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MARTEC

ERA-Net Maritime Technologies

Co-ordination Action

ERA-Net

D2.1 Analysis of barriers

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1 Executive summary

On the basis of an overview of the elements proposed by other ERA-NETs and the outcome of the workshop held in Paris in March 2007, this report presents the analysis of the barriers to Martec partners' cooperation for funding trans-national research and development projects and how to overcome them.

ERA-nets classically distinguish three main models for cooperation, based on the national or trans-national implementation of three major steps of programme management, i.e. the call for proposals, the evaluation, and the funding. Dissemination methods are another important point for networking. The development of a trans-national research programme by Martec partners can progress step by step: the level of cooperation increases as the partners undertake more joint activities.

One crucial question is how far the partners can go and what is required to reach that point when barriers to cooperation can be found at the legal, financial, policy, programme and project levels.

Martec partners agree that even if barriers to information exchange and to the implementation of a common call do exist, they can be overcome. The pilot call will show that the consensus on common research priorities and the synchronisation of call and funding, which are usual difficulties of Eureka projects, are barriers that Martec partners will succeed in overcoming.

The organization of a common evaluation is complex and Martec partners will test its modalities during the pilot call.

As for joint funding, although the advantages of a high level of cooperation are obvious, Martec partners agree that they are not ready to implement a common pot yet but they will investigate the possibility offered by European economic partnerships.

2 Introduction

Research and innovation are crucial preconditions for economic development, future growth and competitiveness. Furthermore trans-national cooperation is a key factor for effective research and innovation.

Policy instruments for trans-national R&D across Europe do exist: the EU Framework Programme funds the conduct of common research of partners from different countries. Intergovernmental initiatives like EUREKA and COST, amongst others, enable funding organisation such as national and regional ministries and agencies to subsidise research carried out together by partners from different countries. Nevertheless the ERA-NET scheme has promoted awareness of the benefits of a further cooperation between national and regional research programmes, to overcome the barriers faced by intergovernmental initiatives, without restricting national responsibilities for research policy. It has shown its efficiency, since it has already initiated several trans-national calls dealing with a diversity of topics. With MARTEC, it will now enable trans-national calls dealing with maritime technologies.

This report presents the analysis of the barriers to cooperation and how to overcome them (Martec task 2.1). It is structured as follows.

Firstly, the main steps of preparation of the present report will be presented in the section entitled methodology.

This report will then give an overview on the elements proposed by other ERA-NETs on the analysis of the barriers to cooperation. In order to raise the energy necessary to overcome the barriers, a glance at the benefits of trans-national cooperation may be useful. They will be recalled in section 4. The two following sections will be devoted to the presentation of the main models of cooperation (section 5) and to the different types of barriers to overcome, in particular legal, financial, political and administrative barriers (section 6).

On the basis of these elements, whose source is mainly bibliographical, the current barriers to cooperation will be clearly identified in the last part of this report (section 7), as well as how Martec partners will be able to overcome them.

3 Methodology

Within the framework of the task 2.1, entitled Analysis of barriers, of ERANET MARTEC, the objectives and results of the four main steps which led to the drafting of this report are recalled in the following table.

Table 1: Methodology

	Objective(s)	Action(s)	Result(s)
S t e p 1	To profit from the experience of preceding ERA-NETs and of the European Commission	Bibliographic search on ERA-NET deliverables and sources (on the internet)	Methods of cooperation between programme owners are mainly forced by their mode of organization, in other words the perimeter of Martec particularly does not distinguish it from other ERA-NETs with regard to the analysis of the barriers
S t e p 2	To validate the results of the 1st step To identify the possible level of cooperation To contribute to the organisation of the pilot call	European workshop in Paris in March 2007 on how to overcome barriers	Adoption of a pragmatic strategy of progressive integration Definition of a common objective for cooperation Consensus on the identification of the barriers to overcome
S t e p 3	To deepen the analysis validated at the workshop in order to identify remaining barriers and to find how to overcome them	Draft report sent to the partners for commentaries	Definition of the highest level of integration of the national programmes
S t e p 4	Finalization of this report (26/07/07)		

4 Benefits of trans-national cooperation

Before detailing the different cooperation models and the difficulties they face, a glance at the interests of trans-national cooperation both for project partners and for programme managers may enable the MARTEC team to keep in mind the goal it aims at.

The ERA-NET scheme allows to combine some advantages enjoyed by national and regional programmes over their international equivalents with some benefits associated with international programmes, as will be detailed below. The repartition of the scopes and responsibilities of the Framework Programme, ERA-net calls and national calls is a critical point to debate in the MARTEC team.

4.1 Advantages for companies and research institutes

To get better and quicker information, to widen their markets and to facilitate a critical mass for project consortia, are the main advantages for companies and research institutes involved in trans-national research projects.

4.1.1 Better information exchange

Trans-national projects enable to disseminate information about on-going research and results in a broader arena than national projects.

4.1.2 Widening the targeted markets of companies involved in research projects

The publicity given to common research projects as well as the collaboration with complementary companies abroad can increase the fame of a company and extend its markets to the clients of its partners.

