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2017

GLOBAL TANK CONTAINER SURVEY

- ★ Global Tank Container Survey
- ★ Detailed Split by Tank Container Operators and Leasing Companies
- ★ Analysis of Newly Manufactured Tank Containers
- ★ Historic Development of the Global Tank Container Fleet

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Introduction

Despite increasingly tough trading conditions, the tank container industry showed continued growth in 2016. Figures published in this Tank Container Fleet Survey show that the global tank container fleet grew by 8.5% in 2016 compared to the previous year, with the overall figure now standing at approximately 508,000 units worldwide.

The expansion of the tank container industry underlines the fact that this mode of transport is safe, reliable, economic and sustainable. Much of the industry's growth continues to take place in Asia, where both deep-sea and regional operators see opportunities to expand their business, by encouraging shippers to move their products in tank containers – instead of other forms of transport.

In terms of the production volumes in 2016, there was a total of 44,450 units manufactured, compared to 43,780 in 2015, an increase of 720 units over the previous year.

Companies with tank container fleets of less than 1000 units have not been included in this Survey.

We would like to take this opportunity to thank the various companies who have contributed to this study.

The Global Tank Container Fleet 2017– An Overview

Table 1: Global Tank Container Fleet (1 January 2017)

Operators	**205**
Total (Owned and Leased)	342,500
Lessors	**36**
Idle*	28,500
Leased to Operators/Shippers/Others	186,765
Total	215,265
Shippers and Others*** **	
Total (Owned and leased)	137,400
Estimated Manufacture	44,450
Disposals** **	- 4,500
Estimated Grand Total	**508,000**

Table 1 shows the estimated global number of tanks by industry sector.

- The total operator and leasing fleet is based on the industry response to the Survey and other research.
- The leasing fleet is accounted within the operator and shipper fleets, except for those tanks which are "idle".
- The shipper and others fleet is estimated in accordance with the methodology detailed at the end of the Survey.
- The survey indicates that there were 508,000 units at the beginning of 2017 including annual manufacture in of 44,450.
- Taking into account an estimated 4,500 disposals, the 1 January 2016 fleet size of 468,000 therefore grew to 508,000 at the beginning of 2017.
- This represents a growth of 8.5% from 1 January 2016 to 1 January 2017

Notes:

* **Idle Tanks**

- Tanks might be idle because they are in the process of preparation such as maintenance and testing or in the process of being repositioned to a demand area or remaining as new manufacture stocks.
- This normally represents about 10% of the leasing company fleet, but in the current economic climate, we have estimated the figure of idle tanks to be in the region of 12-15% of the leased fleet.

****Shipper (also called producers or consignors) fleet**

- The Shipper Fleet comprises tanks operated by chemical or food and drinks companies.
- These tanks are mostly special tanks manufactured or modified to meet a specific need and include tanks designed to transport liquefied and refrigerated gases.

***** Others**

- "Others" (ie Other Tank Users) include the many tanks operated by organisations such as military, shipping and barge lines, rail, oil and mining industries, China domestic and companies that use tanks for storage or special transport operations such as bitumen.
- Some of the tanks disposed from operator and lessor fleets might be modified and utilised within this category.

****** Disposals**

- Tank containers are normally depreciated over a residual life of 20 years but often remain in service for a longer period.
- The service life of the tank might be extended by remanufacture (refurbishment).
- Owners might dispose of tank containers for commercial and technical reasons. These might be converted into other uses, such as storage.
- Tanks might be sold to be recycled as scrap metal, especially if the tank is seriously damaged beyond economic repair.
- Scrap might be a viable economic option when the commercial price of scrap stainless steel rises.
- A nominal figure of 4,500 has been included in the survey pending more precise data.
- This figure is likely to increase in future years, reflecting the economics of the comparative reduced price of new manufacture versus the increased cost to repair older tanks.

