2026 Review of maritime transport

Chapter IV

Port performance and maritime trade facilitation



Global ports face overlapping challenges and disruptions. These have underscored the strategic importance of ports for global trade and supply chains, and highlighted the need to strengthen their sustainability and resilience. In 2025 and the first half of 2026, as in the broader trade and shipping sector, ports experienced pressures beyond the port gates. These included multiple chokepoint disruptions and constraints, heightened geopolitical tensions, a changing trade policy framework, growing digitalization and rising cybersecurity threats, and intensified climatic and extreme weather events, including El Niño patterns. Such factors present challenges and opportunities to rethink port systems and improve resilience. Proactive resilience-building that also supports broader sustainability goals, including decarbonization in maritime transport, and facilitates global maritime trade is crucial to ports' abilities to adapt to a more complex and rapidly changing global operating environment.

Tracking port performance to assess and monitor progress in efficiency, sustainability and resilience is increasingly important. This chapter presents trends in port calls, including by ship type, liner shipping connectivity by country and port, and time spent in ports by vessel types and call sizes.

United Nations

Global port calls increased across all major vessel categories between 2019 and 2025, with African ports experiencing the largest growth in calls by containerships and tankers. In June 2026, Asia continued to lead in liner shipping connectivity, with China in first place and Viet Nam experiencing rapid connectivity growth. Over the past two decades, the least developed countries have improved their liner shipping connectivity, although from a low base and with persistent gaps. Port stays and waiting times grew overall, reflecting evolving shipping patterns and operational pressures, particularly in developing countries. Indicating scale effects and operational efficiencies, especially at transshipment hubs, larger vessels are generally handled more efficiently than smaller ones.

Other port indicators, from over 70 port entities reporting to the UNCTAD TrainForTrade Port Performance Scorecard (PPS), provide additional insights into a wide range of aspects of port performance. In 2025, reported data indicated continued recovery in traffic and revenues, alongside stable profitability and the greater contribution of concession fees to port income. Reporting also suggested increased investment in environmental projects. Women's participation in the port workforce remained limited, especially in operational and cargo handling activities. This was despite some progress, especially in management.

Robust port performance requires not only effective connectivity, efficiency and integration into global trading networks but also the capacity to adapt to upsets such as multiple chokepoint disruptions, while maintaining transport and supply chain continuity. In an increasingly volatile environment, reactive measures by governments, shipping operators and ports alone are insufficient to safeguard maritime transport and supply chain reliability. Coordinated trade facilitation frameworks are required, especially when alternative routing involves multimodal transport, including overland and across borders. Continuity planning in shipping and ports and at the corridor level could help maintain the efficiency and security of trade routes while facilitating access to essential goods, especially during crises.

Section A of this chapter updates global port performance across a set of indicators, including port calls, liner shipping connectivity and time in port. Section B provides additional port performance insights derived from the PPS between 2016 and 2025. Part C examines the role of trade facilitation in business continuity along supply chains during disruptions. It considers how trade facilitation frameworks to guide continuity planning across transport corridors, coordinated by national trade facilitation committees (NTFCs), could be critical for supply chain resilience and security.

Key takeaways

Port performance and sustainability

Strengthen port capacity and operational efficiency, especially in developing regions

- Improved port efficiency, connectivity and traffic volumes require continued investment in expanding berth, terminal and storage capacity as well as in enhancing maritime access and inland transport and logistics connections. Maritime route disruptions, including in strategic chokepoints such as the Strait of Hormuz, are moving port resilience into sharper focus. This includes operational, financial, organizational, infrastructural, climate and cyber resilience. By mainstreaming resilience principles in relevant decisions and plans, including through diversifying logistics options amid disruptions and uncertainty, ports could rapidly restore operations, maintain critical functions and sustain service continuity. At the same time, closer coordination among port authorities, terminal operators and shipping lines could improve operational capacity, reduce waiting times and increase service reliability. Operational improvements should also address smaller and medium-sized calls that have benefited less from economies of scale.

Use performance indicators and data to strengthen port governance and management

- Benchmarking tools such as the PPS and UNCTAD maritime data sets on liner shipping connectivity, port calls, port waiting times and container port traffic provide insights to support analytical work and evidence-based decision-making. They could help ports identify operational and financial weaknesses, inform effective concession management, and track progress in training, environmental investment and women's participation in port activities.

Support investment in the port workforce and environmental sustainability

- Port operations continue to evolve amid recurrent disruptions, rising digitalization and environmental imperatives as well as social and economic sustainability requirements. Training and skills upgrading would help the port workforce adapt to a demanding operating landscape and improve long-term performance. Increased investment in port environmental sustainability is essential to meet more ambitious targets and bolster port resilience.

Trade facilitation

- Ports are being stress-tested by chokepoint disruptions. More recently, in and around the Strait of Hormuz, these have caused ships and cargo flows to divert towards substitute ports and hubs and to rely on alternative transport networks. This has intensified demands on the capacity of affected ports, increased congestion and wait times, reduced schedule reliability and boosted costs. To fully leverage the benefits of alternative routing and diversified logistical arrangements as a hedge against disruptions, uncertainty and costs, governments and public agencies could establish trade facilitation frameworks for corridor-based continuity planning. To rapidly activate alternative transport and transit routes during a disruption, such frameworks should be in place beforehand, tested through simulations and joint exercises, and improved based on lessons learned.

- As disruptions may alter shipping network design, constrain port capacity, undermine operational performance, exacerbate imbalances, resilience and sustainability require better risk assessments and streamlined procedures.

- NTFCs, as public–private coordination entities, could coordinate trade facilitation frameworks for corridor-based continuity planning, establish a dedicated working group, and cooperate with equivalent committees in neighbouring and corridor countries. Regional economic communities could also drive these plans. International organizations, such as UNCTAD, should assist countries to formulate them and provide enhanced trade facilitation solutions to sustain trade flows during disruptions. Equally important is resource mobilization, especially through international cooperation and donors.

A. Global port performance

Port performance extends beyond operational efficiency, including cargo handling, vessel turnaround times and infrastructure utilization. It also reflects to what extent ports attract and serve shipping services, connect markets, accommodate growing traffic and cargo volumes, and maintain reliable operations. All these dimensions matter amid evolving trade patterns, decarbonization and digitalization trends, and increasing disruptions and volatility across supply chains and shipping routes. Tracking and quantifying port performance is important in monitoring trends, assessing progress and benchmarking. Key performance indicators inform relevant decisions, policies and plans.

UNCTAD's data on port calls, liner shipping connectivity and port turnaround time highlight recent trends shaping global port performance, including how ports, especially container ports, are adapting to overlapping maritime route disruptions, shifting trade patterns, reconfigured shipping networks, evolving fleet capacity deployment and related implications for port capacity. These indicators, discussed in section A, are complemented by an additional set of metrics from the UNCTAD TrainForTrade PPS elaborated in section B.

1. Port calls

Port calls indicate maritime activity, capturing vessel movements, shipping operations, and the distribution of traffic across vessel types and regions. They also shed light on the deployment of ship capacity, the configuration of shipping networks and the integration of ports into global supply chains. Data on port calls may help assess a port's shipping connectivity levels, infrastructure capacity, and economic significance and performance.

Several factors may shape port call patterns. These include changes in shipping demand, supply chain conditions, fleet deployment strategies, route choices, port costs and charges, infrastructure and capacity constraints, regulatory requirements, shifts in trade policies, disruptions within and beyond ports, and network configurations, including shifts towards alternative ports.

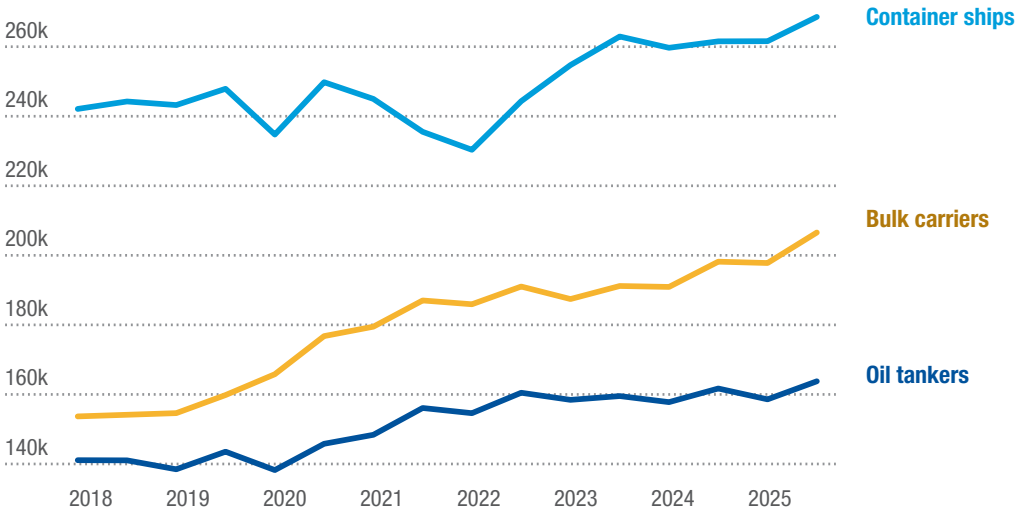
Global port calls: Year-on-year stability amid disruptions

Global port call activity remained broadly stable between June 2025 and June 2026, with the overall level unchanged (Clarksons Research Services, 2026a). Global oil tanker port calls declined amid the Strait of Hormuz disruption, while bulk carrier port calls increased and containership calls remained unchanged. These trends illustrate the networked nature of port performance, as disruptions in one part of the shipping network may affect vessel movements and cargo flows elsewhere. Rerouting and the redistribution of calls across ports may therefore change the pattern of port calls without reducing their overall number.

Global port calls: Expansion for bulk carriers, oil tankers and containerships over the past few years

Global port calls increased between the first half of 2018 and the second half of 2025. Calls by containerships rose by 11 per cent (from 242,000 to 269,000); those for oil tankers climbed by 16 per cent (from 141,000 to 164,000), while bulk carrier port calls jumped by 34 per cent (from 154,000 to 207,000) (figure IV.1).

Figure IV.1
Global port calls per semester and vessel type
(Total number)



Source: UNCTAD, based on data provided by Clarksons Research Services (2026b).

Notes: Vessels are restricted to 1,000 gross tonnage and above, excluding vessels without an IMO number. Port calls data are based on all instances of a vessel entering and leaving a defined port location, only if recorded travelling at less than 1 knot, and combining multiple consecutive instances at the same port where the vessel has not left a buffered shape around the port or within the same day (in selected vessel sectors). Oil tankers include crude, product and other tankers.

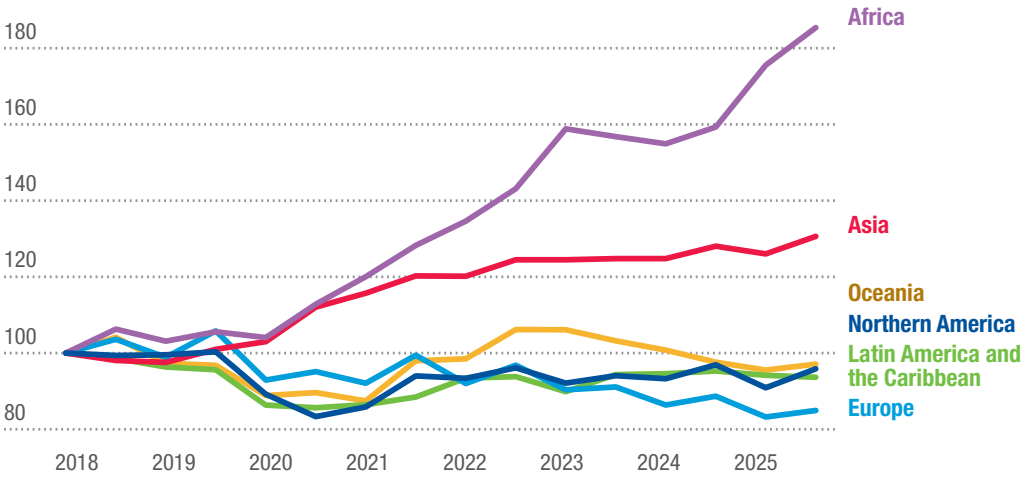
Among all regions, Africa has shown the fastest growth in containership and oil tanker port calls in recent years

Between the first half of 2018 and the second half of 2025, Africa's oil tanker port calls surged by 85 per cent (figure IV.2), reflecting both continued hydrocarbon exports from major producers, such as Algeria, Angola, Libya and Nigeria, and new offshore developments in West Africa. Changes in global energy markets following the war in Ukraine have further reconfigured energy trade routes and sourcing patterns. Oil tanker calls grew by 31 per cent in Asia but declined in other regions.

