1. The waterborne community embraces deep sea, short sea and inland transportation of goods and people, ship building and ship repair, ports infrastructures, marine equipment, plus offshore structures and operations as well as recreational craft, maritime research institutes and universities and marine professional societies.

2. The European Technology Platform WATERBORNE strongly supports the Lisbon Strategy and the consequent creation of the ERA. It is in this framework that European Technology Platforms have been established and asked to play the key role of prime advisers to the Commission on RDI matters. WATERBORNE has an original structure involving all waterborne stakeholders, through their European Associations, and the Member States, in close cooperation with the Commission services. WATERBORNE has already presented its contribution to the development and prosperity of the EU and the Member States, achieving the Lisbon goals, in its ambitious WATERBORNE Strategy (Vision 2020 and Strategic Research Agenda). Its Implementation Plan, to be published soon, contains a concrete "route map" to achieve the WATERBORNE Strategy for which adequate political support as well as policy and legislative frameworks are necessary conditions. (Q1, 2, 3, 25, 26, 27, 28)

3. Truly globalised industries, facing increasing complexity and intricacy, maritime sectors are at the forefront of the Lisbon Strategy. A more appropriate, efficient conflictless policy and political framework is needed to take into account in a holistic manner the environmental, economical and social aspects in order to translate into reality the concept of sustainable development while achieving the Lisbon agenda: operational feasibility and economical sense should be used along with environmental and social impacts to properly assess the overall impact of particular policy/political decisions. (Q1, 2, 3, 25, 26, 27, 28)

4. By its very nature, the sector is already global in its research, manufacturing and operations. The major players understand the worldwide differences in regulatory environments and in labour and social conditions. Given the overarching need for a level playing field, the industry’s competitiveness strategy is based on high productivity, the superior performance of its innovative products and services, and an ongoing commitment to developing and implementing new knowledge. But full achievement of the competitiveness potential of the European waterborne industries must be supported by EU, National and Regional policies and initiatives, in a consistent and complementary way. The National and Regional Policies should accompany the EU Policy in order to support efficiently and consistently the local RD&I activities. The EU should monitor such process with the help of WATERBORNE. (Q1, 2, 3, 25, 26, 27, 28)

5. To keep the European research institutes' excellence in a world leading position, European Virtual and Physical Maritime Infrastructure (preferably in cooperation with
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Marine) is needed. Discussions on how to cope with this important subject have yet to start but should be initiated shortly between the parties involved and the relevant authorities to achieve the required structure by 2020. WATERBORNE generally shares the ERA vision as presented in the Green Paper: need for an adequate flow of competent researchers (for which it should be investigated whether deregulation could provide an appropriate stimulation), world-class research infrastructures, excellent research institutions, more effective knowledge-sharing (notably between public research and industry), well-coordinated research programmes and priorities (where WATERBORNE can play a key role). On the last objective, a wide opening of the European Research Area to the world, WATERBORNE’s support would be more nuanced: while the opening to neighbouring countries should be supported, knowledge (scientific and technology) transfers to “developing countries” that are already aggressive competitors for European industry should not be supported by European public funding. The materialisation of the ERA Vision would greatly help maintain and/or improve EU’s competitiveness and leadership in waterborne sectors as well as long-term growth and employment. The main challenge of the Lisbon Strategy is to enable economic expansion in a sustainable manner. (Q1, 2, 3, 30, 31, 32, 33, 34, 35)

6. WATERBORNE considers that it is important to identify and establish appropriate mechanisms to strengthen the links between marine research and the waterborne community (including maritime research, deep sea technologies, measuring technologies) turning knowledge into value added products and services. It must foster knowledge transfer and the development of an in-house research and innovation capability in indigenous European maritime industries through the establishment and resourcing of appropriate support mechanisms. (Q11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24)

7. WATERBORNE support the Research Strategy aiming at securing marine science and technology as a priority cross-cutting theme in the EU 7th Framework Programme for research funding. Such a Research Strategy will contribute significantly to the quality of life in Europe by providing the supporting science and technology for the European Research Area. It will also allow Europe to increase its share of the estimated €4,360 billion global maritime market economy through the development of innovative marine and environmental technologies. These include: marine biotechnology, renewable ocean energy systems, novel maritime and transportation approaches, innovative ocean observation systems and associated technologies, marine leisure and tourism and the sustainable use of biological, mineral and fossil resources. (Q16, 17, 18, 19, 20)

