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Intereconomics

GERMAN PRISM

Port Operations

Container via Hamburg

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The traditionally keen competition in trans-Atlantic freight transportation has always guaranteed the susceptibility of ports and shipping lines to technical innovations. Although containerisation progresses by leaps and bounds, it is astounding that this drastic automation and rationalisation process in the transport industry, particularly in shipping, experienced its big break-through comparatively late. The reason for this could be the above average capital cost accruing to the cargo transportation industry, i.e. shipping and inland carriers, with the introduction of containerisation.

Modern industry cannot be envisaged anymore without automation and rationalisation, for otherwise it would not be able to cover demand. A similar development has set in for maritime shipping some years ago when the leading shipping companies turned to containerisation. This enables a much better utilisation of their "floating capital" since lay days of ships, and with that the duration of round voyages, are shortened considerably. These shorter lay days are a profitability problem not only for the shipping companies but also for shippers and receivers, who have to pay the freight charges. Besides, a better utilisation of ports is made possible—the frequently usual waiting time for vessels is cut short with the improved provision of berths for loading and discharging of cargoes.

The rationalisation effect is accomplished by consolidating many less-than-container-loads to bigger load units in order to save time and transport expenses when changing from one carrier to another. Standardised transportation equipment, in this case containers, is used. The cargo is transported in an unbroken distribution chain from factory door to the customers reception deck. This through-movement is known as intermodal transportation.

For decades containers have been used in normal ocean carriers. New are the purpose-built full container ships, that transport standardised containers. Since the first full container ships of an American shipping company called at a European port two years ago, the structure of trans-Atlantic transport of general cargo has changed considerably, particularly between highly industrialised countries. With that an accelerating rationalisation process has started for the European seaports.

Two more developments should be mentioned briefly in this context. First, as a European answer to the first American full container the so-called "combo-ship" has been built, which is able to carry vehicular traffic in the roll-on, roll-off fashion and also containers carried above deck.

Secondly, in America new ship types, called sea barge carriers and LASH (lighter aboard ship) have been developed, which will offer substantial benefits to both shippers and carriers. Barges and lighters are loaded initially at factories or inland container stations located on a waterway. These small vessels then travel to a deep-water port where they are loaded directly aboard ship. These barges or lighters are large containers in themselves. After arrival at its European debarkation point such a small vessel will be unloaded and continue its journey to its receiver. This kind of operation will offer obvious cost benefits to all concerned.

Europe Goes Container

The container transport system proved to be very effective in American coastwise and intercoastal trade. The West European ports realised that they had to provide the expanding container traffic as soon as possible with the required harbour facilities. Before starting to build special transhipment installations for containers it was therefore expedient first to adjust already available facilities—or those under construction—for the transhipment of mixed cargo to the requirements of container operations.

The decision of American and European shipping companies to place orders for the construction of full container ships that will begin to operate from 1968 to 1969 on, was the signal for starting the second phase of trans-Atlantic container services, i.e. the building of special container terminals. The port policy decisions of the major West European seaports had to be reviewed. The responsible authorities were faced with the fact that any port not offering facilities for container ships would suffer transhipment losses, for it might be driven out of the North Atlantic traffic and also lose other routes suited for con-

tainerisation. This realisation caused port authorities and port operators to allocate considerable funds to the construction of container terminals. In Western Europe the ports of Rotterdam, Antwerp, Bremen/ Bremerhaven, and Hamburg invested heavily in order to adapt themselves to container operations.

Concentration or Monopoly?

The rapid advance of containerisation has revived the old issue known from passenger services, whether it would be expedient to reduce drastically the number of ports of call, to guarantee a full utilisation of time advantages and the most economic employment of the „floating capital". The question is, whether containerisation requires, or at least promotes, the concentration of all services, and with that of all investments, on a one and only container terminal, i.e. whether the serving of one single port of the Antwerp-Hamburg-range by all of the container services would be the optimum and most rational solution. All the other harbours, as far as container operations are concerned, could then become feeder ports of the one and only selected container terminal.

