5

LEGAL ISSUES AND REGULATORY DEVELOPMENTS

Technology has become a crucial element of many systems on board ships and in ports and is continuing to transform and revolutionize the way in which shipping operations are conducted. Many current technological advances, including, for example, autonomous ships, drones and various distributed ledger technologies such as blockchain, hold considerable promise for the increased efficiency of operations and reduced costs, among other possibilities. However, uncertainty remains in the maritime industry with regard to their potential safety and security, and there is concern about the cybersecurity incidents that may occur. To minimize such risks for systems on board ships and in ports, and to facilitate the transition to potential new technologies, Governments and the maritime industry are continuing to improve the safety and risk management culture and making efforts to ensure compliance with the complex and evolving legal framework. In addition, the various distributed ledger technologies currently emerging and proliferating, including blockchain-related initiatives, need to be interoperable, as competition between them in a bid to make a specific technology the chosen standard for the industry may be detrimental for shipping.

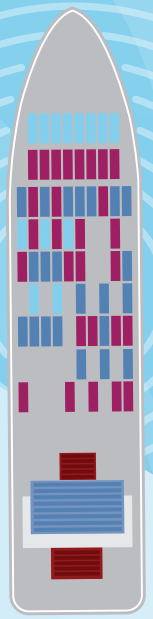
As the future of technological advances in shipping is being defined, and the maritime industry is leveraging technology to improve its services, the existing legal, policy and regulatory frameworks are being adapted and new frameworks written, as necessary, at both the national and international levels. The strategic plan for IMO adopted in December 2017 recognizes the need to integrate new and emerging technologies into the regulatory framework for shipping. This plan follows the adoption of a resolution that encourages maritime administrations to ensure that cyberrisks are appropriately addressed in existing safety management systems starting from 1 January 2021, as well as the adoption in July 2017 of the IMO guidelines on maritime cybersecurity risk management.

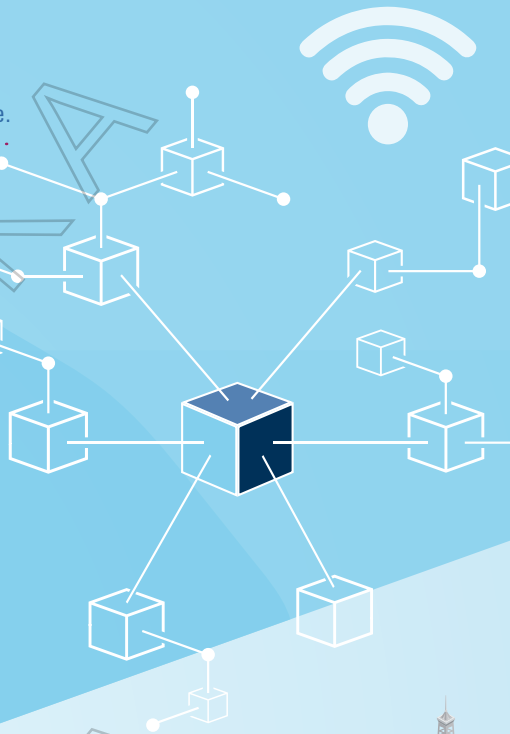
Important international regulatory developments during the period under review include the adoption by IMO in April 2018 of an initial strategy on the reduction of greenhouse gas emissions from ships, which aims at the reduction of total annual greenhouse gas emissions from ships by at least 50 per cent by 2050, compared with 2008. In addition, IMO adopted a decision with regard to regulatory scoping exercises to establish the extent to which the international regulatory framework should be modified to integrate the new technology involving maritime autonomous surface ships.

This chapter provides a summary of legal and regulatory developments related to these issues and highlights relevant policy considerations for the maritime sector.

EMERGING TECHNOLOGIES

New technologies, such as blockchain, autonomous ships and drones offer potential benefits in shipping, but also give rise to concerns, including about safety, seafarer employment, cybersecurity and liability and insurance.





REDUCING GREENHOUSE GAS EMISSIONS FROM SHIPPING

An initial strategy adopted at IMO in April 2018 aims to reduce total annual greenhouse gas emissions from ships by at least

by 2050.

