2nd annual global survey of port equipment deliveries

Covering 2008 deliveries and 2006-8 trend for container handling FLTs, reach stackers, terminal tractors and trailers

A PEMA Publication

Researched and authored exclusively for PEMA by Brian Robinson

2009

Introduction

This is the second survey of mobile port equipment deliveries worldwide to be published by the Port Equipment Manufacturers Association (PEMA). The first survey was published in March 2008 and analysed deliveries of equipment deliveries in 2006 and 2007.

The objective was to determine market size by delivery for each type of equipment being surveyed, both globally and by geographic region. Equipment types covered by the survey include:

- Reach stackers
- FLTs for handling laden containers
- FLTs for handling empty containers
- Terminal tractors
- Terminal trailers

PEMA commissioned this survey to contribute to the body of port equipment industry knowledge. While much information is available via the media on deliveries of large equipment classes (ship-to-shore cranes, yard cranes), little seems to be available in the public domain for these smaller equipment classes.

The first survey reported equipment deliveries globally and by three broad geographic regions: EMEA (Europe Middle East and Africa), Americas and Asia Pacific.

Following publication of the first survey, participants suggested that a more detailed geographic breakdown would be useful, especially in highlighting deliveries in emerging markets, but also in providing a more detailed split between Europe, Middle East and Africa.

For this current survey, manufacturers were therefore asked to be more specific and to report deliveries by the following geographic categories: Europe, North America, Latin America, China, Other Asia, Indian sub Continent, Middle East, Africa and Australasia/Pacific.

For reporting of historical trend data, it has been necessary this year to chart by the broad geographic regions used in 2006 and 2007. However, in future years a more detailed trend analysis by region should be possible.

Methodology

The survey research was conducted in January-March 2009 and results were collated in March-April 2009. All known manufacturers of the five equipment types were contacted by email and telephone. They were asked to participate by giving their company's equipment delivery numbers for 2008.

Confidentiality

Contributors to the survey were given an assurance of strict confidentiality. The survey was conducted by Brain Robinson, an independent container and transport industry consultant.

Mr. Robinson signed a confidentiality agreement with PEMA stating that individual company data would not be released by him to any other party, including any officer or member of PEMA, except in fully consolidated and aggregated form.

Furthermore, the release of any and all data must comply with criteria established by outside council and all source data will be destroyed within six months of the survey results being released.

Legal requirements

There is a legal requirement that for the survey to meet EU competition rules, there must be at least five manufacturers reporting deliveries in total and into a geographic region. In some situations, this requirement was not met. In these cases, some consolidation of data for regions has been made in order to ensure regulatory compliance.

Survey distribution

The consolidated survey results will be released to PEMA members and to all contributors to the survey.

Disclaimer

This survey is based on information provided directly by the equipment manufacturing sector. Data has not been independently verified. PEMA and the author cannot accept responsibility for the accuracy of the data provided.

1. Reach stackers

Ten reach stacker manufacturers contributed to the survey: CVS Ferrari, Fantuzzi Reggiane, Hyster, Indital, Kalmar, Liebherr, Linde, Konecranes Lifttrucks, TCM and Terex Cranes. Three others were contacted but did not respond: Luna, Sany and Ormig.

The same manufacturers contributed data for all three years. The totals reported are believed to represent more than 95% of the current reach stacker market.

The data provided yields a figure of 1480 reach stackers delivered worldwide in 2008. This compares with aggregated global total of 1358 in 2007 and 1254 for 2006.

In percentage terms, global deliveries increased 9% in 2008 compared with 2007, slightly up on 8.3% growth from 2006 to 2007.

EMEA remains the largest region at 36% percent of total global deliveries. However, deliveries into EMEA were slightly down in 2008 compared with the previous year. By contrast, both the Americas (North and Latin) and Asia Pacific (covering China, India Sub Continent, Other Asia and Australia Pacific) showed strong growth of 32% and 17.2% respectively against 2007.

TABLE 1: Consolidated results of reach stacker deliveries for 2008

Region	Quantity	Percentage
Global	1480	100%
Europe	539	36%
North America	68	5%
Latin America	214	14%
China	142	10%
India Sub Continent	78	5%
Other Asia	159	11%
Australia Pacific	16	1%
Middle East	75	5%
Africa	189	13%