4.1.3 Critical mass for research consortia

The ERA-NET scheme makes it possible to widen the spectrum of the potential applicants for a call for proposals. Trans-national cooperation in many cases allows companies to find the efficient partners they cannot find in their domestic market. This is the case for small and medium enterprises in niche markets, for experts in research institutes: some projects cannot be performed if these necessary partners cannot take part to a common project.

4.1.4 Trans-national research at a small scale

The trans-national projects funded by ERA-nets are smaller than many projects of the Framework Programme. The rules are suppler than the stiff machinery necessary to organise a fair concurrence between researchers in whole Europe. Quicker procedures can be expected.

4.2 Advantages for programme owners

ERA-NETs improve the quality of consortia and research, and the exploitation of the results. Consequently, the impact of public investment in R&D on national priorities increases. Benefits also include the coordination of policy responses to challenges shared by few countries, the establishment of critical research masses in key areas, and less unintended duplication and redundancy.

4.2.1 Programmes better suited to national priorities

ERA-NETs facilitate mutual learning amongst national and regional programme owners and managers concerning the design and implementation of research programmes.

ERA-NETs also provide access to research funds in areas not well covered by international funding schemes, often in areas of interest to only a small group of countries or in technical areas not prioritised by the Framework Programmes (both within and external to the main thematic areas).

4.2.2 Better project selection

A great benefit of trans-national cooperation is related to the use of a wider pool of evaluators and applicants than are available in the country. Tapping into external knowledge and collaborating with other countries that have similar, non-competing interests increases research capacity and should lead to higher quality results than might be achieved through unilateral activities alone.

4.2.3 Less duplicated research inside the ERA

Unintended duplication and redundancy can be minimised via the exploitation of complementary strengths in national and regional programmes and information exchange between programme managers.

4.2.4 More consistent projects

Critical mass of funds and size of research partners network in strategic areas can be more easily attained via trans-national research programmes than at national level.

Moreover trans-national cooperation allows to utilise:

- research capacity and expertise from other countries by allowing foreign experts to participate in the national programme (with or without funding)
- research capacity and expertise from other countries by allowing participants to use foreign experts as subcontractors

5 Different cooperation models

ERA-nets classically distinguish three main models for cooperation, based on the national or trans-national implementation of three major steps of programme management, i.e. the call for proposals, the evaluation, and the funding. The development of a trans-national research programme by Martec partners can progress step by step: the level of cooperation increases as the partners undertake more joint activities. One crucial question is how far the partners can go and what is required to reach that point.

In this section these three models will be described (subsections 5.1 to 5.3). Dissemination methods will then be discussed in a separate subsection (5.4).

5.1 *Joint call, national evaluation and funding (Model 1)*

The partners agree on overall common research themes from their national programmes. They launch a joint call for trans-national projects open to researchers from the partner countries.

The national organisations remain responsible for the evaluation of the part of the proposal which concerns their nationals and for the funding of their nationals.

This cooperation model can be separated into the three following options.

5.1.1 Common steering committee

The cooperation between research funders can be based upon a common steering committee responsible for formulating the scope of the coordinated calls. The steering committee consists of representatives of the participating funding organizations. They must have the authority to make decisions about funding projects and signing contracts.

5.1.2 Programme advisory committee

Academics in universities and institutions, policymakers and stakeholders can be involved in an advisory committee for programming RTD. To improve the involvement of networks the members of the advisory committee are selected to bridge the gap between programmes, RTD projects and networks of stakeholders. They also can be involved in the execution of the programme and in the dissemination through their networks.

5.1.3 Research council

In this stage European networks are established for end-users, policy makers, stakeholders and scientists. Representatives of these networks form the research council of a European R&D programme on Maritime Technologies. It is possible that on a national level representatives of the different groups of stakeholders also discuss the national research agenda. Representatives of these “national research councils” could also act as the research council for the European programme.

5.2 *Joint call and evaluation, national funding (Model 2)*

5.2.1 Joint evaluation

An international expert committee evaluates the incoming proposals according to the evaluation criteria set by the partners.

This cooperation model can be separated into the three following options.

5.2.1.1 Representatives of national peer review evaluators

The review and selection of the proposals is done by a Peer Review team. The peer review team consists of peer reviewers from the participating programmes.

5.2.1.2 Common pool of evaluators

From all participating countries peer reviewers are selected to be part of a pool of European peer reviewers. From this pool the programme advisory committee will select a peer review team that reflects the expertise necessary to review the submitted proposals. The interests of the end users shall be considered during the evaluation procedure by organizing a communication phase with the relevant stakeholders during the pre-selection phase.

5.2.1.3 European panel of evaluators

In the review panel not only experts, but also end users, representatives of solution supply organizations and researchers from institutes and universities are present. Members of the panel also will have a task in the review of the execution of the projects. Stakeholders can take part to the monitoring of the research projects and identify interesting subjects and results to communicate with their networks.

