

ANNUAL GLOBAL SURVEY 2010

MOBILE PORT HANDLING EQUIPMENT DELIVERIES

A PEMA Survey



This survey covers 2010 global and regional delivery volumes and 2006-10 global and regional delivery trends for container handling FLT's, reach stackers and terminal tractors.

Researched and authored exclusively for PEMA by Brian Robinson.

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PEMA
PORT EQUIPMENT MANUFACTURERS ASSOCIATION

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

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INTRODUCTION

This is the fourth global survey of mobile port handling equipment deliveries worldwide to be published by PEMA, the Port Equipment Manufacturers Association.

OBJECTIVE

Based on original data gathered from port equipment manufacturers around the world, the objective of the annual survey is to determine market size and scope by equipment delivery volumes for:

- Reach stackers for handling laden containers
- Reach stackers for handling empty containers
- FLTs for handling laden containers
- FLTs for handling empty containers
- 4 x 2 terminal tractors
- 4 x 4 terminal tractors

PEMA commissioned this and previous surveys to contribute to the body of port equipment Industry knowledge. Much information is available via the media on deliveries of large equipment classes such as ship-to-shore



cranes and yard cranes, but little is available in the public domain for these smaller equipment classes, which represent an important element of the global port equipment market.

PEMA hopes that this 2010 survey will be of value and extends sincere thanks to everyone who contributed information.

DEVELOPMENT

The first PEMA survey of mobile port handling equipment was published in April 2008 and provided figures for equipment deliveries in 2006 and 2007.

Deliveries for 2006 and 2007 were reported globally and by three broad geographic regions: EMEA (Europe, Middle East and Africa), Americas and Asia Pacific.

For the surveys of 2008 and 2009 deliveries manufacturers were 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.



This survey of 2010 deliveries follows the same geographic breakdown as 2008 and 2009. However, for longer-term comparison and trend purposes the geographic breakdown used in the early years is again deployed.

METHODOLOGY

The survey research was conducted between January and March 2011. Results were collated in April 2011 and the report was finalised in May 2011. 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 2010.

CONFIDENTIALITY

Contributors to the survey were given an assurance of strict confidentiality. The survey was conducted by Brian 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 counsel and all source data will be destroyed within six months of the survey results being released.

REGULATORY REQUIREMENT

There must be at least five (5) manufacturers reporting deliveries in total for each equipment type 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 full consolidated survey results will be released to PEMA members and to contributors to the survey in 2010. The report will be made generally available from January 2012.

DISCLAIMER

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



This document does not constitute professional advice, nor is it an exhaustive summary of the information available on the subject matter to which it refers.

Every effort is made to ensure the accuracy of the information, but neither the author, PEMA nor any member company is responsible for any loss, damage, costs or expenses incurred, whether or not in negligence, arising from reliance on or interpretation of the data.

MANUFACTURERS IN CHINA

SANY GROUP

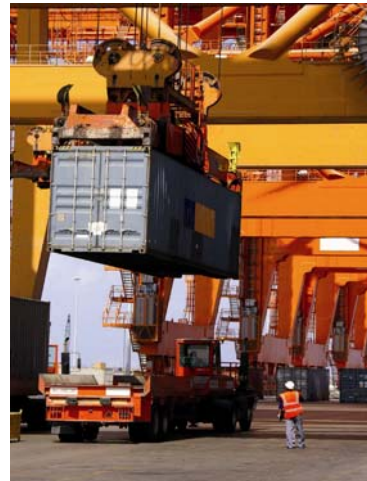
PEMA is pleased to note that Sany Group has both joined our Association and contributed to this survey. The participation of this major manufacturer makes the survey for the equipment classes that it manufactures more complete.

SHANGHAI SEAYORK PORT EQUIPMENT CO.

It is likely that commercial reach stackers units were produced by this company in 2010. However, it has not been possible to get this company to participate in the survey this year.

SINOTRUCK advertises the availability of variants of terminal tractors, but did not respond to requests to participate in this survey.

ZOOMLION did not respond, but it is believed that the company manufactures reach stackers.



1 | EXECUTIVE SUMMARY AND KEY FINDINGS

→ some improvement in delivery numbers, but with a note of caution

Following several years of strong market conditions for mobile port handling equipment, the effects of the recent global economic and financial crisis were clearly shown in last year's survey results for 2009 deliveries.

In 2010, deliveries showed real improvement in some equipment classes, but terminal tractor delivery numbers declined still further.

While delivery numbers for 2010 were higher than in 2009, the year-on-year comparisons contained in this report for reach stackers and empty container handling FLT's are sometimes distorted because of the inclusion of new participants' delivery numbers for 2010.

The inclusion of new participant data makes this year's survey more complete, but readers are advised to exercise caution in interpreting the 2009-2010 trend analysis for the equipment classes mentioned.



This year, manufacturers were for the first time asked to supply details of reach stackers for handling empty containers. However, there were less than 50 such units delivered worldwide, with insufficient geographic spread or number of manufacturers to meet the reporting criteria. Empty container handling reach stacker numbers have therefore been consolidated with laden reach stackers. This finding in itself serves to illustrate that FLT's remain the dominant port industry choice for empty container handling.

TABLE 1.1
2008-2010 GLOBAL UNIT DELIVERIES OF ALL EQUIPMENT TYPES

Equipment type	2008	2009	2010	Percentage change 2009-2010
Reach stackers	1408	796	1227	54% ¹
FLT's laden	198	110	113	3%
FLT's empty	613	318	467	47% ¹
Terminal tractors 4x2	2843	1778	1343	-24%
Terminal tractors 4x4	692	404	320	-21%
Total	5754	3406	3470	2%

Note 1: Percentage change distorted because of the inclusion of new participants data for 2010.