SUSTAINABLE DEVELOPMENT GOALS

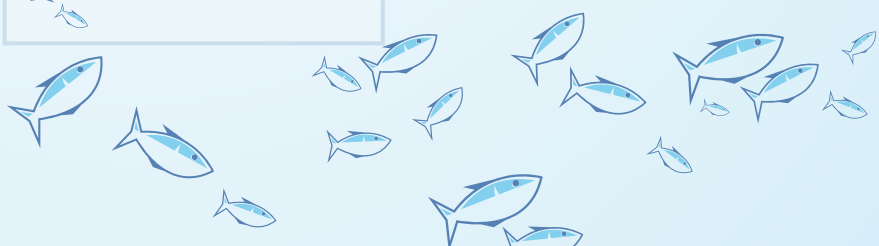
13 CLIMATE ACTION

14 LIFE BELOW WATER

This complements international efforts to address greenhouse gas emissions, including under the Paris Agreement and Sustainable Development Goal 13 on taking urgent action to combat climate change and its impacts.

PROTECTING THE MARINE ENVIRONMENT

In the light of Sustainable Development Goal 14, all countries are encouraged to consider becoming parties to relevant international conventions on marine pollution prevention and control as a matter of priority.



C. OTHER LEGAL AND REGULATORY DEVELOPMENTS AFFECTING TRANSPORTATION

1. Seafarers' issues

In April 2018, the Legal Committee highlighted the increased number of cases of abandonment of seafarers, as recorded in a joint IMO and International Labour Organization database; from 12–19 annual cases in 2011–2016, the number had risen to 55 cases in 2017 (IMO, 2018g). Shipowners in financial difficulty may abandon seafarers in ports far from home, leaving them without food, water, medical care, fuel or pay for months at a time. The 2014 amendments to the Maritime Labour Convention that entered into force in January 2017 make insurance to cover such abandonment, as well as claims for the death or long-term disability of seafarers, compulsory for shipowners. The worldwide population of seafarers serving on internationally trading merchant ships is estimated at 1,647,500, and most are from developing countries; China, the Philippines, Indonesia, the Russian Federation and Ukraine are estimated as the five leading seafarer supply countries (International Chamber of Shipping, 2017). The secretariats of IMO and the International Labour Organization were requested to consult on the inclusion in the database of information related to insurance for each new case and to prepare a list of competent authorities and organizations that could assist in resolving cases (IMO, 2018g). In addition, the Committee was advised of guidance being developed by the International Transport Workers' Federation and Seafarers' Rights International to support the implementation of the IMO and International Labour Organization guidelines on the fair treatment of seafarers in the event of a maritime accident, in view of the different approaches that States had taken in implementing the guidelines. The guidelines aim to ensure that seafarers are treated fairly following a maritime accident and during any investigation and detention by public authorities and that detention is for no longer than necessary. A comprehensive survey conducted by Seafarers' Rights International in 2011–2012 had suggested that the rights of seafarers as detailed in the guidelines were often subject to violation (IMO, 2018h).

2. Fraudulent registration

In the last few years, several member States have reported to the IMO secretariat cases of fraudulent use of their flags, with many illegally registered ships, some of which have been involved in illicit activities. In April 2018, the Legal Committee agreed that the fraudulent registration of ships needed to be addressed and that effective enforcement measures to discourage the practice and prevent ships with fraudulent registration from operating should be considered. The issue is complex, however, as it involves aspects of public

international law and private law, and a multipronged approach is needed. The IMO secretariat was requested to conduct a study of cases received and provide information on the capability of the Global Integrated Shipping Information System of IMO to address the issue, potentially including contact points, sample certificates and a list of registries (IMO, 2018g). The consideration of measures to prevent unlawful practices associated with the fraudulent registration and registries of ships was included in the work programme of the Legal Committee, with a target completion date of 2021.

3. Legally binding instrument under the United Nations Convention on the Law of the Sea

Under this Convention, resources found in the seabed beyond the limits of national jurisdiction are to be used for the benefit of humanity as a whole, with particular consideration for the interests and needs of developing countries (article 140). However, the Convention does not include a provision on the use of marine genetic resources found in the water column, which are commercially valuable and hold considerable potential for the development of advanced pharmaceuticals. Their exploitation may, in the near future, become a promising activity in areas beyond the limits of national jurisdiction. In the absence of a specific international legal framework regulating related issues, negotiations have been ongoing since 2016 at the United Nations on key elements for an international legally binding instrument under this Convention on the conservation and sustainable use of marine biological diversity of areas beyond the limits of national jurisdiction. The outcome of the fourth meeting of the preparatory committee established in accordance with General Assembly resolution 69/292 of 19 June 2015, held in July 2017, included a number of elements recommended for consideration by the General Assembly in the elaboration of a text (UNCTAD, 2017a; see www.un.org/Depts/los/biodiversity/prepcom.htm). The General Assembly, in its resolution 72/249 adopted on 24 December 2017, decided to convene an intergovernmental conference under the auspices of the United Nations to consider the recommendations of the preparatory committee on the elements and to elaborate the text of an international legally binding instrument under the Convention. The first session is scheduled to be held from 4 to 17 September 2018.

