

*Policy Research Corporation*

**Towards a Maritime KIC**  
*- Project proposal -*

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**PREFACE**

This proposal is based on the Terms of Reference “Towards a Maritime Knowledge and Innovation Community” that was commissioned by *Waterborne* TP and the European Network of Maritime Clusters and written by the consultant Policy Research Corporation. The consultant was also asked to write a proposal for an in-depth follow-up study of the ToR. With this document, the first two steps have been taken in the road map towards a Maritime KIC.

It is believed that funding for the in-depth study should be sought within the maritime and marine industry, governmental organizations and knowledge institutions. In this way a broad spectrum of stakeholders acknowledges the relevance and importance of a Maritime KIC and commits itself to the process.

The in-depth study has to be finished no later than April 2009 in order to submit the proposal for the Maritime KIC in the selection procedure and the advisory committee of the European Institute of Technology. Therefore it is of the utmost importance that the decision to proceed with the study is taken on a very short term, not later than August 2008.

On behalf of the *Waterborne* Technology Platform and the European Network of Maritime Clusters,

Niko Wijmolst  
*European Network of Maritime Clusters*

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*Waterborne Technology Platform*

## I. INTRODUCTION

### I.1. A MARITIME KIC

This project proposal builds on the ToR that was written for a study on a Maritime KIC<sup>1</sup>. The assignment to draft a ToR was commissioned jointly by the Waterborne Technology Platform and the European Network of Maritime Clusters. A Maritime KIC could be set up as a legal entity under the European Institute of Technology to coordinate and stimulate maritime knowledge and innovation within the continent. In the ToR the first step towards a Maritime KIC was taken, a vision was created. At a glance, this vision is to join maritime and marine excellence from both business and academic entities to enhance learning, knowledge diffusion and innovativeness in the maritime industry, as displayed in figure 1.

In the ToR it was addressed that, if set up properly, a Maritime KIC can consequently add value for the following reasons:

- **Complementary to the Integrated Maritime Policy:** a Maritime KIC can integrate maritime and marine (and consequently environmental) disciplines and therefore accelerate targets/actions as set in the Integrated Maritime Policy;
- **Two dimensional integrated research approach:** a Maritime KIC can create a European integrated approach for fundamental and applied maritime and marine research;
- **Establishing networks and cross-relations:** a Maritime KIC can establish cross-relations and networks (following the example of MIT, Stanford, Harvard, etc.) between the maritime and marine faculties in Europe and enhance robustness and continuity on the academic side (which has been identified as an important target of the EIT). The networks and cross-relations can also be used for coordinated recruitment of students and researchers in order to cope with the future shortage of maritime personnel.

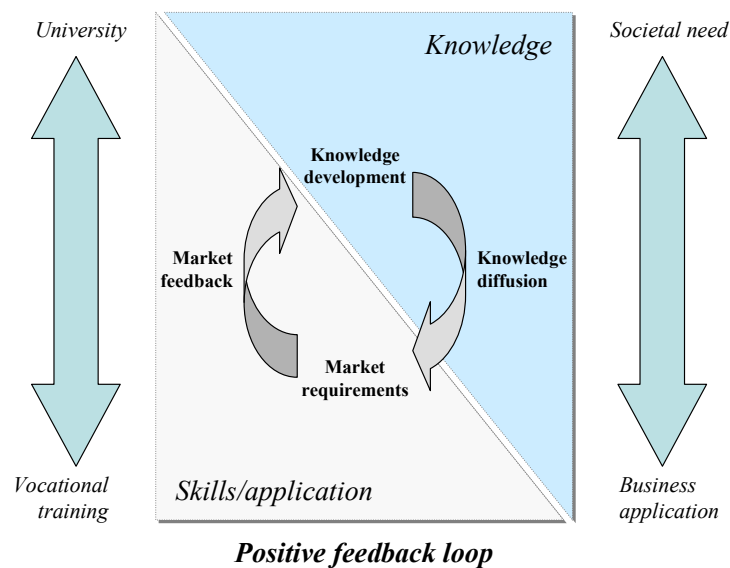
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<sup>1</sup> Terms of Reference for a Maritime Knowledge and Information Community, June 2008

