating at European and International levels in particular within the European Research Area
Belgium - STEREO	• To develop and consolidate Belgian scientific expertise • To introduce remote sensing in operational services • To promote Belgian know-how.
Finland	• To deepen the understanding of conditions for science-based management of environmental issues in the Baltic Sea. • To enhance multi and interdisciplinary research. • Researcher training. • International research collaboration. • Synergistic use of existing resources and infrastructure.
France (PNEC)	• Developing the necessary basic knowledge for answering to the social request in coastal zone areas.
France (Ocean Fleet)	• Implementing and managing the Research Fleet Programme in order to make available its scientific use to the French scientific community in co-operation with their European colleagues.
Germany	• To support research which focuses on the processes and interactions in the overall Earth system in order to understand the natural balance and cycles and to better assess human influences.
Greece - NESD	• To promote business / research collaborations aiming at producing innovative products attached to the quality of life, management of natural resources, prevention of natural disasters, convergence to the structures and the strategies in the EU and coping with social and cultural needs which affect the competitiveness in the economy. • The programme contributes to the realisation, renewal and development of the environmental policy, mainly: the marine environment, coastal ecosystems, fishery resources, atmospheric environment, water resources, forest fires and recycling (including desalination).
Greece - FADA	• To promote business / research aiming at producing innovative products or services. Particularly focussed on the Food, Agriculture and Aquaculture sectors and the protection of health and the promotion of citizen welfare.
Ireland	• To enhance and consolidate the performance of the marine sector in Ireland through support for R&D and technology transfer activities. • To provide the RTDI capacity and infrastructure to enable Ireland to fully utilise her marine resource potential in a sustainable manner.
Malta	• Promoting a culture for continuous scientific research and innovation as well as providing the technical support for Malta to meet its requirements for the implementation of the acquis communautaire. • Encouraging private-public sector partnerships and cross-sectional synergies, involving all parties in the take-up of science and technological research and development. • Providing financial support for scientific research and development over the whole research and innovation chain, from basic an applied research to near-market innovations, in compliance with the 3% Lisbon and Barcelona targets.
Netherlands NCP	• To support competitive projects requiring specialist marine facilities (equipment, shiptime). • To maintain a national marine research infrastructure at Royal NIOZ.
Netherlands SE	• To support innovative or strategic developments in science. System Earth is one of the nine selected themes to contribute to international global change research which includes marine research topics.
Norway	• To reinforce Norway's position as a leading national in marine ecosystem-related research. • To be a central contributor to the process of generating more knowledge of the marine environment. • To provide a research-based foundation for long-term integrated management and a basis for wealth creation based on marine resource.

Table 3.4. Strategic Objectives of Member Organisation Research Programmes	
Portugal	• Analysis of the natural processes occurring in the Portuguese exclusive economic zone and continental shelf, as well as their interaction with the atmosphere and anthropogenic factors; • Development of the scientific, methodological and technical basis for the integrated management of the Portuguese coastal zone and estuaries. • Study and explore the resources in the seabed and sub-seabed of the national exclusive economic zone. • Diverse issues such as biotechnology and pharmaceutical and medical uses.
Spain	The main objectives of the Programme are too promote quality research in an international context, to contribute to the solution of the social, economic and technological problems of the Spanish society. The marine related objectives are: • Marine resources sustainability • Integrated study and management of the coastal zone and shelf • Geological studies in the continental margin and abyssal deeps • Oceanographic research in the global change context • Marine risks assessment
UK	• Earth's life-support systems- water, biogeochemical cycles and biodiversity. • Climate change- predicting and mitigating the impacts. • Sustainable economics- identifying and providing sustainable solutions to the challenges associated with energy, land use and hazard mitigation.

3.3.5. Bottom-up versus Top-down / Basic versus Applied Research (Q3.3.6)

In an attempt to determine the balance between bottom-up and top-down research and basic versus applied research (for definitions – see box), respondents were asked to indicate the percentage of funds allocated to these different types of activity.

Box 3. 4. Definitions:

Bottom-up Research: the research topic/project is defined by the researcher.

Top-down Research: the research topic/project is defined by the funding organisation and researchers prepare proposals addressing this topic/project.

Basic Research: research to acquire new knowledge, without any particular application or use in view.

Applied Research: research directed towards a specific practical aim or objective.

Frascati Manual definitions of Basic and Applied Research.

Of the responses received, two countries (Finland, Malta) support bottom up research only, seven countries support a mixture (with a bias towards top-down) and three countries (Spain, Greece, Germany) support top-down research only (Table 3.5).

Only four countries answered the question on basic versus applied research. France, Germany and Ireland indicating that their programmes were very applied in nature, while Portugal indicated that its Programme focussed exclusively on basic research.

Country	Bottom-up vs Top-down	
Belgium	50% Bottom up 50% Top-down	
Finland	100% Bottom Up	
Malta	100% Bottom Up	
Portugal	50% Bottom Up	50% Top-down
UK	25% Bottom-up	75% Top-down
Netherlands	10% B-up	90% Top-down
Ireland	10% B-up	90% Top-down
France	10% B-up	90% Top-down
Norway	5% B-up	95% Top-down
Spain	100% Top-down	
Greece	100% Top-down	
Germany	100% Top-down	

Table 3.5. Ratio of Bottom-up to Top Down research supported by MarinERA Organisation Partner Programmes.

3.3.6. Programme Components (Q3.3.7)

Details of the components of the member organisation research programmes are listed in Table 3.6. wherein it can be seen that a broad range of competitive research (i.e. projects) and research related (i.e. scholarships/fellowships, exchanges, etc.) activities are supported.

Country/ Programme	Components of RTD Programmes (Q3.3.7)					
	Strategic Research Project	Applied Industry Research	Desk Studies	Scholarships & Fellowships	Exchange visits / Tech Transfer	Conferences / workshops
Belgium	✓		✓			✓
Finland	✓			✓	✓	✓
France-PNEC	✓		✓	✓	✓	✓
Germany	✓	✓				
Greece	✓					
Ireland	✓	✓	✓	✓	✓	✓
Malta	✓	✓				
Netherlands	✓		✓	✓	✓	✓
Norway	✓		✓	✓		✓
Portugal	✓	✓	✓	✓	✓	✓
Spain	✓	✓	✓	✓	✓	✓
UK	✓	✓	✓	✓	✓	✓
TOTAL	**11**	**6**	**8**	**8**	**7**	**9**

Table 3.6. Marine Research Programme Components

3.3.7. Eligible Partners (Q3.3.8).

Question 3.3.8. sought to determine who the recipients / target group for research funding were. Results summarised in Table 3.7. indicate that Public Research Institutes and the Higher Education Sector were eligible partners in all Programmes. Private sector partners were catered for in only half of the Programmes described.

Country/ Programme	Eligible Partners (Q3.3.8)				
	Public Research Institutes	Third Level	Private Sector	Local / Regional Authorities	NGOs
Finland	✓	✓			
Netherlands	✓	✓			
Norway	✓	✓			
UK	✓	✓			
France-PNEC	✓	✓			
Germany	✓	✓	✓	✓	✓
Ireland	✓	✓	✓	✓	✓
Malta	✓	✓	✓	✓	✓
Spain	✓	✓			✓
Portugal	✓	✓			✓
Belgium	✓	✓	✓	✓	
Greece	✓	✓	✓	✓	✓
TOTAL	**12**	**12**	**5**	**5**	**6**

Table 3.7. Marine RTDI Programme Participant type

3.3.8. Priority Topics (Q3.3.9)

Table 3.8 (opposite) describes the priority research topics addressed by each of the 17 Research Programmes listed.

3.3.9. Scope of Research (Q3.3.10)

Table 3.9 summarises the main topic areas covered by member organisation marine research programmes.

