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Prepared for:
The International Powered Access
Federation



IPAF
Powered Access
Rental Market Report
USA – 2014

April 2014



IPAF Powered Access Rental Market Report - USA

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IPAF Powered Access Rental Market Report – USA

FOREWORD

IPAF

- ❑ The International Powered Access Federation (IPAF) promotes the safe and effective use of powered access equipment worldwide. IPAF is a non-profit member organization that represents the interests of rental companies, manufacturers, distributors, users and training companies. It was set up in 1983 and celebrated its 30th anniversary in 2013.
- ❑ The IPAF training program for platform operators is certified by TÜV as conforming to ISO 18878. More than 100,000 people are trained each year through a worldwide network of over 600 IPAF-approved training centers. Successful trainees are awarded the PAL Card (Powered Access License), the most widely held and recognized proof of training for platform operators. In North America, training is managed by IPAF's North American subsidiary, AWPT.
- ❑ Membership of IPAF is open to users of platforms, manufacturers, distributors, rental and training companies. Members enjoy access to practical information and a growing portfolio of member services. They also have the chance to influence the legislation and regulations that govern platform use. More information can be found at www.ipaf.org.
- ❑ IPAF has more than 1000 members.

Additional copies of this report can be ordered at www.ipaf.org/reports or from your nearest IPAF office.

IPAF has also published the IPAF European Powered Access Rental Market Report 2014 – details available at www.ipaf.org/reports or from your nearest IPAF office.

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Ducker

- ❑ Ducker Worldwide is a primary research-led industrial market research and consulting company, dedicated exclusively to ad hoc business-to-business research and particularly specializing in the markets for construction equipment and materials both in Europe and the US.
- ❑ Ducker benefits from solid industry experience and a highly international team with the ability to survey global markets at a local level:
 - Product and industry expertise: experience in the AWP and equipment rental markets through several projects covering access equipment and other types of construction machinery at all levels of the value chain including rental as well as distribution and contracting.
 - International approach applied locally: with a team of permanent native consultants working out of offices that reach across the US, Europe and Asia, Ducker prides itself on the fact that all fieldwork is completed in the respondent's native language by in-house consultants and by Ducker's internal multi-lingual call-centers.
 - Methodological expertise: on-going involvement in strategic consulting within areas such as market sizing and segmentation, distribution structure, competitive positioning, customer satisfaction or market opportunity and new product entry assessments for a variety of products within the global construction and transportation industries amongst others.
 - Quality charter: Ducker Worldwide is certified as conforming to ISO 9001 and works to the guidelines of the ESOMAR ethics standards.
- ❑ More information on Ducker can be found at www.ducker.com.

This report was produced by the European headquarters of Ducker Worldwide in cooperation with its US headquarters.

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This study assesses the AWP (Aerial Work Platform) rental market value for the US over a six-year period. A separate report is available covering the European market.

□ Main objectives:

- 2013 AWP rental market value and fleet size.
- Trends and dynamics (2008–2015).
- Operational indicators (investment, age of fleet, application).
- In addition to the primary market value and fleet size objective, fleet mix is included to ensure that the value is anchored in reality. Moreover, fleet information is typically more available than rental revenue. This has allowed for cross-checks, revenue-per-unit ratios and the optimization of secondary sources.
- Level of fleet’s compliance with Tier 4.
- Estimated size of the 2013 AWP rental fleet worldwide, with a breakdown by region and by machine type.

□ New in this report:

- Included in the fleet mix is the estimated share of vehicle mounted platforms hold by rental companies owning self-propelled fleets
- The report includes for the first time an introduction to the Chinese AWP rental market.

□ The current study does not examine rental company profitability.

□ The study covers the time period 2008-2015, with particular focus on 2013.

□ The conducting of all interviews in the first two months of 2014 has allowed for primary data collection on the full previous year, thus providing for more specifically targeted and up-to-date information than would have been available from any statistical sources.

Products and Countries

- ❑ The current study focuses on powered access equipment, i.e. aerial work platforms (AWPs), also called mobile elevating work platforms (MEWPs). It includes the full range of powered access equipment (all sizes and types) except mast climbing work platforms (MCWPs).

- ❑ Included are: all booms, scissor lifts and vertical masts.
 - Both articulated and straight telescopic booms.
 - Self-propelled as well as push-around, towable and vehicle-mounted.

- ❑ Excluded: low-level access equipment (<10ft / 3m high), telescopic material handlers, forklifts, cranes, mast climbers and equipment owned by non-rental companies.

- ❑ This report focuses on the US domestic market.
 - No regional segmentation is included.

Target Companies and Respondents

- ❑ The main source of information for this study is primary research through telephone interviews. Organizations interviewed for this study include rental companies and other industry experts:
 - Rental companies:
 - Specialist AWP rental companies: AWP accounts for more than 50% of total rental revenue.
 - Generalist rental companies: AWP rental revenue accounts for 50% or less of total rental revenue.
 - From rental companies interviewed, on average, AWP rental revenue represents 38% of their overall rental revenue.
 - National rental associations.
 - Industry experts.
- ❑ Secondary data was also gathered to validate major market trends identified.
- ❑ Only persons with input in machine selection or management were qualified as respondents. Recurrent respondent job functions include in particular Owner, Sales and Technical Manager, Purchasing Manager, Fleet Manager, Branch Manager or Operations Manager.
- ❑ Ducker and IPAF would like to thank all industry representatives who have been available for interviews and whose kind assistance made it possible to conduct this research.
- ❑ IPAF and Ducker would also like to thank Murray Pollok, Editor of *International Rental News* for his contributions and commentary on the current rental market.

Definitions

- ❑ AWP Rental revenue:
 - Includes for example: machine rental rates, machine repair, support (e.g. fuel services), transportation/delivery, training, damage waiver, operator charges.
 - Used equipment sales are excluded from the AWP rental revenues reported.

- ❑ Re-rental:
 - Rental by one rental company from another rental company.

- ❑ Utilization rate:
 - Physical number of machines out on rent as a percentage of the total number in fleet at any given time.

- ❑ Average age of fleet:
 - Overall average age of the fleet in 2013, including machines that underwent refurbishment/remanufacturing.

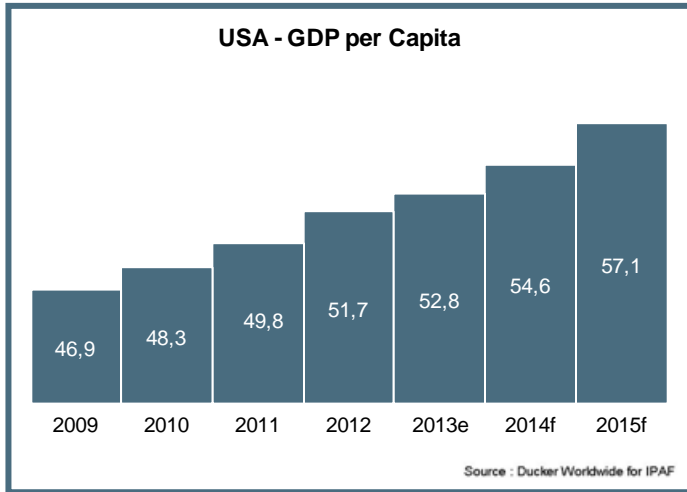
- ❑ Rental rate:
 - Corresponds more to net prices than list prices. Directly linked to the rental revenue.
 - The dollar amount the customer agrees to pay for possession and use of a machine.



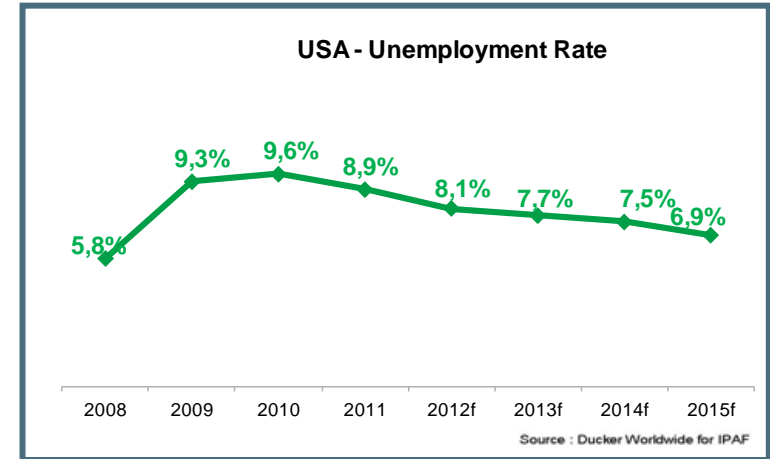
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EXECUTIVE SUMMARY

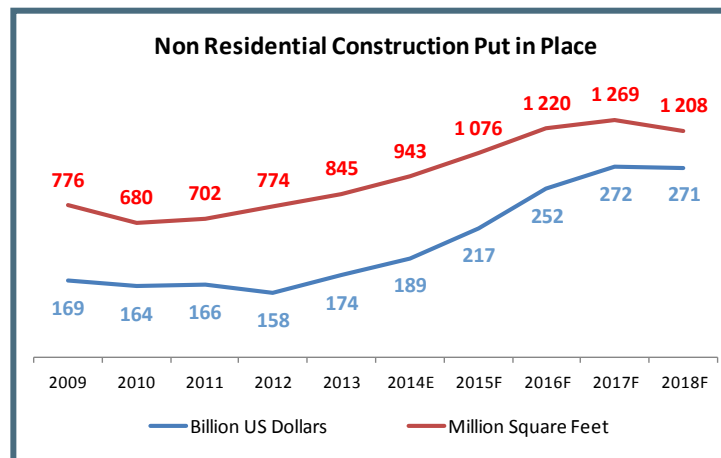
The US economy is progressively recovering from recession, yielding positive outlooks for the AWP rental market.



Thousand US dollars at 2013 prices. Source: International Monetary Fund, World Economic Outlook Database, October 2013



Source: International Monetary Fund, World Economic Outlook Database, April 2013



Source: McGraw-Hill Construction, Dodge Construction Outlook 2014

AWP Rental Market Situation at End 2013.

