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**COMMISSION STAFF WORKING DOCUMENT**

**on**

**NAUTICAL TOURISM**

*The European Strategy for more Growth and Jobs in Coastal and Maritime Tourism*<sup>1</sup> focuses on capturing the job and growth potential of this prosperous sector by promoting skills and innovation, strengthening sustainability, maximising available EU funding and mainstreaming EU policies affecting coastal and maritime tourism. The strategy also provides for a number of actions to be undertaken in the field of nautical tourism (NT): i.) qualifications of professional yacht skippers and recreational boating, ii.) safety equipment for nautical tourism, iii.) waste prevention, management and marine litter and iv.) innovation for marina development.

*The present Staff Working Document (SWD)* will analyse the above mentioned fields based on the results of recent studies<sup>2</sup> and input from interested parties. It will describe the possible options to unleash the EU's Single Market potential for additional jobs and growth in these fields which are identified in these studies.

## **1. BACKGROUND**

*Nautical tourism is a dynamic sector.* According to recent estimates presented in the study 'Assessment of the impact of Business Development Improvements around Nautical Tourism' (Study on Nautical Tourism) the EU's NT sector creates up to 234 000 jobs and generates € 28 billion annual revenue. About 48 million EU citizens participate regularly in water sports, out of which 36 million participate regularly in boating activities. Over 4,500 inland & coastal marinas create up to 70,000 jobs and generate up to € 4 billion annual turnover. About 6 million boats<sup>3</sup> are kept in European waters out of which 60,000 charter boats generate up to € 6 billion turnover each year.<sup>4</sup> The EU is a frontrunner with respect to innovation and technological processes e.g. in electric propulsion.

Marine recreational fishing is a popular leisure activity in Europe and an integral part of European coastal life and communities. According to unpublished data from the ICES Working Group on Recreational Fisheries Surveys (WGRFS), 6.3 million participants went fishing on 57 million days (mean 9.6 days per fisher and year) in the Euro-Atlantic area spending 4.9 billion Euros in 2015. This money is often spent in the coastal communities contributing to local employment such as tackle shops, hotels, restaurants, boat and equipment rentals, charter boats and fishing guides. The recreational sector does not only contribute economically but also provides social benefits to society like relaxation, exercise and experience of nature.

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<sup>1</sup> COM(2014)86 final 20.2.2014.

<sup>2</sup> Study on the competitiveness of the recreational boating sector ECSIP (Nov 2015)  
[http://ec.europa.eu/growth/sectors/maritime/recreational-crafts/ec-support/index\\_en.htm](http://ec.europa.eu/growth/sectors/maritime/recreational-crafts/ec-support/index_en.htm)  
Study on specific challenges for a sustainable development of coastal and maritime tourism in Europe (June 2016)  
[http://ec.europa.eu/maritimeaffairs/documentation/studies\\_en](http://ec.europa.eu/maritimeaffairs/documentation/studies_en)  
Assessment of the impact of Business Development Improvements around Nautical Tourism  
<https://ec.europa.eu/maritimeaffairs/documentation/studies>

<sup>3</sup> The present SWD uses the terms recreational vessels / crafts / boats / yachts below 24 meters of length as equivalent terms.

<sup>4</sup> Given the lack of comprehensive EU data, there is however a significant uncertainty regarding the estimates provided in the present SWD.

*The NT activity* is concentrated in the services sector, which generates approximately 59% of its economic output, and on the Mediterranean coast. This region generates around half of the sector's economic output and employment, followed by the North Sea (22%), Atlantic Ocean (17%) and Baltic Sea (12%) regions.

*Current challenges:* although the data available suggest that activity levels remain below those seen prior to the 2008 financial crisis, the market is nevertheless showing signs of recovery. In parallel to this recovery however, there are some challenges. Amongst those is the estimated increase in average age of European boaters from around 45 to 55 years over the last decade, a trend likely to continue. This is not only due to the general population ageing in Europe. There is also a decline in participation in boating by younger people. The latter is in part due to increasing competition for leisure time from other recreational activities, as well as family and work commitments. Besides these developments other aspects also need attention.