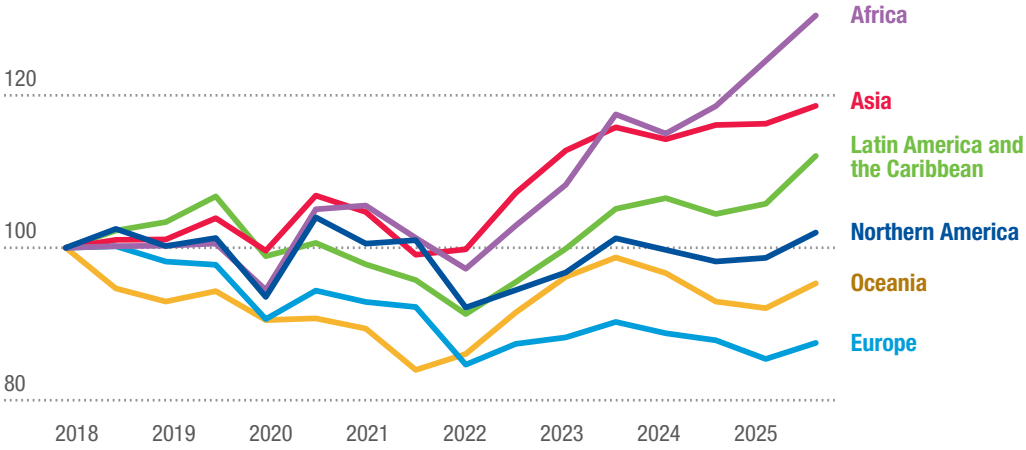
Over the same period, containership calls increased by 30 per cent in Africa, 19 per cent in Asia and 12 per cent in Latin America and the Caribbean. Growth in Asian containerships' port calls is consistent with port connectivity growth and efficiency gains across the continent, as presented in the following subsections. Growth in Africa's containership port calls reflects expanding gateway traffic and transshipment activity at selected ports as well as alignment with expanding containerized trade, investments in port infrastructure and the emergence of selected African ports as regional transshipment hubs (Notteboom et al., 2026; ITF, 2018). Additional factors include the diversion of Asia–Europe and United States-bound cargo around the Cape of Good Hope due to the Red Sea disruption since late 2023. Port call patterns may also be affected by regulations, including environmental and sustainability rules. Changing port call patterns induced by new environmental standards may not be visible regionally but may be meaningful at the port level (box IV.1).

Figure IV.2
Growth in containership and tanker port calls by region, indexed values
(Index: January to June 2018 = 100)

Tankers



Container ships



Source: UNCTAD, based on data provided by Clarksons Research Services (2026b).

Notes: Vessels are restricted to 1,000 gross tonnage and above, excluding vessels without an IMO number. Port call data are based on all instances of a vessel entering and leaving a defined port location, only if recorded travelling at less than 1 knot, and combining multiple consecutive instances at the same port where the vessel has not left a buffered shape around the port or within the same day (in selected vessel sectors).

Box IV.1
The European Union Emissions Trading System and selected African transshipment hubs

In 2025, as part of the extension of the European Union Emissions Trading System (EU ETS) to the maritime sector, shipping companies were required for the first time to surrender allowances for carbon dioxide emissions from voyages by large ships (over 5,000 gross tonnes). Under the system, companies surrender allowances each year for the emissions reported in the previous year. The obligation is being phased in gradually. In 2025, allowances covered 40 per cent of reported 2024 emissions; in 2026, 70 per cent of reported 2025 emissions; and from 2027 onwards, 100 per cent of reported emissions from the previous year. The system applies to 100 per cent of emissions from voyages between European Union and European Economic Area ports, and 50 per cent from voyages between these and other ports. Shipping companies had until September 2025 to surrender corresponding European Union emissions allowances, with financial penalties imposed for any shortfall (European Commission, 2026a).

The introduction of the EU ETS has raised concerns that differences in coverage between European Union and non-European Union port calls may create incentives for rerouting through nearby non-European Union ports. In response, the European Commission in 2023 designated the two most prominent African transshipment hubs – Tanger Med (Morocco) and East Port Said (Egypt) – as "neighbouring container transshipment ports". Both exceed the 65 per cent transshipment threshold and are located within 300 nautical miles of the European Union. As a result, stops by container ships at these hubs are disregarded when calculating EU ETS coverage: the journey is treated as a single voyage between the ports before and after the stop. The designation aims to reduce incentives to reroute traffic solely to lower EU ETS compliance costs (European Commission, 2023; Johnston and Hancock, 2026).

While it is too early to attribute changes in shipping patterns to the EU ETS maritime provisions, recent developments warrant attention. Between 2023 and 2025, sub-Saharan Africa increased its share of global port calls by 14 per cent, while the shares of Tanger Med and East Port Said declined by 7 and 25 per cent, respectively (Clarksons Research Services, 2026c).

Some of this redistribution may reflect disruptions and rerouting. Further analysis is needed to better understand these changes. Shifts in port calls could be linked to transfers in transshipment calls following the introduction of the EU ETS or to a combination of broader changes in liner network configurations, gateway traffic and maritime connectivity.

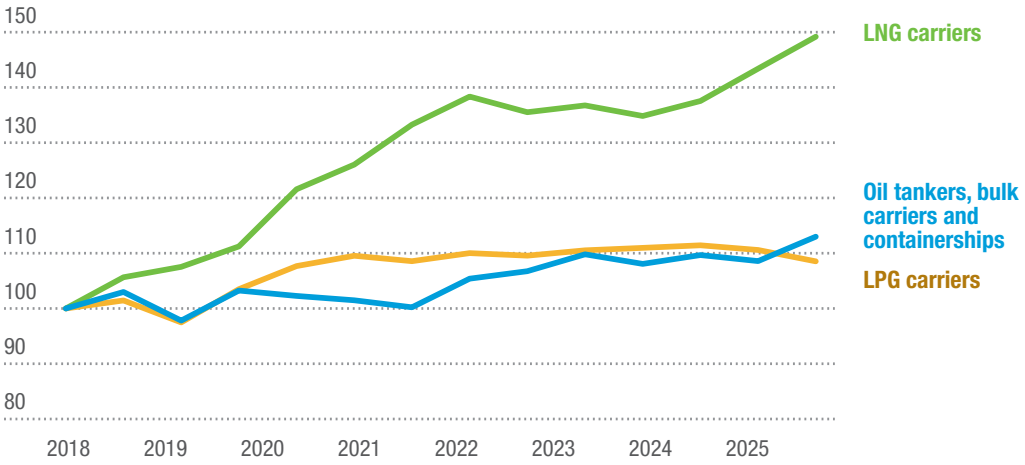
Looking ahead, the expansion of national emissions trading systems to maritime transport and equivalent measures (see chapter II) beyond the European Union will require close monitoring. Evolving environmental regulations and measures may increasingly influence port choices, routing decisions and the configuration of maritime networks (United Kingdom, Environment Agency, 2026).

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Strong expansion in port calls by liquid natural gas carriers from 2019 to 2025

The ability of ports to adapt to changing cargo flows and vessel requirements is a key determinant of performance and resilience. Between the first half of 2019 and the second half of 2025, port calls by LNG carriers increased by 50 per cent, reaching more than 11,000 and outpacing growth in port calls by LPG carriers and other major ship types (oil tankers, bulk carriers and containerships) (figure IV.3). The difference reflects the growing role of LNG in global energy trade (see chapter I) and underscores the need for ports serving the LNG trade to be equipped with dedicated LNG handling infrastructure and appropriate safety and operational arrangements.

Figure IV.3
Growth in gas carrier global port calls, monthly mean per period and vessel type, indexed values
(Index: January to June 2018 = 100)



Source: UNCTAD, based on data provided by Clarksons Research Services (2026a).

Notes: Data accounts solely for vessels with an IMO number. Port calls data are based on all instances of a vessel entering and leaving a defined port location, only if recorded travelling at less than 1 knot, and combining multiple consecutive instances at the same port where the vessel has not left a buffered shape around the port or within the same day (in selected vessel sectors).

2. Liner shipping connectivity

Liner shipping connectivity measures how well countries and ports are integrated into global container shipping networks through the availability, frequency, capacity and geographic reach of liner services.

The UNCTAD Liner Shipping Connectivity Index (LSCI) helps to capture the level of integration of ports and countries by combining six components: scheduled calls, deployed capacity, services, shipping companies, maximum vessel size and country connections (UNCTAD, 2026d).[1]

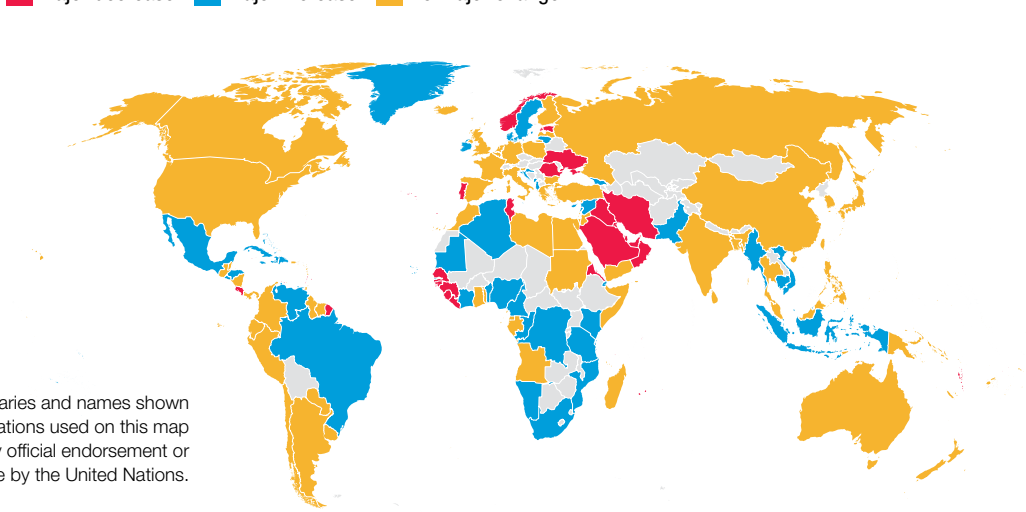
[1] The six components of the LSCI are: the number of scheduled ship calls per week (i.e., weekly average of annual schedule) in the country; total scheduled annual deployed capacity, in TEU, offered in the country; the number of regular liner shipping services from and to the country; the number of liner shipping companies that provide services from and to the country; the size, in TEU, of the largest ship deployed on services from and to the country; and the number of other countries connected to the country through direct liner shipping services (where a direct service is defined as a regular service between two countries, it may include other stops in between, but usually no transshipment, as this is not required in the transport of a container).

Enhanced port infrastructure and operational efficiency may strengthen connectivity by attracting more services, operators and vessel calls. Higher connectivity may in turn support trade and economic performance while creating incentives for further port investment. Connectivity depends, however, not only on port performance but also on market size, economic activity, trade patterns and geography, along with the network and deployment decisions of liner shipping companies.

Many countries saw gains in liner shipping connectivity in the past year, with the greatest jumps in Cabo Verde and the Syrian Arab Republic

In June 2026, compared with June 2025, liner shipping connectivity gains (48 economies) outnumbered losses (37 economies) (map IV.1). Smaller and less connected markets experienced sharper fluctuations, while larger hub economies generally recorded limited changes. Cabo Verde and the Syrian Arab Republic saw the greatest gains; each recorded 46 per cent growth. The greatest declines occurred across the Middle East, with the largest reaching 65 per cent amid geopolitical uncertainty and regional disruptions influencing shipping networks. After the conflict affecting the Strait of Hormuz began, liner carriers suspended or restricted bookings and services, while vessel rerouting reduced deployed capacity on some Middle East-linked routes (see chapter II).

Map IV.1
Liner Shipping Connectivity Index gains, June 2026 compared to June 2025
(Index: February 2023 world mean = 100)



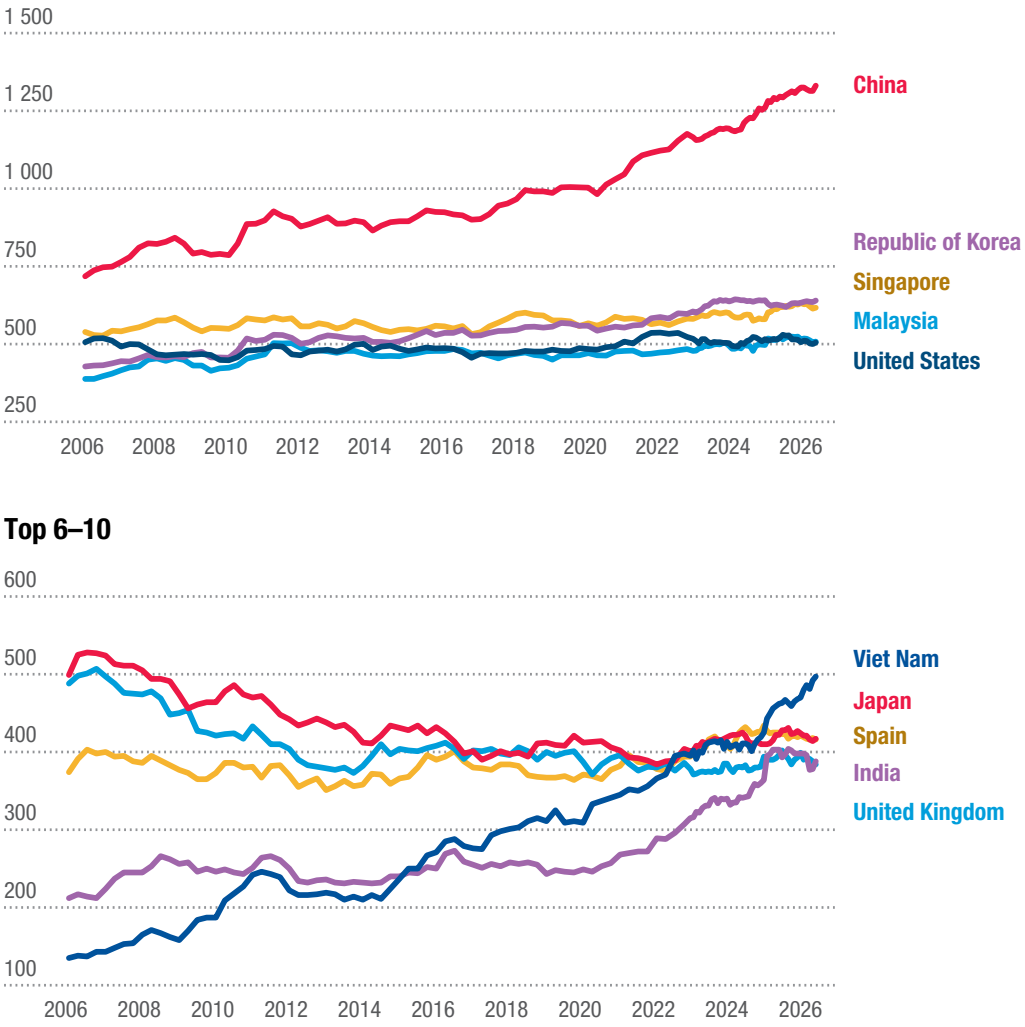
The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations.

