
Strategic goals and recommendations for the EU’s maritime transport policy until 2018
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1. INTRODUCTION

For Europe, shipping has been one of the key stepping stones to economic growth and prosperity throughout its history. Maritime transport services\(^1\) are essential in helping the European economy and European companies to compete globally. Moreover, shipping and all related maritime industries are an important source of revenues and jobs in Europe.

80% of world trade is carried by sea whilst short-sea shipping carries 40% of intra-European freight. With more than 400 million sea passengers passing through European ports each year, maritime transport has also a direct impact on the quality of life of citizens, both as tourists and inhabitants of islands and peripheral regions.

In recent years, growth in the world economy and international merchandise trade has fuelled demand for maritime transport services. However, at the end of 2008, the impact of the financial crisis on the real economy is also felt in the shipping sector. An appropriate policy approach is needed in order to ensure the continuous performance of the EU maritime transport system and its contribution to the recovery of the world economy. Beyond the current conjuncture, this policy approach should ensure that Europe retains a core human and technological know-how serving the sustainability and competitiveness of current and future shipping operations.

The purpose of this Communication is to **present the main strategic goals** for the European maritime transport system up to 2018 and to **identify key areas** for action where action by the EU will strengthen the competitiveness of the sector while enhancing its environmental performance. The underlying economic context and the characteristics of shipping market cycles have been taken into account.

This communication is set in the broader context of the EU Transport Policy\(^2\) (‘Keep Europe moving: a transport policy for sustainable mobility’) and the EU Integrated Maritime Policy\(^3\) (the ‘Blue Paper’). It also aims at supporting other relevant policies, namely the EU’s energy and environmental policy. It is the result of continuous dialogue with the experts of the Member States, the independent advice of a group of senior shipping professionals and an analytical study examining trends and signals of change in seaborne transport\(^4\).

2. EUROPEAN SHIPPING IN GLOBALISED MARKETS

Europe plays a major role in today’s shipping world, with European companies owning 41% of the world’s total fleet (in dwt). The adaptation of European shipping to the requirements of

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1. For detailed information see EUROSTAT – Maritime Transport Statistics - [http://ec.europa.eu/eurostat/](http://ec.europa.eu/eurostat/)
4. This Communication should be read in conjunction with the Report from the Group of Senior Shipping Professionals to the Commission (September 2008) and the study ‘OPTIMAR — Benchmarking strategic options for European shipping and for the European maritime transport system in the horizon 2008-2018’, where all relevant statistics and figures are provided.
the global economy has brought about significant structural changes in the sector. Competitive pressure from shipping nations around the world has also increased significantly as a result of globalisation.

A number of measures introduced by Member States, in line with the **Community Guidelines for State aids for maritime transport**, have contributed to keeping part of the fleet on European registers and generating jobs for European seafarers. However, European flags continue to face acute competition from the registers of third countries. Often, foreign **competitors have significant advantages** in terms of government support, access to cheap capital, and abundant labour or flexible enforcement of internationally agreed standards.

In the context of the current economic crisis, other factors such as the risks of overcapacity in certain market segments, protectionist trade measures by third countries, volatility in energy markets or loss of know-how due to the scarcity of skilled human resources in Europe could prompt **shipping head offices and maritime industries to relocate overseas**, undermining the EU’s efforts to ensure quality shipping around the world.

The conclusions of the Commission’s strategic review exercise are as follows:

- It is of key interest for the EU to achieve and maintain stable and predictable global competitive conditions for shipping and other maritime industries. An attractive framework for quality shipping and quality operators in Europe will contribute to the success of the Lisbon Growth and Jobs Strategy, strengthening the competitiveness of European maritime clusters. This will also ensure the **resilience of the European maritime transport sector in the face of economic slowdown**.

- A clear and competitive EU framework for **tonnage taxation, income taxation and state aid** should be maintained and, where appropriate, improved, in the light of the experience gained under the State aid guidelines for maritime transport. The framework should allow positive measures to support greener shipping efforts, technological innovation as well as maritime careers and professional skills. The feasibility of a reinforced link between employment in the maritime clusters and aid should be examined.