*Yachts' average lifespan* has been estimated at 30 years, although in some instances this may stretch to 40-45 years. This lifespan has further increased over time due to the use of stronger materials, such as fibre reinforced polymer (FRP), 'reinforced plastic'. It is thought that between 1% and 2% of the 6 million boats kept in Europe, in other words at least 80,000 boats, reach their 'end of use'<sup>5</sup> each year. However, only around 2,000 of those are dismantled. The rest are left abandoned, stored by their last owners, sent to landfill or incinerated. This poses a threat to the environment and a recycling challenge.

*Market opportunities may however arise out of these challenges.* This will be the case in particular if businesses can adapt to new customer requirements such as demand for alternative boat ownership and charter models. This includes offering shorter-term access to boating and the ability to combine multiple activities and locations within single holidays or itineraries (so-called 'combined products'). Infrastructure, equipment and support services need to cater for the specific needs of e.g. older participants. There is potential for businesses to exploit the opportunities provided by this market segment's relatively higher purchasing power and ability to participate in boating activities outside the peak seasons. Although the market for older practitioners is important, the focus must also remain on current customers and in particular on younger practitioners.

*Product combination for crews of all ages and their families* may also include 'après boating' activities. Such combined products may link marinas with other marinas as well as with cultural events, cultural routes (e.g. old galleons), restaurants, wine cellars, hinterland excursions, bicycle rides, wildlife parks, fisheries, boat trips to see seals or offshore wind-farms and other activities. Appropriate Information and Communication Technologies (ICT) may help selling such new combined products in single selling points (SSP). Such SSP may offer all combinations of sustainable products to be booked in one payment. Organising such SSP may involve all related actors such as marinas, hinterland businesses and tourism offices. The combined offer of sustainable products and services may open up new market opportunities. Last but not least, a clean and healthy environment combined with a sustained cultural heritage constitutes the fundamental business value of tourism in general and of nautical tourism in particular.

*International opportunities* ought to be seized. 2017 will be the 'International Year of Sustainable Tourism for Development' and 2018 will be both the 'European Year of Cultural Heritage' as well as the 'China-EU Tourism Year'. These opportunities may be

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<sup>5</sup> Interested parties suggest that 'end of use' boat is a more appropriate term as compared to 'end of life' boat. The reason for this being that boats may be disposed of while still seaworthy or restorable.

used to diversify the tourism offer to new customer trends. These opportunities should also help the EU industry develop a new leadership in upcoming markets related to Circular Economy, Information and Communication Technologies (ICT) as well as new production technologies likely to determine the future of nautical tourism.

*The EU's single market* should in any case be fully playing its role in providing the basic framework conditions in support of sustainable NT business development. However, as concluded by the Study on Nautical Tourism, there are still legal and administrative barriers to the good functioning of the EU's Single Market. Examples of such barriers mentioned in the study are the lack of EU-wide recognition of skippers' national licences and diverging national safety equipment rules for yachts. These hamper the sector's development of jobs and growth throughout the EU.

## **2. SKIPPERS LICENCE RECOGNITION**

*Access to boating tourism and employment* opportunities are reduced by a lack of mutual recognition of professional and private skipper qualifications across Member States (MS). For skippers there is nothing like the drivers' licence for cars recognised throughout the EU.

*Each Member State* sets its own regulations on the type and nature of qualifications that private and professional skippers must hold. These differ across Member States for a number of reasons, such as differing cultural attitudes to safety and regulation, different maritime traditions, and different local meteorological and oceanographic conditions. Each MS then allows the holder of its qualification to skipper boats in its coastal waters and boats which are flagged to that state. This leads to problems in cross-border situations, where the boat's flag state is different from the home state of which the skippers are holding their qualification.

### **2.1. Professional skippers**

*The impacts* of this problem are most acutely felt in the professional skipper market where professional qualifications for small vessels (under 24m) are not mutually recognised between Member States by way of automatic recognition.