Top Ten Operators

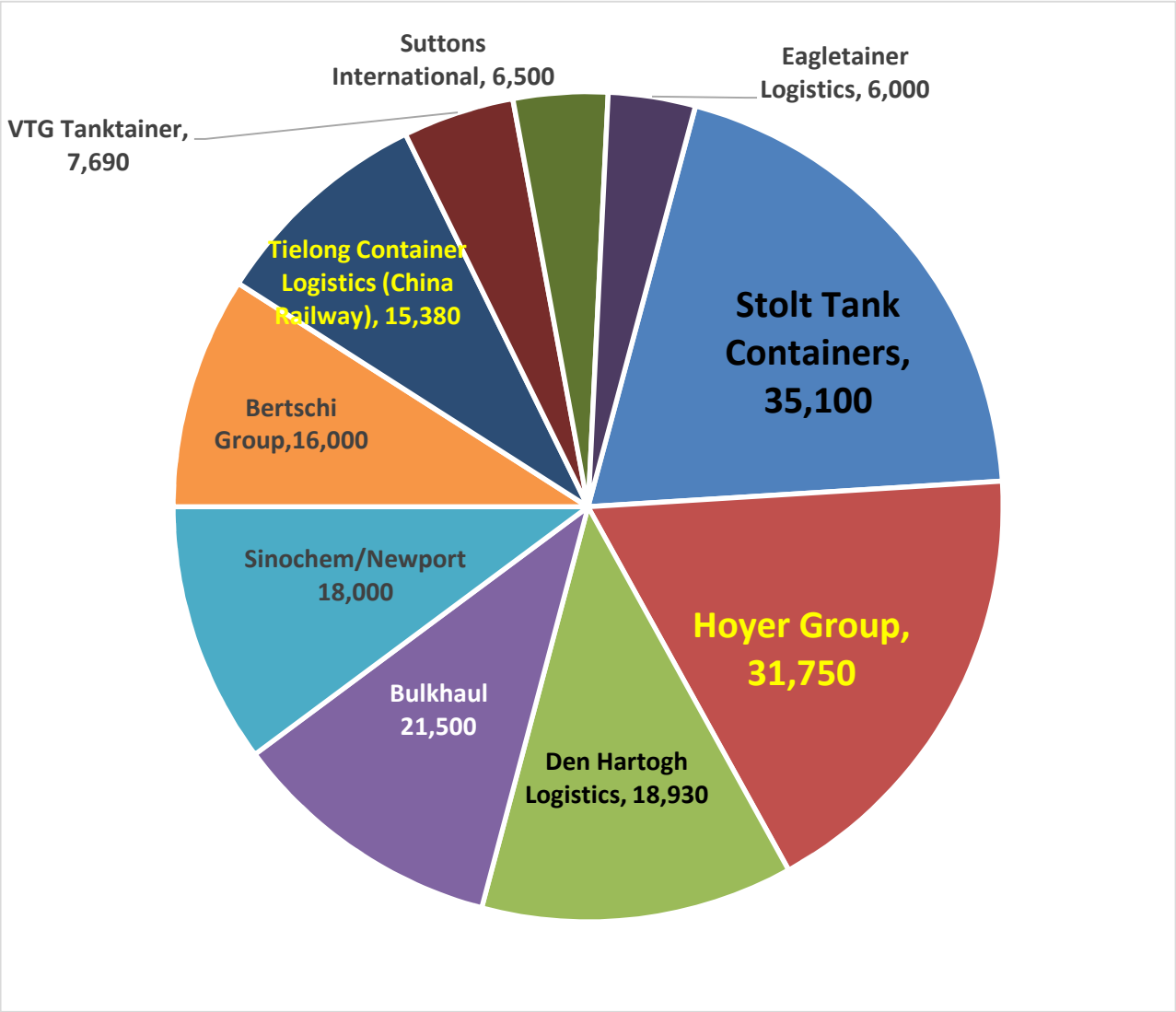


Figure 1: Top Ten Tank Container Operators (at 1 January 2017)

There are 205 operators covered within this Survey. Shown by Figure 1, the top ten operators account for over 175,000 tanks representing 51% of the global operators fleet.