Table 5.1 Contracting States Parties to selected international conventions on maritime transport, as at 31 July 2018

Title of convention	Date of entry into force or conditions for entry into force	Contracting States
United Nations Convention on a Code of Conduct for Liner Conferences, 1974	6 October 1983	Algeria, Bangladesh, Barbados, Belgium, Benin, Burkina Faso, Burundi, Cameroon, Cabo Verde, Central African Republic, Chile, China, Congo, Costa Rica, Côte d'Ivoire, Cuba, Czechia, Democratic Republic of the Congo, Egypt, Ethiopia, Finland, France, Gabon, Gambia, Ghana, Guatemala, Guinea, Guyana, Honduras, India, Indonesia, Iraq, Italy, Jamaica, Jordan, Kenya, Kuwait, Lebanon, Liberia, Madagascar, Malaysia, Mali, Mauritania, Mauritius, Mexico, Montenegro, Morocco, Mozambique, Niger, Nigeria, Norway, Pakistan, Peru, Philippines, Portugal, Qatar, Republic of Korea, Romania, Russian Federation, Saudi Arabia, Senegal, Serbia, Sierra Leone, Slovakia, Somalia, Spain, Sri Lanka, Sudan, Sweden, Togo, Trinidad and Tobago, Tunisia, United Republic of Tanzania, Uruguay, Venezuela (Bolivarian Republic of), Zambia (76)
United Nations Convention on the Carriage of Goods by Sea, 1978 (Hamburg Rules)	1 November 1992	Albania, Austria, Barbados, Botswana, Burkina Faso, Burundi, Cameroon, Chile, Czechia, Dominican Republic, Egypt, Gambia, Georgia, Guinea, Hungary, Jordan, Kazakhstan, Kenya, Lebanon, Lesotho, Liberia, Malawi, Morocco, Nigeria, Paraguay, Romania, Saint Vincent and the Grenadines, Senegal, Sierra Leone, Syrian Arab Republic, Tunisia, Uganda, United Republic of Tanzania, Zambia (34)
United Nations Convention on International Multimodal Transport of Goods, 1980	Not yet in force – requires 30 Contracting Parties	Burundi, Chile, Georgia, Lebanon, Liberia, Malawi, Mexico, Morocco, Rwanda, Senegal, Zambia (11)
United Nations Convention on Conditions for Registration of Ships, 1986	Not yet in force – requires 40 Contracting Parties with at least 25 per cent of the world's tonnage as per annex III to the Convention	Albania, Bulgaria, Côte d'Ivoire, Egypt, Georgia, Ghana, Haiti, Hungary, Iraq, Liberia, Libya, Mexico, Morocco, Oman, Syrian Arab Republic (15)
International Convention on Maritime Liens and Mortgages, 1993	5 September 2004	Albania, Benin, Congo, Ecuador, Estonia, Lithuania, Monaco, Nigeria, Peru, Russian Federation, Spain, Saint Kitts and Nevis, Saint Vincent and the Grenadines, Serbia, Syrian Arab Republic, Tunisia, Ukraine, Vanuatu (18)
International Convention on Arrest of Ships, 1999	14 September 2011	Albania, Algeria, Benin, Bulgaria, Congo, Ecuador, Estonia, Latvia, Liberia, Spain, Syrian Arab Republic (11)

Note: For official status information, see the United Nations Treaty Collection, available at https://treaties.un.org, and UNCTAD, Conventions on commercial maritime law, available at http://unctad.org/en/Pages/DTL/TTL/Legal/Maritime-Conventions.aspx.

D. STATUS OF CONVENTIONS

A number of international conventions in the field of maritime transport were prepared or adopted under the auspices of UNCTAD. Table 5.1 provides information on the status of ratification of each of these conventions as at 31 July 2018.