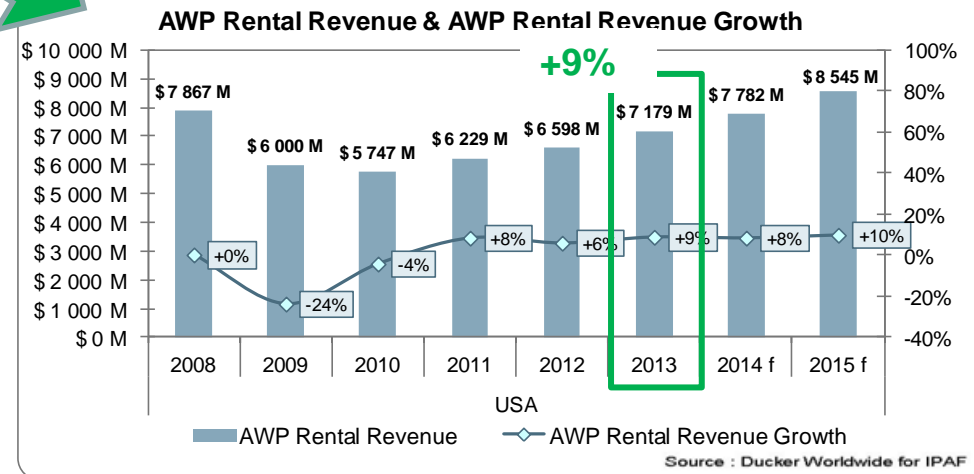
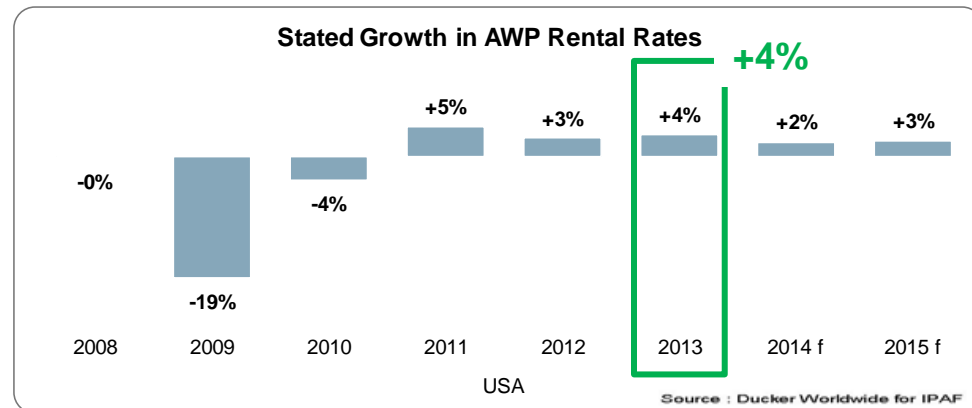
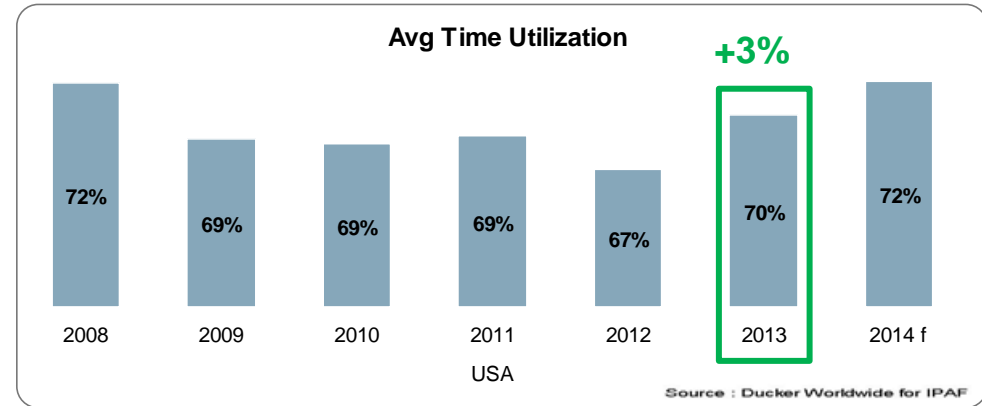
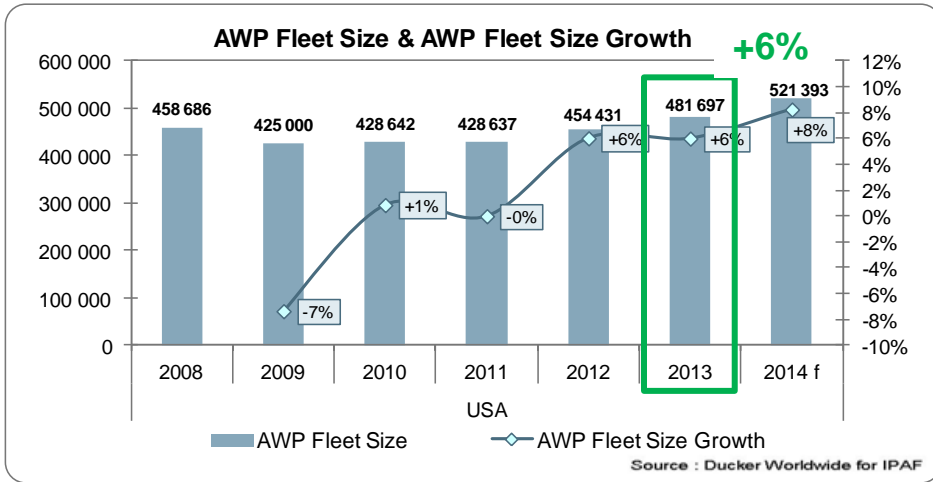
- ❑ The US AWP rental market has now almost fully recovered after the 2009 / 2010 recession.
 - While the US AWP fleet already exceeds 2008 levels, the AWP rental revenue is expected to reach pre-recession levels in 2014.
 - Demand is up, allowing rental companies to increase rental rates and continue fleet size expansion, whilst still improving utilisation rates.
 - Rental companies who survive the recession now own more solid businesses and are now more risk adverse, i.e. maintaining the diversification of end-applications, with more non-construction activities.

- ❑ Nevertheless, despite rate increases, rental companies worry about the deteriorating market profitability, primarily due to rising machine prices. Some are even considering focusing more on other equipment types.

- ❑ In addition, fleet now exceeds 2008 levels, however the 2013 AWP rental revenue was still 9% lower than 2008, primarily due to rental rates which are significantly lower than pre-recession.

- ❑ Despite the fact that rental companies have diversified end-applications into more non-construction activities since 2008, one can question if such a fleet expansion is too risky when average rental rates are notably lower than 2008.

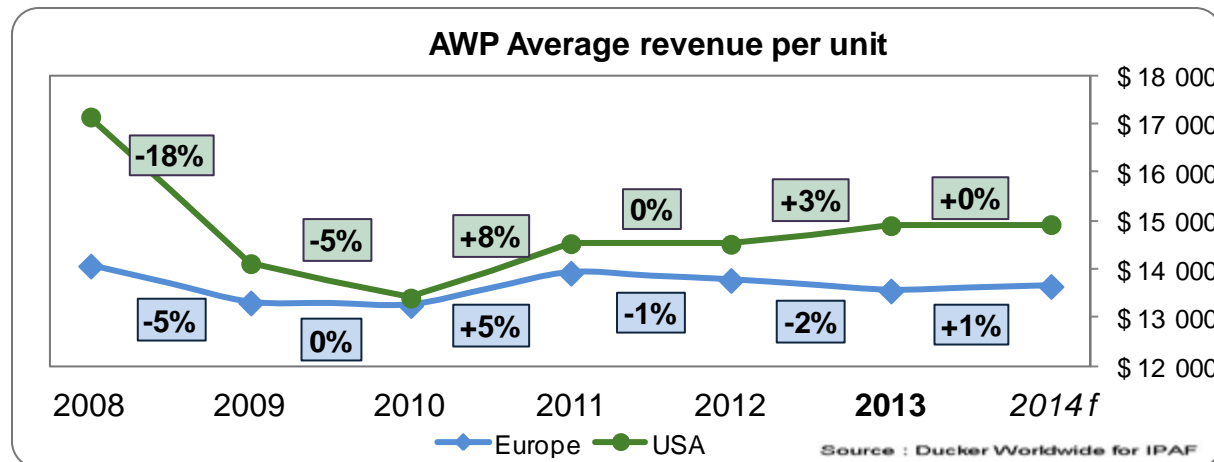
US rental companies used all levers to improve revenue in 2013: they expanded fleets and improved rental rates, while still enhancing utilization rates.



The US rental market growth continues to outpace that of Europe.

Region	2013 revenue growth	2013 revenue	2013 fleet size growth	2013 Fleet size	Utilization rate growth	Rental rate growth
USA	+ 9%	\$ 7.2Bn	+ 6%	481 697	+ 3 pts	+ 4%
Europe*	+ 0%	\$ 3.2Bn	+ 2%	232 163	- 1 pt	- 1%

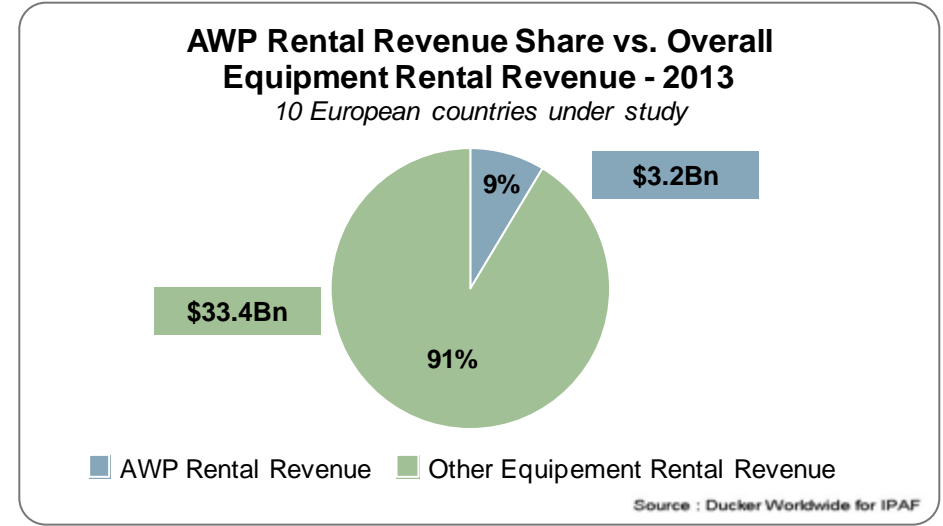
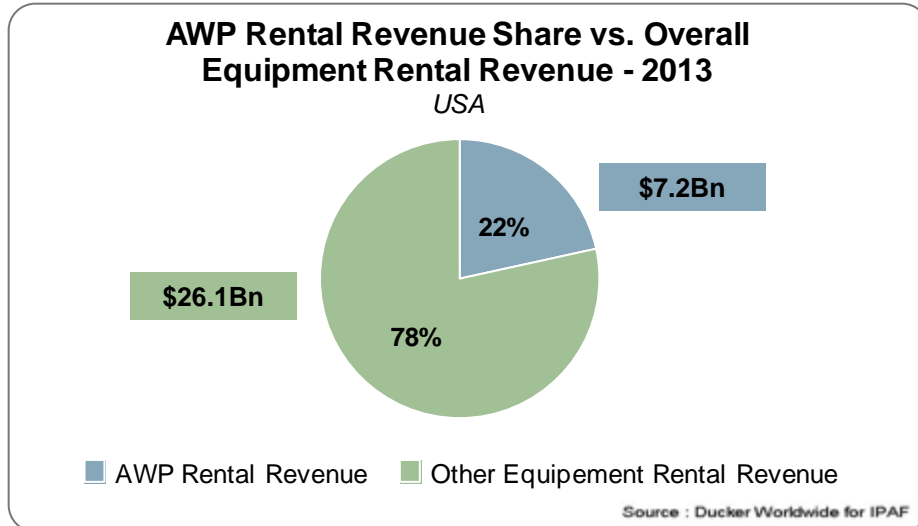
- ❑ Two major trends have led to an increasing demand for AWP's in the US:
 - The trend towards rental vs. ownership, which strengthened during recession and now continues as equipment purchase prices, maintenance costs and overall total cost of ownership are rising.
 - Moderate construction market improvement.
- ❑ The US average revenue per unit continued to increase in 2013, unlike in Europe* where it deteriorated.



