

# Study on the Maritime Transport Sector in the COVID-19 Era: Challenges, Opportunities, and Way Forward

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APEC Transportation Working Group

June 2024



**Asia-Pacific  
Economic Cooperation**





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*The information and recommendations provided in this study were developed using information available then and through dialogue with economies.*

*The views expressed in this document are those of the author and do not necessarily represent those of the APEC member economies. The APEC Transportation Working Group may further consider the recommendations provided. Various terms referenced in this report do not imply the political status of any APEC economy.*

## TABLE OF CONTENTS

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<b>TABLE OF CONTENTS</b>	<b>2</b>
<b>EXECUTIVE SUMMARY</b>	<b>3</b>
<b>LIST OF ACRONYMS</b>	<b>5</b>
<b>INTRODUCTION</b>	<b>6</b>
<b>COVID-19 AND THE MARITIME INDUSTRY</b>	<b>7</b>
<b>ECONOMIES REPORTS</b>	<b>13</b>
<b>ECONOMY REPORT: THE REPUBLIC OF KOREA</b>	<b>13</b>
<b>ECONOMY REPORT: THE REPUBLIC OF THE PHILIPPINES</b>	<b>18</b>
<b>ECONOMY REPORT: THE UNITED STATES</b>	<b>22</b>
<b>CONCLUSIONS</b>	<b>27</b>
<b>RECOMMENDATIONS AND WAY FORWARD</b>	<b>28</b>

## EXECUTIVE SUMMARY

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Maritime transport plays a vital role in global trade, including during emergencies and pandemics when life-saving medicines, medical equipment and food are required. The efficient operation of the maritime industry of APEC economies is critical to the sustainability of not only regional, but also global supply chains.

The COVID-19 pandemic has made clear that without seafarers, maintaining global shipping services and the stability of the global supply chain is impossible. The designation of seafarers and other maritime personnel as key workers has brought attention to seafarers' concerns, including the growing crew change crisis and the shortage of skilled maritime professionals. Such designation ensured seafarers had priority access to vaccines and allowed safe passage in a number of APEC economies. It also created the necessary safe passage corridors for seafarers. However, nine of the 21 APEC economies still do not designate seafarers as key workers. As a result, in some ports in the region, seafarers have faced and continue to face unfair treatment, including denial of access to medical care ashore.

The Policy Roundtable for the Safe Passage of APEC Maritime Crew held virtually on 1 May 2022 highlighted that “*disruptions in supply chains, primarily caused by the COVID-19 pandemic, had brought to light the vulnerability of transport and logistics operations and underscored the need to foster sustainability and resilience for all actors within these sectors*”.<sup>1</sup>

Ensuring that APEC economies are prepared to address seafarer emergencies, including pandemics, is very important for international shipping given that the largest seafarers' labour providers are located in the region. At the same time, the region is particularly vulnerable to outbreaks of transboundary diseases, such as the 2002–2003 outbreak of SARS, a highly pathogenic Asian bird disease, influenza A (H5N1) and H1N1 strains, as well as the Middle East respiratory syndrome (MERS). Furthermore, It should be recalled that approximately 40 percent of COVID-19 cases have been reported in the APEC region. With this in mind, APEC economies must make concerted efforts to ensure the sustainable cross-border movement of seafarers, as well as providing seafarers with the necessary assistance, including medical care and mental health support.

The lack of timely and solid information was noted by maritime stakeholders as the main challenge at the beginning of the COVID-19 pandemic. This has become one of the main reasons why governments have imposed lockdowns and restrictions on the movement of maritime personnel. The majority of respondents in the study noted that they received information from maritime non-governmental organizations, and experienced a lack of information about restrictions and best practices at the regional level. In addition, regional maritime stakeholders reported a lack of information about funds and resources available at the regional level that can be used in emergency situations with seafarers, including pandemics.

Maritime stakeholders interviewed did not report any gender-based restrictions during the COVID-19 pandemic. However, the COVID-19 pandemic has led to a decline in the

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<sup>1</sup> APEC. (2022). Policy Roundtable for the Safe Passage of APEC Maritime Crew 6 September 2022 – Summary Report. [http://mddb.apec.org/Documents/2022/TPTWG/TPTWG52-PLN2/22\\_tptwg52\\_plen2\\_009.pdf](http://mddb.apec.org/Documents/2022/TPTWG/TPTWG52-PLN2/22_tptwg52_plen2_009.pdf)

number of women employed in shipping, especially in the cruise sector, which has been the hardest hit.

The COVID-19 pandemic is often referred to as the “great accelerator” in terms of the emergence of new technologies in the shipping industry. Maritime stakeholders actively implemented digital technologies, including video communications and video conferencing programs and applications. Among other things, this allowed for prompt interaction between all actors to share best practices to prevent the spread of the COVID-19 virus. In addition, remote interaction technologies made it possible to successfully continue the education and training of cadets at maritime academies. Together with other new technologies, such as virtual reality technologies, they have been successfully implemented in educational programs and continue to develop.

Shipping companies and other actors are actively introducing other digital technologies aimed at reducing paperwork in the interaction between “ship” and “port”, including digital documents such as digital COVID certificates. At the same time, the maritime stakeholders interviewed noted a lack of information about the digital infrastructure in APEC ports, including best practices and the availability of equipment for using seafarers’ ID cards or digital COVID certificates. Only four APEC economies have ratified the ILO Seafarers’ Identity Documents Convention (Revised), 2003, as amended (No. 185). This may indicate a lack of uniform standards for seafarers’ ID cards, which may have a negative impact on their cross-border movement, undermining the exercise by seafarers of their right to shore leave, and their right to receive the necessary medical care. In addition, lack of information about digital infrastructure in ports may have a negative impact on the implementation of digital seafarers’ Certificates of Competency and documents.

Digital technologies are also being introduced to provide seafarers with remote access to medical care and medical consultations, including mental health support for seafarers. A number of APEC economies are successfully implementing telemedicine projects for seafarers. Such best practices can be successfully disseminated within the region. However, additional training on the use of telemedicine on board ships, including wider dissemination of information about available channels for providing medical advice, may be useful for seafarers.

## LIST OF ACRONYMS

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AMOSUP	Associated Marine Officers' and Seamen's Union of the Philippines
APEC	Asia-Pacific Economic Cooperation
COVID-19	Coronavirus Disease 2019
Convention 108	ILO Seafarers' Identity Documents Convention, 1958 (No. 108)
Convention 185	ILO Seafarers' Identity Documents Convention (Revised), 2003, as amended (No. 185)
ICS	International Chamber of Shipping
ILO	International Labour Organization
IMEC	International Maritime Employers Council
IMO	International Maritime Organization
IMHA	International Maritime Health Association
ITF	International Transport Workers' Federation
JSU	Japanese Seafarers' Union
MERS	Middle East respiratory syndrome
MLC 2006	Maritime Labour Convention, 2006, as amended
PPE	Personal Protective Equipment
PHEIC	Public health emergencies of international concern
ROK	Republic of Korea
SARS	Severe Acute Respiratory Syndrome
SID	Seafarers' identity document
UN	United Nations
UNCTAD	United Nations Conference on Trade and Development
WMU	World Maritime University
WHO	World Health Organization



## INTRODUCTION

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The COVID-19 pandemic has had unprecedented impacts on economies and lives, with particular impact in the shipping industry. The maritime industry plays a vital role in international and regional trade and development, and transports more than 80 percent of global trade (by volume).

The economic effects are further magnified by shocks in domestic and global supply chain systems. Among others, logistics firms, which are involved in the movement, storage, and flow of goods, have been directly affected by the COVID-19 pandemic. The maritime transport sector, in particular, has been critical in the timely distribution of food, medical supplies, fuel, and other essential goods and helping keep global supply chains and commerce running at the time of the pandemic.

The emergence of new variants of the virus forced governments to continue border closures, quarantines and other measures to contain the spread of the virus. This directly affected seafarers' welfare, created unprecedented crew change crises, and limited access for seafarers to qualified medical care ashore.

