



# TRANSHIPMENT AND FEEDERING

## TRADES AND OPERATORS, SHIPS AND HUBS

Dirk Visser, Senior Shipping Consultant, Managing Editor Publications & DynaLiners, Dynamar, Alkmaar, The Netherlands



For the times they are a-changin'. Over the last ten years, indispensable feederage has kept true to the adage that the capability of a port decides the size of the feeder ship. So, as the mainline ships get bigger, will there be fewer feeder ports of call?

Not really, but where call sizes increase, service frequencies come down. Hence, an ever-larger number of feeders are swarming the mainliner, increasing in capacity if and when the destination ports allow.

### AN INVISIBLE TRADE

Transshipment and feederage is an invisible trade that concerns containers that do not exist in statistics on the worldwide carriage of boxes. The world's full container trade is typically assed by full 'commercial' containers, which amounted to around 168 million TEU in 2017. Shipping commercial containers takes place using a Bill of Lading (B/L) issued by the shipping company to the shipper, which covers the carriage of

the box from its (first) port of loading until the (ultimate) port of destination.

In contrast, a feeder move constitutes an operational port-to-port activity that is arranged by the mainline carrier using the services of a feeder company. A feedered container - full or empty - is classed as cargo, and will usually travel on a Service B/L issued by the feeder operator to his principal, the mainline carrier.

Worldwide, the estimate for the total number of feedered containers was 67 million TEU in 2017, however, although feeder containers count double in port statistics, they do not appear in full container trade statistics, with the count including both the move from the mainline vessel and the handling into the feeder.

### FEEDING GOODS

Feederage is the first or last maritime leg of ocean-borne container transportation where the mainline containership's ports

of loading or discharge are not the same as the ultimate origin or destination port of the container. As the regional part of the global container transport system, feederage is an integrated element of the door-to-door transport chain as it concerns short-haul shipments - services between deep-sea hubs and regional ports that have insufficient cargo to warrant a direct call from a mainline service and may lack the infrastructure to handle larger vessels. Although it is a shipping activity outside the limelight of the fancy big ships, feederage is indispensably lubricating container liner shipping across the world.

### TRANSHIPMENT HUBS

Feederage involves transshipment, with containerships discharging cargo at a direct port of call - the hub - for carriage to their final destination - the feeder port. In 2017, ports handling more than 50% transshipment containers numbered 25. Two such ports



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are in North Europe: Bremerhaven (57% transshipment share) and Wilhelmshaven/JadeWeserPort (70%).

In the Baltic, an important feeder destination/origin, Gdansk (Poland) is functioning as an ever more important hub, but gateway boxes still prevail. Mediterranean Shipping Company (MSC) is promoting Klaipeda (Lithuania), another ice-free Baltic port, as its hub. However, the Mediterranean region accommodates the largest number of dominant hubs – as nine have an average transshipment share of 79%.

In the Far East, there are five dominant transshipment hubs with an average transshipment share of 71%. The hub ports with the highest transshipment shares are Freeport in the Bahamas with 99% and Marsaxlokk in Malta with 95%. Singapore is, undisputedly, the port with the highest transshipment volume with 28.5 million TEU in 2017.

### DEDICATED AND COMMON

Dynamar has identified 124 shipping companies worldwide that offer feeder services, which come in two categories:

- Dedicated operators: Mainline shipping companies handling the feederage of their own boxes
- Common carriers: Smaller shipping lines moving another carrier's boxes.

Seventeen dedicated carriers deploy the largest ships to serve as feeders. Four of them - CMA CGM, Maersk Line, PIL, and ZIM - operate feederage businesses under separate brands, which may also be active as common carriers. The remaining 107 common feeder operators are clearly ruling the overall feeder scene by company numbers.

Most, if not nearly all, companies carrying feeder containers are also taking regional cargo. A few of them, like Regional Container Line (RCL) and Samudera Shipping Line, report split numbers for Carrier Owned Containers (COC)/regional boxes, and Shipper Owned Containers (SOC)/feeder containers.

However, the vast majority do not. It is a common belief that X-Press Feeders, present in all feeder trades, is the only pure feeder operator and the world's third largest feeder operator after dedicated carriers Maersk and MSC.

### DO FEEDER SHIPS EXIST?

Feeders comprise of four different capacity categories of between 1,000 TEU and 2,750 TEU. Essentially, any container ship can carry any container and thus function as a feeder. Feeder containers are also similar to any other box. However, in Europe, container vessels have been designed with the purpose of feederage in mind.

Top 10 common feeder operators by annual trade capacity and rotations				
OPERATORS	ATC RANK	ATC	ROT. RANK	ROTATIONS
X-Press Feeders	1	2,803,600	1	2,824
Unifeeder	2	1,286,400	2	1,664
Arkas	3	1,268,400	4	1,196
Simatech	4	986,800	8	681
Samudera	5	795,700	7	822
Sinokor	6	602,700	5	1,144
RCL	7	553,400	10	468
Transworld Singapore	8	509,600	9	556
KMTC	9	501,800	3	1,212
Samskip	10	498,300	6	905
<b>Totals</b>	<b>-</b>	<b>9,807,000</b>	<b>-</b>	<b>11,471</b>