- **Accelerating knowledge diffusion:** a Maritime KIC can create a network between maritime/marine faculties, knowledge institutions classification societies and industrial partners for the transfer and diffusion of knowledge within the maritime/marine industry, formulating a vision and setting a strategic research agenda;
- **Accelerating innovation:** By creating the integrated research approach within strategic partnerships of private and public parties, acceleration of innovation can be achieved on maritime applications that will keep Europe's maritime sectors champions;
- **Building long-term sustainable capabilities:** The combination of knowledge diffusion and better maritime business applications will lead to new capabilities for the European maritime industry;
- **Creating a sustainable future:** a Maritime KIC can eventually contribute to a safe and sustainable future for the maritime industry and marine environment.

**Figure 1 : Interaction between maritime/marine knowledge base and the maritime industry**

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Source : Policy Research Corporation

## **I.2. OBJECTIVE AND SCOPE OF THIS STUDY**

This study continues on the vision that was drawn in the ToR, but in a more practical approach. It will address items that are necessary for the KIC to be able to successful. Therefore the key success factors, that were formulated in the ToR are repeated below.

- *Participating members should be selected based on academic excellence (not on geographical spread, principles of proportionality, etc.);*
- *KIC members must be individuals, not representatives of organizations;*
- *The KIC should be primarily focussed on European industries but should also be open for linkages with non-EU partners;*
- *All restrictions for knowledge transfer must be countered (adequate protection of intellectual property rights, equal participation, etc.).*

These key success factors must be used as building blocks for the KIC to be structured around. The objective of this study is to deliver practical applications and components for the KIC to start with.

### **I.3. READER**

In the following paragraphs *Policy Research* will describe its project approach, process approach, timing and budget and the company profile.

## **II. PROJECT APPROACH**

### **II.1. RELEVANT THEMES TO ADDRESS**

The maritime and marine arena are covered by a wide range of activities, linked with a wide range of scientific disciplines, institutes, platforms, interest groups, spread out over the entire European continent. This requires a structured approach to adequately cover all aspects, interests in order to aim focus on what the MKIC should be involved in.

Therefore *Policy Research* identified six relevant themes that will need to be addresses in the in-depth study on a maritime KIC. These themes are:

- Potential partnerships;
- Legal configuration;
- Management MKIC;
- External Governance;
- Financing the MKIC;
- Education.

Every theme covers a wide range of topics that will need to be elaborated in the study. Per theme an enumeration of these topics will be given below.

#### ***II.1.1. POTENTIAL PARTNERSHIPS***

In a Maritime KIC partnerships must be formed between selected people from universities, knowledge organizations, maritime

businesses, classification societies, etc. Researchers, developers, builders and end-users need to cooperate to achieve innovative breakthroughs. The “user” feedback and directions from the industry are very relevant. The objective is to achieve joined, even open development. By organizing the academic component in the partnerships, both fundamental and applied research can be stimulated and accelerated, and an interactive, solid and coordinated knowledge base is created for the maritime and marine industry. As a consequence, the Maritime KIC contributes to the reduction of fragmentation in the maritime and marine knowledge and research capabilities.

These strategic partnerships create continuity/robustness on maritime and marine knowledge and consequently enable continuity of knowledge transfer to the industry (knowledge diffusion) and will create the right atmosphere for new radical and breakthrough technologies in the European maritime sectors. In this way institutes like MIT can be followed, competitive advantages created and solutions developed that are environmentally friendly and competitive at the same time.

*Policy Research* proposes to map all the available/possible partnerships within the European maritime/marine arena and will value each partnership alternative by the following criteria:

- Professional excellence
- Economic and societal benefits
  - *Policy relevance*
  - *Commercial applicability*
  - *Other societal benefits*

#### Professional excellence

The level of ambition for the MKIC should be set high, as this is the only way to reach a level of institutes like MIT. Excellence attracts excellence, and in this way the MKIC will act as a magnet for the best of students, teachers, researchers, businesses, etc.

