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# IPAF POWERED ACCESS RENTAL MARKET REPORT 2017 – GLOBAL REPORT

*June 2017*

This Report Has Been Prepared Solely For :

*The International Powered Access Federation*

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# FOREWORD

## IPAF Powered Access Rental Market Report 2017 - Europe

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## IPAF

- The International Powered Access Federation (IPAF) promotes the safe and effective use of powered access equipment worldwide. IPAF is a non-profit member organisation 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 programme for platform operators is certified by TÜV as conforming to ISO 18878. More than 150 000 people are trained each year through a worldwide network of over 600 IPAF-approved training centres. Successful trainees are awarded the PAL Card (Powered Access Licence), the most widely held and recognised proof of training for platform operators.
- 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](http://www.ipaf.org).
- IPAF has more than 1 200 members.



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## Ducker

- Ducker Worldwide, a premier consulting and research firm, is driven to help its clients achieve their most ambitious growth goals. Custom market intelligence, strategic consulting and transaction advisory services are delivered by fully engaged Ducker Principals and a diverse team of global talent.
- Ducker benefits from solid industry experience and a highly international team with the ability to approach and study 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 among others.
  - Quality charter: Ducker Worldwide works to the guidelines of the ESOMAR ethics standards.
- More information on Ducker can be found at [www.ducker.com](http://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 MEWP (Mobile Elevating Work Platform) rental market value for Europe and the US over an eight-year period.

- The study covers the time period 2008-2018, with particular focus on 2016.
- Main objectives:
  - 2016 MEWP rental market value and fleet size.
  - Trends and dynamics (2008-2018).
  - 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 optimisation of secondary sources.
  - Estimated size of the 2016 MEWP rental fleet worldwide, with a breakdown by region and by machine type (including the estimated share of vehicle mounted platforms held by rental companies owning self-propelled fleets).
  - Ranking of construction and non-construction sub-sectors in the MEWP rental revenue.
  - Return on investment / average payback period by equipment type.
  - Utilisation rates by equipment type (booms vs scissors).
- The current study does not examine rental company profitability.
- All interviews were conducted in April 2017, which 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 present study focuses on powered access equipment, i.e. mobile elevating work platforms (MEWPs). It includes the full range (all sizes and types) of powered access equipment except mast climbing work platforms (MCWPs) and hoists.
  - Included are powered access equipment, 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 are: low-level equipment (<3m high), telescopic material handlers, forklifts, cranes, mast climbing work platforms, hoists and equipment owned by non-rental companies.
  - The European part of the study comprises the following ten countries:
    - Denmark (DK)
    - Finland (FI)
    - France (FR)
    - Germany (DE)
    - Italy (IT)
    - Netherlands (NL)
    - Norway (NO)
    - Spain (ES)
    - Sweden (SE)
    - United Kingdom (UK)
- These represent 85% of the European\* market in value.
- The ANSI standards now refer to MEWPs for all regions under study in this report.



\* Defined as 28 EU countries + Norway + Switzerland + Macedonia



## Target Companies and Respondents

- The main source of information for this study is primary research through telephone interviews. Organisations interviewed for this study include rental companies and other industry experts:
  - Rental companies:
    - Specialist MEWP rental companies: MEWPs account for more than 50% of total rental revenue.
    - Generalist rental companies: MEWP rental revenue accounts for 50% or less of total rental revenue.
    - From rental companies interviewed, on average, MEWP rental revenue represents 69% 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 were Managing Director, Sales Director, Technical Director, Purchasing Manager, Fleet Manager and Operations Manager.
- Ducker and IPAF would like to thank all industry representatives interviewed, without whose kind assistance it would not have been possible to conduct this research.
- IPAF and Ducker would also like to thank Murray Pollok, Managing Editor of *International Rental News*, for his contributions and commentary on the current rental market.



## Definitions

- **MEWP rental revenue:**
  - Includes for example machine rental rates, machine repair, support (e.g. fuel services), transportation/delivery, training, insurance, operator charges.
  - Used equipment sales are excluded from the MEWP rental revenues reported.
- **Specialists vs Generalists:**
  - For specialists: MEWPs account for more than 50% of total rental revenue.
  - Generalists: MEWPs account for 50% or less of total rental revenue.
- **Cross-Hire:**
  - Rental by one rental company from another rental company (excluded from final results).
- **Utilisation rate:**
  - Physical number of machines out on hire as percentage of total number in fleet at any given time.
- **Retention period:**
  - Average time during which rental companies typically keep their powered access equipment.
- **Rental rate:**
  - Corresponds more to net prices than list prices. Directly linked to the rental revenue.
  - The euro amount that the customer agrees to pay for possession and use of a machine.



## Definitions

- Exchange rates:
  - The currency exchange rates used for countries outside the Euro Zone are as below (average annual 2016 exchange rates). The same rate has been used throughout the time period in order to eliminate variation in growth rates due to exchange rates rather than to the actual MEWP rental market.

	<b>Currency Unit</b>	<b>Converter to Euro</b>
Denmark	DKK	0,134
Norway	NOK	0,107
Sweden	SEK	0,103

	<b>Currency Unit</b>	<b>Converter to Euro</b>
UK	£	1,176

	<b>Currency Unit</b>	<b>Converter to Euro</b>
US	USD	0,911

# EXECUTIVE SUMMARY

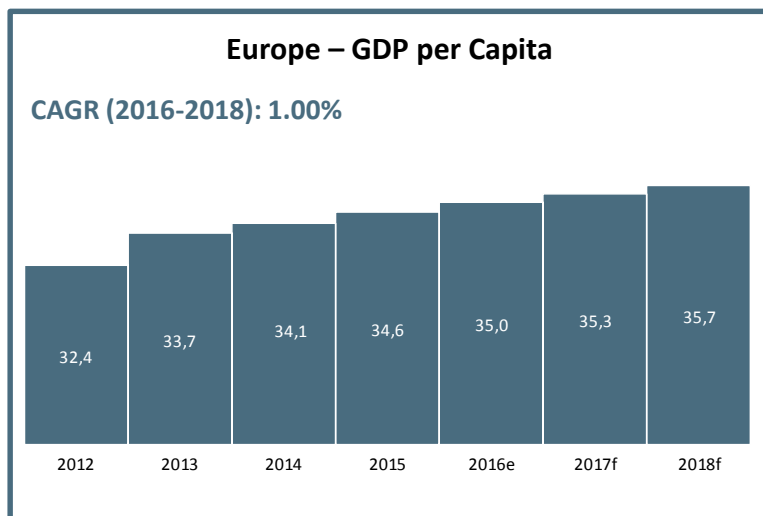
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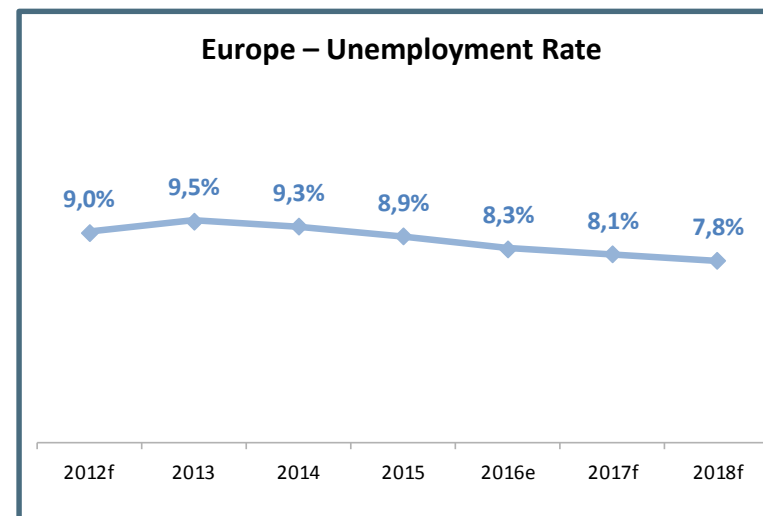


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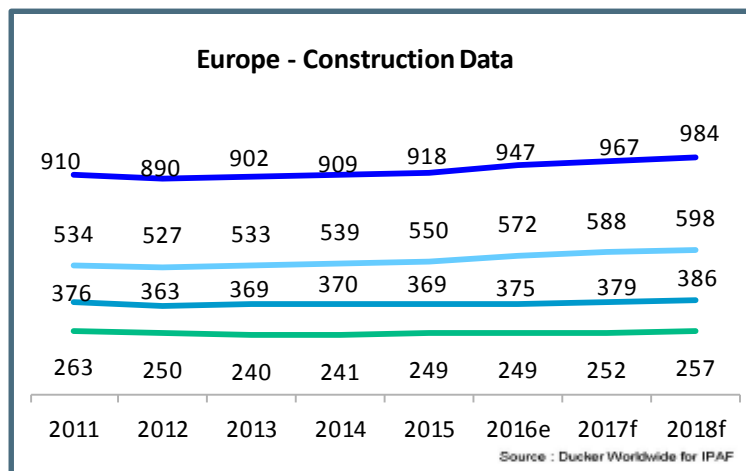
Main macro economic indicators, such as GDP per capita and construction data, show promising growth forecasts, while at the same time unemployment rate is expected to decrease, leading to positive outlooks in Europe.



Thousand Euro at 2016 prices. Ten countries under study. Source: Ducker Worldwide for IPAF based on Euroconstruct 2016.



Source: International Monetary Fund, World Economic Outlook Database, October 2016.



Construction put in place in billion Euros based on Euroconstruct 2016.

#### CAGR (2016-2018)

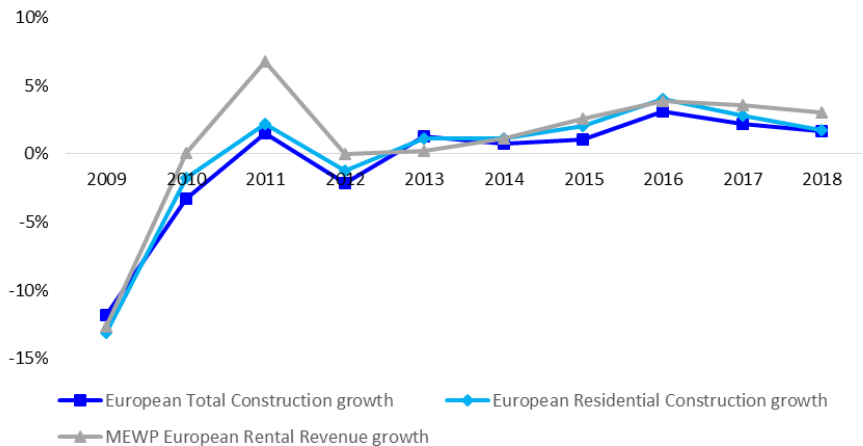
- Residential construction: 2.25%
- Non-res. constr. : 1.43%
- Total construction : 1.92%

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



The MEWP rental revenue development in Europe is expected to remain highly positively correlated to the construction sector development. As unemployment continues to decrease, MEWP rental revenue continues to grow, showing a weak negative correlation.

Development of construction indicators in Europe

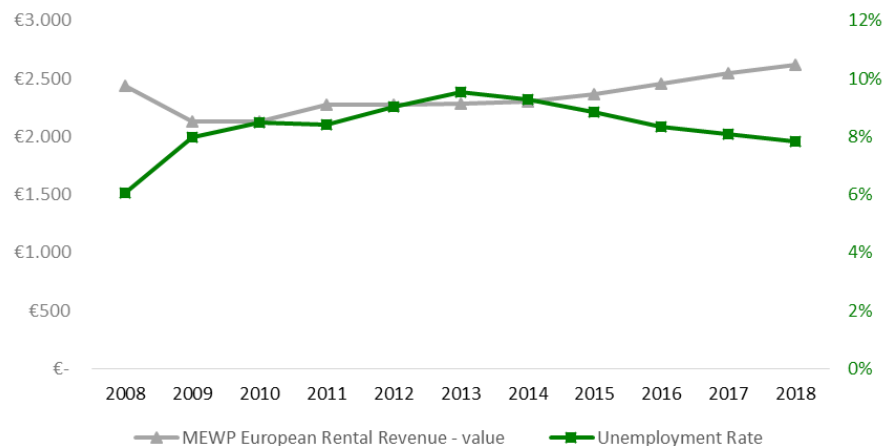


Source: Ducker Worldwide for IPAF

- The development of the European construction activity and the rental revenue of MEWP companies have been following a similar trend since 2009.
- The highest correlation ( $r= 0.87$ )\* can be observed between the growth of the residential construction activities and the MEWP rental revenue.

- The relatively high positive correlation ( $r= 0.66$ )\* seen between the MEWP rental revenue and unemployment rate development between 2009-2014 has been diverging since 2015.
- As the unemployment rate is now decreasing, the MEWP rental revenue is growing.
- Both parameters' negative correlation is however relatively small ( $r= -0.35$ )\*.

Effect of unemployment on rental revenue in Europe



Source: Ducker Worldwide for IPAF

\*Correlation based on PEARSON correlation coefficient

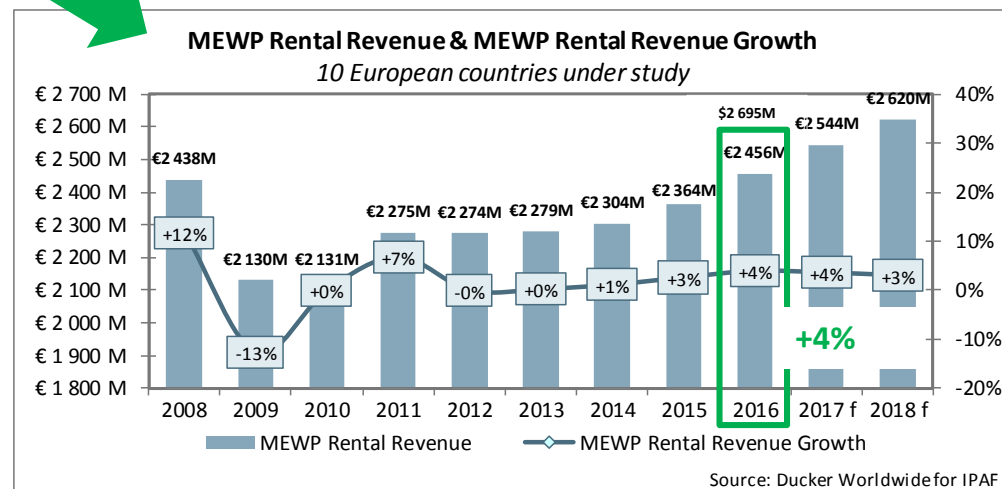
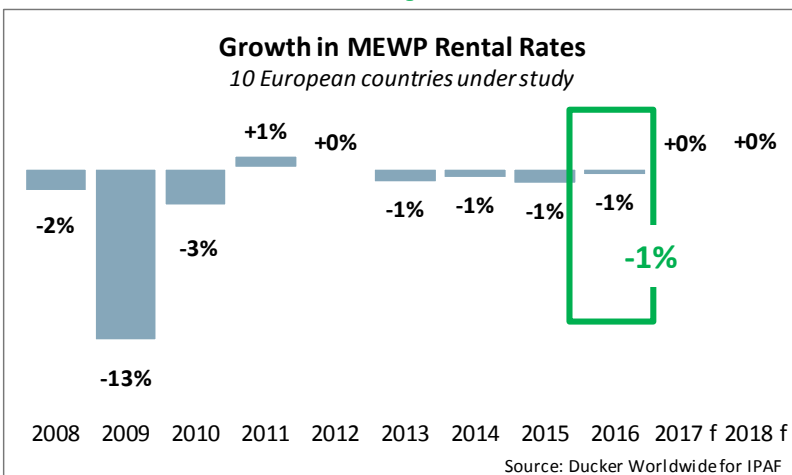
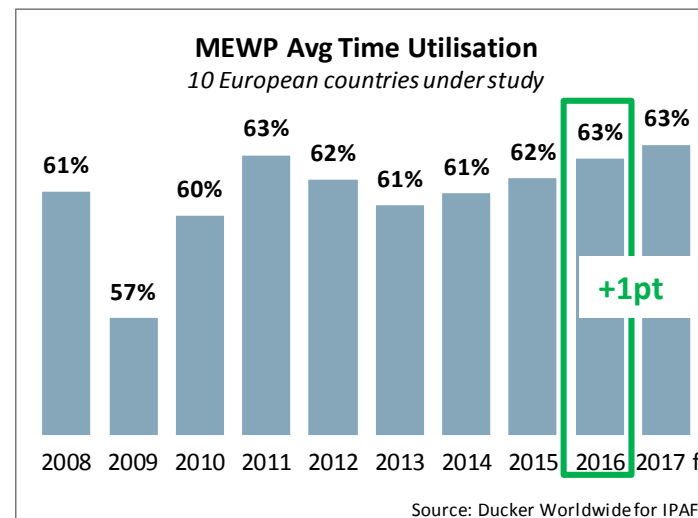
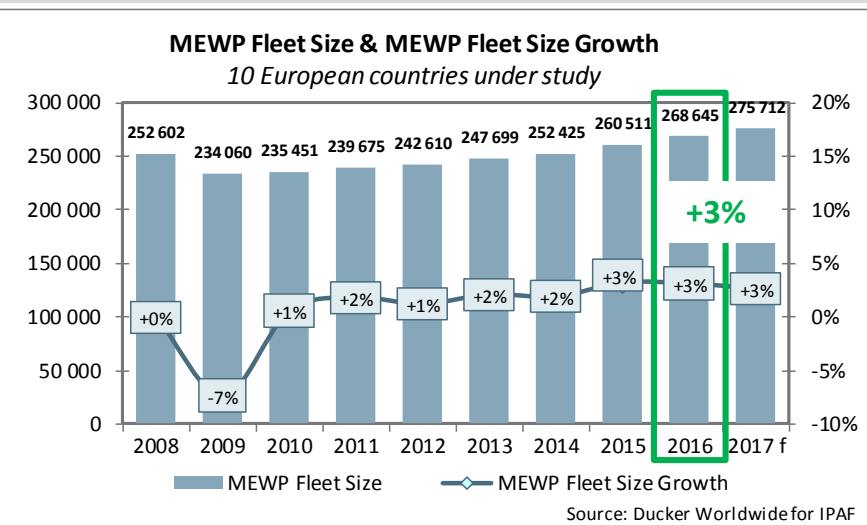