Note 1: Figures cover only those manufacturers contributing to the survey

Note 2: Percentages rounded to the nearest whole number

TABLE 2: Reach stacker deliveries – 2008 volumes by region

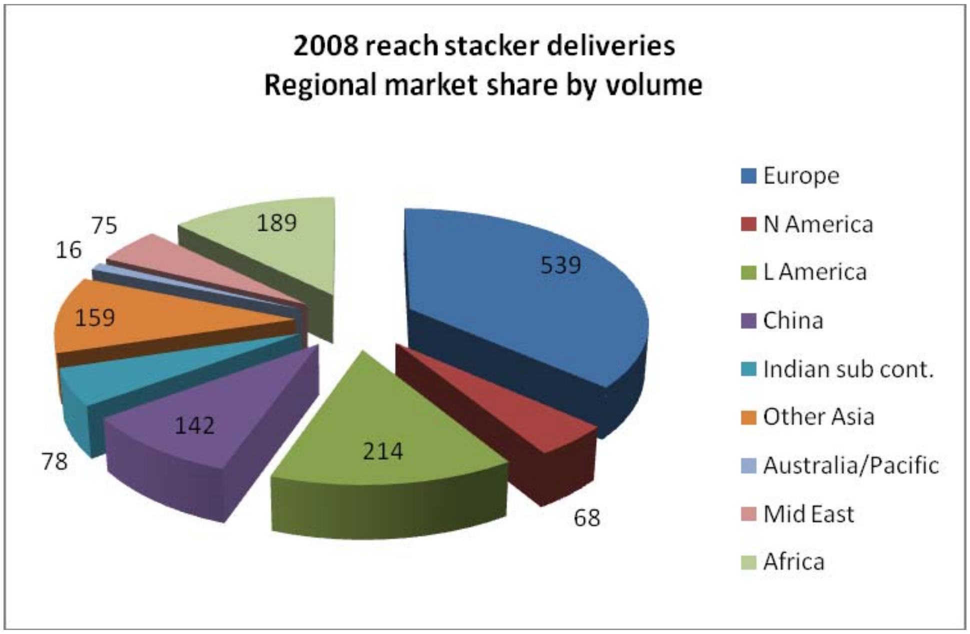


TABLE 3: Reach stacker deliveries – 2008 regional market share

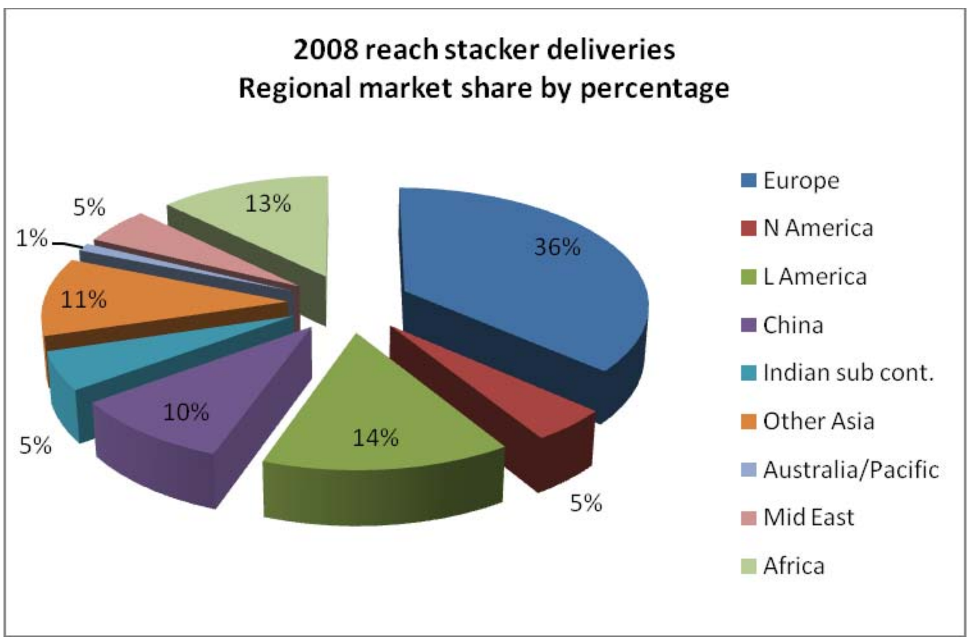
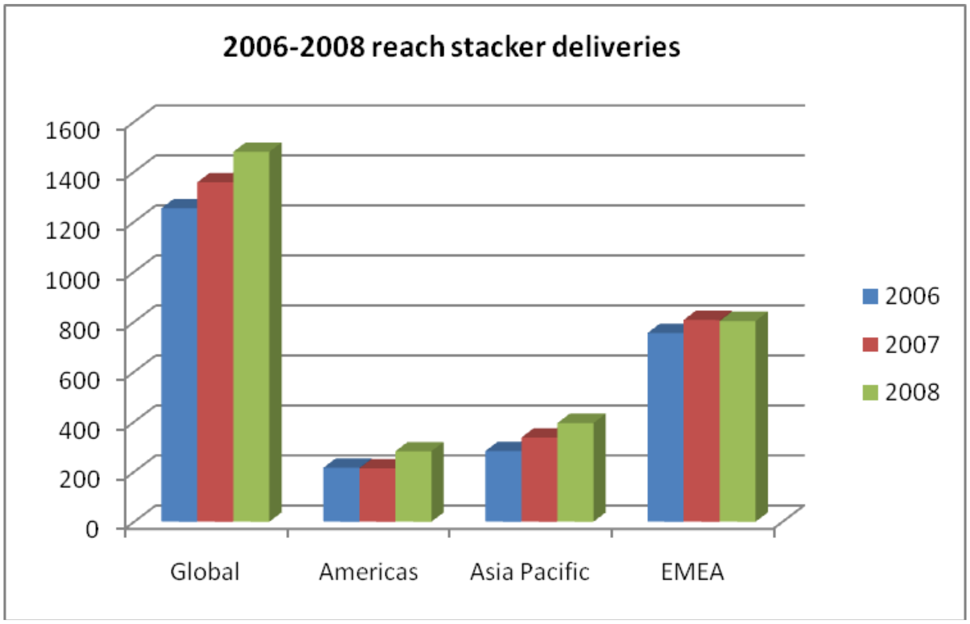


TABLE 4: Reach stacker deliveries – 2006-2008 volumes

Region	2006	2007	2008
Global	1254	1358	1480
EMEA	755	807	803
Americas	216	214	282
Asia Pacific	283	337	395



Note 1: In order to look at the three year trend, it has been necessary to consolidate 2008 delivery numbers into the broader geographic regions used in 2006/7

Note 2: The same manufacturers contributed data for all three years

TABLE 5: Reach stacker deliveries – 2006-2008 percentage change

Region	2006-7	2007-8
Global	+8.3%	+9%
EMEA	+6.9%	-0.5%
Americas	-1%	+32%
Asia Pacific	+19%	+17.2%

Note: Percentages rounded to the nearest decimal place

2. FLTs

Eight manufacturers of FLTs responded to the request to contribute to the survey: CVS Ferrari, Fantuzzi Reggiane, Hyster, Kalmar, Indital, Linde, Konecranes Lifttrucks and TCM.

Several others were contacted. Doosan and Mitsubishi responded that they did not manufacture FLTs. Dalian and Komatsu did not respond. Svetruck and Taylor declined to participate.

Manufacturers were asked to supply 2008 delivery numbers by geographic region, split between FLTs for handling laden containers and FLTs for handling empty containers. The same manufacturers contributed data for all three years in both the laden container handling and empty container handling categories.

2.1 FLTs for handling laden containers

The steady decline in delivery figures for laden FLTs from 2006-8 would seem to substantiate the reported trend towards the reach stacker as the port industry's equipment of choice for handling of laden containers.

The lack of data from some key manufacturers must of course be taken into account in using these figures and caution must therefore be applied. However, the 2006-8 trend calculation is based on like-for-like returns from the same manufacturers.

TABLE 1: Consolidated results of 2008 deliveries for laden container FLTs

Region	Quantity	Percentage
Global	198	100%
Europe	54	27%
Americas	32	16%
Asia	43	22%
Australia Pacific	36	18%
Middle East	16	8%
Africa	17	9%

Note 1: Figures cover only those manufacturers contributing to the survey

Note 2: The number of manufacturers delivering units into North America and Latin America was not sufficient to meet legal requirements. Deliveries have therefore been consolidated into Americas. The same applies for the China, Indian sub Continent and Other Asia regions, consolidated into Asia