E. OUTLOOK AND POLICY CONSIDERATIONS

Ongoing incidents against systems on board ships and in ports, which have significantly affected the maritime industry, highlight the importance of cybersecurity and cyberrisk management. At the international level, in addition to the IMO guidelines on maritime cyberrisk management adopted in 2017, an IMO resolution encourages administrations to ensure that cyberrisks are appropriately addressed in existing safety management systems, from 1 January 2021. This is the first compulsory deadline in the maritime industry related to cyberrisks and is an important step in protecting the maritime transportation system and the maritime industry from ever-increasing cybersecurity threats. In addition, the strategic plan for IMO adopted in 2017 recognizes the need to integrate new and emerging technologies into the regulatory framework for shipping, by balancing the benefits derived from such technologies "against safety and security concerns, the impact on the environment and on international trade facilitation, the potential costs to the industry and finally their impact on personnel, both on board and ashore" (IMO, 2017c). At the same time, the shipping industry is taking a proactive approach to incorporating cyberrisk management in its safety culture, to prevent the occurrence of any serious incidents. Relevant guidance has been and continues to be developed by classification societies and other industry associations, as well as by individual States, providing practical recommendations on maritime cyberrisk management and including information on insurance issues.

With regard to distributed ledger technology such as blockchain, at present, many initiatives and partnerships are emerging and proliferating, including in the shipping industry. Greater numbers of stakeholders are exploring its utilization, including for digitalizing and automating paper filing, documents, smart contracts and insurance policies, to save time and reduce costs in the clearance and movement of cargo. Such initiatives need to be interoperable, as competition between them in a bid to make a specific technology the chosen standard for the industry may be detrimental for shipping. In addition, blockchain promises secure transactions yet, according to some specialists, may not be as secure as generally anticipated. The use of blockchain may help solve some security issues but may also lead to new, potentially more complex security challenges. UNCTAD has also noted related general concerns about the mix of benefits and risks of digitalization as a disruptive technology. Many developing countries, in particular the least developed countries, may be inadequately prepared to capture the opportunities and benefits emerging from digitalization, and there may be a risk that this could lead to increased polarization and widening income inequalities.

The development and use of autonomous ships present numerous benefits, yet it is unclear whether this advance in technology will be fully accepted by Governments and by the traditionally conservative maritime industry. There are concerns about the safety and security of operations and the reliability of autonomous ships, as well as the diminishing role of and loss of jobs for seafarers, the majority of which are from developing countries. In addition, the use of autonomous ships poses a number of legal and regulatory compliance-related issues that need to be considered and addressed. Conducting regulatory reviews and scoping exercises are therefore of particular importance. Similar issues arise in connection with the use of drones, which has the potential to generate important benefits and may be encouraged; at the same time, the applicable regulatory framework needs to be further studied and developed.

Complementing international efforts to address greenhouse gas emissions – including under the Paris Agreement and the 2030 Agenda, in particular Goal 13 – in 2018, an important achievement at IMO related to the determination of the fair share of emissions reduction by international shipping was the adoption of an initial strategy on the reduction of greenhouse gas emissions from ships, according to which total annual greenhouse gas emissions should be reduced by at least 50 per cent by 2050, compared with 2008. The strategy identifies candidate short-term, midterm and long-term further measures, with possible timelines and their impacts on States, stating that specific attention should be paid to the needs of developing countries, in particular the least developed countries and small island developing States. It also identifies supportive measures, including capacity-building, technical cooperation and research and development.

The implementation of technical and operational measures, as well as the development of innovative technologies for ships, are ongoing. Amendments to the International Convention for the Prevention of Pollution from Ships have entered into force that make data collection systems for the fuel oil consumption of ships of 5,000 gross tons and above mandatory, with data collection from 1 January 2019. The data must be reported to the flag State after the end of each calendar year and subsequently transferred to the IMO database. With regard to ship-source air pollution, the global limit of 0.5 per cent on sulphur in fuel oil outside emission control areas will come into effect on 1 January 2020. The consistent implementation of the

limit for all ships is expected to bring positive results for human health and the environment. Guidelines to support the implementation of the limit are being prepared by IMO. It is important for shipowners and operators to continue to consider and adopt various relevant strategies, including installing scrubbers and switching to liquefied natural gas and other low-sulphur fuels.

Given the importance of implementing and effectively enforcing strong international environmental regulations and in the light of the policy objectives under Sustainable Development Goal 14, developed and developing countries are encouraged to consider becoming parties to relevant international conventions for the prevention and control of marine pollution as a matter of priority. The widespread adoption and implementation of international conventions addressing liability and compensation for shipsource pollution, such as the International Convention on Liability and Compensation for Damage in Connection with the Carriage of Hazardous and Noxious Substances by Sea, is also desirable in view of the significant gaps that remain in the international legal framework.