- Strong action in **support of fair international maritime trade** conditions and access to markets is vital. The liberalisation of trade in maritime services should continue at all levels. While negotiating in the World Trade Organisation (WTO), the EC should also intensify the dialogue and bilateral agreements with key trade and shipping partners.

- Commitment to quality shipping efforts, whereby, in general, working together to achieve a **level playing field** for maritime transport, by observing internationally agreed rules at global level, should be part of these efforts.

- In respect of anti-trust law, the Commission has recently reviewed the specific competition rules applicable to the provision of maritime transport services to and from Europe. The Commission will continue to monitor market conditions, examine the economic impact of the new anti-trust approach and take appropriate action if necessary. Moreover, the Commission will **take the lead to promote alignment of the substantive competition rules globally**.

- Intensified globalisation has also put more stress on the delicate balance of the international framework governing the **rights and responsibilities of nations** as flag, port and coastal states. The principle of ‘genuine link’ as set out in the UN Convention on the Law of the Sea should be a key instrument in international efforts to support sustainable development goals.
3. Human Resources, Seamanship and Maritime Know-how

Over recent years, maritime transport industries have created many jobs, directly and indirectly. Some 70% of shipping-related jobs are knowledge-intensive, high-quality jobs on shore. The growing shortage of maritime professionals, officers and ratings entails the risk of losing the critical mass of human resources that sustains the competitiveness of the European maritime industries in general.

There is a genuine EU interest in emphasizing the attractiveness of the maritime professions to Europeans by means of actions that involve, where appropriate, the Commission, the Member States and the industry itself.

Community actions should aim, in particular, to:

- **Adopt positive measures** facilitating lifelong career prospects in the maritime clusters, giving special consideration to developing advanced skills and qualifications of EU officers to enhance their employment prospects, and ensuring that ratings have good career paths to become officers.

- **Enhance the image of shipping** and careers at sea, improve awareness of job opportunities, facilitate **labour mobility** in the maritime industries throughout Europe and encourage best practices in promotion and recruitment campaigns.

- Support the work of the International Maritime Organisation (IMO) and the International Labour Organisation (ILO) on the **fair treatment of seafarers**, to ensure, *inter alia*, that the guidelines on the treatment of seafarers in the event of a maritime accident, abandonment, personal injury or death of seafarers, and shore leave conditions are adequately implemented in the EU and worldwide.

- Follow up the Commission’s Communication on reassessing the regulatory social framework for more and better seafaring jobs in the EU5.

- **Promote better use of information and communication technologies (ICT) for improving quality of life at sea.** Foster the availability of satellite broadband communications in areas such as on-board healthcare, distance learning as well as personal communications.

- Implement **Simplification measures** to reduce the administrative burden on Masters and senior officers on board ships.

Here, the right balance needs to be struck between the employment conditions of EU seafarers and the competitiveness of the European fleet. A task force will be set up to identify ways of achieving this objective.

The maintenance of high training standards and the professional competence of crews are essential to ensure safe, secure and environmentally sound shipping operations. Hence the need for the EU and its Member States to provide the appropriate framework for the provision of education and training for crews in the form of measures aimed in particular at:

- **Ensuring thorough enforcement** of international and Community requirements under the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers (STCW) by all nations granting seafarers’ certificates of competence.

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– Making a substantial contribution to the revision of the STCW Convention, using Community instruments to secure both the rapid entry into force of the revised convention and its effective implementation and enforcement.

– Promoting cooperation between European maritime training institutions for upgrading seafarers’ competences and adapting requirements to the prerequisites of today’s shipping industry (sophisticated vessels, ICT, security and safety).

– Working in partnership with training institutions and the industry towards establishing ‘maritime certificates of excellence’ (European maritime postgraduate courses) that may well go further than STCW requirements. In that context, the creation of a network of centres of excellence for maritime training in Europe (European Maritime Academy) could be considered.

– Introducing, for the education of officers, an ‘Erasmus’-type model for exchanges between the maritime training institutions of the Member States.