Note 3: The same manufacturers contributed data for all three years

Note 4: Percentages rounded to the nearest whole number

TABLE 2: Laden container FLT deliveries – 2008 volumes by region

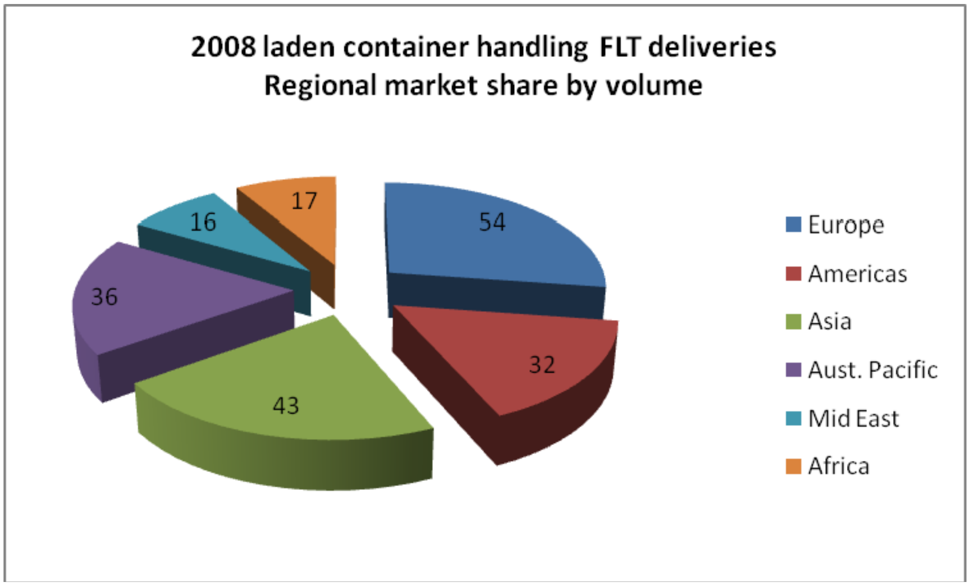


TABLE 3: Laden container FLT deliveries – 2008 regional market share

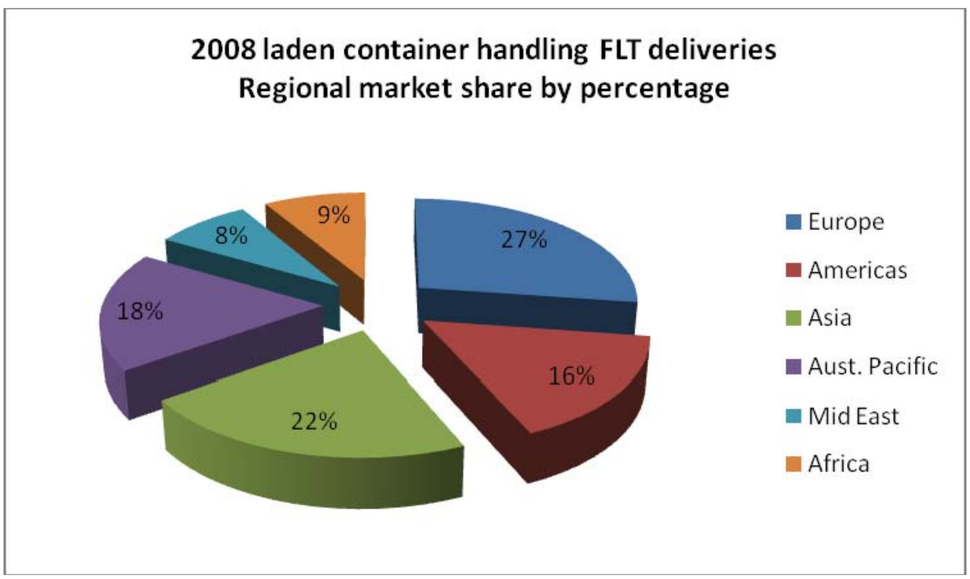
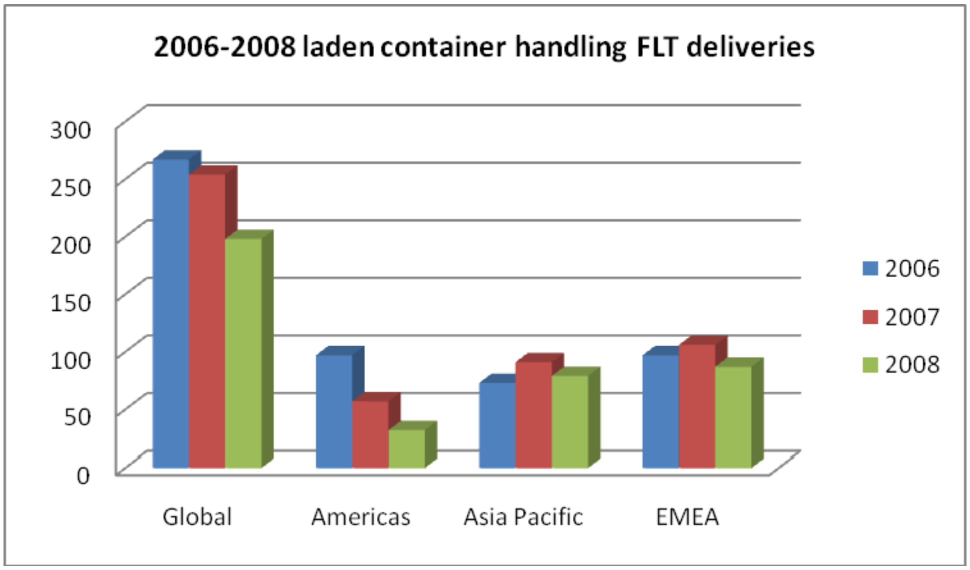


TABLE 4: Laden container FLT deliveries – 2006-2008 trend

Region	2006	2007	2008
Global	267	254	198
EMEA	97	106	87
Americas	97	57	32
Asia Pacific	73	91	79



Note 1: In order to look at the three year trend, it has been necessary to consolidate 2008 delivery numbers into the broader geographic regions used in 2006/7

Note 2: The same manufacturers contributed data for all three years

TABLE 5: Laden container FLT deliveries – 2006-2008 percentage change

Region	2006-7	2007-8
Global	-4.9%	-22%
EMEA	+9.3%	-17.9%
Americas	-41.2%	-43.9%
Asia Pacific	+24.7%	-13.2%

Note: Percentages rounded to the nearest decimal place

2.2 FLTs for handling empty containers

TABLE 1: Consolidated results of 2008 deliveries for empty container FLTs

Region	Quantity	Percentage
Global	613	100%
Europe	153	25%
North America	22	3%
Latin America	19	3%
China	140	23%
Indian Sub Continent	11	11%
Other Asia/ Pacific	134	22%
Middle East	54	9%
Africa	80	13%

Note 1: Figures cover only those manufacturers contributing to the survey

Note 2: To meet the minimum of five manufacturers required for each region, Australia Pacific has been consolidated with Other Asia