Top Ten Leasing Companies

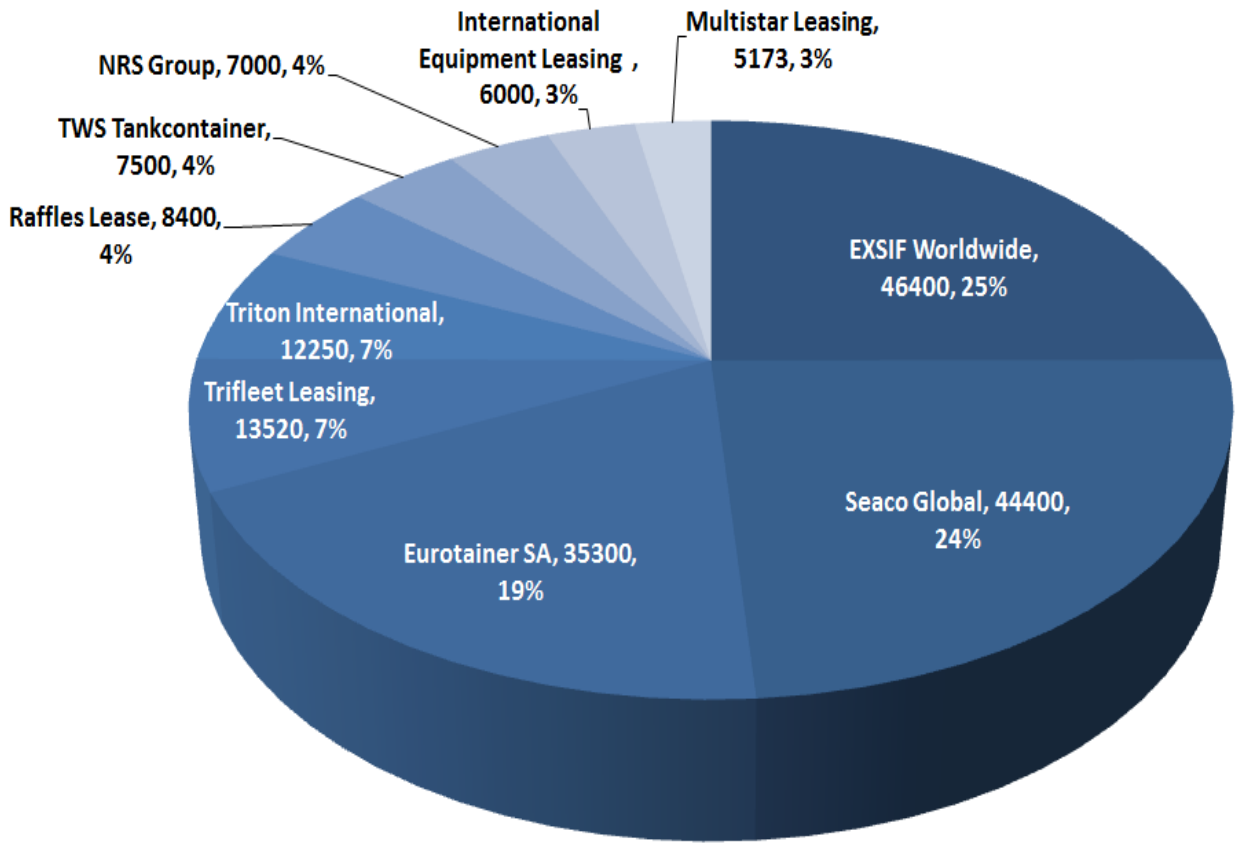


Figure 2: Top Ten Tank Container Leasing Companies (at 1 Jan 2017)

There are 36 leasing companies identified within the Survey representing 215,265 tanks. The top ten lessors account for 185,943 tanks, about 86% of the total leasing fleet. The top three companies account for 126,100 tanks; 59% of the total fleet.