Top 10 dedicated feeder operators by annual trade capacity and rotations				
CARRIER	ATC RANK	ATC	ROT. RANK	ROTATIONS
MSC	1	6,419,800	2	4,118
Maersk Line	2	5,795,700	1	4,243
Evergreen	3	2,528,000	4	2,184
CMA CGM	4	2,328,400	3	2,636
CoscoSL	5	1,633,100	5	1,981
PIL	6	1,249,700	6	1,404
Hapag-Lloyd	7	1,151,600	8	806
Wan Hai	8	954,600	7	936
Yang Ming	9	841,200	9	624
Hyundai	10	338,300	10	494
<b>Totals</b>	<b>-</b>	<b>23,240,000</b>	<b>-</b>	<b>19,427</b>

Annual Trade Capacity (*1,000) by feeder trade Annual feeder service rotations by feeder trade				
TRADE REGION	%	ATC	%	ROTATIONS
North/South East Asia	38%	16,066	42%	19,292
North Europe/Med.	32%	13,723	32%	14,768
Mid. East/Indian Sub	17%	7,177	15%	6,812
Latin America	8%	3,563	8%	3,588
Africa	5%	2,042	4%	1,976
<b>Totals</b>	<b>100%</b>	<b>42,571</b>	<b>100%</b>	<b>46,436</b>

Different types of intra-Europe containers require the use of non-cellular, i.e. multipurpose feeder vessels, and, commonly, cellular container ships on intra-Europe routes require the ability of a flexible stowage configuration. Next to the standard 20' and 40' units, the vessels have to handle odd sizes of 30' boxes, 40' high cubes, 45' pallet widths, half height tanks, and so forth.

A recent interesting development is that Maersk Line has started taking delivery of seven so-called 'V-Class' feeders of 3,600 TEU nominal capacity, which are more than 2.5 times larger than the Baltic feeder average. According to the carrier, it has designed the V-Class ships to ice-class A1 classification to enable the vessels to navigate the Baltic Sea in wintertime.



These ships also have the capability to lift pallet-wide boxes for the North Sea-Baltic feeder and intra-Europe trades.

#### FEEDER SHIP SIZE

Many feeder ports have become more capable over time, allowing feeder ships to grow larger too, but there are misconceptions about size as the average is 1,300 TEU against 700 TEU ten years ago. For those employed by dedicated operators, it is 2,000 TEU average against 1,200 TEU. Nevertheless, there are always exceptions as MSC recently used a 10,000 TEU ship on the Antwerp-Eastern Baltic feeder route.

The size of the mainline vessel plays a role in feederage as well, as when combined with a lower service frequency, their much larger call sizes require either more or larger feeder vessels to distribute the cargo to the feeder port. The average number of North European mainline service port calls is four, which means any cargo on board for other ports is feedered.

As of early June 2018, the North Europe-Far East trade counted eighteen weekly services that are operated by nine different carriers organised in three alliances (2M - six services, Ocean Alliance - six, and THE Alliance - five), plus Hyundai with one. The average capacity of all 205 ships employed was 15,000 TEU, their total shipboard space was 3,183,000 TEU, and their largest vessel measuring 21,400 TEU (operated by Cosco's subsidiary OOCL) with Hyundai in charge of the smallest at 4,100 TEU.

#### FEEDER MARKET CAPACITIES

Instead of nominal vessel space, Dynamar expresses the carrying capacity provided by individual feeder operators in Annual

Trade Capacity (ATC). ATC constitutes a dynamic combination of carriers, vessels, capacities and sailings made in one year. The industry considers Europe, but North Europe in particular, as the cradle of feederage, and, at present, this region handles more than 280 service rotations per week.

Baltic/Scandinavia, parts of the UK/Ireland and Iberia Atlantic, are the three most traditional feeder regions, but in terms of ATC, North and South East Asia have taken over. In South East Asia, all East-West services are only calling at the three large Malacca Straits outlets and not at any other port, which means that Port Kelang, Port Tanjung Pelepas and Singapore jointly handled a transshipment volume of 43 million TEU in 2016 – amounting to 82% of their total handlings.

Other main feeder trade areas are the combined Middle East/Indian subcontinent (7,200 ATC), Latin America (3,600) and Africa (2,000). Coastal shipping in Australia and North America is reserved for ships flying national flags or those under the thumb of local carriers, which results in a very limited feederage activity in these regions.

#### CONCLUSION

Whatever happens, shipping will remain. Small feeder ships will follow the big mainline vessels, but large hub or gateway ports will feature different sizes of feeder vessels. Mainline ships, particularly those in the Europe-Far East trade, have grown exponentially, but the largest ones on order will measure 23,300 TEU and are expected to arrive before 2020. Feederships will also increase in size as long as feeder ports let them. However, freight movement by

rail or truck will take over if growing call sizes require more feeder space than the feederport can accommodate.

#### ABOUT THE AUTHOR

Prior to joining Dynamar in 1999, Dirk Visser has been working for more than 30 years in the Amsterdam and Rotterdam agency and forwarding industry in several senior positions. During that period, he has been involved in the representation of a large number of (liner) shipping companies of all kinds. As a senior shipping consultant and managing editor at Dynamar, Dirk is overall responsible for the company's consultancy and publications departments.

#### ABOUT THE ORGANIZATION

Since 1981, Dynamar B.V. of Alkmaar, the Netherlands, has provided Transport and Shipping Information and Consultancy services for the Marine, Energy and Financial sectors. Dynamar today is world's leading container sector credit risk analyst, a major provider of analytical container shipping and terminals news and commentary, and a regular supplier of bespoke liner shipping and ports/terminals consultancy services.

#### ENQUIRIES

Dynamar B.V., P.O. Box 440  
1800 AK ALKMAAR, The Netherlands  
Tel: +31 72 514 7400  
Email: [info@dynamar.com](mailto:info@dynamar.com)  
Web: [www.dynamar.com](http://www.dynamar.com)