– Promoting in partnership with industry the provision of places, where necessary backed by incentives, for cadets to be taken on board during their studies in EU training institutes.

With regard to labour conditions, the first priority of the European Union is to ensure the implementation of the ILO 2006 Maritime Labour Convention (MLC) to improve working and living conditions on board ships. The agreement between EU social partners on the implementation of key elements of this Convention demonstrates the wide support within the industry in this field. The action of the EU and its Member States should aim to:

– Move towards rapid ratification of the 2006 MLC by Member States and the early adoption of the Commission’s proposal based on the industry agreement for implementing its key elements in EU law.

– Ensure the effective enforcement of the new rules by means of adequate measures, including flag and port State control requirements.

– Promote the development of a goal-based framework for the safe manning of ships, addressing the issue of fatigue and adequate watch conditions at international and EU level.

– Foster and support research addressing the human element factor, which is a complex multi-dimensional issue affecting the well being of people at sea, often with direct implications for maritime safety and environmental protection.

– Consider measures to improve on board health care.

4. QUALITY SHIPPING AS A KEY COMPETITIVE ADVANTAGE

By 2018, the world fleet could count some 100,000 vessels (500 dwt and more) in operation (77,500 vessels in 2008). In terms of volume, the increase would be even more spectacular: its total capacity is expected to reach more than 2,100 million dwt in 2018 (up from 1,156 million dwt in 2008)6.

4.1. Improving the environmental performance

In recent years, European maritime transport administrations and the European shipping industry have made significant efforts to improve the environmental record of maritime transport. The EU regulatory framework has been strengthened and cooperation with Member

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6 Source: OPTIMAR Study, LR Fairplay Research Ltd & Partners (September 2008).
States has been increased to tackle issues including the prevention of accidents and incidents, atmospheric emissions, ballast water treatment and ship recycling.

Those efforts must continue. The Commission, Member States and the European maritime industry should work together towards the **long-term objective of ‘zero-waste, zero-emission’** maritime transport. To that end, the main priorities should be to:

- Ensure steady progress towards a coherent and comprehensive approach to **reduce greenhouse gas emissions** (GHG) from international shipping, combining technical, operational and market-based measures.

- In that regard, the EU should **actively work in the IMO** to pursue the limitation or reduction of emissions of greenhouse gases from ships⁷. A legally-binding regime should be adopted at the UNFCCC Copenhagen Conference in December 2009. In the absence of progress in such efforts, the EU should make proposals at European level.

- Ensure that Member States are able to achieve "**good environmental status**" in marine waters covered by their sovereignty or jurisdiction by 2020, as required by the new Marine Strategy Framework Directive⁸.

- Strengthen EU legislation regarding **port reception facilities** for ship-generated waste and cargo residue, improving the implementation arrangements. In that regard, ensure both the availability of adequate facilities and administrative procedures to meet the expected traffic growth.

- Follow up the proposals detailed in the Commission's Communication on an EU strategy for **better ship dismantling**⁹. Ensure the adoption of the IMO Convention on Ship Recycling and steady progress towards its future implementation.

- Oversee the smooth implementation of the amendments adopted by the IMO in October 2008 to MARPOL Annex VI to reduce **sulphur oxides and nitrogen oxides emissions from ships**. This includes assessing which European sea areas qualify as Emission Control Areas, the availability of the adequate fuels and the impacts on short-sea shipping. The Commission's proposals should ensure that modal ‘back-shift’ from short-sea shipping to road is avoided.

- Promote alternative fuel solutions in ports, such as the use of shore-side electricity. The Commission will propose a time-limited tax exemption for shore-side electricity in the forthcoming review of the Energy Taxation Directive as a first step and elaborate a comprehensive incentive and regulatory framework.

- Re-launch the **Commission’s ‘Quality Shipping Campaign’**, by means of partnership agreements with the EU maritime administrations, the maritime industries at large and the users of maritime transport services.

- In that context, promote a **European Environmental Management System for Maritime Transport** (EMS-MT), targeting the continuous improvement of the environmental performance of shipping; consider modulation of registration fees, port dues and other charges, with a view to rewarding efforts towards greener shipping.