Country/ Programme	Marine Ecosystem Studies	Oceanography	Fish Biology & Fishery	Marine Technology (inlcd Instrumentation & Sensors)	Climate Change	Marine Geosciences	Economics	Social Sciences	Marine Biotechnology / Biodiscovery	Aquaculture	Legal Studies	Seafood Quality & Processing	Shipping & Maritime Transport	Renewable Ocean Energy	Marine Tourism & Leisure	Non-Renewable Ocean Energ (Oil / gas)
Belgium	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓		
Finland	✓		✓				✓	✓								
France-PNEC	✓	✓	✓	✓	✓	✓	✓	✓	✓							
Germany	✓	✓		✓	✓	✓			✓	✓	✓					
Greece	✓	✓	✓	✓	✓		✓			✓		✓	✓			
Ireland	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	
Netherlands	✓	✓	✓	✓	✓	✓	✓	✓			✓					
Norway	✓	✓	✓	✓											✓	
Portugal	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Spain	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓		✓	
UK	✓	✓	✓	✓	✓	✓		✓	✓	✓				✓		✓

Table 3.9. Indicative scope of marine research contained in Member Organisation Research Programmes

Country/ Programme	Priority Topics (Q1.13)	
Belgium (SSPSDII)	General aspects related to sustainable development: • Energy • Mobility • Agro food • Atmosphere and climate • Terrestrial, freshwater and North Sea ecosystems • Biodiversity	Specific to Marine Research: • North Sea ecosystem • North Sea and Antarctic biodiversity • Climate/ global change • Offshore energy • Marine food safety/quality
Belgium (SSD)	• Energy • Transport and mobility • Agri-food • Health and environment • Climate (including Antarctic) • Biodiversity (including Antarctic and the North Sea) • Atmosphere and terrestrial and marine ecosystems (including Antarctica and the North Sea)	
Belgium (STEREO)	• Local vegetation and associated parameters / Agriculture. • Cartography and land management. • Study of coastal regions	
Finland	Priority Themes • Analysis for change in the Baltic Sea and its drainage basin. • Interactions between the land, coast, air and open sea. • Socio-economic and environmental interactions in the Baltic Sea region. Priority Issues: • Eutrophication • Harmful substances • Maintenance of biodiversity • Sustainable use of marine resources	
France -PNEC	Priority topics are : • Biogeochemical cycles in coastal zone environment (tropical and temperate) • Dynamique of populations • Harmful or toxic algal bloons • Viviability of ecosystems and marine populations • Microbiology and coastal environment • Governance and patrimonia • Sedimentary hydrodynamic They are implemented, in a tranversal way, through geographical “sites” : • Eastern Channel – Norther Sea • Seine Bay • Mont St Michel Bay • Biscay Bay • North-Western Mediterranean sea • Mediterranean lagoon • New-Caledonia • French Guyana	
Germany	• The Ocean as a factor for Climate Change • Aquaculture • Ecosystems in the Ocean • Coastal Zone Management	
Greece (NESD)	• Marine Environment • Coastal Ecosystems • Exploitation of biological coastal zone resources • Fisheries	
Greece (FADA)	• Aquaculture	
Ireland	• Sustainable Resource Development: Fisheries / Aquaculture / Marine Environment Research. • Renewable Ocean Energy. • New Technologies including environment sensors. • Marine Biodiscovery. • Marine ICT.	
Malta	Open ended programme	
Netherlands (SE)	General: • Energy; Fresh water; Land use and management of coastal regions; Emissions and climate. Specific to Marine research: • Climate variability • Coupled bio-geosphere • Coastal zone • Sustainable use • Biodiversity • EuroMargins	
Norway	• Marine ecosystems. • Effects on ecosystems. • Effects of petroleum on marine resources. • Management and conflicts resolution • The basis of value creation • Methods, models and technology • Research cooperation, national and international	
Portugal	• Analysis of the natural processes occurring in the Portuguese exclusive economic zone and continental shelf, as well as their interaction with the atmosphere and anthropogenic factors • Development of the scientific, methodological and technical basis for the integrated management of the Portuguese coastal zone and estuaries • Study and explore the resources in the seabed and sub-seabed of the national exclusive economic zone (Continent, Azores and Madeira), as well as possible new research subjects of potential interest to diverse fields, such as biotechnology and pharmaceutical and medical uses	
Spain	• Oceanography in the context of global change. • Marine ecosystem structure and energy fluxes. • Sustainable fisheries • Integrated management of coastal zones. • Contamination and Harmful organisms. • New and competitive marine technology	
UK	• Rapid Climate Change (RAPID). • Deep oceans. • Science for a sustainable Marine Bioresource. • Environment and health. • UK Surface Ocean / Lower Atmosphere Study (UK SOLAS). • Quantifying and understanding the Earth System (QUEST). • Towards a Sustainable Energy Economy programme (TSEC). • Arctic International Polar Year. • Flood Risk from Extreme Events (FREE).	

Table 3.8. Priority Research Topics

3.3.10. Indicative Size (€m) of Research Projects & Grant-Aid rates (Q3.3.11)

Table 3.10. summaries replies related to the indicative size of projects (as measured by grant-aid) and grant-aid rates applying to research projects.

Country / Programme	Indicative project grant € million	Grant-aid rate (%)
Belgium	0.5 – 1.2	100%
Finland	0.4 - 0.9	Variable
France (PNEC)	0.04	50%
France (Ocean Fleet)	1.0 – 2.0	95%
Germany	0.1 – 3.5	40 – 100%
Greece (NESD)	1.3 – 2.9	35 – 100%
Greece (FADA)	0.7 – 1.6	35 – 50%
Ireland	0.3 – 0.5	50%
Malta	0.01 - 0.07 -	75 – 100%
Netherlands	0.3 – 0.6	75 – 100%
Norway	0.3 – 0.8	100%
Portugal	0.01 – 0.1	
Spain	4.3 – 6.1	42%
UK	0.5 – 12.2	80%

Table 3.10. Indicative Size (€m) of Research Projects and Grant-Aid rates

3.3.11. SME/ Applied Research Component (Q3.4.1)

Table 3.11 (below) summarises replies to question 3.4.1. that asks respondents to elaborate on the SME/Applied Research component of their programme.

Country / Programme	SME Participation (Q3.4.1)
Belgium (STEREO)	Only the research activities of universities and research institutions are funded. SMEs can participate where they fund their own participation. Financing of the scientific contribution to the development of commercial services initiated by private companies through the creation of industry/research partnerships with aim the technology transfer.
Finland	The Academy's strategy includes facilitating mobility between academia and industry. A new funding form for this purpose is just now introduced (see www.aka.fi/eng funding forms, IndAca). It replaces one where industry and university were able to apply a post doc position together. Tekes (National Technology Agency – with twice the funding of the Academy) supports industry related applied research (including SME). The Academy has joint research programmes with Tekes.
France (PNEC)	N/A
France (Ocean Fleet)	Strictly speaking, this is not an "SME" Support Programme. Within the framework of some campaigns, new commercial scientific or technological equipment can be tested, and developed.
Germany	The listed Programme does not support SME/Industry researching, however other German Research Programmes (e.g. Aquaculture or Marine natural products) do address industry topics and SME/Research Institution partnerships are a prerequisite for participation: In these projects, the industry/SMEs takes the lead and partners research institutions. In these cases, grant-aid rate is on average 50%. In selected cases, joint projects are accepted with an average grant-aid rate of 50 % for the industrial partner and 100 % for the research partner.
Greece (NESD & FADA)	The main objective of these programmes is to promote collaboration between business enterprises and research entities with regard to long-term research and technological development projects and demonstration projects aiming at producing innovative products.
Ireland	The Marine RTDI Measure includes an **Applied (Industry RTDI) Programme** which aims to support and strengthen the RTDI capacity of indigenous industry (particularly SMEs) in the marine sector by providing grant aid to support in-house and co-operative RTDI Projects. The Applied (Industry) RTDI Programme, and the Technology Transfer/Conference Scheme, are the only bottom-up components of the Marine RTDI Programme. Grant-aid is provided to SMEs, in compliance with State-Aid Rules, and varies between 40 and 75% of full cost
Malta	One of the sub-Programmes of the National Research Programme is dedicated to SME Collaborative Research Funding. The scheme is aimed at attracting project proposals from an SME or cluster of SMEs in collaboration with RTD performers in the public and private sectors with a view to improving their house research and innovation capacity. Under this sub-programme, SMEs received 75% funding from the Programme.
Netherlands	In technology development and data management there are linkages with SMEs but not directly supported under the research programmes.
Norway	There is no component in the Oceans & Coastal Areas Programme supporting industry participation. This may change during the programme period.
Portugal	N.A
Spain	The Ministry of Education and Science grants subventions and reimbursable advances, which facilitate the transference of results, via the competitive PETRI (Programme of Stimulate for the Transference of Results of Investigation). The objective is to facilitate the transfer of results of investigation to productive sectors and services, and State Administration or Regional Administrations. These programmes last a maximum of three years and are co financed by the State and the companies.
UK	Knowledge transfer initiatives: Partnerships are encouraged between researchers and users in the public and private sectors. These can be formed throughout the research cycle, from design through implementation to commercialisation. Partnerships can happen through schemes, such as Knowledge Transfer Partnerships, Connect and LINK, and commercialisation through licensing, joint ventures and spin-out companies

Table 3.11. Initiatives to support SME/Industry participation and/or technology transfer.

3.3.12. Indicative size & Grant-aid rates pertaining to industry participation (Q3.4.2)

Table 3.12. summarises replies related to the indicative size of projects (as measured by grant-aid) and grant-aid rates applying to SME/Industry projects and industry participation.