Note: Figures include only data supplied by survey respondents.

Note: Terminal tractor data excludes North America, which is served by only two main suppliers and therefore does not meet the reporting criteria.

In 2010, world deliveries of both reach stackers and empty container handling FLT's recovered about 50% of the number losses incurred between 2008 and 2009.

The table on page 6 shows a 54% rise for reach stackers and 47% increase for empty container handling FLT's. Although the 2009-2010 comparison is somewhat distorted by new participant data, as noted above, the underlying trend is clearly up. By contrast, laden container FLT deliveries stayed flat, indicating yet again that the trend towards reach stackers for handling loaded containers is here to stay.

Figures from the terminal tractor market are less encouraging, with reported global deliveries of 4x2 units down by 24% on 2009 and 4x4 tractor deliveries dropping by 20%.

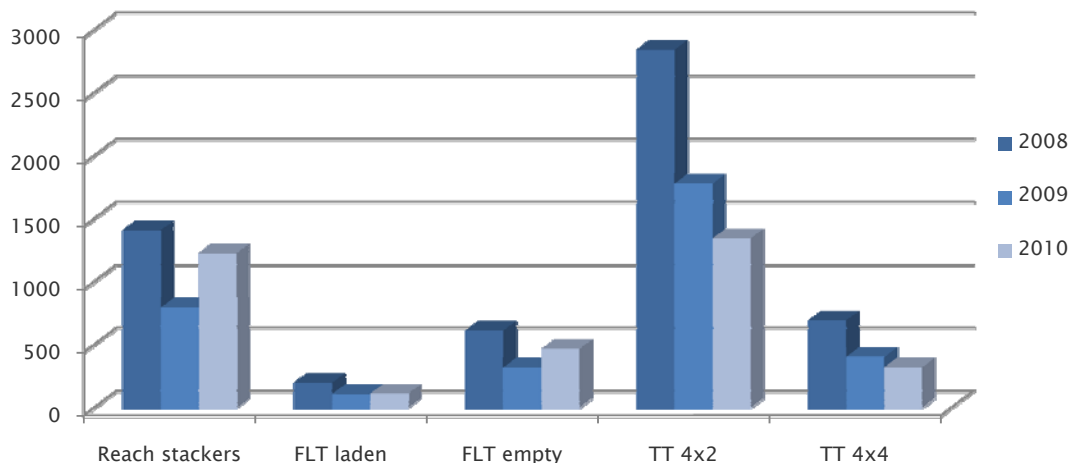


As in previous years, PEMA is unable to publish figures from the North American terminal tractor market, which is served by only two manufacturers and therefore does not meet the regulatory reporting requirements.

However, as North American data has not been included in any previous edition of this survey, the decline in 2010 terminal tractor deliveries is an accurate reflection of the markets that PEMA is able to report on.

FIGURE 1.1

2008–2010 GLOBAL DELIVERY TREND FOR ALL EQUIPMENT TYPES



Note: Reach stackers and FLT empty distorted because of the inclusion of new participants numbers for 2010.
Note: Terminal tractor data excludes deliveries in North America, which is served by only two main suppliers and therefore does not meet the reporting criteria.

2 | REACH STACKERS

→ global market recovery underway

SURVEY RESPONDENTS

Ten reach stacker manufacturers contributed to the survey this year. Previously, Fantuzzi Reggiane and Terex France reported separately, but this year the Terex group reported combined numbers. Last year, CVS Ferrari did not report, but this year the company did participate. Sany contributed this year, but previously has not.

The 2010 survey participants are:

- Cargotec / Kalmar
- CVS Ferrari
- Hyster
- Indital
- Liebherr
- Linde
- Konecranes Liftrucks
- TCM
- Terex
- Sany

REACH STACKERS FOR EMPTY UNITS

For 2010, manufacturers were asked to supply details of reach stackers for handling empty containers. However, there were less than 50 of such units delivered worldwide, with insufficient geographic spread or number of manufacturers to meet the reporting criteria. Empty container handling reach stacker numbers have therefore been consolidated with laden reach stackers.

KEY FINDINGS

Even accounting for distortion of the 2009-2010 trend comparison due to the inclusion of new participants' data, the global market for reach stackers rallied to a significant extent in 2010.

All regional markets showed gains on 2009, with the exception of Africa (see table 2.2 overleaf).

TABLE 2.1
CONSOLIDATED RESULTS OF 2010 REACH STACKER DELIVERIES

Region	Units delivered	Share of global market
Europe	305	25%
North America	47	4%
Latin America	164	13%
China	213	17%
Indian Sub Continent	81	7%
Other Asia	148	12%
Australasia/Pacific	24	2%
Mid East	92	7%
Africa	153	12%
Global	1227	100%

Note: Percentages rounded to nearest whole number.