5.2.2 National funding

Each funding organisation makes the final funding decision and each partner funds its national researchers. Special arrangements have to be made between the participating country who is responsible for the management of the project (leading partner) and the countries that are responsible for the financial control.

A difference can be made between the funding of the general activities of the co-ordinated call and the research projects themselves. General activities such as call preparation, project selection and dissemination, can be funded out of a common pot or by an additional funding organisation such as the EC. Nevertheless the national funding of projects is the most realistic option for the short term because it can adapt to national procedures and does not require the funding of researchers from other countries which is seldom possible in the frame of national programmes.

5.3 Joint call, evaluation and funding (Model 3)

This is the model where the degree of co-operation is the highest. Its mode of funding makes it conspicuous.

In this model the partners agree on an overall research theme, launch a common call and the applications are evaluated through a joint evaluation procedure. The funds for research are put in a common pot, and the highest ranked proposals are funded. Each participating country contributes to the common pot. Thus, the partners make the final funding decision jointly. This is a model where rating, ranking and financing stays in the same forum. The balance between the contribution to and expenditures per participating country out of the common pot can be taken into account. The responsibility of the financial control of the coordinated call is a shared common responsibility. The financial control of the projects and of the programme is carried out by one of the participating countries or by an independent third party. All participating countries have to agree on the procedures of the financial control and to trust the controlling organisation.

The European Economic Partnership (EEP) in which each national funding agency is involved allows to pay researchers from another country and is a well-known way to organize a common pot. We notice by the way that the European Commission can be partner of a EEP, which could enable it to take part to the funding of joint activities like call preparation for instance.

From a pragmatic perspective, virtual pots are relatively easy for participating programme owners and managers to implement, since they involve few changes of significance to internal

structures and procedures, whereas common pots can involve major changes and present real difficulties to some administrations, especially in terms of cross-border money transfers. Conversely, common pots have a number of distinct theoretical advantages, the most important being that all the best projects can be funded until the pot runs out. In contrast, when virtual pots are used, good projects can fail to be funded if they include a research team from a country or region whose individual contributions to the scheme are exhausted. Mixed-mode schemes offer a compromise. For example, virtual pots can be used until problems arise concerning projects containing partners from a country or region whose funds are exhausted. Contingency plans of a common pot nature facilitating the transfer of money across borders can then come into play.

Each funding option has its pros and cons. They are listed in the next table.

Table 2: Financial difficulties to overcome for each funding option

Option	Advantage	Problems to overcome
National contributions	Easy to implement	Mixed responsibilities for project management and financial control National procedures apply for national contributions Only funding of national researchers
Mixed funding of projects and general activities	Flexibility Different models for project funding are possible More chance of additional funding	Mixed responsibilities for project management and financial control
Adaptation of projects (each participating country adopts (a) selected project(s) and is responsible for its financial control.	Clear responsibilities National procedures apply for adopted projects	Funding of researchers of other countries
Common pot	Flexibility More chance for additional funding Common financial responsibility	Funding of researchers of other countries Acceptance of common procedures for financial control

5.4 Dissemination

The increase in European cooperation in the dissemination process can follow the next three options.

5.4.1 Dissemination to the scientific community

The programme, the projects characteristics and results are communicated via scientific journals, scientific posters and web sites.

5.4.2 Dissemination to the professional community

During the execution of the projects, members of the review panel can act as interlinks between the project consortia and the professional community (policy makers, technical

experts and professional end-users). They can initiate special workshops on specific themes. As projects are finalized the results can be presented as reports, fact sheets, guidelines, etc.

5.4.3 Acceptance of results in practice

Results of R&D projects are validated and evaluated and in fact these results should be accepted as state-of-art in the participating countries.

6 Different difficulties to overcome

Barriers to cooperation do exist. These include practical barriers stemming from, for example, the heterogeneity of national and regional rules, laws and regulations governing domestic research spending, as well as the more mundane barriers created by language and currency differences. They also include more entrenched cultural or institutional barriers related to the low priority given at the highest political levels to international cooperation and to the coordination of national and regional programmes. To be successful, ERA-NETs demand the active participation of programme owners as well as programme managers in order to overcome barriers which can be presented either according to their own nature or according to the difficulties which they raise in the management of a trans-national programme.

6.1 Different types of barriers to trans-national cooperation

The documents on this subject do not give univocal definitions of the various types of barriers to trans-national cooperation. It is however possible, even if they are not exactly understood in the same manner by all countries, to distinguish the following categories: barriers at legal, financial, policy, programme and project levels

For each category the following sections give the lists of possible barriers.