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⁷ Mandatory reduction measures should be applicable to all ships in the world's fleet. Today, more than 75% of the world fleet is registered in countries that have not signed up to the Kyoto Protocol.


4.2. Maritime transport safety

With the adoption and subsequent implementation of the 3rd Maritime Safety Package, the EU now has one of the world’s most comprehensive and advanced regulatory frameworks for shipping. Moreover, both the EU maritime administrations and European shipping have invested heavily in the implementation of safety and security requirements.

However, growth of the fleet, the entry into service of very large carriers for the transport of both passengers and freight and the exponential growth in shipping operations will significantly add to the pressure on maritime safety. Increasing the number of open and navigable waters will inevitably attract traffic through the so-called Northern Sea Route with its special requirements. An expansion of the Suez Canal would mean larger vessels and more traffic across the Mediterranean with bigger risks.

In the years to come, the EU and the Member States should:

– Give priority to the enforcement of existing EU and international rules and the speedy implementation of measures introduced with the 3rd Maritime Safety Package.

– Revise the mandate and the functioning of the European Maritime Safety Agency, in order to further enhance the technical and scientific assistance it can give to the Member States and the Commission.

– Increase the effectiveness of EU involvement in the IMO and reinforce international cooperation with EU trading and shipping partners, promoting a shared maritime safety culture and common efforts, e.g. on port-state control inspections, in particular with neighbouring countries.

– In that context, devote special attention to the challenges posed by extreme navigation conditions, such as ice, as well as the constantly increasing size of vessels. Appropriate ice navigation and construction standards and assistance requirements (ice-breakers) should apply in respect of all vessels operating in the more exposed sea areas.

– Take care to ensure the systematic application of the IMO “Guidelines on the treatment of persons rescued at sea”. Europe should be at the forefront of efforts to provide assistance and clarify obligations regarding the rescue of distressed persons. In particular, such efforts should ensure that coastal states co-ordinate and co-operate with all parties concerned, while also serving as an incentive to masters to fulfil their obligations.

– Ensure that all European maritime administrations deploy the economic and human resources needed to ensure the fulfilment of their responsibilities as flag, port and coastal States. All EU Member States should be on the "White List" of the Paris Memorandum of Understanding on Port State Control by 2012 at the latest.

– Act within the IMO with the aim of reaching, as soon as possible, an agreement on an efficient international framework regulating liability and compensation for damage in connection with the carriage of hazardous and noxious substances by sea.

– Ensure that, by 2012, all Member States are bound, in line with their commitment, by all the relevant international conventions and that they fulfil the requirements of the Code for the Implementation of Mandatory IMO Instruments, as well as the IMO Member State Audit Scheme.

4.3. Maritime transport security

The European shipping industry has made substantial efforts to implement the mandatory security measures adopted in 2002 by the IMO and introduced into EU law in 2004. However, the terrorist threat shows no signs of decreasing and ships and ports alike will
continue to face the threat of terrorist acts. Moreover, very serious concerns about acts of piracy and armed robbery at sea persist. A further difficulty relates to incidents involving people smuggling, trafficking and stowaways.

The challenge is to complete the work already started in establishing a comprehensive framework of security measures based on prevention, reaction capacity and resilience. This should lead to a genuine ‘security culture’ becoming an integral part of quality shipping and port operations, while not compromising unnecessarily the performance of shipping and the quality of life of seafarers and passengers.

With due regard to the respective competences in this field, the action of the EU and its Member States should have the following aims:

– In respect of terrorism threats, the Commission and Member States should continue to support the implementation of international security measures commensurate with the prevailing security threat and based on appropriate risk analysis methodologies. Flag states and ship owners need to cooperate closely and seafarers need to receive the appropriate basic and continuous training.

– The Commission and Member States should take full advantage of the framework offered by the security amendments to the Community Customs Code, thereby contributing to the international efforts to secure the international supply chain.

– As regards piracy and armed robbery, the Commission and Member States must adopt a firm response and contribute to safer shipping in the afflicted areas. Europe should play a role in the development and stabilisation of the countries from where such attacks come from.