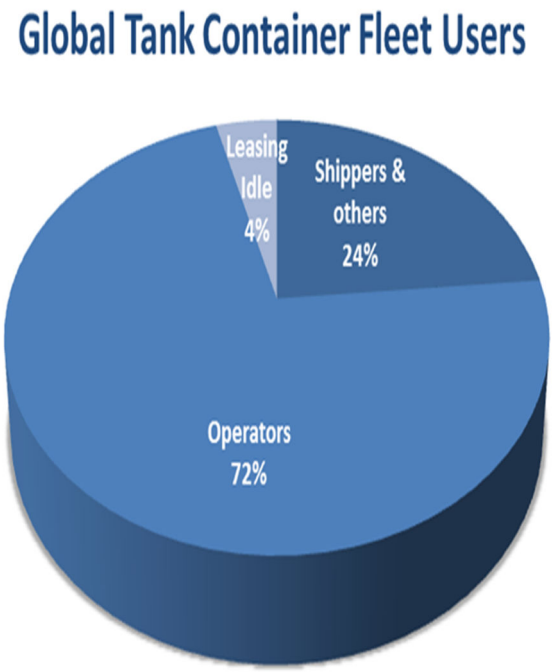


Figure 3: Global Fleet Users in 2016

Tank Container Fleet Users

- Tank operators dominate tank use, the trend for shippers to outsource logistics continues.
- "Shippers & Others" owned fleets are probably not growing and the total used for preceding years has been used in the chart.
- The methodology to estimate the leased part of the "Shipper & Others" fleet remains unchanged for purposes of comparison with previous years and shows a small increase.
- Shippers maintain a mostly specialised tank fleet, liquefied gases especially but also other tanks specific to their needs.
- The term "others" covers a wide range of users: shipping and barge lines, oil and mining, military and traders, fleet of China domestic tanks.

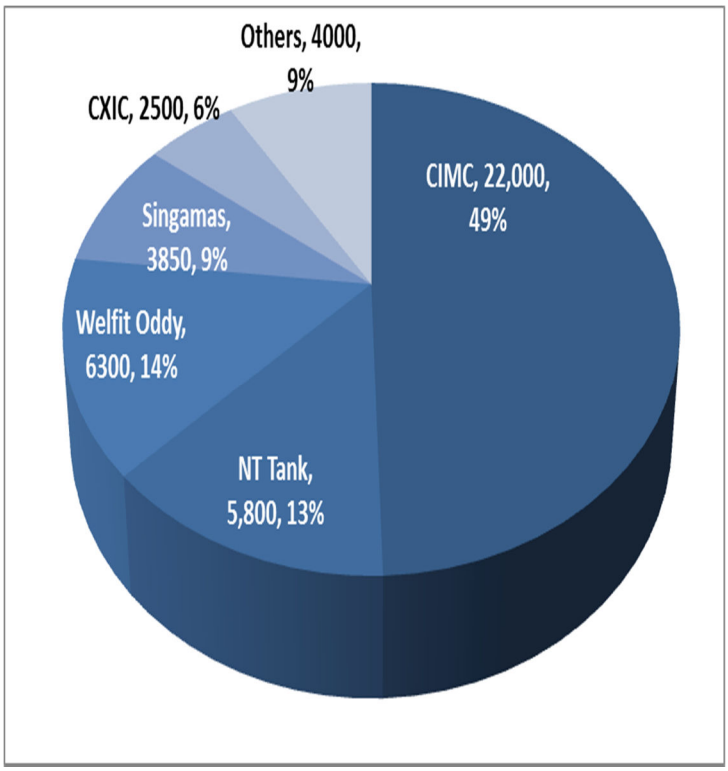


Figure 4: Global tank container Production in 2016 (including Top Five Manufacturers' shares)

In 2016, all the manufacturers in the world produced 44,450 new tank containers.

Top Five Tank Container Manufacturers are CIMC, Welfit Oddy, NT Tank, Singamas and CXIC.

- Tank Container manufacturing is concentrated in China.
- The only other large volume manufacturer based in South Africa.
- The top five represent 91% of global manufacture.
- The majority of production is of the industry standard tank range but nevertheless there is a very active and growing specialised tank sector.

Table 2: Global Tank Container Development by Year (1 Jan 2013 to 1 Jan 2017)

Year / Players/Tank Type	2017	2016	2015	2014	2013
Operators	**209**	**205**	**194**	**176**	**116**
Total (Owned and leased)	342,500	329,080	305,700	265,550	228,460
Leasing Companies		**36**	**33**	**34**	**27**
Idle	28,500	20,175	23,400	17,650	15,000
Leased to Operators, Shippers, Others	186,765	181,575	171,600	158,850	135,400
Total	215,265	201,750	195,000	176,500	150,400
Shipper & Others					
Total (Owned and Leased)	137,400	110,950	107,460	103,000	94,800
Manufactured	44,450	43,780	48,200	42,620	39,700
Disposal*	4500	2,000	5,000	1,000	-
Grand Total	508,000	458,200	427,560	385,200	338,260
Growth % compared with preceding year**	8.5	7.16	10.99	13.87	n/a