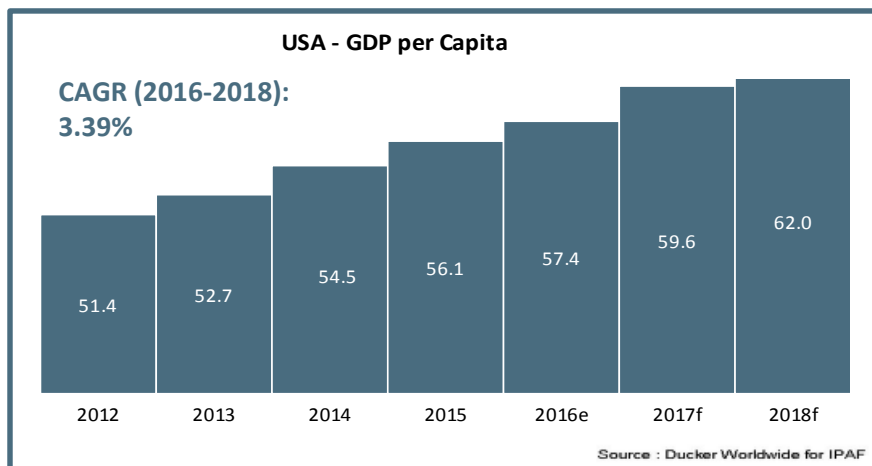
## MEWP Rental Market Situation at End 2016.

- The European Mobile Elevating Work Platform (MEWP) market has entered a phase of steady growth, for the second year in a row, and is expected to continue in the coming years.
- In 2016, total market value reached €2.5Bn (\$2.7Bn) after experiencing growth of 4% compared to 2015, driven mainly by a dynamic construction sector and overall improving economic outlooks in European economies.
- Rental companies adapted to increasing demand by adjusting their fleet size (+3%), while also increasing their utilisation rate (+1 point).
- Nevertheless competition remained tough and led to further rental rates decrease in Europe (-1%).
- While only a few countries managed to increase their rates (Spain +2%, Italy and Sweden +1%), rental companies in the main European markets were forced to reduce rates (UK -1% ; FR -1%; GER -2%). This current situation is raising some concerns about the rental market overall profitability, especially in these countries.
- Since the 2009 crisis, companies have had very limited opportunities to increase their rates and pre-recession levels could not be reached again.
- Apart from prices, rental companies are also trying to beat competition by renewing fleet, offering additional services, and by engaging in intense mergers and acquisitions activity in Europe.
- The concern for profitability is creating significant challenges for OEMs as well, which have to find the right balance between rental companies' needs for simple machines with basic specifications at affordable purchasing prices, and the search for greener and safer equipment.

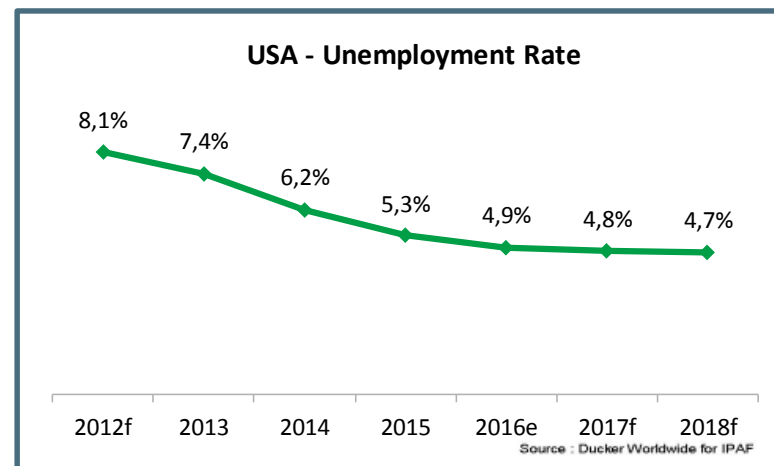
European MEWP rental market dynamism was confirmed in 2016, as growing demand drove both fleet and utilisation rate increases. Intense competition remains a strong challenge, forcing companies to reduce their rental rates.



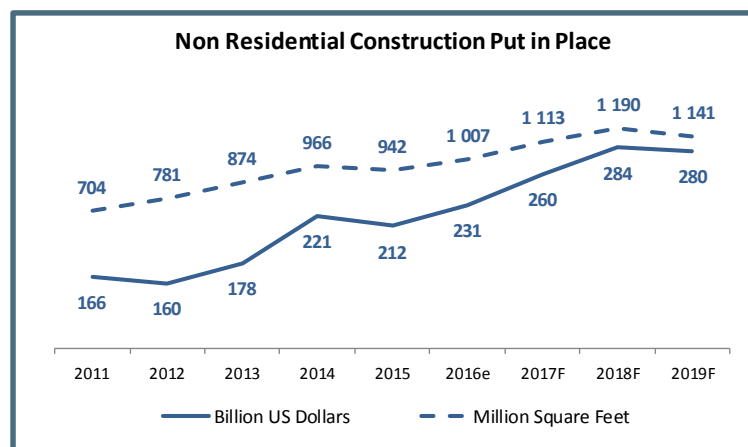
The US economy continues to progress steadily, and outlooks remain positive until 2018, confirmed by an increasing GDP per capita, as well as a growing non-residential construction value and a decrease in the unemployment rate.



Thousand US dollars. Source: International Monetary Fund, World Economic Outlook Database, October 2016



Source: International Monetary Fund, World Economic Outlook Database, October 2016

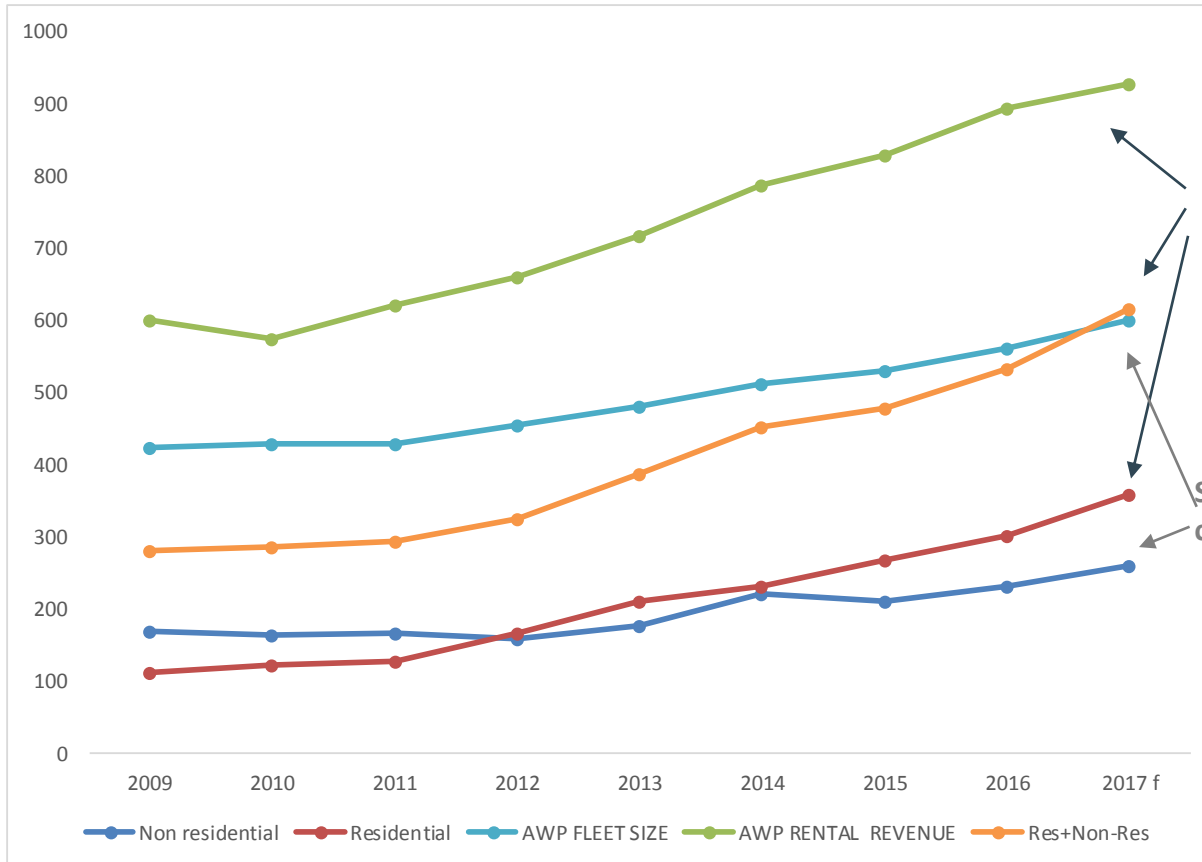


**CAGR (2010-2020): 4.68%**

Source: McGraw-Hill Construction, Dodge Construction Outlook 2016



Two correlations are identified that show similar trends between the evolution of MEWP rental revenue and residential construction on the one hand, and the MEWP fleet and non residential construction on the other.



- For evaluating the relationship between rental revenue and construction indicators, a correlation analysis (PEARSON correlation) was conducted, which compares variances and standard deviations among variables.
- Similar to last year’s results, a high correlation is highlighted between MEWP rental revenue and the construction market, especially the residential one.
- Another correlation is identified between MEWP fleet size and non-residential construction value.

Source: McGraw-Hill Construction, Dodge Construction Outlook 2016, International Monetary Fund, World Economic Outlook Database, October 2016



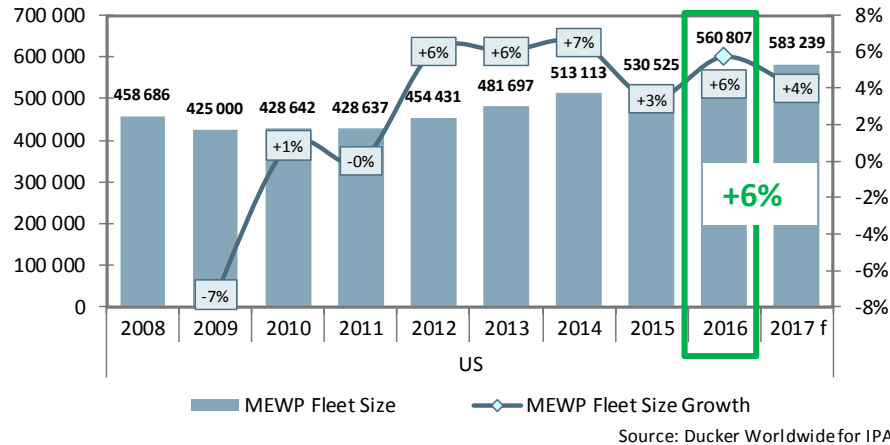
## MEWP Rental Market Situation at End 2016.

- The MEWP rental market experienced very dynamic developments in 2016 with an 8% growth rate. It reached a value of \$8.9Bn (€8.1Bn), fuelled by both the overall stable economic situation of the country and several construction projects.
- Total fleet size grew by 6% in 2016 and attained almost 561,000 units, oriented mainly towards scissors.
- The main application for MEWP rental is the construction sector, which is booming in the US. Construction driven rental revenue current share (73%) is expected to increase again in 2017.
- Although rental rates are still increasing (+1%), they tended to grow more moderately than in the past, as increased competition prevents rental companies from raising rates significantly.
- Contrary to 2015 and despite the election year, an increasing amount of money was invested in equipment purchases: Rental companies chose to both increase and renew their fleets.
- Strong mergers and acquisitions activity is taking place in the US, allowing rental players to grow and gain share in a market where competition is fierce.

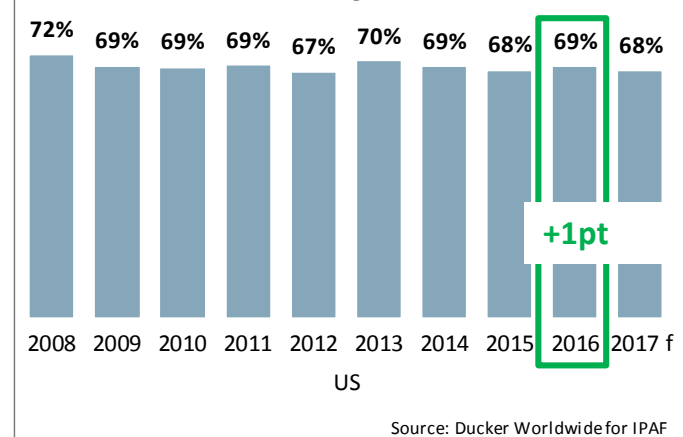


2016 was a very good year for the MEWP rental market in the US and all indicators experienced positive growth. Rental companies remain optimistic for the next two years and an average market growth rate of 8% is expected.