*Difficulties in recognition* of professional skipper licences (ProSL) between MS hamper market developments. The existing Directive 2005/36/EC on the recognition of professional qualifications as amended by Directive 2013/55/EU allowing for recognition of professional qualifications, does not seem to adequately cater for the flexibility required in this specific market. There are no other systems in place to facilitate recognition and/or mobility of professional skippers at EU level. While the Directive provides for well-established rules on the mutual recognition of skippers' qualifications, recognition requests have to be submitted individually for each destination country. This constitutes an administrative burden for skippers and public authorities and does not prevent decisions imposing time-consuming and possibly also heavy compensation measures when the conditions for a direct recognition of qualifications are not met. In addition, the possibility to make use of the new tools introduced by that Directive (i.e., Common Training Frameworks or the Common Training Tests) ,which aim at developing regimes for automatic recognition on the basis of common sets of knowledge, skills and competences, appear to be limited at this stage and in the foreseeable future, due to this sector's particularities. Under these circumstances, charter companies in need of skippers able to work in many MS at short notice have difficulties finding them, in particular during peak seasons.

*The consequent lack of free movement of professional skippers* acts as a direct barrier to intra-EU trade and/or imposes additional cost on these skippers when needing to work across the EU. Language and insurance – common barriers to mobility in other professions – are less important factors. Indeed skippers with non-host state languages are often in demand. Insurance needs are tied to the legal requirement that the skipper qualification has to match the flag of a vessel, hence it is the lack of qualification recognition that affects insurance needs. This has consequences for the performance of businesses relying on workers who require a ProSL, including legal implications if working skippers are found to hold inadequate licences. Many boating-related jobs (e.g. in diving schools) include roles that require the worker to hold an appropriate skipper licence. The issue is not just limited to skippers of charter boats.

*Unleashing the charter market's potential* has become even more necessary due to the prevailing trend towards more boat chartering and less boat ownership. The Erasmus+ funded project 'TRECNET / TCC-SCV'<sup>6</sup> developed a transparent process of qualification comparison by breaking down different ProSL into their smallest parts to make them comparable, then extracted a common set of knowledge, skills and competences for professional skipper qualifications in seven Member States and built a common core curriculum from these data. A follow-up call for an action to carry this pioneering work further, is planned to be launched in 2017.

According to the study on Nautical Tourism, the TRECNET / TCC-SCV approach could be used in more MS than the seven surveyed, to allow identification of a core qualification common to all MS and the potential 'top-up' qualifications requirements where national licences diverge from this common denominator. Skippers opting for such a 'top-up' to be able to work in another MS, would not need to take a full exam if they already hold a national licence. MS might even agree to compare national licences and work towards a commonly agreed EU ProSL. National and EU licences would not be exclusive but would coexist.

*The Study on Nautical Tourism has explored two possible instruments* for the adoption of such an EU ProSL, namely the existing Directive 2005/36/EC on the recognition of professional qualifications as amended by Directive 2013/55/EU, and more specifically the possibility to adopt specific Common Training Frameworks, or the adoption of a new and dedicated Directive. The study concluded that while the use of the existing Directive 2013/55 may reduce administrative burden, the development of specific CTF instruments will not be able to address all aspects relevant for recognition decisions and such an approach may also leave some other barriers to trade unresolved. This may be the case if MS would, further to the EU ProSL, maintain or introduce secondary requirements hampering the freedom of movement for skippers, such as particular insurance requirements, adherence to particular associations, or others. Such aspects could however be covered by a new dedicated Directive.

*The benefits* of an EU ProSL in terms of reduced loss of business due to mismatches between skippers and boats is estimated to provide one week of additional charter revenue per year for each skippered charter boat. This estimate corresponds to an overall increase in the charter sector's revenue of € 50 to € 120 million per year.

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<sup>6</sup> TRECNET: 'Transnational Recognition of European Certification in Vocational Education and Training' as extended by TCC-SCV: 'TRECNET Core Curriculum for Skippers of Small Commercial Vessels' <http://www.trecnet.eu/>

*Further benefits for the circular economy.* As reported in the Study on Nautical Tourism, an EU-wide skippers' licence would foster the yacht charter business. Rental models, such as yacht chartering, correspond to the principle of the circular economy and the objectives of waste prevention by consuming services rather than products. Ownership makes most sense for goods that may increase in value such as houses. Rental models are more efficient for other goods. Such circular rental business models (also existing in other industries e.g. for washing machines) provide for maintenance, repair and monitoring of the rented good. They also allow companies to provide advice on the best use of the rented good and allow reuse of obsolete materials by the producing company. Such circular rental business models are based on a new form of collaboration between parties, are economically viable, allow for the best reuse of resources and provide a new experience to consumers.