At the same time, the pandemic served as a driving force for businesses, including logistics and shipping firms, to shift and adapt digital technologies in their operations. Recent technological innovations have enabled shipping and ports to undertake operations while minimizing interaction and physical contact. Digitalization and automation have helped firms deliver services efficiently and curb operational costs. Relatedly, the rise of ecommerce, which has transformed consumer shopping habits and spending patterns, creates new business opportunities for shipping and ports as well as other players in the maritime supply chain.

**The purpose of the Study** is to examine the impact of the COVID-19 pandemic in the maritime transport sector, with particular focus on:

- a) the working conditions of maritime crews;
- b) the economic costs emerging from the imposition of cross-border policies/measures; and
- c) the opportunities and challenges in the adoption of digital technologies.

### **Methodology**

This study was conducted using a mixed methodology. At the first stage, a systematic literature review of recent publications regarding the impact of the COVID-19 pandemic on the maritime industry was carried out. In particular, basic information was collected and analyzed on the macroeconomic effect of the pandemic, government responses to the COVID-19 pandemic, and the impact of such restrictions on the working and living conditions of seafarers.

An assessment of the impact of the COVID-19 pandemic on the maritime industry of three focus economies indicated in the Terms of Reference (Republic of Korea, the Philippines and the United States) was carried out at second stage. For such purpose, online interviews were conducted with key stakeholders in the maritime industry, including representatives of governments, shipowners, ship managers, seafarers' unions and charities providing assistance to seafarers.

### The role of the maritime industry of APEC economies in global supply chains

The maritime industry of the APEC economies played an important role in the global maritime industry and global supply chains at the onset of the COVID-19 pandemic. According to the UNCTAD Review of Maritime Transport 2023, four APEC economies (China; Japan; Singapore; and Hong Kong, China) are among the world's five largest fleet owners, both in terms of carrying capacity and fleet deadweight (DWT). The fleet of these economies alone accounts for 35.3% of global deadweight. The top 35 world's largest ship owners also include Canada; Indonesia; the Republic of Korea; Malaysia; the Russian Federation; Chinese Taipei; the United States; and Viet Nam. In total, the tonnage of ships from APEC economies amounts to 48.3% of the deadweight of the world fleet.<sup>2</sup>

APEC economies are also the largest generators of international maritime trade and their role continues to grow. According to the Lloyd's List's One Hundred Ports report, in 2022, 17 of the 20 largest seaports (by throughput) were located in APEC economies, including the world's busiest ports of Shanghai; Singapore; Shenzhen; Ningbo-Zhoushan; Hong Kong, China; Busan; and Guangzhou.<sup>3</sup> Five of the 10 largest international maritime centers are also located in the APEC economies (Singapore; Shanghai; Hong Kong, China; Ningbo; and New York/New Jersey).<sup>4</sup>

### COVID-19: key challenges for the maritime industry

The World Health Organization declared the COVID-19 outbreak a Public Health Emergency of International Concern on 30 January 2020, and a pandemic on 11 March 2020.

Asia was the first region of the world to be hit by the pandemic and the disruption it caused. For the international maritime industry, this meant that the disruption affected the "first and last mile" of supply chains in China and neighboring East Asian economies.

Governments all over the world were forced to implement rapid responses to control and reduce the spread of COVID-19, including significant restrictions on international travel. As a result, the first half of 2020 was marked by widespread lockdowns, travel restrictions, as well as oil and stock market crashes.

### Impact on seafarers' wellbeing, working and living conditions

Seafarers and other maritime personnel turned out to be one of the most vulnerable categories of workers. They were significantly affected by cross-border restrictions, lockdowns and quarantine measures introduced to counter the spread of the COVID-19 virus. For the international maritime industry, restrictions on the movement of seafarers

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<sup>2</sup> UNCTAD. (2023) Review of Maritime Transport - [https://unctad.org/system/files/official-document/rmt2023\\_en.pdf](https://unctad.org/system/files/official-document/rmt2023_en.pdf)

<sup>3</sup> Lloyd's List. (2023). One Hundred Ports 2023 - <https://lloydslistftp.lloydslist.com/top100ports/2023/ebook/files/downloads/Top%20Ports%202023-DIGITAL-compressed.pdf>

<sup>4</sup> Xinhua-Baltic International Shipping Centre Development Index Report (2023) - <https://www.balticexchange.com/content/dam/balticexchange/consumer/documents/Xinhua-Baltic%20ISCDI%20Report%202023.pdf>

imposed by a number of APEC economies had significant consequences, as APEC economies are key providers of seafarers in international shipping. Four of the world's top five seafaring economies are located in the region (China; Indonesia; the Philippines; Russia), accounting for the provision of around 56% of the world's seafaring force.<sup>5</sup>

The COVID-19 pandemic severely disrupted crew changeover procedures around the world. Thousands of flights were canceled. For seafarers, such restrictions turned out to be especially sensitive, since most seafarers work on ships far from their home. As a result, in September 2020, 400,000 seafarers were stranded at sea, and another 400,000 were unable to join ships.<sup>6</sup>

An interviewee pointed out: "The crew change crisis was catastrophic for seafarers. The seafarers who remained on the ships continued to earn money, and they were happy. But long-term work on ships had a devastating effect on their mental health. For seafarers stuck ashore, the impossibility of cross-border travel has had a disastrous effect. Many APEC economies – the world's leading providers of seafarers – do not have strong domestic social support schemes. The lack of work for seafarers has pushed them and their families into poverty".

Seafarers on shore faced financial problems as they were unable to return to their ships, while seafarers on board ships could not be repatriated. Seafarers stranded on ships were often operating well beyond the 11-month maximum period of service on board set out in the MLC 2006. As a result, many seafarers suffered from physical and mental fatigue and needed medical care, including mental health support.<sup>7</sup> Industry reports have shown that seafarers during the crew change crisis suffered from more anxiety, panic attacks, depression, loneliness, frustration, fatigue, burnout and suicidal ideation than before the crisis.

The interviewed representative of an international charitable organization that provides assistance to seafarers noted: "A huge failure during the pandemic was that governments did not work together to facilitate crew changes and to comply with their own international agreements, most notably the Maritime Labour Convention. They did not realize how important it was to ensure freedom of movement for seamen to replace crews".

Seafarers faced restrictions on access to medical care ashore, which in some cases led to the death of seafarers on board ships, including in the ports of the APEC region.

Seafarers experienced significant difficulties in accessing vaccines against the COVID-19 virus. The International Maritime Health Association noted that seafarers needed priority vaccination, as they are at particular risk of contracting COVID-19. Due to the global nature of shipping, seafarers have to cross international borders and interact with port workers from different economies. In addition, given that seafarers constantly work

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<sup>5</sup> ICS/BIMCO (2021). Seafarers Workforce Report 2021.

<sup>6</sup> International Maritime Organisation (2020). 400,000 seafarers stuck at sea as crew change crisis deepens. <https://www.imo.org/en/MediaCentre/PressBriefings/pages/32-crew-change-UNGA.aspx>

<sup>7</sup> UN Global Compact, UN Human Rights Office of the High Commissioner, the ILO, the IMO (2022). Maritime Human Rights and the COVID-19 Crew change crisis. A tool to support human rights due diligence. <https://www.ohchr.org/sites/default/files/Documents/Issues/Business/maritime-risks-and-hrdd.pdf>

and live in the confined space of a ship, infection of one of them puts the entire crew at risk of infection.<sup>8</sup>

The same interviewee explained: “Governments were asking seafarers to do the impossible. They wanted all the goods in their stores, but they didn’t want to think about the transport workers, the seafarers who make sure the goods are delivered. Seafarers were asked to get vaccinated against COVID so that they could be repatriated or start working on ships, but did not give seafarers vaccines. Seafarers were asked to be mentally healthy as this is critical to the safety of ships, and yet seafarers were asked to work 18 months away from their family during a global pandemic”.

Despite designating seafarers as key workers, the distribution of vaccines to seafarers was inconsistent and often dependent on the initiative of charities, as well as industry and trade union representatives. With the expansion of vaccination, seafarers were faced with new challenges such as incomplete vaccination, vaccine mix-ups, or different certification and registration requirements for COVID-19 vaccines.