8. Europe’s maritime heritage and identity as the “most maritime continent” should be highlighted to young people as well as the dynamic and forward looking career opportunities. The waterborne community’s attractiveness suffers from low general public awareness and the lack of knowledge of the general public on many key facts demonstrating their vital importance to the European way of living. Efforts should be made to improve the profile of the waterborne community. It should be known that European companies belong to the world leaders in all fields of the maritime industry and waterborne operations. It should not be overlooked that Europe has the biggest maritime clusters in the world with shipping as main catalyst. The value of the clusters should be
enhanced and their efficiency improved. Moreover it is important to state that waterborne transport is the most sustainable transport mode from the economic and environmental points of view. Short Sea shipping and inland transportation cater for a major part of European transport and are both much more efficient and environmental friendly than route transport (rail or road) and thus of major importance for Europe. Inland transport should be developed with preference in the new Member States linking the industrialised western countries through waterways and waterborne transport to the Eastern parts and the Black Sea. Europe has the largest single share in global waterborne transport. While in recent years there has been an increase by some 42% (in tonnes) of total ocean transport (and 46% in tonnes/mile), a lot of work has been done to reduce accident rates and consequences in waterborne transport and operations. The challenge for the waterborne industries is to sustain this achievement with a massive increase in waterborne transport driven by ever-increasing globalisation, increasing population demand for energy and food, shifting trade patterns and the environmental need to move freight from roads to rail and water in Europe. The Clusters and the EU should undertake awareness and promotion campaigns on the above. (Q4, 5, 6, 7, 8, 9, 10)

9. WATERBORNE fully supports the creation of the European Research Council. WATERBORNE sees positively the development of a marine and maritime component of a European Institute of Technology and is investigating how it can stimulate and support this component. (Q21, 22, 23, 24)

10. The economic and social impact of the waterborne community cannot be overstated. More than 3 million people work directly in the European waterborne sector and generate a turnover of about €200 billion with a value added totalling about €100 billion. This represents more than 1% of the EU’s GDP. Maritime transport continues to grow at twice the rate of global GDP, with between 80 to 90% of all goods imported and exported by Europe being transported by sea. Within the EU more than 40% of goods are carried by water. The Clusters and the EU should undertake awareness and promotion campaigns on the above.

11. With the world population growing rapidly, with the demand for food and energy growing accordingly and with the rapidly growing global co-operation and outsourcing, there will be a consequent increase in demand and requirements for waterborne transport. The waterborne community needs to enable this increase, by ensuring that continuous and cost effective improvements are made in competitiveness, as well as reducing risk and keeping the environmental footprint of waterborne transport and operations to a minimum. This need is fully addressed by the WATERBORNE Strategic Research Agenda.

12. However, these constantly changing market, society and environmental conditions create new opportunities and new challenges. The European maritime industry, based in an area of wealth and high social and environment protection standards, must address these challenges by means of technological and commercial research, development and innovation to maintain leadership and competitiveness. This is fully addressed by the WATERBORNE Strategic Research Agenda. (Q25, 26, 27, 28)
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13. Waterborne RD&I is the key to European competitiveness and covers parallel development of the supply chains, equipment and materials, manufacturing and support infrastructure. It deals with all vessel types from high volume and specialised cargo vessels, large cruise ships and ferries through special service supply ships, ice breakers, tugs and dredgers, research and coast guard vessels to super yachts, sail and power boats, all with an increasing technological content. This is fully addressed by the WATERBORNE Strategic Research Agenda. (Q1, 2, 3, 21, 22, 23, 24, 25, 26, 27, 28)

14. Immense challenges must be faced to ensure that Europe’s seaways and infrastructures remain capable of safely and efficiently handling the increased number and size of ships. These infrastructures require long lead times for development to accommodate increasing trade. A modern network of seaports and inland ports must constantly evolve to provide the forecast activity increases of the order of 10% per year. Additionally, facilities for pleasure and sport boats must expand to meet the increasing public demand for waterborne leisure. This is addressed by the WATERBORNE Strategic Research Agenda.

- Sufficient availability of human resources with adequate education and training (Q4, 5, 6, 7, 8, 9, 10)

15. The focus on knowledge intensive products and processes is a key factor for the competitiveness of all segments of the European maritime industry. The increasing complexity and volume of waterborne transport and operations, as well as the new challenges in exploring deeper and more remote areas of the oceans, requires world class individuals and a highly qualified work force.

16. The sector must be promoted as an attractive field of employment, offering challenging career opportunities at all levels. New strategies have to be developed for higher education, training of seafarers and industry workers and knowledge diffusion. This would include adaptive courses, electronic learning and simulation, marine information network, “post-seafaring” career opportunities, cross industry job rotation and management development, as well as a “back to engineering” campaign. Life long learning and a sustainable work environment will retain the necessary knowledge and skills in the waterborne community.