Source: UNCTAD, based on data provided by MDS Transmodal, June 2026, available at https://stats.unctad.org/maritimeconnectivity.

Liner shipping connectivity: China leads, Viet Nam sees rapid growth among the top 10 performers; Cambodia, Iraq and Morocco stand out overall

In June 2026, in order of their ranking, China, the Republic of Korea, Singapore, Malaysia, the United States, Viet Nam, Japan, Spain, India and the United Kingdom were the top 10 countries on the UNCTAD LSCI scale (figure IV.4). The Shanghai, Ningbo and Singapore ports comprised the top three ports in the second quarter of 2026 (table IV.1).

Figure IV.4
Top 10 economies on the Liner Shipping Connectivity Index, per month
(Index: February 2023 world mean = 100)



Source: UNCTAD, based on data provided by MDS Transmodal, June 2026, available at https://stats.unctad.org/maritimeconnectivity.

Table IV.1
Top 20 ports on the Liner Shipping Connectivity Index
(Index: 2023 Q1 world mean = 100)

Rank	Port	2026 Q2 LSCI
1	China, Shanghai	2372.47
2	China, Ningbo	2040.69
3	Singapore, Singapore	1833.94
4	Republic of Korea, Pusan	1655.17
5	China, Qingdao	1389.05
6	China, Shekou	1157.85
7	Malaysia, Port Klang	1075.80
8	China, Nansha	1071.13
9	China, Hong Kong SAR, Hong Kong	976.84
10	Netherlands (Kingdom of the), Rotterdam	950.83
11	Belgium, Antwerp	902.03
12	China, Xiamen	900.05
13	China, Taiwan Province of, Kaohsiung	821.61
14	China, Yantian	795.38
15	China, Xingang	767.16
16	Thailand, Laem Chabang	743.29
17	Sri Lanka, Colombo	719.11
18	Japan, Yokohama	698.98
19	Viet Nam, Haiphong	690.29
20	Germany, Hamburg	690.06

Source: UNCTAD, based on data provided by MDS Transmodal, June 2026, available at https://stats.unctad.org/maritimeconnectivity.

Viet Nam provides a striking example of sustained improvement in liner shipping connectivity over the past two decades. In February 2006, it ranked twenty-eighth on the LSCI. By June 2026, it ranked sixth, surpassing India, Japan, Spain and the United Kingdom. Over this period, Viet Nam's LSCI soared more than fourfold, reflecting substantial expansion in deployed annual capacity (from 3 million to 43 million TEU) and growth in maximum ship capacity (from 1,900 to 24,000 TEU). The country's growing role as a regional manufacturing and export hub, supported by port infrastructure and deeper integration into global value chains, contributed to these gains.

Between June 2025 and June 2026, Viet Nam's LSCI increased by 8 per cent, driven by expanded services, more frequent vessel calls and higher deployed capacity.

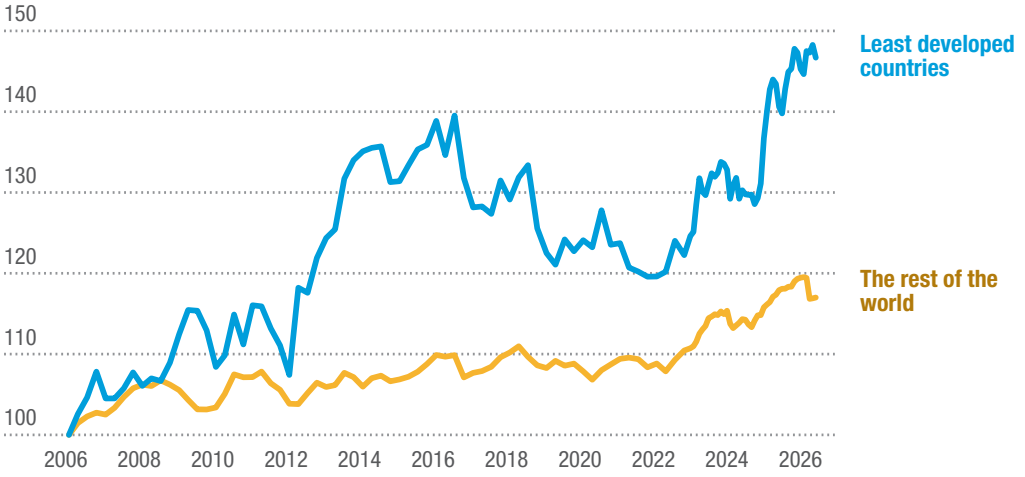
This points to stronger integration into intra-Asian trade networks, supported by export growth and its position as a key hub in the China Plus One strategy, which aims at diversifying and de-risking supply chains. It also reflects carriers' reshuffling of alliance networks and service routes (UNCTAD, 2025).

Among all economies, Cambodia, Iraq and Morocco have recorded the largest connectivity jumps over the past two decades, each achieving roughly a fourfold increase. Cambodia's improved connectivity largely reflects greater deployed capacity and liner shipping services aligning with its export-oriented production in South-East Asia and growing role in global manufacturing and supply chains. Although Iraq's connectivity fell by 60 per cent between March and June 2026 amid regional traffic disruptions, the country has emerged as a growing maritime node through the gradual expansion of deployed capacity, port calls and liner shipping services. Morocco's LSCI growth was underpinned by increased deployed capacity and maximum vessel size, and reflects the expansion of existing ports and the rise of Tanger Med (operational since 2007).

Least developed countries achieve significant long-term liner shipping connectivity gains

Although liner shipping connectivity remains much lower in the least developed countries (at 40.1 compared to 109.7 in the rest of the world, as of June 2026), it has improved significantly over the last two decades. Between February 2006 and June 2026, the average LSCI of the least developed countries grew by 47 per cent, compared with 17 per cent for the rest of the world (figure IV.5). During this period, the largest increases, apart from Cambodia, were in Sierra Leone (46 per cent) and Somalia (139 per cent). Despite connectivity improvements, the least developed country rankings have also shown greater volatility over time, suggesting that they may be more vulnerable to changes in global maritime networks and disruptions.

Figure IV.5
Average monthly Liner Shipping Connectivity Index of the least developed countries and the rest of the world, indexed values
(Index: February 2006 world mean = 100)



Source: UNCTAD, based on data provided by MDS Transmodal, June 2026, available at https://stats.unctad.org/maritimeconnectivity.

Note: The underlying LSCI is indexed to the February 2023 world mean = 100. In this figure only, for comparability of growth over time, each series is rebased to February 2006 = 100. For countries with no liner shipping connections, values are assumed to be zero to better reflect lost connectivity. Countries with no liner shipping connections for the entire period are excluded from the averages.

Among the least developed countries, the most connected country in June 2026 was Togo, recording a 129 per cent increase in liner shipping connectivity since February 2006. Globally, Togo's container port throughput in TEU jumped sixfold between 2010 and 2024, the largest increase across global ports (UNCTAD, 2026a). See box IV.2 for more on these developments.

Box IV.2
Infrastructure, logistics and skills are behind Togo's significant surge in liner shipping connectivity and container port throughput

Since 2014, the Autonomous Port of Lomé has expanded its capacity to serve as a strategic gateway between global shipping routes and the markets of West and Central Africa.

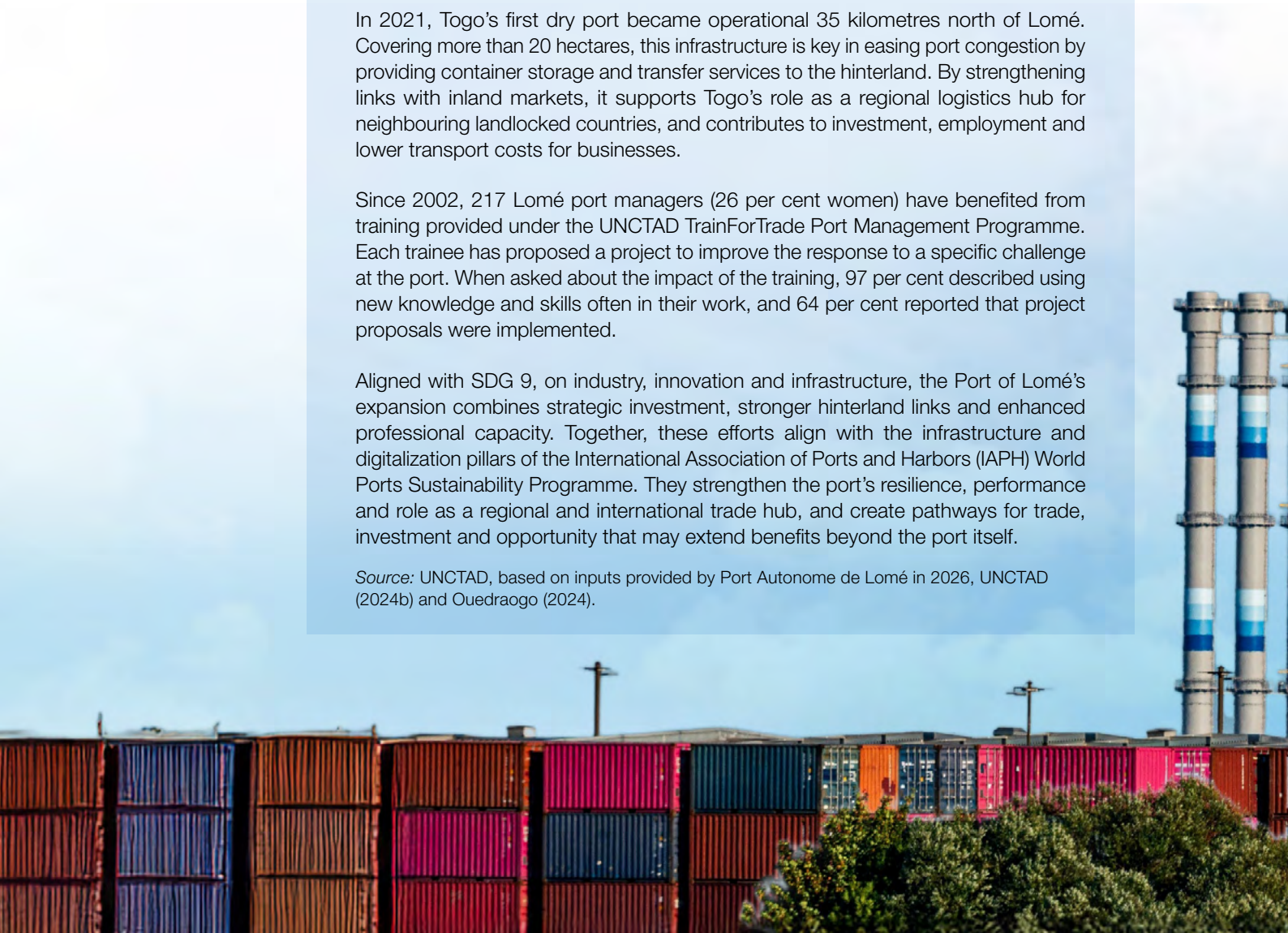
Lomé Container Terminal entered service in December 2014, following a strategic partnership between the State and an international consortium. With a depth of 16.6 metres, the terminal enables the port to receive some of the world's largest container vessels. In October 2014, the TOGO Terminal inaugurated its third quay, with a 15-metre draft and two berths capable of accommodating vessels of up to 7,000 TEU. These investments substantially increased the port's operational capacity. The port's total capacity quadrupled, while cargo volumes rose from 9.2 million tonnes in 2014 to a record 34.8 million tonnes in 2024. A modernization programme of approximately €500 million has followed, supporting the expansion and upgrading of quays and the acquisition of cargo handling equipment.

In 2021, Togo's first dry port became operational 35 kilometres north of Lomé. Covering more than 20 hectares, this infrastructure is key in easing port congestion by providing container storage and transfer services to the hinterland. By strengthening links with inland markets, it supports Togo's role as a regional logistics hub for neighbouring landlocked countries, and contributes to investment, employment and lower transport costs for businesses.

Since 2002, 217 Lomé port managers (26 per cent women) have benefited from training provided under the UNCTAD TrainForTrade Port Management Programme. Each trainee has proposed a project to improve the response to a specific challenge at the port. When asked about the impact of the training, 97 per cent described using new knowledge and skills often in their work, and 64 per cent reported that project proposals were implemented.

Aligned with SDG 9, on industry, innovation and infrastructure, the Port of Lomé's expansion combines strategic investment, stronger hinterland links and enhanced professional capacity. Together, these efforts align with the infrastructure and digitalization pillars of the International Association of Ports and Harbors (IAPH) World Ports Sustainability Programme. They strengthen the port's resilience, performance and role as a regional and international trade hub, and create pathways for trade, investment and opportunity that may extend benefits beyond the port itself.

Source: UNCTAD, based on inputs provided by Port Autonome de Lomé in 2026, UNCTAD (2024b) and Ouedraogo (2024).



3. Time as a measure of performance: Time in port, waiting and moving containers

The efficiency of port operations, measured by the time ships spend in port, is critical for maintaining reliable shipping services, reducing logistics costs and strengthening supply chain resilience. Recent disruptions to shipping and chokepoints, together with broader supply chain shocks, have altered vessel arrival patterns, increased schedule unreliability and contributed to congestion, particularly for container shipping. This section examines trends in vessel time in port, containership waiting times and the time needed to move a container, considering differences in port call sizes. Data precede the Strait of Hormuz disruption and therefore do not fully capture the impact of overlapping disruptions across various strategic shipping corridors.