*Future development* of the EU's charter market may thus be facilitated. Diverse models of chartering and boat sharing may appear and create new ways of developing markets.

## **2.2. Private skippers**

*Private skippers' licences (PriSL)* are also issued by each Member State without an EU-wide mutual recognition scheme. Private skippers may thus have difficulties chartering boats in MS other than the one having issued their national PriSL. In practice however, charter companies often accept the International Certificate of Competence (ICC)<sup>7</sup> for signing charter contracts with private skippers. The ICC is nevertheless not recognised by the main charter countries within the EU. This is in particular the case in the Mediterranean Sea, the EU's number one charter destination. The consequences of charter companies accepting the ICC in countries not recognising it may be serious e.g. in case of control by coast guards, leading to legal problems, and/or in case of accident, leading to legal and insurance problems.

*The legal barrier* created by the absence of an EU-wide PriSL deters private skippers from entering into charter arrangements. This reveals a barrier to the good functioning of the EU's single market.

*A remedy* would consist in all EU Member States officially recognising the ICC after removing potential national barriers for doing so. An ICC recognised EU-wide would ease intra-EU trade and would attract more clients from other parts of the world who hold an ICC.

*The Study on Nautical Tourism identified the benefits* of having the ICC recognised by all MS in i.) increasing cross-border mobility, ii.) creating greater demand for intra-EU private boat and charter tourism, iii.) triggering opportunities for other nautical tourism businesses, iv.) removing charter companies' uncertainties as regards their clients' minimum level of competence, v.) lowering the charterer's administrative cost for checking clients' qualification and vi.) lowering the charterers' risk of revenue loss. If

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<sup>7</sup> International Certificate for Operators of Pleasure Craft (also referred to as ICC); United Nations Economic Commission for Europe (UNECE) Inland transport committee. The ICC applies to inland waters and/or coastal waters. <http://www.unece.org/fileadmin/DAM/trans/doc/2011/sc3wp3/ECE-TRANS-SC3-147-Rev1e.pdf>.

10% of bareboat charters were previously lost but could now be agreed due to an EU-wide recognised ICC, the study estimated that charter revenue would increase by € 240 million to € 270 million per year. Additional cost savings to charter businesses from avoiding qualification checking processes could further equate to around € 10 million per year.

### 3. SAFETY EQUIPMENT

*Boat safety equipment is governed* by a mixture of international, EU and national legislation. EU legislation, in particular Directive 2013/53 EU, regulates the notion of safety related to the design, construction and structure of recreational craft. This includes aspects such as yacht stability, load capacity, engine, gas and electricity installation, fuel tank design and anchorage system. While navigation lights, shapes and sound signals shall comply with the 1972 COLREG (The International Regulations for Preventing Collisions at Sea) or CEVNI (European Code for Interior Navigations for inland waterways) Regulations, other on-board safety equipment aspects such as life jackets, portable radio communication and type of life-raft are essentially left to the discretion of national authorities. National legislation is often intended to ensure that safety equipment is adequate for local meteorological and oceanographic conditions, and aligned with national maritime and safety attitudes. This has resulted in a divergence of requirements for on-board safety equipment across the EU. When a boat is sailed outside its Home State it must comply with the on-board safety requirements of both the boat's flag state and its host state. This means that boats used in such situations hold multiple sets of on-board safety equipment.

*The impact, as identified in the Study on Nautical Tourism,* is most acutely felt in the commercial market, where dual requirements are enforced through the licencing and boat inspection processes. A number of practical difficulties however reveal barriers to the good functioning of the EU's single market:

- i. *Extra cost:* Charter companies that frequently need to bring yachts from one Member State to another face extra cost. They have to purchase the various pieces of equipment required by each Host State they are going to cross. These extra costs can reduce the efficiency with which fleets are deployed across the EU during the boating seasons.
- ii. *Transparency:* Finding out about the various safety equipment rules applicable in the territorial waters of various Host States is a burden. The extent of such burden can be understood when considering that these rules need to be found in the relevant national legal documents or websites and be properly understood in the respective administrative language. Such lack of transparency can result in boat owners and users making incorrect purchases of equipment in an effort to comply with national requirements. It presents a legal risk to private and commercial users who are uncertain whether the equipment they hold meets the necessary specifications.
- iii. *Environmental pressure:* Having to buy extra equipment for each MS leads to an accumulation. The accumulated equipment however should be disposed of and recycled when at end-of-use. Different national safety equipment rules thus increase the pressure on the environment.
- iv. *Safety:* Member States justify different equipment to oceanographic conditions and may hold different approaches to safety. Different national approaches to

safety may however place skippers and crews in uncertainty as regards their effective safety and hamper their willingness to engage in cross-border sailing.

- v. *Enforcement:* Coast Guards (CG) having to enforce safety equipment rules face an additional burden when dealing with a yacht from another MS. To inspect effectively, these CG need to avail themselves of the exact list of safety equipment required by the respective Flag States. This leads to additional burden and may lead to incorrect acceptance or non-acceptance of safety equipment, with potential impacts on boater safety and the ability to operate both private and commercial boats.

*Two solutions to overcome the barrier* constituted by different national rules have been proposed by the Study on Nautical Tourism. A first option would consist in encouraging MS not to apply national (coastal state) legislation to foreign-flagged (and owned) boats smaller than 24 meters length which are already complying with their flag state requirements. A second option proposed consists in MS agreeing on a minimum EU standard for NT safety equipment in cross border sailing. Such a possibility would need to be further explored with national experts. Commission services may explore ways, potentially based on IT tools, to make the various national rules transparent and accessible.

*The benefit* of a minimum EU safety equipment standard for charter businesses is estimated by the study to yield an overall annual benefit of € 37,2 million.

*Future economic activities* in marina hinterlands may be favoured by cross-border boating. Cross-border boating is a triggering factor for the development of marinas and businesses in their hinterlands. Commercial offers may capture the additional demand created by this additional cross border sailing.

#### **4. BOATING, MARINAS & HINTERLANDS**

*Most European marinas* are small, or even micro enterprises (SME), or are managed by boating associations which do not have commercial aspirations. SMEs are known to be Europe's innovation engine. However, small marinas reported that engaging in innovation is not easy as they dispose of few resources and the fragmentation of the industry presents a barrier to collaboration and knowledge exchange. This can limit innovation as well as the sharing of, and learning from, best practices. Such barriers to collaboration and knowledge exchange negatively affect the development of combined products, as these products typically require partnerships to be built between multiple service providers. Also, shorter but more frequent holiday patterns trigger further need for faster online pre-booking of combined products as compared to individually booking several products. The challenges are greater in the development of spatially dispersed and cross-border products. A similar issue is seen with marinas and their integration with wider tourism and non-tourism economic activities. Existing platforms to support collaboration and knowledge exchange appear to be either too high-level or focussed on other areas of the market, limiting their effectiveness in addressing nautical tourism market issues.

*Lacking investments* result from insufficient access to finance. Whilst the tourism sector can access commercial financial markets as well as a range of EU (and other) funds, gaps remain. This is accentuated in situations where investments require innovation and hence greater risk. For combined products a specific gap was identified for micro-scale funding to help meet the costs associated with building partnerships. For marinas the length of the



investment cycle (due to the long-term nature of capital investments) also limits the rate at which physical infrastructure can be replaced. In both instances the effect is to reduce the sector's capacity to exploit emerging opportunities and adjust to changing consumer demands (e.g. those of an ageing customer base). Investments into adequate waste and sewage reception facilities may also need to be undertaken in order to comply with increased sustainability requirements, e.g. resulting from the need to reduce discharges at sea or on inland waterways. Investment prospects can also be affected by limits on the capacity of SMEs to take on larger investments e.g. multi-facility marina development, and by regulatory environments e.g. uncertainty on emerging issues such as marine planning and marine protected areas.