Country / Programme	Indicative grant per project € million	Grant-aid rate (%)
Belgium (STEREO)	0.25	Universities: 100% SME: own funds
Finland	N.A	N.A
France (PNEC)	N.A	N.A
France (Ocean Fleet)	N.A	N.A
Germany	0.1 – 1.5	50%
Greece (NESD)	1.3 – 1.7	35 – 100%
Greece (FADA)	0.3 – 0.8	35 – 50%
Ireland	0.06 – 0.1	40 – 75%
Malta	0.06	75%
Netherlands	N.A	N.A
Norway	N.A	N.A
Portugal	N.A	N.A
Spain	0.72 – 0.96	60%
UK	0.04 – 0.2	80%

Table 3.12. Indicative Size (€m) of SME/Applied Research Projects and Grant-Aid rates.

3.3.13. Participation of researchers from other countries (Q3.5.1)

Table 3.13. summarises replies related to questions on the participation of researchers from other countries in MarinERA Partner Marine Research Programmes. Five countries (Belgium, Ireland, Malta, Portugal and UK) indicated that they could fund researchers from other countries. Other countries indicated that they operated special mechanisms to facilitate researchers from other countries or operated researcher exchange mechanisms.

Country/Programme	Researchers from other countries can receive funding	Special mechanisms to facilitate researchers from other countries	Research Exchange Mechanism
Belgium	✓	✓	✓
Finland	-	✓	✓
France	-	✓	✓
Germany	-	-	✓
Greece)	-	-	-
Ireland	✓	✓	✓
Malta	✓	-	-
Netherlands	-	✓	✓
Norway	-	✓	✓
Portugal	✓	✓	-
Spain	-	✓	✓
UK	✓	-	-
TOTAL	5	7	8

Table 3.13. Participation of researchers from other countries

3.3.14. Conditions under which researchers from other countries can participate (Q3.5.2)

Table 3.14 summarises the conditions under which researchers from other countries can participate in identified research programmes.

Country	Conditions Under Which Other Countries Can Participate (Q3.5.2)
Belgium	Teams from European/foreign universities or public research institutions are able to join Belgian teams applying for funding within the framework of SPSD II/SSD and can participate as partners in these projects. The potential association is based on the principle of co-financing (50%). The Belgian Science Policy funding of foreign partners is limited to a maximum of 10%/20% of the overall budget of the submitted proposal. **It should be noted that foreign teams can also participate by means of sub-contracting.** Two separate supporting actions are implemented for researchers exchanges: ◦ Research fellowships (6 to 12 months) for central and eastern European researchers (Albania, Bulgaria, Hungary, Poland, Romania, Czech Republic, Slovakia, Baltic States). Potential host units are those which are involved in the research programmes of BELSPO. This action is implemented by a national call published once a year. ◦ Short term visits (max 6 months) of researchers of North Sea Coastal States. The Belgian host units are those involved in North Sea Research funded by means of the SPSD-II/SSD. The action is implemented by an open call for proposals.
France	In order to facilitate researchers from other countries and researcher exchanges, the French Ministry of Foreign Affairs can provide funding for travel costs. Such researchers are taken in charge by the campaign budget (e.g. accommodation on board, subsistence, scientific facilities, etc.). Many researchers from other countries take part in the campaigns.
Finland	Whilst many research projects include international collaborators, the collaboration research groups as a rule should find their own funding. Funding allocated to a Finnish group can be used, if justified, to have work done abroad..
Germany	Foreign research institutions can participate in German research projects provided they can offer special services or know-how which are not available nationally and are indispensable for the project goals. However, foreign researchers cannot receive funding from the German research programme.
Greece	Any entity (research oriented or private sector) may participate in any of the proposed projects, provided they cover their own budget expenses.
Malta	Foreign entities (and foreign researchers within these entities) are eligible to participate in the Maltese Programme with two constraints: • They are not eligible to receive funding • They cannot act as project co-ordinator but simply as participants in a consortium.
Netherlands	Research cruises are open for participants from other countries. In addition specialist equipment from the national pool can be shared, but researchers from other countries have to cover their own expenses. NWO has signed agreements to make it possible for Dutch scientists to take their grants with them when moving during the project term to an institute outside the Netherlands.
Norway	Researchers from other countries can participate in projects funded by the Research Council of Norway. By participating projects it is possible to receive funds.
Portugal	Individual researchers and organisations from other countries can participate in Portuguese Research Programmes as project partners and can receive funding from the Portuguese Research Programme. FCT fellowships are open to all nationalities to work in Portugal in order to encourage and facilitate links between Portuguese institutions, international programmes and research communities in other countries .
Ireland	Foreign researchers can participate and be funded in the Irish Marine RTDI Programme provided that the participation contributes to building Irish marine RTDI capacity and expertise. Funding for foreign researchers rarely exceed 8% of the total project grant-aid.
Spain	Foreign researchers can participate with a Spanish Research Institute as a member of a project team coordinated by a Spanish research institution but cannot receive funding from the Spanish Research Programme.
United Kingdom	Researchers/ organisations from other countries can participate in research grants as project partners – Researchers/ organisations from other countries can participate in research grants as project partners, but can not directly receive funding

Table 3.14. Conditions Under Which Other Countries Can Participate in a MarinERA Member State Research Programme

ANNEX 4

MarinERA: Marine Research Funding Programme Implementation Procedures

4.1. Introduction

This Annex contains a description of the implementation procedures, including calls for proposals, grant-aid models, evaluation procedures and criteria, contract negotiation and reporting, of the MarinERA Partner Marine Research Funding Programmes described in Table 3.1.

4.2. Methodology

The data presented here was compiled from data supplied by each MarinERA partner in the Country & Marine Research Programme Profile Questionnaire (Annex 2).

4.3. Analysis of Marine RTD Programme Implementation Questionnaires

While great variation is seen in the mode of implementation of Research Funding Programmes, reflecting the nature and rules/regulations of the Funding Organisation (Research Council, Government Ministry, Independent Agency) and the specific aims and objectives of individual programmes, the approach to data collection tends to mask the important feature that the similarities are often greater than the differences.

4.3.1. Calls for Proposals (Q4.1)

Methods for issuing competitive calls for proposals are standard and include advertisements in the public press (newspapers), websites, targeted newsletters and e-mail lists.

4.3.2. Submission of Proposals (Q4.2)

While traditionally participants submit paper copies of research proposals (five countries continue to do so), four countries allow both paper and electronic submissions, while a further four countries (Netherlands, Norway, Portugal and the UK) only accept electronic submissions. It is, however, unclear whether electronic submission also includes submission by e-mail.

Increasingly there is a move to using electronic submission formats (such as the eSoknad system used by Norway) as this has advantages in managing proposals received and of being able to send proposals electronically for independent review. The methods of submitting project proposals are indicated in Table 4.1.

Country	Electronic Submission Only	Both Paper & Electronic Submission	Paper Submissions Only
Netherlands	✓		
Norway	✓		
Portugal	✓		
United Kingdom	✓		
Finland	Should be used 2007 onwards	✓ until end of 2006	✓
Belgium		✓	
Greece		✓	
Spain		✓	
France			✓
Germany			✓
Ireland			✓
Malta			✓
Total	**4**	**4**	**5**

Table 4.1. Use of electronic and paper project submission procedures.

4.3.3. Who may apply for Marine Research Funding (Q4.3)

This Question is the same as that in Chapter 3 (Q3.3.8) and as illustrated in Table 4.2, shows that Public Research Institutes and the Higher Education Sector (Universities) are eligible partners in all Programmes. Private sector partners are catered for in only half of the Programmes described.

Country/Programme	Eligible Partners (Q3.3.8 / Q 4.3)				
	Public Research Institutes	Third Level	Private Sector	Local / Regional Authorities	NGOs
Finland	✓	✓			
Netherlands	✓	✓			
Norway	✓	✓			
UK	✓	✓	✓		
France	✓	✓			
Germany	✓	✓	✓	✓	✓
Ireland	✓	✓	✓	✓	✓
Malta	✓	✓	✓	✓	✓
Spain	✓	✓		✓	✓
Portugal	✓	✓			✓
Belgium	✓	✓	✓	✓	
Greece)	✓	✓	✓	✓	✓
TOTAL	12	12	6	6	6

Table 4.2. Marine RTDI Programme Participant type

4.3.4. Language of calls and proposals (Q4.4/4.5)

Calls for proposals ar. issued / advertised in the MarinERA Member State languages with English being widely used (9 out of 12 countries) Research proposals are submitted in English in eight countries, the remaining four countries requesting a proposal summary/abstract in English (Table 4.3).

Country	Call published	Proposals received
Belgium	French, Dutch, English	English
Finland	Finnish, Swedish, English	English
France	French	French (Summary in English)
Germany	German or English	German, in part English
Greece	Greek and English	Greek and English
Ireland	English	English
Malta	English	English
Netherlands	Dutch	English (Summary in Dutch)
Norway	Norwegian, English	English
Portugal	Portuguese, English	English
Spain	Spanish	Spanish (with abstract in English)
United Kingdom	English	English

Table 4.3. Language of published call and submitted proposal.