6.1.1 Barriers at the legal level

- ❑ The legislation forbids payment to non-residents
- ❑ Cross-national funding has to be based on a legal framework which is not set up or even drafted yet

6.1.2 Barriers at the financial level

- ❑ Research budget restrictions
- ❑ Inequality of investment makes it impractical to design joint programmes
- ❑ Financial administration systems not designed to cope with non-national contracts

In case of joint funding:

- ❑ Lack of control on procedures
- ❑ Need for common steering
- ❑ Unused joint funds

6.1.3 Barriers at the policy level

- ❑ Conflicts between different policies (Diverse policy objectives have to be coordinated between the ministries)
- ❑ Fear to lose knowledge, competence and political power (sovereignty on national and regional research funding programmes)
- ❑ Another organisation deals with international activities
- ❑ Trans-national activities are focussed on non-EU countries
- ❑ Policy to achieve national priorities through internal capacity building
- ❑ Influential decision makers do not see the value
- ❑ Source of funding does not encourage use of funds for trans-national activities

6.1.4 Barriers at the programme level

6.1.4.1 For programme initiation

- ❑ Joint themes hindered due to different partner scopes
- ❑ Different cycles/lengths of national programmes
- ❑ Insufficient knowledge of similar national programmes

- ❑ No European structures to coordinate cooperation in programme area

6.1.4.2 For programme implementation

- ❑ Different call procedures
- ❑ Different evaluation procedures
- ❑ Different time schedules

6.1.4.3 For programme management

- ❑ Sharing activities/results would dilute international leadership
- ❑ Programme owner has limited experience of pan-European collaboration
- ❑ Language and culture diversity makes opening programmes impractical
- ❑ Sufficient volume of high quality applications from internal capacity
- ❑ No explicit criteria that encourage trans-national activities
- ❑ Lack of resources (staff, budget)
- ❑ Lack of time
- ❑ Differences across countries concerning the scale of research programmes

6.1.5 Barriers at the project level

- ❑ Administration costs of trans-national projects outweigh the benefits
- ❑ No demand from national applicants for inclusion of foreign partners
- ❑ National researchers not keen to see more budget used for trans-national
- ❑ Lack of experience on alternative financing mechanism
- ❑ Competition between project partners from different countries
- ❑ Intellectual Property Rights (IPR)

If barriers are very real, a mechanism such as ERA-NET was needed to overcome them.

6.2 Overcoming the barriers

The document entitled *Increasing the Impact of National Research Programmes through Trans-national Cooperation and Opening* by Optimat Ltd and VDI/VDE Innovation + Technik GmbH proposes 23 specific enablers for trans-national cooperation and opening. They include explicit rules and instruments, lack of legal or political barriers, external influencers, programme owner interest/autonomy and positive prior experience. Some of these are specifically designed to increase the impact of national programmes. Others may be unforeseen consequences of particular aspects of the national programme design. They are given below.

6.2.1 Explicit rules and instruments

- ❑ Explicit selection criteria to encourage trans-nationality
- ❑ Participation of non-residents encouraged
- ❑ Direct payment of non-residents
- ❑ Use of evaluators from other countries
- ❑ Funding of trans-national research projects
- ❑ Funding of cross-border technology transfer projects
- ❑ Cross-border mobility/training of researchers

6.2.2 Lack of legal or political barriers

- ❑ No restrictions on funding non-residents
- ❑ Financial systems can cope with contracts/currencies

6.2.3 External influencers

- ❑ Links with multilateral framework programmes
- ❑ Influential decision makers see the value of trans-nationality
- ❑ Change in national policy to encourage trans-nationality
- ❑ Programme funding source encourages trans-nationality
- ❑ Insufficient quality of proposals from nationals
- ❑ Demand for inclusion of foreign partners
- ❑ Encouragement to divert more budget to trans-national

6.2.4 Programmes owner interest and autonomy

- ❑ Knowledge of similar programmes in other countries
- ❑ Experience of pan-European collaboration
- ❑ Discretionary power to fund foreign researchers
- ❑ Discretionary power to fund trans-national projects
- ❑ Discretionary power to create trans-national budget
- ❑ Discretionary power to co-fund trans-national programme

6.2.5 Prior experience

- ❑ Tangible benefits from trans-national activities

The elements given in this report until now constitute a tool box for Martec partners in order to identify the barriers to their trans-national cooperation and to define their model for cooperation.

7 Building a trans-national network of funding agencies for maritime technologies

In this section we will regard the current organization of the various partners as starting point and we will consider which is the most integrated level of cooperation which can be reached.

7.1 *The starting point*

7.1.1 Real difficulties but yet...

In October 2006¹, during the kick-off meeting in Berlin, a first report on difficulties to overcome was presented:

- ❑ Not all countries have a national programme focused on maritime research
- ❑ The programmes are not synchronised
- ❑ The types of research are different (Fundamental R&D, Industrial R&D, Pre-competitive development)
- ❑ The funding mechanisms are different (grants, loans, fiscal bonuses...)
- ❑ The funded activities are different (R&D, human resources, infrastructures, special actions)
- ❑ The funded disciplines are different
- ❑ The proposal submission and evaluation procedures are different

Moreover, joint calls with trans-national funding or even synchronous calls with common evaluation did not seem possible to some partners (tables 3 and 4) and differences of available national funding budgets for maritime R&D were considered as a main difficulty for strengthened cooperation (table 5).

