

‘Thinking inside the box’

‘A soulless aluminium or steel box held together with welds and rivets [and with]... all the romance of a tin can’.

Mark Levinson, *The Box*

Our present generation is more mobile than ever: we have travelled further and faster than ever before. Costs for transport have reduced dramatically, as the air network has expanded its connectivity and travel times have similarly been reduced. Every year, billions of tonnes of goods cross the world’s oceans, following the principal trade routes. The most important forms of transport for global trade are tankers, bulk carriers and container ships. The largest of these ships now carry nearly 24,500 containers, packed with consumer goods and other materials.

Maritime transport is a vital part in the global economy. Around 90% of all trade is carried for at least part of its journey via sea routes, on a fleet of over 50,000 ships, carrying over 1.95 billion metric tons of cargo every year.

This lesson explores the routes taken by the largest container ships and the important decisions made in the background to keep them arriving on time.



Starter

Download: [Starter Question sheet](#) (PDF)

Explain that this is a shipping container.

- When might students have seen them, and where?
- What are they used for?

Main activity

The MSC Irina is the world's biggest carrier, is 399.9 metres in length, 61,3 metres wide, and can hold 24,346 containers.

What lies behind this growth in the size of these ships and where they can dock?

[Watch this video about the MSC Irina](#)

The world's ten biggest shipping companies are:

1. Maersk, Denmark
2. MSC, Switzerland
3. CMA-CGM, France
4. COSCO, China
5. Hapag-Lloyd, Germany
6. Evergreen Marine Corporation, China
7. CSCL – China Shipping Container Lines (China)
8. Hyundai Merchant Marine, South Korea
9. Yang Ming Marine Transport Corporation, Taiwan
10. Mitsui O.S.K. Lines, Japan

These shipping companies require ever larger ships, which can carry more and more containers, but are not able to dock anywhere other than the very largest port.

- Can students identify the names of any ports?
- Where do they think the largest ports are?

Information:

Shipping containers are at the heart of this global activity, but they are only a box. It is the automated system behind them that is the important aspect of the way that global trade works. It reduces cost and complications on the journey.

It reduced cost by removing the need for dockers and stevedores to unload cargoes several times at each point where a mode of transport changed.

The same container can slot onto the deck of a ship, a lorry or a train. Shipping containers are stacked down in the hold and also on the deck. Inventory is done using bar codes, which are then used to track the shipment.

When a ship is docked, there is great urgency, as every hour is expense to the shipping lines.

For a ship to pass through the Suez Canal, there is a cost of hundreds of thousands of pounds in fees, and ships approaching (or leaving from) the southern exit are at risk of attack from Somalian pirates. For this reason, some shipping companies are considering developing the Northern Sea Route.

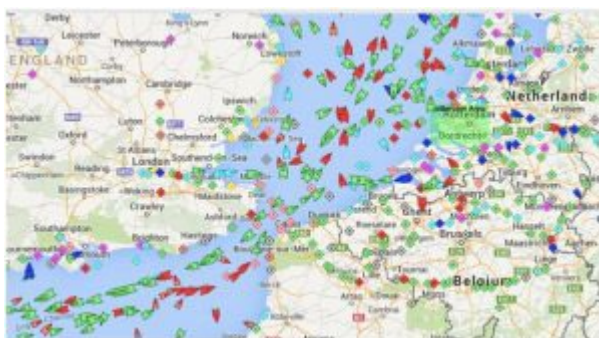
- What are the major routes taken by the largest container ships?
- How do they connect up the world?

Hand out a [blank World Map](#) (PDF) and the [Ship Tracking sheet](#) (PDF)

Describe to students the usual routes that are taken from Chinese ports to the EU ports of Rotterdam and elsewhere once they have the map.

[Visit the AIS website](#)

Download – [AIS – Quick Start Guide information sheet](#) (PDF)



We are going to explore some of the ships from the Maersk shipping line, the World's largest. Select one (or two) of the following container ships operated by the Maersk company. These include the following:

- Maersk Innoshima
- Maersk Batam
- Maersk Cape Coast
- Emma Maersk

There are many more ships, which can be found using the search function at the top of the page. You can identify a range of information about the ships on the site too.

For the ship that you have identified:

a) What flag do these ships sail under?

b) How large is the ship – length and width (you might want to visualise how large the ship actually is by pacing it out on the school field, or using a trundle wheel if one is available – this might help you imagine their scale – measurements can also be made using Google Maps – right-click on the map and click the points that you want to measure)

c) Where is the ship currently located?

d) Where is the ship heading?

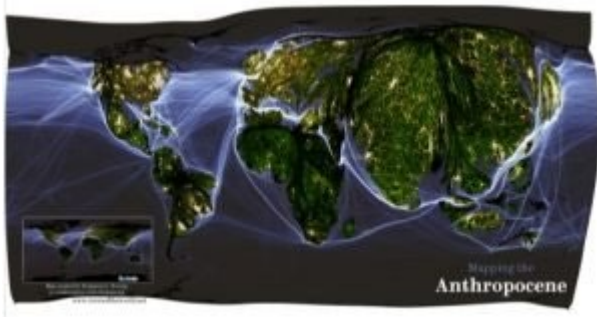
e) How old is the ship?

Extended activity

Follow the ship(s) periodically over the next two months to see the route(s) taken and the port(s) visited. If you do this for long enough you will find that many of these shipping containers are shuffling backwards and forwards along the same routes, as they will do once they start travelling on the UK's motorways and freight lines.

Use the [Ship Tracking Sheet](#) (PDF) to keep a track of the ship.

Mark the location onto the [blank World Map](#) (PDF), or a larger copy, which could be put onto the wall of the classroom.



Students should then prepare a short presentation on the routes taken by their ship. If these are collated on a larger map do any patterns emerge?

How do the routes compare with those shown on this image, which has been produced by Ben Hennig?

Shared under Creative Commons license, and available from <http://www.viewsoftheworld.net>

[Download image](#) (PDF)

Plenary

Discussion:

- What factors might lead to a ship being delayed? How could the potential for these factors happening be reduced?
- Investigate the risks facing containers ships, which might interfere with their itinerary.

Working on the sea is a very dangerous profession. Do we always appreciate the efforts that go into bringing our 'stuff' to us?

Additional reading and resources

[Submarine Cables map](#) – is there a connection between the ocean floor and the ships that sail above it?

Further details of the world's largest container ships can be seen [here](#).

10 interesting transport maps: <http://gisgeography.com/10-global-transportation-maps/>

Source of Ben Hennig's Anthropocene map: <http://www.viewsoftheworld.net/?p=2079>

Books on the theme of container ships:

- 'Down to the sea in Ships' – Horatio Clare (Vintage, 2015)
- 'Deep Sea and Foreign Going' – Rose George (Portobello, 2013)
- 'The Box: How the shipping container made the world smaller and the world economy bigger' – Marc Levinson (Princeton University Press, 2016)