



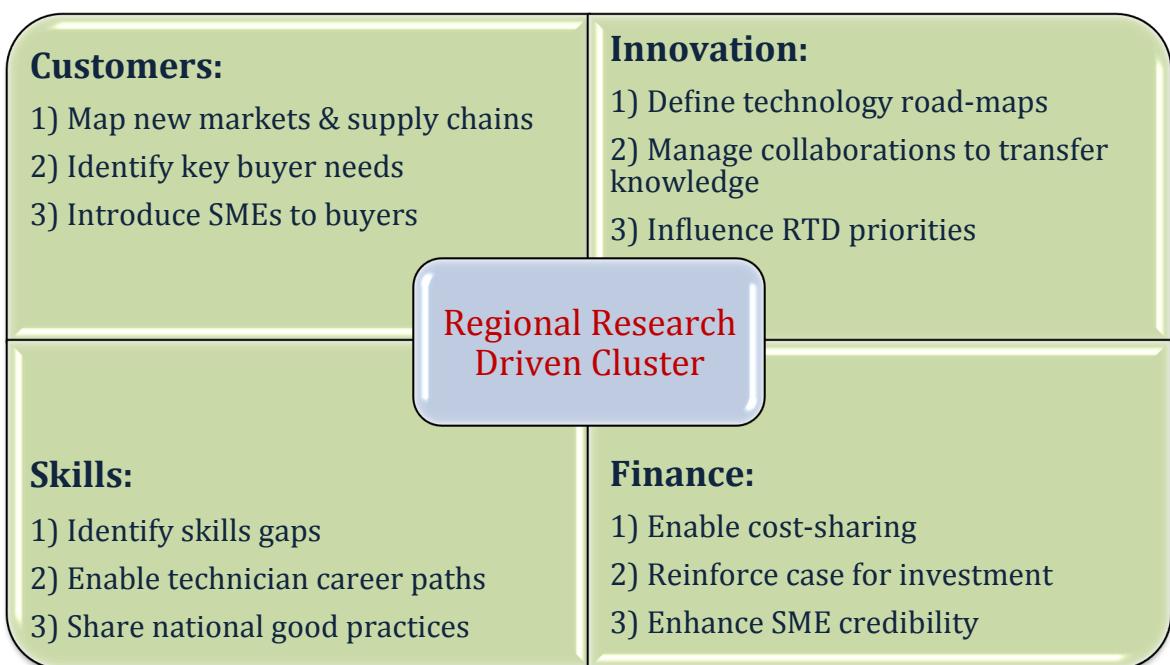
Coastal Water Management



Regions of Knowledge

## 1. Summary of Outcomes & Impacts

The project has identified four critical ingredients of business investment and growth, that clusters need to focus on. These are summarised in the figure below. Of course, different clusters will attach different emphasis, and will intervene on these topics in their own preferred ways, but the diagram neatly encapsulates the interventions that companies in every region will recognise.



The implementation planning included a substantial effort by the consortium on exploring how these interventions could best be achieved, drawing on the experiences of each cluster. A particular emphasis was placed on the question of how clusters can facilitate innovation, since innovation is often collaborative and can therefore benefit from the cluster membership.

Bringing firms and research bodies together to discuss novel solutions to market needs is an obvious enabler of innovation, but the project discovered a strong dependence on how such interactions should be structured. A variety of workshop events was implemented, as described in the deliverables D11 and D13, and two conclusions were reached:

- Holding the event in association with a well-known conference or trade show is essential to attract participation, especially of businesses who would struggle to justify the investment of time in attending an international stand-alone event. Regional as opposed to inter-regional events would be less influenced by this factor;

- Defining the scope of the event is crucial to avoiding the perception that the event is either too narrowly focused to attract the necessary breadth of participation, or too general to reach any useful end-point.

The road-mapping work presented in the Joint Action Plan was instrumental in selecting workshop topics having a strong market relevance, where advances in technology could enable several areas of innovation. This process has demonstrated how the network of RRDCs is able to achieve a strong impact on the innovation capacity in their regions, as described below.