FIGURE 2.1
2010 DELIVERIES OF REACH STACKERS BY REGION

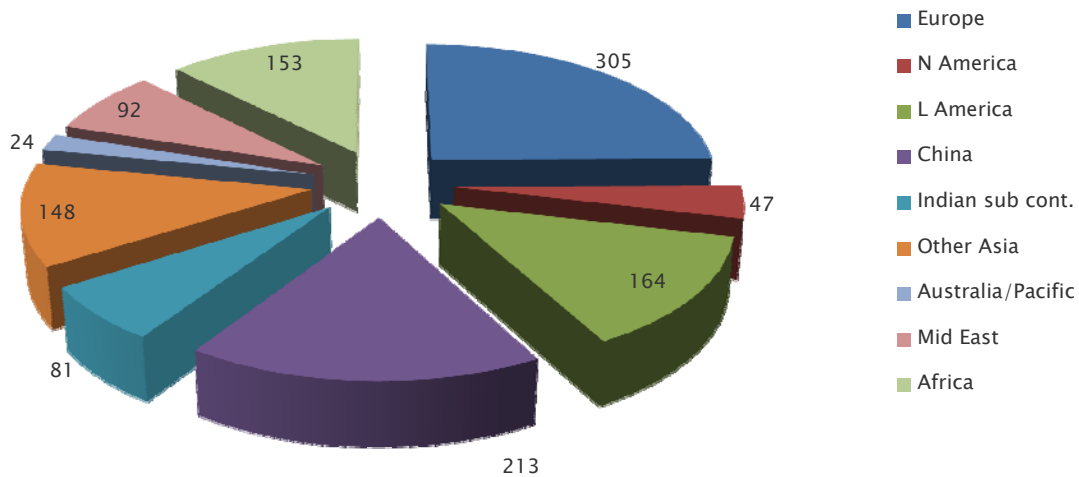


TABLE 2.2
2009-2010 REACH STACKER DELIVERIES

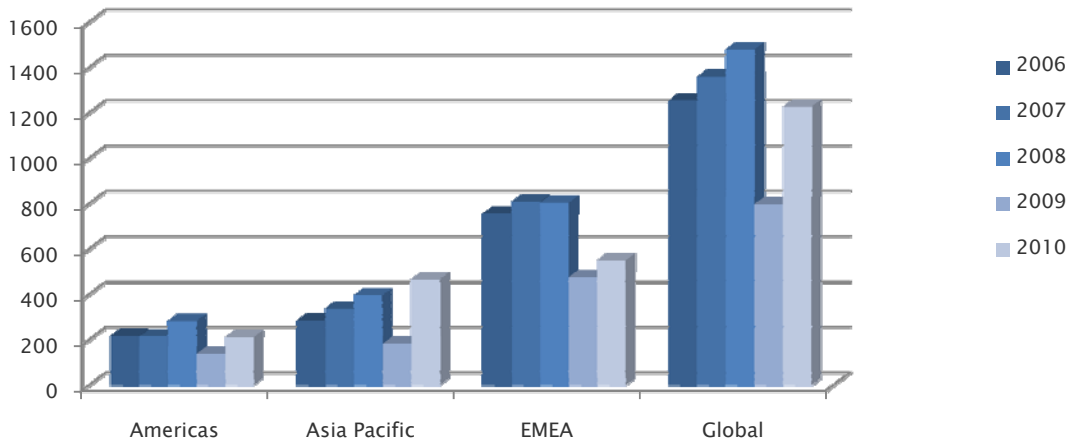
Region	2009 Quantity	2010 Quantity	Percentage change ¹
Europe	207	305	48%
North America	32	47	47%
Latin America	106	164	55%
China	68	213	213%
Indian Sub Continent	38	81	113%
Other Asia	62	148	139%
Australasia/Pacific	15	24	60%
Mid East	68	92	35%
Africa	200	153	-24%
Global	796	1227	54%

Note 1: 2009-2010 totals and percentage change are distorted by the inclusion of new participants' delivery numbers for 2010.

Note: Percentages rounded to nearest whole number.



FIGURE 2.2
2006–2010 REACH STACKER DELIVERY TREND

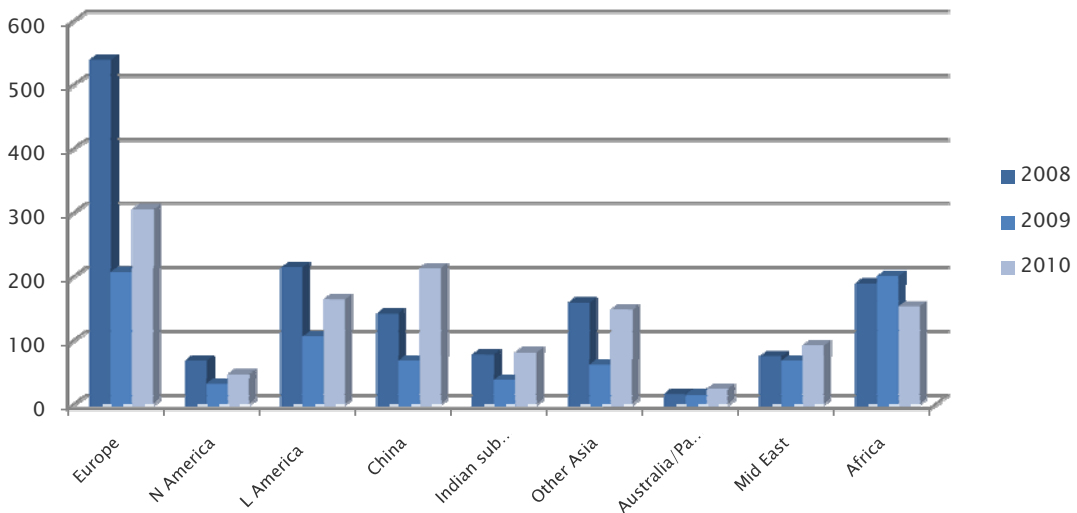


Note: Prior to 2008, statistics were collected by the broader regional breakdown shown here.