– In that regard, the most urgent priority is to protect seafarers, fishermen and passengers on ships sailing off the coast of Somalia, in the Gulf of Aden or in any other region of the world that could become problematic in the future.

– Moreover, the stability of the world seaborne transport system requires protecting international shipping lanes against any acts that might disrupt the flow of traffic through them. For example, with more than 12% of the total volume of oil transported by sea through the Gulf of Aden, large scale diversions around the Cape of Good Hope would not only double the length of a typical voyage from the Gulf to Europe, but also significantly increase fuel consumption, emissions and transport costs.

– The Commission and the Member States should establish resilience plans, including early alert systems, joint monitoring of events and protection plans. Such mechanisms should benefit from the full use of LRIT and other appropriate surveillance systems, as well as, reinforced coordination of the responsible authorities in the Member States.

– The Commission and the Member States should work together to ensure adequate improvements to the International Ship and Port Facility Security Code (ISPS); a programme of technical assistance for port and maritime administrations should be considered.

4.4. Maritime surveillance

Looking ahead to 2018, the capacities of the EU’s maritime transport system should be strengthened by putting in place an integrated information management system to enable the identification, monitoring, tracking and reporting of all vessels at sea and on inland waterways to and from European ports and in transit through or in close proximity to EU waters.
Such a system would be part of the e-Maritime Initiative and develop into an integrated EU system providing e-services at the different levels of the transport chain. In that regard, the system should be able to interface with the e-Freight, e-Customs and Intelligent Transport Systems\(^\text{10}\), allowing the users to track and trace the cargo not only during the waterborne part of the journey, but across all transport modes in a true spirit of co-modality.

In a broader context, building on the resources currently available, such as AIS, LRIT, SafeSeaNet or CleanSeaNet, or those that are being developed, such as Galileo and GMES, and taking into account the need to fully develop EUROSUR\(^\text{11}\), the EU should promote the creation of a platform to ensure the convergence of sea-, land- and space-based technologies, the integrity of applications and appropriate management and control of information on a "need-to-know" basis. Civil-military cooperation should be promoted in order to avoid duplication.

The Commission is also working towards the creation of an integrated cross-border and cross-sectoral EU surveillance system\(^\text{12}\). One of its key objectives is to set up an exchange of information networks amongst national authorities, with a view to increasing interoperability of surveillance activities, improving the effectiveness of the operations at sea and facilitating the implementation of the relevant Community legislation and policies\(^\text{13}\).

### 4.5 Maritime transport as a key element of EU energy security

Maritime transport is key to Europe's energy security and therefore is an important instrument of the European energy policy. Seaborne transport is to be seen as part of the EU strategy of diversification of routes and of energy sources. 90 % of oil is transported by sea, while there is an increasing trend towards transport of natural gas in a liquefied form by tankers (LNG). Many other energy products are transported by sea as well\(^\text{14}\).

The fleet transporting energy products, in all its branches of activity – crude oil and products tankers, LNG and LPG and off-shore servicing vessels, is increasingly important for ensuring well-functioning energy markets and security of supply, and hence the well being of European citizens and of the European economy as a whole.

More particularly recent disruptions in the terrestrial supply of gas and oil underline more than ever the need to invest in LNG infrastructure. As emphasized notably in the Second Strategic Energy Review\(^\text{15}\), LNG facilities are essential for increasing flexibility in gas supplies in the internal energy market, thus enabling solidarity in crisis. The fleet transporting energy products must be up to the highest technological standards and the crews serving the fleet must be well trained, in the framework of EU efforts on quality shipping.

### 5. WORKING TOGETHER ON THE INTERNATIONAL SCENE

The European Union has a longstanding commitment to open and fair competition in shipping and also to quality shipping. Hence its support for the work of the specialised international

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\(^{11}\) Cf. Council Conclusions on 5.6.2008 with regard to the future development of Frontex, the Eurosur and the future challenges of EU external border management.


organisations in the maritime transport field, including the IMO, ILO, WTO and WCO, as well as its strong and growing network of bilateral maritime transport agreements and dialogues with key shipping and trading partners.