Note 3: Percentages rounded to the nearest whole number

TABLE 2: Empty container FLT deliveries – 2008 volumes by region

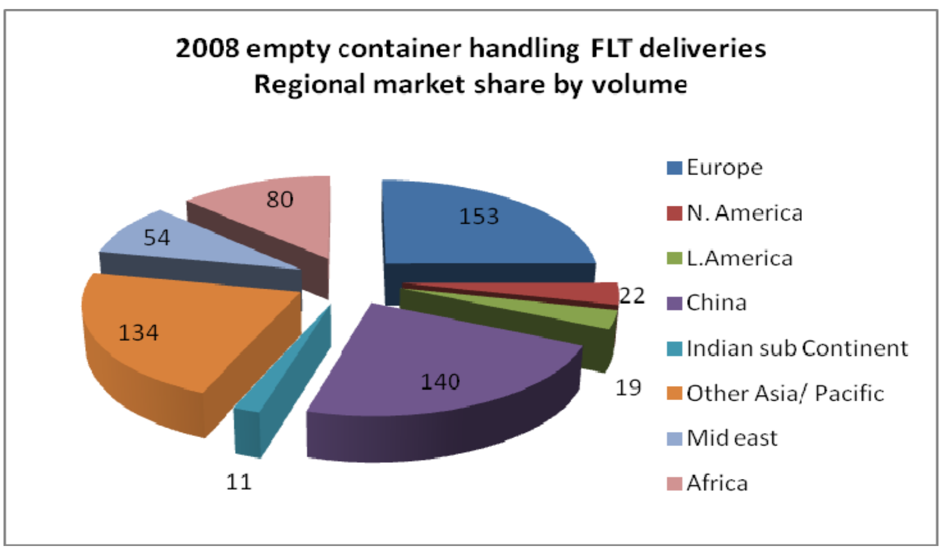


TABLE 3: Empty container FLT deliveries – 2008 regional market share

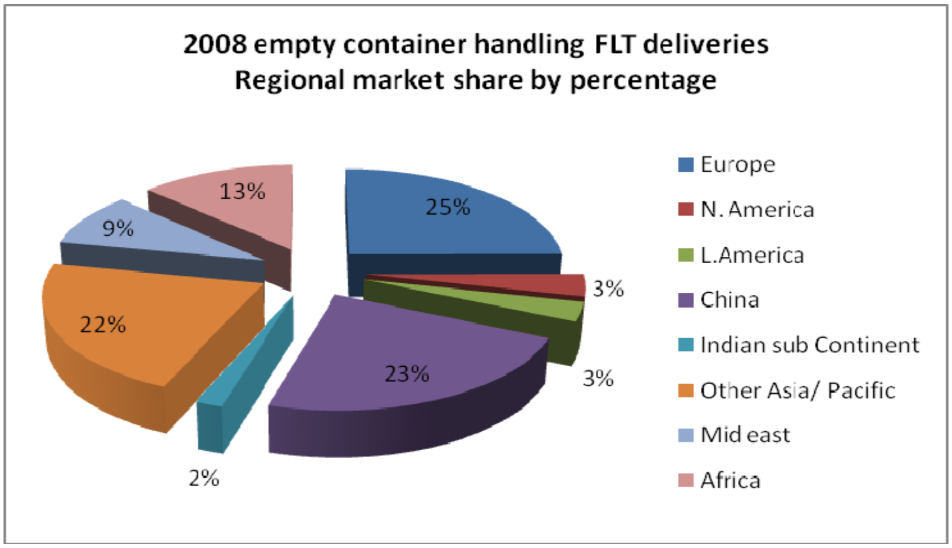
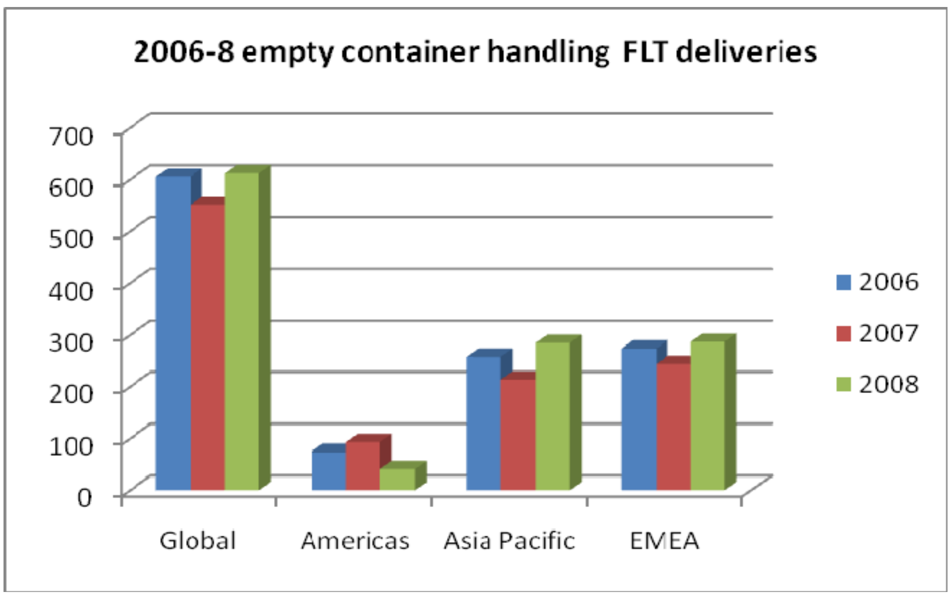


TABLE 4: Empty handling FLT deliveries – 2006-2008 trend by volume

Region	2006	2007	2008
Global	606	551	613
EMEA	274	244	287
Americas	74	93	41
Asia Pacific	258	214	287



Note 1: In order to look at the three year trend, it has been necessary to consolidate 2008 delivery numbers into the broader geographic regions used in 2006/7

Note 2: The same manufacturers contributed data for all three years

TABLE 5: Empty handling FLT deliveries – 2006-2008 percentage change

Region	2006-7	2007-8
Global	-9.1%	+11.3%
EMEA	-10.9%	+17.6%
Americas	+25.7%	-55.9%
Asia Pacific	-17%	+34.1%

Note: Percentages rounded to the nearest decimal place

3. Terminal tractors

Six manufacturers were targeted and all contributed to the survey: Capacity, CVS Ferrari, Kalmar Industries, MAFI, MOL and Terberg. For the first time, manufacturers were asked to supply details of 2x4 and 4x4 vehicles separately for 2008 deliveries.

The North America market for terminal tractors is served largely by two manufacturers, with a third delivering a small number of units. This does not meet the regulatory criteria of at least five suppliers of an equipment type to a specific market. For legal reasons, it is therefore necessary to exclude North America from this survey.

The number of terminal tractors delivered to China, Indian sub Continent, Other Asia and Australia Pacific again did not meet the minimium of five requirement. All of these regions have therefore been grouped under Asia Pacific.