17. An important element to attract young talents at the universities will be more permanent “cluster” structures between universities, research centres, industry and marine professional societies. This could be achieved by more industry controlled and topic focused Networks of Excellence (NoE), direct industry/institute/university/professional society co-operation, development or similar permanent initiatives. This also requires the introduction of a Europe wide competition culture in the universities, as well as the coordinated and focused use of regional and national resources, for the basic funding of universities and research institutes. Clustering, cooperation and knowledge sharing are of major importance in creating excellence and avoiding unnecessary duplication of capacity. On the longer term the creation of the a.m. marine and maritime component of the European Institute of Technology, including the necessary future infrastructure
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(virtual and physical) is most probably needed in order to keep the world leading position in our sector.

▷ Proper protection of Intellectual Property Rights (IPR) (Q21, 22, 23, 24)

18. Nearly all inventions in the maritime field have their origin in Europe, but emerging competitors to the European maritime industry have had “free of charge” access to IP in many cases, due to a lack of an IPR culture and enforcement. The awareness of “European Intellectual Property” has also to be raised in the political field. We must avoid the funding of technology transfer activities with European taxpayers money, to “developing countries” that are already aggressive competitors for European industry on the world market.

▷ Level Playing Field (Q1, 2, 3, 25, 26, 27, 28)

19. The European Technology Platform WATERBORNE’s contribution to a higher worldwide level of safety, sustainability and environmental friendliness of waterborne operations, needs to be implemented by the responsible international bodies and backed by the weight of the European Union. Due to the global nature of the waterborne industries, RD&I efforts will lead to competitiveness if these markets have a right level playing field. Regulatory initiatives that are taken by the public stakeholders impact on competitiveness. They must be considered in the international context and enforced at international level (International Maritime Organisation, IMO) in order to avoid creating structural disadvantages for European waterborne community. Superfluous, redundant and conflicting legislations should be identified, assessed and adapted in a coordinated manner. International Conventions should be ratified ASAP.

20. Free access to markets will be an important enabler for the success of the European maritime cluster. For example, European companies are world leading in the dredging sectors. However, these companies cannot benefit fully from their advanced technological positions, as some important markets such as the USA are closed to them. The European future in dredging could be stimulated by removing these invisible obstacles to market access. This applies also to other areas of the waterborne sector. Removing such barriers should also be part of the ERA new perspectives.

▷ Joint Initiatives (Q1, 2, 3, 25, 26, 27, 28)

21. Finally, it is important to mention that a European dimension in collaboration efforts on RD&I activities supported by public funds requires the political will to co-operate. To fulfil higher ambitions, strong cooperation with and support of the public administrations are sine qua non. Budget lines and timelines of RDI funding programmes should be defined jointly to better fit the industry needs. The National and Regional Policies should accompany the EU Policy in order to support efficiently and consistently the local RD&I activities. The EU should monitor such process with the help of the WATERBORNE.
22. The European Technology Platform WATERBORNE, in which the Member States are represented in the Mirror Group, should be considered as a prime adviser on RD&I issues to identify possible synergies in funding programmes and help in their better coordination and focus to implement the WATERBORNE Strategic Research Agenda. However, the harvest of such synergies could only be successful through synchronisation and cooperation of all public stakeholders: this means for instance, more concrete involvement of the ETP WATERBORNE in the writing of the EU Framework Programmes and their implementation (Calls) with an official consultation status, cooperation in a similar way to the National RDI Programmes and other relevant Regional initiatives.
With this submission, the following questions find a complete or partial answer:

Elements of the European Research Area vision

1. Are these the essential elements that the European Research Area should provide? Are there other elements which should be taken into account in the vision?

2. What should be the roles of EU, national and regional policies to establish such a European Research Area and take best advantage of the European dimension in the context of globalisation and national and regional specialisation?

3. What EU initiatives could best leverage overall public and private efforts to realize the vision?

Realising a single labour market for researchers

4. Is there a need for a more effective European framework to improve significantly the recruitment, working and geographical and intersectoral mobility conditions for researchers, including enforceable measures?

In particular:

5. How could the principles established in the European Charter for Researchers and the Code of Conduct for their Recruitment be effectively implemented, in order to develop fully the European dimension of research careers, including the transnational opening of vacancies and funding opportunities for researchers?

6. Is there a need for a European framework to ensure portability of social security provisions for researchers across Europe?

7. How could 'flexicurity' principles (e.g. combining labour market flexibility with employment security) be applied to the researcher labour market?