The maritime transport agreement of 2002 between the Commission and the Member States and China is a good example in this context. The same approach is being followed in ongoing EU bilateral relations and negotiations at regional level, including in the Euro-Mediterranean Cooperation (Euromed), the Union for the Mediterranean or with Mercosur.

The global challenges confronting shipping and maritime services today demand convincing answers from the international community. The Commission and the Member States are well placed to push for change in order to achieve a comprehensive international regulatory framework for shipping, suited to face the challenges of the 21st century:

− Concerted action at European level is crucial in several fora, for example concerning: governance (UNCLOS), international trade (WTO and bilateral maritime transport dialogues and agreements, UNCITRAL), safety, security and environmental protection (IMO), labour (ILO) or customs (WCO).

− The Commission and the Member States should strive for and cooperate towards achieving all the objectives of the EU maritime safety and security policies by means of international instruments agreed through the IMO. If IMO negotiations should fail, however, then the EU should take the lead in implementing measures on matters that are of particular importance for the EU, as a first step, pending wider international agreement and taking the international competitive environment into consideration.

− For the EU Member States to act as an efficient team that can rely on strong individual players, requires enhancing the recognition and visibility of the EU within the IMO by formalising the EU coordination mechanism and granting formal observer status, if not full membership, to the EU within this organisation. This will not affect the rights and obligations of the EU Member States in their capacity as IMO contracting parties.

− The Commission and the Member States should work towards a better mechanism for rapid ratification of IMO conventions at world level, including the examination of the possibility of replacing ratification based on flag by ratification based on the fleet as defined by the country of residence.

− The Commission and the Member States should work with shipping and trading partners to ensure a convergence of views in the IMO. EU international cooperation efforts should lead to the establishment of a mechanism to ensure actual enforcement of internationally agreed rules by all flag and coastal states in the world.

− The Commission's recent Communication on the Arctic Region presents suggestions for protecting and preserving this maritime basin and, in particular, for ensuring sustainable Arctic commercial navigation, which should be followed up

6. EXPLOITING THE FULL POTENTIAL OF SHORT-SEA SHIPPING AND SEA TRANSPORT SERVICES FOR BUSINESS AND CITIZENS IN EUROPE

Further economic integration of the EEA Member States and neighbouring countries will have positive effects on intra-European maritime transport connections. Looking ahead to 2018, the European economy should recover from the current crisis. Thus, maritime transport in the EU-27 is predicted to grow from 3.8 billion tonnes in 2006 to some 5.3 billion tonnes in

2018. This means that in ten years time the infrastructure, including ports, its links to the hinterland, and the shipping industry have to be able to handle, at least, 1.6 billion tonnes more than at present. Passenger traffic, including ferries and cruise ships, will also grow. Territorial continuity, regional cohesion and quality standards for sea passengers will have to be ensured.

The challenge is to provide the right mix of measures to ensure that ports can cope efficiently with their gateway function. This would require both providing new infrastructures and improving the use of existing capacities by increasing port productivity. The existing system, including hinterland connections and freight corridors, has to be adapted to cope with the expected growth. In that regard, the main priorities should be to:

- Establish a true 'European maritime transport space without barriers', removing unnecessary administrative barriers, duplicated cross-border controls, the lack of harmonised documents and all other factors that hamper the potential growth of short-sea shipping.

- Implement the measures announced in the Communication on a European Ports Policy. In full observance of safety, security and sustainable growth requirements, port services should be provided in all cases in accordance with the principles of fair competition, financial transparency, non-discrimination and cost-efficiency.

- Ensure the right conditions for attracting investment flows to the port sector, prioritising modernisation and expansion of port and hinterland connection infrastructure projects in those areas that are more likely to suffer from congestion problems.

- Regarding environmental assessments for port expansion, fast-track procedures that cut the overall lead time significantly should be generalised. To this end the Commission will issue guidelines on the application of relevant Community environmental legislation to port development.

