THE HISTORY OF CONTAINER

What led to the container becoming the method of choice to move manufactured goods around the World?

Life before the box

For many thousands of years, mankind has shipped goods across the oceans, from one land to another. Think of the great seafaring peoples; the Phoenicians, Egyptians, Greeks, Romans, Portuguese, Spanish, British and many more. Sailing the world looking for new treasures, they brought home and traded food, jewels and materials that their countrymen had never seen before.

But the process was never easy. The loading and unloading of individual goods in barrels, sacks and wooden crates from land transport to ship and back again on arrival was slow and cumbersome to say the least. Even up to the second half of the 20th Century, this 'break-bulk' system was still in use and cargo was often carried by passenger vessels as well as later by general cargo vessels.

Loading and unloading was very labour intensive: a vessel might easily spend more time in port than at sea while dockworkers manhandled cargo into and out of tight spaces below decks. There was also high risk of accident, loss and theft.

There were some basic systems in place to make the process more efficient, such as the use of rope for bundling timber, sacks for carrying coffee beans, and pallets for stacking and transporting bags or sacks. However, industrial and technological advances, such as the spread of the railways in the 18th century, highlighted the inadequacies of the cargo shipping system. The transfer of cargo from trains to ships and vice versa became a real problem.

The birth of the modern container and 'intermodalism'

Before the container shipping industry emerged, boxes of various types and sizes had often been used in transporting cargo simply because they were the logical way to move things en masse from one location to another. Boxes similar to modern containers had been used for combined rail- and horse-drawn transport in England as early as 1792. The US government used small standard-sized containers during the Second World War, which proved a means of quickly and efficiently unloading and distributing supplies. Instead of shipping commodities in bulk, army and navy specialists began to mix cargo by loading it onto pallets, then loading the pallets into specially constructed boxes. However, despite these developments, cargo handling was almost as labour-intensive after World War II as it had been in the mid-1800s.

Then, in 1955, Malcolm McLean, a trucking entrepreneur from North Carolina, USA, bought a steamship company with the idea of transporting entire truck trailers with their cargo still inside. He realised it would be much simpler and quicker to have one container that could be lifted from a vehicle directly on to a ship without first having to unload its contents.

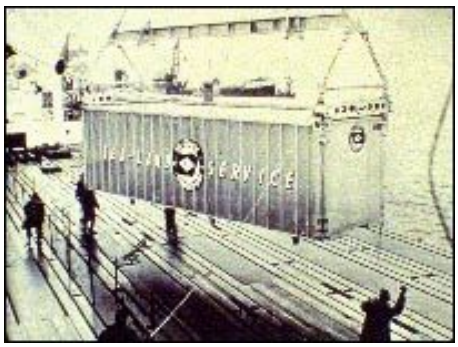
These ideas were based on the theory that efficiency could be vastly improved through a system of 'intermodalism', in which the same container, with the same cargo, can be transported with minimum interruption via different transport modes during its journey. Containers could be moved seamlessly between ships, trucks and trains. It would simplify the whole logistical process and, eventually, lead to a revolution in cargo transportation and international trade over the next 50 years.

But to realise intermodal cargo transport all areas of the logistical chain needed to be considered: not just the containers, but the ships, terminals, trucks and trains would need to be adapted to carry them.

It was a logical step that container sizes should be standardised so that they could be most efficiently stacked and so that ships, trains, trucks and cranes could be specially-fitted or built to a single size specification. This standardisation would eventually need to apply across the global industry as container shipping companies began to carry containers belonging to other lines.

In 1960 international steering groups began discussing what the standard container sizes should be and in 1961 the International Organisation for Standardisation set standard sizes of which the two most important were, 20-, and 40-foot lengths. The 20-foot container, referred to as a Twenty-foot Equivalent Unit (TEU), became the industry standard reference with container traffic and vessel capacity being measured in TEUs. The 40-foot length container - literally '2 TEUs' – became known as the Forty-foot Equivalent Unit (FEU).

The birth of the container ship



On 26 April 1956, Malcolm McLean's converted Second World War tanker, Ideal X, made its maiden journey from Port Newark to Houston in the USA. It had a reinforced deck carrying 58 metal container boxes as well as 15,000 tons of bulk petroleum. By the time the container ship docked at the Port of Houston six days later the company was already taking orders to ship goods back north in containers. McLean's enterprise became known as Sea-Land Services, a company whose ships carried cargo-laden truck trailers between Northern and Southern ports in the USA.

Other companies soon turned to this approach. Two years later, Matson Navigation Company's ship Hawaiian Merchant began container shipping in the Pacific, carrying 20 containers from Alameda to Honolulu. In 1960, Matson Navigation Company completed construction of the Hawaiian Citizen, the Pacific's first full container ship. Meanwhile, the first ship specifically designed for transporting containers, Sea-Land's Gateway City, made its maiden voyage on 4 October 1957 from New Jersey to Miami , starting a regular journey between Port Newark, Miami, Houston and Tampa. It required only two gangs of dockworkers to load and unload, and could move cargo at the rate of 264 tons an hour. Shortly afterwards, in 1960, Sea-Land's 610 20-foot container vessel Supanya was launched.