Notes:

*Figures for disposals are not easily verified due to the difficulty in estimating since respondents tend to not reveal details of their fleets. Disposals result from repair costs exceeding the economic value of the tank and or the age profile required by some users. Prevailing low material prices, exchange rates and interest rates lowered the cost of the new tank. This reflects on the decision whether a heavily damaged unit is economic to repair or remanufacture. Some disposals are purchased by others and modified for continued use outside of mainstream sector and perhaps accounted in this Survey in the "others" category.

**Percentage growth is reported showing the growth for the year compared with the preceding Survey.

Table 2 summaries ITCO Surveys completed since 2013. The estimated 2017 growth, compared with 2016 is around 8.5%. Shipper owned fleets are not considered to be growing, due to the trend to outsource logistics to operators. The 2014 and 2015 shipper & others owned fleet has been adjusted, to reflect a static position, but the leased part of the fleet shows a percentage increase in line with the methodology.

Table 3: Tank Container Production and Global Tank Container Fleet (1991 – 2016)

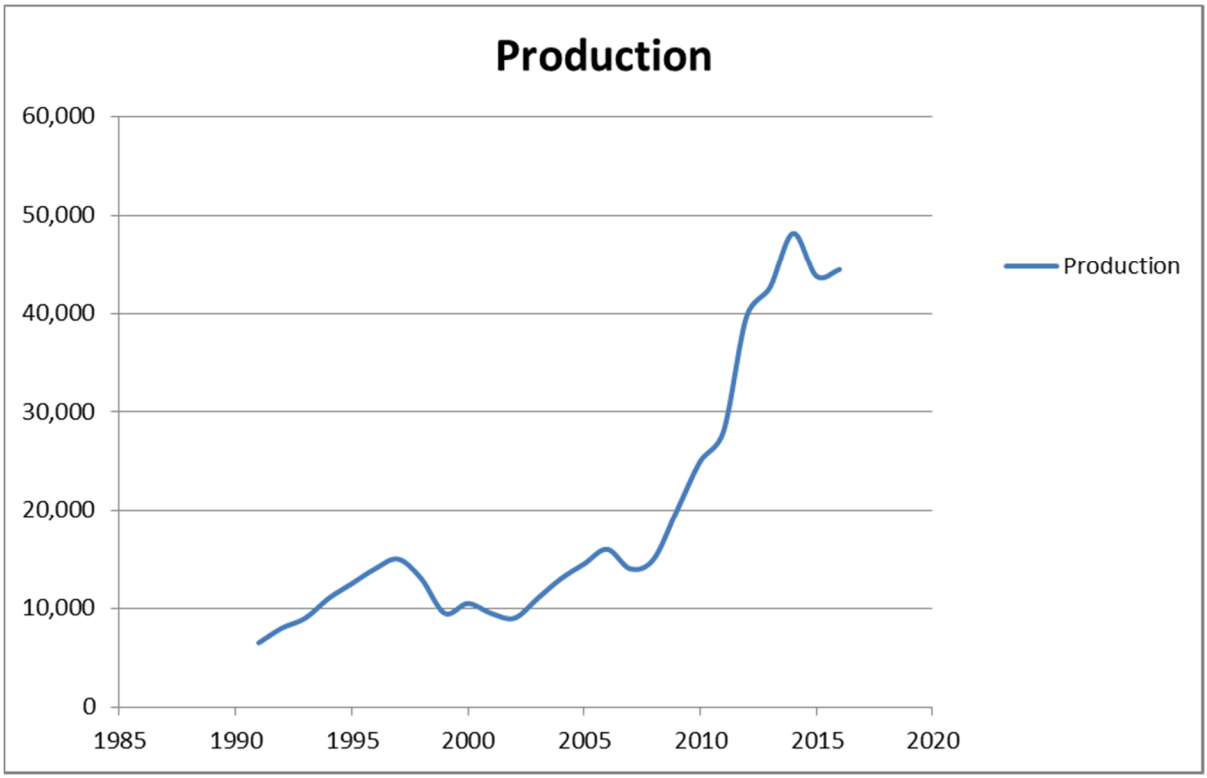
Year	Production	Fleet at 1 January
1991	6,500	
1992	8,000	67,000
1993	9,000	73,000
1994	11,000	81,000
1995	12,500	88,800
1996	14,000	97,800
1997	15,000	110,650
1998	13,000	121,960
1999	9,500	129,640
2000	10,500	136,440
2001	9,500	144,140
2002	9,000	149,240
2003	11,000	157,400
2004	13,000	164,000
2005	14,500	172,000
2006	16,000	178,400
2007	14,000	190,000
2008	15,000	206,000
2009	20,000	220,000
2010	25,000	236,000
2011	28,000	257,000
2012	39,700	282,000
2013	42,620	338,260
2014	48,200	385,200
2015	43,780	427,500
2016	44,450	458,200
2017	-	508,000