8. How could we increase the numbers and quality of researchers in Europe by attracting young research talents, ensuring real equal opportunities for men and women and exploiting the experience and expertise of end-of-career researchers, for example in advisory and training roles?

9. Should joint approaches be developed to increase the coherence and impact of the various schemes aiming at networking European researchers abroad as well as foreign researchers in Europe? Similarly, is there scope to increase the coherence and impact of European and national schemes for international mobility of researchers (for example by jointly developing international 'Fulbright-like' fellowships)?
10. How could the specific education and training needs of researchers be addressed at all stages of their careers, starting with post-graduate and doctoral curricula, building on the Bologna process for higher education?

Developing world-class research infrastructures

11. How could the EU, on the basis of identification of needs by ESFRI, effectively decide on pan-European research infrastructures and their funding – the latter involving the Community (including possible synergies with EU cohesion policy instruments), Member States, industry, the EIB and other financial institutions?

12. Should a European legal framework be developed to facilitate, in particular, the emergence and operation of new forms of research infrastructures of pan-European interest, including electronic infrastructures? What other policy and legal changes are necessary to encourage the private sector to invest more in research infrastructure?

13. Is there a need to define common and transparent principles for the management of, and access to, infrastructures of European interest?

14. How can the longer-term continuous improvement of research infrastructures be ensured, e.g. through S&T programmes associated with them and European electronic infrastructures?

15. Should a global forum on research infrastructures be created, involving third countries and international organisations, where Europeans could speak with one voice (as they did in the ITER project on nuclear fusion research)?

Strengthening research institutions

16. How can the resources of European research institutions be strengthened in the most cost-effective manner, in order to enable them to achieve excellence and compete on a world scale?

17. How can research actors be better encouraged to create world-class virtual centres of excellence, such as in the context of the proposed European Institute of Technology, the FP7 ‘networks of excellence’ and national and regional initiatives, and to share structures that pool the research management capabilities of several institutions?

18. Is there a need for a European regulatory initiative to facilitate the creation of public private partnerships?

19. How can the EU and Member States best stimulate the emergence of European and global virtual research communities, exploiting fully the potential of computing, information and communication infrastructures?
20. Should action be taken to develop: (i) principles for autonomy and for the management of research by research institutions, notably universities; (ii) shared criteria for the funding and assessment of research institutions, notably universities, giving stronger weight to linkages beyond academia, as well as to output and performance factors?

**Sharing knowledge**

21. Is there a need for EU-level policies and practices to improve and ensure open access to and dissemination of raw data and peer-reviewed publications from publicly funded research results?

22. What should constitute a European Framework for knowledge sharing between research institutions and industry based on identified good practice and models?

23. Are there specific R&D-related issues, such as the grace period, joint ownership regimes and the research exception that need to be looked at from a European perspective?

24. What conditions should be created to promote innovative approaches in the way that science and technology is communicated, taught, discussed and valued by Europeans, and taken up for evidence-based policy-making?

**Optimising research programmes and priorities**

25. Should common principles be developed and used for peer review, quality assurance and joint evaluation of European, national and regional research programmes? Should these programmes be opened to participants from other Member States, and how?

26. Is there a need for shared principles for the accountability of public research funding, which would enhance simplification of rules and procedures and increase its effectiveness and efficiency?

27. What participative processes need to be put in place to enable public authorities to jointly identify and decide upon major societal issues requiring a pooling of resources and capacities?

28. On such societal issues of European or global dimension, how could principles and modalities be established and tested for joint programming of research, involving all stakeholders (research institutions, business, civil society etc.) and bringing together funding from EU, national, regional, business and philanthropic sources?

29. Should the European Community seek membership of intergovernmental research organisations?

**Opening to the world: international cooperation in S&T**
30. How can the European Commission and Member States work together to (i) define priorities for international S&T cooperation in close coordination with the other dimensions of external relations; (ii) ensure the coordinated and efficient use of instruments and resources; (iii) speak with one voice in multilateral initiatives?

31. How can the European Commission and Member States work together to explore the potential of initiatives for international research programmes on issues of a global dimension, involving the Community, Member States and third countries?

32. How should S&T cooperation with various groups of partner countries be modulated to focus on specific objectives? Should complementary regional approaches be explored?

33. How can neighbouring countries be best integrated into the European Research Area as part of the European Neighbourhood Policy?

34. How can the EU's bilateral S&T agreements be made more effective? Are there alternative or complementary instruments that can be used, such as joint calls for projects, involving where possible the Member States?

35. How can common European agendas for S&T cooperation be promoted in multilateral organisations and agreements as well as with regional organisations?