The recognition of vaccination, such as COVID-19 vaccine passports, was another problem facing seafarers both internationally and regionally. Even seafarers who received a full course of vaccination were often denied access to shore leave in foreign ports. Alarming, a number of seafarers received multiple doses of the vaccine or two full courses of vaccinations in order to obtain the necessary documents or digital passes required in different economies. Many seafarers also experienced the vaccines they received not being recognized in their home economies.

The introduction of digital certificates met with obstacles due to the need to protect the personal data of seafarers, the lack of uniform standards for seafarers’ digital documents, and the lack of the necessary infrastructure in ports for working with seafarers’ digital documents.<sup>9</sup> At the same time, a significant number of fake paper certificates were reported.

### **Designation of seafarers and other maritime personal as key workers**

On 27 March 2020, the International Maritime Organization, called on governments for the first time to designate seafarers as key workers and provide them with all necessary and appropriate exemptions from travel or movement restrictions to facilitate their boarding or leaving ships.<sup>10</sup>

Subsequently, on 1 December 2020, the UN General Assembly adopted Resolution A/RES/75/17 “International cooperation to address challenges faced by seafarers as a

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<sup>8</sup> International Maritime Health Association (2021). Vaccination of seafarers against COVID-19. <https://www.imha.net/030403%20IMHA%20interim%20paper%20-%20COVID%20vaccination%20of%20seafarers.pdf>

<sup>9</sup> Lucas, D., Stannard, S., Shaw, N., Verbist, R., Walker, K. & Zuidema, J., (2024). Vaccinating international seafarers during the COVID-19 pandemic. [https://doi.org/10.1016/S2214-109X\(23\)00486-2](https://doi.org/10.1016/S2214-109X(23)00486-2)

<sup>10</sup> International Maritime Organization (2020). Coronavirus (COVID-19) - Preliminary list of recommendations for Governments and relevant national authorities on the facilitation of maritime trade during the COVID-19 pandemic. Circular Letter No.4204/Add.6. <https://wwwcdn.imo.org/localresources/en/MediaCentre/HotTopics/Documents/Circular%20Letter%20No.4204Add.6%20%20Coronavirus%20Covid-19%20Preliminary%20List%20Of%20Recommendations.pdf>

result of the COVID-19 pandemic to support global supply chains”. The resolution urged all UN member States to:

- designate seafarers and other marine personnel as key workers;
- encourage governments and other stakeholders to implement the Industry recommended framework of protocols for ensuring safe ship crew changes and travel during the Coronavirus (COVID-19) pandemic;
- facilitate maritime crew changes by enabling them to embark and disembark and expediting travel and repatriation efforts, while also ensuring access to medical care.<sup>11</sup>

On 8 December 2020, the Governing Body of the International Labour Organization (ILO) adopted the “Resolution concerning maritime labour issues and the COVID-19 pandemic”. The resolution urged all Members to:

- collaborate to identify obstacles to crew changes;
- designate seafarers as “key workers” for the purpose of the facilitation of safe and unhindered movement for embarking on or disembarking from a vessel, and the facilitation of shore leave;
- accept seafarers’ internationally recognized documentation, including seafarers’ identity documents delivered in conformity with ILO Conventions 108 and 185; and
- consider temporary waivers, exemptions or other changes to visa or documentary requirements that might normally apply to seafarers.<sup>12</sup>

As of November 2022, the IMO Secretariat had received 68 notifications from Member States and Associate Members that they had designated seafarers as key workers. Nine of the 21 APEC economies do not designate seafarers as key workers.<sup>13</sup>

Interviewed representatives from focus economies have highlighted the following general practical results of appointing seafarers as key workers: 1) visualizing the importance of seafarers for the stability of international supply chains; 2) facilitating the procedures for cross-border movement of seafarers between certain economies; 3) seafarers’ access to vaccines.

One of the interviewees pointed out: “The designation of seafarers as key workers allowed them to access vaccines in foreign ports. Thousands of seafarers were vaccinated in foreign economies, which was quite unusual in a pandemic. Seafarers were one of the groups of people who received vaccinations in foreign economies”.

### **Maritime industry stakeholders’ response to the COVID-19 pandemic**

The lack of timely, reliable and necessary information was seen as one of the biggest challenges during the pandemic. Many seafarers noted a severe lack of support from

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<sup>11</sup> UN General Assembly Resolution A/RES/75/17. <https://www.undocs.org/en/A/75/L.37>

<sup>12</sup> International Labour Organisation (2020). Resolution concerning maritime labour issues and the COVID-19 pandemic. [https://www.ilo.org/wcmsp5/groups/public/---ed\\_norm/---relconf/documents/meetingdocument/wcms\\_760649.pdf](https://www.ilo.org/wcmsp5/groups/public/---ed_norm/---relconf/documents/meetingdocument/wcms_760649.pdf)

<sup>13</sup> Circular Letter No.4204/Add.35/Rev.12 – Coronavirus (COVID-19) – Designation of seafarers as key workers

shipping companies, for example through the provision of inaccurate or conflicting information and sometimes complete lack of communication with shipowners.<sup>14</sup>

The gap in international coordination and policy was addressed primarily through initiatives of international maritime non-governmental organizations, primarily such as the International Chamber of Shipping (ICS) and the International Federation of Transport Workers (ITF). Being more flexible, such organizations were able to quickly ensure the necessary level of coordination between maritime stakeholders to exchange the necessary information and best practices against COVID-19. As a result, a series of industry guidelines such as Guidance for Ship Operators for the Protection of the Health of Seafarers were developed and updated.<sup>15</sup>

In January 2021, 850 maritime organizations signed the Neptune Declaration on Seafarer Wellbeing and Crew Change. The Neptune Declaration urges the implementation of four main actions to address the crisis: recognize seafarers as key workers and give them priority access to Covid-19 vaccines; establish and implement gold standard health protocols based on existing best practice; increase collaboration between ship operators and charterers to facilitate crew changes; and ensure air connectivity between key maritime hubs for seafarers.<sup>16</sup>

### **Economic Impact of COVID-19 on the maritime industry**

Disruptions at the world's largest APEC ports have had global repercussions throughout supply chains, with an impact on container volumes on both European and US routes. Freight delays, uncertain operating conditions, the need to reroute cargo, and fewer options when shippers are unable to pick up cargo and ultimately deliver it to consumers have created opportunities for carriers to capture excess rents. Increased berthing time in major Asian ports combined with similar delays at ports at the other end of the supply chains undermined the reliability of maritime services. All these factors, along with related measures and adaptation, hurt the efficiency performance of ports.

According to UNCTAD, due to the general downturn in the global economy during the COVID-19 pandemic, as well as restrictions imposed by governments, international maritime trade volumes fell by -3.8 percent in 2020. The drop was not as significant as expected. Container trade volumes, after initial shock, quickly returned to volumes by the third quarter of 2020, helped by the unlocking of pent-up demand, a shift in consumer spending towards commodities (pharmaceuticals, healthcare and home office), and changes in consumer demand, e-commerce models and growth.<sup>17</sup>

Economic recovery in various economies and consumption promotion policies implemented by various governments have boosted demand for maritime transport. However, this surge in demand has exceeded available delivery capacity. In addition,

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<sup>14</sup> B. Paukstat et al., "Seafarers' experiences during the COVID-19 pandemic", 2020, [https://commons.wmu.se/lib\\_reports/67/](https://commons.wmu.se/lib_reports/67/)

<sup>15</sup> International Chamber of Shipping (ICS). Coronavirus (COVID-19): Guidance for Ship Operators for the Protection of the Health of Seafarers. <https://www.ics-shipping.org/resource/coronavirus-covid-19-guidance-for-ship-operators-for-the-protection-of-the-health-of-seafarers-fifth-edition/>

<sup>16</sup> Global Maritime Forum (2021). Neptune Declaration on Seafarers Wellbeing. <https://www.globalmaritimeforum.org/neptune-declaration>

<sup>17</sup> UNCTAD (2022). COVID-19 and maritime transport. Navigating the crisis and lessons learned. [https://unctad.org/system/files/official-document/tcsdtlinf2022d1\\_en.pdf](https://unctad.org/system/files/official-document/tcsdtlinf2022d1_en.pdf)

escalating trade imbalances caused by the COVID-19 pandemic have plunged the shipping industry into a container shortage crisis, further limiting shipping capacity.<sup>18</sup>