Port turnaround times improve for dry bulk carriers but worsen for containerships

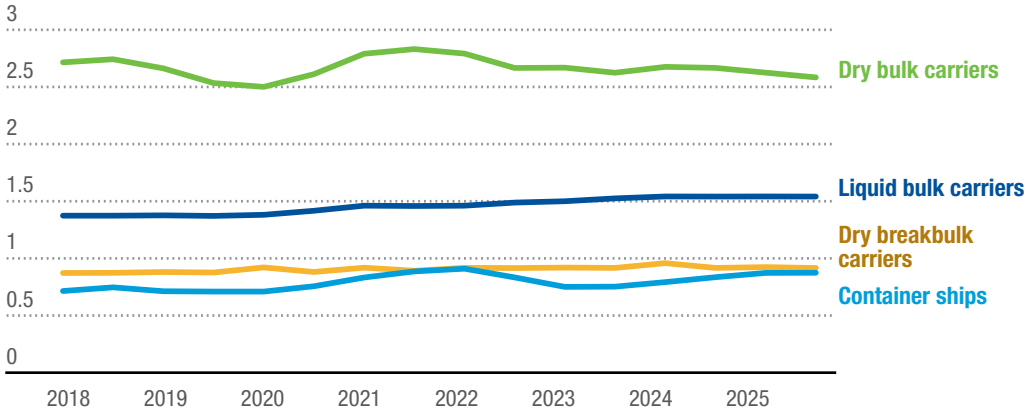
In the second half of 2025, compared with 2024, dry bulk carriers spent, on average, less time in port. The median number of days in port fell from 2.66 to 2.58 or around 2 hours. By contrast, the median time spent by containerships increased from 0.84 to 0.87, equivalent to about 40 minutes (figure IV.6). Dry breakbulk and liquid bulk carriers spent on average the same number of days in 2025 as in 2024.

Over the 2018–2025 period, the median number of days spent in port declined for dry bulk carriers by around 3 hours, from 2.72 to 2.58. It increased for dry breakbulk carriers by around 1 hour (from 0.87 to 0.92) and by around 4 hours for liquid bulk carriers (from 1.37 to 1.54) and containerships (from 0.71 to 0.87). Many factors drive the length of port stays. Some fall with the ports' control and others outside of it. Times in port are often shaped by operational and external factors, including congestion (especially in a highly disrupted operating landscape); changes in traffic and cargo flows, including as a result of ship rerouting and the diversion of cargo; hinterland connectivity and access; the effectiveness of trade facilitation; port productivity and regulatory procedures, among other factors (UNCTAD, 2022 and 2024a).



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Figure IV.6
World median time in port, per semester
(Days)



Source: Clarksons Research Services (2026b), April 2026.

Note: Vessels are restricted to 1,000 gross tonnage and above, excluding vessels without an IMO number. Port calls data are based on all instances of a vessel entering and leaving a defined port location, only if recorded travelling at less than 1 knot, and combining multiple consecutive instances at the same port where the vessel has not left a buffered shape around the port or within the same day (in selected vessel sectors).

In the first half of 2026, congestion remained persistent as operational challenges and ship deployment patterns shifted in response to disruptions in the Strait of Hormuz and continued attacks on ships in the Red Sea corridor. Extreme weather events and tariff-induced front-loading affected volumes on the Pacific route. Port congestion is increasingly a structural feature of global supply chains, as bottlenecks shift from ships to ports and inland connections, where demand outpaces terminal capacity and trade flows become more imbalanced (Knowler, 2026).

Congestion at Asian ports intensified in 2026, driven by adverse weather, vessel bunching and stronger demand. The ports of Shanghai, Ningbo, Singapore, Busan, Colombo, Jakarta and Surabaya saw lengthy waiting times, prompting carriers to skip calls, reroute cargo and cancel sailings. Increased trans-Pacific shipments, as shippers front-loaded cargo ahead of expected United States tariff increases, further strained capacity (Wallis, 2026a).

Underinvestment in terminal infrastructure, combined with the time required to expand capacity, may have contributed to persistent congestion, more frequent freight rate spikes and market volatility, particularly on Asia-bound routes. In August 2026, Typhoon Dolphin reportedly stranded over 2.4 million TEU of container capacity and pushed waiting times to five days in Shanghai and nearly three days in Ningbo, compounding congestion and prompting further adjustments to service schedules and port calls (Wallis, 2026b).

The global average for containership waiting times nearly doubled between the first half of 2019 and the first half of 2026. Total port call durations have increased as a result. Waiting for a berth contributed to the 31 per cent increase in average time spent by a containership in a port between 2019 and 2026, with significant variations by region pointing to congestion. Underinvestment, trade growth, elevated port utilization, weather disruptions and carrier scheduling practices have impacted waiting times. Capacity at nine major ports, including Jawaharlal Nehru Port, Qingdao, Rotterdam, Santos and Shanghai, grew by 21 per cent between the first half of 2019 and the equivalent period in 2026, but against a 28 per cent increase in trade volumes, pressuring container terminal capacity. A focus on asset utilization increases the risk of port congestion (Drewry Maritime Research, 2026).

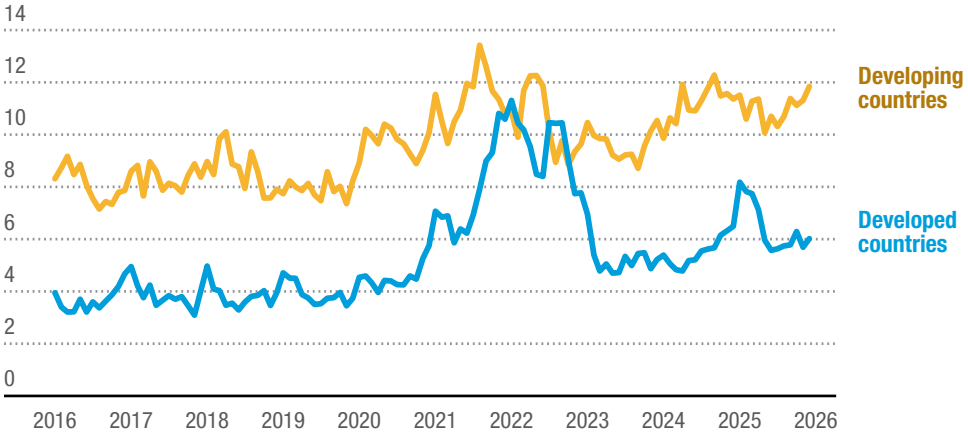
Containerships have been waiting longer at ports over the past decade

Average waiting times for containerships rose between March 2016 and December 2025 across both developed and developing countries (figure IV.7). Waiting times increased from 4.0 to 6.0 hours (+2.0 hours) for developed countries and from 9.2 to 11.8 hours (+2.6 hours) for developing countries.

While improved liner shipping connectivity has deepened global trade integration, it has also increased the interdependence of ports and shipping services. Consequently, disruptions to supply chains, maritime routes and chokepoints propagate rapidly through shipping networks, increasing schedule unreliability, vessel bunching and port waiting times (World Bank, 2026a). Other factors at play may include, for example, larger vessels, capacity constraints at ports and across hinterland and inland logistics, climatic factors and extreme weather events, and heightened geopolitical tensions and uncertainty in trade policy, causing increased front-loading.

From December 2024 to December 2025, waiting times declined slightly in developed countries but increased in developing countries. In sub-Saharan Africa, some explanatory factors may include the continent's import-dominated trade, persistent capacity constraints and limited competition among ports. In the Middle East, Red Sea-related disruptions have underscored the vulnerability of even well-equipped ports to geopolitical shocks (ibid.).

Figure IV.7
Average waiting times for containerships in port
(Hours)



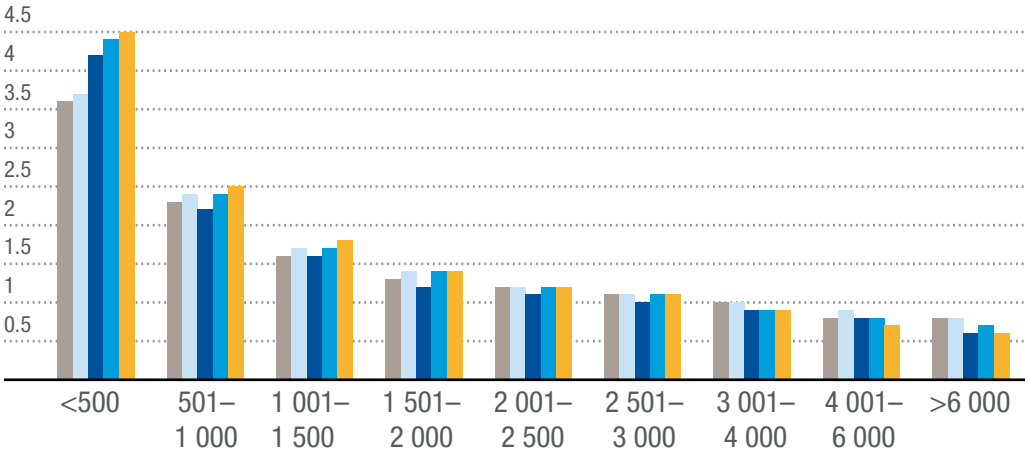
Source: Clarksons Research Services (2026b), April 2026.

Notes: Waiting time estimates are based on the time between the vessel first entering an anchorage associated with a port group (or a port where the vessel has not been seen in an anchorage shape) and its first entering a berth in the port. Developing countries include China.

Scale is driving faster turnaround times for larger port calls

Over the last five years, the time to move a container fell for larger calls (>3,000 moves), remained stable for midsized calls (2,000–3,000 moves) and became longer for smaller calls (<2,000 moves) (figure IV.8). Improved container handling performance for larger port calls relative to smaller ones is consistent with previous UNCTAD analyses indicating that larger container calls are generally handled more efficiently. They benefit from economies of scale, including parallel quay crane operations, automation at larger ports, and larger and more specialized container-handling equipment (UNCTAD, 2024a and 2025b).

Figure IV.8
Time to move a container per port call size category, annual mean for 25 economies with the most port calls
(Minutes)



Source: UNCTAD, based on data provided by the S&P Global Port Performance Program, June 2026.

Note: The nine call size categories are based on the total number of containers moved during a port call, regardless of container size, ranging from under 500 moves (first category) to over 6,000 moves (last category).



Ports in China, the Republic of Korea and Singapore combine strong economies of scale and operational efficiency

Among 25 economies with the largest numbers of port calls, ports in China, the Republic of Korea and Singapore combine high performance with scale especially well (table IV.2), largely due to operational benefits from large-scale container terminals (UNCTAD, 2024a and 2025b).

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Table IV.2
Time to move a container per port call size category, by economy, 2025
(Minutes)

	Call size								
Economy	<500	501–1 000	1 001–1 500	1 501–2 000	2 001–2 500	2 501–3 000	3 001–4 000	4 001–6 000	>6 000
China	3.8	2.1	1.5	1.1	0.8	0.7	0.6	0.5	0.4
United States	3.8	2.4	1.8	1.6	1.5	1.5	1.2	1	0.8
Singapore	3.2	1.7	1.3	1	0.8	0.7	0.6	0.5	0.4
Republic of Korea	3.2	1.6	1.1	1	0.9	0.8	0.7	0.6	0.5
Brazil	5.2	3	2.1	1.8	1.5	1.2	1.2	0.9	0.9
Malaysia	3.2	2.3	1.5	1.1	0.8	0.8	0.7	0.5	0.4
Spain	4.9	2.9	1.9	1.2	1	0.9	0.9	0.7	0.6
Belgium	6	3.6	2	1.7	1.4	1.2	1	0.9	0.9
Germany	6.2	2.7	1.9	1.6	1.5	1.2	1	0.8	0.8
Japan	2.6	1.5	1.2	1	0.9	1	0.9	-	-
United Kingdom	5.5	3	1.9	1.4	1.3	1.2	0.9	0.8	0.7
India	3.5	2.1	1.3	1	0.9	0.8	0.7	0.6	0.5
Viet Nam	2.7	1.6	1.1	0.9	0.8	0.6	0.6	0.5	0.5
Türkiye	4.9	2.6	1.7	1.3	1.2	1.1	1	0.8	0.8
Hong Kong, China	2.6	1.4	1	0.8	0.7	0.6	0.5	0.5	0.4
Taiwan Province of China	2.9	1.6	1	0.8	0.7	0.6	0.5	0.5	0.5
United Arab Emirates	4.4	2.5	1.7	1.3	0.8	0.8	0.7	0.6	0.5
Kingdom of the Netherlands	6.8	3.6	2.4	1.8	1.6	1.3	1.1	0.8	0.7
Australia	6.3	2.9	2.2	1.9	1.5	1.5	1.3	1	0.9
Panama	5.4	2.9	2.1	1.7	1.6	1.2	1.3	0.8	0.8
Italy	7.1	3.8	2.9	2.3	2	1.7	2	1.5	1.6
France	4.9	2.9	2	1.6	1.5	1.4	1.2	1	0.8
Thailand	3.4	2.4	1.4	1.1	1	0.9	0.7	0.7	0.6
Indonesia	4.9	2.5	2	1.4	1.1	1	0.9	0.9	-
Philippines	4.5	3.9	2.9	2.3	1.6	1.9	1.2	-	-
Average	**4.5**	**2.5**	**1.8**	**1.4**	**1.2**	**1.1**	**0.9**	**0.7**	**0.6**

Source: S&P Global Port Performance Program, June 2026.