Data Source: Containerisation International 2008 Census and, for more recent years, other sources including tank container manufacturers, operators and leasing companies.

Table 3 shows:

1. The estimated annual tank production since 1991. The ability to increase economic production has been one of the drivers of the tank container industry growth.

2. The estimated global tank container fleet since 1992



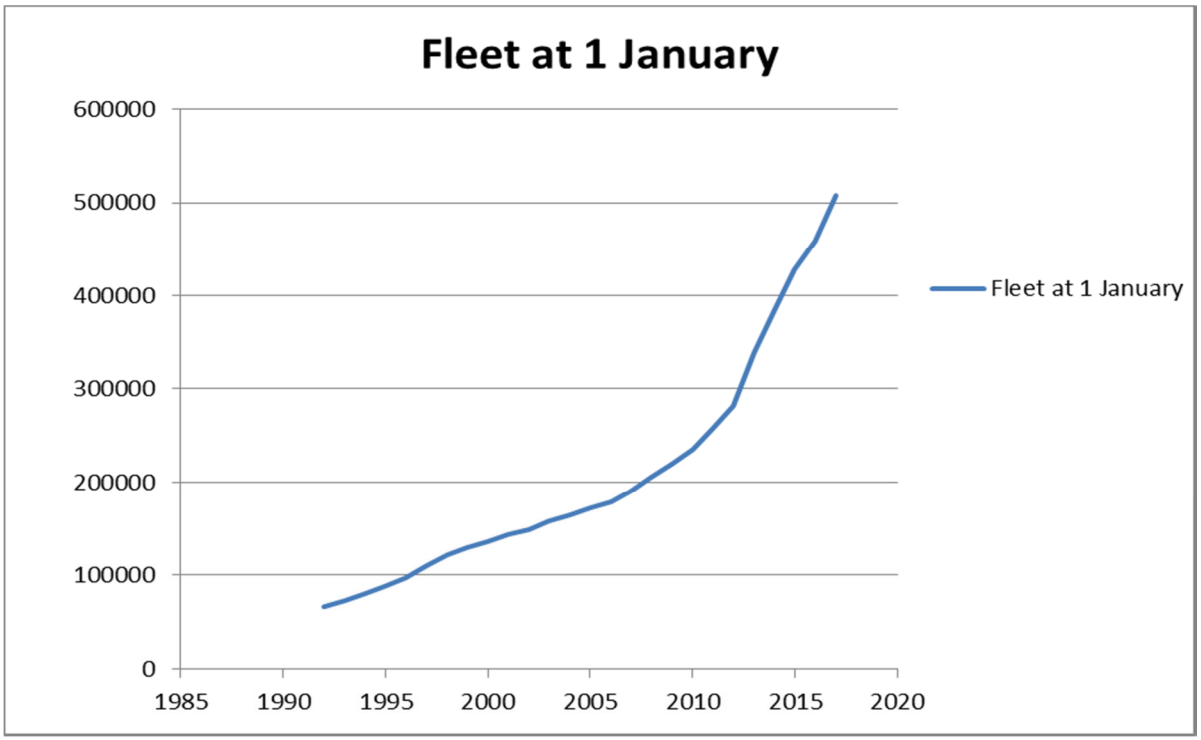


Figure 5: Tank Container Production (1990 to 2016) and global fleet (1 Jan 1992~2017)

Global Tank Container Fleet: Tank Operators Fleet at January 2017

Tank Operators are third party logistics companies that provide a door-to-door service to shippers and others that require transport of bulk liquids, powders or gases. The fleet listing for each company includes all tanks operated by that company, regardless of whether the tanks are owned outright, managed, leased or any other financial structure used to acquire the asset.