TABLE 2.3
2006–2010 REACH STACKER DELIVERIES

Region	2006	2007	2008	2009	2010
Americas	216	214	282	138	211
Asia Pacific	283	337	395	183	466
EMEA	755	807	803	475	550
Global	1254	1358	1480	796	1227

FIGURE 2.3
2008–2010 REACH STACKER DELIVERY TREND



3 | FLT's

→ empty container handling FLT's start to bounce back

SURVEY RESPONDENTS

Nine (9) manufacturers of FLT's contributed to the 2010 survey:

- Cargotec / Kalmar
- CVS Ferrari
- Hyster
- Indital
- Konecranes Lifttruck
- Linde
- TCM
- Terex
- Sany

Svetruck in Sweden and Taylor in USA did not respond and have not contributed data to previous surveys. CVS Ferrari did not contribute for 2009 deliveries, but did again this year.

Once again, manufacturers were asked to supply 2010 delivery numbers by geographic region, split between FLT's for handling laden containers and FLT's for handling empty containers.

SURVEY KEY FINDINGS

The trend continues towards reach stackers being the preferred industry choice for laden container handling and FLT's the dominant selection for empty container handling.

In 2010 there were clear increases in delivery numbers compared with 2009. However, year-on-year trend analysis in the following tables is sometimes distorted by the inclusion of new participants in empty container handling FLT's.

The lack of data from Svetruck and Taylor must of course be taken into account in using these figures, but the inclusion of new participants does give a more complete picture.

Notwithstanding the caveats above, the picture that emerges is of a rally in empty container FLT delivery volumes, while laden container FLT number remain flat.

TABLE 3.1
CONSOLIDATED RESULTS OF 2010 FLT DELIVERIES - LADEN + EMPTY

Region	Units delivered	Share of global market
Europe	147	25%
Americas	76	13%
Asia	202	35%
Australia/Pacific	49	8%
Mid East/Africa	106	18%
Global	580	100%

Note: Percentages rounded to nearest whole number.



3.1 | LADEN CONTAINER FLTS

SURVEY RESPONDENTS

Eight (8) manufacturers of laden container handling FLTs contributed:

- Cargotec
- CVS Ferrari
- Hyster
- Indital
- Konecranes Liftrucks
- Linde
- TCM
- Terex

Svetruck in Sweden and Taylor in USA did not respond. CVS Ferrari did not contribute for 2009 deliveries, but did again this year.

The lack of data from some manufacturers must of course be taken into account when using these figures.

SURVEY KEY FINDINGS

The number of laden FLTs delivered in 2010 was very much in line with 2009. FLTs are in decline as reach stackers become the preferred machine for handling laden containers.

Data collected over the past four years indicates that global deliveries of laden container handling FLTs have declined from 267 units in 2006 to 113 units in 2010 (see table 3.4).

Based on the information available, Europe, the Middle East and Africa remain the most robust areas of demand for this class of port handling equipment.

TABLE 3.2
CONSOLIDATED RESULTS OF 2010 LADEN CONTAINER FLT DELIVERIES

Region	Units delivered	Share of global market
Europe	33	29%
Americas	21	19%
Asia	12	11%
Australia/Pacific	18	16%
Mid East/Africa	29	26%
Global	113	100%

Note: Percentages rounded to nearest whole number.

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

Note: The number of manufacturers delivering units into North America and Latin America was insufficient to meet the reporting criteria. Deliveries have therefore been consolidated into Americas. China, Indian Sub Continent and Other Asia have likewise been consolidated into Asia. Mid East and Africa have also been consolidated.

FIGURE 3.1
2010 LADEN CONTAINER FLT DELIVERIES BY REGION

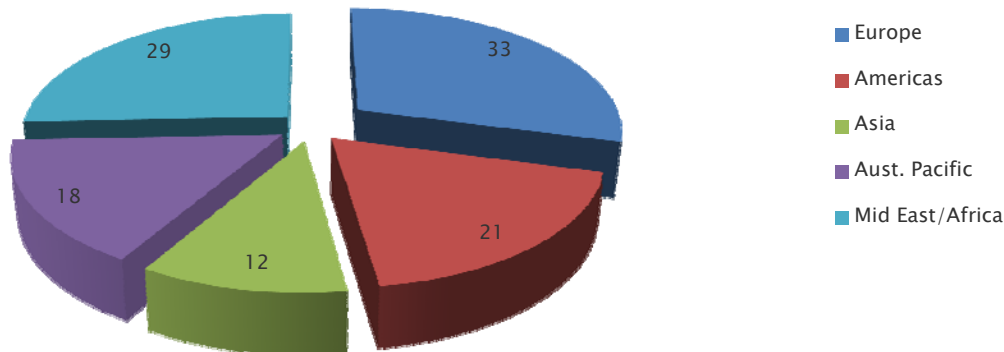


TABLE 3.3
2009-2010 LADEN CONTAINER FLT DELIVERIES

Region	2009	2010	Change
Europe	34	33	-3%
Americas	10	21	110%
Asia	15	12	-20%
Australia Pacific	34	18	-47%
Mid East/Africa	17	29	70%
Global	110	113	3%

Note: Percentages rounded to the nearest whole number.