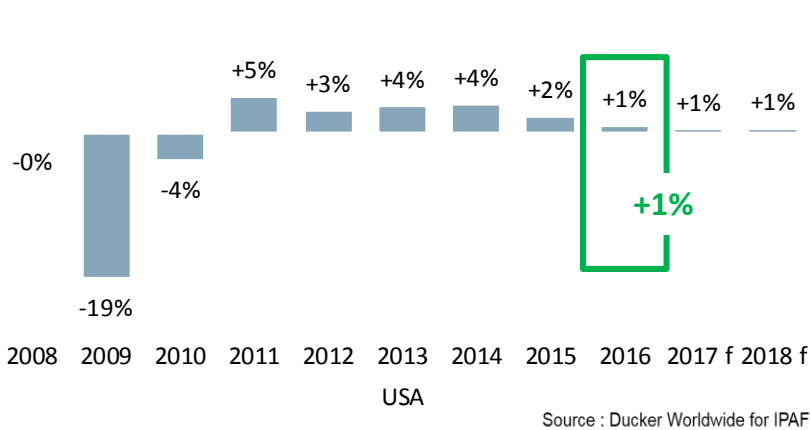
MEWP Fleet Size & MEWP Fleet Size Growth



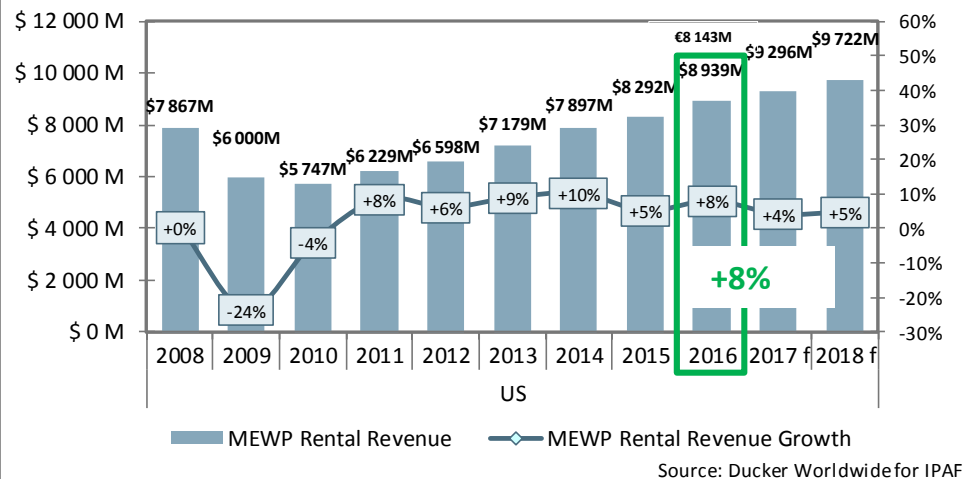
MEWP Average Time Utilisation



Growth in MEWP Rental Rates



MEWP Rental Revenue & AWP Rental Revenue Growth

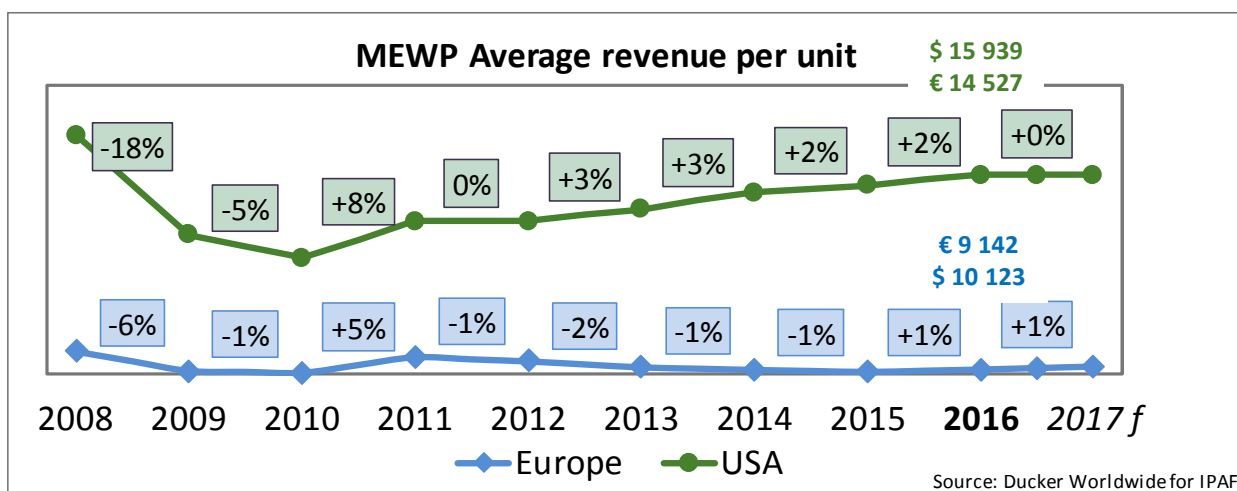


While it took more time for Europe to recover, both markets are now in a positive growth dynamic.

Region	2016 revenue growth	2016 revenue	2016 Fleet size growth	2016 Fleet size	Utilisation rate growth	Rental rate growth
Europe*	+ 4%	€ 2.5 / \$2.7 Bn	+ 3%	268 645	+ 1 pt	- 1%
USA	+ 8%	\$ 8.9 / € 8.1 Bn	+ 6%	560 807	+ 1 pt	+ 1%

Exchange rate \$1 = €0.911

- Even if both the US and the European markets grew in 2016, the US market growth was stronger than in Europe, owing to a more solid evolution of some indicators, especially fleet and rental rates.
- Though average revenues per unit increased in both the US and Europe, this hides a variety of situations in both regions: While growth is steady in the US and continuous for the fourth year, it increased for the first time in five years in Europe.

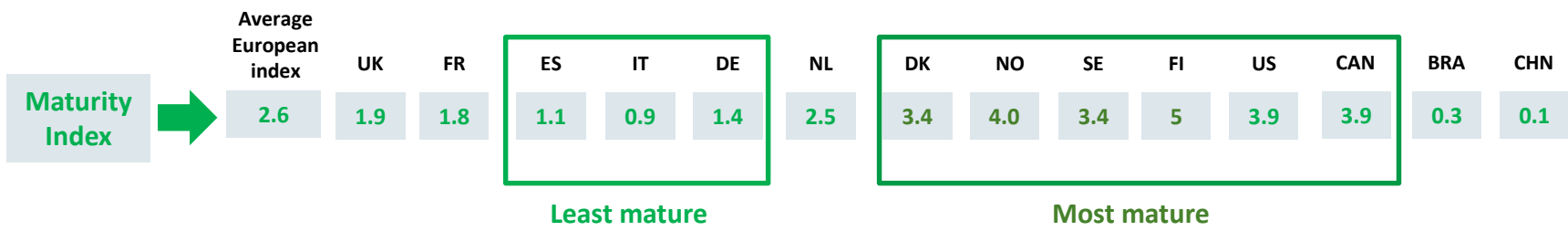
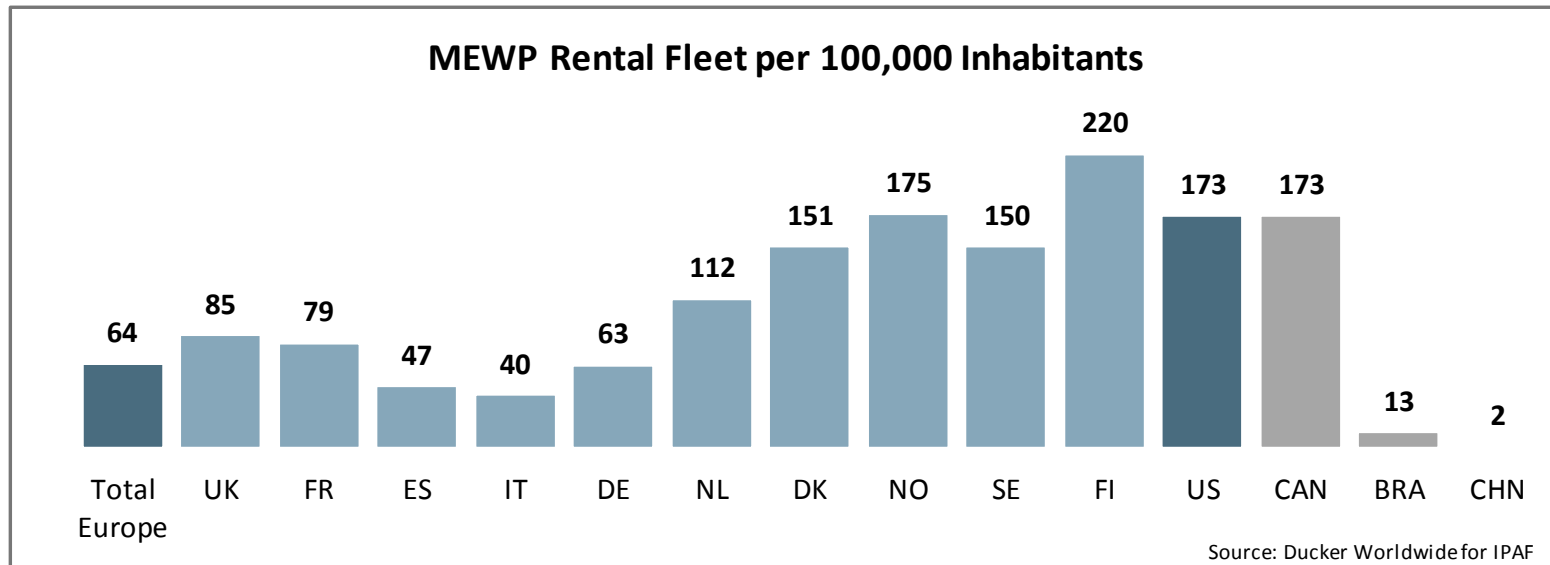


\*Ten countries under study – representing approx. 85% of the entire European market revenue.



North America, along with Nordic countries, is the most mature market for aerial platform rental. Spain and Italy remain the least mature of the European markets under study.

- The market maturity is calculated with the following ratio: MEWP rental fleet vs. country population.



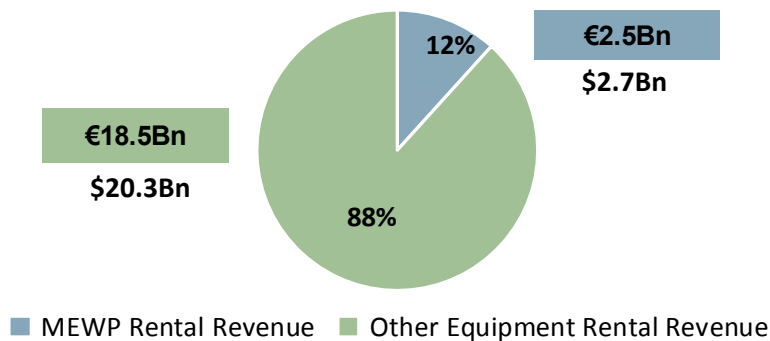




The European MEWP rental market accounts for approximately 12% of the overall construction equipment rental revenue in 2016, while this share is more important in the US and accounts for almost 20% (source ERA).

### MEWP Rental Revenue Share vs. Overall Equipment Rental Revenue - 2016

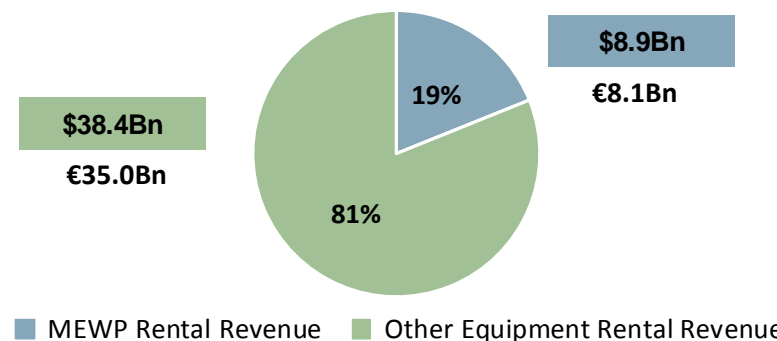
10 European countries under study



Source: Ducker Worldwide for IPAF

### MEWP Rental Revenue Share vs. Overall Equipment Rental Revenue - 2016

USA



Source: Ducker Worldwide for IPAF

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:

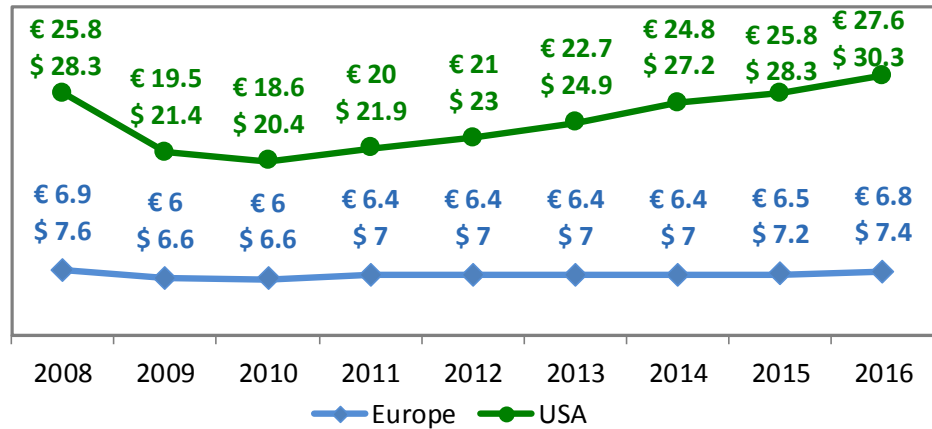
1. Party & Event
2. General tool
3. Construction & Industrial Equipment

ARA: American Rental Association  
ERA: European Rental Association

Exchange rate: \$1 = €0.911

Indicators such as rental revenue per inhabitant and fleet per capita show a much higher level in the US than in Europe and shows the greater maturity of the US market.

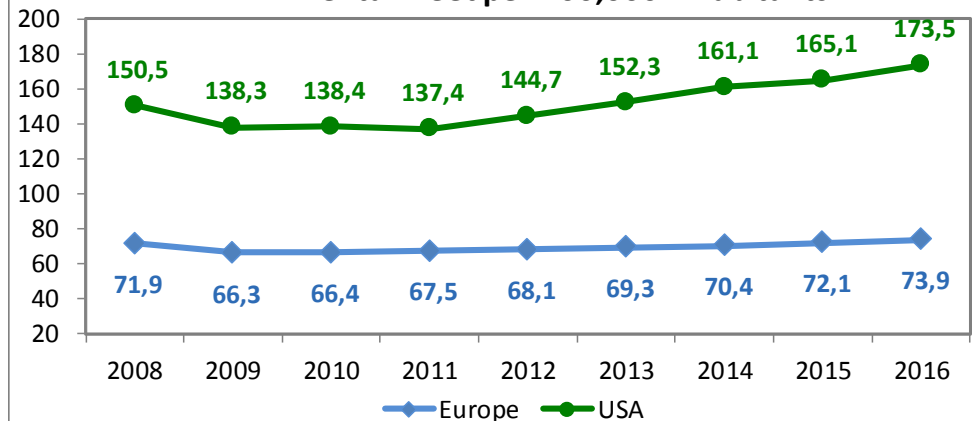
### MEWP Rental Revenue per Inhabitant



Source: Ducker Worldwide for IPAF

- The average rental revenue per inhabitant continues to increase both in the US and in Europe, though more slowly in Europe.
- A similar trend can be seen regarding the MEWP rental fleet.

### MEWP Rental Fleet per 100,000 Inhabitants



Source: Ducker Worldwide for IPAF



# EXECUTIVE SUMMARY – WORLDWIDE FLEET SIZE

The worldwide rental MEWP fleet size was 1.25M units in 2016. Asia is showing very dynamic growth, driven by China, Japan and Hong Kong, while the Latin American fleet is contracting, primarily due to Brazil.