### **1.1.1 Fostering trans-national, including cross-border, co-operation**

A vital ingredient of innovation capacity is the ability to exploit co-operative, cross-border relationships between organisations having recognised strengths in the specific capabilities required. Furthermore, each regional cluster needs to build on its strengths via a developing action plan that avoids unnecessary duplication and fragmentation with those of other regional clusters. The EMSAC project has addressed a range of resources that help to address fragmentation of action plans, targeting four priorities:

- 1) Building up the awareness of expertise (commercial as well as scientific) available across Europe in the multiple disciplines and markets relevant to coastal water resource management, as well as the advances in capability which are being targeted by ongoing projects.

Workshops on specific topics serve to promote regional cluster strengths to other regions, so these capabilities can be built into future collaborations. The ColiSense-RT consortium (currently in progress) demonstrates how this has been achieved in the field of biosensor development. A web-accessible database of relevant EU and national projects, developed by EMSAC and now being maintained for the longer term, also provides knowledge of where RTD gaps are being addressed.

- 2) Creating a well-evidenced presentation of megatrends and policy influences affecting the market for water management solutions, including the trends in ICT infrastructure and standardisation

Clusters within the network are involved in a wide range of initiatives and studies, at both national and EU level. This provides an understanding of policy drivers, and access to relevant reports and analyses. Inter-cluster communications allows this intelligence to be shared, in defining a common set of policy response from which all involved clusters benefit.

- 3) Presenting expected impacts of recent and ongoing EU initiatives on the domain (spanning ICT, Environment and Research programmes), so that future proposals can build efficiently on the current and anticipated state of the art

The impact of research and inter-regional programmes can be substantially increased by cross-border dissemination to as wide a potential user-base as possible. The EMSAC clusters are well-placed to do this, collectively, and also to incorporate such activities within their own assessment of state-of-the-art and RTD gap analysis.

- 4) Contributing to an improved understanding of the above at a regional level, so that regional programmes can target outcomes which effectively exploit trans-national investment.

Using their established relationships with their public authority partners, each cluster can also assist the definition of regional strategies, both in terms of investment in regional innovation capacity, but also in terms of priorities for future inter-regional projects.

### **1.1.2 Improving links between regional authorities, legal entities conducting research and the local business community**

The project identified a number of actions which could enhance the ability of regional clusters to facilitate local dialogue and shared objectives, which were addressed as follows:

- 1) Help each regional cluster to increase its ability as a facilitator of innovation by learning from good practices within other clusters within the consortium.

Although every regional cluster is operating in a unique economic and political environment, there are common motivations and barriers affecting business investment and growth. EMSAC has highlighted these, as shown in the diagram above, and shown how clusters can position themselves to focus on these factors. This focus will help clusters to contribute effectively to regional innovation and economic growth goals;

- 2) Create a mechanism for conceiving and implementing projects under a variety of EU funding initiatives, drawing on a wider range of expertise than would otherwise be accessible.

The project has demonstrated how innovation road-mapping (see below) can be performed, to highlight specific RTD topics that would enable market-led technology applications. These RTD priorities can form the basis of new project proposals, as has been demonstrated by development of the ColiSense consortium which targeted one of the EMSAC RTD priority topics.

Furthermore, the involvement in each cluster of regional authorities alongside research provides means that a better alignment between regional development funding and research funding can be achieved.

### **1.1.3 Developing joint action plans at the European level**

In close alignment with the regional actions outlined above, the project has supported emergence of a coherent joint action plan by targeting three objectives, which were fulfilled as follows:

- 1) Presenting a market driven technology road map, with RTD gaps clearly highlighted and evidenced, so that research and business partners can focus attention on proposals which complement the ongoing project portfolio.

The project has shown how two capabilities can together help achieve a balanced portfolio: an understanding of RTD priorities from road-mapping work as described above; and a knowledge of recent and ongoing RTD projects on which to build. The EMSAC database of EU and national RTD projects, in the field of coastal water resource management, will provide a publicly-accessible resource for evidencing new project propositions.

- 2) Identifying relevant financing options for various phases of RTD and innovation support, looking at regional, national, EU and international schemes. This can help ensure that projects are able to draw on financial support which is most likely to suit the activity which is proposed

The main focus of attention within EMSAC on the question of financing has been directed towards the commercialisation phase of innovation. This is the area where there is the greatest difficulty. Whilst there are already many potential sources of such finance (seed funds, university spin-out funds, angel investors, venture capital etc), there is scope for strengthening the investment proposition to maximise the chance of success. The evidence-base reflected in the innovation road-mapping work will help to achieve this, but it is too early to see examples of this happening.