For economical reasons container operators cannot serve every port of a range but have to concentrate on as few as possible ports of call. This is positively legitimate. But should all container operators decide in favour of one and the same port? If they decide upon this they would make competition even keener and rob themselves of the chance of taking over loads accumulating in other harbours. The volume of tonnage loaded will always be decisive and that depends on the "catchment area" of a port. The whole "hinterland" is interested in being served under optimum conditions, and with regard to freight rates several ports are better suited for this purpose than a single one. This reduces the number of departures of the individual terminals, but up to now every West European port has succeeded in obtaining one or more full container services.

Hamburg's Economic-geographical Location

A harbour's economic-geographical location is of decisive importance. The container-terminal's easy attainability for ocean-going vessels and reliable tonnage to be loaded are the most important factors. Hamburg's location at the end of the Elbe estuary guarantees that container ships can reach the port any time without having to wait to be channeled in or for a tidal wave. At the same time, the location offers the advantage that the loads are carried 100 kilometers inland at cheap ocean freight rates.

Hamburg is not only a seaport but also one of the most important European traffic centres for rail, road and air transportation. This offers the container services ideal communication lines, as for the container sea-borne transport is but one link of an uninterrupted distribution chain that in the ideal case ensures a complete movement of cargo from origin to destination.

Apart from the time-factor, a reliable volume of tonnage loaded plays a decisive part for container services as well as for other shipping lines. The rationalisation effect is most pronounced in that harbour where the biggest possible volume of valuable containerable tonnage can be loaded and unloaded.

The Port of Hamburg offers container operations singular advantages. Only one third of containerable goods accruing here is involved in the keen competition with the Benelux ports. Hamburg as Germany's biggest industrial city provides several times the volume of goods produced on the spot than its next competitors. The port's hinterland reaches far beyond the Federal Republic's borders. From Switzerland and Austria via Hungary, Czechoslovakia, Eastern Germany and Scandinavia to Finland. The tonnage loaded in transit traffic with Eastern Germany, Czechoslovakia and Hungary reached more than 3 mn tons in 1967 and is showing a rising trend. Regarding the Scandinavian countries Hamburg is the next major port disposing of a dense network of overseas liner services. Modern ships operating in feeder services are already carrying containers.

It is hardly justified to speak of Hamburg's "border position". The fact is often overlooked that the Hamburg-Antwerp-range disposes, apart from its certainly extraordinary important Western wing, also of an Eastern flank. This flank, considered under medium- and long-term aspects, offers very favourable chances particularly for container services.

Currently Hamburg is the port of call of five container services. At Burchardkai the full and semi-container ships of United States Lines (USL) and the Hapag-Lloyd container service are dispatched. The semi-container service of Finnlines loads and unloads its vessels here, too, while the semi-container ships of Meyer-Line call at Europakai. The semi-container ships of the Orient Overseas Line are being dispatched at a modernised conventional quay in Oderhafen.

The success of Hamburg in container operations can also be seen from the fact that the full container ships of USL are loading more outgoing freight in this port than in the other two harbours they are calling — Rotterdam and London-Tilbury. With its container ships operating between Hamburg and New York USL is offering the quickest communication by ship between Europe and the United States. It is also very interesting that since the end of May, 1968, when USL started its liner service with full container ships, the transhipment of containers (20 ft. and bigger) has increased to more than 4,000 per month (calculation based on 20 ft. units).

Hamburg's Installations for Container Operations *

Until the end of 1968 Hamburg Port will dispose of the following installations for the dispatch of ocean-going vessels used for container operations:

* These figures have been compiled by Oberamtsrat Günter H. Müller, Behörde für Wirtschaft und Verkehr, Hamburg.

☐ 9 berths for container ships (full and semi-container ships) with a total length of quays of 1,700 meters,

☐ 180,500 squaremeters of container parks and

☐ 36,000 squaremeters of shed areas (for the crating of cargo in containers).