Note: The nine call size categories are based on the total number of containers moved during a port call, regardless of container size, ranging from under 500 moves (first category) to over 6,000 moves (last category).

B. TrainForTrade Port Performance Scorecard

A global benchmarking system is crucial to evaluate port performance

Understanding port performance is essential to the competitiveness of port systems and their contribution to economic development. Towards that end, UNCTAD in 2018 developed the PPS under the TrainForTrade Port Management Programme (UNCTAD, 2026b and 2026c).

The number of port entities reporting to the PPS expanded to over 70 in 2026, allowing them to benchmark their performance against regional and global peers. Continued expansion across Africa, the Americas, Asia and Europe reflects the growing importance of standardized performance measurement. The scorecard's geographically diverse data set improves benchmarking while capturing a broad range of regulatory, economic and operational contexts. It helps port managers identify strengths and weaknesses, monitor trends, assess vulnerabilities and support evidence-based decision-making.

Over time, the scorecard has emerged as a comprehensive global database on port performance.

Key performance indicators: 2016–2025

Table IV.3 summarizes key PPS performance metrics from 2016 to 2025. It encompasses financial performance, human resources, vessel and cargo operations, gender participation and environmental indicators. Together, these integrated data provide a holistic view of evolving port performance across multiple dimensions. They enable identification of underlying trends, structural shifts and areas of resilience or vulnerability, while illustrating how ports have adapted to changing economic conditions, external shocks and emerging strategic priorities. PPS metrics complement UNCTAD's port performance indicators on connectivity (LSCI), port activity (port calls) and efficiency (waiting time and time to move containers) as presented above.

Table IV.3
Port Performance Scorecard, summary statistics (2016–2025)

Indicator, unit	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Finance										
EBITDA/revenue (operating margin), percentage	49.7	44.8	50.4	46.2	44.3	45.5	44.1	45.7	48.9	**46.2**
Labour/revenue, percentage	19.0	19.0	18.0	19.1	23.8	21.3	19.5	19.2	19.2	**20.2**
Vessel dues/revenue, percentage	17.5	19.7	20.3	18.2	18.2	17.9	19.9	18.5	18.3	**17.8**
Cargo dues/revenue, percentage	28.3	27.8	24.3	26.3	26.3	25.9	24.1	22.3	22.1	**22.0**
Concession fees/revenue, percentage	20.0	19.8	20.8	22.5	24.4	23.6	21.0	22.0	24.0	**24.7**
Rents/revenue, percentage	3.1	2.7	3.4	2.8	3.3	2.8	3.6	2.3	1.5	**0.5**

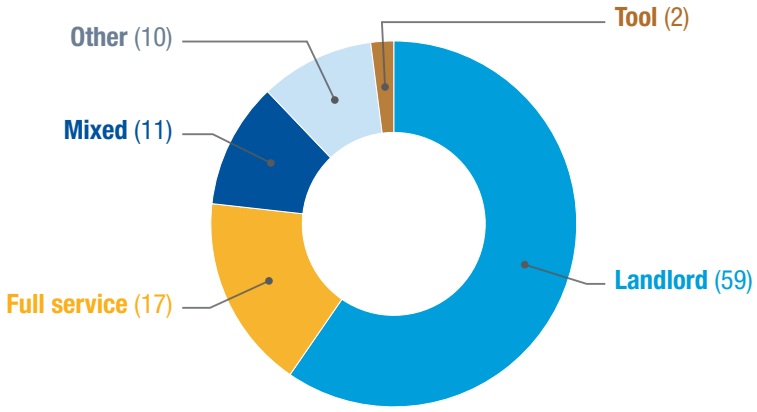
Indicator, unit	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Human resources										
Tonnes/employee, thousands of tonnes	33.9	37.2	45.5	42.6	37.9	45.9	44.9	38.3	37.3	**22.9**
Revenue/employee, thousands of dollars	164.3	155.0	175.0	199.0	178.0	225.4	247.8	222.9	182.3	**134.6**
EBITDA/employee, thousands of dollars	70.5	67.5	81.5	86.5	69.9	80.1	111.7	91.9	80.9	**57.6**
Labour cost/employee, thousands of dollars	35.0	36.5	39.4	40.9	41.2	44.6	43.5	45.0	43.4	**23.1**
Training cost/wages, percentage	0.8	1.0	1.1	0.8	0.3	0.3	0.3	0.6	1.2	**0.6**
Gender: female participation rate										
All categories, percentage	12.4	12.9	15.7	15.2	15.9	17.3	17.7	17.7	19.2	**18.4**
Management, percentage	28.3	26.3	30.0	32.2	33.2	33.3	34.1	37.1	39.0	**46.4**
Operations, percentage	12.4	12.0	11.6	14.0	14.0	12.5	15.4	17.1	19.9	**15.0**
Cargo handling, percentage	0.0	3.1	5.9	1.3	0.0	1.2	0.6	1.2	2.2	**2.2**
Other employees, percentage	28.6	24.8	26.6	29.3	27.4	25.8	22.2	27.8	26.0	**29.9**
Vessel operations										
Average waiting time, hours	5.0	8.6	14.4	9.8	10.1	5.9	8.8	9.8	13.8	**17.4**
Average gross tonnage per vessel, thousands of tonnes	15.2	14.5	15.5	15.5	14.4	16.2	19.7	17.9	18.5	**18.0**
Oil tanker arrivals, percentage	6.9	8.2	8.5	9.2	10.5	10.8	9.0	7.7	7.2	**8.5**
Bulk carrier arrivals, percentage	7.0	6.9	7.2	7.1	8.1	7.8	7.6	8.1	7.2	**8.2**
Containership arrivals, percentage	11.9	12.8	12.6	13.7	14.3	14.6	12.4	12.4	14.0	**17.0**
Cruise ship arrivals, percentage	2.3	2.6	2.2	1.6	0.2	0.4	1.7	2.5	2.7	**2.9**
General cargo ship arrivals, percentage	18.9	16.3	18.3	19.3	20.6	19.5	20.4	16.8	16.6	**16.4**
Average of other ship arrivals, percentage	14.2	12.0	20.3	15.7	14.7	12.2	14.0	15.4	14.0	**11.6**
Cargo operations										
Average tonnage per arrival (all ships), thousands of tonnes	4.2	5.7	5.1	5.4	5.4	5.1	4.9	4.5	5.2	**6.2**
Tonnes/working hour, dry or solid bulk	225.0	212.5	234.7	171.0	228.6	184.5	151.4	152.1	272.0	**126.5**
Tonnes/hour, liquid bulk	472.3	221.6	171.1	154.0	150.0	201.8	242.7	112.1	136.8	**123.7**
Containers lifted/ship hour at berth, number	22.2	26.4	18.3	20.4	19.2	20.0	15.1	15.1	18.3	**27.8**
Average container dwell time, days	5.0	4.0	4.6	5.0	5.0	5.0	5.0	5.0	4.0	**4.2**
Thousands of tonnes/hectare (all cargo)	52.5	52.4	49.3	52.7	49.7	49.6	50.6	50.2	48.1	**52.3**
Thousands of tonnes/berth metre (all cargo)	1.6	2.0	2.3	2.3	2.0	2.1	1.9	1.6	1.4	**1.3**
Thousands of passengers on ferries	652.7	879.3	739.4	842.4	248.6	147.2	750.5	787.8	794.5	**771.6**
Thousands of passengers on cruises	21.4	23.9	31.8	28.1	0.9	1.5	20.2	27.4	35.8	**37.5**
Environment										
Investment in environmental projects/total capital expenditure, percentage	0.0	1.3	1.2	0.8	0.1	0.5	0.3	0.6	3.5	**8.9**
Environmental expenditures/revenue, percentage	0.0	0.2	0.2	0.7	0.3	0.2	0.5	0.2	0.2	**0.2**
Number of entities reporting	**54**	**60**	**63**	**64**	**64**	**71**	**72**	**59**	**52**	**58**

Source: UNCTAD, June 2026, available at https://pps.unctad.org.

Port governance structures: The landlord model predominates

The distribution of operating models among PPS ports illustrates the sector's structural characteristics. Most ports (59 per cent) operate under the landlord model, with a smaller share (17 per cent) under the full service model. The tool model remains marginal (2 per cent).[2] All three models may involve public or private organizational frameworks (figure IV.9). The range of governance models provides a useful basis for benchmarking, as governance arrangements influence investment decisions, operational responsibilities and, ultimately, port performance.

Figure IV.9
Share of ports by type of operating model (2016–2025)
(Percentage)



Source: UNCTAD, based on PPS data.

Rising concession income and consolidation of the landlord model

Port revenue structures have gradually shifted towards greater reliance on concession-based income (table IV.3). The revenue share of concession fees increased to nearly 25 per cent in 2025, up from 24 per cent in 2024 and 20 per cent in 2016. Traditional sources, namely, vessel dues and cargo dues, remained at 18 per cent and 22 per cent in 2025, respectively. Rental revenues are comparatively marginal and have declined in recent years, reaching less than 1 per cent in 2025. These trends reflect the broader consolidation of the landlord model, with private actors playing a growing role in port operations. Port authorities increasingly focus on facilitation and regulation rather than direct service provision.

Diverging growth in cargo volume and revenue

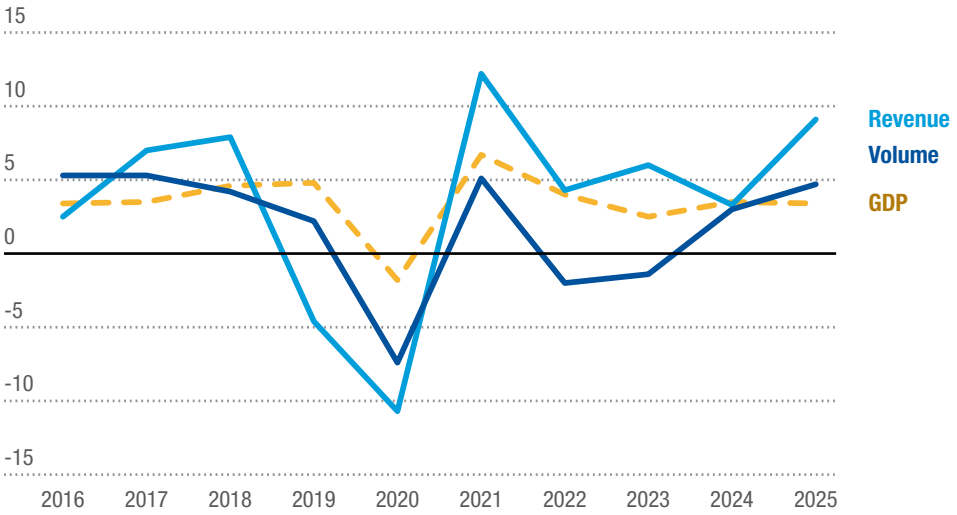
In 2025, port revenue grew by around 9 per cent compared to 5 per cent for cargo volume. The evolution of cargo throughput and revenue illustrates a broadly aligned recovery, following the sharp contraction in 2020 (figure IV.10). Both indicators rebounded strongly in 2021, with revenue increasing more significantly (over 12 per cent) than port cargo volume (around

[2] Under the landlord model, the port authority owns the land and basic infrastructure, and private operators lease terminals, invest in equipment and manage operations. In the full service model, the port authority owns, manages and operates all infrastructure, equipment and cargo handling services. Under the tool model, the port authority owns the land, infrastructure and major equipment, while private companies carry out cargo handling operations.

5 per cent). GDP growth followed a similar pattern of downturn and recovery, although it remained more gradual, suggesting that port activity may fluctuate more widely than broader economic activity.

While volume growth has remained moderate and volatile, revenues have continued to perform more strongly. This divergence suggests a multiplier effect in revenue generation, potentially reflecting tariff adjustments, improved pricing strategies, operational efficiencies, and the gradual removal of crisis-related rebates and fee reductions. Overall, the data show that revenues have increasingly outpaced both volume growth and economic expansion, suggesting that factors beyond volume contributed to stronger revenue performance.

Figure IV.10
Median port cargo volume and revenue compared to median country GDP (2016–2025)
(Annual percentage change)



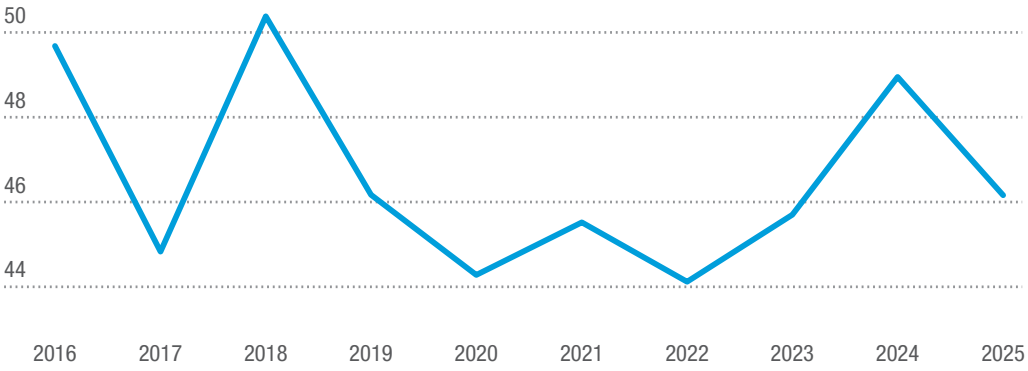
Source: UNCTAD, based on PPS data (cargo volume and revenue) and IMF Datamapper data (country GDP), June 2026.

Note: The 2024 real GDP growth rate is an IMF estimate for Togo; 2025 real GDP growth rates are IMF estimates for Côte d'Ivoire, Cameroon, Gabon, Ghana and Guinea. All other GDP growth rates are realized.