* Defined as : UK, FR, SP, IT, GER, NL, DK, NO, SE, FI

AWP penetration in the overall US rental market is significantly higher than in Europe. It accounts for approx. 22% of the overall US equipment rental revenue (\$33.3Bn, source ARA).

- The share of AWP rental as a part of total equipment rental revenue has been stable in the last few years.



ERA overall equipment rental revenue includes:

1. General Plant
2. Tools & General Equipment
3. Access
4. Power generation & Temperature Control
5. Accommodation & Fencing
6. Industrial Machinery
7. Crane

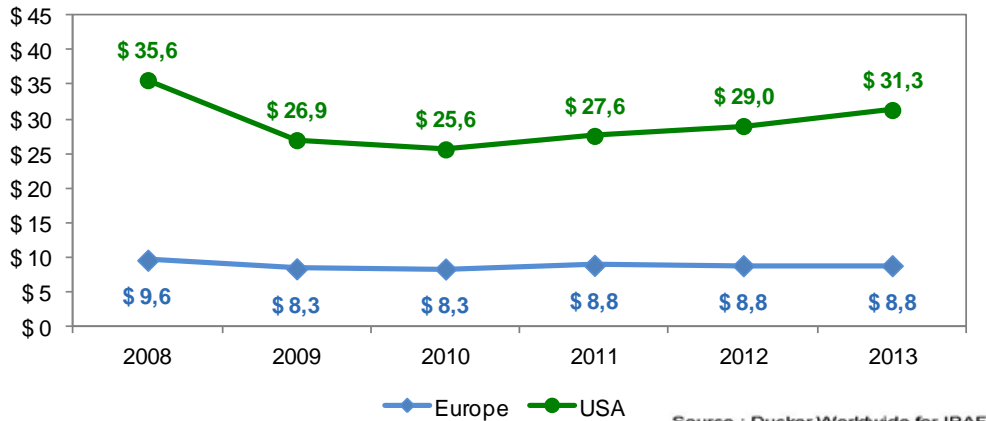
ARA overall equipment rental revenue includes:

1. Party & Event
2. General tool
3. Construction & Industrial Equipment

Exchange rate:
€1= \$1.380

The US rental revenue and fleet per capita are significantly above Europe, showing higher market maturity.

AWP Rental Revenue per Inhabitant

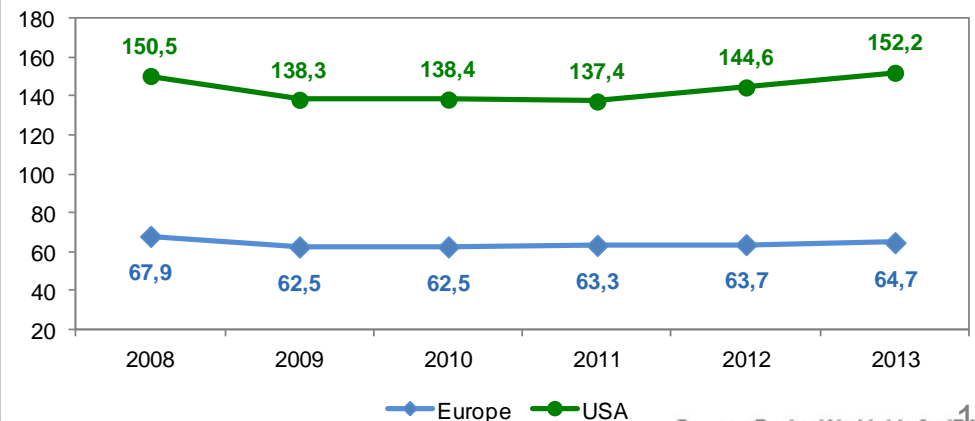


Source : Ducker Worldwide for IPAF

- On the contrary, the European AWP market (10 countries under study) is still struggling to get back on its feet.

- The US AWP rental market started to recover in 2011, and this trend was confirmed in both 2012 and 2013.
- However, market profitability is not back to pre-recession levels as rental rate increases have not compensated for higher purchase prices.

AWP Rental Fleet per 100,000 Inhabitants



Source : Ducker Worldwide for IPAF

Worldwide AWP Rental Fleet Size is estimated at approximately 1,020,000 units. This represents a 6% increase compared to 2012, due to an adjustment of 2012 figures for Asia.

North America	
Articulated Booms	70 200
Straight Booms	140 450
Scissors	291 650
Others	37 800
Total	540 100

ASIA - PAC	
Articulated Booms	13 900
Straight Booms	25 900
Scissors	60 600
Others	45 100
Total	145 500

EAME	
Articulated Booms	69 200
Straight Booms	37 300
Scissors	149 000
Others	39 300
Total	294 800

Latin America*	
Articulated Booms	5 100
Straight Booms	12 200
Scissors	15 800
Others	2 900
Total	36 000

*Includes Mexico

*Note: included are powered access: all booms, scissor lifts and vertical masts
Excluded: low-level access equipment (<10ft/3m high), telescopic material handlers, forklifts, cranes, mast climbers*

Others include: vertical lifts, vertical masts, vehicle-mounted booms owned by rental companies owning self-propelled fleets

Note : Chinese data (included in Asia) exclude local unidentified Chinese brands which are negligible as of today

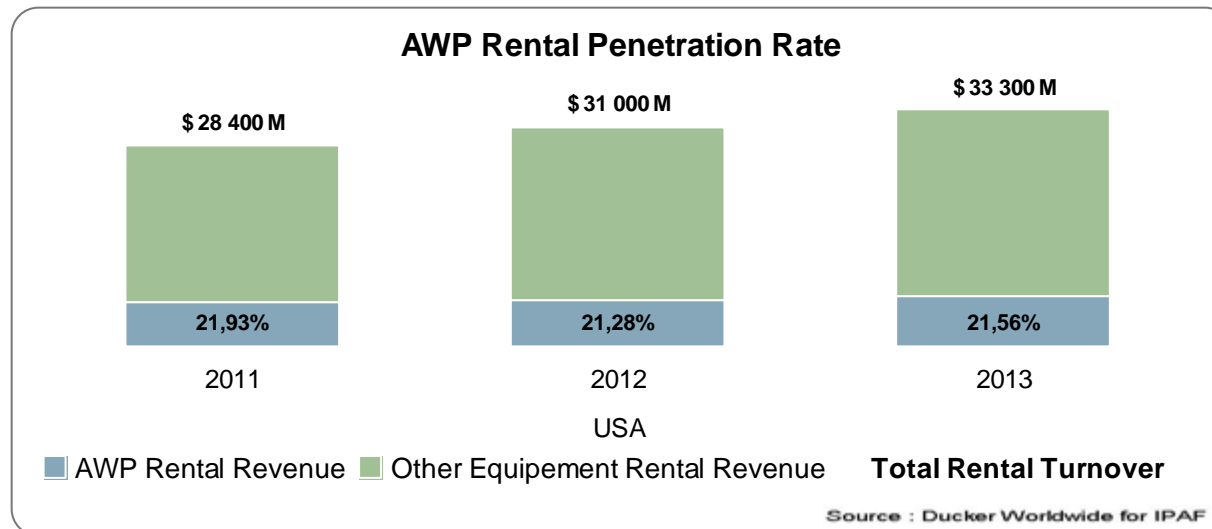


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MARKET SIZE AND DYNAMICS 2008-2015

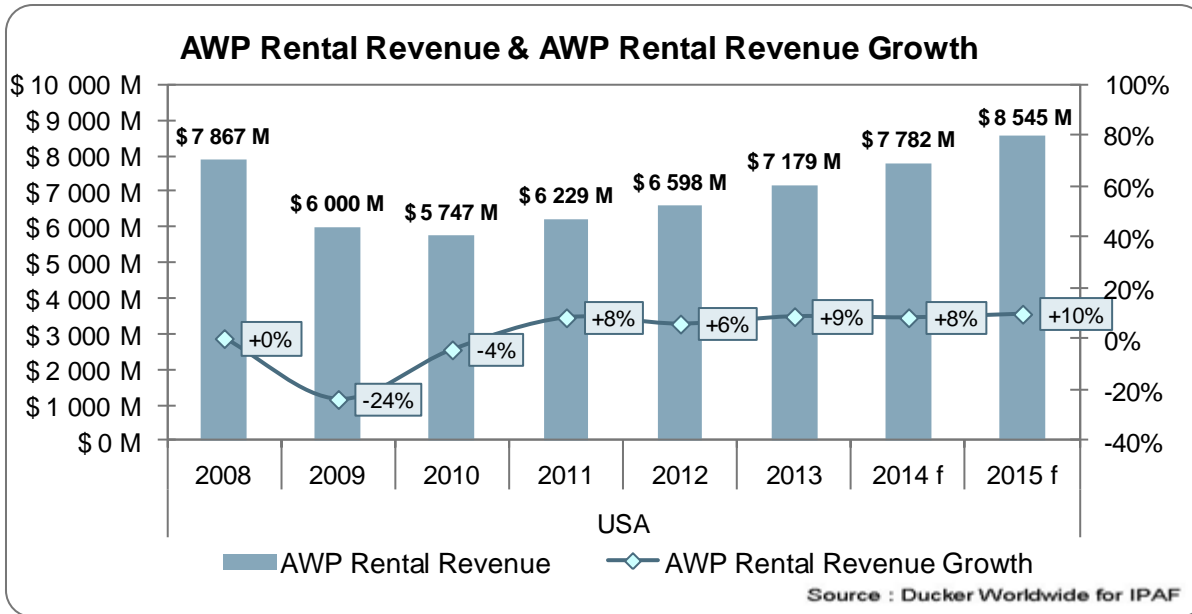
Total AWP rental market value in the US is approx. \$7.2B in 2013.

