Office for National Statistics

Statistical bulletin

UK trade flows of containerised products through global maritime passages: 2020 to 2024

The first estimates of UK trade flows of containerised products through five global maritime passages between January 2020 and December 2024. These passages include the Strait of Dover, Suez Canal, Strait of Hormuz, Cape of Good Hope, and Taiwan Strait.

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1 . Main points

- UK trade volumes through the Suez Canal declined in 2024 because of instability in the Middle East, which prompted a rerouting of container ships; leading imports by volume through this passage included furniture, nuclear reactors, boilers, machinery, plastics, and mechanical appliances, while top exports included pulp of wood, cereals, and beverages.

- Container ships involved in UK trade showed a marked increase in rerouting via the Cape of Good Hope in 2024; journey patterns showed a surge in container ships that passed around the Cape of Good Hope to and from regions typically served by the Suez Canal, indicating a shift in ship routing.

- Top UK imports by volume via the Cape of Good Hope included furniture, nuclear reactors, boilers, machinery, and mechanical appliances, while leading exports were pulp of wood, iron and steel, and beverages.

- Iron and steel, and plastics were among the top UK imports by volume that passed through the Strait of Hormuz, with pulp of wood and textiles consistently ranking among the top UK exports for this passage.

- Edible fruits and nuts, and furniture maintained high import volumes and rankings between 2020 and 2024 through the Strait of Dover and the top UK exports were pulp of wood and beverages.

- The UK’s highest imports by volume that passed through the Taiwan Strait between 2020 and 2024 included furniture, nuclear reactors, boilers, machinery and mechanical appliances, and plastics, whereas beverages were the leading UK exports for this passage.

2 . Overview

This bulletin presents the first estimates of UK trade flows of containerised products through five global maritime passages between January 2020 and December 2024. These statistics are based on an experimental methodology that links two main sources of data: the first is the Automatic Identification System (AIS). The AIS frequently records ship-position data and ship-specific metadata and is received around the globe by shoreline- and satellite-based transceivers for maritime traffic safety. It is collated and made available by the UN Global Platform.

The second data source is shipping instructions (SI) data. SI data detail goods by type, quantity, and shipment origins and destinations, from which import or export status can be inferred, linked to specific cargo containers and the ships that they are loaded onto for maritime transport. This approach has not previously been applied at this scale globally and, for the first time, enables identification of which products are transported through specific maritime passages.

The work presented in this bulletin is subject to important data quality caveats. The SI dataset covers about 50% of UK containerised maritime trade and only trade where containers are loaded and unloaded using cranes. Ro-Ro (Roll-on Roll-off) trade for wheeled cargo is excluded from this analysis. Linkage with AIS data is limited by missing fields, and Harmonised System (HS) code data (which identify the type of goods in each container) is missing for about 40% of the SI records. This leaves only 60% complete, leaving goods unknown for around 40% of containers.

Shipping insights gained from this linked AIS-SI data will help inform strategic decisions related to global crises, port disruptions and risks associated with specific global maritime passages. Previously, it was possible to identify UK imports or exports through traditional trade sources and ship movements through AIS data. However, it was not possible to infer the maritime routes that containerised imports or exports took to the UK. The integration of AIS and SI data now provides detailed, product-level insights, enabling the identification of potential supply chain vulnerabilities and improving the knowledge and understanding of how UK trade flows are impacted by localised or global disruptions.

Analyses are provided by passage and product category, using HS-2 and HS-4 classification levels to offer detailed insights into trade flows and potential vulnerabilities. HS-2 refers to the first two digits of the HS code and groups products into broad categories (approximately 100 chapters). HS-4 is more granular, using four digits to define specific product groups (approximately 1,200 categories). These are official statistics currently under development.

The selection of analysed passages was based on their strategic importance, high traffic volume, geopolitical significance and economic impact. Figure 1 shows the locations of the maritime passages covered in this bulletin.