North America	
Articulated Booms	111 500
Straight Booms	130 100
Scissors	354 100
Others	27 900
<b>Total</b>	<b>623 600</b>

EAME	
Articulated Booms	92 350
Straight Booms	30 400
Scissors	176 000
Others	50 600
<b>Total</b>	<b>349 350</b>

ASIA - PAC	
Articulated Booms	29 100
Straight Booms	42 900
Scissors	125 300
Others	44 800
<b>Total</b>	<b>242 100</b>

Latin America*	
Articulated Booms	19 350
Straight Booms	4 800
Scissors	18 600
Others	3 700
<b>Total</b>	<b>46 450</b>

\*Includes Mexico

Overall Europe (28 countries) accounts for 95% of total EAME fleet

*Note: Included are powered access 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 with self-propelled fleets.*

# EUROPE INFORMATION

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# EXECUTIVE SUMMARY – EUROPE

Region	Market Situation 2016	GDP	Overall construction	MEWP Rental Market	Key Indicator
Norway	<b>Flat market.</b> Demand should pick up slightly in 2017 with improved construction.	= -0.3%	↑ +5%	↑ + 1%	No to slight fleet expansion Flat rental rates
Denmark	<b>Slight improvement</b> driven by construction.	= +0.3%	↑ +2%	↑ + 2%	
France	<b>Confirmed</b> economic upturn, but <b>profitability is questioned.</b>	↑ +1.1%	↑ +3%	↑ + 3%	Slight fleet expansion Intense competition driving rates down
UK	<b>Economic slowdown</b> and <b>uncertainties: profitability is questioned.</b>	= +0.7%	↑ +1%	↑ + 3%	
Italy	<b>Recovery confirmed</b> driven by construction and positive economic outlooks.	↑ +1.0%	↑ +2%	↑ + 4%	Fleet expansion Slight rate improvement
Netherlands	Market driven by demand in construction end-applications.	↑ +1.2%	↑ +7%	↑ + 4%	Fleet expansion
Finland	<b>Strong recovery</b> driven by construction demand.	↑ +1.1%	↑ +8%	↑ + 5%	Fleet expansion Rate stabilisation
Sweden	Market driven by <b>strong demand</b> in construction.	↑ +2.2%	↑ +9%	↑ + 5%	All indicators positive
Germany	<b>Dynamic</b> market driven by demand, but <b>profitability is questioned.</b>	= +0,7%	↑ +2%	↑ + 5%	Fleet expansion Intense competition driving rates down
Spain	<b>Recovery</b> continues, driven by construction.	↑ +3.2%	↑ +7%	↑ + 7%	All indicators positive
<b>Europe (10 countries)</b>	<b>Confirmed growing demand</b>	↑ +1.1%	↑ +3%	↑ +3%	Fleet expansion Continuous rental rate pressure

# MARKET SIZE 2008 - 2018

## IPAF Powered Access Rental Market Report 2017 - EUROPE

*The International Powered Access Federation*  
[www.ipaf.org/reports](http://www.ipaf.org/reports)



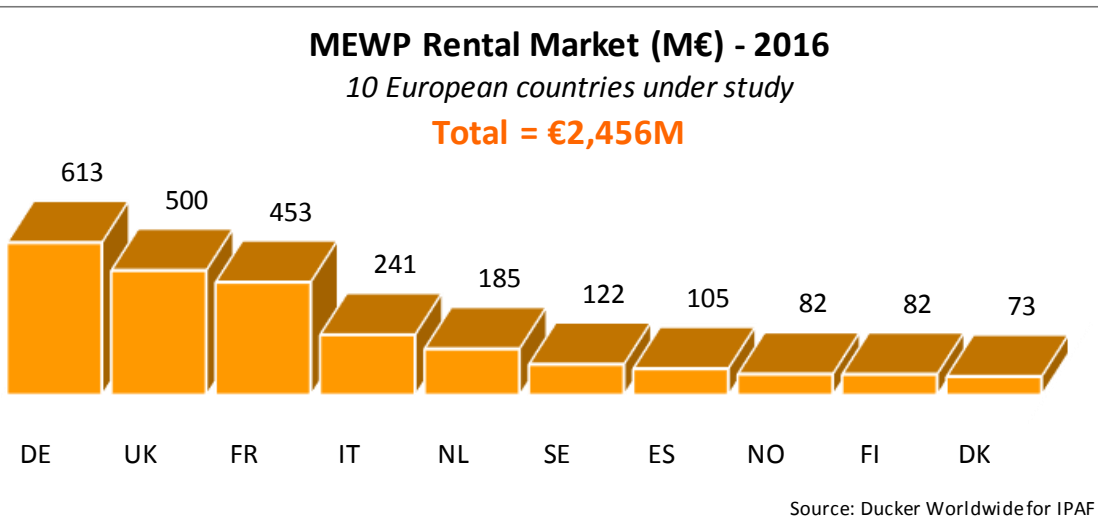
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## MARKET SIZE 2016 – RENTAL MARKET VALUE

The MEWP rental market (Ten European countries under study) is estimated at approximately €2.5B in 2016. Total European\* market value is estimated at €2.8B.

- Germany, the UK and France remain the three dominant MEWP rental markets among the countries under study. They represent almost 64% of the total revenue from the ten countries under study.
- All markets values grew in 2016, but markets' ranking remain similar to previous years.

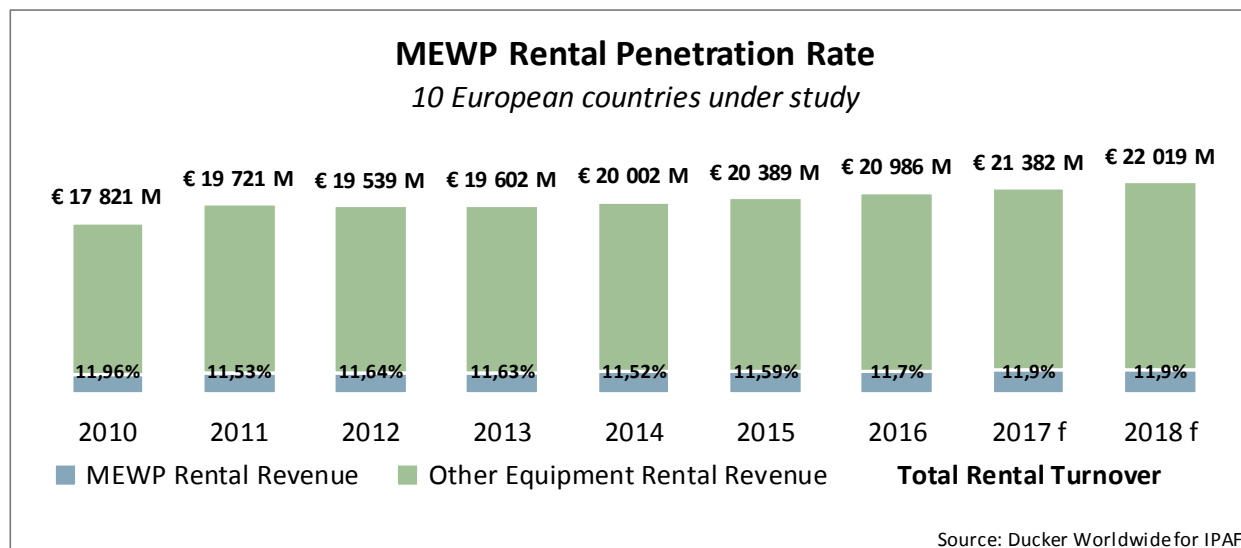


- 2016 was a positive year for the MEWP rental market in the ten European countries under study.
- The overall positive construction outlook helped to fuel demand for MEWP rental, as well as for other types of equipment, hence generating more demand for equipment rental overall.
- The rental revenue as a percentage of total company revenue increased slightly (57% in 2016 compared to 56% in 2015).
- All ten MEWP rental markets grew in 2016. Revenue growth pace varies from moderate in Norway (1%) to strong in Spain (7%).

2016	Total	UK	FR	ES	IT	DE	NL	DK	NO	SE	FI
<b>Rental Revenue as % of Total Company Revenue</b>	57%	56%	63%	40%	57%	45%	56%	76%	75%	81%	66%
<b>MEWP Revenue as % of Total Rental Revenue</b>	67%	91%	42%	56%	56%	83%	87%	34%	46%	44%	37%
<b>MEWP Rental Revenue as % of Total Company Revenue</b>	34%	51%	27%	23%	32%	37%	49%	26%	34%	35%	24%

MEWP rental market is progressively gaining share against other types of equipment among total rental activity.

- As forecast in last year’s edition, the European MEWP rental penetration continues to grow slowly.
- It is expected to get close to 12% in 2018.

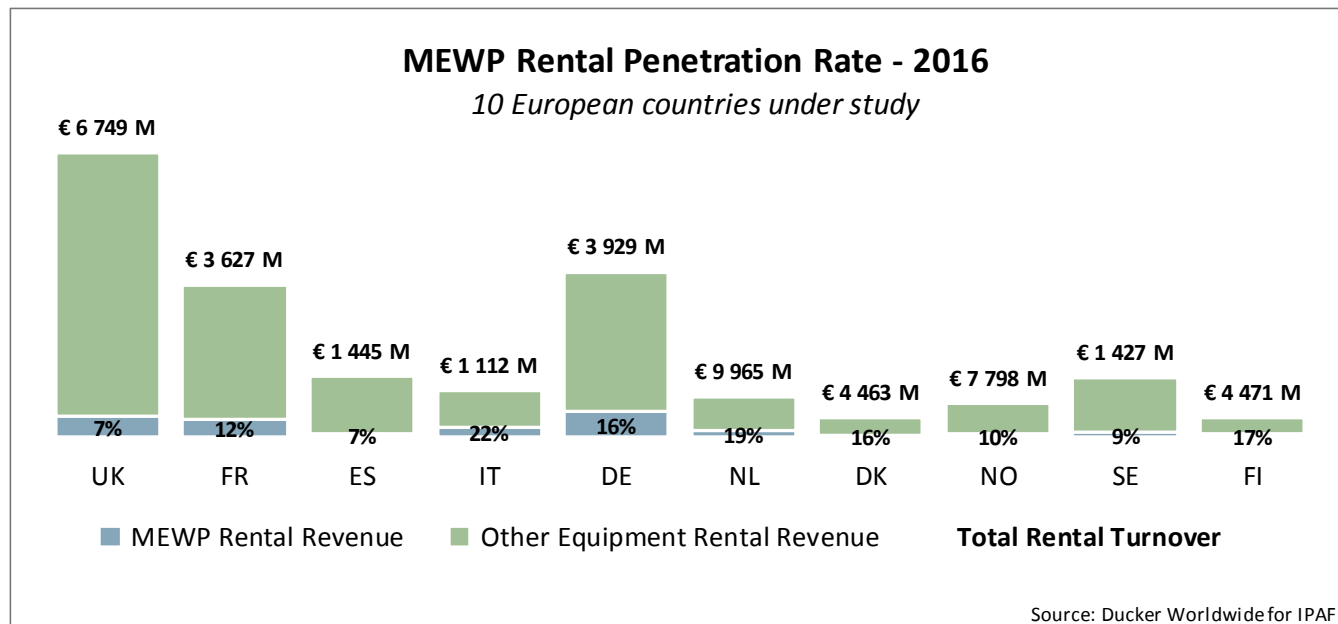


*Source for Total Rental Turnover: ERA 2016 Report.*



The share of MEWP rental revenue among total rental revenue varies greatly from one country to the other. MEWP rental penetration level is highest in Italy (22%) and lowest in Spain (7%).

- The highest MEWP rental penetration rates (above 15%) are in Italy, the Netherlands, Finland, Germany and Denmark, while the lowest rates (below 10%) are encountered in Spain, the UK and Sweden.

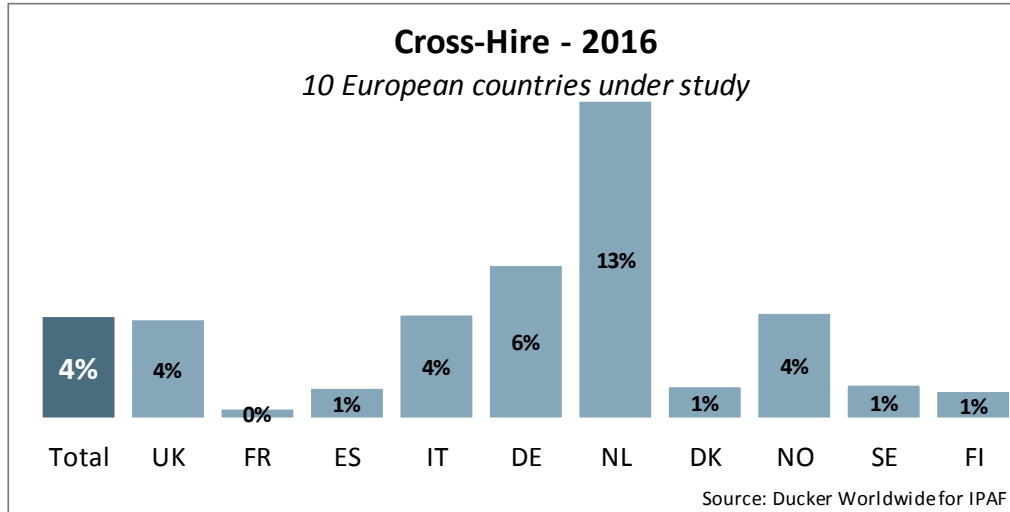


Source for Total Rental Turnover: ERA 2016 Report.

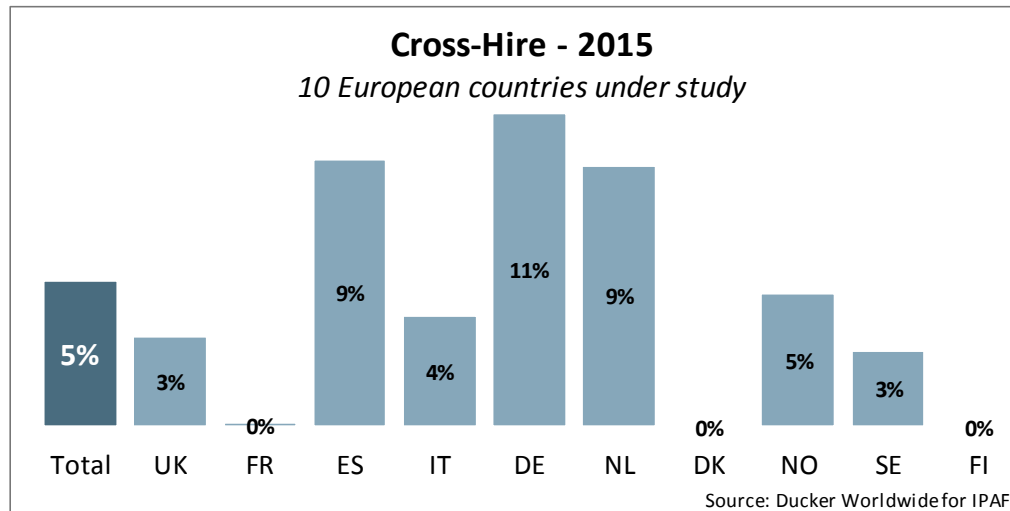


The level of cross-hire was slightly reduced in 2016 to an average of 4%.