- ❑ The US AWP rental market continued its recovery in 2013.
- ❑ AWP rental revenue accounts for approximately 22% of the overall US equipment rental revenue (\$33.3Bn, source ARA). This rate has remained unchanged over the past two years.

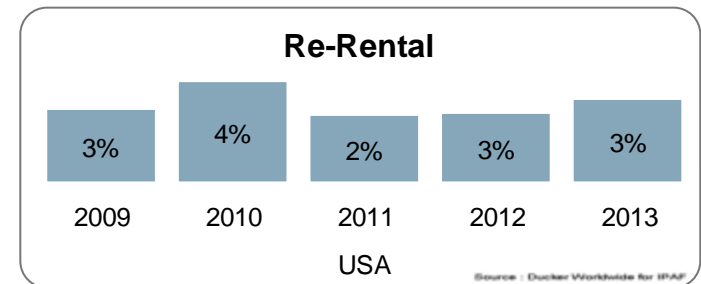


The US AWP market grew at a fast pace in 2013, confirming market recovery. This trend is expected to continue over the next two years.

- ❑ The AWP market increased steadily (+9%), and US GDP continued to improve in 2013. Both construction and non-construction sectors drove market growth in the AWP sector.
- ❑ The shift from AWP fleet ownership to rental continued in 2013, and is expected to continue in the next 3-5 years, especially with Tier 4 equipment requirements.
 - AWP purchase and maintenance costs will keep rising, making rental more cost efficient than acquisition.

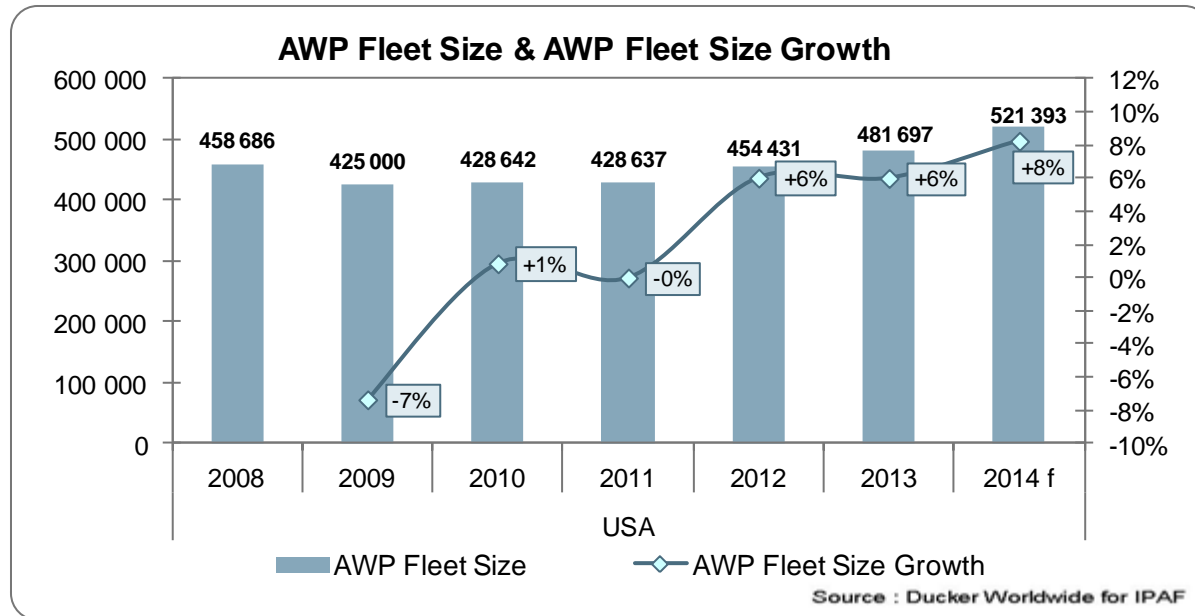


Re-rental, i.e. rental by one rental company from another, remained stable at a very low level and only represented around 3% of the AWP rental market.



Increase in US fleet size continued in 2013, as a driver for revenue, and now exceeds pre-recession levels.

- While investments in new equipment remained stable compared to 2012 (rental companies were cautious about investments), there was significantly less equipment sell-off activity in 2013.
 - As a consequence of the slower sell-off activity, used equipment value has gone up.
- Approx. 10% of the US fleet is now Tier 4 compliant. Tier 4 machines are deemed as significantly more expensive, and require additional maintenance as well as specific customer training.

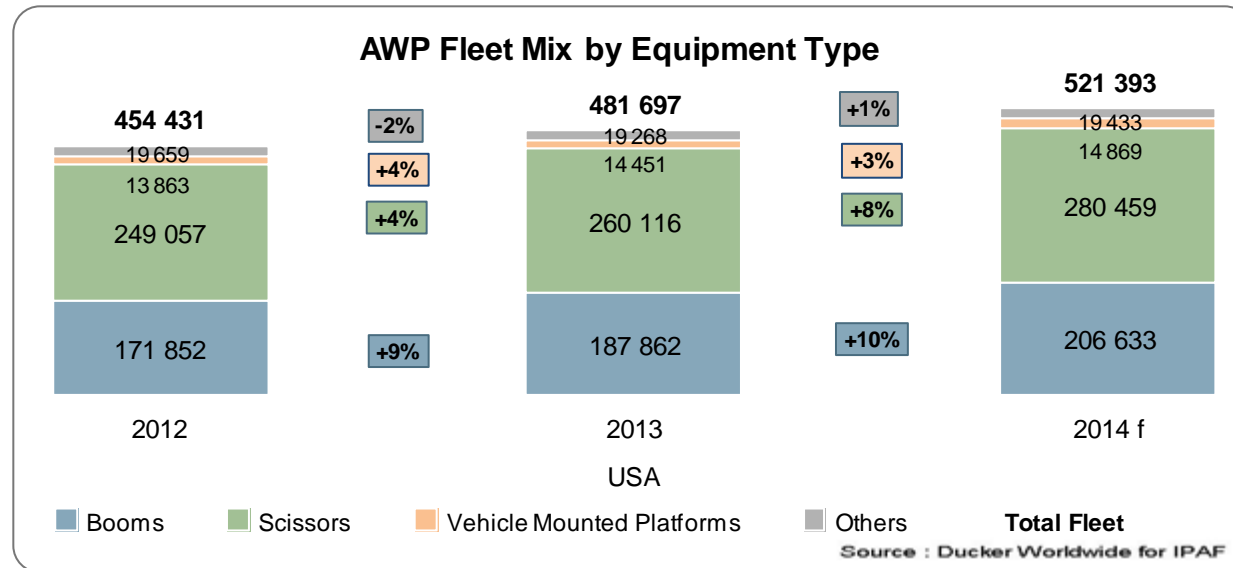


*Note: included are powered access: all booms, scissor lifts and vertical masts
Excluded: low-level access equipment (<10ft high), telescopic material handlers, forklifts, cranes, mast climbers*

End of the year data

Fleet size increased by 6% in 2013, primarily driven by purchases of booms.

- While boom market penetration is increasing, scissors still account for more than half of the US AWP rental fleet.
- Rental companies report increased purchases of specialty equipment i.e. high reach booms (80, 90, 125ft), narrow machines, light weight equipment, etc.



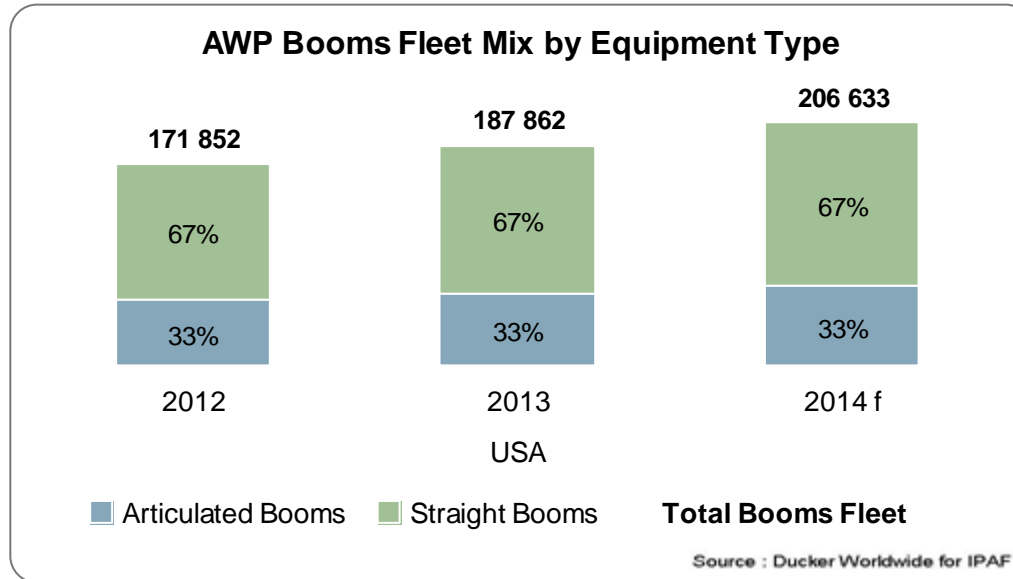
Note: included are powered access: all booms, scissor lifts and vertical masts
 Excluded: low-level access equipment (<10ft high), telescopic material handlers, forklifts, cranes, mast climbers

+X% % unit growth, e.g. Boom fleet increased by 9% from 2012 to 2013

Other includes vertical lifts, vertical masts.
 Please note that the volume of vehicle mounted platforms indicated above only concerns the share owned by rental companies owning self-propelled fleets

There were no significant changes in the split between straight and articulated booms.