FIGURE 3.2
2008-2010 LADEN CONTAINER FLT DELIVERY TREND

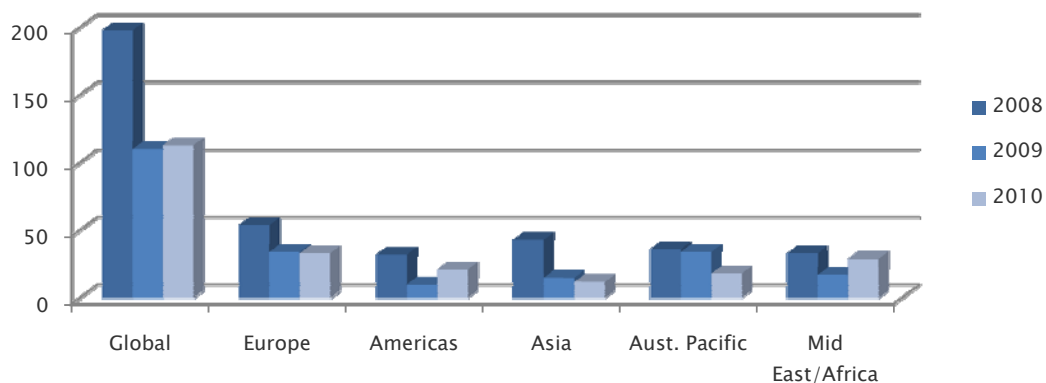




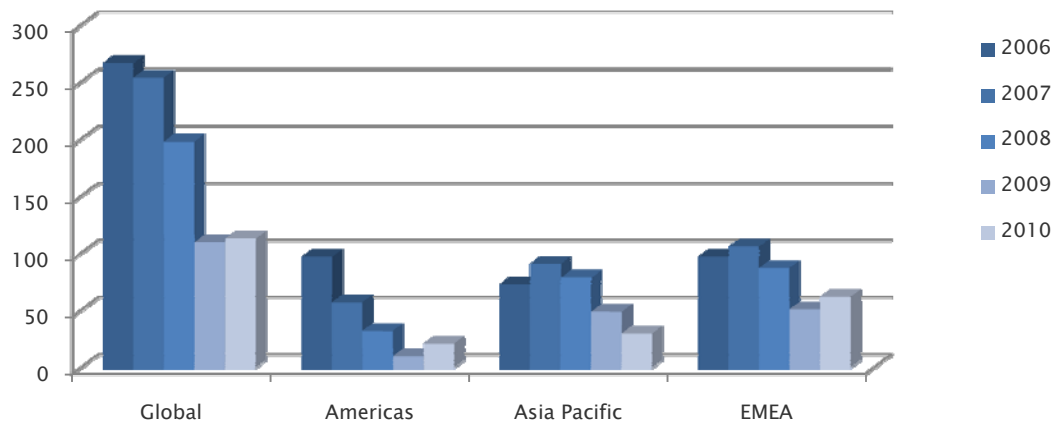
TABLE 3.4
2006-2010 LADEN CONTAINER FLT DELIVERY TREND

Region	2006	2007	2008	2009	2010
Americas	97	57	32	10	21
Asia Pacific	73	91	79	49	30
EMEA	97	106	87	51	62
Global	267	254	198	110	113

Note 1: Number of units delivered per calendar year 2006-2010.

Note 2: For longer term trend purposes 2010 deliveries have been consolidated into the broader geographic regions used in the original 2006/7 survey.

FIGURE 3.3
2006-2010 LADEN CONTAINER FLT DELIVERY TREND





3.2 | EMPTY CONTAINER FLTS

SURVEY RESPONDENTS

Nine (9) manufacturers of empty container handling FLTs contributed:

- Cargotec / Kalmar
- CVS Ferrari
- Hyster
- Indital
- Konecranes Lifttrucks
- Linde
- TCM
- Terex
- Sany

As in previous years, Svetruck in Sweden and Taylor in USA did not respond.

SURVEY KEY FINDINGS

The lack of data from some key manufacturers must be taken into account in using these figures as they do not fully reflect the global marketplace.

Some participants reported deliveries for 2010, but not for previous years. This enhances the completeness of the study but does distort the year-on-year comparisons.

Nonetheless, the figures indicate that empty container handling FLTs have begun to regain some of the ground lost during the global downturn.

TABLE 3.5
CONSOLIDATED RESULTS OF 2010 EMPTY CONTAINER FLT DELIVERIES

Region	Units delivered	Share of global market
Europe	114	24%
North America	19	4%
Latin America	36	8%
China	111	24%
Other Asia	79	17%
Australia Pacific	31	7%
Mid East	43	9%
Africa	34	7%
Global	467	100%

Note: It has been possible for 2010 to expand the number of regions shown in the regional breakdown analysis above, because the number of manufacturers delivering to each region is sufficient to satisfy the reporting criteria.

Note: Percentages rounded to nearest whole number.

FIGURE 3.4
2010 EMPTY CONTAINER FLT DELIVERIES BY REGION

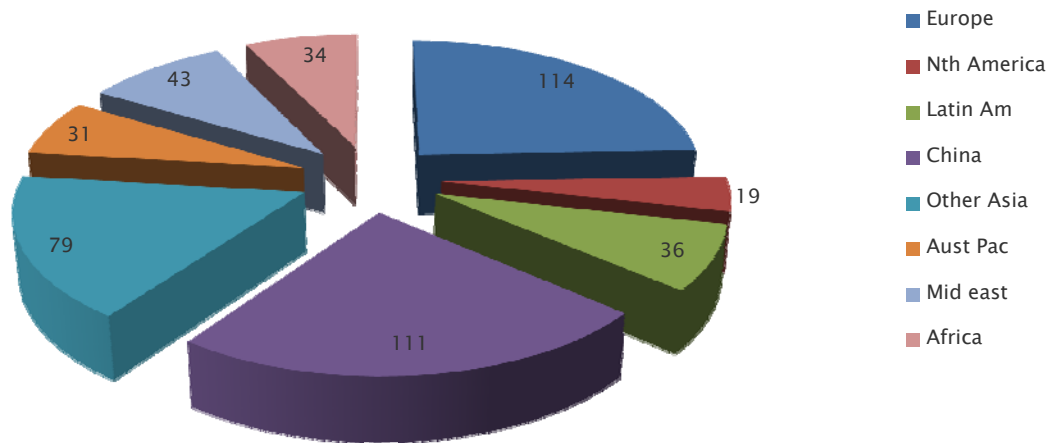


TABLE 3.6
2008-2010 EMPTY CONTAINER FLT DELIVERIES
←with regions consolidated as in previous years