4.3.4. Use of the EU Framework Programme Model (Q4.6)

In response to the question *"Is your RTD Programme broadly based on the EU Framework Model?"*, 50% of countries answered *"Yes"* and 50% answered *"No"* (Table 4.4).

Country	YES	NO
Belgium	-	✓
Finland	✓	-
France-PNEC	✓	
Germany		✓
Greece	-	✓
Ireland	✓	-
Malta	✓	-
Netherlands	-	✓
Norway	-	✓
Portugal	✓	-
Spain	✓	-
United Kingdom	-	✓
Total:	**6**	**6**

Table 4.4. Use of the EU Framework Programme Model

4.3.5. Grant-Aid Level (Q4.7)

The level of grant-aid awarded varies from country to country (Table 4.5) and depends on the objective of the specific programme and the availability of other sources of funding. Where industry partners are involved and/or where the research is close to commercialisation, State-Aid rules have to be observed. Some countries have restrictions on the total amount that can be asked for.

Box 4.1. Standard Grant-aid Models

Full Cost: 100% of all research costs (staff, consumables, equipment, travel & subsistence, overhead) are grant-aided.

Shared Cost: 50% of all research costs (staff, consumables, equipment, travel & subsistence, overhead) are grant-aided.

Additional Cost: 100% of all necessary additional costs (excluding permanent staff, in-house equipment, etc) are grant-aided.

Country	Full cost	Shared cost	Additional cost	Other model
Belgium	✓			
Finland	✓			
Germany	✓	✓	✓	
Malta	✓	✓		
Norway	✓	✓		
Greece		✓		
Ireland		✓	✓	
Spain			✓	
France				✓
Netherlands				✓
Portugal				✓
United Kingdom				✓
Total	**5**	**5**	**3**	**4**

Table 4.5. Grant-aid models used by MarinERA partner organisations

4.3.6. Identification of Eligible Costs (Q4.7)

Table 4.6 provides an overview of the eligible costs pertaining to MarinERA Member Organisation Marine RTD Programmes.

Eligible Costs – A Warning: In costing and submitting a competitive research proposal it is essential to know what costs are eligible for grant –aid and what ones are not. In some instances, for example, the Funding Agency will allow permanent staff costs to be included in costing a Shared Cost Project but will not allow grant-aid to be used to pay permanent salaries. In other cases, equipment costs are allowed only as depreciation over the duration of the project and not as the full cost of purchasing new equipment. In preparing any competitive research proposal it is essential to fully understand what costs are eligible, what are not and what conditions pertain and those preparing a research proposal must consult the original Programme Eligible Costs Document.

Country	Perma-nent staff cost		Temporary staff cost	Consum-ables	Equip-ment	Travel & Subs	Sub-contracts	Over-heads	Other
	Full	Calc							
Belgium			✓	✓	✓	✓	✓	✓	
Finland			✓	✓	✓	✓	✓	✓	✓
France PNEC	✓			✓		✓	✓		
Germany			✓	✓	✓	✓	✓	✓	
Greece	✓		✓	✓	✓	✓	✓		✓
Ireland		✓	✓	✓	✓	✓	✓	✓	
Malta	✓			✓	✓	✓		✓	
Netherlands			✓	✓	✓	✓			
Norway			✓	✓	✓	✓	✓	✓	
Portugal		✓	✓	✓	✓	✓		✓	
Spain		✓	✓	✓	✓	✓		✓	✓
United Kingdom		✓	✓	✓	✓	✓	✓	✓	

Table 4.6 Eligible costs. Full: means that permanent staff costs can be fully incorporated into the research proposal. Calc: means that permanent staff costs can be included in calculating full proposal costs but cannot be paid from grant-aid.

4.3.7. Evaluation Procedures (Q4.8 / 4.9)

Responses to Q4.8. (Table 4.7) suggest that six of the MarinERA Member Organisations use evaluation procedures based on, or very close to, those used by the EU Framework Programme.

Other information on the evaluation process is summarised in Table 4.8. For all partners, the evaluation process is anonymous, but a list of the evaluators used may be published after the decision is made. In all countries, except France, the proposer/applicant receives a written copy of the comments of the evaluation panel for information purposes. In Germany, Netherlands, Portugal, Spain and UK the proposer/applicant may be provided with an opportunity to reply to the evaluators comments prior to a final grant-aid decision being taken. In Finland, it is required by law that evaluators are identified.

Country	YES	NO
Belgium	✓	-
Finland	✓	-
France-PNEC	✓	
Germany		✓
Greece	-	✓
Ireland	✓	
Malta	✓	
Netherlands		✓
Norway		✓
Portugal	✓	
Spain		✓
United Kingdom	-	✓
Total:	**6**	**6**

Table 4.7. Use of the EU Framework Programme Project Evaluation Procedures

4.3.8. Evaluation Criteria (Q4.10)

A broad range of evaluation criteria are used to evaluate research proposals submitted to the Marine RTD Programmes managed by the MarinERA Partner Organisations (Table 4.9). Scientific quality is the major criterion used across all programmes. Other criteria reflect the aims and objectives of the specific programmes and as such aim to measure the relevance of the research proposal to the aims of the Research Programme, the quality of the research team and the feasibility of achieving stated aims and objectives. RTD capacity building and the level of national co-operation and international collaboration are also criteria of importance in some Programmes. Value for money is an important criterion across all Programmes (see Box 4. 2)

Box 4.2. Risk – Reward.

The risk-reward criterion, used by the UK, seeks to prioritise those proposals that offer the highest reward with the minimum risk exposure. As such, priority would be given to a proposal representing a lower risk if the rewards were deemed equal to other more risky proposals. Equally, lower risk proposals will not be given priority if their perceived reward is also lower. Risk and Reward criteria are assessed separately and combined in a matrix to provide a Risk-Reward Grading.

Country	Internal evaluation	External evaluation - national	External evaluation – international	Selection of evaluators	Evaluator fee	Anonymous evaluators	Acting on their own or part of a panel	Use a standard form	Evaluations available	Comment on evalua-tions
Belgium	For eligibility only	No	Yes	Selected based on scientific expertise and from database	€300, €375 per panel meeting day	Yes	Both	Yes	Consulted	No
Finland	Internal selection of pre-proposals by appointed steering group	National experts also allowed	Yes	Appointed by research council, work is assisted by science advisers	Yes	NO, the members of the panel giving one statement, are known; when individual experts are used, their names are given	Both; use of panels, which prepare joint evaluation; use of individual external experts	Yes	Yes	No
France	N.A.	2	1	Appointed	No	Yes	One	No, but framework	No	No
Germany	Yes, pre-proposals	Yes	Yes, panels	By scientists	No, but travel costs	Yes	Differs	No, but they receive criteria	Yes, anonymous	Yes
Greece	Administrative assessment		Yes		€150 + 60	Yes	Panel	Yes	Yes	No
Ireland	For eligibility only	For some	2 international and 1 national	From database	Yes	Yes, list of evaluators used is published	Panel	Yes	A summary	Yes, for information
Malta	Final decision based on ranking by external panel	N/A	3	Selected from a pool	Standard global fee	Yes	Panel	Yes	Overall comments and ranking	No
Netherlands	Eligibility	None	Yes	By office staff, assistance national committee	No	Yes	On their own	Yes	Yes anonymous	Yes
Norway	Administrative	No	Yes	Yes	€100	Name of evaluators in each scientific field is known	On their own, and final decision in panel	Yes	Yes	No
Portugal	For eligibility	No	Yes	Yes	€75	Name of evaluators in each scientific field is known	On their own within a panel	Yes	Yes	Yes
Spain	Evaluation panel for each call	National Evaluation Agency		Relevant scientists	€100	Yes	Part of a panel	Yes	A summary	Yes
United Kingdom	For eligibility and remit	Yes	Yes	Selected based on scientific expertise	Travel and expenses paid for panel	Yes, list of referee published on the web since 2005	Part of a panel	Yes	An anonymous summary	Yes

Table 4.8. MarinERA Marine RTD Funding Programme: Project Evaluation Procedures

Country	Quality of Science	Relevance to aims/objectives of RTD Programme	Quality of project team, management	Cooperation: international and national	Feasibility - Capacity to achieve objectives and aims	Data analysis and processing, results	RTD capacity building	Contribution to national research policy, strategy,	Environmental impact	Contribution to Sustainable development	Value for money/
Belgium	✓	✓	✓	✓	✓	✓		✓		✓	✓
Finland	✓	✓	✓	✓	✓		✓	✓			
France	✓	✓	✓	✓	✓	✓					✓
Germany	✓	✓		✓			✓	✓			✓
Greece	✓	✓	✓	✓				✓		✓	
Ireland	✓		✓				✓		✓		✓
Malta	✓				✓						
Netherlands	✓	✓	✓		✓						
Norway	✓	✓	✓	✓	✓			✓			
Portugal	✓		✓		✓						✓
Spain	✓	✓	✓		✓		✓		✓		✓
United Kingdom	✓	✓			✓						✓

Table 4.9. Evaluation criteria used to evaluate Marine RTD Projects

4.3.9. How are large scale / specialist infrastructure requirements accommodated (Q4.12)

In order to ascertain how project proposals access necessary large scale facilities (e.g. research vessels, ROVs, AUV,s etc), respondents were asked to identify how arrangements were made to access such facilities. Replies are summarised in Table 4.11.