¹ At that time PREDIT the French programme of research, experimentation and innovation in land transport which was only slightly open to harbour hinterland, river-sea transport, intermodality and the motorways of the sea (there is no French research programme dedicated to maritime transport) was analysed. Its rules are changing and it is impossible to involve PREDIT in Martec immediately. That is the reason why the Ministry for Ecology and Sustainable Planning and Development proposes to fund the pilot call and in this report its own rules are analysed.

Table 3: assessment of the feasibility of implementing a common call within the maritime programme

	Denmark	Finland	France	Germany	Norway	Poland	Spain
Common call with separate evaluation and separate funding (model 1)	Possible	Possible	Possible	Possible	Possible	Possible	Possible
Common call with common evaluation and separate funding (model 2)	Possible	Possible	Possible	Impossible	Possible	Possible	Possible
Common call with common evaluation and funding (model 3)	Impossible	Impossible	Impossible	Impossible	-	Impossible	Impossible
Other joint activity (e.g. human mobility, infrastructure etc.). Please specify	-	-	-	Impossible	Possible	Possible	common call with common evaluation and funding by the EU

Model 2 seemed to be feasible to all partners except Germany at that time, but model 3 was out of reach. The situation has changed since Martec partners have chosen a model between 1 and 2 for the pilot call. The evaluation of draft proposals will be done at national level. Full proposals will be evaluated by external experts. The final evaluation will end up with a ranking of full proposals.

Table 4: Necessary time to allocate the budget for a common call

	Denmark	Finland	France	Germany	Norway	Poland	Spain
Common calls with national funding	6 months	Up to 6 months	1 year	Immediately in case of national interests, otherwise up to one year	Up to 1 year	Up to 1 year	1 year
Joint calls with common pot funding	Impossible	Impossible	Impossible	Impossible	-	Impossible	Indeterminate time
Other joint activities (please specify)	-	-	Impossible	Impossible	Possible	Possible	1 year

Amongst the countries who gave an answer, the allocation of budget on research priorities is mainly done on a yearly basis, which makes it necessary to agree soon to organise the pilot call in 2007 for projects beginning in 2008 or 2009.

Table 5: Main difficulties for strengthened cooperation within trans-national R&D programmes/activities

Rating (1 less difficult, 5 most difficult)	Denmark	Finland	France	Germany	Norway	Poland	Spain	Average
Huge differences of available national funding budgets for maritime R&D	5	2	4	5	2	3	5	3.7
No financial flexibility	1	3	5	4	4	3	5	3.6
Disharmony of diverse programme management procedures	3	4	3	5	2	2	5	3.4
Absence of a consistent national maritime strategy	5	2	4	3	2	4	1	3.0
Lacking administrative capacities, staff and financial resources	3	3	5	3	3	1	3	3.0
Complicated project managing and controlling	3	3	3	4	3	2	3	3.0
Complicated and time consuming calls for tender	3	3	3	3	4	2	1	2.7
Legal constraints	1	3	1	3	3	4	3	2.6
Diverse cooperation policies	1	3	3	3		3		2.6
Doubts about efficiency	3	3	3	3	2	1	1	2.3
Diverse culture and language	3	2	3	1	2	1	4	2.3
Diverse research interests	1	2	2	2	2	4	2	2.1
Intellectual property rights	1	3	2	3	2	2	1	2.0

At that time, the main difficulties anticipated by the partners were:

- the heterogeneous available budgets for maritime research,
- the stiffness of the financial frameworks,
- the diversity of programme management procedures,
- the lack of a strong national maritime strategy.

They also feared their limited staff would be overwhelmed by complicated administrative work. These are first financial barriers, then barriers at the policy and at the programme level.

7.1.2 ... it is possible to cooperate

Real similarities in the management of the programmes involved in Martec pre-exist to the real will of their owners to organize a trans-national cooperation. As the answers to the questionnaire show it (Task 1.2), some difficulties inherent to each level of cooperation are already overcome.

Concerning the consensus on an overall programme theme, which constitutes the base of the trans-national cooperation, Martec partners usually fund industrial research (table 6). Moreover they all fund universities (table 7) offer grants (table 8) and present similarities concerning call requests (table 9).

With the knowledge of these facilitator elements and difficulties, Martec partners redefined at the time of the workshop held in Paris (March 2007) the various models of cooperation and located the barriers which have hindered to choose the most integrated model of cooperation up to now.

Table 6: Research priority – Funded activities

	Denmark	Finland	France	Germany	Norway	Poland	Spain
Industrial Research	X	X	X	X	X	X	X
Pre-competitive development	X	X	X	X		X	X
Fundamental research		X		X	X	X	

Martec common calls should be focused on industrial research and pre-competitive development. This is not a problem since fundamental research has its own cooperation schemes.

Table 7: Funding - Eligible applicants

	Denmark	Finland	France	Germany	Norway	Poland	Spain
Public research institutes	X	X	X	X	X	X	X
Universities	X	X	X	X	X	X	X
Companies	X	X	X	X	X		X
Private research institutes	X		X	X		X	X
Associations			X				X
Non-profit organisations		X	X	X			X
Individuals	X				X		
Technological centers							X

Public research institutes and universities are eligible applicants for all the Martec partners. Companies may be eligible applicants for Martec partners too.