Figure 1: Locations of the maritime passages covered in this bulletin

Figure 2 illustrates the monthly aggregated container volumes that passed through each maritime passage over time for UK imports and exports between 2020 and 2024. Monthly volumes are measured in twenty-foot equivalent units (TEU), a standard unit of measurement in container shipping, representing the capacity of a 20-foot-long container. The passages covered in this analysis are:

- Strait of Dover
- Suez Canal
- Strait of Hormuz
- Cape of Good Hope
- Taiwan Strait

We have excluded data points from periods where the data were deemed unreliable. This is because of poor quality AIS data or incomplete SI data as explained in Section 6: Data sources and quality. The Bab Al-Mandab Strait, which was covered in our Ship crossings through global maritime passages: January 2022 to April 2024 bulletin, is not included in this analysis because of poor-quality AIS data in the Red Sea since October 2023, which reduced ship-tracking accuracy and prevented reliable analysis.

This work was funded by the Department for Business and Trade (DBT).

Figure 2: UK imports and exports of containerised goods via global maritime passages reached their highest levels in mid-2024 following major challenges caused by Houthi attacks in the Middle East in late 2023, while Suez volumes remained minimal

Notes:

1. Values that have been suppressed as part of disclosure control are not reflected in the charts. Refer to the underlying dataset to view which values have been suppressed.

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3 . Analysis of passage

Strait of Dover

Located between South-East England and Northern France, the Strait of Dover connects the English Channel to the North Sea. As one of the world's busiest maritime passages, it plays a vital role in facilitating the movement of goods and passengers between mainland Europe and the UK. Following the UK’s departure from the European Union, trade through the Strait of Dover has faced logistical challenges, yet volumes have remained resilient.

UK imports of edible fruits and nuts, and furniture maintained high volumes and rankings between 2020 and 2024 through the Strait of Dover.

The top UK exports by volume between 2020 and 2024 were pulp of wood and beverages.

At the HS4 level, between 2020 and 2024, recovered paper or paperboard was the top export by volume, while wine of fresh grapes, including fortified wines was the top import.

Figure 3: UK imports and exports of containerised goods through the Strait of Dover fell sharply after Houthi attacks at the end of 2023 before surging in mid-2024

Notes:

1. Values that have been suppressed as part of disclosure control are not reflected in the charts. Refer to the underlying dataset to view which values have been suppressed.

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Figure 4: Explore UK imports and exports of containerised goods through the Strait of Dover between 2020 and 2024 at Harmonised System (HS) 2 and HS4 classification levels

Notes:

1. Values that have been suppressed as part of disclosure control are not reflected in the charts. Refer to the underlying dataset to view which values have been suppressed.

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Suez Canal

The Suez Canal, an artificial waterway located in Egypt, connects the Mediterranean Sea with the Red Sea. It serves as a vital maritime shortcut, enabling ships to avoid the lengthy and costly journey around the Cape of Good Hope located in Southern Africa, thereby significantly reducing travel time and expenses for trade between Asia and Europe. As a strategic gateway to and from the Red Sea, the Suez Canal facilitates the transport of important commodities such as oil and natural gas, underscoring its global economic importance. However, Houthi attacks around the Red Sea from October 2023 prompted a substantial rerouting of ships via the Cape of Good Hope, contributing to a marked decline in Suez Canal traffic throughout 2024. This shift notably affected UK imports and exports of strategic goods.

UK import volumes showed a sharp decline in 2024, dropping to near zero, coinciding with increased container ship traffic around via the Cape of Good Hope. Between 2020 and 2024, furniture, and nuclear reactors, boilers, machinery and mechanical appliances consistently ranked among the top UK imports. In 2024, articles of apparel declined considerably, whereas plastics saw a notable rise in rank.

UK export volumes also declined in 2024. Pulp of wood remained the largest export, while preparations of cereals, flour, starch or milk increased in proportion in 2024, becoming the second most UK exported product via the Suez Canal.