Region	2008	2009	2010	Percentage change 2009-2010 ¹
Europe	153	73	114	56%
Americas	41	23	55	139%
China	140	73	111	52%
Other Asia/Pacific	145	74	110	49%
Mid East	54	23	43	87%
Africa	80	52	34	-35%
Global	613	318	467	47%

Note 1: Percentage change 2009-2010 distorted due to inclusion of new participants delivery numbers in 2010.

Note: Percentages rounded to nearest whole number.

Note: For comparison purposes, deliveries have been consolidated into the regional breakdown used in 2009 and previously.

FIGURE 3.5
2008–2010 EMPTY CONTAINER FLT DELIVERY TREND
 ↳with regions consolidated as in previous years

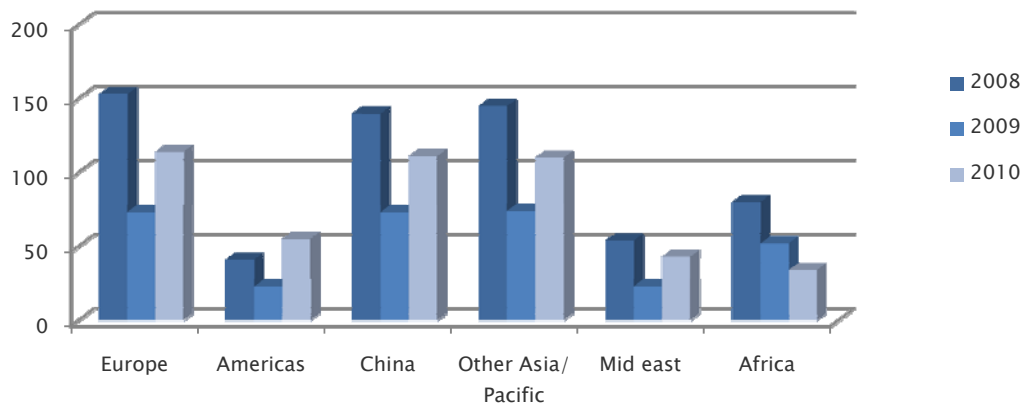
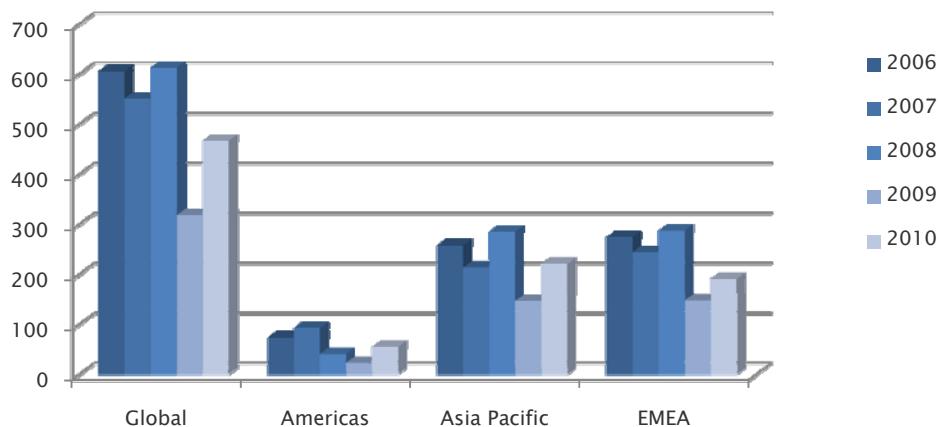


TABLE 3.7
2006-2010 EMPTY CONTAINER FLT DELIVERIES

Region	2006	2007	2008	2009	2010
Americas	74	93	41	23	55
Asia Pacific	258	214	285	147	221
EMEA	274	244	287	148	191
Global	606	551	613	318	467

Note: For longer term trend comparison, data is consolidated into the original regional breakdown used in 2006/7.

FIGURE 3.6
2006–2010 EMPTY CONTAINER FLT DELIVERY TREND



4 | TERMINAL TRACTORS

→ delivery numbers slide further

SURVEY RESPONDENTS

The following manufacturers contributed to the 2010 survey:

- Capacity
- Cargotec / Kalmar
- CVS Ferrari
- MAFI
- MOL
- Terberg

China based Sinotruck, which advertises terminal tractors as being in its portfolio, was contacted but did not respond.

Once again, the North America market for terminal tractors was served overwhelmingly by only two manufacturers. As this does not meet the reporting criteria, it is necessary to exclude North America from this survey.

Given the scale of the North American market, the necessity to exclude data for this region means that the figures reported here are significantly less than the actual world market. This must be taken into account when using these data on a global basis.

China, the Indian sub Continent and Australia Pacific regions have been combined with Other Asia into Asia Pacific to meet the reporting criteria.

SURVEY KEY FINDINGS

The market for terminal tractors declined significantly from 2008 to 2009 and deliveries are down still further in 2010 for both 4x2 and 4x4 terminal tractors.