Table 8: Funding – Funding mechanisms

	Denmark	Finland	France	Germany	Norway	Poland	Spain
Grant	X	X	X	X	X	X	X
Guarantees / bond							
Loans		X					X
Mixed		X					X

Grant is the funding mechanism used by all Martec partners.

Table 9: Common call requests

	Den mark	Finland	France	Germa ny	Norway	Poland	Spain
If the ERA-Net were to introduce minimum standards on a trial, will your country be able to participate with or without national procedures?	With	With	Without	With	Without	With	With
Would your country favour the introduction of a system of monitoring projects at the level of ERA-net with or without parallel national monitoring?	With	With	With	With	With	With	With
Would you support regular exchanges of experience within MARTEC network on national ex-post assessment methodologies and findings?	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Can the programme owner reserve an additional budget for a common call?	Yes	Yes	No Multiple programme owners	No	Yes	Yes	No
Can the programme owner remove a budget from the programme to a common call?	Yes	Yes	No	Yes (if the budget is sufficient)	Yes	No	Possible
Do you expect obstacles concerning the application and evaluation process for a joint maritime programme within the ERA-NET?	No specific maritime programme	No	No	No	No	-	-
Where do you expect obstacles for the general cooperation within the maritime ERA-NET?		Budget allocation of different countries	No specific maritime programme	Budget allocation of different countries	-	The common list of priorities has to be agreed	-

This table shows that the partners involved in Martec are able to create a trans-national network by exchanging information.

7.2 A common objective: to progress gradually towards the most integrated model of cooperation

At the time of the workshop on barriers to trans-national cooperation (Paris, March 2007) the models of cooperation whose characteristics are pointed out below were validated, on the basis of elements given in others ERA-NETs. The main difficulties to overcome were also pointed out.

7.2.1 National call, evaluation and funding (Model 0)

This model was not discussed during the workshop on barriers to trans-national cooperation held in Paris. Its implementation does not require real modification of the national procedures.

Objectives:

- ❑ Information exchange: e.g. facilitate the state of the art

Mandatory cooperation:

- ❑ Common research priority

National programme owner/manager responsible for:

- ❑ National call
- ❑ Proposal evaluation (including evaluation criteria)
- ❑ Funding decision
- ❑ Project monitoring
- ❑ Final evaluation

Possible areas for further cooperation:

- ❑ Information exchange about the research
- ❑ Experts from abroad among evaluators
- ❑ Funding of foreign institutes (via sub-contracting)

Main difficulties to overcome:

- ❑ Information to exchange
- ❑ Consensus on a common research priority (table 10)

Martec partners recommendations:

The two main difficulties mentioned above are not real for Martec partners. On the one hand, information can be exchanged among programme managers who transmit it to the national owners in order to take measure, on the other hand the perimeters of the various programmes are already largely the same.

The common experience will allow to determine the type of information to exchange.

Table 10: Martec priority areas (source: ERA-Net Martec, D1.1 State of the art report)

	Denmark	Finland	France	Germany	Norway	Poland	Spain
Shipbuilding	X	X	X	X	X	X	X
Intermodal transport	X	X	X	X	X	X	X
Environmental impact	X	X	X	X	X	X	X
Maritime equipment and services	X	X	X	X	X	X	X
Ship operation	X	X		X	X	X	X
Port operation	X	X	X	X	X	X	X
Inland water transport	X		X	X	X	X	
Offshore industry	X	X		X	X		X
Offshore structures for ren. energy	X			X	X	X	X
Human elements	X		X	X			X
Fishing/aquaculture	X				X	X	X
Polar research	X	X		X	X		

Shipbuilding, intermodal transport, environmental impact and maritime equipment and services are common research priority areas. Six partners out of seven are interested by the following themes: maritime equipment and services, ship operation and port operation. The calls will have to relate firstly to one of these themes.

7.2.2 Joint call, national evaluation and funding (Model 1)

This second model requires extra objectives in comparison with model 0.

Objectives:

- Critical mass for research consortia: e.g. to facilitate Eureka projects
- To avoid to duplicate research in the ERA

Mandatory cooperation:

- Common research priority
- Joint call
- Information exchange about the research

National programme owner/manager responsible for:

- Proposal evaluation (including evaluation criteria)
- Funding decision
- Project monitoring
- Final evaluation

Possible areas for further cooperation:

- Experts from abroad among evaluators
- Funding of foreign institutes (via sub-contracting)

Main difficulty to overcome:

- Synchronization of call and project lifetime (tables 11 and 12)

Table 11: Defining a schedule for coordinated calls

	Denmark	Finland	France	Germany	Norway	Poland	Spain
Calls / Deadline	2 calls per year (Feb-March and Oct)	Open call	Not fixed	Open call	2 calls per year (June/Oct)	Not fixed	1 per year (Dec)

A call per year can probably be launch by the Martec partners.