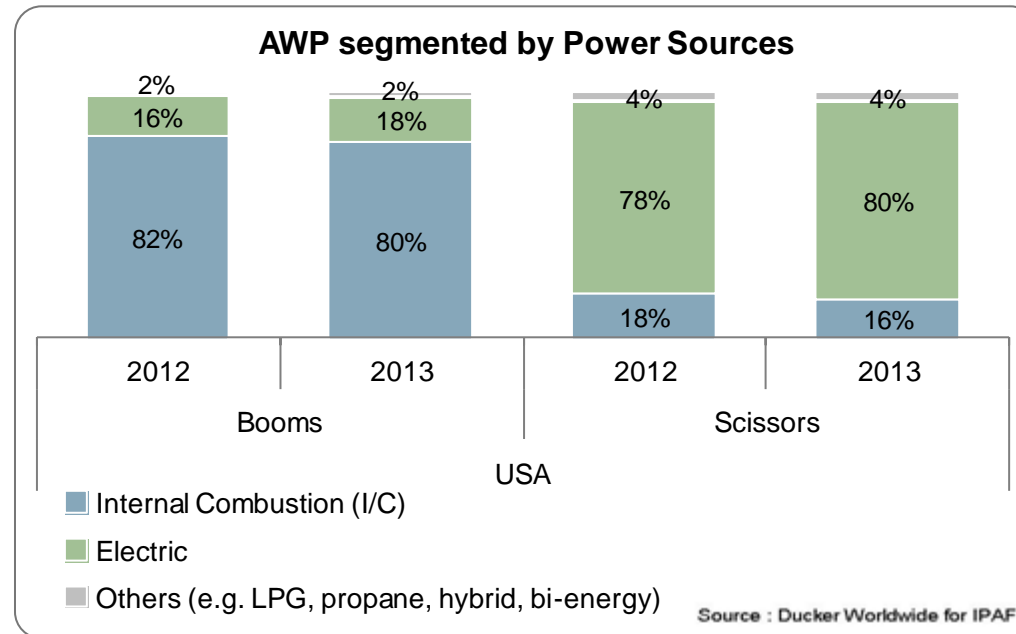
- While articulated booms are more versatile, straight booms still dominate the market.



End of the year data

While the US boom fleet remains primarily diesel and the vast majority of scissors are electric. The proportion of electrically driven machines is increasing.

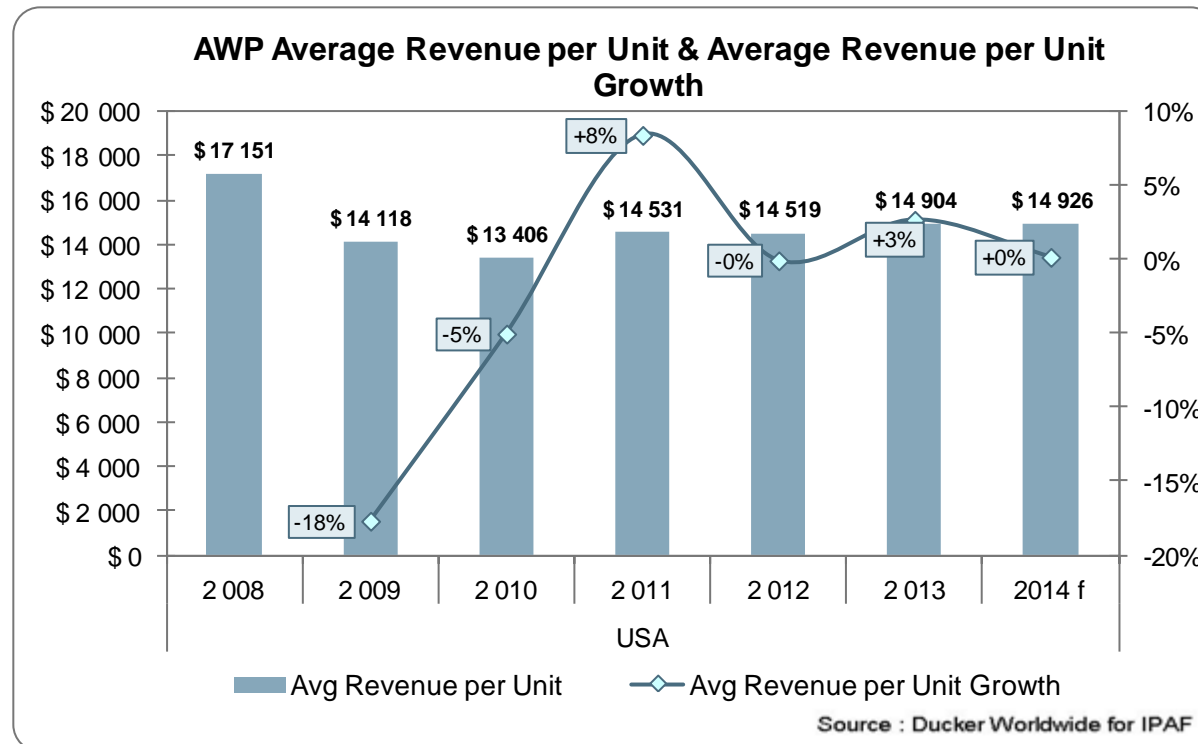
- ❑ Only approximately 10% US rental companies' AWP fleet is compliant with Tier 4 engine requirements.
- ❑ Tier 4 regulations are expected to act in favor of rental penetration, as they increase equipment purchase prices.



% of fleet powered by electric vs. diesel engine.

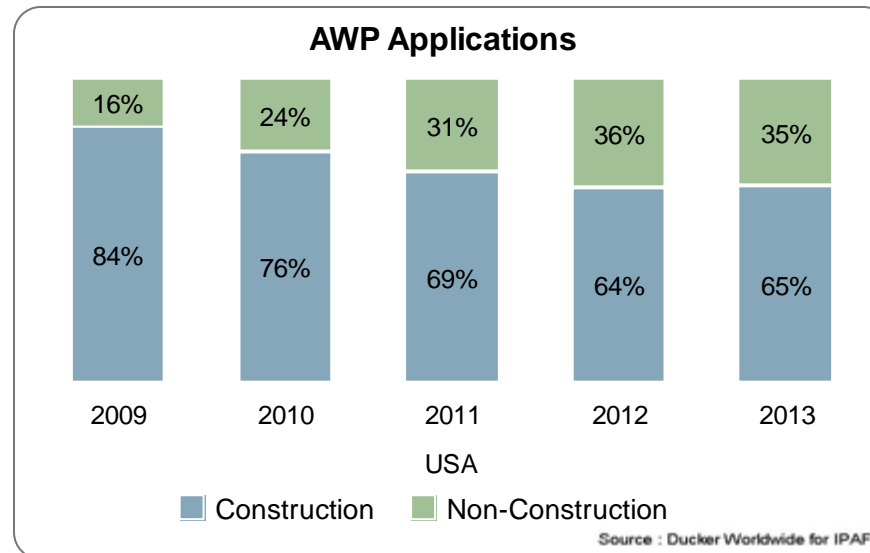
The average revenue per unit improved compared to 2012 primarily due to rental rates improvement, and utilization rate increase.

- In addition, the average revenue per unit improved due to the slight increase in the share of booms in the overall fleet, booms driving higher rental rates than scissors.
- The average revenue per unit is expected to remain steady in 2014 due to stabilization in utilization rates and slowdown in the growth of rental rates.



Non-construction revenue remains proportionally higher than before the recession.

- During the recession, rental companies moved to new end-markets (maintenance, utility, events, etc.) and now continue to maintain their diversification in order to limit risks.



Share of rental revenues

Non-construction includes property care, maintenance, cleaning, utilities, events.

Construction includes new build and renovation; including all types of building, also industrial

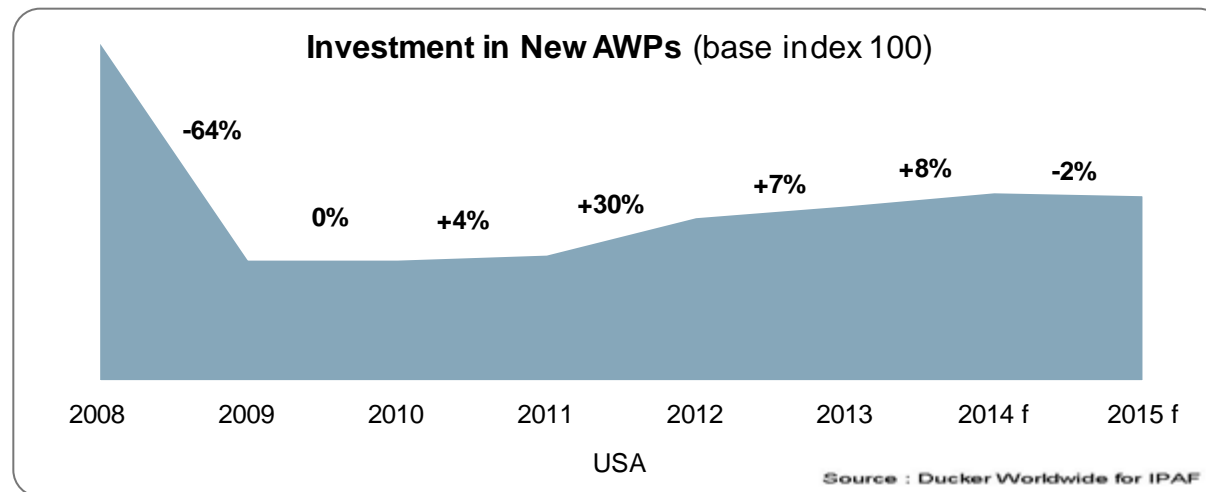


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INVESTMENT 2008-2015

After significant growth in investment in 2012, rental companies maintained stable levels of investment in 2013.

- ❑ While the overall economy and the construction market are showing signs of improvement, rental companies are managing their fleet more prudently than prior to recession.
- ❑ Similar levels of investments should continue for the next two years.