At the HS4 level between 2020 and 2024, recovered paper or paperboard was the leading export category by volume, while furniture was the top import category.

Figure 5: UK imports and exports of containerised goods via the Suez Canal fell to near zero in the beginning of 2024 after the start of Houthi attacks in November 2023

Notes:

1. Values that have been suppressed as part of disclosure control are not reflected in the charts. Refer to the underlying dataset to view which values have been suppressed.

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Figure 6: Explore UK imports and exports of containerised goods through the Suez Canal between 2020 and 2024 at Harmonised System (HS) 2 and HS4 classification levels

Notes:

1. Values that have been suppressed as part of disclosure control are not reflected in the charts. Refer to the underlying dataset to view which values have been suppressed.

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Strait of Hormuz

The Strait of Hormuz, located between the Persian Gulf and the Gulf of Oman, links important trade routes between the Persian Gulf and Asia, Europe and Africa. It serves as a primary route for oil and liquefied natural gas shipments from the Persian Gulf. Trade flows through the Strait of Hormuz can be affected by ongoing geopolitical tensions in the region.

UK trade through the Strait of Hormuz saw imports roughly double between September and October 2021, while exports declined, reflecting supply chain disruptions caused by the coronavirus (COVID-19) pandemic. Ship crossings remained stable, but container volumes rose significantly. Overall product volumes through the strait remain lower than other routes, making the change less pronounced in a broader context.

Seven products consistently ranked among the top ten UK exports by volume that passed through the Strait of Hormuz each year, indicating a stable export pattern. The top UK imports by volume that passed through the Strait of Hormuz are iron and steel and plastics and their volume remained high across all five years.

Pulp of wood and textile articles are regularly the top UK exports by volume that passed through the Strait of Hormuz.

At the HS4 level, the top export by volume was recovered paper or paperboard, while the leading import was polymers of ethylene in primary forms.

Figure 7: UK exports in containerised goods through the Strait of Hormuz recovered in mid-2024 after disruption in the Middle East caused by Houthi attacks in late 2023

Notes:

1. Values that have been suppressed as part of disclosure control are not reflected in the charts. Refer to the underlying dataset to view which values have been suppressed.

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Figure 8: Explore UK imports and exports of containerised goods through the Strait of Hormuz between 2020 and 2024 at Harmonised System (HS) 2 and HS4 classification levels

Notes:

1. Values that have been suppressed as part of disclosure control are not reflected in the charts. Refer to the underlying dataset to view which values have been suppressed.

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Cape of Good Hope

The Cape of Good Hope, situated at the southern tip of Africa, is a maritime route that connects the Atlantic and Indian Oceans. It is a significant conduit for trade and enables the movement of goods between Europe and Asia, and around Africa.

The Cape of Good Hope saw a surge in UK-bound container ships in 2024, reflecting rerouting because of insecurity in the Red Sea. This shift increased transit times by several weeks but ensured continuity of trade. The Cape of Good Hope's role as a fallback route highlights its importance during route disruptions through the Red Sea.

In 2024, the volume of UK imports routed around the Cape of Good Hope increased by nearly 40 times compared with 2023, aligned with ship rerouting from the Suez Canal. Several product categories recorded substantial increases in imports by volume via this passage in 2024 compared with 2023, including furniture, nuclear reactors, boilers, machinery and mechanical appliances, plastics, and toys.

UK exports by volume around the Cape of Good Hope in 2024 also saw substantial increases for several product categories compared with 2023, notably pulp of wood, beverages and iron and steel.

At the HS4 level between 2020 and 2024, the top export by volume was recovered paper or paperboard, while the leading import was citrus fruit, fresh or dried.

Figure 9: UK imports and exports via the Cape of Good Hope increased significantly in late 2024 following disruption in the Middle East caused by Houthi attacks

Notes:

1. Values that have been suppressed as part of disclosure control are not reflected in the charts. Refer to the underlying dataset to view which values have been suppressed.