Globally, the dominant 4x2 market shrank by 24% in 2010 compared with 2009, with delivery volumes down from 1778 to 1343. The 4x4 class declined 21%, from 404 units in 2009, to 320 units in 2010.

MARKET TREND ANALYSIS

This survey only began to separate 4x2 and 4x4 terminal tractors data for 2008 deliveries. Therefore the detailed trend analysis on the following pages is confined to the years 2008-2010.

TABLE 4.1
CONSOLIDATED RESULTS OF 2010 TERMINAL TRACTOR DELIVERIES - 4X2 + 4X4

Region	Units delivered	Share of global market
Europe	596	36%
Latin America	214	13%
Asia Pacific	402	24%
Mid East	265	16%
Africa	186	11%
Global	1663	100%

Note: Percentages rounded to nearest whole number.



4.1 | 4X2 TERMINAL TRACTORS

SURVEY RESPONDENTS

The following manufacturers contributed to the survey:

- Capacity
- Cargotec / Kalmar
- CVS Ferrari
- MAFI
- MOL
- Terberg

China based Sinotruck, which advertises terminal tractors as being in its portfolio, were contacted but did not respond.

The North America market for terminal tractors continues to be served overwhelmingly by just two manufacturers and must therefore be excluded from this survey. China, the Indian Sub Continent and Australia Pacific regions have for the same reasons been combined with Other Asia into Asia Pacific.

Given the scale of the North American market, the necessity to exclude data for this region means that the figures reported here for 4x2 units are significantly less than the actual world market.

This must be taken into account when using these data on a global basis.

SURVEY KEY FINDINGS

Global delivery volumes for 4x2 tractors declined by 24% in 2010 compared with 2009, which in turn was down 37% compared with 2008. Europe and Latin America were up, 7% and 44% respectively, but the Middle East was down by 54%, having been the biggest 4x2 regional market in 2009.

For 2010, Europe and Asia Pacific dominated demand, with the caveat that PEMA is unable to report on the North American market.

TABLE 4.2
CONSOLIDATED RESULTS OF 2010 4X2 TERMINAL TRACTOR DELIVERIES

Region	Units delivered	Share of global market
Europe	366	27%
Latin America	193	14%
Asia Pacific	377	28%
Mid East	257	19%
Africa	150	11%
Global	1343	100%

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

Note: North America is excluded due to the limited number of companies serving this regional market. China, India Sub Continent, Other Asia and Australia Pacific are grouped into Asia Pacific to meet the reporting criteria.

Note: Percentages rounded to the nearest whole number.

FIGURE 4.1
2010 4X2 TERMINAL TRACTOR DELIVERIES BY REGION

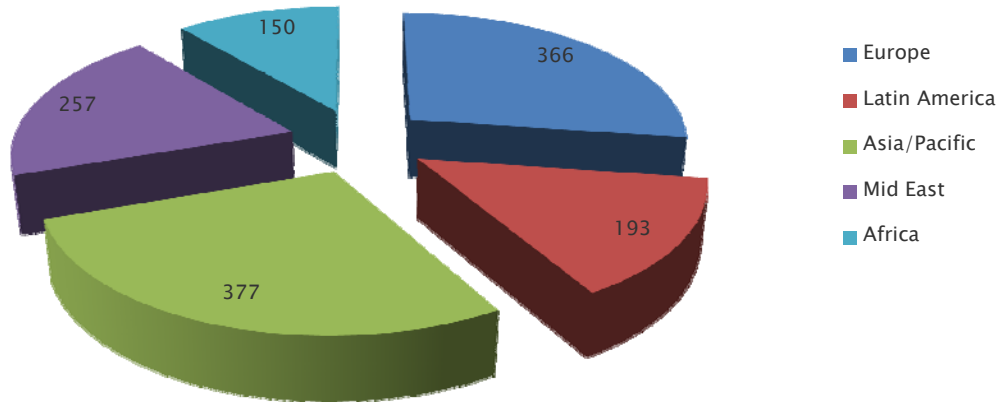
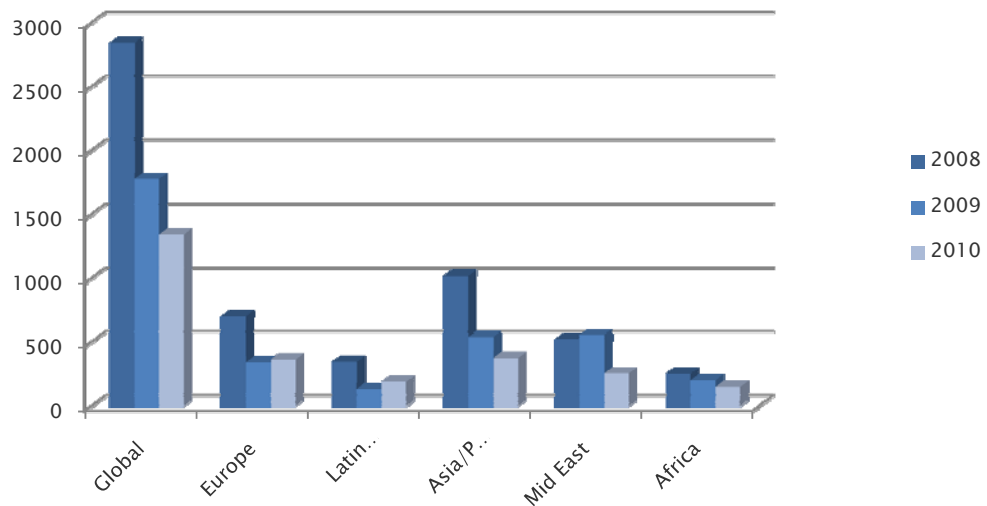


TABLE 4.3
2008-2010 4X2 TERMINAL TRACTOR DELIVERIES BY REGION

Region	2008	2009	2010	Percentage change 2009-2010 ¹
Europe	702	343	366	7%
Latin America	347	134	193	44%
Asia Pacific	1019	540	377	-30%
Mid East	520	557	257	-54%
Africa	255	204	150	-26%
Global	2843	1778	1343	-24%

Note 1: Percentages rounded to the nearest whole number.