- 3) Advising regional authorities about how best to focus their innovation & RTD financing to achieve maximum additionality over and above funding schemes already available at national & EU levels.

Although many regions do not offer RTD finance, all regions have roles to play in supporting innovation capacity: for example, by approving incubator facilities for young firms; by aligning the provision of training with employers' skill priorities. The project has highlighted these roles, and has also established the credibility of its clusters as sources of intelligence on innovation priorities that regional/local authorities can draw upon.

#### **1.1.4 Supporting the internationalization of the regional research-driven clusters**

The project has recognised the importance of strengthening international co-operation, and has reported the work done on this topic in deliverable D15. In the action plan, two objectives were proposed which were addressed as follows:

- 1) Build links with major international funding bodies (eg UN, World Bank, ESA) and standardisation bodies recognising the breadth of expertise and capacity within a network of RRDCs

It has proved difficult to achieve very much progress with the world bodies such as UN and World Bank, but easier with bodies such as ESA and ESF. The project has initiated a mechanism in which the lines of communication and credibility of individual cluster members can be utilised to benefit the RRDCs. For example, some cluster members work closely with ESA, and the clusters are viewed as useful partners in market application cases within ESA programmes.

This is a bottom-up process, and achieving recognition by the larger bodies will take time.

- 2) Non-EU collaborators recognising the value of working with a network of world-class expertise offering enhanced disciplinary and geographical reach.

This objective was addressed extensively within the international co-operation tasks of the project. This concluded that most European RRDCs have not yet achieved their potential impact in the international market, and that a more pro-active approach could be beneficial. Within the project, there has been some progress on promoting the EMSAC cluster network with selected international partners, but this remains a longer term goal for the coming years.

### **1.1.5 Mentoring regions with a less developed research profile**

Although all the regional clusters within the consortium are well established, the project also aimed to expand the impact of clustering in other regions by targeting three objectives, which were fulfilled as follows:

- 1) Involving world-class research institutions in relevant fields, which are not integrated with business communities and regional authorities, and which are interacting only at a scientific level

It is noticeable that some research centres are highly respected internationally for their scientific work, but are not engaged with their regional stakeholders to any significant extent. The project addressed this by involving such centres in technical workshops, where potential market applications were being explored. This established the business-research communication channel. Further progress has been achieved by helping such regions to develop a capability as RRDCs (see below).

- 2) Embryonic regional clusters which need help to justify further investment in their development as a fully-functioning RRDC

Although links were established with many clusters outside the EMSAC consortium, a particular emphasis was placed on two clusters in Portugal and Lithuania where there was a strong political intent to build up their clustering capability. This mentoring work proved very effective, as demonstrated by the fact that both of these clusters became full partners in a subsequent Regions of Knowledge project (REMCap).

- 3) Regional clusters which operate fully or partly as RRDCs, but which are focused on adjacent fields and/or markets (eg groundwater management, maritime transport).

EMSAC has targeted a very specific marine market (coastal water resource management) and most cluster members would have interests extending beyond this. The project has developed links with other clusters having different capabilities, such as ship and boat building. The emerging Marine Knowledge & Innovation Community (KIC) has been a useful forum for achieving this, and three EMSAC partners are members of this KIC.