*Diversifying the offer* towards older and younger generations is important. Older generations with a higher purchasing power and availability outside the main season may be kept in NT activities until a higher age if the offer is better adapted to their particular needs. This may be achieved by a combination of infrastructure and service improvements such as i.) boats designed for easy circulation between roof, cockpit and interior, ii.) mooring platforms adapted for easy access to yachts and mooring assistance services offered by marinas for leaving and entering the berth as well as iii.) an adapted socio-cultural service offer in marinas and their hinterlands. The offer for younger generations may further include i.) easy rental of NT equipment, ii.) activities for children, nautical schools and organised competitions as well as iii.) innovative ways to use marina space outside main seasons. In general, a diversified offer linking marinas and their hinterlands should seek to develop activities that benefit and integrate both the local population and tourists. Diversifying the offer may be facilitated by including marinas and any SMEs as profit centres into local, regional, national and cross-border development plans. These actors may use appropriate ICT facilities to advertise and sell their diversified/combined offer.

*Imperfect information* as regards the economic value and role of marinas and other elements of nautical tourism limits the visibility of the sector. Such lack of visibility results in lack of interest from public sector regulators and funding agencies/institutions.

*First suggestions* to overcome these difficulties are provided by the 'Study on specific challenges for the sustainable development of coastal and maritime tourism'<sup>8</sup> with a catalogue of documented best practices in the fields of coastal and maritime tourism development. The same study further provides a first decision tree for marina developments and a second decision tree pointing towards potential synergies between marinas and their hinterlands. Integrated Coastal Zone Management and Maritime Spatial Planning<sup>9</sup> may further help embed such investments into the surrounding socio-economic-environmental context. Also, in 2015 the Commission published a first call<sup>10</sup> for projects to develop nautical cultural heritage routes. End 2016 it published a second such call<sup>11</sup> to develop cross-border nautical tourism routes focussing on combined nautical-coastal product offers.

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<sup>8</sup> Study on specific challenges for a sustainable development of coastal and maritime tourism in Europe (June 2016) <https://ec.europa.eu/maritimeaffairs/documentation/studies>

<sup>9</sup> Directive 2014/89/EU of the European Parliament and of the Council of 23 July 2014 establishing a framework for maritime spatial planning

<sup>10</sup> <https://ec.europa.eu/easme/en/call-proposal-thematic-routes-underwater-cultural-heritage>

<sup>11</sup> <https://ec.europa.eu/easme/en/call-proposals-nautical-routes-europe>

*Other suggestions in the study are* i.) setting up an easy-entry micro-funding facility for innovation and investment in marina infrastructure and boating products to e.g. diversify the offer throughout different seasons and types of public, ii.) funding research on the economic benefits of marinas and iii.) providing support to capacity building to facilitate the integration of marinas in regional development plans.

*The benefit* of such actions is difficult to quantify. Estimates from the study reveal that, an increase of sailing opportunities for older people alone may be worth up to annual € 15 billion of economic activity for the sector. Further, attracting younger generations into the market with flexible (IT) service-based offers that possibly combine a whole range of tourism products in marinas and their wider hinterlands may provide significant additional benefits.

*Future sustainable market opportunities, jobs and growth* may be created by interlinking marina and hinterland developments in a way that is sustainable for local populations, the environment and nautical tourism development.

## **5. CIRCULAR BOATING ECONOMY**

*The Study on Nautical Tourism* indicates that up to 2% of over 6 million boats (below 24 meters length) are reaching 'end of use' each year. The biggest difficulty seems to arise as regards boats built with Fiberglass Reinforced Polymer (FRP), 'reinforced plastic'. The first big wave of FRP hulls was built about 30 years ago and is now expected to progressively reach end of use. Recycling of such boats is increasingly becoming an issue.

*Current end-of-use boat (EUB)* management practices are insufficient. To start with, yachts are not registered in all MS or registered only if falling into certain categories. This means that identifying yacht owners may be difficult or impossible, thus increasing the chances of EUBs being abandoned. Unregistered yachts may further be less easily identified by Coast Guards for safety and security purposes e.g. in case of search and rescue, and they represent a gap for data collection purposes e.g. to better understand the sector's evolution. A large number of EUBs are not dismantled but instead are abandoned in ports and marinas, private premises, yards, etc., or are illegally landfilled or sunk. Marina and municipal authorities incur additional costs when disposing of abandoned boats found in waterways and onshore. The costs to authorities of removing abandoned vessels are generally much higher than the dismantling costs that boat owners would need to pay to send their EUBs to suitable facilities. Recycling of recreational boats is uncommon. Materials that are recovered from EUBs usually end up in a landfill or are incinerated.