The creation of the right strategic partnerships therefore is an important challenge for the MKIC. The partnerships should be based on professional excellence and not on geographical spread over the

European continent. The KIC should not form partnerships on the basis of bottom-up proposals. Only the best individuals (by proven excellence) are eligible for participating in the KIC, based on mutual accord between these individuals. Professional excellence encompasses academic, business and craftsmanship excellence. As this is a difficult construct to measure, *Policy Research* proposes to measure this construct by working out an index that scores for professional excellence. This index should be constructed with variables that will be based on the input from experts in the European maritime and marine arena.

#### Economic and societal benefits

The potential economic and societal benefits that can be gained by a partnership can be divided into three variables: policy relevance, commercial applicability and other societal benefits.

#### *Policy relevance*

An important criterion to value a potential partnership alternative, is policy relevance. Policy relevance expresses the alignment of the objectives of a potential partnership with the objectives set out in the Integrated Maritime Policy, energy policy, economic, environmental policy, etc.

#### *Commercial applicability*

The commercial applicability of a potential partnership is another important criterion as the viability of a partnership is mostly dependent on applicability of research en knowledge in maritime and marine field.

#### *Other societal benefits*

The last criterion to evaluate a potential partnership is the other societal benefits a partnership delivers. This aspect is mostly covered by the subject policy relevance, but a partnership can aim/create effects that are not covered by European or local policies (f.e. time savings, better work environments, etc.).

#### **Economic and social benefit analysis**

For the three variables ‘policy relevance’, ‘commercial applicability’ and ‘societal benefits’ *Policy Research* suggests to work out a social

benefit analysis. In this way insight can be created for future economic and social benefits that will be generated by the partnerships. In this way partnerships can be compared on their future economic and social added value.

### ***II.1.2. LEGAL CONFIGURATION***

Once the partnerships have been evaluated on excellence and future added value, substance must be given to the organizational aspects of the partnerships.

The legal configuration of the MKIC is an important issue as it can both create obstacles as well as incentives for the innovativeness, diffusion of knowledge, and the feedback to the market of a partnership. The right legal form should protect intellectual property rights, but also be able to distribute knowledge over the maritime industry and into the academic world. In order to identify the optimal legal form for each partnership, *Policy Research* proposes to:

- Work out the (dis)advantages of different forms of available legal entities for the MKIC and the separate partnerships;
- Determine whether the legal configuration creates obstacles for the transfer, diffusion of knowledge and market feedback;
- Determine whether the legal configuration leads to sufficient protection of intellectual property rights;
- Determine whether the legal configuration contains sufficient transparency for external stakeholders;

### ***II.1.3. MANAGEMENT OF THE MKIC***

The ambitions of the Maritime KIC are high. Good management is therefore critical to deliver on the objectives. This is even more critical given the partly virtual character of the Maritime KIC with the contributors distributed within other partner organisations. Turning the virtual concept into reality will require excellent management skills, and these are not usually in great supply in the university community. The link to industry could be very beneficial if the management of programmes is given to people with well-developed project management skills and experience. This would make a significant difference in terms of the delivery of outcomes.

The management of the MKIC can be split out over three levels:

- *Strategic management*
- *Tactical management*
- *Operational management*

Strategic management encompasses the long term direction that the MKIC should follow. Tactical management is concerned with mid term management, focussed on transforming strategic priorities into workable and concrete objectives for the operational level. Tactical management is concerned with business intelligence, knowledge management, etc. At the operational level, the MKIC will be managed on a daily basis.

An important issue to address is how interaction between the strategic level and the operational level of the KIC will take place. There are several ways for this interaction to take form: centralized, distributed and integrated. Centralized encompasses that all decisions (both strategic and operational) are taken on a central level, top-down. This model is probably not desirable since substantial autonomy is necessary for the partnerships to perform well. In a distributed model, decisions are taken bottom up, which can be desirable since substantial autonomy is necessary for the partnerships. On the other hand outcomes in such models do not always meet the higher objectives. In an integrated model, strategic decisions are made on a central level (top-down), while operational decisions are taken bottom up.