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Figure 10: Explore UK imports and exports of containerised goods through the Cape of Good Hope between 2020 and 2024 at Harmonised System (HS) 2 and HS4 classification levels

Notes:

1. Values that have been suppressed as part of disclosure control are not reflected in the charts. Refer to the underlying dataset to view which values have been suppressed.

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Taiwan Strait

Located between Taiwan and China, the Taiwan Strait connects the East China Sea with the South China Sea, allowing the movement of passengers, goods, and energy resources between important economic hubs such as China, Taiwan, Japan, and global markets.

Furniture, nuclear reactors, boilers, machinery and mechanical appliances, and plastics consistently appeared as important UK imports by volume that passed through Taiwan Strait.

Beverages were the leading UK exports by volume that passed through the Taiwan Strait between 2020 and 2024.

At the HS4 level, the top export by volume was undenatured ethyl alcohol of alcoholic strength of less than 80%, while the leading import was seats and parts thereof.

Figure 11: UK imports of containerised goods through the Taiwan Strait surged to multi-year highs in mid-2024 after global trade flows were severely affected by Houthi attacks in the Middle East in late 2023

Notes:

1. Values that have been suppressed as part of disclosure control are not reflected in the charts. Refer to the underlying dataset to view which values have been suppressed.

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Figure 12: Explore UK imports and exports of containerised goods through the Taiwan Strait between 2020-2024 at HS2 and HS4 classification levels

Notes:

1. Values that have been suppressed as part of disclosure control are not reflected in the charts. Refer to the underlying dataset to view which values have been suppressed.

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4 . Data on UK trade flows of containerised products through global maritime passages

UK trade flows of containerised products through global maritime passages
Dataset | Released 8 December 2025
Estimates of UK trade flows of containerised products through five global maritime passages between January 2020 and December 2024. These passages include the Strait of Dover, Suez Canal, Strait of Hormuz, Cape of Good Hope, and Taiwan Strait.

5 . Glossary

Automatic Identification System (AIS)

An automatic tracking system that uses ship-mounted transceivers to transmit position data in near real-time, enabling accurate monitoring of ship movements. Ships transmit this data every few seconds using onboard transceivers and include information on their location, identification and characteristics, for instance, cargo ship or tanker.

Shipping Instructions data (SI)

Shipping Instructions data (derived from the Bill of Lading) provide detailed information on the type, quantity, origin, intermediate port-stops and destination of goods transported in containers. These data are recorded in a legal document between the shipper (the seller of the goods) and the carrier (the entity responsible for sea transport). Shipping Instructions offer granular insights, including the specific products contained in each shipment and the routes taken by vessels, enabling a more detailed understanding of global trade flows.

Maritime passages

Passages of water that are important because of their role in international trade, maritime navigation and geopolitics. Monitoring traffic passing through them provides insights into trade patterns, the health of the global economy and can help detect potential supply chain issues.

Cargo ships

Ships that transport goods and commodities, including general cargo, container, roll-on roll-off cargo, refrigerated cargo and other dry cargo ships.

Container ships

Ships that carry cargo that can be moved onto or off a ship vertically using cranes, rather than using ramps (as in Ro-Ro trade). These ships were previously referred to as Lift-on Lift-off (Lo-Lo) cargo ships.

Roll-on roll-off (Ro-Ro) cargo ships

Ships that carry cargo that can be moved onto or off a ship either by their own propulsion (for example, passenger car), or with assistance (for example, unaccompanied trailer). The cargo is loaded and unloaded onto the ship using built-in ramps.

6 . Data sources and quality

We estimate the volume of maritime crossings by analysing ship position data collected via Automatic Identification System (AIS).