3.1 Terminal tractors 2x4

TABLE 1: Consolidated results of 2008 deliveries for 2x4 terminal tractors

Region	Quantity	Percentage
Global	2843	100%
Europe	702	25%
Latin America	347	12%
Asia Pacific	1019	36%
Middle East	520	18%
Africa	255	9%

Note 1: Figures cover only those manufacturers contributing to the survey

Note 2: For legal reasons, North America is excluded due to the limited number of companies serving this regional market. Deliveries to China, India Sub Continent, Other Asia and Australia Pacific are also grouped into Asia Pacific to meet legal requirements

Note 3: Percentages rounded to the nearest whole number

TABLE 2: 2x4 terminal tractor deliveries – 2008 volumes by region

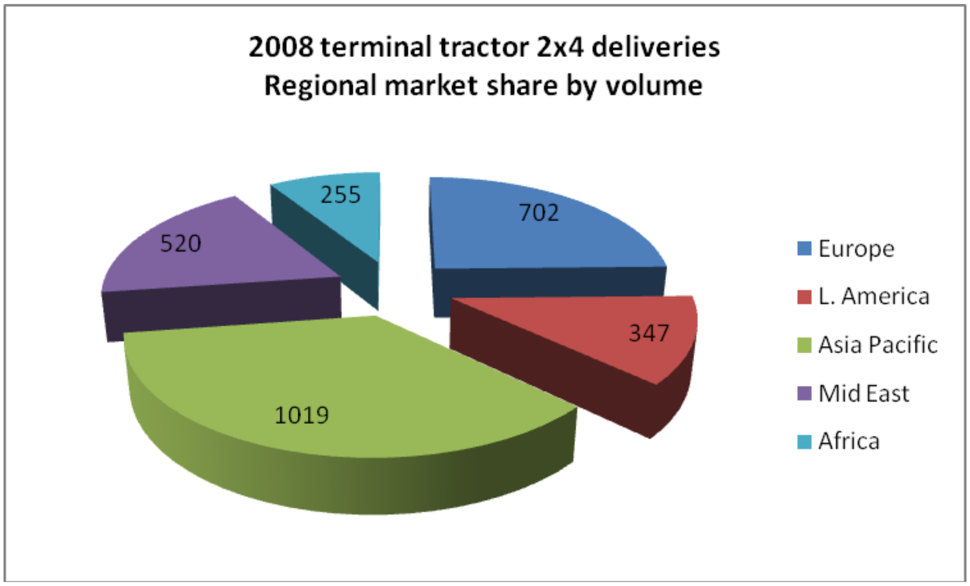
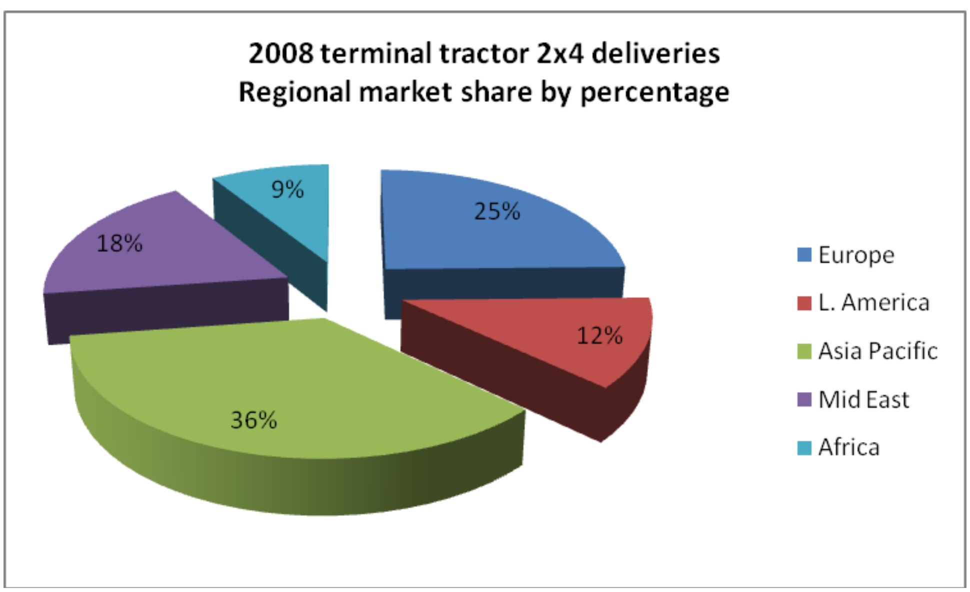


TABLE 3: 2x4 terminal tractor deliveries – 2008 regional market share



3.2 Terminal tractors 4x4

TABLE 1: Consolidated results of 2008 deliveries for 4x4 terminal tractors

Region	Quantity	Percentage
Global	692	100%
Europe	583	84%
Latin America	16	2%
Asia Pacific	15	2%
Middle East	15	2%
Africa	63	9%

Note 1: Figures cover only those manufacturers contributing to the survey

Note 2: For legal reasons, North America is excluded due to the limited number of companies serving this regional market. Deliveries to China, India Sub Continent, Other Asia and Australia Pacific are also grouped into Asia Pacific to meet legal requirements

Note 3: Percentages rounded to the nearest whole number

TABLE 2: 4x4 terminal tractors deliveries – 2008 volumes by region

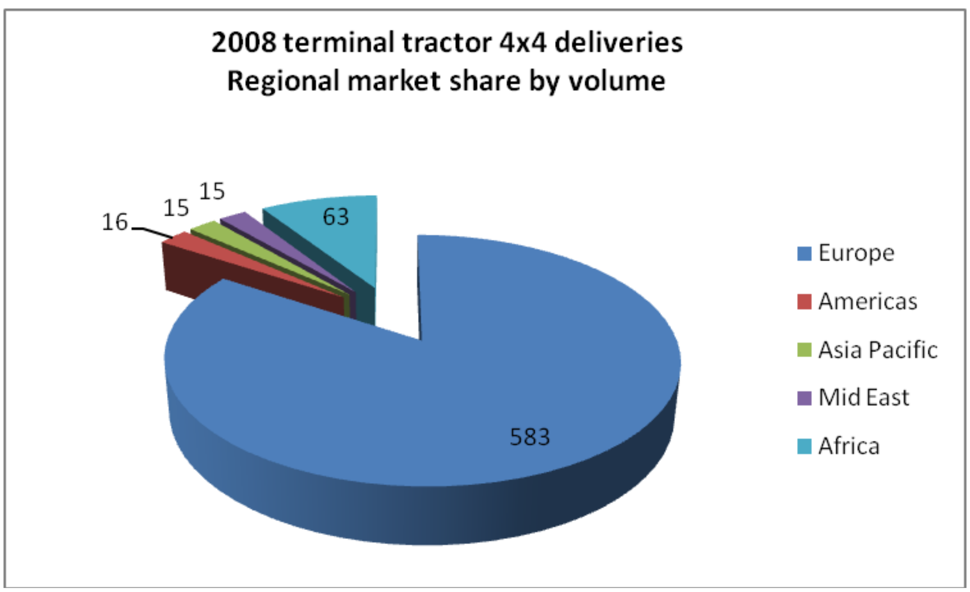
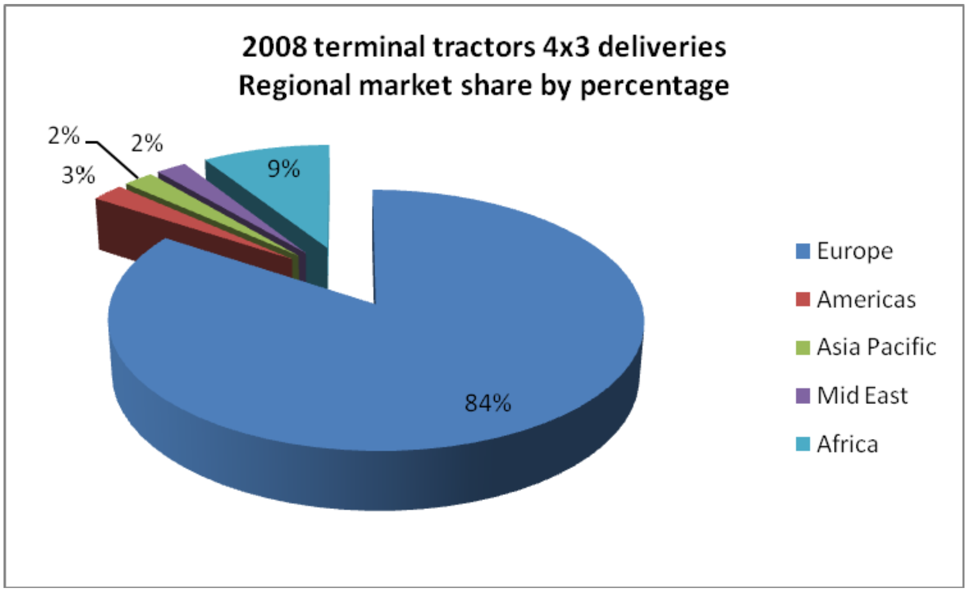