In this case, where partnerships will be hang up under the KIC, it is not desirable to use a centralized approach. A choice has to be made between a distributed and an integrated model. *Policy Research* will therefore work out the (dis)advantages for both models, based on the MKIC/EIT objectives, funding structures, etc.

#### *Issues per management level*

For each of the management levels (strategic, tactical and operational) several issues need to be addressed in the study. Choices should be made about whether the KIC should be led by a management board with a chairman, (and/or dean), whether an advisory board should be installed, etc. Furthermore selection criteria have to be worked out for

actors operating on each level. Therefore, *Policy Research* proposes to work out:

- A plan for the operational, tactical and strategic management of the MKIC;
- A profile and tasks and responsibilities for the management boards;
- A protocol for the appointment of members of each management level (who will appoint members, for what period should they be appointed, maximum terms, etc.);

#### **II.1.4. EXTERNAL GOVERNANCE**

The MKIC and partnerships will receive public funding and should therefore be held accountable for mismanagement. The relationship between EIT and MKIC will be shaped in a contractual agreement. The EIT shall organize continuous monitoring of the KIC and shall organize independent periodic evaluations of the KIC's performance. Several instruments are available on accountability: a supervising board, contractual agreements, management reporting systems, etc. Another important part of the governance issues is the control. Control spreads over from internal control (auditing committee) to external control (annual reporting, remuneration of board members, and transparency on conflicts of interest). These specific governance issues should be set up in a way that creates maximum incentives for the partnerships to achieve their objectives, with a high level of control for the EIT. For this purpose *Policy Research* proposes to work out:

- An overview of accountability mechanisms for the KIC;
- An overview of (dis)advantages for each accountability mechanism;
- A mechanism that stimulates innovativeness and professional excellence with sufficient instruments for deselecting partners that do not meet performance objectives.
- Create a framework of 'checks and balances' for the relationship between the EIT and the KIC;
- Work out a framework for evaluating results of the MKIC with regard to the Strategic Innovation Agenda;

### **II.1.5. FINANCING THE MKIC**

The MKIC will be partially financed through public means, EIT-regulations prescribe that private funding is necessary for every KIC. Therefore each potential partnership shall be evaluated for financial viability by *Policy Research*. Per partnership private funding options will be described, as well as the (dis)advantages of different funding structures. Furthermore, *Policy Research* will draw a plan that encompasses:

- An estimate on the number of support staff needed to run the MKIC;
- An estimate of the required overhead budget to run the daily operations of the KIC;
- A plan about the financial reporting of the MKIC.

### **II.1.6. EDUCATION**

An important question is how to distribute and share the knowledge developed to all other interested parties, in other words, how to achieve “open” innovation. Research networks organized around common research questions from market or government could be effective as long as the industry, universities and research organizations can be attracted to participate.

Also, for knowledge transfer within networks and diffusion of knowledge into the European maritime cluster, the KIC needs to work out a vision on the educational part and configure educational building blocks. As these are dependent on the number of partnerships, this is an action to be taken in the next phase. As part of a total ‘package’ of educational building blocks a special Maritime KIC PhD-programme should be set up. Every partnership of the MKIC will therefore have to contain an educative partner. In the set up of the MKIC the organization of the educational part will have to be set up in a way that stimulates optimal knowledge exchange, diffusion and external recognisability. Therefore *Policy Research* proposes to:

- Define the programme contents for courses at the MKIC, based on the formation of partnerships;

- Work out a framework that creates optimal exchange and diffusion of knowledge, interaction
- Work out a schedule (i.e. how often and long should these courses be given once a year, every semester, trimester, etc.);
- Work out how many students should be allowed at the maritime KIC faculty (required minimum, maximum);
- A plan for the level of students that will be admitted (MSc, BSc, etc.);
- How many professionals, teachers and researchers are required (minimum, maximum, optimally).