Table 12: Defining a programme cycle

	Denmark	Finland	France	Germany	Norway	Poland	Spain
Average duration of a project (months)	48	24	24	36	30	36	
Range of duration of all projects (months)	24-54	18-36	12-36	12-60	12-48	Max 60	12-48

The recommended duration of the project: up to 36 months (the maximum duration of projects have to be adapted to the maximum duration allowed by the programme with minimum duration).

Notice: some programmes are going to change in 2008. Their new rules are not known yet.

7.2.3 Joint call and evaluation, national funding (Model 2)

This second model requires extra objectives in comparison with model 1.

Objectives

- Improve project selection
- Critical mass of project funding

Mandatory cooperation

- common research priority
- Joint call
- Common evaluation criteria (at least technical)
- Common proposal evaluation (at least ranking)

National programme owner/manager responsible for

- Funding
- Project monitoring
- Final evaluation
- Dissemination and exploitation of results

Possible areas for further cooperation

- Funding of foreign institutes (via sub-contracting)
- Information exchange about the research results

- ❑ International evaluation panel

Main difficulties to overcome

- ❑ Harmonisation of evaluation practices (tables 13, 14, 15 and 16)
- ❑ Common evaluators selection
- ❑ Earmarking of funds (table 17)
- ❑ Disproportion of funding abilities in the partner countries
- ❑ Organisation and funding of common steering (table 18)
- ❑ Automatic funding when positive common evaluation
- ❑ Template of consortium agreement

Table 13: Harmonisation of evaluation practices – assessment process

	Denmark	Finland	France	Germany	Norway	Poland	Spain
Evaluation Committees		X	X	X	X	X	X
Examination of proposals by individuals	X		X	X	X		X
Independent experts			X	X	X		X
Scoring systems	X		X	X	X		X
Contacts with other Programme Managers			X		X		
Software tools					X		X
Interviews with applicants							
Site visit							

For the evaluation of Martec projects we recommend:

- at least two experts to evaluate each project
- one evaluation accepted by all (the eligibility remains at the country level)
- experts independent from the applicants, but not necessarily from the programme manager,
- common scoring system

The partners could agree on two experts who would evaluate the project, or each partner who must have a national evaluation of the project nominates an expert, whose evaluation will serve as national evaluation and as part of the common evaluation.

Table 14: Harmonisation of evaluation practices – evaluators

	Denmark	Finland	France	Germany	Norway	Poland	Spain
Is the identity of evaluators known by the applicants?	No	Yes	No	Yes (internal) No (external)	No (research) Yes (innovation)	Depends on the type of project	No

The evaluators have to be anonymous and independent from the applicants.

Table 15: Harmonisation of evaluation practices – evaluators exclusion

	Denmark	Finland	France	Germany	Norway	Poland	Spain
Possibility for applicant to request exclusion of an evaluator for the evaluation of his/her proposal	No	No	No	No	No	No	Yes
Reasons for total or partial exclusion of evaluators		Lack of impartiality	Lack of impartiality	Lack of impartiality	Lack of impartiality	Lack of impartiality	Lack of impartiality

Again, the evaluators have to be independent from the applicants and the evaluation criteria known by all, to guarantee their impartiality.

Table 16: Harmonisation of evaluation practices – evaluation revision

	Denmark	Finland	France	Germany	Norway	Poland	Spain
Can the final evaluation result be revised by any other authority?	Yes	No	No	Yes	No	Yes	Yes

If Martec is to work well, the decisions of the BPM must be final.

Table 17: Earmarking of funds

	Denmark	Finland	France	Germany	Norway	Poland	Spain
Budget limitation per project	No	No	No	No	No	No	Grant: 60 000€ min Loan: 1 M€min

The revision of the financial rules of the partner countries can be painstaking and long. Until a common programme can be set up, no harmonization of the limitations to project budget is necessary. The partners will precise their national conditions in a specific section of the call text.

Table 18: Common steering

	Denmark	Finland	France	Germany	Norway	Poland	Spain
Payment of evaluators	100€(flat rate)	No	No	Eventually travel	Travel, 250€-265€ Time per day (expert panels) 100€per proposal (individual referee)	45€per proposal (flat rate)	260€(flat rate) Travel

The money for payment of the evaluators has to come from a pot common to the MARTEC partners. The BPM will have to agree on common financial rules.

Notice

The common schedule will be one of the main difficulties, because the funding rules are those of the national programmes. There is the same difficulty for the earmarking of funds.

To implement this model Martec partners agree on the necessity to have more than one country per project and notice that in the ERANET + scheme the European Commission gives additional funding when there are candidates of five different countries or more in a project.

Martec partners observe too that, as the Eureka scheme shows it, the good management of a consortium requires an internal project coordinator. He/she is necessary for the good quality of the work but this role does not need to be official because the partners are not financially bound. For the same reason an adequate consortium agreement is a necessity.

7.2.4 Joint call, evaluation and funding (Model 3)

This third model requires extra objectives in comparison with model 2.

Objectives

- Wider dissemination
- Higher mass of project funding
- To widen the markets of companies involved in research projects

The mandatory cooperation level is not fully fixed.