The COVID-19 pandemic has also increased the crisis of shortage of qualified maritime professionals in the international maritime industry. Many seafarers who remained ashore suffered from financial problems and were forced to look for other employment opportunities. The maritime passenger transportation sector, in particular the cruise industry, has been hit the hardest.<sup>19</sup>

### Adoption of digital technologies during the COVID-19 pandemic

Digitalization is one of the main drivers that will significantly change the maritime industry in the near future.<sup>20</sup> The COVID-19 pandemic has had an additional stimulating effect on the adaptation of digital technologies, as shipowners faced supply chain disruptions and sought to increase efficiency and reduce costs through the introduction of new digital technologies. Shipowners have actively invested and continue to invest in remote communication technologies and stable Internet connection technologies with ships, such as Starlink. The maritime technology market was growing 18% faster than expected before the pandemic.<sup>21</sup>

Digital technologies are actively being introduced into distance training for seafarers, including virtual and augmented reality technologies. However, seafarers require additional adaptation to new technologies and new knowledge and skills to work with them. The rapid introduction of new technologies, without taking into account the needs of seafarers, can have a negative impact on the formation of technological stress among seafarers.<sup>22</sup>

The use of new technologies, especially improved Internet connections with ships, has significantly changed the formats of communication with seafarers. The interviewee notes: “People now use smartphones much more than before the pandemic. We have completely changed our ways of communicating with seafarers, rebuilt our websites, social networks so that they are convenient to use from a smartphone.”

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<sup>18</sup> Ding, X., Choi, Y.I. (2023). Macroeconomic Effects of Maritime Transport Costs Shocks: Evidence from the Korea Economy <https://www.mdpi.com/2227-7390/11/17/3668>

<sup>19</sup> International Transport Forum (2020). COVID-19. Transport brief. Lessons from COVID-19 State Support for Maritime Shipping. <https://www.if-oecd.org/sites/default/files/shipping-state-support-covid-19.pdf>

<sup>20</sup> Ölçer, A., I., Kitada, M., Lagdami, K., Ballini, F., Alamoush, A., S., Masodzadeh, P., G. (Eds.). (2023). Transport 2040: Impact of Technology on Seafarers - The Future of Work. World Maritime University. [https://commons.wmu.se/cgi/viewcontent.cgi?article=1091&context=lib\\_reports](https://commons.wmu.se/cgi/viewcontent.cgi?article=1091&context=lib_reports)

<sup>21</sup> China Economic Information Service & Baltic Exchange. (2022). 2022 Xinhua-Baltic International Shipping Centre Development Index Report. <https://www.balticexchange.com/content/dam/balticexchange/consumer/documents/ISCDI%20report%20MK2.pdf>

<sup>22</sup> Lagdami, K. (2023). Maritime Country Reports. Transport 2040: Impact of Technology on Seafarers - The Future of Work. World Maritime University. [https://commons.wmu.se/cgi/viewcontent.cgi?article=1091&context=lib\\_reports](https://commons.wmu.se/cgi/viewcontent.cgi?article=1091&context=lib_reports)

### ECONOMY REPORT: THE REPUBLIC OF KOREA

#### Maritime profile

Maritime industry has a key strategic importance to the Republic of Korea, with over 90% of international goods transportation carried out via sea routes. Korea also is one of the world leaders in shipbuilding. The Port of Busan is one of the top 10 largest container ports in the world. The economy is constantly investing in maritime digitalization and decarbonization of all sectors of the maritime industry, including intelligent ship technologies and smart ports.<sup>23</sup>

#### Impact of the COVID-19 pandemic on maritime sector of the economy

At the beginning of the COVID-19 pandemic, the Korean maritime throughput declined. The first quarter results of the five domestic maritime companies total sales decreased by 5.9 percent compared to pre pandemic year, and operating profit margin decreased by an average of 2.4 percentages points. With the spread of the COVID-19 virus, the Ministry of Maritime Affairs and Fisheries has prepared additional financial assistance of 1.25 trillion won and implemented various support measures.

At the same time, a Korean interviewee said: “Usually, a recession such as COVID-19 would cause consumer sentiment to contract, which would reduce demand and reduce shipping volume, so the shipping industry would have been hit hard, but on the contrary, the shipping industry was not hit hard. For Musk, one of the world's largest shipping companies, sales in 2020 reached USD9.7 billion (Earnings Before Interest and Tax [EBIT] USD8.2 billion), USD48.2 billion (EBIT USD19.6 billion) in 2021, and USD81.5 billion (EBIT USD30.8 billion) in 2022, while domestic shipping company HMM also saw a steep rise in sales from 2020 to 2022 with sales of KRW6.4133 trillion in 2020, KRW13.7941 trillion in 2021, and KRW18.5828 trillion in 2022. Due to the above earnings shock, it can be said that the additional cost problem caused by COVID-19 has been resolved in the case of major Korean shipping companies.”

Korean interviewee noted the negative impact of the pandemic and restrictions on the movement of seafarers on maritime safety: “It directly affected ship safety due to decreased concentration caused by prolonged periods of hours of work and fatigue of the crew and poor health of the crew, and the probability of marine accidents increased. Despite the fact that the seafarers play the role of essential workers in charge of the global supply chain on the front line, the international supply chain has become unstable due to the restrictions on the seafarer's boarding and disembarkation and ship entry and departure. In particular, problems such as port closure and crew change restrictions have also occurred due to extreme domestic priority”.

#### Designation seafarers and other maritime personal as key workers

The Republic of Korea has designated seafarers and other maritime transport workers as key workers. Moreover, in 2022 Korea submitted document FAL 46/4/1 “Proposal for

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<sup>23</sup> Marine Industry 4.0. Korea. Market Intelligence Report 2021 - [https://www.intralinkgroup.com/getmedia/deff1286-99a4-4f23-a02e-27c8f65e1b40/\(0401\)Marine-Industry-Report](https://www.intralinkgroup.com/getmedia/deff1286-99a4-4f23-a02e-27c8f65e1b40/(0401)Marine-Industry-Report)



the introduction of the term “key worker” and related additions” for consideration of the IMO Facilitation Committee.<sup>24</sup>

The Republic of Korea notes that during pandemics and other public emergencies of international concern, the work of public, private and social providers for ships and seafarers is also important for the stable functioning of seaports. Taking this into account, the document proposed to amend provisions in annex 1 to FAL 45/22 (Amendments to the annex of the FAL Convention) with a new definition of “key worker”: [*Key worker, a maritime traffic employee in any of a number of professions considered to be essential to the functioning of maritime traffic, for example crew members, port workers, public, private or welfare service providers to ships or crew members during a public health emergency of international concern.*]

At the same time, a Korean interviewee said: “The Ministry of Oceans and Fisheries designated seafarers as essential workers, but this is not clearly established in the Act on Designation of Essential Tasks and Protection and Support of Workers. Therefore, at the domestic level, institutional supplementation is needed, such as reorganizing the system so that the Minister of Oceans and Fisheries can attend a committee that designates and deliberates essential workers.”

The lack of designation of seafarers as key workers by all APEC economies created additional difficulties for crew replacement in the region according to Korean interviewees. “There were additional costs due to the quarantine of the disembarked crew for two weeks, additional stay costs due to the disembarked crew's inability to return to their home economy, COVID vaccination costs, and treatment costs for COVID-infected crew members”.

### Gender-based restrictions

Maritime stakeholders did not report any gender-based restrictions during the COVID-19 pandemic.