Resilient earnings margins amid global disruptions

Figure IV.11 shows the stability of earnings before interest, taxes, depreciation and amortization (EBITDA) margins over 2016–2025. Earnings largely remained within a narrow range of 44 to 50 per cent of revenue, declining to 46 per cent in 2025 from 49 per cent in 2024. Despite significant global disruptions in recent years, ports maintained stable operational profitability, highlighting their resilience and ability to absorb and respond effectively to successive economic and operational shocks.

Figure IV.11
Median port earnings as a share of revenue (2016–2025)
(Percentage)



Source: UNCTAD, based on PPS data.

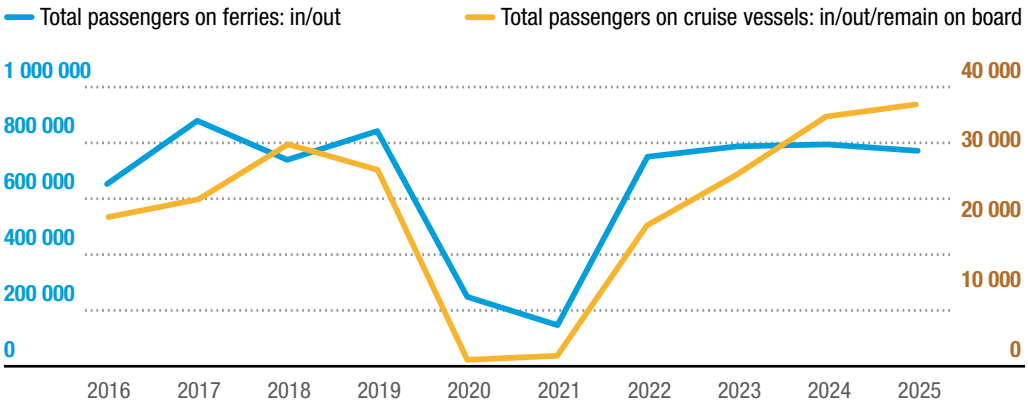
Note: Earnings denotes earnings before interest, taxes, depreciation and amortization.

Strong post-pandemic rebound in ferry and cruise traffic with cruise passengers reaching a record high in 2025

For many ports, passenger transport constitutes an important sector of activity. Passenger traffic has recovered strongly since the severe disruption of the COVID-19 pandemic (figure IV.12). Both ferry and cruise passenger volumes declined dramatically in 2020, with cruise traffic nearly coming to a halt. From 2021 onwards, both segments steadily regained lost ground. By 2025, ferry passenger volumes had returned broadly to pre-pandemic levels, indicating a strong rebound in demand and a stabilization phase, with traffic volumes consolidating and fluctuations becoming more moderate. Cruise passenger numbers reached a record high, highlighting the industry's continued strength and recovery (CLIA, 2026). These patterns demonstrate the resilience of passenger port operations and their ability to restore operational continuity following major disruptions.

The rebound in passenger traffic has contributed to the broader recovery in port activity, underscoring the importance of maintaining adequate capacity and operational resilience across both cargo and passenger services.

Figure IV.12
Median cruise and ferry passengers (2016–2025)

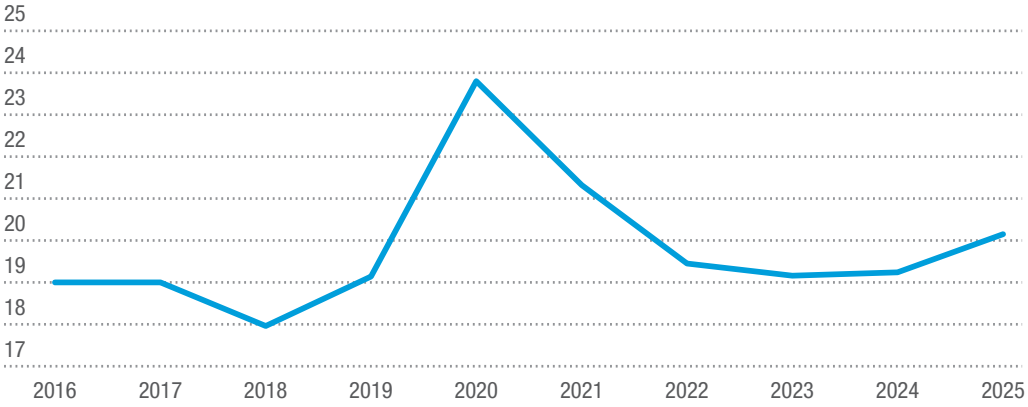


Source: UNCTAD, based on PPS data.

Workforce investment: Rising payroll as a share of port revenue and a post-pandemic rebalancing of labour costs

A moderate increase in human capital investment in 2025 may reflect a strategic shift, as ports increasingly recognize the importance of skilled labour and organizational capacity in sustaining long-term performance (figure IV.13). Data since 2016 reveal a gradual reversal of pandemic-related increases in payroll as a share of revenue. The ratio peaked at close to 24 per cent in 2020, through the combined effect of revenue contraction and the relative rigidity of labour costs, before declining to around 19 to 20 per cent from 2022 onwards.

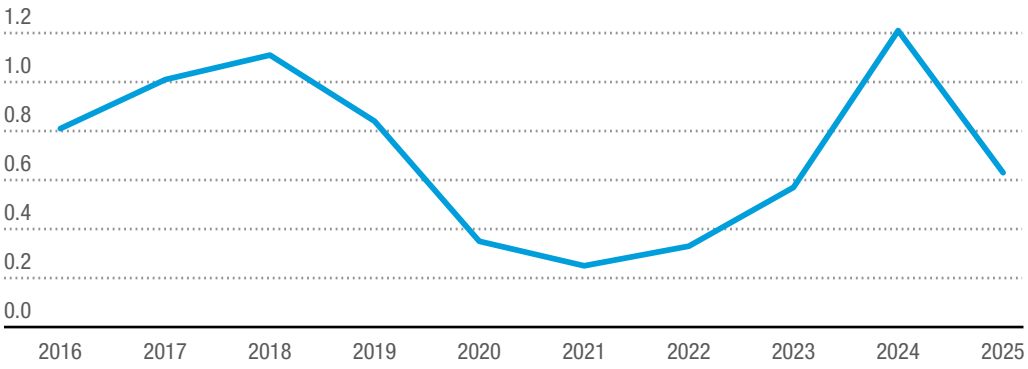
Figure IV.13
Median port payroll expenses as a share of port revenue (2016–2025)
(Percentage)



Source: UNCTAD, based on PPS data.

Training expenditure as a share of wage costs declined to 0.6 per cent in 2025, although it has remained relatively stable, generally fluctuating between 0.6 and 1.1 per cent despite a temporary decline to 0.3 per cent during the pandemic years (figure IV.14). In periods of financial pressure, ports should maintain a strong baseline level of investment in training, as human capital development is an essential and structural component of operational resilience and long-term competitiveness.

Figure IV.14
Median port training expenses as a share of wage costs (2016–2025)
(Percentage)

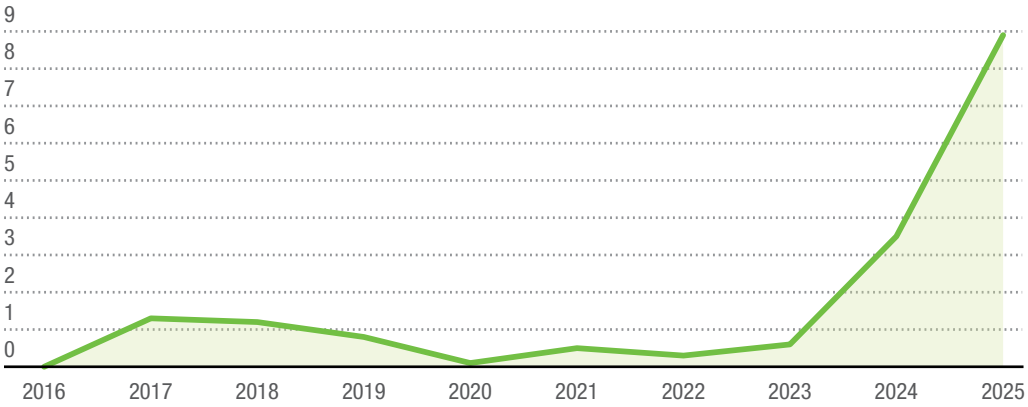


Source: UNCTAD, based on PPS data.

A boost in port environmental sustainability projects in 2025

Environmental investment has seen a significant recent shift, increasing sharply to 9 per cent in 2025, after remaining below 1 per cent of total capital expenditure for most of the 2016–2025 period (figure IV.15). This rise indicates a growing focus on sustainability and environmental performance, likely driven by regulatory pressures, stakeholder expectations and the need to align with global decarbonization objectives.

Figure IV.15
Median port investment in environmental projects as a share of total capital expenditure (2016–2025)
(Percentage)

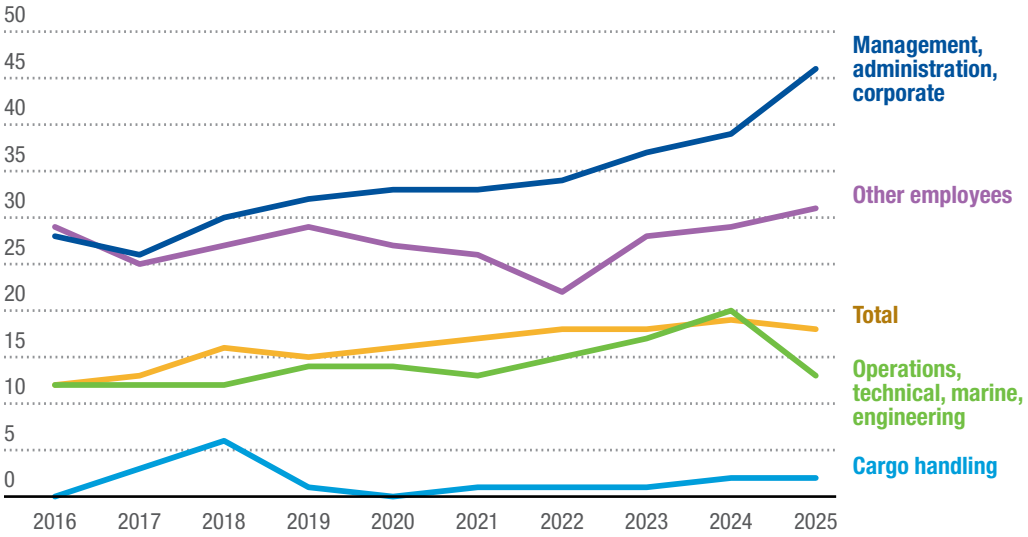


Source: UNCTAD, based on PPS data.

Women's participation: Near parity in management but persistent gaps in operations

The PPS sheds light on women's participation in the global port workforce as a basis for monitoring progress towards greater gender diversity in a traditionally male-dominated sector. Recent data indicate that women account for approximately 18 per cent of the total port workforce, a slight decrease from a peak of 19 per cent in 2024 (figure IV.16). While overall participation has remained relatively stable, significant disparities persist across occupational categories. Women are approaching parity in management and administrative roles, holding 46 per cent of positions, and an upward trend continues. But they remain substantially underrepresented in operational functions and cargo handling activities.

Figure IV.16
Women's participation in ports, as a share of employees, per sector (2016–2025)
(Percentage)



Source: UNCTAD, based on PPS data.

As the port sector faces growing complexity and competition, attracting and retaining a diverse and highly skilled workforce is increasingly important. Advancing the full and effective participation of women is therefore not only a matter of equity but also a strategic priority for strengthening workforce capacity, long-term performance and sustainability.



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C. Maritime trade facilitation

Ports are on the front line of disruptions to strategic shipping routes. Beyond the latest crisis affecting the Strait of Hormuz, the disruption in the Black Sea since 2022, challenges in the Red Sea and Suez Canal since late 2023, and, more recently, draft restrictions introduced by the Panama Canal Authority in the face of droughts and potential El Niño weather patterns are also affecting global port operations. Moreover, localized events, such as the explosion at the Port of Beirut in 2020, cybersecurity incidents and piracy attacks have laid bare the continued vulnerability of ports.

Trade facilitation strengthens supply chain resilience by enabling efficient, coordinated and adaptable logistics systems

In this context, trade facilitation acts as a cross-cutting enabler that strengthens the performance and resilience of ports and related transport and logistics systems. Trade facilitation steers regulatory and administrative processes to enhance supply chain resilience and de-risking. It improves crisis responses, including by enabling the rapid use of alternative ports, transport routes and modes of transport, and by leveraging relevant logistics options. In short, trade facilitation complements actions to bolster the resilience of physical infrastructure, equipment and hard assets but also helps process goods efficiently, coordinate border agencies, facilitate transit, exchange information and adapt procedures.

Amid recurrent disruptions to routes and transport networks, an adequate and fit-for-purpose trade facilitation framework is a precondition for sustainable and resilient transport and logistics.

1. Trade facilitation supports enhanced preparedness and resilience to disruption

Trade facilitation enables business and operational continuity in shipping, ports and transport corridors. A fit-for-purpose trade facilitation framework and adequate institutional and customs and transit arrangements may facilitate the rapid use of alternative routes if chokepoints and primary routes are disrupted. It could enable solutions such as information-sharing, cross-border management and transit agreements as well as cooperation among relevant authorities and stakeholders to mitigate the effects of a disruption.

A trade facilitation framework should allow an effective shift away from disrupted maritime routes to alternative modes of transport and logistics solutions, including through cross-border multimodal transport networks. These should be available and ready to offer the same seamless movement of goods without unnecessary delays, duties or barriers so that operators can shift transport and logistics routes and supply chains remain agile and efficient.