Table 4: Tank operators fleet (January 2017)

OPERATOR	Head-quarter	Source	Fleet
Agmark Logistics	USA	1	1,150
ATI Freight	UAE	1	2,000
Bertschi Group	Switzerland	1	16,000
Braid Logistics	UK	1	2,000
Bulkhaul	UK	1	21,500
Bulk Tainer Logistics	UK	4	1,600
Chemion Logistik	Germany	1	1,000
Chemical Express	Italy	2	1,200
China Railway Logistics	China	1	15,380
Contank	Spain	1	1,200
Curt Richter	Germany	1	1,800
Daelim Corporation	Korea	1	3,400
Dana Liquid Bulk	USA	1	2,500
Den Hartogh Logistics	Netherlands	1	18,930
De Rijke	Netherlands	4	1,500
Eagletainer Logistics	Singapore	1	6,000
Flexitank Inc	USA	4	2,100
Foodtrans H&S Group	Netherlands	2	1,200
Fourcee	India	4	1,200
GCA Trans	France	1	4,000
Goodrich Maritime	India	1	1,400
Haesaerts Intermodal	Belgium	2	1,000
Hoyer Group	Germany	1	31,750
H&S Foodtrans	Netherlands	4	1,400
Infotech-Baltika M	Russia	1	1,350
Interflow (TCS)	UK	1	7,200
Intermodal Tank Transport	USA	4	6,000
JF Hillebrand Group	Canada	1	1,000
Katoen Natie Tank	Belgium	1	1,500
Lexzau, Scharbau	Germany	1	3,800
Marenzana Multi Modal Spa	Italy	2	1,000
Meurer Intermodal (Lanfer)	Germany	2	1,200
M&S Logistics	UK	2	5,500
Muto Global	Singapore	1	2,170
Newport	Netherlands	1	18,000
Nichicon Tank	Japan	1	6,000
Niyac Corp	Japan	4	2,500
Odyssey Logistics Food Trans	USA	4	1,100
Paltank	UK	2	1,350
Protank Liquid Logistics	Taiwan	2	1,200
Rinnen	Germany	2	3,500
R.M.I Global Logistics	Netherlands	1	4,600
Sinochem domestic	China	4	1,000
Spectransgarant (Railgarant)	Russia	1	4,300
Stolt Tank Containers	UK	1	35,100
Suttons International	UK	2	6,500
Ueno Container Logistics	Singapore	4	1,000
Van den Bosch Transport	Netherlands	3	4,250
VTG Tanktainer	Germany	1	7,690
Other Under 1000			
Estimated not accounted*	Asia Pacific	4	5,000
Estimated not accounted*	Europe, RU	4	5,000
Estimated not accounted*	Americas	4	5,000
Estimated not accounted*	IN/Mid-East/AF	4	5,000
TOTAL			342,500

Source Key: *1-owner report, 2-owner interview, 3-owner website, 4-journal article, 5-journal report, 6-estimate Bold/blue print - ITCO member*

Global Tank Container Fleet: Leasing Companies Fleet at January 2017

Tank Leasing companies provide tank containers to operators, shippers and others, usually on a contractual term basis, where the lessee takes quiet possession and operates that tank as if it were owned. Leasing company fleet listings include all tanks within the leasing company fleet including owned outright, managed on behalf of investor owners and any other financial means of acquisition.