### Response to the COVID-19 pandemic

By the beginning of the COVID-19 pandemic, Korea already had experience in countering the spread of other dangerous viral diseases of the past, such as Severe Acute Respiratory Syndrome (SARS) in 2003 and Middle East respiratory syndrome (MERS) in 2013. This allowed the Korean government to be more prepared to meet the challenges of the COVID-19 pandemic. The Government adopted four main policies to prevent the spread of COVID-19: 1) openness and transparency in sharing information about the spread of the COVID-19 virus with all stakeholders; 2) immediate investigation of every report of possible infection and introduction of social distancing; 3) effective and efficient treatment system based on experience from past outbreaks of a similar nature; 4) promoted wide scale of screening and fast tracking of suspected cases.<sup>25</sup>

The Government, provincial authorities, the medical system and business have been coordinating their actions since the beginning of the pandemic. Just after nine days from the first positive case, a call center to update the public and collect case data was

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<sup>24</sup> International Maritime <https://docs.imo.org/Shared/Download.aspx?did=134632>

<sup>25</sup> DevResonance Ltd. (2020). COVID-19 Pandemic: Experience of the Republic of Korea. [https://www.academia.edu/42725035/COVID\\_19\\_Pandemic\\_Experience\\_of\\_South\\_Korea](https://www.academia.edu/42725035/COVID_19_Pandemic_Experience_of_South_Korea)

established. Constantly informing the population has created an atmosphere of awareness in the economy. Test kit approval rules have been eased to allow hospitals and laboratories to run their own coronavirus tests on their patients. This flexible approach allowed the first diagnostic test systems to be developed while most other economies were still unaware of the gravity of the situation. Diagnostic kits combined with drive-through and walk-through test centers were two major factors in Korea's success story.

At the same time, Korean maritime stakeholders also note that the main information about the situation in the shipping industry during the pandemic was received through personal contacts in international maritime organizations, primarily non-governmental ones. The interviewee noted: "Resources mainly from the IMO and the ILO and information on the movement of crew members from Indonesia; the Philippines; Viet Nam and Myanmar, which are seafarers' supplying economies, were needed. The trend information of the United States, a vaccine developing economy, was also important. In addition, data from international organizations such as UNCTAD were used as future forecast information."

The Korean government has provided significant financial support to the shipping industry. In particular, during the early stages of the pandemic, the Republic of Korea was the second largest donor of government aid to maritime transport after France.<sup>26</sup>

The Korea Shipowners' Association has released and distributed "Guidelines for the Protection of Seafarers and Ships Due to COVID-19." The guidance included three sections: 1) proactively responding to the risk of infection; 2) protection of the crew and the ship in case of infection; 3) responding to a protracted situation and is designed so that the ship can respond depending on the situation.<sup>27</sup>

### Adoption of digital technologies during the COVID-19 pandemic

Korea constantly invests funds in research and development projects of new digital solutions aimed at introducing new technologies into the maritime industry.

During the COVID-19 pandemic, new digital technologies were introduced such as electronic access to the port using a QR code, a platform for real-time information exchange about Covid-19 and ships arriving at the port of Gamcheon, as well as technologies "Port-Through Corona Testing testing" (e.g., contactless diagnostic test, use of drones to collect crew masks). The Busan Port Authority has been actively developing a system of logistics portals based on blockchain technologies to ensure interaction between port stakeholders. This made it possible to improve face-to-face interaction and reduce paperwork.<sup>28</sup> The Korean interviewee said: "Remote quarantine was recognized through the ship's own body temperature test, etc. Internet connectivity was strengthened to improve the mental health of seafarers. In addition, drone technology and remote ship inspection systems were introduced for non-face-to-face ship inspection."

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<sup>26</sup> UNCTAD (2022). COVID-19 and maritime transport. Navigating the crisis and lessons learned. [https://unctad.org/system/files/official-document/tcsdtlinf2022d1\\_en.pdf](https://unctad.org/system/files/official-document/tcsdtlinf2022d1_en.pdf)

<sup>27</sup> Korea Shipowners' Association. <https://oneksa.kr:4431/boards/media/view?&id=1622>

<sup>28</sup> UNCTAD (2022). COVID-19 and maritime transport. Navigating the crisis and lessons learned. [https://unctad.org/system/files/official-document/tcsdtlinf2022d1\\_en.pdf](https://unctad.org/system/files/official-document/tcsdtlinf2022d1_en.pdf)

New digital systems, together with active cooperation between government agencies and port operators, have made it possible to ensure sustainable port operation, as well as guarantee the safety and health of port workers. As a result, not a single case of infection was reported among the port workers, despite 121 confirmed cases of coronavirus infection among crews arriving at the port of Gamcheon. Moreover, due to the continuation of cargo transshipment at Busan Gamcheon Port, the transshipment volume of frozen and refrigerated cargo increased by 27.7%, the largest jump in 5 years. In addition, the sustainable and effective management has led to the smooth operation of the port and the stabilization of 16,000 jobs.

In Korea, new digital technologies have been actively used to conduct mandatory STCW training for seafarers. One of the Korean professors noted: "Overall, online education increased rapidly, and in the case of maritime safety training, a certificate of completion with an expiration date of one year was issued after online video education was conducted, and after the COVID-19 situation was controlled, normal maritime safety training was conducted and a certificate of completion with an expiration date of five years began to be issued".

A Korean interviewee, among the actions that could allow for more effective use of new digital technologies, noted: "The ROK has established a disaster response system based on digital. In order to improve the efficiency and effectiveness of disaster response, it is necessary to establish a future disaster management paradigm, establish a disaster response forecasting system, utilize a big data-based analysis program, earthquake and tsunami prediction system, scientific investigation into the cause of the disaster, use of unmanned aerial vehicles, AI utilization, wide-area disaster management system using satellites, and smart disaster management system (open platform). In order to utilize these, it is necessary to have a legal and institutional basis, and an appropriate budget needs to be prepared."

### **Lessons learned and post-pandemic recommendation**

The experience of the Republic of Korea during the COVID-19 pandemic highlighted the importance of collaboration, proactive action, and flexibility. The Korean government engaged closely with all key stakeholders, enabling the rapid acquisition of test systems for detecting the virus and the implementation of a widespread vaccination campaign. Furthermore, the adoption of new technologies that minimize face-to-face interactions has ensured the continued operation of the port sector.

Korean stakeholders highlight improvements to the regulatory framework for seafarers and the shipping industry: "The regulatory situation changed after the outbreak of the COVID-19 pandemic has improved as follows: 1) exemption of two-week quarantine for crew disembarkation of non-local ships entering domestic ports if the result of the test is negative; 2) it is recommended that 70% of the normal wage or KRW100,000 per day be paid during the self-isolation period, and the period of self-isolation should not be included in paid leave; 3) container ships, bulk carriers, tanker ships and car carriers with low contact rates with foreign port operators are excluded from quarantine obligations; 4) excluding quarantine if the crew on board stays only on the ship, has no history of shift, and no symptomatic or patient occurs.

As a result, Korean maritime industry stakeholders believe that even if a second pandemic occurs in the future, confusion can be controlled early by avoiding excessive

quarantine restrictions, prioritizing vaccinations, and preventing unnecessary restrictions on crew changes.

## ECONOMY REPORT: THE REPUBLIC OF THE PHILIPPINES

### Maritime profile

The Philippines is the world's largest seafarers labour-providing economy, with an estimated 700,000 deployed on domestic or foreign-flagged seagoing vessels. Over a quarter of all global merchant shipping crew members come from the Philippines.

### Impact of the COVID-19 pandemic on the maritime sector

In 2019, the Philippines earned more than USD30.1 billion from overseas Filipino workers, including USD6.5 billion from seafarers. In 2019, the remittances of overseas Filipino workers constituted 9.3 per cent of the Philippines' GDP and 7.3 percent of gross national income. By the end of 2020, total remittances of overseas foreign workers amounted to USD29.9 billion, a 0.8 percent decline that year. Of this amount, USD6.3 billion were remitted by sea-based workers – a 2.8 percent decline.<sup>29</sup>

Representatives of the seafarers' union noted in an interview that according to the union statistics, in 2019 the total number of Filipino seafarers surpassed 500,000. In 2020, the number of active Filipino seafarers dropped sharply to about 220,000 due to the pandemic. In 2021, the situation began to stabilize. At the same time, data on income from seafarers' salaries is noteworthy. In 2019, total remittances from seafarers to the Philippines amounted to USD6.5 billion. In 2020, it decreased slightly to USD6.3 billion. Seafarers' union officials said: "These statistics provide a clear picture of how deep the overall crew change crisis was. The volume of foreign exchange earnings may indicate that seafarers who were on board when the pandemic began continued to work, often significantly exceeding the terms of their employment contracts. At the same time, seafarers who found themselves ashore at the beginning of the pandemic were unable to go to work. As a result, their well-being, as well as the well-being of their families, suffered significantly."