A well-functioning trade facilitation ecosystem banks on transparent, streamlined and cost-efficient procedures. These are particularly critical for inland and multimodal transport routes involving multiple border crossings, where efficient transit depends on harmonized regulations, coordinated customs procedures, and interoperable digital systems such as customs single windows and port community systems.

As shipping operations through the Strait of Hormuz were disrupted (see chapter II), increased reliance on alternative overland transport solutions underscored the importance of trade facilitation measures in maintaining trade flows. For example, Pakistan's Transit of Goods Order[3] opened six inland routes on its territory to maintain trade with the Islamic Republic of Iran as ships could no longer circulate in the Strait. This measure established a legal framework for cargo originating in third countries and destined for the Islamic Republic of Iran. India's customs system has created specific measures to simplify trade procedures for returning Indian ships that could not go through the Strait of Hormuz, including by eliminating requirements for bills of entry in some cases (India, Ministry of Finance, 2026).

Regional trade facilitation solutions have supported traffic rerouting caused by the Black Sea disruption. At the start of the war in Ukraine, Danube ports served as alternative gateways to Black Sea ports and became a lifeline for Ukraine's exports. In the first half of 2022, waterside cargo moving through the Ukrainian Danube ports increased by 234 per cent compared to 2021 (CCNR, 2023). This rerouting was enhanced by the implementation of the EU–Ukraine Solidarity Lanes,[4] the Common Transit Convention and the Convention on the Simplification of Formalities in Trade in Goods (European Commission, 2022). Ongoing reinforced transit and transport partnerships among countries such as the Republic of Moldova, Romania and Ukraine further supported the use of alternative ports and routes (European Commission, 2026b). Major bottlenecks arose along the Danube River, however, after some countries imposed export restrictions affecting cargo transit (CCNR, 2023).

These examples underscore the importance of trade facilitation for effective trade and traffic rerouting in response to disruptions. Such measures allow trade, including critical cargo, to circulate more efficiently across ports, national territories and borders, irrespective of the mode of transport, in a fast-tracked manner. They include reducing additional procedures required to change transport modes and trade routes.

2. Importance of extending contingency and business continuity planning to the entire transport and logistics chain

Although immediate responses to disruptions may provide temporary relief and mitigate impacts, preparedness requires identifying and developing alternative arrangements in advance, such as rerouting options. According to the United Nations Office for Disaster Risk Reduction,[5] contingency planning analyses risks and establishes arrangements in advance to enable timely, effective and appropriate responses. Contingency planning may therefore strengthen the effectiveness of rerouting by anticipating possible disruption scenarios and establishing institutional, regulatory and operational arrangements to respond to them. Rerouting without an appropriate trade facilitation framework may be less effective and impose additional costs, delays and breaks in the supply chain.

Effective rerouting depends on advance contingency planning and appropriate trade facilitation arrangements

Beyond scenario-specific contingency arrangements, business continuity planning provides a complementary framework for maintaining critical functions during disruptions. Business continuity planning centres on a strategic plan used as a risk management and mitigation tool. It enables organizations, including in transport and logistics, to "prepare for, provide and maintain capabilities for managing an organization's overall ability

[3] Pakistan, Ministry of Commerce, Order S.R.O.691(I)/2026, 25 April 2026. Available at https://www.commerce.gov.pk/wp-content/uploads/2026/04/SRO691.pdf.
[4] See more on the EU–Ukraine Solidary Lanes at https://commission.europa.eu/topics/eu-solidarity-ukraine/eu-assistance-ukraine/eu-ukraine-solidarity-lanes_en.
[5] See https://www.undrr.org/terminology/contingency-planning.

to continue to operate during disruptions" (ISO, 2019). It includes, among others, governance arrangements, measures for firms/companies to maintain operational procedures during disruptions, and steps to strengthen the resilience of critical infrastructure to risks such as climate events, security breaches or cyberattacks.

Business continuity planning is a multilayered concept. While it is generally associated with companies and organizations such as transport operators, it may also cover a site such as a port (UNCTAD, 2022). It may extend beyond the site to cover a transport network, whether unimodal or multimodal, connecting a port to the hinterland and, in the case of international corridors, linking countries across borders.

Business continuity planning is integral to port operations and increasingly relied upon amid growing disruptions

Business continuity plans are essential to port resilience and national emergency preparedness

Ports are critical infrastructure supporting national security and economic activity. Consequently, many port authorities have developed business continuity plans as part of broader national emergency preparedness and resilience frameworks.

UNCTAD's *Building Capacity to Manage Risks and Enhance Resilience: A Guidebook for Ports* offers further analysis and examples of business continuity frameworks in global ports. For instance, in 2004, the Port of Meulaboh, Indonesia, implemented measures to maintain business continuity and increase capacity after tsunami-related destruction (UNCTAD, 2022). In 2023, the Port Authority of Singapore encouraged its maritime communities to "maintain a business continuity plan for haze" (MPA, 2023).

Business continuity planning is supported by international guidance and industry standards such as the code of practice on security in ports (IMO and ILO, 2003). Though not legally binding, the code provides practical recommendations for addressing security in ports. It assists in identifying the roles and responsibilities of governments, employers and workers during a security breach and offers a proactive approach to security in ports. More recently, in 2021, the *IAPH Cybersecurity Guidelines for Ports and Port Facilities* issued recommendations for business continuity during digital disruption (IAPH, 2021). While 80 per cent of ports in high-income countries have a cybersecurity business continuity plan, only 25 per cent of ports in low-income countries have one (World Bank, 2026b).

Port-level plans alone, however, may not be sufficient when disruptions extend beyond an individual port and affect maritime routes and transport corridors involving several countries and varied trade and customs regulatory systems. Such plans may not include the trade facilitation measures implemented by customs and border agencies, such as pre-arrival processing and risk management. Moreover, the use of technology in trade-related regulatory procedures, such as customs clearance through electronic customs single windows and the implementation of port community systems, have greatly improved the readiness of border agencies in responding to disruptions from different national jurisdictions. These allow more predictable trade flows along corridors.

Shipping companies are key players in business continuity across the transport and logistics chain. To preserve continuity and competitiveness, they have increasingly taken steps such as investing in inland transport systems and logistics, technology, data, risk management, customer relations and the formulation of business continuity plans. Box IV.3 presents the example of one container shipping operator. The example is for illustration only, as planning for continuity as well as preparedness requirements and practices vary across stakeholders, sectors, regions and supply chain structures. In general, coordination and collaboration between private operators and public authorities is key.

Box IV.3
Preparedness and planning for continuity in practice by private operators

Private sector operators play a key role in maintaining the flow of goods and strengthening maritime supply chain resilience through preparedness, contingency planning, operational flexibility and business continuity measures. A.P. Moller-Maersk, one of the world's largest integrated logistics providers, has operationalized business continuity planning in response to disruptions.

Dynamic risk-based decision-making

During crises, shipping and logistics operators may apply continuous risk assessment frameworks to determine whether key routes remain viable. Operational decisions, such as suspending transit through high-risk areas, can be taken based on real-time monitoring of security developments and coordination with international authorities and partners.

At Maersk, this dynamic approach reflects efforts to achieve real-time risk visibility, supported by integrated data systems that map global disruptions to specific shipments and supply chain dependencies. Maersk emphasizes real-time exposure mapping and actionable risk insights to enable faster and more informed decisions across its network.

Rapid reconfiguration of transport networks

Planning for continuity is also reflected in the rapid reconfiguration of transport networks when maritime routes become constrained. In response to disruptions affecting the Strait of Hormuz, Maersk has scaled up multimodal land bridge solutions, connecting alternative ports such as Jeddah, Salalah and Khor Fakkan with inland destinations via road and rail corridors. These corridors have allowed cargo flows to continue, effectively shifting part of the transport chain from sea to land. This illustrates how logistics providers can maintain service continuity by leveraging integrated networks rather than relying solely on maritime routes.

Flexible customer solutions and prioritization

Continuity measures are also about achieving operational and commercial resilience to support shippers and mitigate impacts. During crises, Maersk has introduced a range of contingency measures and flexible service options, including extended storage or transit allowances, rerouting options, and the prioritization of essential goods, such as food, medicines and perishable products. Temporary commercial adjustments, comprising extended free time for containers or emergency freight solutions, have also been deployed to provide operational flexibility and mitigate impacts on shippers.

Integrated end-to-end visibility and coordination

A defining feature of Maersk's approach is its integration of ocean, inland transport, customs and supply chain management services. This enables better synchronization across different stages of the logistics chain and facilitates faster recovery. Digital tools providing shipment visibility, predictive tracking and exception management further enhance the ability to anticipate disruptions and coordinate responses across actors. Control tower set-ups and integrated platforms allow companies to manage complex rerouting and modal shifts in near real time.

Passport for goods

Industry-wide, a data-driven "passport for goods" concept is emerging, based on leveraging upstream supply chain data, such as commercial, logistics and product information, to create a digital, continuously updated record of a shipment that can be shared across logistics providers and border agencies. By enabling trusted data-sharing and facilitating more predictable and streamlined border processes, such models support faster recovery during disruptions, particularly when supply chains are rerouted across multimodal corridors.

Implications for trade facilitation and resilience-building in transport and logistics

- Multimodal transport integration is essential: inland transport corridors, including all modes, individually or combined, can be effective substitutes and mitigate the impacts of a disrupted maritime transport network.
- Real-time data are a key enabler: visibility and risk intelligence underpin effective decision-making and coordination, especially in crises.
- Flexibility should extend beyond operations: commercial terms and customer solutions need to adapt alongside changes in physical logistics.
- End-to-end approaches outperform siloed responses: integrated logistics models allow faster and more coherent continuity planning.
- As global supply chains become more exposed to disruptions, including geopolitical factors, climate risks and cyber threats, among others, business continuity planning has moved into sharp focus and is becoming core to trade facilitation.

Source: Maersk (2024 and 2025), selected Maersk case studies on supply chain resilience, Andersson (2026).



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The UNCTAD Trade Facilitation Framework for Corridor-Based Continuity Planning

Responding effectively to transport and logistics disruptions, including in maritime transport and at chokepoints, requires continuity planning that extends along corridors while featuring trade facilitation more prominently. The UNCTAD Trade Facilitation Framework for Corridor-Based Continuity Planning is being developed to help secure international trade and business continuity along corridors during crises. It envisions extending a single continuity planning framework to transport and transit corridors to improve connections and complementarity among customs and non-customs agencies at ports and borders. This would strengthen the preparedness and resilience of all relevant agencies and help activate a coordinated, harmonized emergency plan. It would support the continuity of trade delivery and mitigate supply chain disruptions, particularly for vulnerable economies.

This approach will favour proactive planning. It entails mainstreaming risk management principles and resilience, and is designed for rapid and effective responses, efficiency and cost control. It may involve applying specific trade facilitation measures such as cross-border collaboration, transit harmonization and data exchange among border agencies.

The framework based on predefined continuity criteria could transform trade facilitation into a crisis mitigator and even solver, increasing predictability in uncertain scenarios. Preliminary key elements are:[6]

- A regional framework with coordinated border management
- A list of ports and gateways linked to transport corridors
- Pre-identified alternative multimodal transport and transit routes with trade facilitation arrangements for rapid rerouting
- A list of relevant border agencies
- A list of pre-identified priority goods such as medicines, fertilizers, etc.
- Simplified and facilitated transit procedures
- Information technology interoperability with data exchange along the corridor

The role of a trade facilitation institutional framework in corridor-based continuity planning

International and trade facilitation agreements, tools and regional cooperation could provide an important institutional and regulatory foundation for corridor-based business continuity planning. The United Nations Centre for Trade Facilitation and Electronic Business, in its recommendation no. 44 on cross-border facilitation measures for disaster relief, specifically section 4.3, encourages cross-border regulatory agencies to implement business continuity plans to achieve rapid disaster relief and to update the centre regularly with lessons learned from crises (UNECE, 2021). The United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP), in its study *Towards Sustainable Transport Corridors: Enhancing Road Connectivity in the ESCAP Region for LLDCs and Transit Countries*, encourages inter-agency cooperation and digital customs tools for continuity planning (UNESCAP, 2026). At the fiftieth session of the IMO Facilitation Committee, bilateral business continuity planning between China and Singapore was identified as a best practice in maintaining e-certificate data exchanges for efficient port clearance even in disruptions (IMO, 2026).

International cooperation and trade facilitation frameworks strengthen business continuity across transport corridors

With the increased use of overland and multimodal routes due to increasing disruptions, the United Nations Code for Trade and Transport Locations provides support via a “unique and unambiguous geographic coding scheme” to identify any trade-related geographical place,

[6] The list is preliminary. Further work, outside the scope of the *Review of Maritime Transport*, will be required to refine the concept and formulation of such a framework.

increasing the potential for automation and fewer errors, and therefore facilitating trade (UNECE, 2026). The Customs Convention on the International Transport of Goods under Cover of TIR Carnets further increases the efficiency of inland trade through transit countries by reducing inspections of goods (UNECE, 2025). A United Nations–Transit International Routier (TIR) corridor was used in 2024 between Kuwait and Latvia (13 countries) to bypass the Suez Canal disruption (Rey-Bellet, 2024). Regional and national efforts made the corridor possible. The average level of trade facilitation across those countries in 2023 was 79.57 per cent, above the world average (163 countries) of 66.48 per cent.[7]

The European Union's New Computerised Transit System is a trans-European digital customs system[8] that allows the control of goods moving under the Union and Common Transit procedures sharing transit declarations through a single interface. Especially for land rerouting, the system helps accelerate procedures and avoid unnecessary verifications. Customs and excise duties are suspended along with trade policy measures at the time of import between countries under the Union Transit[9] and Common Transit.[10]

To facilitate harmonized trade facilitation frameworks across corridors, information technology interoperability among border agencies is required, such as through ASYHUB Maritime,[11] an UNCTAD system. It could support business continuity planning through pre-arrival analytics, making it easier to develop and implement continuity plans and pursue rapid trade facilitation solutions during crises. Competing priorities, capacity-building requirements, a lack of political will and limited resources among governments and public sector agencies, however, especially in developing countries, may strand such planning, underscoring the need for strong coordination to effectively respond to emergencies.