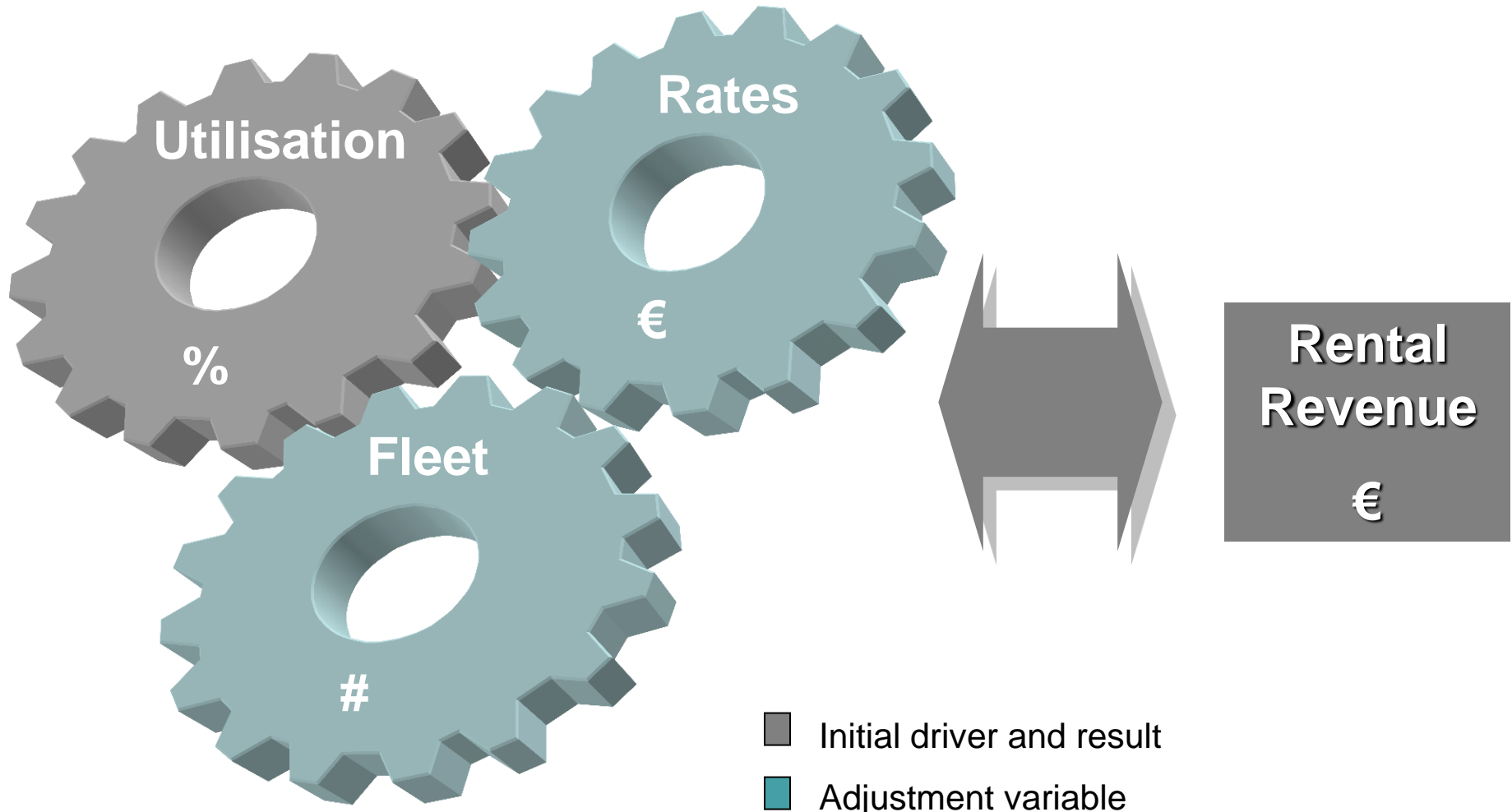




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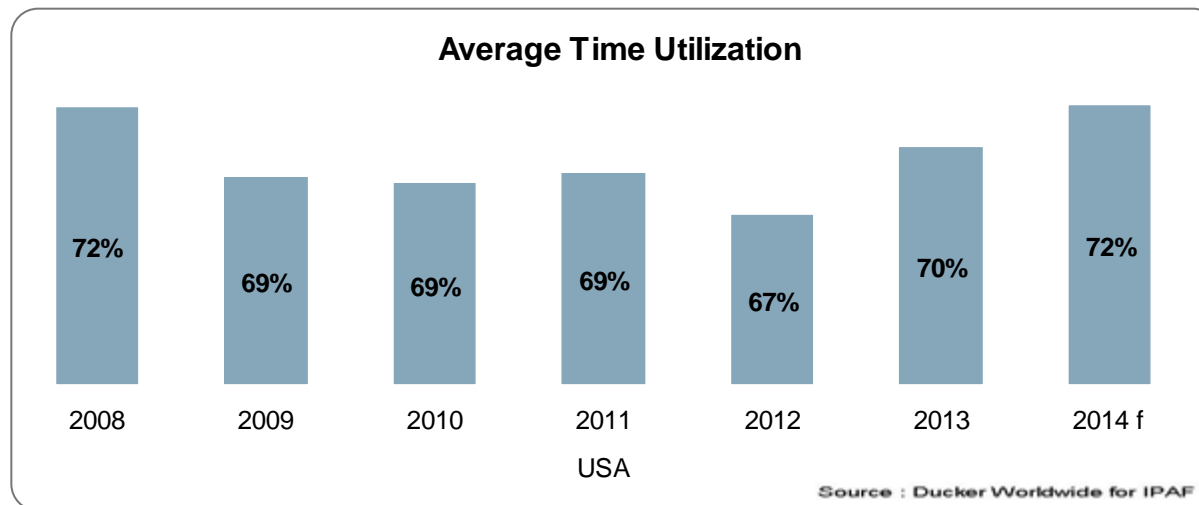
OPERATIONAL ASPECTS 2008-2014

Rental revenues are the result of three main factors, namely time utilisation rate, rental rates and fleet size/mix. Rental rates and fleet composition are the two strategies that rental companies can vary in order to influence utilisation and thereby, revenues.



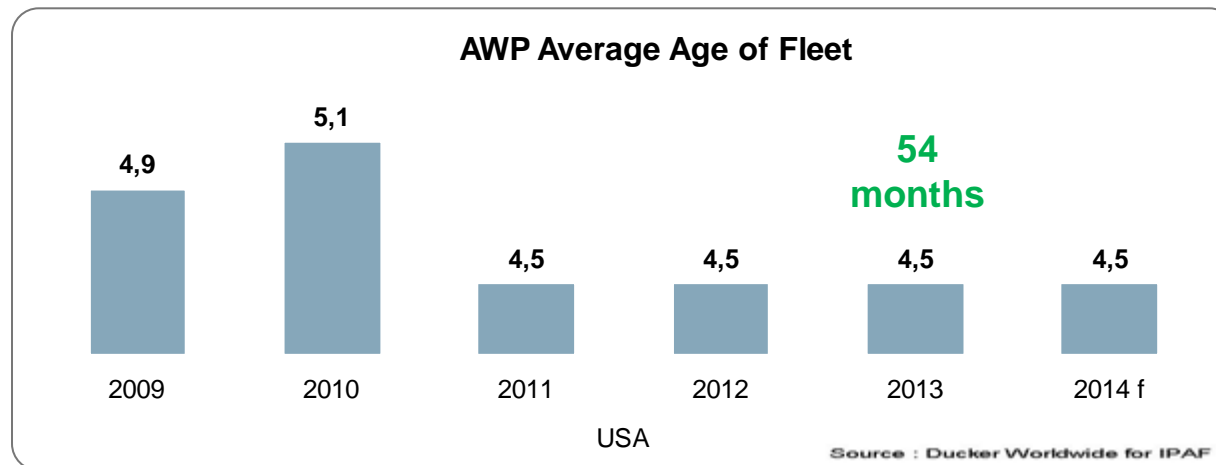
2013 witnessed a clear improvement in utilization rates; a trend expected to continue in the short term.

- ❑ Increased utilization has been one of the drivers for revenue improvement in 2013, along with fleet expansion and rental rates.
- ❑ Utilization rates vary greatly from one rental company to another. The 2013 data shows AWP utilization rates that vary from 45% up to 80%.
- ❑ Pre-recession levels are expected to be reached in 2014.



Average fleet age remained stable at 54 months.

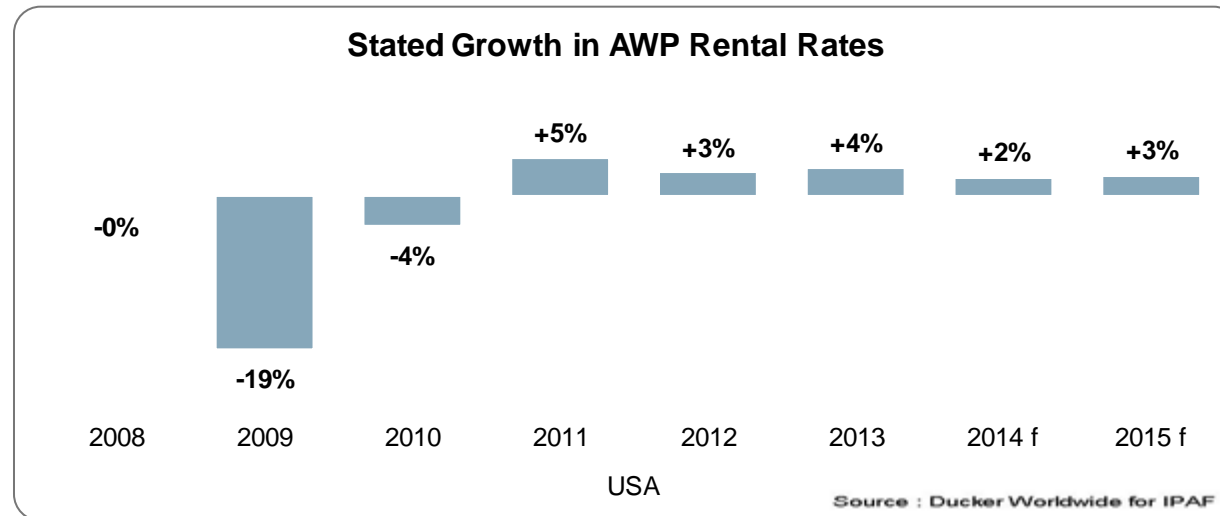
- ❑ Slight differences appear depending on equipment type: articulated booms and scissors tend to have lower average age than straight booms.
- ❑ Fleet age lowered significantly in 2011 after the recession but has been stable the last 3 years.
- ❑ Pre-recession fleet age has not yet been reached (was estimated at around 48 months).



4,5 = 4 years and 5 months = 54 months

Rental rates are still significantly lower than pre-recession levels.

- ❑ Despite increasing rates, rental companies report that return on investment (ROI) on AWP's has not returned to pre-recession levels. Equipment purchase prices have increased, especially due to new standards and regulations. Rental rates did not compensate for this factor.
 - Some rental companies are even thinking about reducing their footprint in the AWP market by focusing on other construction equipment types deemed more profitable.
- ❑ Rate increases are expected to continue in the next two years, though at a relatively slow pace.



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A PERSPECTIVE FROM THE EDITOR OF *INTERNATIONAL RENTAL NEWS*

If the UK is the European ‘hot spot’ – ‘warm spot’ is probably a more accurate term – then North America occupies that position in the worldwide context. The rental market here has been growing at 7-8% rates in the last year or two and the American Rental Association (ARA) is forecasting close to double-digit growth rates in 2015 and 2016.

The chief drivers for this are wider economic growth, but in particular investment in the oil and gas sector, with the gas ‘fracking’ industry in the US and the oil shale activity in Canada helping to push rental markets.

Among other things, the investment in the oil and gas sector is helping rental companies justify spending very large sums on the new breed of superboms, with Acme lift, for example, putting its first Genie SX-180 machines onto an oil refinery project.