## **II.2. PROCESS APPROACH**

The process approach is very important in this study. The process should be aligned with the large number of stakeholder in the maritime/marine arena, 27 member states, many platforms and interest groups, etc. In order to keep the speed and decisiveness into the process, the correct mechanisms should be in place. Therefore *Policy Research* suggests setting up the process as follows:

Step I: Setting up steering mechanisms for the study

Step II: Analysis of current partnerships

Step III: Consultation rounds with key players

Step IV: Drafting the report

### **II.2.1. SETTING UP STEERING MECHANISMS FOR THE PROJECT**

As the KIC will be set up on a European scale, critical mass should be integrally organized during the study. Therefore a well balanced governance/steering mechanism needs to be formed. Important concerns on this matter, based on the large number of maritime/marine entities spread out over 27 member states, are: keeping flexibility, decisiveness and speed in the process. Therefore *Policy Research* proposes to create a *steering group* responsible for the most important decisions within the study. This steering group should be formed by representatives of ‘networks of networks’ (Waterborne TP, Efarò, DG Mare, DG RTD, and all member states). The steering group should meet every 3 months or ad hoc in cases of emergency.

Since all the interest groups will want to have their own voice in the process and the content of the study, *Policy Research* proposes to form *theme groups*, based on the six themes that have been selected for the study. For the selection of partnerships *Policy Research* proposes to arrange multiple theme groups per industry or discipline theme (offshore, hydraulics, fisheries, shipping, blue biotechnology, hydrography, etc.) In this way, the organization remains feasible and flexible. The theme groups will be organized every 6 weeks, with the exemption of the theme groups for the selection of partnerships. In the theme groups all relevant organizations should be represented. The objective of the theme groups is to advise the steering group on every theme.

Next to the steering group and theme groups, it is necessary to create a *working group*. This working group should be kept small (around 5 people, consultant included) and should meet every 2 to 3 weeks. The working group is responsible for the preparation of the theme groups and the steering groups.

### ***II.2.2. ANALYSIS OF CURRENT PARTNERSHIPS***

It is not uncommon that partnerships are formed with the objective to enhance learning and stimulate innovativeness in sectors. Therefore *Policy Research* proposes to analyse current partnerships within and outside the maritime/marine world to learn from these examples. When screening these examples, *Policy Research* will identify '*lessons to be learned*' from these partnerships. Based on these examples *Policy Research* will draw frameworks for the KIC to set up along as well as (dis)advantages per framework.

### ***II.2.3. CONSULTATION ROUNDS***

The consultation rounds are essential for the successful launch, critical mass on content and the financial backing of the Maritime KIC. Hence, the following key-players will be consulted by *Policy Research* (this list is not exclusive):

- European Commission services (DG RTD, DG Mare, DG Energy and Transport);
- Representatives of WEGEMT (maritime faculties);

- Representatives of CEMT (marine engineers);
- Representatives of ECMAR (research laboratories);
- Representatives of EURACS (European classification societies);
- Representatives of CESA (shipbuilders);
- Representatives of EMEC (marine equipment);
- Representatives of ECSA (shipowners);
- Representatives of Eurogif (offshore);
- Representatives of EfarO (European Fisheries and Aquaculture Research Organisation);
- Representatives of the Irish Marine Institute;
- Representatives of IMR (Norwegian marine institute);
- Representatives of Infremer (French institute for exploitation of the sea);
- All representatives of the European Network of Maritime Clusters (ENMC), in particular the Netherlands, Norway, Italy, Germany, U.K., Finland, France;
- Representative members of all European member states

The meetings with these associations and organisations will be organised through coordinators like Waterborne TP, the ENMC, EFARO. If possible the meetings will take place in Brussels alongside normal meeting schedules of all the key players. In this regard it is possible to see several key players simultaneously. *Policy Research* will try to bundle several interviews per day to spare time and ensure the progress of the project. If it is not possible to plan meetings with several key-players on location, *Policy Research* will arrange conference calls, or make foreign visits.