3. Leveraging NTFCs to coordinate the Trade Facilitation Framework for Corridor-based Continuity Planning

Article 23.2 of the WTO Agreement on Trade Facilitation stipulates that NTFCs comprise public and private sector stakeholders that coordinate trade facilitation. In crises, NTFCs could play critical roles in formulating and coordinating a trade facilitation framework for continuity planning along trade corridors, with each managing its national jurisdiction.

An UNCTAD survey[12] on business continuity planning in May 2026, however, found that 67 per cent of 54 respondents from 26 NTFCs had no knowledge of business continuity planning (figure IV.17). Four respondents indicated being familiar with the concept through international organizations, such as UNCTAD and the World Customs Organization (WCO). Technical assistance provided by such entities has helped countries create emergency frameworks and build capacity. UNCTAD has created business continuity planning via its ASYCUDA Customs Management System and the Automated System for Relief

[7] An average of countries based on the 2023 results of the United Nations Global Survey on Digital and Sustainable Trade Facilitation, available at https://www.untfsurvey.org/. Values for Romania, Slovakia and the United Arab Emirates are not available.

[8] See more at https://taxation-customs.ec.europa.eu/online-services/online-services-and-databases-customs/new-computerised-transit-system-ncts_en.

[9] All European Union countries, Andorra and San Marino.

[10] European Union countries, European Free Trade Area countries, Georgia, Moldova, Montenegro, the Republic of North Macedonia, Serbia, Türkiye, Ukraine and the United Kingdom.

[11] For more information, see https://www.asyhub.org/.

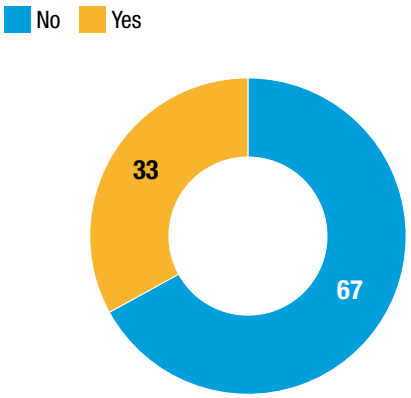
[12] The survey was sent to 33 NTFCs selected based on geographical and geopolitical specificities (e.g., recent conflicts, climate change risks, existence of regional frameworks). NTFC coordinators either responded themselves or shared the survey with other NTFC members. Out of 54 respondents from 26 NTFCs in low-, middle- and high-income countries, 93 per cent were public sector representatives. More information is available at https://forms.cloud.microsoft/e/cpA71NqmuS.

Consignments (ASYREC).[13] Additionally, it has developed the Rapid Scan trade facilitation preparedness tool, which maps emergency trade facilitation regulations in developing countries, assesses how these apply to crises and offers post-crisis recovery solutions.[14] The WCO assisted countries with customs continuity during the COVID-19 pandemic (WCO, 2021).

The survey also showed that a large majority of respondents favoured business continuity plans being implemented within public agencies such as NTFCs (figure IV.18). They also endorsed NTFCs as custodians of national business continuity strategies during disruptions affecting trade, due to their coordinating mandate between public and private sectors, which supports the flow of information and efficiency (UNCTAD, 2026e).

Figure IV.17
Business continuity planning knowledge, implementation and archiving efforts
(Percentage of survey respondents)

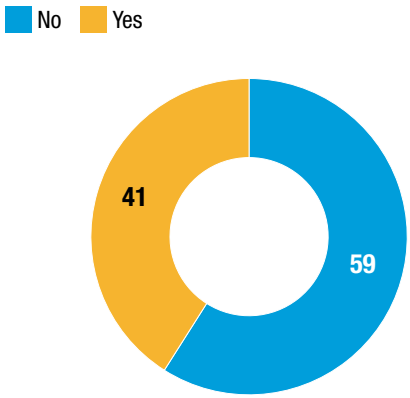
A. Are you familiar with business continuity planning or management?



Source: UNCTAD survey and calculations, 2026.

Note: Based on the total number of respondents to a close-ended survey question: Were you familiar with the concept of business continuity planning or business continuity management prior to this survey? Answers could either be "yes" or "no".

B. Does your agency have archiving and learning practices in place?



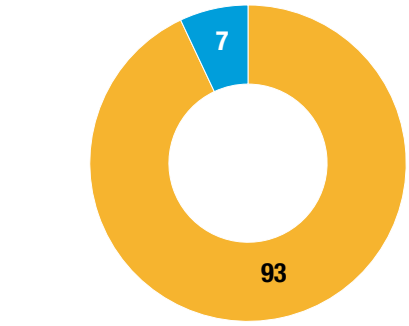
Source: UNCTAD survey and calculations, 2026.

Note: Based on the total number of respondents to an open-ended survey question: Does your agency have an archiving/lessons learned system from previous crises that would facilitate the drafting of a business continuity plan? Answers were interpreted and compiled into "yes" or "no".

[13] For more information, see https://asyworld.gov.vu/content.jsf?c=BCP and ASYREC at https://www.asyrec.org/.

[14] For more information, see https://unctad.org/topic/transport-and-trade-logistics/trade-facilitation/rapid-scan. Countries such as Bolivia and Ecuador have Rapid Scans, and monitor and evaluate them through the UNCTAD Reform Tracker, available at https://reformtracker.org/.

Figure IV.18
Should NTFCs coordinate business continuity planning against trade disruptions?
(Percentage of survey respondents)

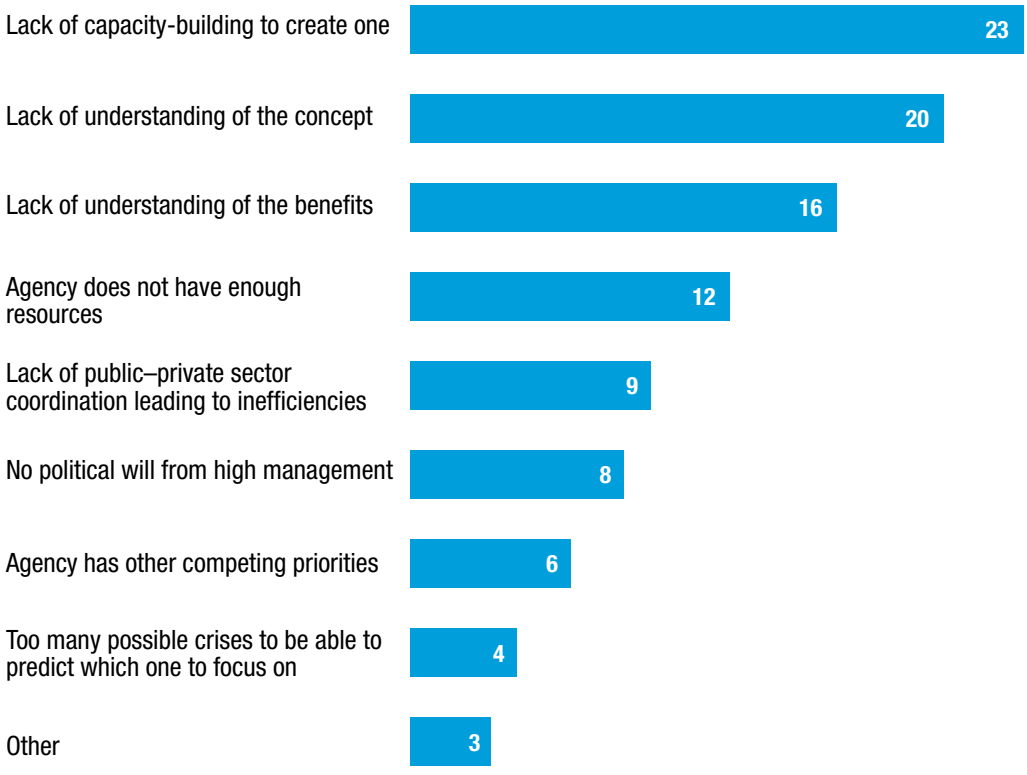


Source: UNCTAD survey and calculations, 2026.

Note: Based on the total number of respondents to a close-ended survey question: Would you (do you) find it useful for your NTFC to coordinate the business continuity plans of members for crises affecting trade? Answers were either "yes" or "no".

Nevertheless, as Figure IV.19 reveals, obstacles remain to formulating and implementing business continuity plans.

Figure IV.19
Challenges in creating a business continuity plan
(Percentage of survey responses)



Source: UNCTAD survey and calculations.

Note: Based on the total number of responses from developing countries, including least developed countries and small island developing States, to a multiple-choice survey question: Why is there no business continuity plan in your agency? Respondents could provide more than one answer.

A working group on continuity planning under an NTFC could help increase stakeholder engagement during preparation, response and emergency termination phases. Adding crisis preparation and management aspects to NTFC responsibilities could enhance their relevance in business continuity during supply chain disruptions. Since countries often have disaster management authorities with preparedness and early warning mechanisms (WCO, 2021), NTFCs would need to increase collaboration with these bodies and combine efforts when disruptions affect trade and transport.[15]

In addition to NTFCs, regional economic communities could also initiate corridor-based continuity planning, since corridors are regional in nature. The East African Community illustrates proactive and strategic crisis planning (box IV.4).

Box IV.4
The East African Community's regional business continuity measures

The East African Community implements measures to maintain business as usual during supply chain disruptions. Its Secretariat and partner States (Burundi, the Democratic Republic of the Congo, Kenya, Rwanda, Somalia, South Sudan, Uganda and the United Republic of Tanzania) have a mix of contingency measures built into the East African Community Customs Union, one-stop border post frameworks and implementation of the WTO Agreement on Trade Facilitation. These measures are not branded as business continuity planning. But they support continuity during shocks such as border closures, floods, truck driver strikes or diseases. Partner States also have disaster management plans.

Among the contingency measures implemented, four in particular stand out. Enhanced by regional legislation, they include the following.

One-stop border posts and coordinated border management allow the clearance of goods in one location on the border. During disruptions, partner States activate joint standard operating procedures to prevent trucks from being reinspected on both sides of the border. During COVID-19, regional cargo driver testing as well as "trusted traveller" protocols kept corridors open while restricting passenger movement.

Corridor governance and performance monitoring: Northern and central corridor transport observatories track truck turnaround, dwell time and bottlenecks. When disruptions hit, the Secretariat uses data to trigger interventions such as escorted convoys, temporary weigh bridge exemptions or alternative routing advice.

Electronic systems and paperless trade: The UNCTAD ASYCUDA Customs Management System, Tanzania Customs Integrated System, Integrated Customs Management System and national single windows allow traders to submit remote declarations. The East African Community's Electronic Cargo Tracking System and Regional Customs Bond Guarantee Scheme keep transit cargo moving even if one customs office is down.

Simplified regimes for small traders: During crises, simplified trade regimes and exemptions for low-value consignments expand to maintain informal cross-border trade flows that sustain border communities.

[15] The contact points of disaster management offices are available at https://reliefweb.int/national-disaster-management-authorities.

The East African Community Customs Management Act and regional regulations provide a legal basis for partner States to harmonize responses and solutions, instead of each country closing borders independently.

Despite many advantages, regional business continuity planning remains underdeveloped in the Community. Scaled-up implementation could achieve several benefits.

Gaps filled: Formal regional business continuity planning would map cross-border dependencies. For instance, Juba relies on Mombasa, which in turn relies on Nimule, which impacts Juba. National planning cannot ensure the resilience of this chain, but a regional plan would pre-agree on alternate corridors, shared commodity lists, pre-cleared trader/authorized economic operators lists and joint communications protocols.

Speed: Instead of ad hoc negotiations, regional plans provide pre-agreed "playbooks" for border agency cooperation, electronic document acceptance and temporary flexibilities around sanitary and phytosanitary measures and technical barriers to trade. This increases procedural speed.

Resilience: Without regional planning, one partner State closing a border creates cascading delays for all countries in the region. A regional plan could define synchronized "essential goods" lanes, mutual recognition of inspections and shared risk management.

Private sector confidence: Traders, insurers and financiers price in uncertainty. A published regional business continuity plan would lower risk premiums and help logistics firms plan alternatives.

Efficient business continuity plans define pre-agreed definitions for "essential goods", pre-qualified traders and shared information technology contingency plans before the next shock hits. Furthermore, a regional plan should be modular by corridor, tiered by disruption type, linked to national plans, and tested through simulations with NTFCs and the private sector. A successful plan also requires communications, as traders need real-time updates via trade information hubs, not just government circulars.

Investing in national efforts to implement the WTO Agreement on Trade Facilitation would further support business continuity planning, as solutions are enabled by risk management, single windows, border agency cooperation and authorized operators. Technical assistance for Category C measures[16] would directly impact the scope of business continuity planning.

In short, a regional business continuity framework is the next step from "faster clearance" to "continuity during shocks".

Source: East African Community Secretariat.

[16] Provisions to implement following the entry into force of the Agreement on Trade Facilitation and requiring assistance and support for capacity-building. For more, see https://www.wto.org/english/tratop_e/tradfa_e/tradfatheagreement_e.htm#:~:text=Category%20C%3A%20provisions%20that%20the,and%20support%20for%20capacity%20building.

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