*Recycling of FRP*, if it takes place, is however difficult and, a priori, not (yet) cost covering at large scale. For this reason one MS, France, already issued legislation on boat recycling. Nevertheless, some private sector waste management solutions are profit making. The currently common form of waste management applied to FRP is to burn the latter and recover energy in the process. Uncontrolled burning of both composite boats and wooden boats however results in the generation of toxic fumes from components in waste, such as heavy metals, but can also create dioxins and furans. Pollution components are spread to air, soil and water and can result in long term effects. Further,

the abandonment of boats can cause negative local impacts such as pollution from oils and hazardous substances, hazards to navigation, nuisance and marine litter. In both instances there are risks of impacts to human health and the environment. Forms of reuse or recycling also start to appear. Slices of FRP boat hulls are used to protect the side walls of navigation canals, small FRP particles are being reused as additional components for road construction material and FRP crushed into powder is being reused to build certain types of artificial stone (e.g. for kitchen sinks).

*Resource efficiency and circular boating concepts* of various types have been emerging. A first concept consists of increasing renewable energy sources on board yachts (e.g. solar, wind, hydro), thereby leading towards increasingly autonomous boats, reduced energy bills for users as well as jobs and growth in this market segment. Innovative concepts have also allowed to reduce energy consumption and further use of production waste during yacht construction, leading to cost savings for companies and thus to maintaining jobs and growth. Another concept has been to build boats/yachts with fully reusable and/or reused material. Two particular individual small-scale initiatives aiming at developing boats/yachts with 100% reusable materials have been brought to the attention of the Commission services.<sup>12</sup> Purely resource efficiency-centred approaches have consisted in reducing fossil fuel consumption of yacht engines<sup>13</sup> including e.g. by using electric engines that lead to lower fuel bills for users, a competitive advantage for yacht/engine producers and related jobs and growth.

*The way forward:* interested parties could discuss potential solutions, such as co-financing boat recycling where recycling is not cost covering and where no (legal) solutions are in place. Such a stakeholder forum might also discuss avenues for further research on new materials allowing to produce fully circular boats. Extended Producer Responsibility (EPR) schemes for boats are an instrument available to Member States, which has the potential to influence the design and production of circular boats and facilitate their management at the end of their life. Several Member States have already established such schemes for a variety of products. As part of its Action Plan on the Circular Economy<sup>14</sup>, the European Commission has proposed amending the Waste Framework Directive<sup>15</sup> to introduce general criteria for EPR schemes, including a requirement to modulate contributions according to the reusability and recyclability of the product at stake. While this proposal has not yet been adopted by the European Parliament and the Council, nothing prevents the Member States from establishing EPR schemes and already applying such criteria. MS might decide to register yachts under their flag (like for cars) as this could help identify owners of abandoned boats or for safety and security reasons.

Specifically for the marine litter aspect, the European Commission has envisaged a Strategy on Plastics in a Circular Economy<sup>16</sup> to address the challenges posed by plastics and plastic recycling. Nautical tourism activities that can generate marine litter in the

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<sup>12</sup> <http://gs4c.museumssites.com/home>; <http://www.ecosailtheworld.org/blue-ocean/>

<sup>13</sup> The exhaust emissions produced by using fossil fuels are currently regulated by the Recreational Craft Directive 203/53/EU.

<sup>14</sup> Closing the loop - An EU action plan for the Circular Economy, COM(2015) 614 final, 2.12.2015.

<sup>15</sup> Directive 2008/98/EC, 19 November 2008

<sup>16</sup> [http://ec.europa.eu/smart-regulation/roadmaps/docs/plan\\_2016\\_39\\_plastic\\_strategy\\_en.pdf](http://ec.europa.eu/smart-regulation/roadmaps/docs/plan_2016_39_plastic_strategy_en.pdf)

form of plastics ought to be properly managed so as to prevent waste generation and ensure that no plastic is discharged at sea.