AIS provides near real-time information regarding the position of ships, enabling precise monitoring of their movements. Ships transmit these data every few seconds using onboard transceivers and include information on their location, identification and characteristics, for instance, cargo ship or tanker. AIS data are provided to the Office for National Statistics (ONS) by Exact-Earth and Spire Global, and accessed via the United Nations Global Platform.

To count crossings of a particular maritime passage, we define zones at either end of the passage and define a ship as having crossed if it enters both zones within a fixed time period. For more details on the methodology used, see our Ship Traffic in Critical Maritime Passages blog.

Detected passage crossings are linked with Shipping Instructions (SI) data, which provide information on the type of goods (Harmonised System (HS) code), quantity, and origin or destination of containerised shipments. These data, covering UK imports and exports, have been procured from ThinkData Works since 2021 by the Department for Business and Trade, and the Department for Transport.

Quality assurance was carried out to evaluate the end-to-end performance of the AIS–SI linkage pipeline. We manually linked a subset of the data and compared the pipeline's results against these benchmarks. Our assessment showed that the data linkage process in our AIS–SI pipeline demonstrated high reliability and strong overall performance, effectively minimising incorrect matches while capturing the majority of valid linkages. However, there remain quality limitations endemic to the individual datasets themselves, which we detail in the following section.

Strengths and limitations

Strengths

- Addresses previous data limitations: combines AIS and SI data to overcome gaps where AIS lacked cargo details and SI lacked route information, providing a more complete view of trade flows.

- Improved accuracy of route interpretation: records actual ship crossings through maritime passages rather than relying on port traffic, providing a clearer representation of trade routes.

- Supports disruption and risk analysis: by linking goods to routes, the approach enables assessment of how events such as canal blockages or industrial action affect trade flows and helps identify potential vulnerabilities to inform strategic decisions.

Limitations

- The SI dataset covers approximately 50% of containerised trade coming to and from the UK and only trade where containers are loaded and unloaded using cranes, Ro-Ro (Roll-on Roll-off) trade for wheeled cargo is excluded from this analysis. We are not certain what type of goods are being carried in approximately 40% of containers. This is because HS code data (which identify the type of goods in each container) is missing for about 40% of the SI records, leaving only 60% complete. Accurate linkage with AIS data is also hindered by missing or incomplete fields. As such, absolute figures should be treated with caution, although trends over years are more robust.

- As most maritime trade is for dry bulk and liquid bulk, containerised trade accounts for about 18% of the UK' s international maritime trade by weight (Department for Transport Port Freight Statistics, 2024).

- Owing to poor-quality AIS data, some passage crossings may be incorrectly identified or missing; while our algorithm reduces a portion of the errors, some may persist.

- Since October 2023, there has been a rise in incidents of interference affecting AIS displays in the Red Sea region, potentially reducing the accuracy of ship tracking in the area. The resulting poor-quality data, especially around Bab Al-Mandab, prevented us from including analysis for this strait in this publication.

- Ship type comes from a single ship's register; the register was last updated on 30 October 2023 and may not assign correct information for all ships throughout the year.

- Some products will be shipped through two or more of the passages analysed in this publication. These overlaps have not been accounted for.

7 . Related links

Ship crossings through global maritime passages: January 2022 to April 2024
Bulletin | Released 24 April 2024
Estimates of the volume of maritime crossings through six global maritime passages between January 2022 and April 2024, broken down by ship type. The analysed passages are: the Strait of Dover, Suez Canal, Bab Al-Mandab Strait, Strait of Hormuz, Cape of Good Hope and Taiwan Strait. These are official statistics in development.

Using new shipping data to improve government understanding of trade flows
Blog | Released on 26 January 2023
A blog exploring the assessment and initial analysis of a new data source: shipping instructions data.

Ship traffic in critical maritime passages
Blog | Released on 24 April 2024
A blog explaining how we have been working with the Department for Business and Trade (DBT) and the Department for Transport (DfT) to develop experimental statistics that measure the volume of ship traffic through global maritime passages.

8 . Cite this statistical bulletin

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