TABLE 3: 4x4 terminal tractor deliveries – 2008 regional market share



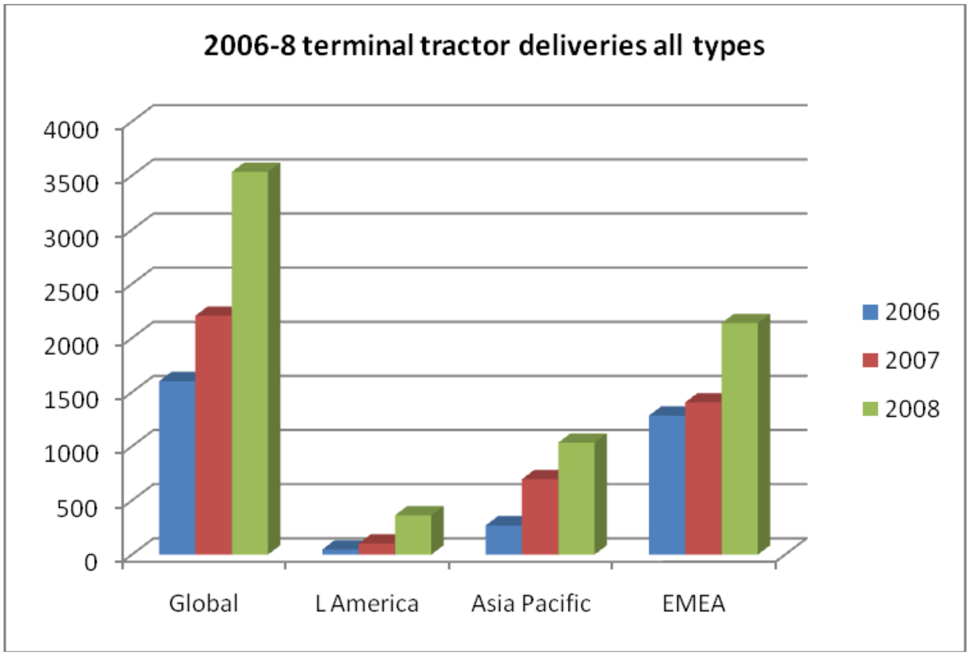
3.3 Terminal tractor deliveries all types 2006-2008

In 2006 and 2007, data was collected by broader geographic region (Global, EMEA, Latin America, Asia Pacific,) and only for terminal tractors in total, not separated into 2x2 and 2x4. For historical comparison purposes, it is therefore necessary to configure 2008 figures in the same manner as 2006-7 data. Note that North America is excluded for all three years due to legal restrictions.

Comparison figures must also be treated with caution as two additional manufacturers contributed data for 2008. The apparent high growth from 2007-8 is therefore misleading. However, the 2006-7 trend data covers the same manufacturers.

TABLE 4: Terminal tractors all types – 2006-2008 trend by volume

Region	2006	2007	2008
Global	1602	2207	3535
EMEA	1284	1407	2138
Latin America	48	103	363
Asia Pacific	270	697	1034



Note 1: In order to look at the three year trend, it has been necessary to consolidate 2008 delivery numbers into the broader geographic regions used in 2006/7

Note 2: Two additional manufacturers contributed data for 2008, so 2007-8 apparent high growth is misleading. The same manufacturers contributed data for 2006-7

TABLE 5: Terminal tractors all types – 2006-2008 percentage change

Region	2006-7	2007-8
Global	+37.8%	+60.1%
EMEA	+9.6%	+51.6%
Latin America	+114.6%	+252.4%
Asia Pacific	+158.1%	+48.4%

Note1: Percentages rounded to the nearest decimal place

Note 2: Two additional manufacturers contributed data for 2008, so 2007-8 apparent high growth is misleading. The same manufacturers contributed data for 2006-7

Terminal trailers

Eleven manufacturers were asked to contribute to the survey, but the results are dissapointing in that only five agreed to participate. Those contributing were: Buiscar Cargo Solutions, CIMC, Magnum, MAFI and Seacom.

Dutch Lanka, Gaussin and Novatech declined to participate. Busby, Fabrisem and Houcon did not respond.

Manufacturers were asked to supply delivery numbers for roll trailers and other terminal trailers seperately. However, the number reporting roll trailer deliveries was less than five. Delivery numbers have therefore been consolidated into 'terminal trailers' as reported in 2006 and 2007.

Because there were too few manufacturers delivering into some regions, it has also been necessary to consolidate North America and Latin America into Americas and to consolidate the separate regions of Asia into Asia Pacific.

There is also a sizeable fleet of lease roll trailers available from European locations, which are leased approximately 50:50 by deep sea and European short sea operators. The current rental fleet size is in excess of 5,000 units, of which 1380 were added in 2008.