#### ***II.2.4.***

#### ***BUNDLING FEEDBACK AND DRAFTING THE REPORT***

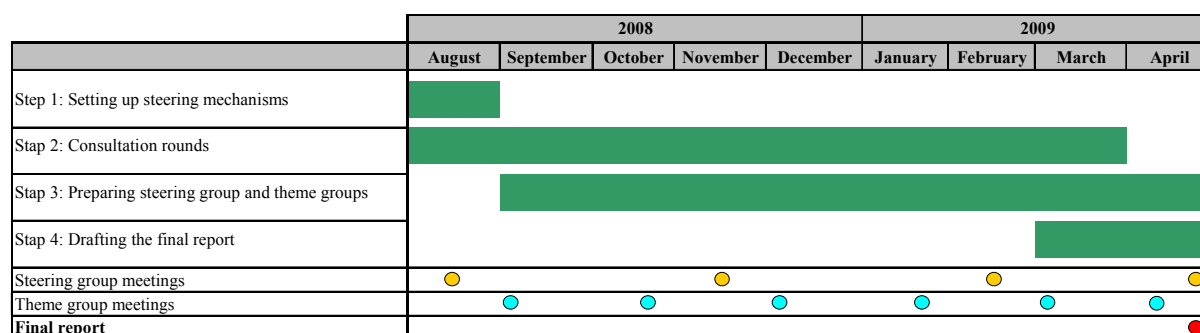
In the fourth and final step, the input that is generated in the consultation rounds will be bundled and will be converted into practical solutions for the MKIC. This will result in a final report and presentation in the steering group.

### III. TIMING AND BUDGET

#### III.1. TIMING

The expected timeline for this project is nine months, starting from August 2008. The study should be finalized in April 2009. In Figure 3 an overview is given for the timing of this project.

**Figure 2: Timing of the project**



Source : Policy Research Corporation

#### III.2. BUDGET

The project requires a total budget of EUR 367 100. This budget includes all the preparatory discussions, desk research, interviews with stakeholders and the drafting of the final report. The budget is based on an estimated 237 person-days needed to perform these tasks. A team of four consultants (two Senior Consultants, one Director and

Policy Research' Senior Partner) is needed to conduct the study within the project timeline. In Table 1 an overview is given of the budget per team member and project step. The budget excludes VAT and travel and accommodation costs.

**Table 1 : Budget for the project (excl. VAT and travel and accommodation costs)**

	<i>Senior Partner</i>	<i>Director</i>	<i>Senior Consultant (2)</i>
Step 1: Setting up steering mechanisms	2	5	2
Step 2: Consultation rounds	15	45	45
Step 3: Preparing steering group and theme groups		18	18
<i>Step 3a: Attending steering and theme groups</i>	3	9	6
<i>Step 3b. Attending working groups</i>		12	12
<i>Step 3b. Processing meetings and administrative tasks</i>			15
Step 4: Drafting the final report		5	25
<b>Total number of days</b>	20	94	123
<b>Budget in EUR, VAT excl.</b>			<b>€ 367 100</b>

*Source : Policy Research Corporation*

#### **IV. ABOUT POLICY RESEARCH**

*Policy Research Corporation* is an independent consulting firm and a creative think tank comprising a team of (academically trained) expert consultants. *Policy Research* stood at the basis of the new European shipping policy with her work for the Commission (DG TREN) and has been advisor to a number of EU member states (Belgium, Germany, Ireland, Italy, Latvia, Lithuania, Luxemburg, the Netherlands, UK) in this domain.

*Policy Research*, with offices in Antwerp and Rotterdam, is specialised in providing both economic and management consulting support to public and private policy makers. *Policy Research* has been solving complex strategy and policy problems since 1989. This is done by means of pragmatic studies, with a dual focus on strong conceptual innovation and policy relevance, leading to the development of original methodological tools of analysis. Over the last seventeen years, *Policy Research* has become a recognised ‘think-tank’ in the areas of transport economics, government policy and strategic management. Most of the studies, carried out by *Policy Research* for governments and private companies, have proven to be influential.

*Policy Research* offers wide-ranging expertise and experience with regard to all maritime sectors, economic clusters, innovative strength, and export capacities. In all these fields *Policy Research* has carried out numerous research projects for both public and private decision-makers, usually at a very high strategic and policy level. Also, *Policy Research* has built up considerable expertise in the transport sector and in related logistics issues, having carried out projects with regard to all modes of transport, ranging from road transport, inland

navigation, rail transport, air transport, deep-sea and short-sea shipping.

## V. CONTACT INFORMATION

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