In the main, it is up to the proposer/applicant to arrange access to the large-scale facilities needed to implement the proposal. Final approval of the proposal will normally depend on confirmation that such access is available. In some cases, grant-aid may be available from the project to charter or rent the required facility. In other cases, only a portion of the cost (30% - 50%) may be available from the grant-aid, or the Funding Agency may require that the facility is provided at a reduced rate or by way of match-funding.

In the case of the Ifremer Oceanographic Fleet Programme and the Netherlands National Cruise Programme (see Chapter 3, Box 3.2) proposers/applicants apply directly to these programmes for shiptime that is fully covered by grant-aid. However, for Ifremer applicants have to source the matching research funds (personnel, etc) from their own or other sources. NWO covers matching research funds if not already provided by other sources.

4.3.10. Schedule of processing applications (Q4.13)

The time for a competitive project proposal to be submitted, evaluated and grant aided varies from country to country and includes a number of steps (Table 4.10).

First, a call for proposals is published (month 1). A number of countries are considering a set annual date for calls for proposals (as is done in the UK). Belgium, Germany, Portugal and the UK permit a pre-proposal or notification of intent. Submission deadlines are generally within three months of the call for proposal. The time taken from announcement of call to project start is around nine months, with Germany completing the process in 6 – 12 months and the UK in 9 – 18 months (reflecting the larger size and complexity of some UK funded projects).

Country	Call for proposals	Pre/draft proposal	Submission	Evaluation	Grant-Aid Negotiations	Start project
Belgium	1	2	3	4-5	5-6	7-8
Finland	1	2	6		Decision 7	8.
France-PNEC	1		2	3	4	6
Germany	1	1-3		6 weeks		6 - 12
Greece	1		3	7	8-9	12
Ireland	1		3	4	5-8	8
Malta	1		3	5	6	7
Netherlands	1		3	3-6		7
Norway	1		3	3-5	5-7	7-9
Portugal	1	1	2	6		12
Spain	1		3	5	6	9
United Kingdom	1	1 - 4			6	9-18

Table 4.10. Schedule for processing competitive project proposals (time in months)

Country	How are large scale/specialist infrastructure requirements accommodated in project proposals
Belgium	It is up to the proposers to have arranged access to large-scale infrastructures and to have foreseen the necessary budget in the research proposal.
Finland	Project funding from the Academy of Finland does not cover major instruments. It is up to applicants to make arrangements to access essential specialist / large scale infrastructures needed for their proposal. Plans are in preparation to arrange that at regular ingervals there could be a Research Programme reserved for applications for large/specialist instruments.
France	Large scale /specialised infrastructure requirements (research vessels, ROVs, AUVs, etc.) as described in the proposal are provided via the IFREMER Ocean Fleet Programme. However the research budget (personnel, etc) must be sourced from a separate funding scheme.
Germany	- RV *Sonne* can be completely financed from the project budget. - RV *Meteor* and RV *Maria S. Merian* can receive 30 % funding from the project budget - Specialist equipment (e.g. ROVs, AUVs, etc.) can be rented from the project budget.
Greece	- Up to a relevant cost, infrastructure may, partly, be covered by the project funding. Vessel hiring is considered as an eligible cost. - There are specific programmes funding infrastructure requirements of research entities.
Ireland	It is up to applicant to have arranged access to any specialist large scale facilities (e.g. research vessels, ROVs, etc.) necessary to carry out their project. The cost of these items can be included in the project budget.
Malta	
Netherlands	- On a positive decision to fund a project, a reservation is made for shiptime. The cruise planning is provided by the Marine Facilities Unit of Royal NIOZ, and involves consultations with the PI. NWO makes final funding decision based on a proposal by NIOZ. - Specialised equipment above €100.000 has to be applied for through a separate funding scheme
Norway	As an own call outside the programme
Portugal	Specific calls (2005) - Programa Nacional de Re-Equipamento Científico - Scientific Re-equipment National Programme
Spain	The Commission for the Management of the Oceanographic Vessels must be contacted to arrange vessel time.
United Kingdom	Specific calls e.g. Capital equipment grant round, Joint Infrastructure Fund, exceptional bids to government. Use of NERC services and facilities (e.g. ships) are indicated on the grant application form and the costs will be included within the project budget.

Table 4.11. Responses to the question: *"How are large scale / specialist infrastructure requirements accommodated in project proposals?"*

4.3.11. Gender & Environmental Policies (Q4.15)

Regarding gender balance and gender policy, the data presented in Table 4.12 should be treated as indicative only and therefore considered with caution. Member countries are only beginning to compile data on gender balance amongst applicants, successful candidates and the make-up of the project team. Funding Agencies are also striving to achieve a 40:60 % gender balance on Programme Management and Evaluation Panels.

Country	Gender balance (Applicants) M:F	Proactive gender strategy
Belgium	No data	No
Finland	No data	Equality strategy; Positive discrimination possible
France	13:4	No
Germany	No	No
Greece	No data	No
Ireland	5:1	Equal Opportunities Policy
Malta	Data collected	No
Netherlands	Data collected	Yes
Norway	Data collected	
Portugal	2:1	Equal Opportunities Policy
Spain	No data	Yes, since 2005
United Kingdom	Applicants: 15:3	Yes

Table 4.12. Gender balance (applicants) and gender policies applied in Member organisation RTD Funding Programme

Regarding Environmental Policies (Table 4.13) most countries indicate that broad environmental policies must be adhered to in carrying out the proposed research project.

Country	Sustainable Development Environmental Protection Policy
Belgium	Sustainable Development & Environmental Protection
Finland	To be consistent with relevant policies
France	-
Germany	Sustainable Development & Environmental Protection
Greece	
Ireland	Sustainable Development & Environmental Protection
Malta	-
Netherlands	Adherence to legal regulations
Norway	Sustainable Development & Environmental Protection
Portugal	Sustainable Development & Environmental Protection
Spain	Sustainable Development & Environmental Protection
United Kingdom	NERC Ethics & Environmental Management Policy

Table 4.13. Adherence to Sustainable Development & Environmental Protection Policies (Q4.15)

4.3.12. Reporting (Q4.16)

All partners have Annual Project and Programme Reporting procedures in place (Table 4. 14). While most of these are annual, Greece requires quarterly project reports. Most Programmes have an external evaluation one or two years after completion, the exception being Norway.

Individual country replies to the question on Project and Programme Reporting contain a wealth of information too detailed to be presented here but which will be made available to Work Package 2.3: *Common Evaluation Procedures and Performance Indicators*.

Country	Annual Report (Projects)	Annual Report (Programme)	Final Report (Projects)	Final Report (Programme)	Internal Evalution programme	External Evaluation Programme
Belgium	✓	✓	✓	✓		✓
Finland	✓	✓	✓	✓		✓
France		✓	✓		✓	✓
Germany	✓		✓			-
Greece	✓		✓			
Ireland	✓	✓	✓	✓	✓	✓
Malta	✓	✓	✓	✓		-
Netherlands	✓	✓	✓	✓	✓	✓
Norway	✓	✓	✓	✓	✓	
Portugal	✓	✓	✓	✓		✓
Spain	✓	In year 2	✓	✓	✓	✓
United Kingdom	✓	✓	✓	✓	✓	✓

Table 4.14. Project and Programme Reporting

4.13. Programme Evaluation (Q4.18) and timing of a *posteriori* Evaluation (Q4.19)

In response to Q4.18 (Table 4.14), seven MarinERA partners indicated that they undertook an internal evaluation of their Marine RTD Funding Programme, while nine partners commissioned an external evaluation. Six partners answering this question undertook both internal and external evaluations.

Only four partners answered the question on the timing of an a posteriori evaluation (Table 4.15). Clearly this is an important issue that should be developed further under Work Programme 2, Task 2.3: *Common Evaluation Procedures and Performance Indicators*.