Container shipping goes global

On 23 April 1966, ten years after the first converted container ship sailed, Sea-Land's Fairland sailed from Port Elizabeth in the USA to Rotterdam in the Netherlands with 236 containers. This was the first international voyage of a container ship.

Meanwhile, during the rapid build-up to the Vietnam War, the US military was faced with the logistical problem of getting supplies to troops. It had somehow to transport mass supplies to a war zone in south-east Asia through a single under-developed port on the Saigon River and a partially-functioning railway. The government turned to container shipping as the most efficient option.

Container shipping began to prove its worth at an international level. From this point on the industry began to grow to the point where it would quickly become the backbone of global trade, even though few at the time would have made such bold predictions.

Climbing investment and industry growth

1968 and 1969 were the Baby Boomer years for container shipping. In 1968 alone, 18 container vessels were built, ten of them with a capacity of 1,000 TEUs which was large for the time. In 1969, 25 ships were built and the size of the largest ships increased to approaching 2,000 TEU. In 1972, the first container ships with a capacity of more than 3,000 TEU were completed by the Howaldtwerke Shipyard in Germany.

Now an entire industry had emerged, demanding unprecedented investment in vessels, containers, terminals, offices and information technology to manage the complex logistics.

Crucially, containerisation demanded new and very different ports. Container terminals soon became an important link in the chain of intermodalism.

To meet rising demand for its services, the shipping community began to consolidate in the mid- and late-1960s, with competitors based in the same country joining forces to pool resources. An early example is Overseas Containers Ltd. (OCL) which was formed on 27 August 1965 by four British companies: Ocean Transport and Trading, P&O, British & Commonwealth, and Furness Withy. In turn shipping lines formed consortia with like-minded companies to offer economies of scale needed to make the containerisation process a success.. OCL joined with Hapag Lloyd (Germany), Nedlloyd (Netherlands), Compagnie Generale Maritime (France), and Lloyd Triestino (Italy) to form the first international consortium to start a containerised service between Europe and Australia.

All of these companies were competitors in other trades but co-operated in container shipping to overcome the vast initial investments necessary in the seismic change from ‘break bulk’ to container shipping. They still faced competition from another company called Associated Container Transport (ACT) which was formed to service the Europe-Australia trade route. Its members were Ellerman, Blue Star, Ben Line, Harrison and Port Line. ACT then turned to work with Australia National Line. These services were the trailblazers in Europe. Ships were being custom-built to carry a significant number of refrigerated containers so that Australian exports of fruit, meat and dairy products - which were critical market segments – could be brought to Europe.

In Europe, container ports and dedicated freight trains were developed and river barges, especially on the Rhine, were adapted to carry containers inland. In 1989 the Transpacific Stabilization Agreement was formed by 13 carriers operating in the eastbound East Asia-USA trade routes in an effort to provide stability in freight rates.

Throughout the 1970s and 1980s the container shipping industry grew exponentially. There were now connections between Japan and the US west coast, and Europe and the US east coast. Once the Australia-Europe service was established, the Europe–Asia route began to be serviced by consortia in the early 1970s alongside some independent services. By the end of the decade, shipping between Europe, South East and Eastern Asia, South Africa, Australia/New Zealand, North America and South America were all largely containerised. In 1973, US, European and Asian liners were carrying 4 million TEUs all over the world. By 1983, this would rise to 12 million TEUs by which time containers had also arrived in the Middle East, the Indian sub-Continent, and East and West Africa.

Throughout the 1980s many new companies saw opportunities to enter the container shipping business. The US government started to liberalise the liner shipping industry by enacting the 1984 Shipping Act. This minimised government intervention in the industry and aimed to increase efficiencies in ocean cargo transportation. Inevitably, some of the industry players prospered in this environment and others disappeared.

Meanwhile the container shipping industry grew apace, particularly in Asia. In 1989, Hong Kong became the biggest container port in the world, capable of handling 4.5 million TEUs. In 1994 Hong Kong and Singapore both passed the 10 million TEU capacity barrier.

The present-day industry is truly global and touches all our lives in ways we cannot imagine. And it continues to expand: over the last five years, the volume of loaded containers moved has seen growth averaging approximately 10% each year. In 2007, it is estimated that global loaded container trade exceeded 141 million TEUs for the first time ever*.

As China became a factory for the world the country proved to be a great catalyst for this continuing growth trend. Not only exporting all kinds of articles, China also needs to import to support its manufacturing and packaging needs, as do Japan, India and other South-east Asia manufacturing countries. The increasing urban population in China is proving a magnet for goods produced elsewhere too.

In short, patterns of trade are rapidly changing and the container is a vital link in allowing these changes to happen.

* Source: Drewry Shipping Consultants Ltd