TABLE 1: Consolidated results of 2008 deliveries for terminal trailers

Region	Quantity	Percentage
Global	3027	100%
Europe	1303	43%
Americas	420	14%
Asia Pacific	900	30%
Middle East	156	5%
Africa	248	8%

Note 1: Figures cover only those manufacturers contributing to the survey

Note 2: To meet legal requirements, deliveries to North America and Latin America are consolidated in the Americas. Deliveries to China, India Sub Continent, Other Asia and Australia Pacific are similarly grouped into Asia Pacific

Note 3: Percentages rounded to the nearest whole number

TABLE 2: Terminal trailer deliveries – 2008 volumes by region

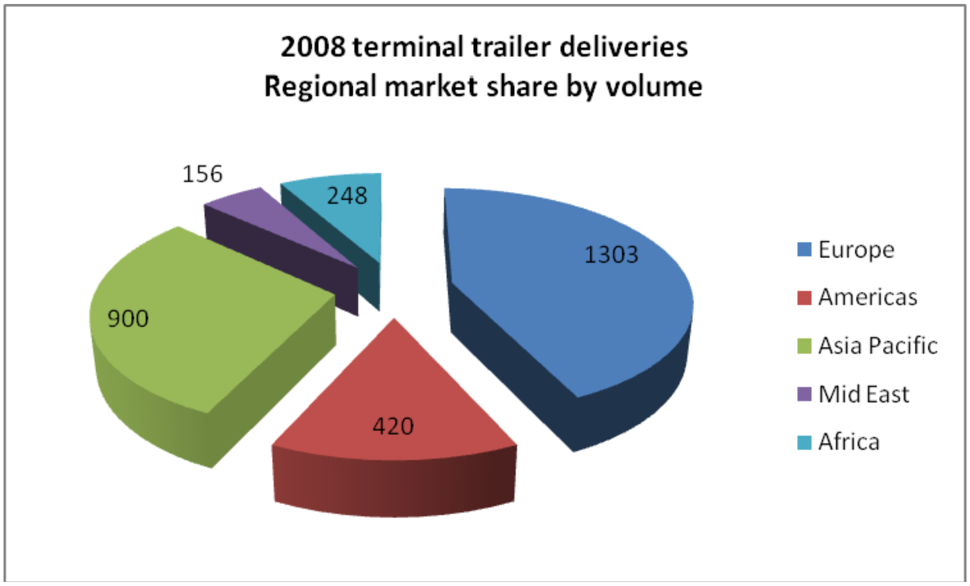


TABLE 3: Terminal trailer deliveries – 2008 regional market share

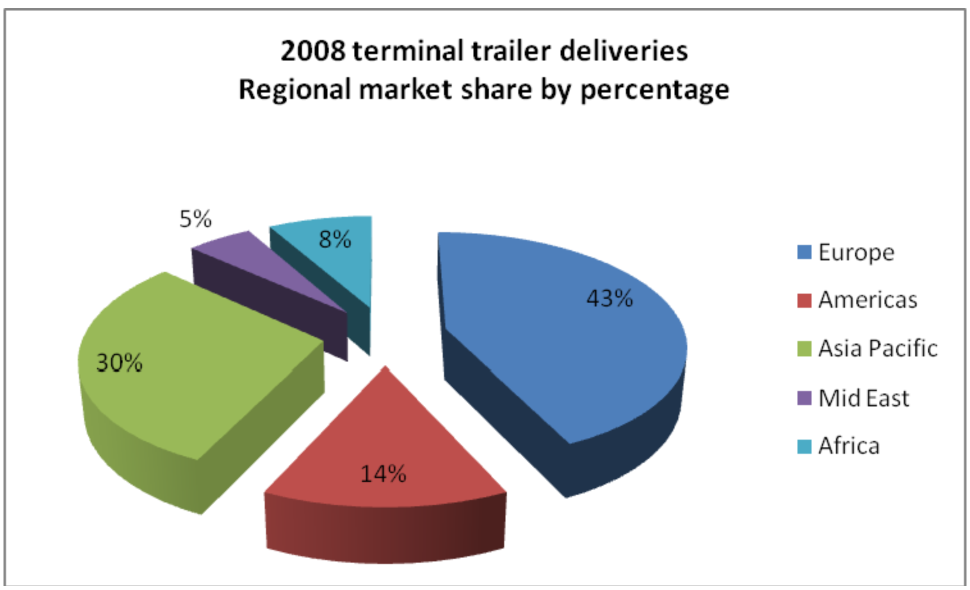
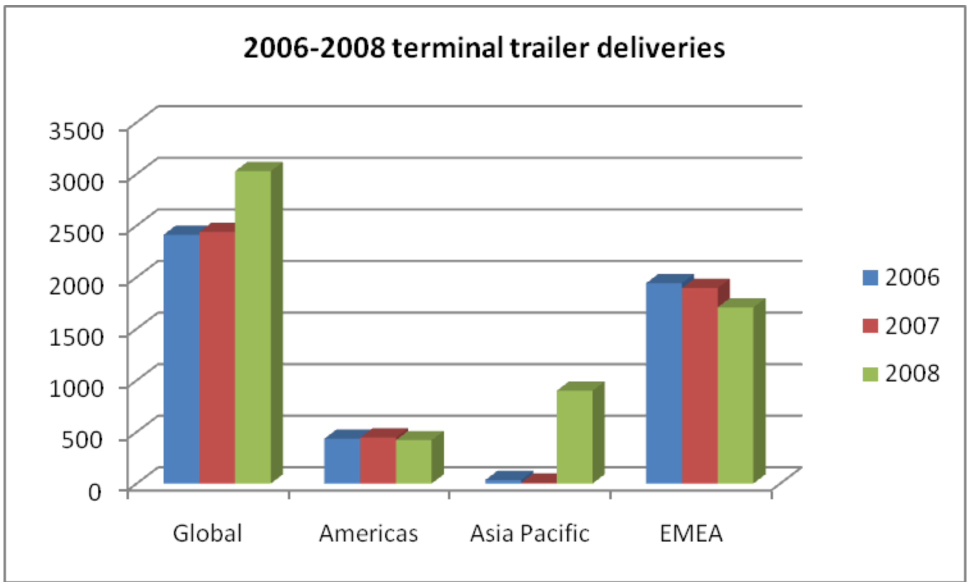


TABLE 4: Terminal trailer deliveries – 2006-2008 trend

Because the mix of manfacturers contributing to the survey has changed significantly, the three year trend is confusing and does not form a reliable basis for comparison, either on a global or regional scale.