In addition, it has become something of an article of faith in the US that there is a ‘secular shift’ towards rental away from equipment ownership because contractors are unsure of long term economic prospects.

Whether this shift is permanent or not – many believe it is difficult to ‘reverse’ such a process – is still unclear. As heavyweight a figure as Caterpillar CEO Doug Oberhelman said at the Conexpo show in March this year that he was unwilling to characterise it as permanent just yet.

In any case, the buoyancy of the market in 2013, and continuing in 2014, was marked by many and varied events, including Ahern Rentals finally emerging from Chapter 11 protection in June (still under the ownership of Don Ahern); growing sales revenues for manufacturers like JLG, Terex AWP and Skyjack; and renewed mergers and acquisitions activity.

The M&A saw some enormous deals, including the private equity acquisition of Volvo Rents from Volvo. Now renamed BlueLine Rental, the business is expanding the breadth of its equipment ranges, which may well signal a push into access.

Hertz Corp finally announced plans for its HERC equipment rental business, with a spin-off to shareholders creating a stand-alone business, probably in early 2015. United Rentals, meanwhile, was hailing the success of its acquisition of RSC. The US scaffolding sector also saw the biggest deal in the industry's history, with Harsco Infrastructure and Brand Energy simultaneously acquired and merged by a US private equity business.

Acquisitions at much smaller scales were also evident, including NES's acquisition of West Georgia Aerial Lift and Sunbelt's of two small aerial specialists in Wisconsin.

Of course, the main event of the year centred around Don Ahern. Not content with taking his Las Vegas rental business out of Chapter 11, his telehandler manufacturing business Xtreme acquired Snorkel from Tanfield group. Quite how Snorkel will fare under its new owners is one of the more interesting issues for the coming year.



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MARKET TRENDS AND DRIVERS

Future regulations and safety standards may affect rental companies' business in the near future, but could also provide good opportunities for differentiation.

Compliance with Tier 4 regulations

- There is some level of uncertainty concerning Tier 4 regulations, and the obligations rental companies have to comply with.
- In any case, Tier 4 equipment is said to be more expensive, require additional maintenance, and specific customer training. Reselling such equipment in developing countries may prove difficult.

Potential new safety standards

- Possible obligation to increase training for end-users and operators/supervisors could be a headache for rental companies.
- However, this could also be an opportunity to differentiate companies who are already well organized in terms of training capabilities.
- Most rental companies expect to pass the possible additional training costs to end-users.

Fleet diversification

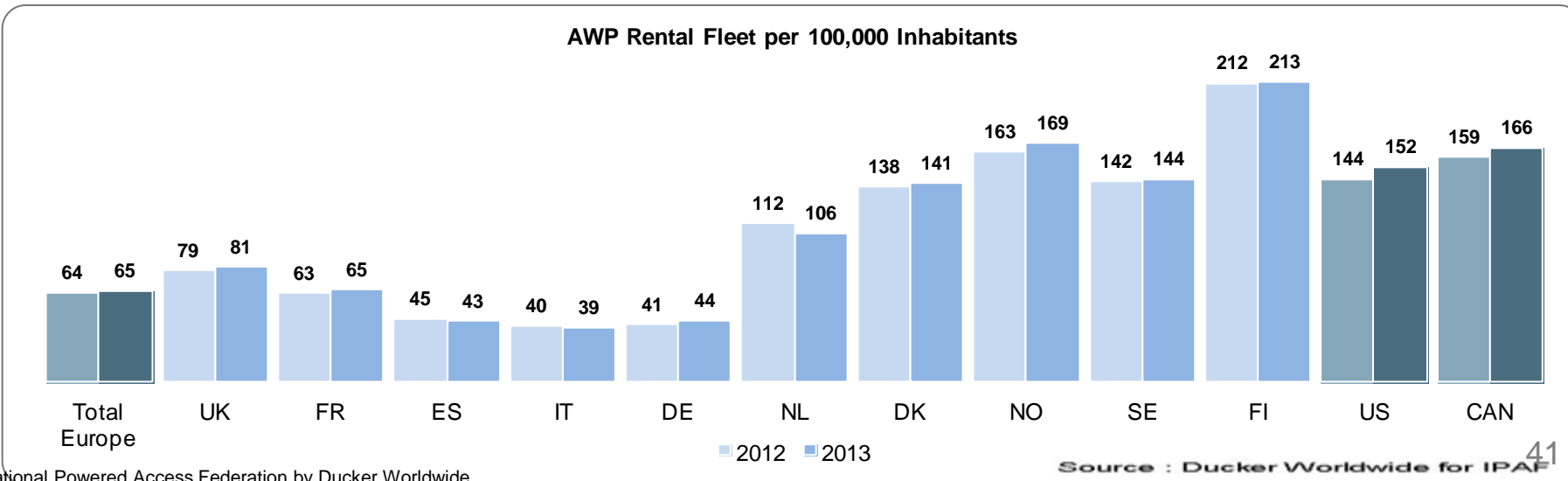
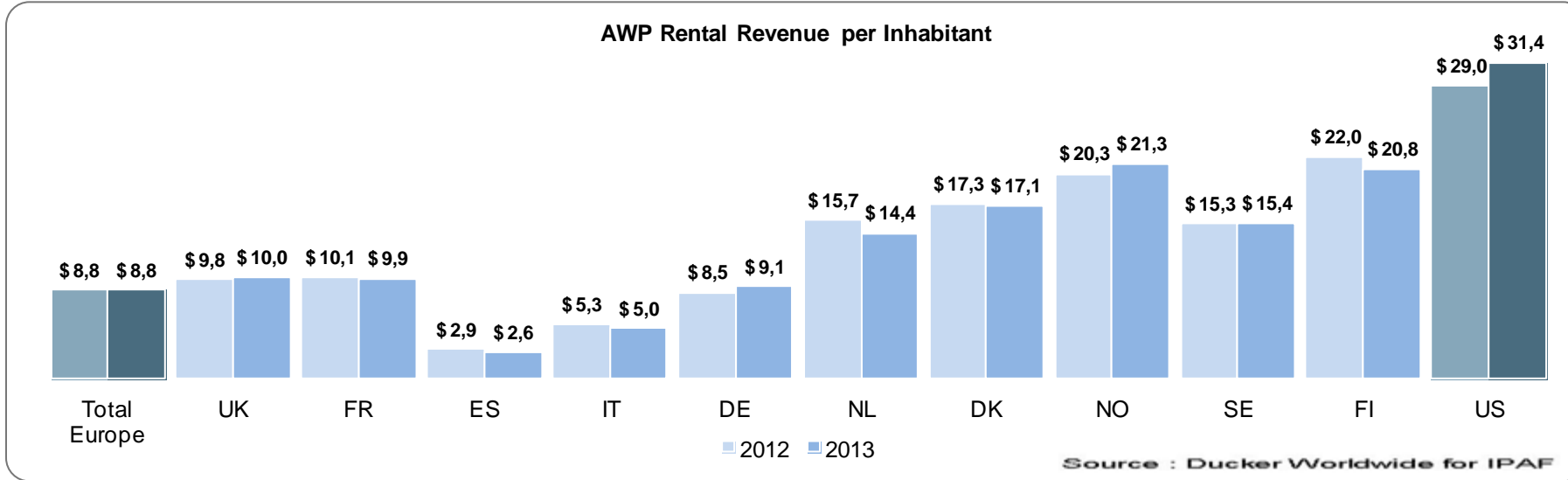
- More telematics in the equipment used (i.e. advanced diagnosis), etc.
- Trend towards very high booms (>100ft).
- Trend for mini-scissors to replace ladders over 6ft.

Rental companies market expansion

- More than 2/3 of rental companies interviewed are not planning to expand geographically in 2014.
- When they do plan expansion, rental companies will tend to redistribute inventory rather than to expand fleets.

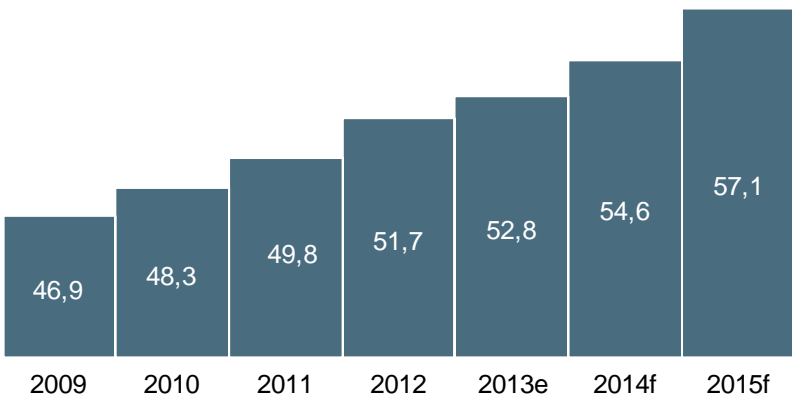
Country Population Penetration – AWP rental revenue per inhabitant

Exchange rate:
€1= \$1.380



The US GDP per capita increased slightly in 2013. Growth should accelerate in 2014 and 2015.

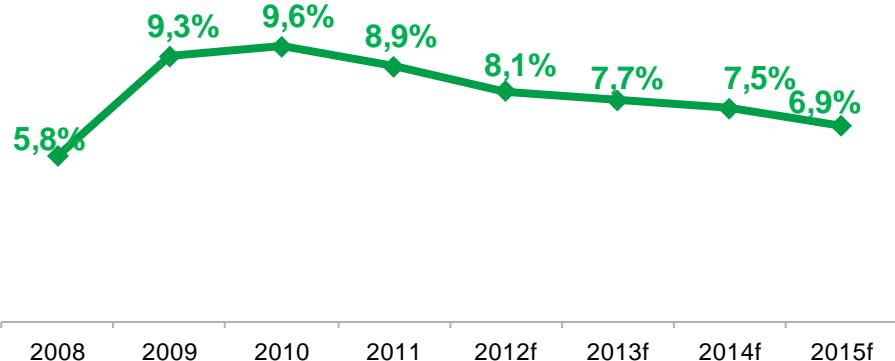
USA - GDP per Capita



Source : Ducker Worldwide for IPAF

Thousand US dollars at 2013 prices. Source: International Monetary Fund, World Economic Outlook Database, October 2013