Mandatory cooperation

- common research priority
- Joint call
- Joint evaluation procedures
- Common funding (at least partial, possibly with common cost models)
- Common project monitoring
- Common final evaluation
- Common policy for dissemination and exploitation of results

Some choices still need to be made.

Possible funding schemes

- « juste retour »
- Partially common pot (a part of « juste retour » and a part of common pot)
- Common pot
- Direct control of funds (European economic partnership...)

Possible types of funded activities

- ❑ General activities
- ❑ Research projects

Main difficulties to overcome:

- ❑ Common programme/policy
- ❑ Common funding (tables 19 and 20)

Table 19: Common funding – cost model

	Denmark	Finland	France	Germany	Norway	Poland	Spain
Full cost with actual indirect costs	X			X		X	
Full cost with indirect flat rate costs		X		X	X		X
Other			X (depends on the project)	X			

There is consensus related with the full cost model. Related with the indirect cost, we have an option to choose both actual or flat rate, for the national authorities. It doesn't matter if partners have different indirect cost models in the same project (it is the case in the UE Framework programme).

Table 20: Common funding – eligible direct cost

	Denmark	Finland	France	Germany	Norway	Poland	Spain
Human resources	X	X	X	X	X	X	X
Equipment	X	X	X	X	X	X	X
Travel expenses	X	X	X	X	X	X	X
Materials	X	X		X	X	X	X
Subcontracting	X	X		X	X	X	Under conditions
Intellectual property protection		X		X		X	Under conditions
Taxes			X	X			

The eligible direct costs have to be those allowed by the European state aid framework for RTD.

Even if the eligible costs will be difficult to harmonize (national conditions), the pain they give to the project coordinator to establish the budget is not to be underestimated.

7.3 A common strategy

As we saw in section 6.1 various types of barriers can make the trans-national cooperation more or less easy to organize. At the time of the workshop on barriers the difficulties to reach the three levels of cooperation were identified. They are recalled in the first part of this section and the way to overcome them will be presented in the second part.

7.3.1 Remaining barriers

Table 21: Main barriers to trans-national cooperation

Model 0	<ul style="list-style-type: none"> • Information exchange
Model 1	<ul style="list-style-type: none"> • Harmonisation of call • Theme initiation • Length of programme • Earmarking of funds
Model 2	<ul style="list-style-type: none"> • Organisation and funding of common steering • Application requirements • Evaluation guidelines and criteria • Compositions of panels • Lack of control of evaluation procedure
Model 3	<ul style="list-style-type: none"> • Lack of control of funds • Lack of control of funding decision • Funding of foreign scientists • Lack of national budget control • Financing of common steering

When applying model 0 most partners will experience no legal problems and can use their internal routines. Therefore, there will be no need for changes of legal regulations, though some administrative routines might need to be revised..

Applying model 1 will require some changes to the partners' administrative routines. The length of the programme will have an impact on the partners' ability to earmark funds for future research though, and the partners will need to reach a consensus on the overall programme theme.

The implementation of model 2 will also be more complex since the partners need to agree on issues such as evaluation criteria and the structure of the call. In terms of the common evaluation the partners also need to agree upon the composition of the international evaluation panel.

The more integrated model of trans-national cooperation (model 3) will bring legal as well as administrative problems for the partners. Apart from barriers due to regulations and administrative routines there is a risk that no funds will be given back to national researchers. A fear of 'losing more than can be gained' has been expressed. Since governments fund the vast majority of the partners through annual allocations, the idea that taxpayers' money should return to national taxpayers also dominates thinking on a national level. However, further discussions are needed between the partners on the administration of the funds.

Martec partners agree that they can overcome barriers to model 1. The pilot call will show that the consensus on common research priorities and the synchronisation of the calls, which

is a current difficulty of Eureka projects, are barriers that Martec partners will success to overcome. However, the type of information that can be exchanged is not determinate yet.

Martec partners agree on the feasibility to use subcontract option when funding organisations are not allowed to fund foreign applicants and on the benefits of a two times evaluation procedure (national pre-evaluation before a common evaluation). The possibility to reach the higher levels (models 2 and 3) of cooperation is very real even if the types of dissemination and exploitation of the results were not discussed yet.

As for joint funding, although the advantages of a high level of cooperation are obvious, Martec partners agree that they are not ready to implement a common pot yet but they underline the possibility to learn more about the European Economic Partnership. The subcontract option can allegedly be used when the programme owners cannot fund directly a foreign institute.

7.3.2 Agreement for a pragmatic management of the cooperation

Martec partners agreed on a version between model 1 and 2 with the following objectives:

- ❑ Common call
- ❑ National eligibility criteria
- ❑ Common technical evaluation and scoring by independent experts
- ❑ National funding

The partners will start cooperation on the basis of model 1 and 2. Decisions are still to be taken about the level of cooperation to achieve in information exchange, project monitoring and project follow-up.

Enriched by the experience of the pilot call, the MARTEC partners will then pragmatically investigate higher degrees of co-operation.

Actually the main barrier to cooperation seems to be the synchronisation of the national cycles.

- **Annexe 1. Bibliography**

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