Country	Timing of a posteriori Evaluation (Q4.19)
Belgium	All North Sea research programmes since 1970 were evaluated in 2003 by a panel of 4 foreign experts. The final report was published in 2004: http://www.belspo.be/belspo/home/publ/pub_ostc/Mn/nort_en.pdf
Finland	At present, evaluation is carried out right after the programme ends. Evaluation reports are published (www.aka.fi/publications).The discussion is going on whether the evaluation should be done few years after the termination of the programme to assess better the impact.
Greece	- No specific policy for the moment
Ireland	An external/independent consultant is contracted (tender process) circa 6 months after the end of the Programme (in 2008) to carry out an external review of the Programme. A mid-term review was carried out in March 2005 by private consultants (Fitzpatrick & Associates).
Netherlands	One or two years after projects finish a request is issued for project related publications. Final project reports and publications are then reviewed by Programme Committee for programme evaluation.
United Kingdom	An external review of large programmes takes place by a Science and Management Audit Team every 5 years. The main aims of a SMA are to consider: - the effectiveness of the scientific leadership and management and the context within which the research is being carried out, including the Mission and strategic role of the Centre/Survey within the NERC. - the overall scientific performance (including quality and productivity) achieved since the previous review, against the objectives defined by Council. - the efficient, effective and economical use of resources.

Table 4.15: Timing of an a posteriori Programme Evaluation

4.3.14. Programme Evaluation : Performance Indicators (Q4.20)

The use of Performance Indicators is an essential tool in managing, monitoring and evaluating the success of national RTD Strategies and Research Funding Programmes.

An indicator is here defined as *" a quantifiable measure that facilitates comparison and the identification of change/ trends over time"*. Its attributes include that it:

- involves an easy to measure metric.
- starts from an identifiable and measurable baseline.
- recognises different time scales for delivery.

Table 4.16. provides a sample of Performance Indicators used by MarinERA Partner Organisations to evaluate RTD Programme Performance.

Box 4. 3. Performance Indicators

The most widely used approach to evaluating performance is the Input-Output-Impact (Outcomes) Model where:

Inputs	represent the inputs invested in the Programme to achieve identified outputs and impacts. Inputs are immediate and can be measured from the outset of the Programme (e.g. number and value of grants awarded).
Outputs	are the immediate results of investment (input) and include measures such as scientific publications, number of new degrees awarded, new IPR generated, number of new research institution/industry partnerships and new RTD performers entering the field. Outputs are time dependent and may take some years to realise (e.g. IPR generated).
Impact (Outcomes)	represent the impact/outcome of investment and are the hardest to measure and attribute and may not become apparent until some years after the completion of the programme. However, they are a measure of the overall success of the programme.

Table 4.16. Sample of Performance Indicators used by MarinERA Partner Organisations to evaluate RTD Programme Performance

Country	Programme Evaluation - Performance Indicators
Belgium	
Finland	Planning of the research programme - Preparation of the programme and planning of the contents of the programme - Research projects funded and funding decisions in creating the necessary preconditions for the programme Scientific quality of the Programme - Scientific quality and innovativeness of the research - Scientific competence of the consortia - Contribution to the development of research Success of the implementation of the programme goals and objectives - Concordance with the objectives of the research programme - Functioning of the programme - Added value of the programme - Contribution to enhancing inter- and multidisciplinarity in research - Scientific and administrative co-ordination Contribution to researcher and expert training Collaboration and networking - Collaboration within the programme - Collaboration with other Finnish groups - International co-operation - Collaboration with the end users Applicability of research and importance to the users
France	France-PNEC - Number of projects - Requested budget - Granted budget - Programme Management effort Ocean Fleet Programme - Specific performance indicators are currently under definition by an IFREMER Scientific Committee
Germany	
Greece	- Number of funded projects - Number of participating and funded enterprises - Total number of new scientists engaged in the programme projects - Number of patents - Scientific publications related to the projects - Number of industrial prototypes and innovative products - Human resources engaged in RTD (in full time equivalent) - New full time employees engaged

Table 4.16. Sample of Performance Indicators used by MarinERA Partner Organisations to evaluate RTD Programme Performance.

Country	Programme Evaluation - Performance Indicators
Ireland	A simple "input-output" model is currently used which compiles information on "outputs / results /impacts". These include: **Outputs:** - Number of projects funded - Number of researchers funded - Number of networks established **Results:** - Number of Research Reports - Number of Scientific Publications - Number of new degrees (BSc, MSc, PhD) awarded - Number of new jobs created (temporary) **Impacts:** - Number of patents sought/awarded - Number of new products on market - Improved understanding of marine ecosystem function - (ie improved ability to predict) - Up-take of research results in policy formulation/implementation This system is under review and a more comprehensive and informative suite of Performance Indicators is being sought
Malta	- Number of projects funded - Number of scientific papers published - Successful participation in EU Research Framework Programme
Netherlands	**Input:** - Numbers of external referees, including those who did not cooperate/respond. - Number of projects submitted, distinguish m/f applicants - Funding, basic budget and external sources **Output:** - Number of projects funded - Number of scientists, NWO office staff (fte) funded - Scientific publications with separate reference of Nature/Science - Number of patents - Number of PhD dissertations - Contributions to books - Number of other professional products
Norway	
Portugal	Output indicators: - Contribution to selected domains of Ocean Affairs - Published research: Numbers of papers published in national and international journals, and books - Communications in national and international meetings - Number of reports produced - Organization of seminars and conferences - Number of PhD and Master dissertations - Prototypes developed - Number of patents

Table 4.16. Sample of Performance Indicators used by MarinERA Partner Organisations to evaluate RTD Programme Performance.

Country	Programme Evaluation - Performance Indicators
Spain	Output indicators: - Fulfilment of objectives - International cooperation - SMES cooperation - Published research: Numbers of papers published in national and international journals, and books - Communications in national and international meetings - Number of reports produced - Organization of seminars and conferences - Number of PhD and Master dissertations - Prototypes developed - Number of patents
United Kingdom	Output and performance measures are collated every year for all grants: - Analysis of published research e.g. number of papers published in journals with national and international impact, number of papers presented at conferences - Number, type and value of EU and other International collaborations and partnerships - PhD, MSc and MRes submission rates - Income from the public and private sectors - Number and value of CASE and all other Industrial Studentships, planned and taken up - Number and value of collaborative and co-funded research projects - Number of co-publications with industry - Mechanisms for capturing and responding to input from the user community - Level of spend on science communication activities - Staff time spent on science communication activities - Contributions to Science Week and other science communication activities and events - Interaction with schools - Notable achievements and highlights

Table 4.16. Sample of Performance Indicators used by MarinERA Partner Organisations to evaluate RTD Programme Performance.

ANNEX 5

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ANNEX 6

MarinERA Partner Profiles

BELGIUM

The **Belgian Federal Public Planning Service Science Policy (BESPLO)** is a Federal Administration that is responsible for the preparation and implementation of research programmes in several fields (fundamental research, sustainable development, social cohesion, information society, space technology) with the aim the development of a permanent knowledge resource within scientific and technical spheres at the service of the Federal Authority. It is also responsible for 10 Research Institutions and manages an annual budget of about €517 million (€13 million going to the marine sector).

Marine sciences are financed, since 1970, within structured multi annual research programmes. These programmes are implemented by calls for proposals that are open to universities and public research institutions and, in some cases, specialised consultancy offices. The received proposals are submitted to a scientific evaluation by at least 3 foreign experts. This scientific evaluation is followed by a strategic evaluation by the steering committee of the programme, which is composed of members from the concerned administrations. The budget devoted to competitive marine research is approximately €5 million per annum.

The **Science and Innovation Administration (AWI)**, established in 1992, belongs to the Science, Innovation and Media Department of the Ministry of the Flemish Community, Belgium. AWI outlines the science and technological innovation policy for Flanders (Belgium) that is coherent. AWI has a staff of approximately 40 people and is responsible for 3 Research Institutions. It manages an annual budget of about €390.6 million, of which €12 million is devoted to marine science.

Marine sciences are financed from the Fund for Scientific Research, the IWT (Institute for the promotion of Innovation by S&T) and Special Research funds of the Flemish University Research councils. All project proposals are submitted to a scientific evaluation.

FINLAND

The Academy of Finland (AKA) is a research-funding agency, which operates within the administrative sector of the Ministry of Education. It is funded through the state budget. AKA promotes high-level basic research in all scientific disciplines. The AKA's highest executive organ is its Board, which is responsible for the AKA's science policy line and the allocation of research appropriations to the four Research Councils (Natural Sciences and Engineering, Culture and Society, Biosciences and Environment, Health). The Councils decide on research funding within their respective fields. The Academy provides funding for research mainly at universities and research institutes. Each year it allocates funding worth around €200 million, in 2005 €219 million which represents 14% of governmental R&D investment. Each year, Academy-funded projects benefit more than 5,000 people. The AKA has several different types of research funding. Among the instruments available for project funding are research grants, research posts, centre of excellence programmes, and research programmes. In 2005 the Academy is running 14 research programmes, among them the Baltic Sea Research Programme (BIREME).