With that Hamburg will own Germany's largest container transhipment facilities. Already at the end of May, 1968, the Hamburg container terminal disposed of 5 berths and was thus Germany's biggest transhipment installation for large-scale containers. At the end of 1968 Hamburg's container installations will consist of:

Container Terminal Hamburg (Waltershof)

☐ 7 berths,

☐ 30,000 squaremeters of container parks,

☐ quay-sheds covering an area of 18,000 squaremeters.

In future the container terminal can be further expanded and will then dispose of 14 to 16 berths and an abundant acreage of 1.5 mn squaremeters for operations.

There is, moreover, an installation for the packaging and unloading of less-than-container-loads, the

Ubersee-Zentrum

with an acreage of 4,500 squaremeters in the immediate vicinity of the large sheds. The packaging station is equipped among other things with devices for the handling and moving of containers on the ground and a 25 ton crane to lift containers from ground level and load them on barges, lighters or special container pontoons for transporting them to the berths of ocean-going vessels.

Moreover, in different parts of the port there is a number of installations disposing of berths equipped with facilities for the transhipment of containers as second load beside conventional general commodities.

It is a common feature of all these berths that they are parts of the free port with its advantageous facilities for customs clearance, that the depth of water reaches to 11 meters at medium low tide, that their location in basins offers protection and that they dispose of an efficient network of roads and railways. Regarding their installations and equipment, they are also suited for the handling of conventional general cargo.

Plans for the Future

In the port of Hamburg more than 35 mn tons of goods are transhipped annually, among them about 12 mn tons of general cargo. Although a large part of them is containerable, the share of containers in trans-Atlantic transports average but 7 per cent of total general cargo loaded. Therefore the prospects of a further favourable development are very bright indeed. Hamburg adheres to the principle of an anticipated covering of demand, i.e. construction works are adjusted to the expected growth rate of traffic. The wide acreage of 120,000 squaremeters suited for container operations, located between Waltershofer Hafen, Parkhafen and Norderelbe, is to be built out according to the principle mentioned above as part of the Hamburg Container Terminal.

In order to achieve an optimum and most rational utilisation of its installations the Hamburger Hafen und Lagerhaus AG is centralising the transhipment of containers. Different from the conventional transhipment of general cargo the container ships are not always assigned the same berths. The full utilisation of the individual berths is important. This makes a favourable calculation of tariffs possible, since due to this concentration of transhipment facilities less dispatch installations need to be provided for, and the employment of all technical devices can be coordinated.

At present Hamburg is carrying on promising negotiations with more shipping companies that are intending to adapt themselves to containerisation or to expand their already existing container services. Apart from the trans-Atlantic services above all trade with Australia and Japan, for which Hamburg has always played a major role, is also offering best chances for containerisation.

Outlook

Thus for the next few years an enormous increase of containerisation is probably to be expected. Experts believe that already in 1970 about 70 per cent and 1975 approx. 80 per cent of tonnage loaded in North Atlantic transports between the USA and West Europe will be containerised. This expectation seems to be a bit too optimistic since in this case the transportation-share of containers—currently 7 per cent—must multiply tenfold during the next three years. Besides, experience must teach us first where the marginal profitability of containerable goods will lie between conventional transport and containerisation.

On many routes the economic prerequisites for large-scale container operations are not given. Therefore the largest share of general cargo in future will remain dependent on transportation with conventional ships. What, regarding the individual routes, the share of loads will be that remains the reserve of conventional ships is differing from port to port according to different load structures. In a very few routes only, as e.g. in North Atlantic transports and perhaps also in transports to Australia, optimum conditions for a containerisation of general commodities are given.

From October 3 to 7, internationally recognised experts from Europe and overseas will meet in Hamburg to attend the Container Conference 1968 and to discuss world-wide problems and future prospects of container shipping. In the exhibition area of "Planten un Blomen", covering about 20,000 squaremeters, more than 100 German and foreign exhibitors will give a survey of what the container market has to offer.