All re-rental amounts have been eliminated from totals expressed in this report

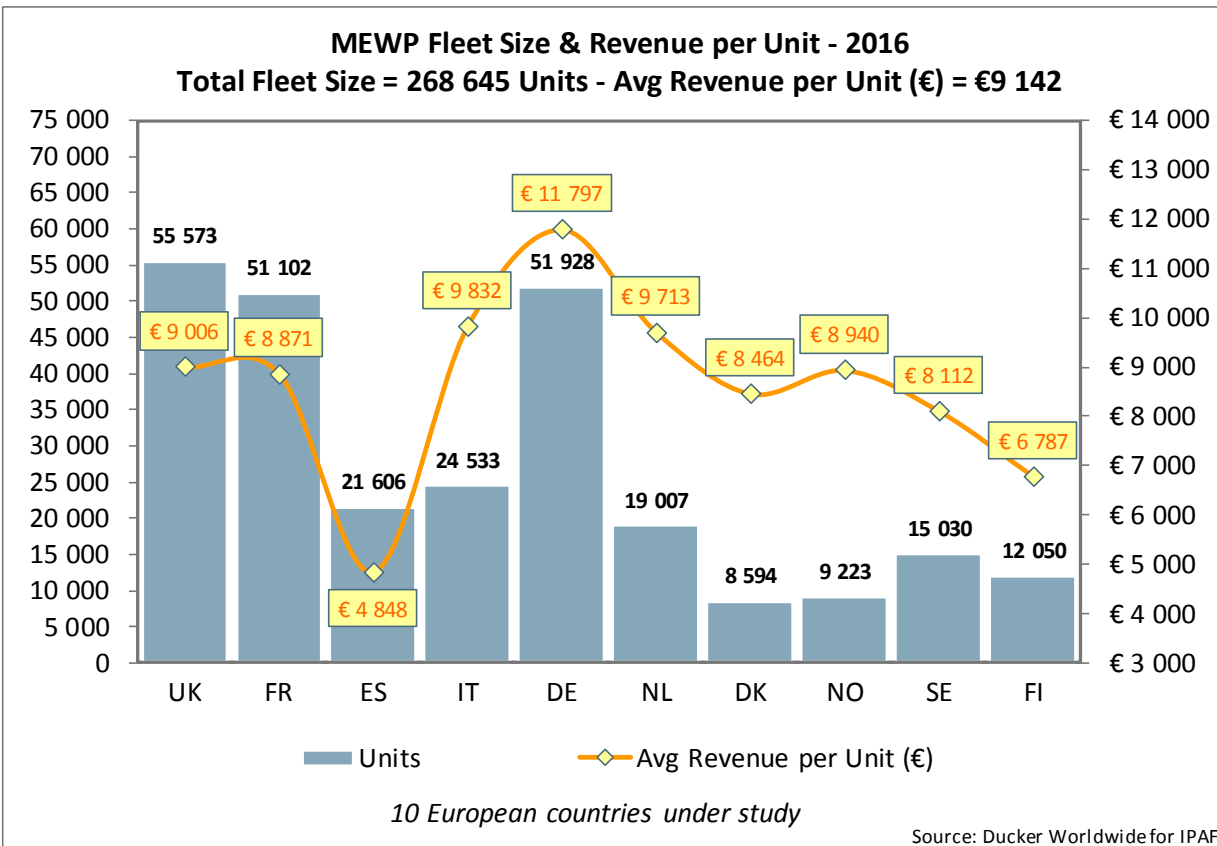


Cross-hire = Rental by one company from another



- The Netherlands is the country with the highest level of cross hire in 2016, where it increased for the second year in a row. Companies had to face an increase in demand for the first time in several years, after having massively de-fleeted over previous years.
- Cross-hire decreased significantly in Spain and in Germany, where rental companies increased their existing fleets to meet with existing demand.
- Cross-hire is very limited to non-existent in several Nordic countries, such as Denmark, Sweden, Finland, and also France, where it is traditionally almost non-existent.
- The level of cross-hire remained stable at a moderate level in the UK, Italy and Norway.

MEWP fleet size is estimated at approximately 269,000 units in the 10 European countries under study. The overall European\* fleet size is estimated at approximately 332,000.

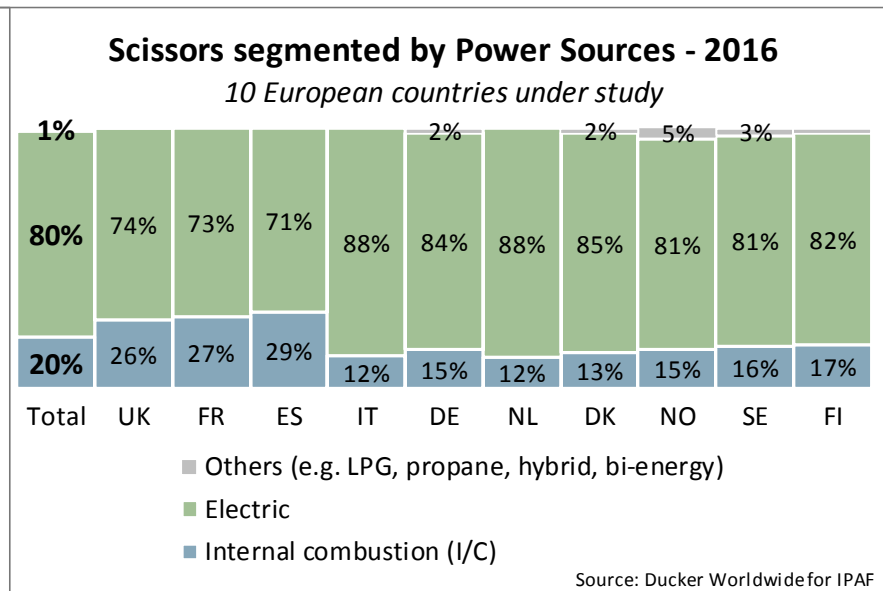
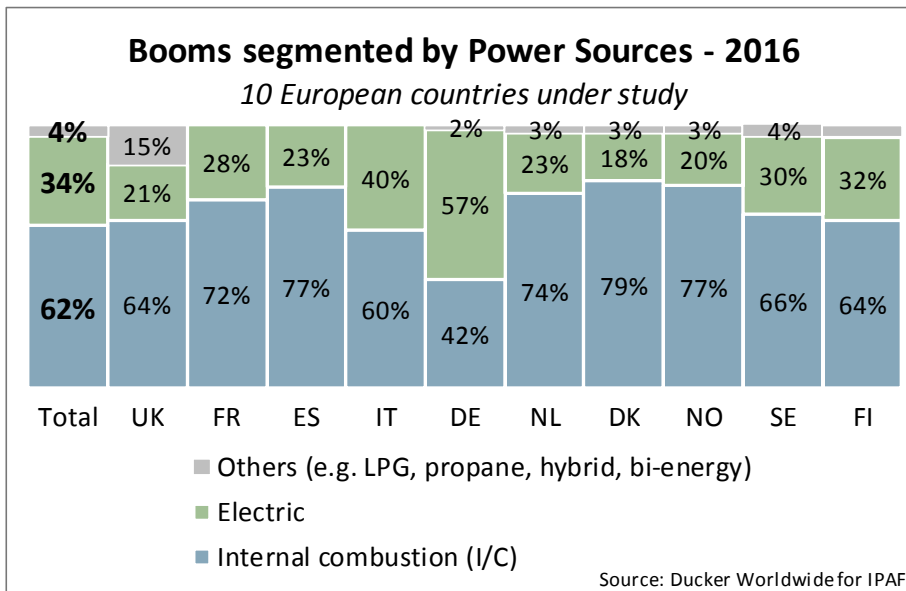


End of the year data

- The UK remains the largest fleet among the 10 European countries under study, while Germany and France have close fleet sizes and rank respectively second and third.
- Average revenue per unit remains slightly higher than €9,000 overall.
- Revenue per unit is the highest in Germany, where it reaches almost €12,000 per unit. Nevertheless, it decreased slightly in 2016, highlighting the increased competition in the German market between MEWP rental companies.
- While the indicator is at its lowest level in Spain, it continues to improve in this country, driven by the market recovery, encouraging more demand and rental rates increase.

In 2016, the share of electric booms and scissors increased, at the expense mainly of equipment fitted with internal combustion engines.

- Green equipment is increasingly requested by end-customers across all European countries under study.
- Hybrid equipment remains a very limited share of the current European fleet.



% of fleet powered by electric vs. internal combustion.



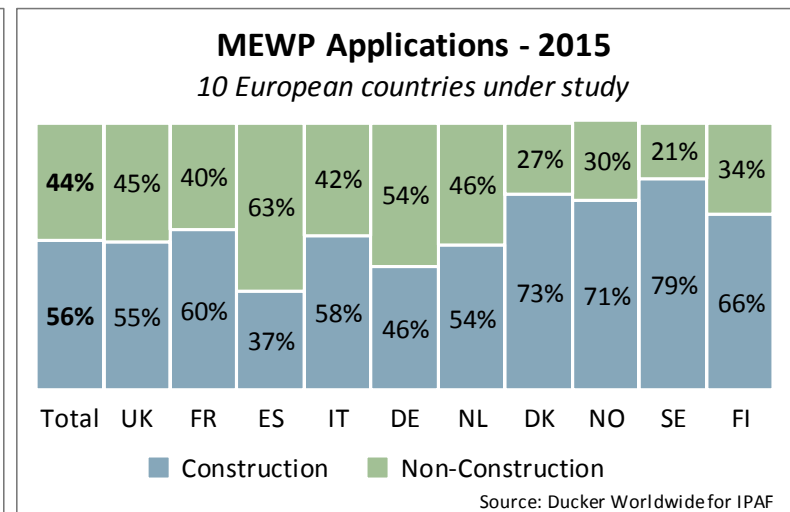
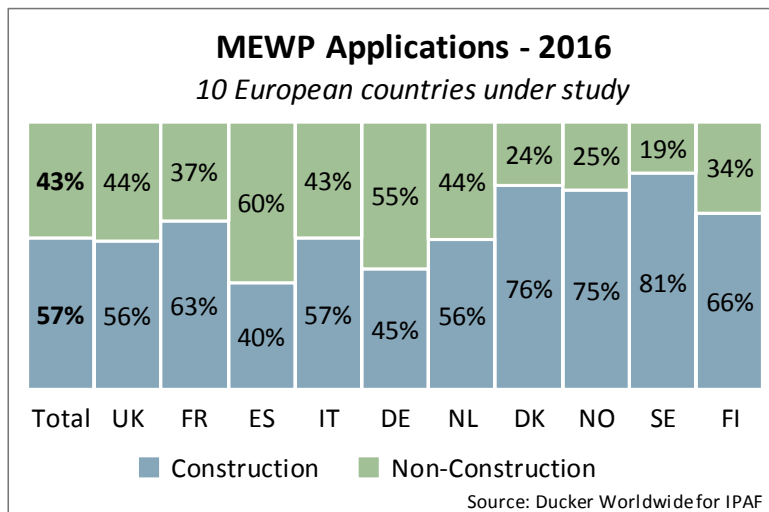
# MARKET SIZE 2016 – APPLICATIONS

The share of construction increased in 2016 and now accounts for 57% of MEWP rental companies customers. The overall recovery of the construction sector in Europe influenced MEWP rental companies’ customer base.

- The construction sector drove significant demand increase in most European countries under study.
- Even in countries that are traditionally more oriented towards non-construction sectors (Germany, Spain), construction sector share grew in 2016.
- Nordic countries are the region where the construction sector remains the highest end-application for MEWP rental activity.

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

*Construction includes new-build and renovation: including all types of buildings.*



# MARKET DYNAMICS 2008 - 2018

## IPAF Powered Access Rental Market Report 2017 - EUROPE

*The International Powered Access Federation*

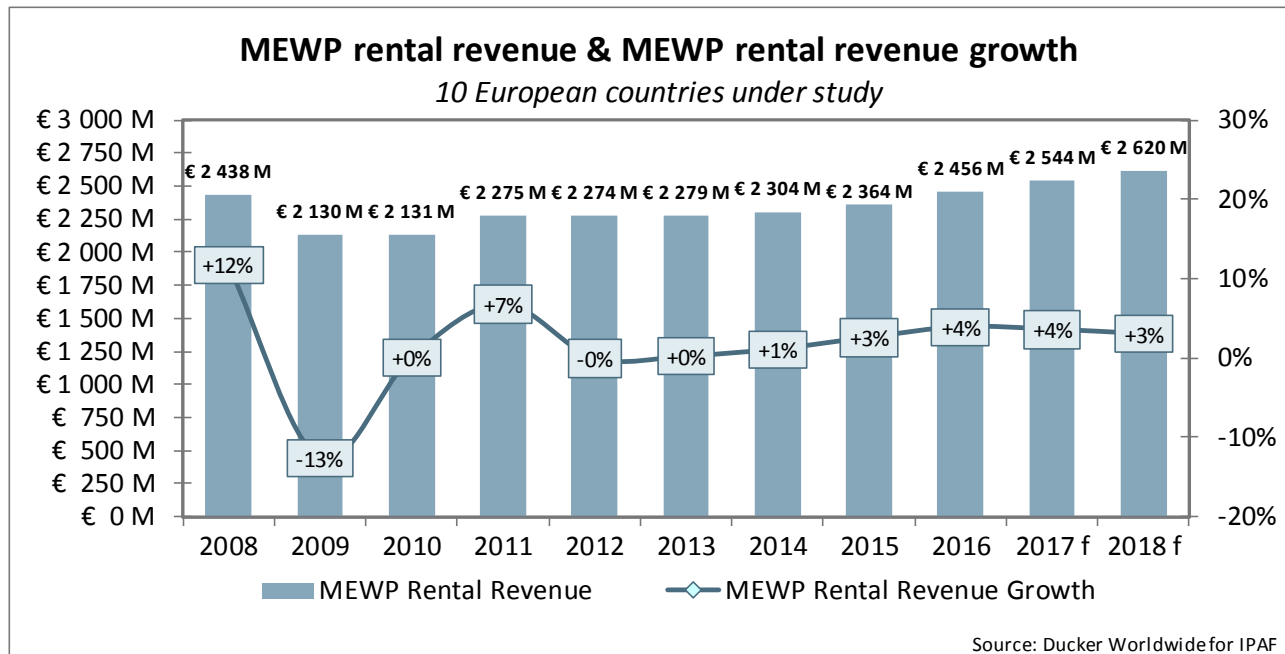
*[www.ipaf.org/reports](http://www.ipaf.org/reports)*



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In 2016, the European MEWP grew for the second year in a row. It reached a total value of €2.5Bn.

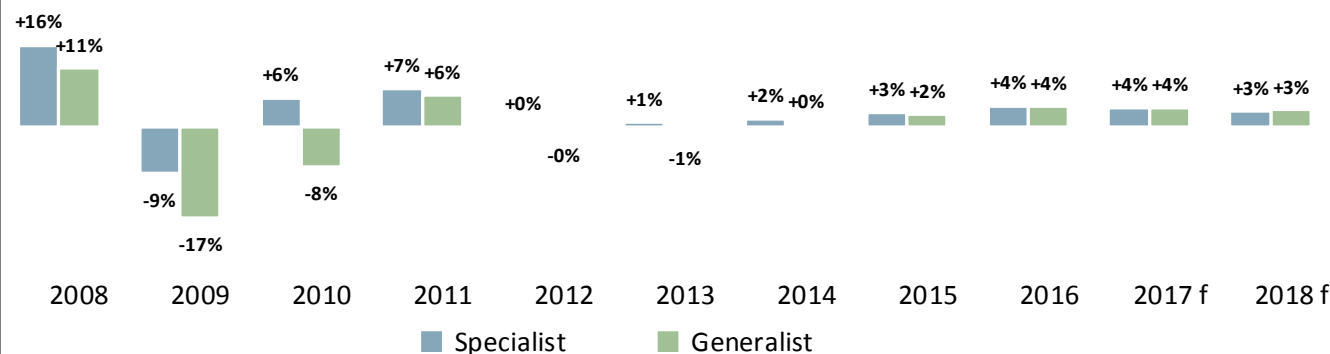
- After several years of struggle, the European MEWP rental market is now finally back to pre-recession levels.
- All local MEWP rental markets grew as local economies improved, and construction markets increased.
- Further growth is expected for the next two years at a similar pace (3-4%) and the total European market value in 2018 should go beyond €2.8Bn.
- The European market is now experiencing positive market growth as a whole, following the same trend as the US market.