The AKA is committed to promoting the best interest of science and research. All its operations are characterised by expertise, reliability, impartiality, openness, interactivity, networking, and internationalism. All AKA funding decisions are based upon scientific reviews of the applicants and their research plans.

The AKA's science policy objectives is to improve the career opportunities of professional researchers, to develop high-quality research environments, and to make the best possible use of global opportunities for cooperation in all areas of research, research funding, and science policy.

FRANCE

The **French Research Institute for Exploitation of the Sea (Ifremer)** has been mandated by the French Government to participate in the MarinERA project. Ifremer is a public institution created by the Decree of 5 June 1984. It is the only French public organisation with an entirely maritime responsibility. It operates under the joint auspices of the Ministries of Research, Agriculture and Fisheries, Transport and Housing, and Ecology and Sustainable Development. Ifremer is required to implement and promote fundamental and applied research, along with technological developments, in order to assess and valorise the marine environment and to enable the maritime activities to develop. Article 4 in the Decree displays that Ifremer is in charge of proposing to the French government national research and development programmes, and to implement them using contractual tools. It also states that Ifremer has to be the acting body for the Ministry for Fisheries and the Ministry for Research (in the maritime domains) when the programmes deal with more than one research partner. Ifremer is administrated through a board of Directors, composed of representatives from the relevant Ministries. Ifremer funds are available through annual grants from the Ministries corresponding to annual or multi-annual programmes. Ifremer has an annual budget dedicated to marine science of €160 Millions.

To comply with these duties, Ifremer operates a number of public services, particularly in the fisheries and aquaculture activities, the coastal environment, and in the near future will be in charge of operational oceanography at the French level. Ifremer is the National counterpart in the contract being signed between the French state and the Regional Authorities, including overseas dominion, for the Ecosystem, Fisheries and Aquaculture research issues. It implements on behalf of the Ministry for Foreign Affairs the bilateral cooperation in Oceanography and Marine Research (e.g with Portugal, Spain, Russia, Japan).

Among the various National Programmes implemented on behalf of the above mentioned Ministries are:

- The National environmental networks, for coastal water quality and aquaculture resources (i.e. the Phytoplankton and Phycotoxin Monitoring Network (REPHY), the Microbiological Network (REMI), the Coastal Sea Biocenosis Observatory (REBENT) by delegation of the Ministry for Environment;
- The National Programme for Coastal Ecology Research (PNEC) and the National Programme for Costal Management (LITEAU) by delegation of the Ministry for Ecology;
- The National Fisheries Advisory System by delegation of the Ministry for Agriculture and Fisheries.

Apart from the implementation of Research Programmes, Ifremer is in charge, according to the Decree, of the management of infrastructures to support the French Research Area in the context of marine sciences:

- The National Fleet for Fisheries and Oceanography Research purposes (vessels, manned and un-manned underwater vehicles).
- The National Oceanography Database, operated by the SISMER Service.

More specifically, IFREMER has managed dedicated funding from the Ministry of Ecology and Sustainable Development to investigate the ecological and ecotoxicological consequences of the Erika oil spill, is the Official French delegate to the International Council for the Exploitation of the Sea (ICES) and the owner of the permit for the exploitation of the poly-metallic nodules. It also receives dedicated funds from the Ministry of Research to coordinate the research realised by the University in the marine biology domain.

GERMANY

The **Juelich Research Centre GmbH – Project Management Organisation Jülich (FZJ-PTJ)** is mandated by the Federal Ministry for Education and Science (BMBF) to participate in the MarinERA project.

The Juelich Research Centre is one of the 15 Helmholtz Research Centres in Germany funded by the Federal Ministry for Education and Science (BMBF). FZJ is a government owned and multidisciplinary orientated research centre which comprises a number of research institutes as well as several science related units.

PTJ (Project Management Organisation Jülich) is a unit of FZJ, with a staff of 300 acts as a funding and project management organisation. The project management and funding covers a variety of research disciplines including biology, energy, material and chemical technology, environmental and geosciences as well as marine and polar research. The total annual budget is €500 million.

The division PTJ-MGS (Marine, Polar- and Geosciences, Shipping and Marine Technology) has 25 employees and is mainly located in Rostock-Warnemuende. The actual annual budget for the governmental Marine & Polar Research Programme (including the budget for Geosciences) which can be allocated to research proposals comprises €25 million per annum.

GREECE

The **Hellenic Centre for Marine Research (HCMR)** has been mandated by the General Secretariat for Research and Technology (GSRT), Ministry of Development, to participate in the MarinERA project.

GSRT is the National Agency for scientific development through funding of National Plans of Research, Development and Technological Innovation. These plans have a duration of four years, with public and competitive calls, which are peer-reviewed.

HCMR is a governmental research organization operating under the auspices of the General Secretariat of Research and Technology (Ministry of Development). It has the mandate to promote basic research in all fields of aquatic environment and to deliver comprehensive scientific and technical support to the public. It was formed in 2003 following the merging of the National Centre for Marine Research (NCMR) and the Institute of Marine Biology of Crete (IMBC) and it is now composed of the following five Institutes: Oceanography, Marine Biological Resources, Inland Waters (based in Anavyssos), Aquaculture, Marine Biology & Genetics (based in Crete). The scientific personnel numbers 200 researchers and 90 technicians while 55 people support its administration. HCMR operates, with the assistance of a total crew of 34 persons, the 62m R/V Aegaeo, the 23m R/V Filia and the manned submersible THETIS. Two multi-purposed (scientific, educational, etc) aquariums, in Crete and Rhodes islands, are under the responsibility and management of HCMR.

IRELAND

The Marine Institute (MI) is mandated by the Department (Ministry) of Communications, Marine & Natural Resources (DCMNR) to participate in MarinERA.

The Marine Institute is the national agency with the general functions: *"to undertake, to co-ordinate, to promote and to assist in marine research and development and to provide such services related to marine research and development, that in the opinion of the Institute will promote economic development and create employment and protect the environment."* (Marine Institute Act, 1991)

The Marine Institute's role is to:

- Provide its parent Department (Ministry) and other government bodies with scientific advice and services relating to the marine sector, (e.g. fish stock assessment, aquaculture, shipping, marine environmental monitoring, etc);
- Support RTDI (research, technology, development and innovation) in-house and through the provision of an open and competitive Marine RTDI Funding Programme;
- Support marine enterprise and related activities through the provision of key scientific services and advice and through the results of research;
- Underpin the sustainable development of the marine resource through the provision of key scientific services, advice and research.

The Institute currently has a complement of 183 staff (147 permanent; 36 contract) at three main locations and oversees programmes in: Aquaculture and Catchment Management, Fisheries Science, Marine Environment & Food Safety, Ocean Science, Strategic Planning and Development and Maritime Transport and Shipping.

The Marine Institute receives an annual grant from the Department of Communications, Marine & Natural Resources (€18.9 million for 2004) to undertake its Service Programmes and manages the €52 million Marine RDTI Measure of the National Development Plan (2000-2006). This latter Programme includes a €36 million budget for Marine Research Infrastructure and a €16 million budget for an open and competitive Marine RTD Funding Programme.

MALTA

The **Malta Council for Science and Technology (MCST)** has been mandated by the Office of the Prime Minister to participate in the MarinERA project.

The Malta Council for Science and Technology (MCST) was established in 1998 to provide strategic advice to Government on national science and technology policy and has been responsible for identifying and addressing major science and technology challenges and issues of strategic importance for Malta, thereby contributing to the development of coherent and sustainable policy visions and initiatives. In 1995 the MCST was appointed to *"manage the national budgetary allocation for the development of science and technology in Malta"*.

MCST has pioneered visionary approaches to the deployment of science and technology in the Maltese Islands, in particular in the Marine Science, Biotechnology and Information and Communications Technologies sector, where national foresight pilot projects were launched between 2001-2003. The MCST's main remit is to encourage increased public and private investments in science and research with a view to promoting a culture for science, technology and innovation.

NETHERLANDS

The **Netherlands Organisation for Scientific Research (NWO)** is mandated by the Ministry of Education, Culture and Science to participate in MarinERA.

NWO was established by an Act of Parliament in 1950 to promote basic research at Dutch universities and research institutes and to raise the quality of that research. Innovation by open competitive funding is a key element in this endeavour. To help it achieve these aims, NWO annually receives funding of around €450 million from the government. The NWO comprises seven Research Councils, among them the Council for Earth and Life Sciences.

Marine science fits very well within the long-term policy of NWO which provides basic funding for the Royal Netherlands Institute for Sea Research, a separate budget line for open competitive applications and allocated thematic budgets which, like that for climate research or continental margins, can also include support for marine research activities. In total NWO controls an estimated budget of €20 million per annum related to marine sciences.