The COVID-19 pandemic also had an impact on domestic shipping, particularly ferry operators. An interviewed representative of the ferry operator noted: "We did everything possible to minimize the impact of the pandemic on our seafarers. But for some time, we had to cut salaries by 20% for the staff who were on shore, as well as lay off some people."

### Main challenges for maritime stakeholders

The lack of necessary and solid information, including medical protocols on how to deal with the COVID-19 virus, was one of the biggest challenges in the first phase of the pandemic in the Philippines. The same interviewee noted: "When the pandemic began, even the doctors in our hospitals did not have any standard information about the action of the virus and how to fight it".

According to one of the respondents, the lack of necessary information about the COVID-19 virus was the main reason for the harsh reaction of the governments of many economies, expressed primarily in restrictions on the movement of people between economies. In the Philippines, the situation was further aggravated by the fact that additional quarantine restrictions were introduced at the local level, which significantly

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<sup>29</sup> UNCTAD. (2021). Review of Maritime Transport 2021. - [https://unctad.org/system/files/official-document/rmt2021ch5\\_en.pdf](https://unctad.org/system/files/official-document/rmt2021ch5_en.pdf)

complicated movement within the economy. An interviewee from the seafarers' union said: “Many seafarers who were returning at the end of their employment contracts found themselves stranded due to the lack of interprovincial transport. They were forced to stay in union dormitories in Manila. In addition, there were seafarers undergoing training or examinations in our dormitories. Due to the restrictions imposed, for a long time they could neither return to their loved ones in the provinces nor join the ships to begin work”.

A representative of the domestic ferry operator also noted that restrictions imposed at the provincial level created additional difficulties for operations during the pandemic.

Another union representative noted that travel restrictions and lack of information about when seafarers would be able to return to their loved ones created serious problems for the mental health of seafarers. “At the peak of transport restrictions, around 1,000 seafarers stayed in the union dormitories. We did everything possible to provide them with everything they needed. To solve the problem of mental health, both for seafarers in our dormitories and on ships, several webinars were held. We widely used social networks and other platforms available to us to communicate with seafarers in order to provide them with the necessary psychological support”.

According to interviewees, most of the information on best practices for dealing with the COVID-19 pandemic came from leading non-governmental organizations such as the ICS and the ITF. At the same time, local stakeholders noted a lack of information about measures taken at the regional level. “Such information would be extremely useful to better respond to the challenges created by the pandemic, given that the Asia-Pacific region has the largest crew change hubs.”

Associated Marine Officers' and Seamen's Union of the Philippines (AMOSUP) emphasized the importance of timely communication in cases of emergencies with seafarers, and also noted the Japan Seafarers' Union's initiative to create a directory of focal points in the region. “If anything happens to Indonesian, Filipino or Myanmar seafarers, we know for sure that JSU will contact us here in Manila, as well as in Jakarta and Rangoon. Establishing effective information sharing mechanisms at the regional level would be very useful, especially given the many geopolitical events affecting the region now.”

Maritime stakeholders in the region would also benefit from training on emergency procedures. For instance, a regional conference could help improve the level of interaction between focal points in the region.

### **Designation of seafarers and other maritime personal as key workers**

Designation of seafarers and other maritime personnel as key workers has been an important development in the Philippines. As representatives of the union noted, first of all, this made it possible to provide seafarers with priority access to vaccines on an equal basis with other priority categories. Also at the local level, this made it possible to lift a number of restrictions on the movement of seafarers within the Philippines. “This was doubly important for the Philippines. Most seafarers live in the provinces, away from Manila. Simplifying procedures for seafarers allowed thousands of them to return to their families or resume their work on ships.”

The designation of seafarers as key workers has also helped to prioritize the maritime industry for the domestic maritime economy, as well as enhance the overall prestige of

the maritime profession and its ability to attract new young talented men and women. One interviewee noted: “We should talk about the positive aspects of the maritime profession, create clear career paths, and not just constantly highlight the problems of piracy, harassment or abandonment.”

Conversely, the lack of a general regional recognition of seafarers and maritime personnel as key workers at the regional level has arguably had a negative impact. As interviewees noted, this meant that seafarers could still be denied crew changes or fair treatment at some ports, including denial of access to necessary medical care.

### **Gender-based restrictions**

Maritime stakeholders in the Philippines generally did not report any gender-based restrictions during the COVID-19 pandemic. Trade union officials noted a significant decrease in the employment of women, mainly in the cruise shipping sector, which suffered during the pandemic.

### **Response to the COVID-19 pandemic**

Travel restrictions imposed by the Philippine government have had a serious impact on global shipping. At the peak of the pandemic, ship managers emphasized: “Continual high infection rates and subsequent domestic lockdowns are still challenging crew changes and causing disruption to crew movements; a decrease of daily inbound flights to the Philippines as well as the travel ban announced by the Philippine Government for seafarers traveling from United Arab Emirates, Oman, Nepal, Bangladesh, Sri Lanka, Pakistan are causing a general disruption to crew movements. Travel restrictions continue to prevent seafarers from going back home and many flights have been canceled. Leading maritime crew economies continue to have low vaccination rates and seafarers continue to have limited vaccine access.”<sup>30</sup>

Seafarers were provided with assistance and support both at the economy and local levels. Assistance was provided in repatriation and assistance in transportation between provinces. At economy level, the Department of Transportation of the Republic of the Philippines issued the Protocol on Crew Change and Repatriation of Seafarers with the detailed procedures and health and safety protocols for repatriation and the conduct of crew change, both in domestic and international ports. At the local level, additional financial assistance was provided to seafarers. Significant assistance was provided to seafarers by trade unions. For this purpose, funds and resources from the ITF, the ITF Seafarers Trust, the Japan Seafarers' Union, and the International Maritime Employers Council were used. However, maritime stakeholders noted a lack of information about the resources available at the regional level to assist seafarers in emergency situations, including in cases of a pandemic.

As an effective example of interaction at the regional level seafarers' union representatives noted the safe corridor project for seafarers that operated between Manila and Singapore, which made it possible to facilitate crew change procedures.

### **Adoption of digital technologies during the COVID-19 pandemic**

The COVID-19 pandemic has become a driver for the rapid adaptation of new digital technologies. Maritime sector stakeholders have made extensive use of remote working

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<sup>30</sup> Neptune Declaration Crew Change Indicator Report

methods, including the use of video communications. In particular, this made it possible to carry out the necessary exchanges of information at the economy level. Video communication technologies have also been actively introduced in maritime education and training of seafarers. Representatives of the seafarers' union noted that they were able to successfully continue training cadets via introducing training methods that minimize face-to-face interaction. The shipowner's representative noted the wider adoption of training using virtual reality during the pandemic.

Projects for the implementation of digital COVID certificates have been successfully implemented. In particular, the seafarers' union noted a project to introduce an electronic wallet for cadets, where they can store their medical certificates using Blockchain technology.

The domestic ferry operator noted "Digitalization is one of the main priorities of our company. During the pandemic, we introduced cashless payment technologies. We strive to reduce paperwork and transfer all possible processes to digital form. The use of new communication technologies, such as Starlink, will now significantly increase sustainability signals and provide our ships with a stable Internet connection throughout the voyage."

The Filipino stakeholders note a lack of information on the availability of digital infrastructure in the ports of APEC economies, in particular, readers and other necessary equipment for reading information from seafarers' ID (SID) cards. The low level of ratification by APEC economies of ILO Convention C185 may also have a negative impact on the facilitation of seafarers' cross-border movement. Some maritime stakeholders noted that a partial revision of ILO Convention 185 could be useful to introduce common standards for SIDs and ensure wider ratification of the Convention.