In 2016, all 10 European MEWP rental markets grew. Growth rates varied from one country to another and range between 1% in Norway and 7% in Spain.

## MEWP rental revenue growth

10 European countries under study



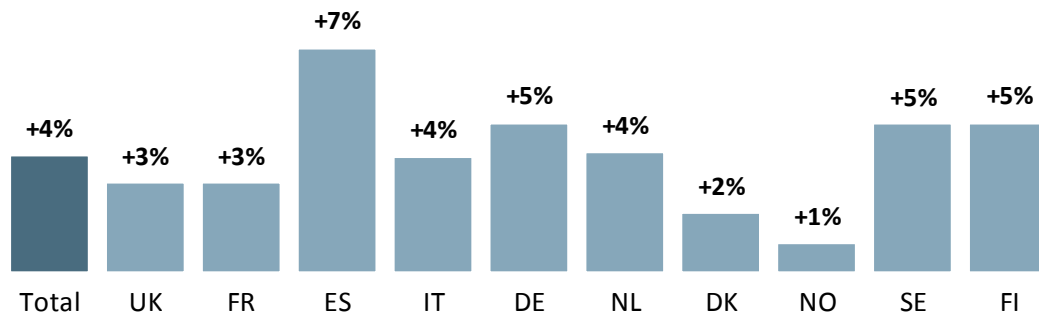
Source: Ducker Worldwide for IPAF

- Similarly to 2015, both generalist and specialist companies experienced similar growth rates in 2016.
- No change is expected for the next few years and growth should be similar between specialist and generalist companies.

- Spain MEWP rental revenue took off in 2016 with a 7% growth rate.
- A large number of countries experienced solid growth with rates around 5%, especially, Italy, Germany, the Netherlands, Sweden and Finland.
- Growth in the UK and France was strong (+3%).
- Growth remained more moderate in some Nordic countries including Denmark and Norway.

## MEWP rental revenue growth - 2016

10 European countries under study



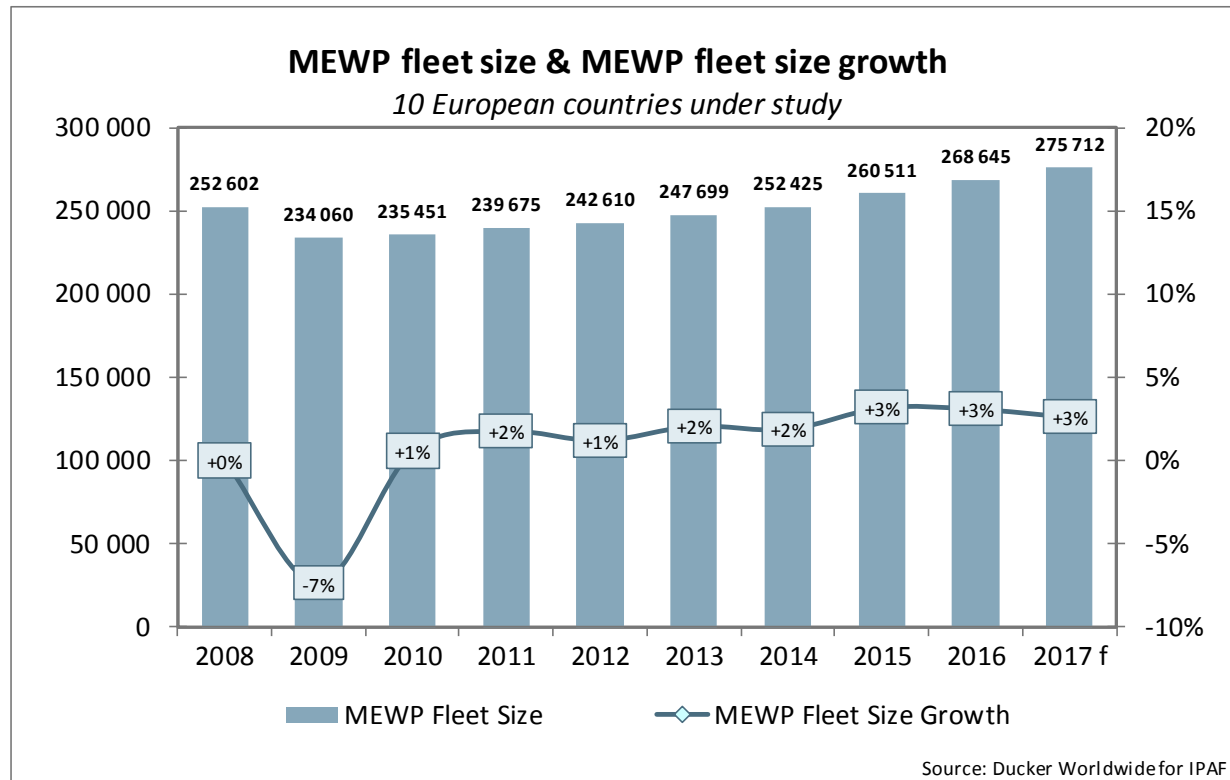
Source: Ducker Worldwide for IPAF

\* Defined as 28 EU countries + Norway + Switzerland + Slovenia + Macedonia



In 2016, total fleet continued to grow. In 2017, it is expected to go beyond 270,000 units in the 10 European countries under study.

- Fleet increase is a central element of rental companies' strategy to increase revenue while answering growing demand, similar to the US market.
- Fleets are expected to continue to increase in 2017 at a similar pace to 2016.



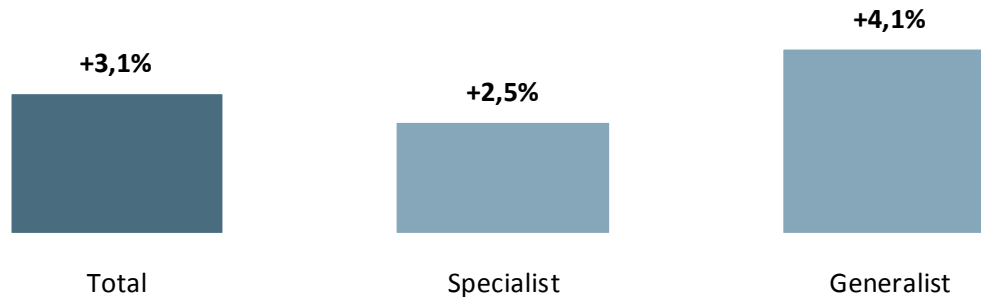
*Note: Included are powered access equipment, all booms, scissor lifts and vertical masts;  
Excluded: Low-level access equipment (<3m high), telescopic material handlers, forklifts, cranes, mast climbers;*

End-of-year data

Fleet size grew everywhere except in Norway. Both generalist and specialist rental companies reported significant fleet size increase.

## MEWP Fleet Size Growth - 2016

10 European countries under study



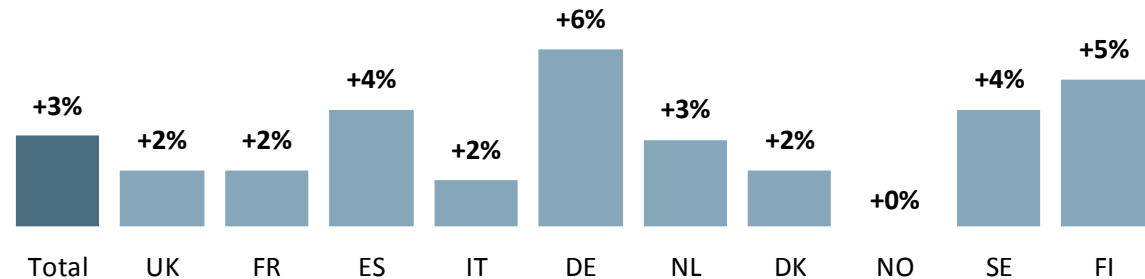
Source: Ducker Worldwide for IPAF

- Both general and specialist rental companies increased their fleet of MEWPs.
- The increase was stronger for generalist companies than for specialist ones.

- Except in Norway, which maintained a stable fleet size, all other European countries under study expanded their fleet, often as the main driver for revenue increase.
- Fleet growth rates range between 2% and 6%

## MEWP Fleet Size Growth - 2016

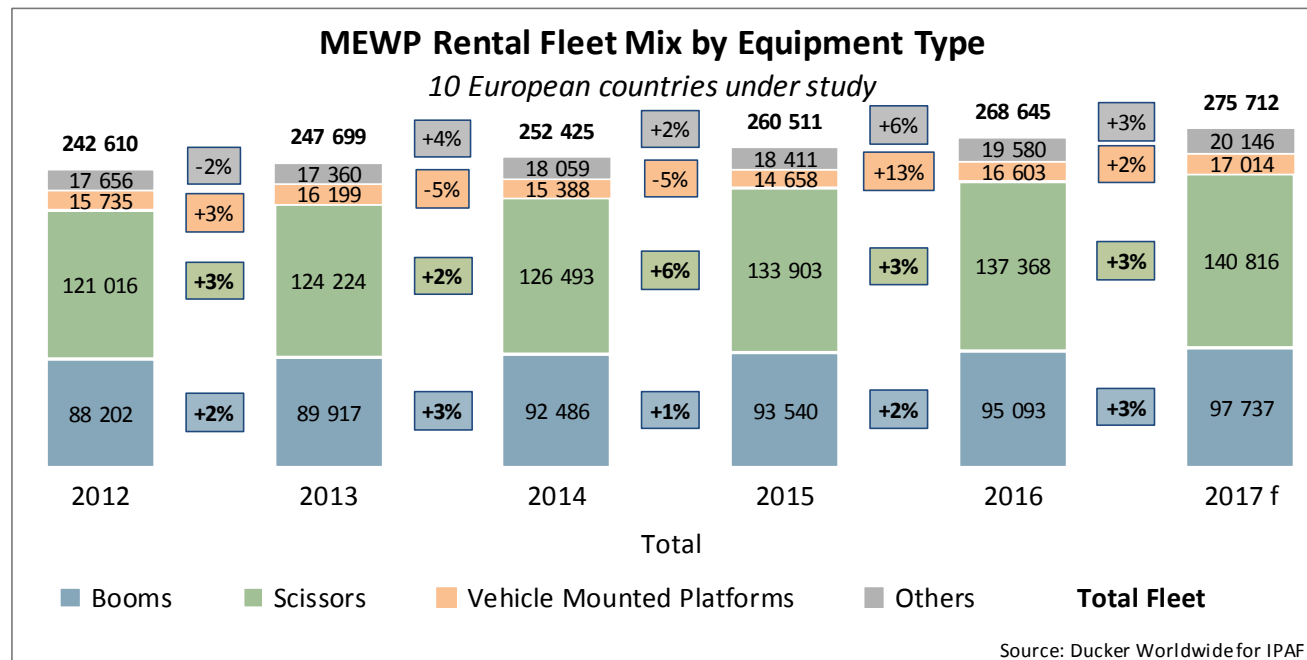
10 European countries under study



Source: Ducker Worldwide for IPAF

Typical European MEWP fleet mix comprises 51% scissors, 35% booms, 6% vehicle mounted equipment and 7% of other equipment.

- Scissors remain the dominant type of equipment on the overall European MEWP rental fleet.
- Booms and scissors grew at the same pace in 2016. In 2017, both product categories are expected to grow more slowly.



Note: Included are powered access equipment: all booms, scissor lifts and vertical masts;

Excluded: Low-level access equipment (<3m high), telescopic material handlers, forklifts, cranes, mast climbers;

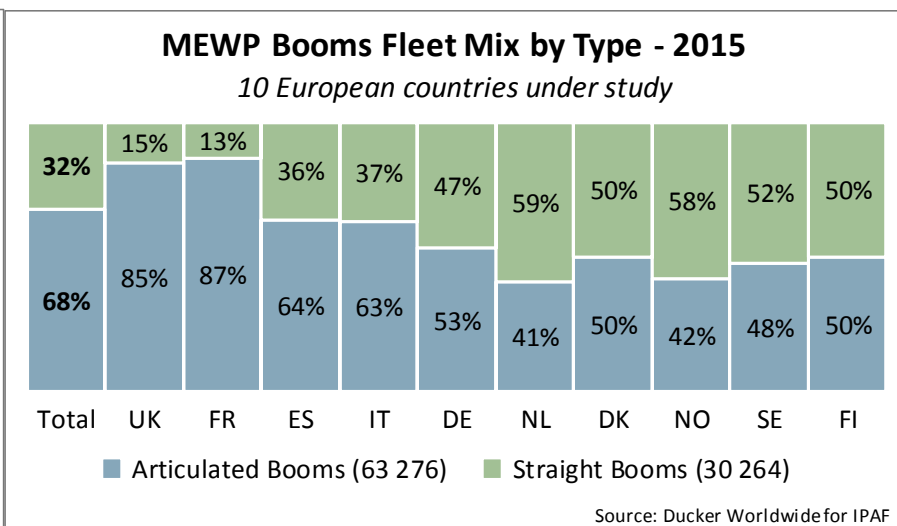
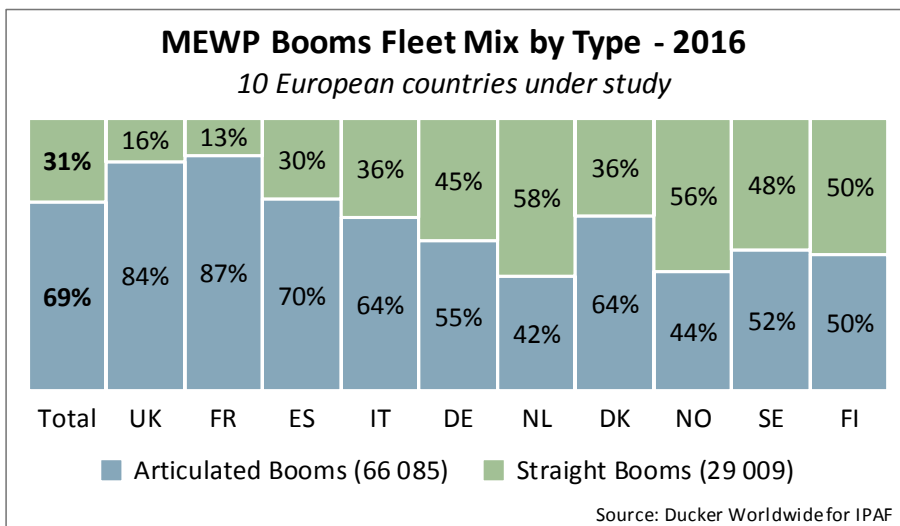
+X%

% unit growth, e.g. booms fleet increased by 5% from 2015 to 2016.

Others include: Vertical lifts, vertical masts, push-around, trailer mounted/towable.

Articulated booms gained ground among the total boom fleet in 2016, mainly driven by the Nordic countries.