Region	2006	2007	2008
Global	2411	2438	3027
EMEA	1942	1824	1707
Americas	435	446	420
Asia Pacific	34	8	900

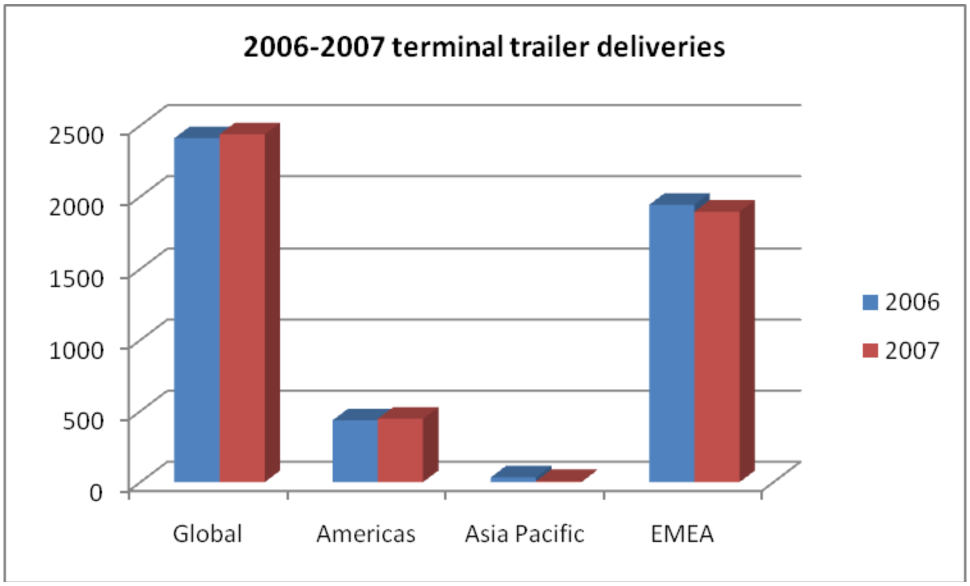


Note 1: Manufacturers contributing for 2006-7 were Buiscar Cargo Solutions, Busby, Houcon, MAFI, Novatech and Seacom

Note 2: Manufacturers contributing for 2008 were Buiscar Cargo Solutions, CIMC, Magnum, MAFI and Seacom

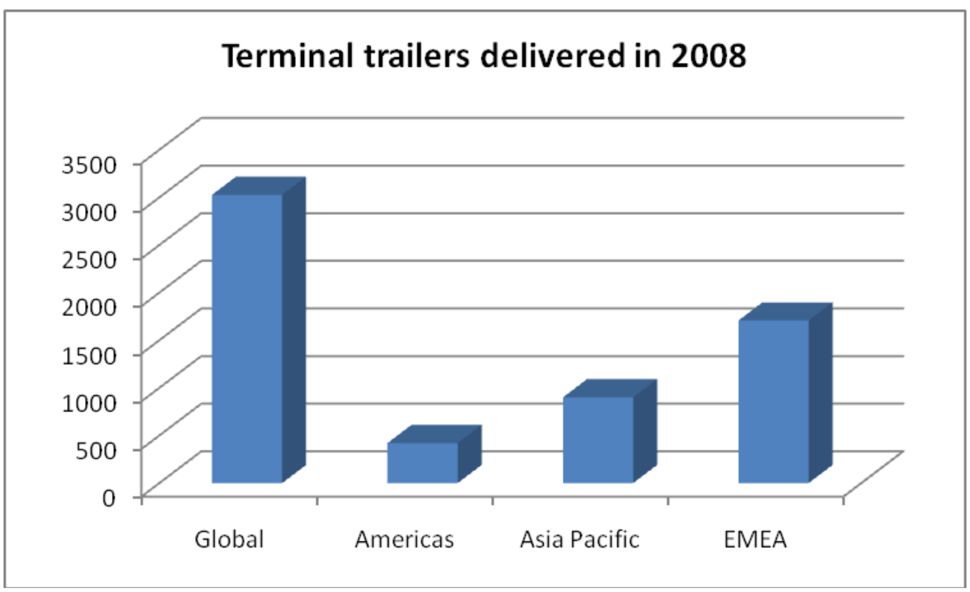
TABLE 5: Terminal trailer deliveries – 2006-2007 trend

To provide a more reliable indicator, the 2006-7 trend comparison is also included, where the same manufacturers contributed data.



Note 1: Manufacturers contributing for 2006-7 were Buiscar Cargo Solutions, Busby, Houcon, MAFI, Novatech and Seacom

TABLE 6: Terminal trailer deliveries – 2008 totals by major region



Note 1: Manufacturers contributing for 2008 were Buiscar Cargo Solutions, CIMC, Magnum, MAFI and Seacom

About the author

For the past 10 years, Brian Robinson has worked as a freelance journalist and transport industry consultant. His journalistic and consulting assignments have covered all aspects of the transport, shipping, ports and terminals industry with special emphasis on terminal handling equipment.

Mr. Robinson has conducted detailed annual industry surveys of ship to shore cranes, RTG/RMG yard cranes and mobile harbour cranes, which have been published in the trade press and become industry benchmarks.

Previously, he was engaged in various senior management positions in the container leasing sector in both Europe and the USA, covering both field and HQ positions. Earlier in his career he worked in the rail, road and shipping industries.

Mr. Robinson was educated at London School of Economics and Anglian Management School.

About PEMA

The mission of PEMA is to provide a forum and public voice for the global port equipment sector, reflecting the industry's critical role in enabling safe, secure, sustainable and productive ports, and thereby supporting world maritime trade

Chief among the aims of the Association is to foster good relations within the world port equipment community, by providing a forum for the exchange of views on trends in port equipment design, manufacture and operation worldwide

PEMA also aims to promote and support the global role of the equipment industry, by raising awareness with the media, customers and other stakeholders; forging relations with other port industry associations and bodies; and contributing to best practice initiatives

PEMA membership is open to any company involved in the port equipment market, regionally or globally, including:

- Manufacturers and suppliers of port and terminal equipment
- Manufacturers and suppliers of components or attachments for port equipment
- Suppliers of technology that interfaces with or controls the operation of port equipment
- Consultants in port and equipment design, specification and operations

Current PEMA members include: Baltkran JSC, Brevetti Stendalto SpA, Bromma Group, Cavotec MSL Holdings Ltd, Conductix-Wampfler, Fantuzzi Noell, Hyster Europe, Kalmar, part of Cargotec Corp, Konecranes, Konecranes Liftrucks AB, Liftech Consultants Inc, MAFI Transport-Systeme GmbH, Michelin, RAM Spreaders, Stinis Holland, Svetruck, Terberg

Benschop, Tratos Cavi SpA and TTS Ports Equipment AB. (Nexans and Terex - membership pending)

PEMA's President and Chairman of the Board is Ottonel Popesco, CEO of Cavotec MSL Holdings, elected in January 2008 . He succeeded Christer Granskog, former President and CEO of Kalmar Industries, who helped found PEMA in late 2004 and served as President and Chairman of the Board until the end of 2007.

PEMA members meet 2-4 times annually, where possible alongside a key trade show, including a dinner or other social networking opportunity. The PEMA AGM is held in the first quarter and the board meets as needed during the year.

For more information please contact any of the following PEMA representatives:

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