The COVID-19 pandemic has significantly accelerated the implementation of remote medical care and support technologies for seafarers on board ships. As noted by union representatives, there is currently a telemedicine program in place, under which seafarers, regardless of citizenship, can contact the union hospital 24 hours a day, 7 days a week, by phone, email or through social networks. Remote mental health assistance programs for seafarers are also ongoing.

### **Lessons learned and post-pandemic recommendation**

The importance of constant coordination with all relevant stakeholders and the need to jointly set short- and long-term goals is one of the key lessons from the COVID-19 Pandemic. The pandemic highlighted the effectiveness of tripartite dialogue as the Government of the Philippines listened to the needs and recommendations of shipowners and seafarers' unions. For maritime stakeholders it was also important to understand the funds available to support seafarers and the assistance provided by international non-governmental organizations, primarily from the ITF or ITF affiliated trade unions. At the same time, the establishment of a regional coordinating body would be useful for a more focused and rapid response in the APEC region.

Stakeholders also noted that the pandemic has prompted many of them to review their risk assessment procedures. Lessons learned now enable faster responses to emergencies, including faster cooperation and more effective interactions with authorities at all levels. Interviewed maritime stakeholders note that their preparedness for new pandemics is at a sufficient level.



## ECONOMY REPORT: THE UNITED STATES

### Maritime profile

The maritime industry, including waterborne transportation and seaports, is key to the U.S. economy. Nearly every industrial sector in the United States depends on shipping for the constant flow of materials they need to keep factories running and deliver products to overseas markets. More than 70% of U S foreign trade occurs through international maritime supply chains. Maritime services also play a key role in transporting domestically-made goods and materials.<sup>31</sup>

### Impact of the COVID-19 pandemic on maritime sector of the economy

According to the US International Trade Commission, since early 2020, the COVID-19 pandemic has disrupted global and regional supply chains, leading to delays at ports and container shortages. These disruptions were particularly severe for US imports from Northeast Asia. Combined with demand changes related to COVID-19, these disruptions have increased the volatility of freight rates across regions and caused significant delays in the delivery of imported goods from the United States.<sup>32</sup>

In the first half of 2020, the US shipping container imports were down 7.0 percent by volume compared to the same period in 2019, while the second half of 2020 saw a significant increase in container imports. The increase in the US imports of maritime freight services in the third and fourth quarters of 2020 largely was due to a sharp rise in trade with Asia, especially China. The interviewee notes: “My feeling is that the COVID-19 pandemic has only stimulated trade between the US and China. People were stuck at home and started ordering everything they could. And all of a sudden, we had too many ships coming into port and having to stay in at a mooring for sometimes two weeks at a time, which is a very long delay”. As a result, compared to the same period in 2019, container imports increased by 9.5 percent in the second half of 2020 and by 16.4 percent year-on-year in the fourth quarter.

### Main challenges for maritime stakeholders

Lack of information was the main initial challenge in the first phase of the COVID-19 pandemic. The interviewee notes: “The pandemic was something new and no one knew how to react”.

Interviewees noted that they received the main information through their contacts in international organizations, primarily from the ITF, the ICS or other non-governmental organizations. Information on the US domestic requirements came from local competent authorities. Interviewee explained: “The work of the ICS was particularly active. Since the beginning of the pandemic, regular online meetings have been held through which we received information from the WHO and port doctors. Several target groups were created. These calls became critical because they allowed reliable information to be

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<sup>31</sup> United States International Trade Administration. Maritime Services. Sectoral analysis of U.S. trade and competitiveness in maritime services. <https://www.trade.gov/maritime-services>

<sup>32</sup> United States International Trade Commission (2020). The impact of the COVID-19 pandemic on freight transportation services and U.S merchandise imports [https://www.usitc.gov/research\\_and\\_analysis/tradeshifts/2020/special\\_topic.html](https://www.usitc.gov/research_and_analysis/tradeshifts/2020/special_topic.html)

quickly received from various ports around the world. Once vaccinations became possible, these groups became the best way to share best practices”. He also raised: “In a number of economies, domestic seafarers welfare boards have been created. Such groups have become the best conduits of information at the local level.”

Interviewees noted a lack of information on COVID-19 related restrictions or requirements at the APEC ports that could be useful for planning crew changes, informing seafarers and their families or providing assistance to them. The interviewee notes: “Representatives from the European Commission were constantly present in online meetings. Unfortunately, I cannot remember whether representatives of other regional associations participated in such discussions”. Another interviewee noted: “After requesting an interview for this Study, I visited the APEC Secretariat website and read the studies posted there. I also subscribed to the mailing list and look forward to receiving material about regional initiatives and studies in the future”.

Faced with a lack of information, maritime stakeholders sought to organize themselves and disseminate best practices among them. The interviewee describes the situation as follows: "As there has been a lack of available information, shipping companies have sought to share their best practices, solutions and insights. In particular, the US Mariner Crew Change Facilitation<sup>33</sup> was published on 27 April 2020 as an industry initiative aimed at providing information to complement the limited information we were receiving from the government".

Quarantine procedures for seafarers were a big problem at the beginning of the pandemic. Interviewee explained: “Seafarers were required to undergo quarantine before boarding the ship because there was no other way to ensure that they were not infected. If the seafarer is at home, he or she is not actually quarantined while the seafarer is with family. In addition, seafarers usually have to fly to reach the port of embarkation. Organizing quarantine for a large number of seafarers at the same time has indeed become a big problem”.

Restrictions on cross-border movement have caused significant difficulties in repatriation of seafarers from US ports. The interviewee notes: “Some of the most stringent restrictions were introduced by India and the Philippines, the largest seafarer providers. Many seafarers, especially ratings, found it difficult to return home and they required additional support here in the US”.

The lack of flexibility of administrations and governments has also become one of the challenges. The interviewee raised: "Governments introduced local restrictions and requirements, such as quarantine, self-isolation and so on. All over the world, priority was given to protecting the population as a whole. However, the decisions made, unfortunately, did not have enough flexibility, which would take into account the needs of the maritime industry in order to maintain the movement of ships".

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<sup>33</sup> Ship Operations Cooperative Programme (2020). US Mariner Crew Change Facilitation. [https://8715e399-ada7-4c74-9220-fa8f79000486.usrfiles.com/ugd/8715e3\\_1714b0b5624b43519f01e57e71b6aa9b.pdf](https://8715e399-ada7-4c74-9220-fa8f79000486.usrfiles.com/ugd/8715e3_1714b0b5624b43519f01e57e71b6aa9b.pdf)

## Designation seafarers and other maritime personal as key workers

The designation of seafarers and other maritime personnel as key workers by domestic maritime stakeholders is a positive outcome. The interviewee noted: “If something positive can be highlighted from the COVID-19 pandemic, it is the assessment of the role of seafarers. Here in the United States, many saw the importance of seafarers, which, among other things, made it possible to provide seafarers with priority access to vaccines”.

The interviewee explained: “The pandemic was the first major crisis to bring global supply chains into the spotlight. Then came the Ever Given incident in the Suez Canal, the current crisis in the Red Sea. Buyers began to understand that the goods that surround them are delivered by sea and precisely because of the disruption of supply chains, goods they ordered online from Amazon no longer reached them as quickly as before, and the work of seafarers became visible”.

At the same time, another interviewee emphasizes: “Designation of seafarers as key workers is certainly important. However, unfortunately, in the early stages, governments were not fast enough in implementing the practical steps of assistance needed for seafarers.”

## Gender-based restrictions

Maritime stakeholders did not report any gender-based restrictions during the COVID-19 pandemic.

## Response to the COVID-19 pandemic

Maritime stakeholders interviewed note the vaccination campaign that was carried out in US ports. Vaccines were available to all seafarers, regardless of citizenship. The interviewee said: “When we received a request from seafarers, we took them to vaccination centers. If seafarers did not have visas, we could bring medical personnel on board the ship. Sharing vaccines with seafarers is one of the best things that has happened during the pandemic”.