FIGURE 4.2
2008-2010 4X2 TERMINAL TRACTOR DELIVERY TREND





4.2 | 4X4 TERMINAL TRACTORS

SURVEY RESPONDENTS

The following manufacturers contributed to the survey:

- Capacity
- Cargotec
- CVS Ferrari
- MAFI
- MOL
- Terberg

No 4x4 terminal tractors were reported as delivered into China or the Indian Sub Continent. These regions have therefore been combined with Other Asia and Australia Pacific into Asia Pacific.

SURVEY KEY FINDINGS

Global delivery volumes for 4x4 tractors declined 21% in 2010 compared with 2009, which in turn was down 40% on 2008. Europe was down by 19%.

The market in Latin America increased from 5 to 21 units, but Africa was down by 57%, from 84 units to 36.

TABLE 4.4
CONSOLIDATED RESULTS OF 2010 4X4 TERMINAL TRACTOR DELIVERIES

Region	Units delivered	Share of global market
Europe	230	72%
Latin America	21	7%
Asia Pacific	25	8%
Mid East	8	3%
Africa	36	11%
Global	320	100%

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

Note: Deliveries to China, India Sub Continent, Other Asia and Australia Pacific are also grouped into Asia Pacific to meet the reporting criteria.

Note: Percentages rounded to the nearest whole number.



FIGURE 4.3
2010 4X4 TERMINAL TRACTOR DELIVERIES BY REGION

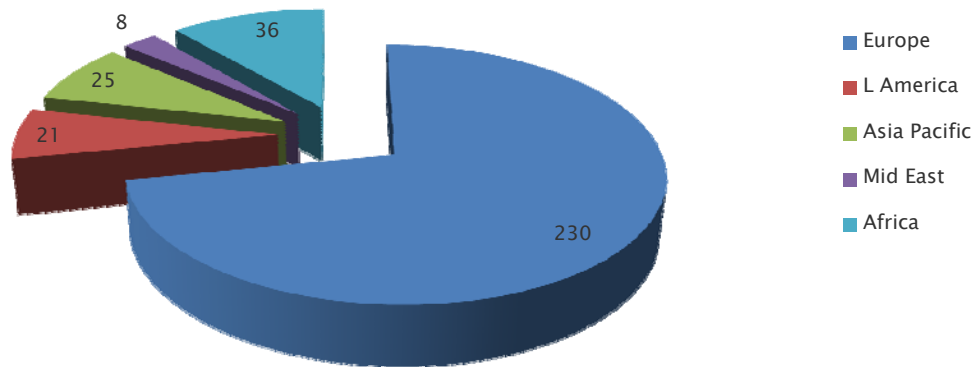
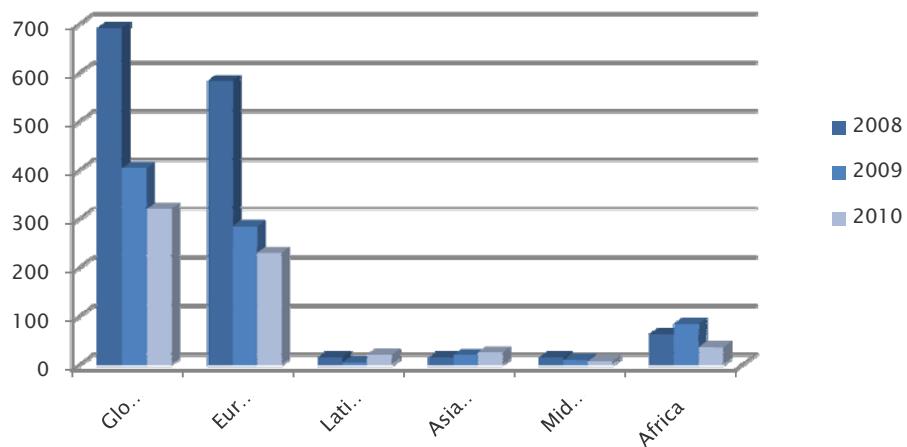


TABLE 4.5
2008-2010 4X4 TERMINAL TRACTORS DELIVERIES BY REGION

Region	2008	2009	2010	Change 2009/10
Europe	583	285	230	-19%
Latin America	16	5	21	320%
Asia Pacific	15	20	25	25%
Mid East	15	10	8	-20%
Africa	63	84	36	-57%
Global	692	404	320	-21%

Note: Percentages rounded to the nearest whole number.

FIGURE 4.4
2008-2010 4X4 TERMINAL TRACTOR DELIVERY TREND



5 | ABOUT THE AUTHOR AND PEMA



ABOUT THE AUTHOR

For the past 12 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.

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

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The mission of PEMA is to provide a forum and public voice for the global port equipment and technology sectors, reflecting their 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 provide a forum for the exchange of views on trends in design, manufacture and operation of port equipment and technology worldwide. PEMA also promotes and supports the equipment and technology industries 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.

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