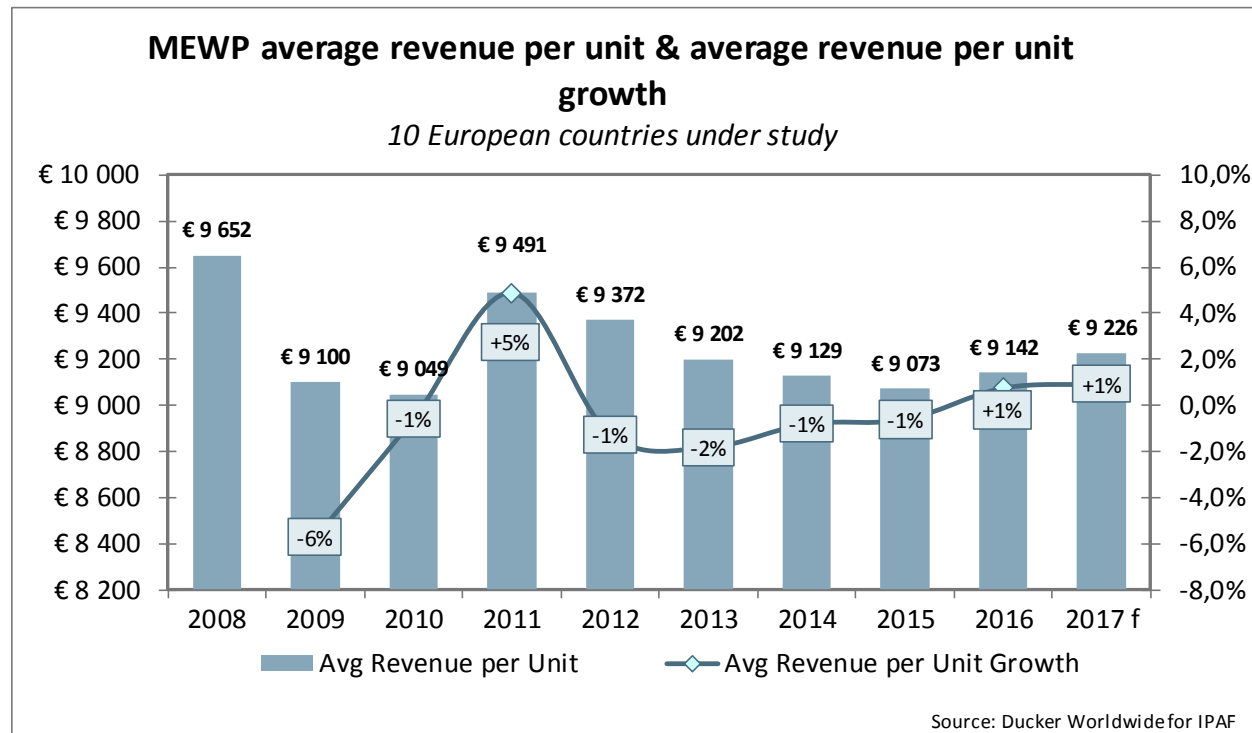
- The share of articulated booms traditionally remains the highest in the UK and in France.
- Articulated booms' share increased significantly in Denmark, Norway, Sweden and Spain, owing to the increased need for versatile equipment.
- The share of articulated booms increased in more limited proportions in other European countries.



End-of-year data

Average revenue per unit started to recover slightly in 2016 and went beyond its 2014 level, driven by overall increasing demand compensating rental rate decrease.

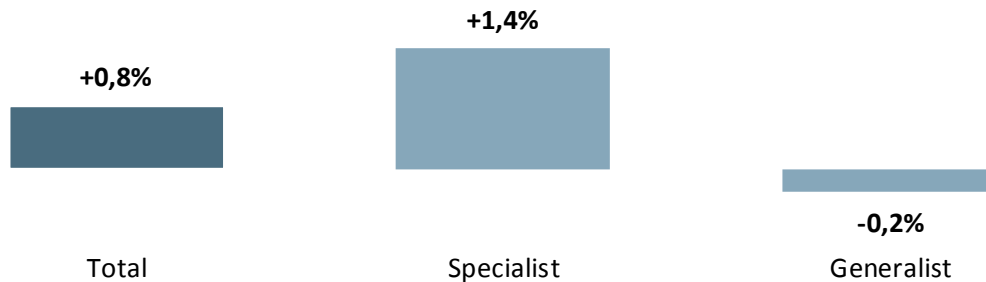
- With the expected demand increase in the coming years and stabilisation of rental rates, average revenue per unit is expected to continue to grow in 2017.
- Nevertheless these results hide some concerns for the industry in key markets such as Germany: despite overall revenue increase, market profitability is deteriorating due to fierce competition. Companies see no other option other than to decrease or maintain rates, or engage in mergers and acquisition activity.



Average revenue per unit increased moderately among the 10 European countries under study. While the growth was stronger in Spain and Italy, Germany is the only country that actually experienced a decrease.

## MEWP Average Revenue per Unit Growth - 2016

10 European countries under study

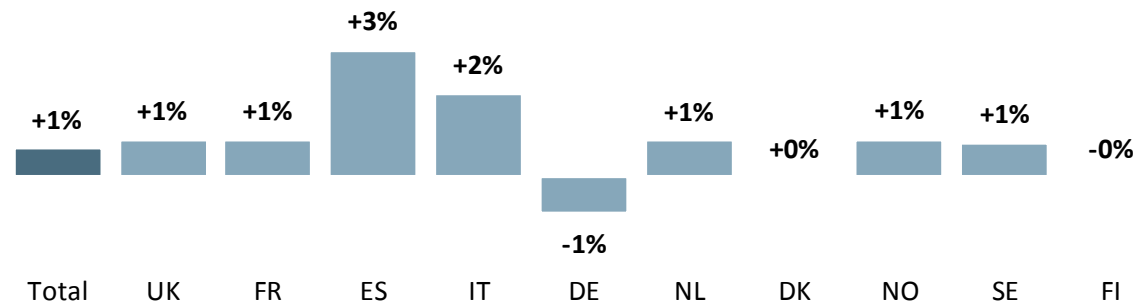


Source: Ducker Worldwide for IPAF

- The average revenue per unit grew slightly in 2016, mainly for specialist companies. On the contrary, it tended to decrease slightly for generalist ones.
- Germany is the country with the highest revenue per unit, but also the only country where it decrease in 2016. It tended to remain stale or increase elsewhere.

## MEWP Average Revenue per Unit Growth - 2016

10 European countries under study



Source: Ducker Worldwide for IPAF

# INVESTMENT 2008 - 2018

## IPAF Powered Access Rental Market Report 2017 - EUROPE

*The International Powered Access Federation*  
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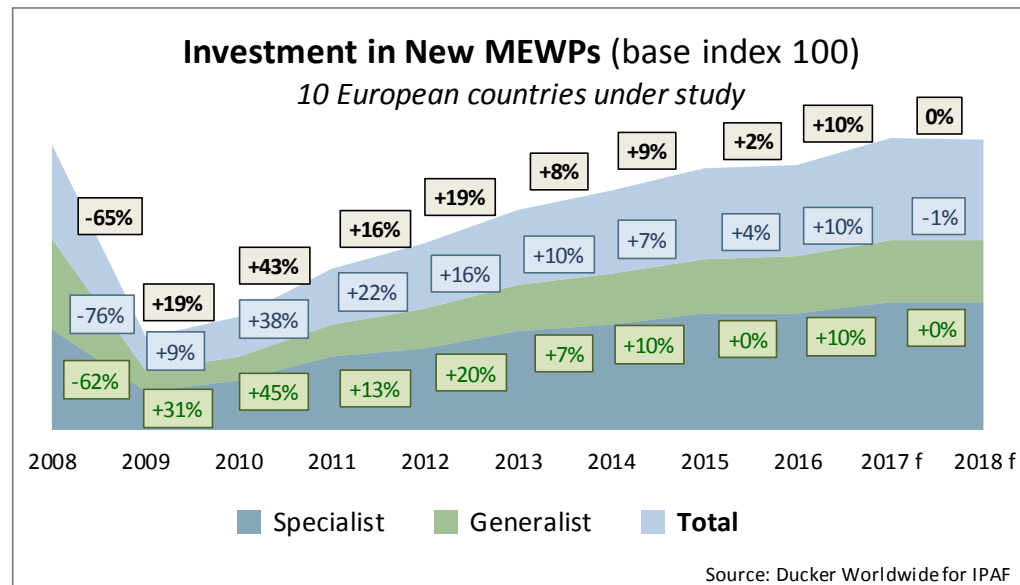


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The level of investment is expected to grow steadily in 2017 before reaching a plateau in 2018.

- In 2016, specialist companies mainly increased their level of investment.
- Investment was dedicated mainly to fleet expansion and, to a limited extent, fleet renewal.
- In early 2016, rental companies tried to remain cautious and limit their level of investment to similar level as 2015.
- Nevertheless, with the good 2016 results and positive first quarter of 2017, investment is expected to rise significantly in 2017 before stabilising again.

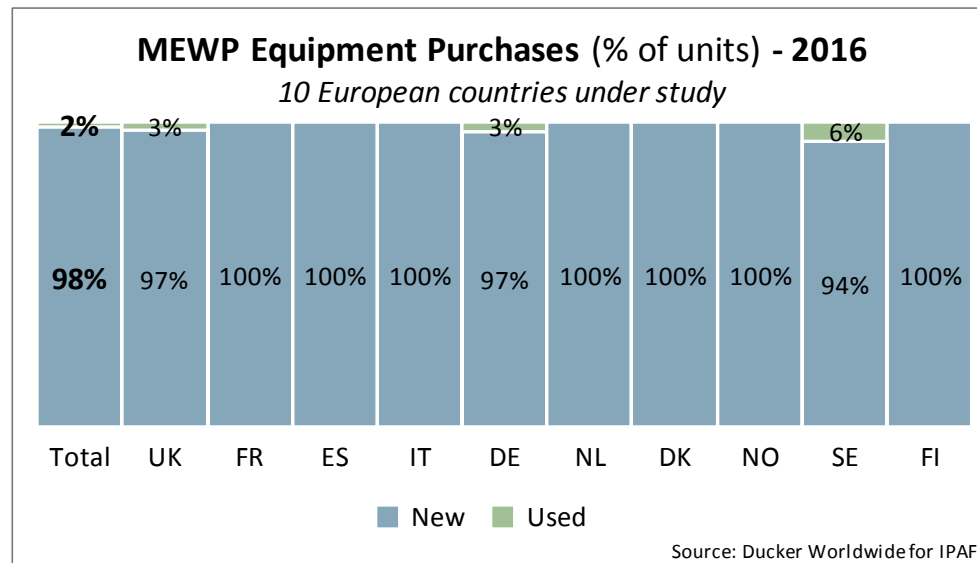






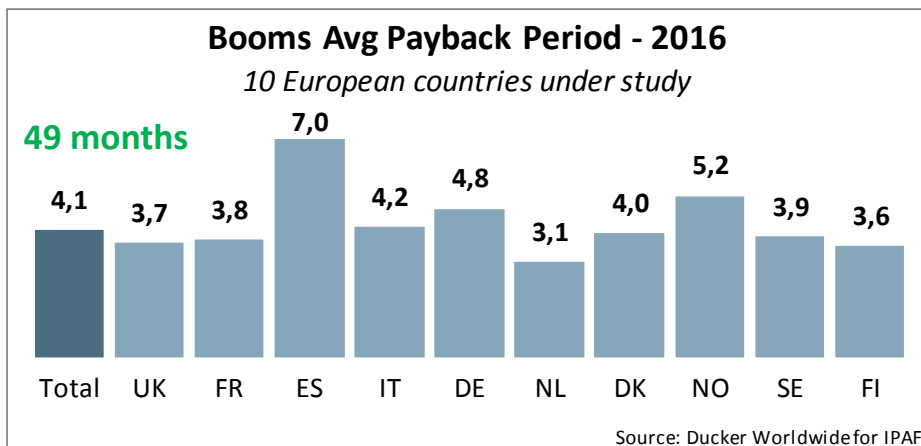
A majority of MEWP rental companies in the ten European countries under study purchase most of their equipment new.

- Rental companies suffer from intense competition and try to offer the most attractive equipment possible to their customers.
- As a result, they tend to value new equipment over used.
- Used equipment is purchased in exceptional cases.

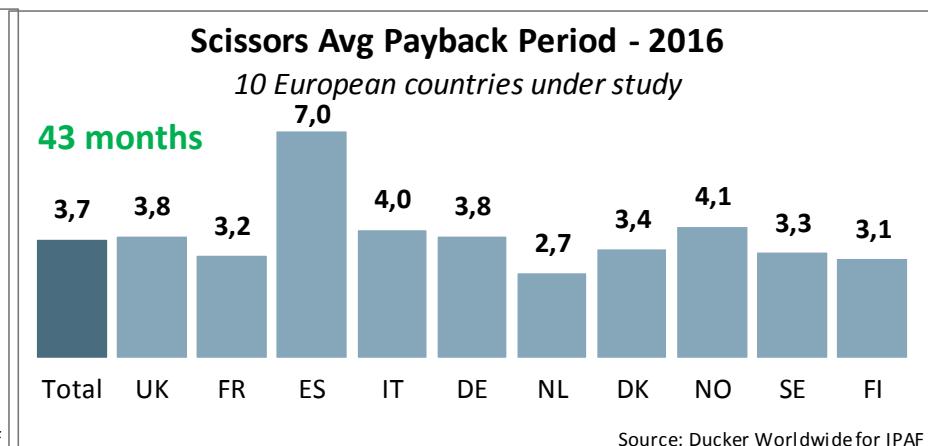


Average payback period remains higher for booms (49 months) than for scissors (43 months).

- Average payback period remained stable for scissors, while decreasing slightly for booms.



4.1 = 4 years, 1 month



3.7 = 3 years, 7 months

# OPERATIONAL ASPECTS 2008 - 2018

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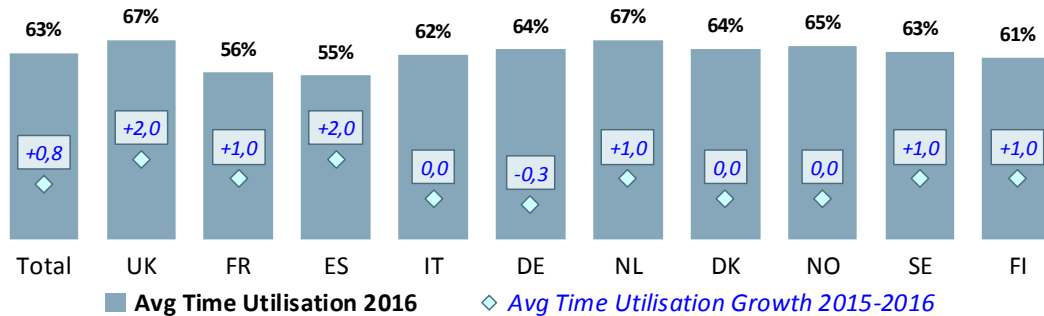


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The European utilisation rate increased in 2016 and reached a level of 63%.

## MEWP average time utilisation & average time utilisation growth

10 European countries under study



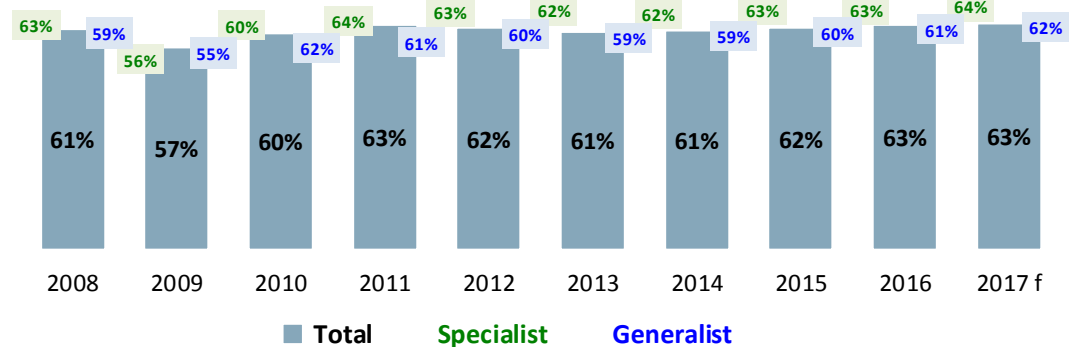
Source: Ducker Worldwide for IPAF

- Utilisation rate increased in the UK, Spain, the Netherlands, Sweden, France and Finland. Usually coupled with fleet expansion, the increase of utilisation rate is another lever of revenue increase.
- It remained stable in a limited number of countries, such as Italy, Denmark, Germany and Norway.