Among the main funds and resources available to support seafarers and other maritime personnel, respondents identified US domestic programs and the National Insurance System. The interviewee explains: “The insurance provided by our trade union covered a lot, including testing and treatment”. Another interviewee noted the personal protective equipment program: “Our staff are constantly on ships and must have PPE. In addition, we also provide training for seafarers. Providing us with PPE has allowed us to continue to operate smoothly during the pandemic”. At the same time, US maritime stakeholders noted a lack of information about funds or resources available at the regional level to assist seafarers or their families. One interviewee noted: “Many seafarers have lost significant amounts of money while they were unable to start working on ships due to travel restrictions. Unfortunately, I am not aware that there is any effective system of financial assistance for seafarers in such situations”.

Another interviewee noted: “Certainly if there were regional resources to better assist seafarers, that would be amazing. Amazing to know about them.”

## Adoption of digital technologies during the COVID-19 pandemic

Among digital technologies that have been widely implemented during the COVID-19 pandemic, the US stakeholders highlight remote work technologies and video conferencing technologies. Such technologies, in particular, made it possible to continue training seafarers, and also led to changes in some training programs, transferring their entire format to distance learning.

An interviewee notes: “The pandemic occurred when many ships did not have stable access to the Internet, such as they can now receive with the development of technologies such as Starlink. Very often, seafarers received partial or less information or simply did not have the same regular, daily communication as we have on land. The desire to provide seafarers with more opportunities to access communications has been one of our priorities. Our members are active in approximately 700 ports around the world. We aimed to provide seafarers with a Wi-Fi signal in ports where possible, or provide them with cheap SIM cards with access to the Internet. This is one of our main achievements during the pandemic”.

The US interviewees have a lack of information about the availability of digital infrastructure in the US ports, as well as in other APEC economics ports, necessary to work with new digital documents, including seafarers’ ID cards, digital COVID certificates and other documents. In addition, some interviewees noted that they expect difficulties with the general implementation of new digital documents, primarily due to security issues and the lack of uniform standards between economies.

An interviewee explained: “I was very disappointed that during the pandemic, digital COVID certificates were not available to seafarers. Instead, people were given some pieces of paper with a signature that could be easily forged and also easily lost. The use of digital certificates was limited by security issues and different standards. Even here, within the United States, different states could use different programs and databases. It would be great if we were prepared for another pandemic with a universally accepted system where seafarers and all travelers actually had a standard application that their government created that could communicate with other governments and that could be easily used when traveling around the world”.

The COVID-19 pandemic, as well as the development of technologies such as Starlink, have given new force for a more broad implementation of telemedicine for seafarers. The interviewee noted: “I hope that with the development of telemedicine, seafarers will have better and more universal access to both mental health support and all physical health support”.

### **Lessons learned and post-pandemic recommendation**

Flexibility and risk assessment are key lessons learned by the US maritime stakeholders. The interviewee noted: “We can’t just assume that this won’t happen again. We must raise awareness and have contingency plans in place, both at the local level and at the level of seafarers and shipowners”.

Another interviewee emphasizes: “We need flexibility to resolve seafarers’ problems as quickly as possible. Seafarers must be a priority from the very beginning, since the impact of this category of workers on the sustainability of global supply chains is so significant, both globally and domestically.”

Another respondent noted: “I think we're more prepared for new pandemics, new emergencies, just by talking to each other. This was the most important thing during the pandemic that we worked on together, across borders, trying to find practical solutions. And that spirit of communication and cooperation is still alive”.

## CONCLUSIONS

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Seafarers, port workers and other maritime professionals, as well as other transport workers, should be consistently identified as key workers. The pandemic has highlighted the role of transport workers in ensuring the sustainability of global supply chains. Millions of people around the world have realized that most of the goods, products, and medicines that surround them are transported by sea. The sustainability of global and regional supply chains must be ensured continuously along their entire length and taking into account the specifics of their operation. The rights and interests of seafarers, including their right to fair treatment and medical care, must be guaranteed regardless of the seafarer's citizenship, race, sex or religion.

Cooperation and dialogue are the basis for quickly and effectively overcoming crisis situations, including pandemics. Economies, international associations and negotiation platforms that were open to active interaction and joining forces ensured a quick response to the challenges of the pandemic. The pandemic has highlighted the role and importance of social partners, shipowners' associations and seafarers' organizations. Tripartite dialogue ensured the rapid development of industry guidelines and contributed to the dissemination of best practices that reflected the interests of all participants in the supply chain.

Availability of information is key to successfully developing the necessary solutions. The rapid dissemination of necessary information creates an atmosphere of awareness and mutual trust. Lack of information, including on restrictions put in place to counter the spread of the COVID-19 virus, as well as on best practices, availability of resources and support funds, and infrastructure to facilitate cross-border movement of seafarers, made the work of all stakeholders more difficult and exacerbated the crew change crisis. The lack of information for seafarers, including uncertainty about the timing of their repatriation, had a significant impact on their mental health and fatigue.

Flexibility is another building block for quickly responding to the challenges of seafarer emergencies. Non-governmental organizations and associations turned out to be faster and less bureaucratic, so they were able to ensure the rapid collection of best practices and their effective dissemination. Economies that used a flexible approach and took into account the interests and specifics of the maritime industry suffered less damage, including economic damage.

The rapid adaptation of new technologies in maritime transport has allowed economies and shipowners to partially reduce economic losses from restrictions imposed to counter the spread of COVID-19. The use of remote temperature screening and drones allowed the operational activities of ships and ports to go on without additional risk to transport workers. For seafarers, new technologies have made it possible to access necessary training, as well as access to medical care ashore through telemedicine or online mental health support services.

## RECOMMENDATIONS AND WAY FORWARD

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### APEC economies are encouraged to:

- designate seafarers and other maritime personnel as key workers and ensure seafarers have freedom to travel cross-border for the purposes of joining their ship or repatriation;
- take into account and implement the recommendations of the Joint Working Group to review the impact of the COVID-19 pandemic on the world's transport workers and the global supply chain (JAG-TSC)<sup>34</sup>;
- ratify the ILO Seafarers' Identity Documents Convention (Revised), 2023, as amended (No. 185) to ensure facilitation of shore leave of seafarers, including access to necessary medical help onshore, and transit, and transfer of seafarers;
- implement into domestic legislation all relevant provisions of the ILO Maritime Labour Convention 2006, as amended, to guarantee seafarers with an access to the medical health support on shore;
- conduct information campaigns aimed at increasing the prestige of the seafaring profession, creating clear career paths for seafarers and other maritime professionals to ensure that the most talented young men and women are attracted to the maritime industry;
- promote tripartite dialogue at the economy and regional level to ensure effective cooperation and the development of fast and effective responses to the emergency situations with seafarers.

### The APEC Transportation Working Group (TPTWG) are encouraged to:

- set-up a rapid-response group for immediate activation in the event of a WHO declared public health emergencies of international concern. Its terms of reference may include tasks for the facilitation of cross-border movement of seafarers, ensure priority access to vaccines for seafarers and other maritime and transport workers;
- establish or reorganize communication channels for the rapid collection and dissemination of information among APEC economies, including information on any restrictions imposed at the ports of APEC economies, other measures to counter the spread of viruses, as well as effective practices with such viruses. It is also recommended to ensure that such information reaches as wide a range of maritime stakeholders as possible, including employers' and workers' organizations;
- hold a regional conference or workshop for economies focal points to improve the effectiveness of communication in emergency situations with seafarers;
- collect and disseminate information on regional resources and funds that are available to assist seafarers in emergency situations, if any are available;

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<sup>34</sup> [https://www.ilo.org/wcmsp5/groups/public/---ed\\_dialogue/---sector/documents/publication/wcms\\_866753.pdf](https://www.ilo.org/wcmsp5/groups/public/---ed_dialogue/---sector/documents/publication/wcms_866753.pdf)

- promote the development of digital infrastructure in the ports of APEC economies that facilitate the cross-border movement of seafarers, including development of infrastructure for working with seafarers' ID cards, digital COVID certificates and (or) other documents necessary to simplify procedures for cross-border movement of seafarers;
- collect and disseminate information on best practices for introducing digital infrastructure in the ports of APEC economies that facilitate cross-border movement of seafarers, as well as on the availability of such infrastructure in the ports of the region;
- collect and disseminate information on best practices in tripartite dialogue at the economy level, including best practices in seafarer welfare boards/committees.