Table 5: Leasing companies fleet (January 2017)

LESSOR	Head-quarter	Source	Fleet
Caru Specialised Leasing			**2400**
Combipass	France	2	1,500
Eurotainer	France	1	35,300
EXSIF Worldwide	USA	1	46,400
GEM Containers			1000
GRP Multilogistics	Switzerland	3	1,600
International Equipment	USA	1	6,000
Matlack Leasing	USA	1	2,500
MCM Management	Switzerland	1	1,390
Multistar Leasing	South Africa	1	5,173
Noble Container Leasing	Hong Kong	1	1,000
NRS Group	Japan	1	7,000
Peacock Container	Netherlands	1	2,500
Raffles Lease	Singapore	1	8,400
Seaco Global	Singapore	1	44,400
Triton International	USA	1	12250
Tankspan Leasing	UK	1	3,492
TML Taylor Minster	Netherlands	2	5,000
Trifleet Leasing	Netherlands	1	13,520
Tristar Engineering	Switzerland	4	1,100
TWS Tankcontainer	Germany	1	7,500
Unitas Container Leasing	Bermuda	1	1,600
Other			29,322
TOTAL			**215,265**

Source key: 1-owner report, 2-owner interview, 3-owner website, 4-journal article, 5-journal report, 6-estimate
Bold/blue print - ITCO member

*Note: *There are a number of regional lessors that are not readily contactable. Accordingly an estimate has been included.*

Global Tank Container Fleet: Manufactured January to December 2016

Leading **manufacturers** that specialise in international tank container production have been listed. There are other manufacturers worldwide that build tanks for mostly domestic and regional markets, in addition to their core business - typically that of road tank vehicles and process vessels. A nominal estimate has been added to recognise the production completed by regional manufacturers.

Table 6: Tank Containers Manufactured (January to December 2016)

MANUFACTURER	Head-quarter	source	Fleet	MANUFACTURER	Head-quarter	Source	Fleet
CIMC Group	China		22,000	**Van Hool**	Belgium		735
CXIC Group	China		2,500	**Welfit Oddy**	South Africa		6,300
MCC Tiangong	China		1,000	Other manufactures*	Europe		765
Nantong Tank Containers	China		5,800	Other manufacturers*	Global		1500
Singamas	China		3,850	**TOTAL**			**44,450**

*Note: *Nominal estimate on production completed by regional manufacturers.*

Methodology

The global tank container fleet comprises a range of tank types including tanks for liquids, liquefied gases, powders, swap tanks and specials. Tanks below 20ft length such as those typical of the offshore oil industry are not included in this Survey.

The tank container is highly regulated and is required to meet stringent standards of operation, including statutory periodic inspection and renewal of test certification. However, there is no global register of tank containers. Data must be collected by systematically requesting tank owners and operators to provide company fleet numbers and manufacturers to report new production. Where firm data is not provided, this Survey provides estimates based on internet research and consultation with experienced industry representatives.

Reported figures are recorded as received or, in the case of the charts within the report, the result of the percentage calculation of data. It is not intended to suggest that calculated figures are accurate to an exact number. Readers should round up, or down, as required.

Leased fleet listings are not included in the total industry fleet figures, except for the relatively few estimated stocks that are idle. The balance of "on lease" tanks is typically estimated to be leased to operators (65%) and shippers and other tank users (35%).

This percentage might vary by leasing company according to their market strengths and objectives, but is an estimated average. The trend is for a greater proportion leased to operators but for consistency with previous surveys the percentage breakdown remains unchanged.

Whereas there is a trend to outsource tank logistics to tank operators, there remains a fleet of tanks directly controlled by shippers and others.

Shipper (also referred to as producers or consignors) fleet and others are challenging to assess because of the vast number of shippers and others worldwide.

It is especially difficult to compile a list of shipper-owned tank containers, because tank ownership is a relatively small part of their core business and - as a result - fleet figures are not freely available. This also applies to other tank users - such as shipping lines, military authorities, railways, oil companies, mining industry and China domestic. Estimates of the total "others" are included in the Survey.

As a result of the trend to outsource tank logistics it is estimated that the shipper and others owned fleet is static. Operators might provide logistics services for shipper-owned tanks, but the tanks are not included as operator tanks for the purpose of this survey. It is estimated that on average about 35% of the total leasing company fleet is leased directly to shippers and others.

In the 2013 Survey it was estimated that shippers and others might own, on average, about the same number of tanks that are leased into their fleet. This number remains unchanged in the 2016 Survey and in preceding years. Users of the Survey can make adjustments to suit their needs.

More details on the methodology are given as explanations accompanying tables and figures.