- Reinforce the EU strategy for ensuring the full deployment of Motorways of the Sea projects, further facilitating the start-up of innovative integrated inter-modal transport solutions, simplifying administrative requirements and supporting the Commission's proposed initiatives in the field of greening transport.

- EU funding programmes such as the Trans-European Network Transport projects, Marco Polo or the Regional Policy instruments should assist in those developments and address modal shift factors.

- Promote measures to facilitate better connection of islands and long-distance intra-EU passenger transport through quality ferry and cruise services, and appropriate terminals. Taking into account the experience gained since the adoption of the Cabotage Regulation as long ago as 1992, the framework for providing public maritime transport services that fully meet territorial continuity requirements could be improved.

- In the above context, examine economic instruments (such as taxes, charges or emission trading schemes) for "getting the prices right" encouraging users to make use of short sea shipping alternatives addressing road congestion problems and, in general promoting market solutions that contribute to the sustainability of the transport chain as a whole.

- Address the issue of passenger rights for users of ferry and cruise services in Europe, by promoting a quality campaign (awards for the best ferry operators).

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7. **Europe should be the world leader in maritime research and innovation**

The competitiveness of Europe’s maritime industries, and their ability to meet the environmental, energy, safety and human-factor challenges they face is influenced to a large degree by research and innovation efforts, which are to be further encouraged.

Today's challenges represent significant opportunities for industry growth and efficiency. With end users increasingly focusing on the level of "greening" by companies along the supply chain, and shippers demanding environmentally sound transportation, sustainability and corporate social responsibility are increasingly gaining ground as factors of competitive advantage.

For example, in the maritime transport sector there is wide scope for improving energy efficiency in ships, reducing their environmental impact, minimising the risks of accidents and providing better quality of life at sea. There is a growing need for adequate inspection and monitoring tools and for the development of advanced technological and environmental standards.

The European maritime industries should capitalise on the significant RTD efforts carried out under successive EU Research Framework Programmes and other activities:

- A major challenge is how to come up with **new ship designs and equipment to improve safety and environmental performance**. Targeted RTD initiatives should lead to new forms of design, advanced structures, materials, clean propulsion and energy-efficient solutions. In order to maintain this competitive advantage, appropriate measures have to be taken to adequately protect knowledge and intellectual property.

- Technological development and advanced logistics conceptions which maximise the **efficiency of the overall transport chain** by means of short sea shipping and inland waterway transport are also required for achieving sustainable mobility.

- All actors concerned should be involved so as to ensure that the solutions resulting from those efforts reach the market. Full use should be made of **RTD platforms** such as the "WATERBORNE" Technology Platform.

- The Commission's recent Communication on a European Marine and Maritime Research Strategy sets out a framework for Europe's maritime industries to address these technological challenges through a better integration with marine science and research.

- **Adequate ICT inspection and monitoring tools**, also related to surveillance, should be developed. Technical management of the fleet, including remote control of engine performance, structural strengths and the overall state of operation of vessels should be facilitated by means of advanced telecommunication systems. To this end, a reference framework should be established to enable the deployment of ‘e-Maritime’ services at European and global levels. Such e-services should also encompass public administrations, port communities and shipping companies.

8. **Conclusion**

The European Union and its Member States have a strong common interest in promoting safe, secure and efficient intra-European and international shipping on clean oceans and seas, the

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19 COM(2008) 534, 3.9.2008. Programmes such as 'Leadership 2015" and "Life" also support innovation important for maritime transport.

20 See point 4.4.
long-term competitiveness of European shipping and related maritime industries in world markets, and the adaptation of the entire seaborne transport system to the challenges of the 21st century.

The strategic options presented in this Communication for European shipping and for the European maritime transport system, looking ahead to 2018, represent a vision for achieving these goals.

The proposed options are built on an integrated approach to maritime policy and based on the core values of sustainable development, economic growth and open markets in fair competition and high environmental and social standards. The benefits set out in this vision should go beyond the frontiers of Europe and extend to the whole maritime world, including the developing countries.

The Commission's intention is to pursue constructive dialogue with all stakeholders concerned in view of undertaking action for the practical implementation of the measures identified in this strategic review.