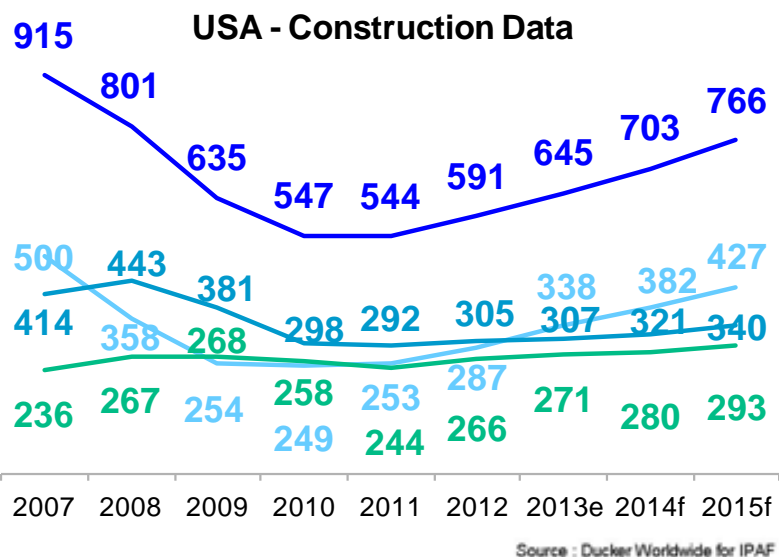
USA - Unemployment Rate



Source : Ducker Worldwide for IPAF

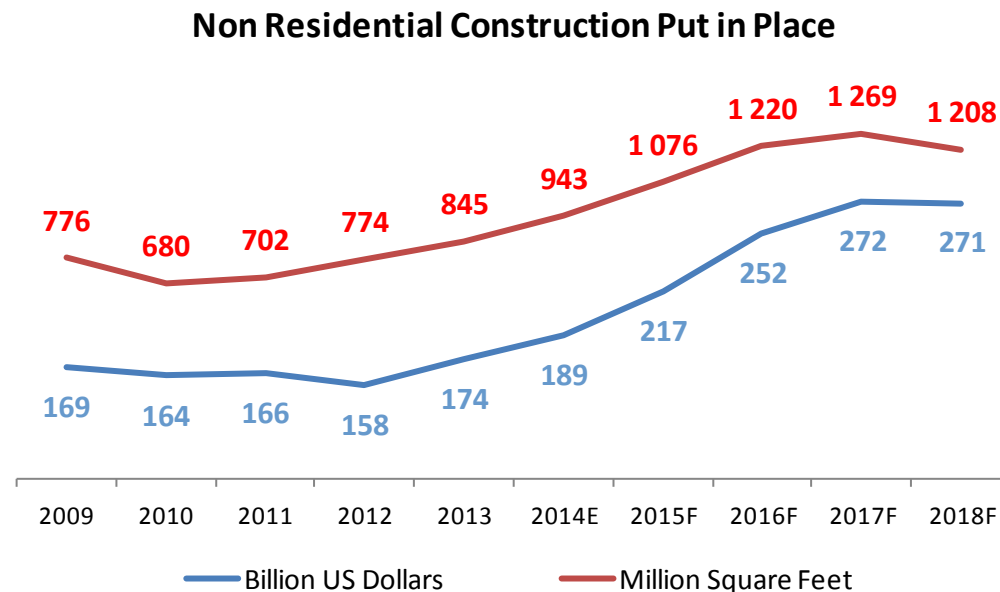
Source: International Monetary Fund, World Economic Outlook Database, April 2013

While non-residential construction only slightly improved in 2013, construction forecasts are optimistic for the next few years. Annual growth of 5% is expected in 2014 and 2015.



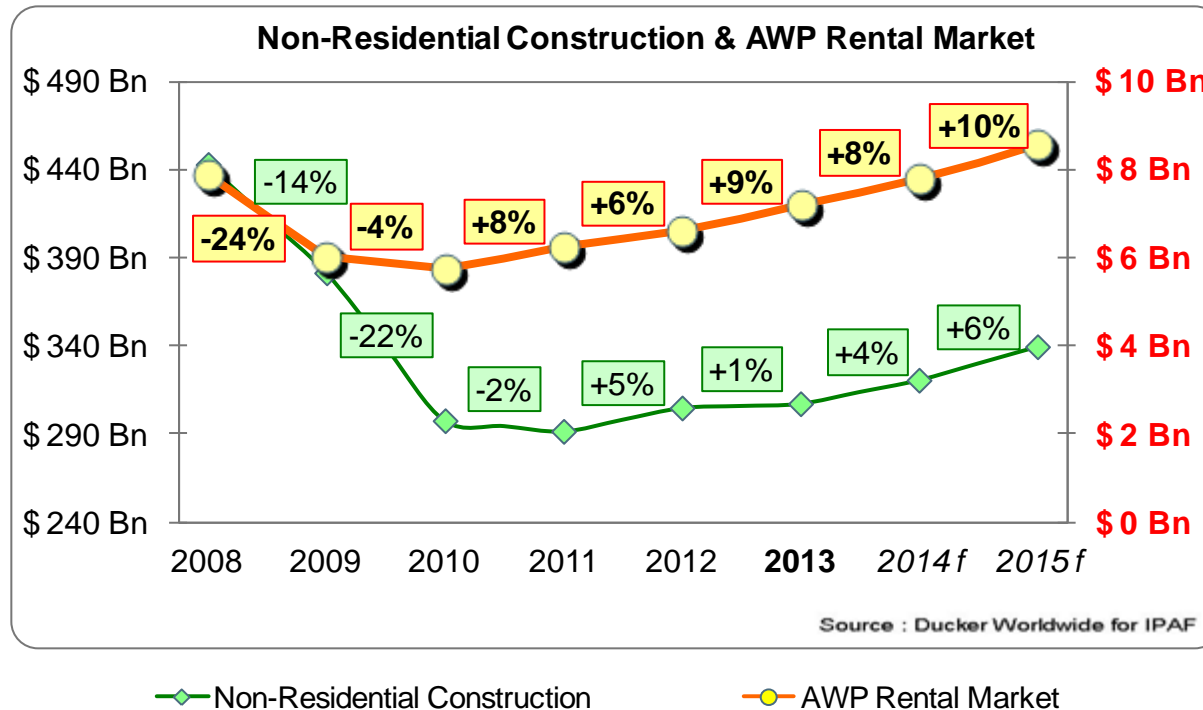
Billion US dollars. Source: US census bureau and Ducker Worldwide estimates

- Residential construction
- Non-residential construction
- Total construction
- Civil engineering



Source: McGraw-Hill Construction, Dodge Construction Outlook 2014

The AWP market confirmed its recovery in 2013, and was ahead of the non-residential construction rebound.



Source: Bureau of Economic Analysis, CBO's and US Census Bureau



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CANADIAN AWP MARKET

Canadian AWP Market

- ❑ The Canadian AWP market did not suffer from as deep and strong a recession as the US, partly due to the gas and oil exploration sectors, and partly because there was less of a decline in the construction market.
- ❑ Accordingly, the market did not recover in the same proportion as the US market, and maintained an average growth of +5% in the last three years.
- ❑ The Canadian fleet is estimated at approximately 60,000 units, representing a +4% increase in 2013.
- ❑ Rental rates improved slightly in 2013 (single digit growth) and are expected to maintain a stable evolution in the next few years.
- ❑ The Canadian market is much more influenced by weather conditions than the US, thus utilization rates vary greatly depending on the period of the year.



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CHINESE AWP MARKET

The Chinese AWP rental market is experiencing continuous fleet size growth.

- ❑ The AWP rental fleet grew by an average rate of 20% per year over the last three years. Total fleet size has reached approx. 6,000 units in 2013.
- ❑ The AWP rental fleet is expected to grow at the same pace in the next three years.
- ❑ Scissors represent approx. 65% of total AWP fleet size, while booms represent 25%. Vehicle mounted platforms and other smaller equipment represent approx. 10% of the fleet.
- ❑ Scissors are preferred for their flexibility and low price. Booms are largely used in shipyards, public or industrial buildings, and truck-mounted platforms are primarily used in municipal and utility projects.
- ❑ Most of the AWP equipment used in China is locally manufactured, with the exception of specific machines (i.e. specific working heights - 120 feet, specific foreign brands: Airo, Upright, Tadano, have no production facilities locally).
- ❑ There are less than 100 rental companies in China, and a limited number of major generalist players dominate the market.
- ❑ The typical rental period for AWP's is 3-6 months.

Further AWP rental development is expected in the coming years.

Increasing AWP awareness

- The awareness of AWP rental is expected to increase in coming years. The geographical coverage, which now remains limited to major cities (AWP rental business is mostly developed in Tier 1 and Tier 2 cities of China), is expected to broaden.

Scaffolding substitution

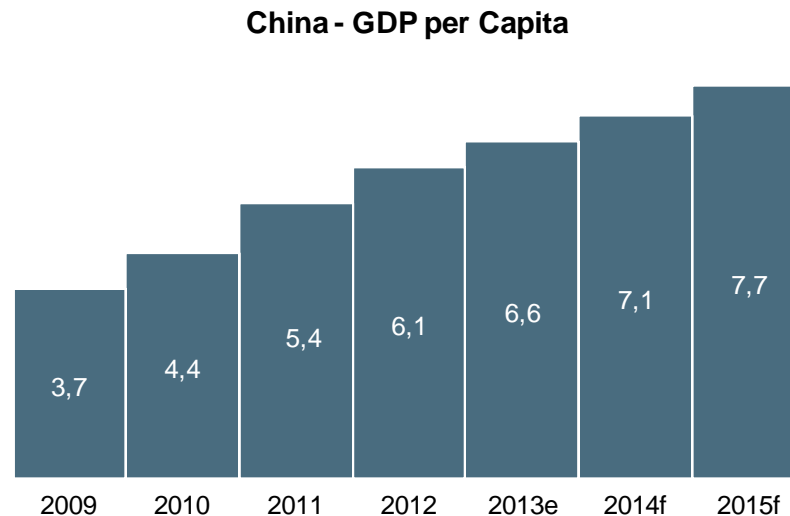
- There is no mandatory regulation in China yet to protect workers working at height. But the government “*12th five-year plan*” lists traditional scaffolding and ladders as equipment being gradually phased-out, and encourages the use of AWP.

Increased focus on worker safety

- Market players expect safety standards to be put in place within the next 3 to 5 years.

Macro-economic indicators show positive forecast, leading to an enhanced construction environment.

- ❑ From 2006 to 2013, China's economy kept growing quickly: the annual GDP grew at an average rate of 10%.
- ❑ Although GDP growth has slowed down in recent years, forecasts show steady increase of approx. +7.5% per year for the next 3 years.
- ❑ More construction opportunities are expected to arise in the non-residential sector i.e. airports, exhibition centers, stadiums, museums and industrial parks.



Thousand US dollars at 2013 prices. Source: International Monetary Fund, World Economic Outlook Database, October 2013

Source : Ducker Worldwide for IPAF

This concludes our report. Thank you.

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