## 1.2. Further Details

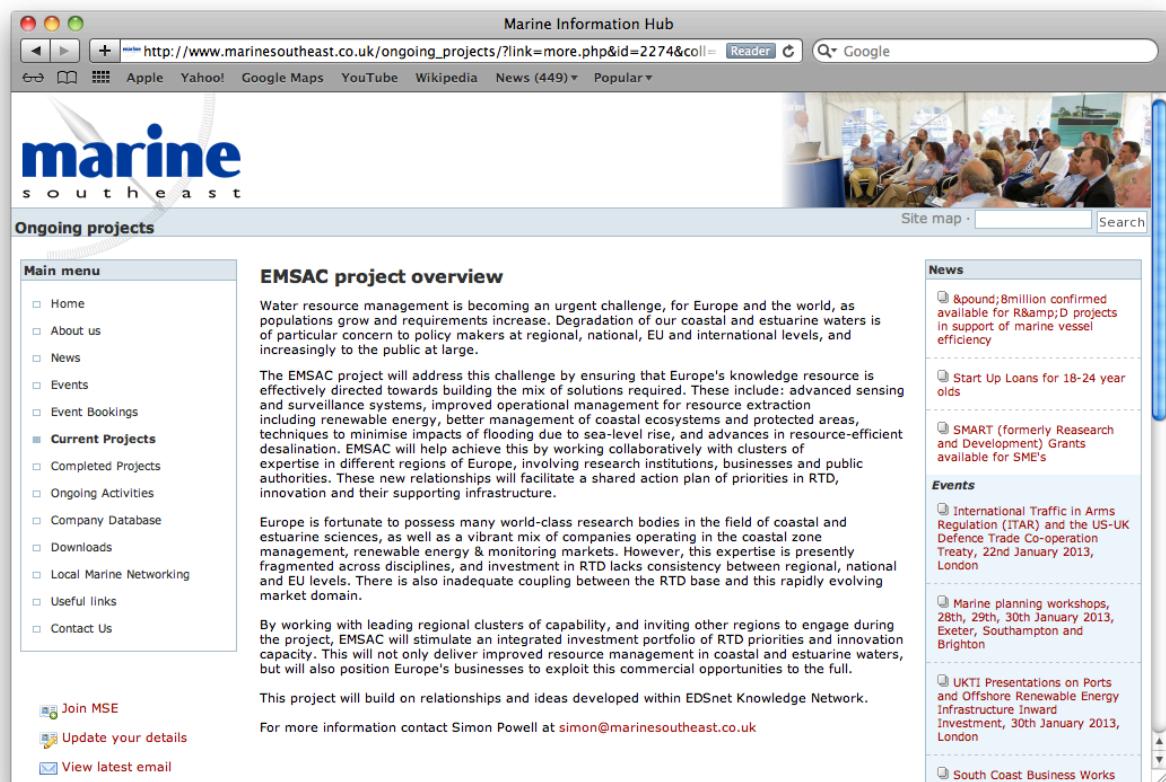
A dedicated web site has been developed to promote the project, at:

[www.emsacnet.eu](http://www.emsacnet.eu)



This site is also referenced from the web sites of the EMSAC partners, for example:

[http://www.marinesoutheast.co.uk/ongoing\\_projects/?link=more.php&id=2274&coll=148](http://www.marinesoutheast.co.uk/ongoing_projects/?link=more.php&id=2274&coll=148)



The screenshot shows a web browser window for the 'Marine Information Hub' at [http://www.marinesoutheast.co.uk/ongoing\\_projects/?link=more.php&id=2274&coll=1](http://www.marinesoutheast.co.uk/ongoing_projects/?link=more.php&id=2274&coll=1). The page is titled 'EMSAC project overview'. The left sidebar contains a 'Main menu' with links to Home, About us, News, Events, Event Bookings, Current Projects (which is selected), Completed Projects, Ongoing Activities, Company Database, Downloads, Local Marine Networking, Useful links, and Contact Us. Below the menu are three buttons: 'Join MSE', 'Update your details', and 'View latest email'. The main content area starts with a heading 'EMSAC project overview' and a paragraph about water resource management becoming an urgent challenge. It then describes the EMSAC project's goals, mentioning advanced sensing and surveillance systems, improved operational management, and collaboration with clusters of expertise. The text also notes the fragmentation of expertise and the need for consistency between regional, national, and EU levels. It highlights the project's role in stimulating investment in RTD priorities and innovation capacity. The right sidebar is titled 'News' and lists several items: '8 million confirmed available for R&D projects in support of marine vessel efficiency', 'Start Up Loans for 18-24 year olds', 'SMART (formerly Research and Development) Grants available for SMEs', 'Events', 'International Traffic in Arms Regulation (ITAR) and the US-UK Defence Trade Co-operation Treaty, 22nd January 2013', 'Marine planning workshops, 28th, 29th, 30th January 2013, Exeter, Southampton and Brighton', 'UKTI Presentations on Ports and Offshore Renewable Energy Infrastructure Inward Investment, 30th January 2013, London', and 'South Coast Business Works'.

In order to maintain and extend this resource into the future, material from EMSAC and other relevant projects will be ported onto a new web site which is presently under development, at:

[www.emsac2020.eu](http://www.emsac2020.eu)