Attention should also be paid to waste reduction on board as well as proper delivery of the waste from recreational vessels to waste facilities in ports, in line with Directive 2000/59/EC on port reception facilities for ship generated waste and cargo residues, which also includes small recreational craft in its scope. A proposal to revise the Directive is currently under preparation, which looks at ways of better incentivising and enforcing the waste delivery by these vessels, in particular as regards garbage, as this is one of the sources of marine litter at sea. This also implies that adequate facilities for the collection and treatment of this waste are provided for in EU ports, which cater for separate collection in view of reuse and/or recycling, and that Waste Reception and Handling Plans are also developed for smaller ports and marinas following proper consultation processes with all relevant port users.

*Circular economy benefits for additional jobs and growth:* the Study on Nautical Tourism calculates that, assuming that 50 per cent of the 78,000 boats not currently dismantled are disposed of through appropriate dismantling and recycling, € 78 million of additional revenue for the dismantling industry could potentially be generated, and consequently create new jobs for the EUB dismantling industry each year. The circular economy benefits generated by e.g. resource efficiency, in particular by reusing 100% recycled material as well as by increasing rental economy/charter business, may create new additional revenues. Appropriate environmental impact assessments should help explore this further.

*Future developments* will significantly depend on innovation, new customer trends and diversified offer. Circular economy concepts combined with latest ICT developments seem to be a promising area to explore.

## **6. TECHNOLOGICAL INNOVATIONS FOR THE FUTURE BOATING INDUSTRY**

*Competing on world-wide markets,* the EU's industry will need to secure its leading market position for the future.<sup>17</sup> Clean water, air and land are the fundamental business values for the nautical tourism industry. Circular economic innovation combined with the latest sector-specific ICT developments may well capture rising consumer trends towards innovative market leadership by 2020 and beyond.

*New reusable materials, new manufacturing techniques and new technologies* may open up further markets. Interested parties brought to the attention of Commission staff that a first canoe has been produced by means of a '3D printer'. 3D printing is generally considered to 'increase production speed while reducing costs and meeting consumer demand with more speed and greater influence over production. Both can make production at or near headquarters cheaper than production overseas'<sup>18</sup>.

*In the longer term future,* innovation may lead towards boats being possibly 3D printed with 100% reusable material, autonomous in energy consumption and fitted with the latest IT. Charter companies may frequently have new boats printed in line with the latest

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<sup>17</sup> Study on the competitiveness of the recreational boating sector ECSIP (Nov 2015)  
[http://ec.europa.eu/growth/sectors/maritime/recreational-crafts/ec-support/index\\_en.htm](http://ec.europa.eu/growth/sectors/maritime/recreational-crafts/ec-support/index_en.htm), Nov 2015

<sup>18</sup> European Commission - European Political Strategy Centre (EPSC) strategic notes Issue 7/2015 6 October: Integration of products and services.

design while reusing the material from their old fleet. This may further lead industry to review production processes and adapt to new market opportunities. Also, combining particular new yacht designs with a range of diversified service offers specifically adapted to younger and elderly people, may increase revenues and bridge part of the seasonality gap for marinas and hinterland businesses. Adding sophisticated business services to advanced manufactured goods may lead to innovations that are not easy to replicate by competitors and are therefore giving significant competitive advantages<sup>19</sup>.

## 7. CONCLUSION

*As concluded by the relevant studies, shaping a prosperous future for the NT sector requires both circular industrial innovation and supportive public policies.*

*Circular industrial innovation based on circular economy concepts lies at the heart of the NT sectors' clean-sea business values. Circular and autonomous charter yachts fitted with latest IT may open up new market opportunities. New consumer trends and new diversified/combined tourism products sustainably interlinking local communities and tourism activities, can open up unexploited opportunities for more jobs and growth. Innovation and R&D (especially fundamental and experimental research) should be promoted and stimulated to maintain the EU industry's competitive advantage on the world markets.*

*A well-functioning Single Market is crucial to allow for such NT developments. As any other sector, NT has the right to benefit from the advantages brought by the Single Market. Barriers such as *not* mutually recognised national skippers' licences and *different* national safety equipment rules need to be acknowledged, and tackled at the most appropriate level or by the most appropriate parties, in order to unleash the significant potential for further sustainable jobs and growth in the EU's NT markets.*

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<sup>19</sup> EPSC Issue 7/2015 6 October: Integration of products and services.