Traditionally Dutch scientists are interested in a wide range of blue ocean research with activities across the world's oceans. These activities rely heavily on sharing and exchange of facilities with partner countries, mostly European. But also closer at home, like in the North Sea and North Atlantic, many benefits and cost-efficiency can be achieved by regional cooperation and coordination.

NORWAY

The **Research Council of Norway (RCN)** is mandated by the Ministry of Education and Research to participate in the MarinERA project.

The Research Council plays a vital role in developing and implementing the country's national research strategy, acting as a:

- Government adviser, identifying present and future needs for knowledge and research;
- Funding agency for independent research programmes and projects, strategic programmes at research institutes, and Norwegian participation in international research programmes;
- Co-ordinator, initiating networks and promoting co-operation between RTD institutions, ministries, business and industry, public agencies and enterprises, other sources of funding, and users of research.

The Research Council of Norway is structured around three research divisions: the Division for Science, the Division for Strategic Priorities and the Division for Innovation. In addition, there is one administrative division, the Division for Administrative Affairs.

Approximately one third of Norway's public sector research investment is channelled through the Research Council. The remainder is transferred directly from the ministries to the relevant research institutions. In 2005, the Research Council of Norway had a budget of €570 million.

The Council has identified marine research as one of its important research priorities and has been entrusted by the government of Norway with a mission to promote international collaboration within marine research. Within this mission, and the corresponding budget received from the government, the Council has designed, and implements, the programme Oceans and Coastal Areas with which it proposes to participate in the MarinERA-Net project.

POLAND

The **Ministry of Scientific Research and Information Technology (MSRIT)** is represented in the MarinERa project by the Institute of Oceanology (IO) of the Polish Academy.

The Ministry of Scientific Research and Information Technology (MSRIT) is the National Agency for scientific development through funding of National Plans of Research, Development and Technological Innovation. These plans have a duration of four years with annual public and competitive calls which are peer-reviewed. The marine research in the Baltic Sea predominantly is carried out by the research institutes and universities using the "bottom-up" approach mechanism of funding of their research activity. They apply for the funds each year to the MSRIT. These applications are reviewed by the Ministry which proposes a level of funding and assigns funds. The annual research budget for marine research is €10.2 million with circa 60 projects funded per year. The annual budget for marine infrastructure is €1.1 million with 5 initiatives funded per year.

PORTUGAL

The **Fundação para a Ciência a Tecnologia (FCT)** has been mandated by the Ministry for Science, Technology and Higher Education to participate in the MarinERA project.

The Portuguese Fundação para a Ciência a Tecnologia (FCT), created in 1997, carries out its mission through funding of proposals presented by institutions, research groups and individuals, on the basis of independent evaluations of merit, and also through co-operation agreements and other forms of partnerships with universities and other public and private institutions. In 2002, FCT had an overall budget of €194.6 million. At present, FCT funds 350 research centers in all scientific fields involving more than 5,000 doctorates, over 1,900 research projects and more than 4,000 research fellowships for Masters, PhD and Post-doctoral studies.

The Programme for the Enhancement of Marine Science and Technology (PDCTM) was established in 1998/1999. The projects under this Programme have a duration of a maximum of three years. It is under consideration to maintain the Programme after re-evaluation and eventual revision of the thematic priorities and objectives. Approximately €10 million was assigned to PDCTM. This budget is complemented by other funds allocated to supporting activities in order of €2 million.

FCT and IFREMER are the founding members of **EurOcean –European Centre for Information on Marine Science and Technology.** The object of EurOcean is to develop information exchange and derived products in the field of marine sciences and technologies between a wide range of governmental and non-governmental bodies, with a view of building up a comprehensive panorama on the state of research activities and related resources. EurOcean operates an Internet portal which is also the European portal of the Intergovernmental Oceanographic Commission.

SPAIN

The **Spanish Ministry of Education and Science (MEC)** is the National Agency for scientific development through funding of National Plans of Research, Development and Technological Innovation. These plans have a duration of four years with annual public and competitive calls which are peer-reviewed. The Marine Sciences form part of the Natural Resources Science and Technology area, and started having a specific programme on 1995. A total of 294 projects and special actions were funded on the 2000-2003 period, corresponding mainly to R&D Projects (175), followed by special actions (86) and co-funding of EU Projects (33). The total budget for the period was €14.99 million (€4 million / annum). Other related programmes are Polar Science (mainly marine research) and Aquaculture.

UNITED KINGDOM

The Natural Environment Research Council (NERC) is mandated by the Ministry (Department) of Trade and Industry to participate in MarinERA. The Natural Environment Research Council promotes and supports high-quality basic, strategic and applied research, survey, long-term environmental monitoring and related postgraduate training in the full range of environmental sciences. In so doing, NERC advances knowledge and technology, provides services and trained scientists and engineers, and meets the needs of users and beneficiaries (including the agricultural, construction, fishing, forestry, hydrocarbons, minerals, process, remote sensing, water and other industries), thereby contributing to the economic competitiveness of the United Kingdom, the effectiveness of public services and policy and the quality of life. NERC provides advice on, and disseminates knowledge and promotes public understanding of, the environmental sciences.

The Natural Environment Research Council manages an annual research budget of over €430 million (2000 – 2004) of which circa €55 million per annum has been used for marine science (marine research, specialist marine research infrastructures and NERC Marine Research Centres.)

Marine Board (European Science Foundation)

The Marine Board is a consortium of 25 marine research organizations from 17 European countries (www.esf.org/marineboard). The Marine Board Secretariat is located in the European Science Foundation office in Strasbourg (France). In developing its programmes, the Marine Board focuses on four main themes.

- **Forum:** bringing together member organisations to share information, to identify common problems and, as appropriate, find solutions, to develop common positions, and to co-operate on scientific issues.
- **Strategy:** identifying and prioritising emergent disciplinary and interdisciplinary marine scientific issues of strategic European importance, initiating analysis and studies (where relevant, in close association with the European Commission) in order to contribute towards a European strategy for marine research.
- **Voice:** expressing a collective vision of the future for European marine science in relation to developments in Europe and world-wide, and improving the public understanding of science in these fields.
- **Synergy:** fostering European added value to component national programmes, facilitating access and shared use of national marine research facilities, and promoting synergy with international programmes and organisations

The Secretariat of the Marine Board provides project management and administrative services to the MarinERA Project.

ANNEX 7

Preliminary Data on RV Operational Costs (Q3.2)

Country	Operating Organisation	Number of Research Vessel (>30m length)	Annual operational budget € (2004)
Belgium	MUMM	Belgica (51)	€1,700,000
Finland	Finnish Institute for Marine Research	Aranda (59)	€1,557,000
France	Ifremer	4 vessels (>30m)	€47,500,000
Germany	AWI	Heincke (55)	€14,500,000
		Polarstern (118)	
	Hamburg University	Meteor (98)	€7,600,000
	IfM-Geomar	Alkor (55) Poseidon (61)	€3,400,000
	RF Shipping Company	Sonne (98)	€7,100,000
	Fed. Agency for Agriculture and Food	Solea (43) Walther Herwig III (64)	€6,100,000
	Baltic Sea Research Institute	Merian (95) Prof Albrecht Penck (39)	€3,200,000
Greece	Hellenic Centre for Marine Research- HCMR	Aegaeo (63)	No data
Malta	N/A		
Netherlands	Nederlands Instituut voor Onderzoek der Zee (NIOZ)	Pelagia (66)	€1,990,000
Norway	University of Tromsø	Johan Ruud (30)	€815,000
	University of Tromsø/Institute of Marine Research	Jan Mayen (64)	€4,250,000
	Institute of Marine Research/ University of Bergen	Hakon Mosby (47) G.O. Sars (77)	€3,073,100 €4,027,820
	Institute of Marine Research	Johan Hjort (64)	€3,597,490
	NORAD/Institute of Marine Research	Dr Fridtjof Nansen (57)	€3,820,560
	Norwegian Polar Institute	Lance (61)	€1,212,500
Portugal	Instituto Hidrografico	NRP D.Carlos I (68) NRP Auriga (32) NRP Andromeda" (31) NRP Almirante Gago Coutinho (68)	 No data Vessels operated by the Navy
	IPIMAR	Noruega (48) Capricornio (47)	
Republic of Ireland	Marine Institute	Celtic Explorer (61) Celtic Voyager (31)	€5,015,000
Spain	CSIC-UTM/Navy CSIC-UTM IEO	Hesperides (82) Garcia del Cid (37) Coornide de Saavedra (67)	€5,400,000 €1,100,000 €3,100,000
UK	NERC Research Ship Unit	RRS Discovery (90) RRS Charles Darwin (69)	€14,290,000
	NERC British Antarctic Survey	RRS James Clark Ross (99)	
			€144,348,470

For further information on the MarinERA Project why not visit our website:

WWW.MARINERA.NET

MarinERA *Facilitating the Coordination of National and Regional Marine RTD Programmes in Europe*

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