- Similarly to previous years, utilisation rate was slightly higher among specialist rental companies than among generalist rental companies.

## Total - Average Time Utilisation

10 European countries under study

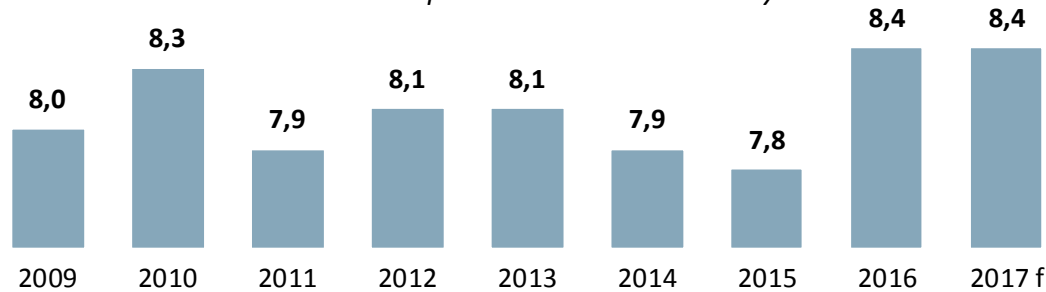


Source: Ducker Worldwide for IPAF

The average European retention period increased by six months in 2016 to a total of eight years and four months, owing to rental companies' focus on fleet size increase and utilisation increase.

## Total - MEWP Retention Period

10 European countries under study



Source: Ducker Worldwide for IPAF

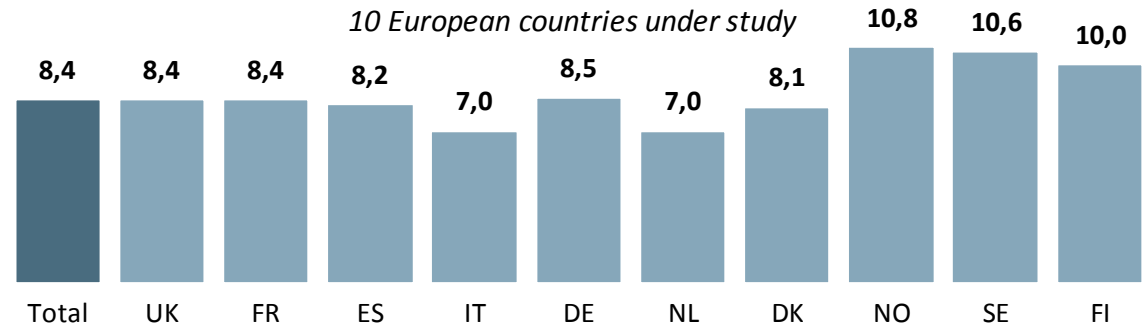
**8.4 = 8 years and 4 months**

- A slight increase in fleet retention period was observed in 2016.
- Equipment is kept six months longer on average among MEWP rental fleet.

- Similar to last year's results, Nordic countries tended to keep their machines longer than in other European countries under study.
- Other countries have similar retention periods, except Italy and the Netherlands, which are shorter.

## MEWP Retention Period - 2016

10 European countries under study

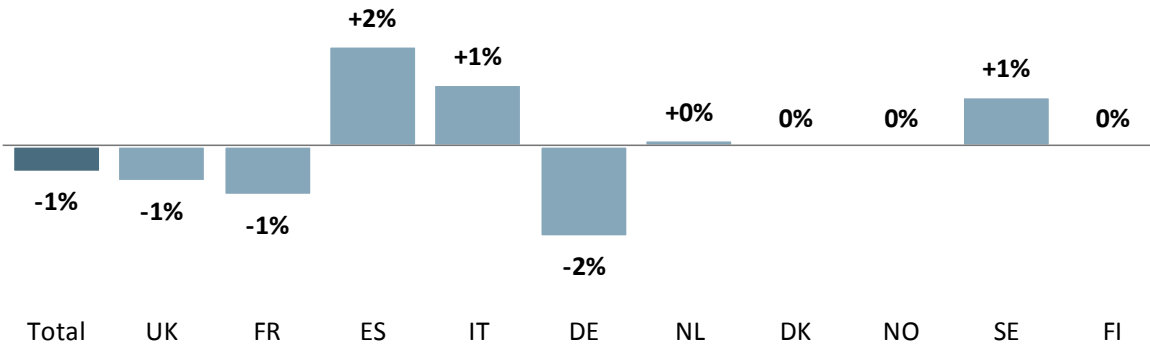


Source: Ducker Worldwide for IPAF

Rental rates evolution varies from one European MEWP rental market to another. While some recovering markets (Spain, Italy) managed to increase their rates, in other markets (the UK, Germany and France) companies fought competition by lowering rates.

## Growth in MEWP Rental Rates - 2016

10 European countries under study



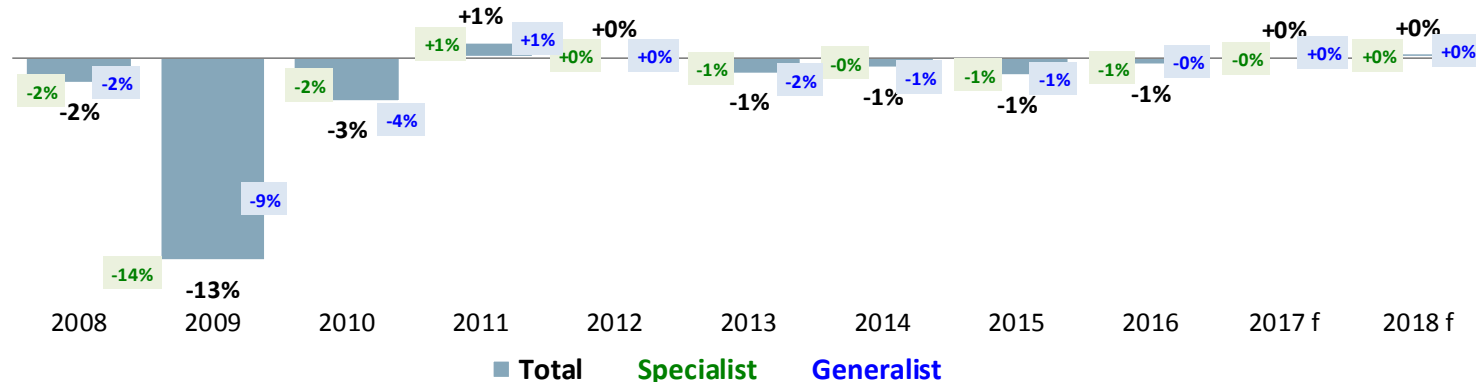
Source: Ducker Worldwide for IPAF

- The largest MEWP rental markets (the UK, France, Germany) experienced a decrease rental rates in 2016 owing to intense competition.
- Other markets such as Spain, Italy and Sweden managed to increase their rates.
- Rental rates tended to remain stable in other European countries.

- In 2016, rental rate decrease impacted specialist companies more than generalists ones.

## Total - Growth in MEWP Rental Rates

10 European countries under study



Source: Ducker Worldwide for IPAF

# A PERSPECTIVE FROM THE MANAGING EDITOR OF *INTERNATIONAL RENTAL NEWS*

IPAF Powered Access Rental Market Report 2017 - Europe

*The International Powered Access Federation*

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- Last year and the start of 2017 have been generally positive for Europe’s access industry: Two of its largest and poorest performing markets – Spain and Italy – returned to some kind of growth; the region’s biggest markets, including Germany and the UK, continued to perform well; and the sector saw an important debut on the manufacturing side, with JCB finally entering the access industry with its new JCB Access division.
- The improving business environment was no doubt welcomed by the manufacturers, with Haulotte, for example, seeing in 2016 a 20% increase in its sales with European rental companies. Both Genie and JLG were also benefitting, particularly as they were facing a cooling off in CapEx among their larger North American rental customers.
- The optimistic outlook in Europe was supported by data from the European Rental Association, which is expecting growth this year of 1.2% (in euro terms, so is impacted by the devaluation of the British pound), followed by 3.5% in 2018.
- The devaluation of sterling was a consequence of Brexit, which dominated the year politically, but has yet to have a major impact on the UK’s access sector. The UK continues to see lots of activity. Of course, the longer term impact of the exit from the EU – and the kind of trade deal that is actually negotiated – remains to be seen. It could yet have a significant impact on the UK economy.
- It was a big year for acquisitions, highlighted by Loxam’s ultimately successful battle with TVH to buy Lavendon Group. Although significant in terms of the wider equipment rental business, it was in the aerial sector that the deal will have the largest impact, mainly because it makes Loxam super-dominant in the European context, with a total fleet of around 43,350 units. That is more than triple the size of its nearest competitors, Cramo, Riwal and Ramirent, and equivalent to around a 17% share of the total European powered access rental fleet.





- TVH may well have lost the fight for Lavendon, but it did acquire Gardemann from its new owner Loxam at the end of June 2017, giving it a major player alongside its existing Mateco business.
- Of course, to talk of a European access fleet implies a market structure that doesn't really exist. Other than Loxam and Riwal, and possibly Boels, there are virtually no big rental companies with significant fleets in multiple countries.
- Rental consolidation may be continuing in Europe – and Riwal's acquisition of AFI GmbH in Germany was another example during the past year – but it remains a business that is competing largely on a national and even local scale.
- The manufacturing sector in Europe is also facing an increasingly competitive environment, with new entrants from both home-grown and external sources. The deal by Collé Rental & Sales at the start of 2017 to acquire thousands of Chinese-made Dingli scissor lifts – sold through its Italian partner Magni – may in time come to be seen as a pivotal moment in the evolution of attitudes towards Chinese-made products.
- And if having real competition from Chinese manufacturers wasn't enough, JCB entered with its own Chinese-made booms and scissors. JCB is one of the world's most successful construction equipment manufacturers, with close links to many of the world's bigger rental companies. In offering access equipment for the first time it is clearly hoping to become more of a 'one-stop shop' for its rental customers, which can only make life more complicated for the industry's incumbent OEMs.
- JCB's move may make life more complex for the big name access suppliers, but it also gives customers more choice and signals a kind of coming of age for the access industry – a badge of seriousness – that should be welcomed.

# MARKET TRENDS AND DRIVERS

## IPAF Powered Access Rental Market Report 2017 - EUROPE

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Safety remains the highest priority in the industry with new and revised standards expected to have an impact on the market over the next few years. Future regulation and legislation will also focus on environmental impact of MEWPs.

## Safety concerns in MEWP usage

- Safety remains the highest priority in MEWP usage. New and revised standards introduced over the coming years may impact on safety requirements for the industry:
  - The number of trained operators continued to grow in 2016 compared to 2015.
  - There is an increasing demand from end-users for secondary guarding devices on boom-type machines, leading to companies purchasing machines with devices already fitted or having them installed as retrofit.

## Environmental regulations

- Main future regulations impacting the MEWP rental market are expected to focus on the environmental topic.
- Future green laws will consist of stronger regulations on emissions within bigger cities and limiting nox emissions, for instance.
- With increased investments in electric and hybrid technologies, some rental companies anticipate a concern linked to the disposal of non-compliant machines in the future.

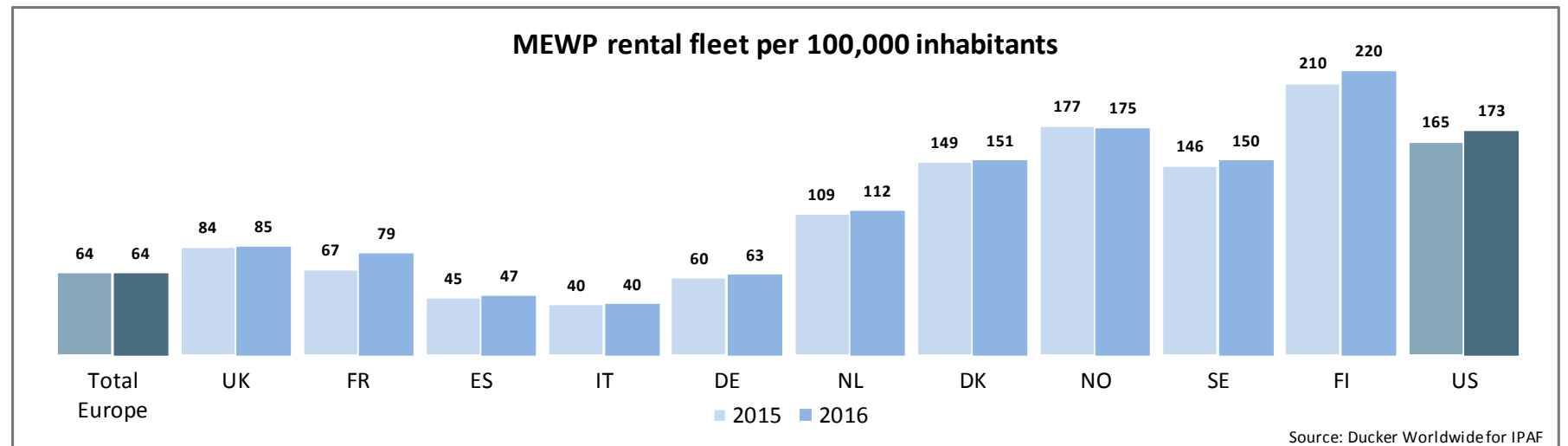
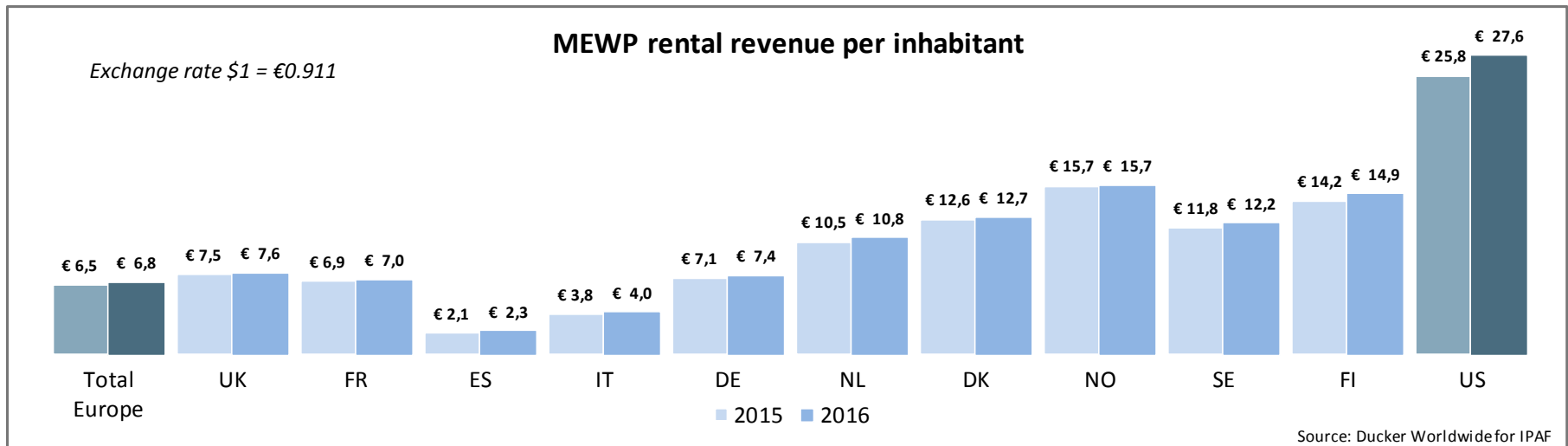
## Market concentration

- The market concentration trend is still progressing in Europe, even if most European MEWP rental markets are now fully recovering or increasing.
- Some major acquisitions happened lately (Hune and Lavendon by Loxam) and may lead to an expectation of further takeovers in the coming years.

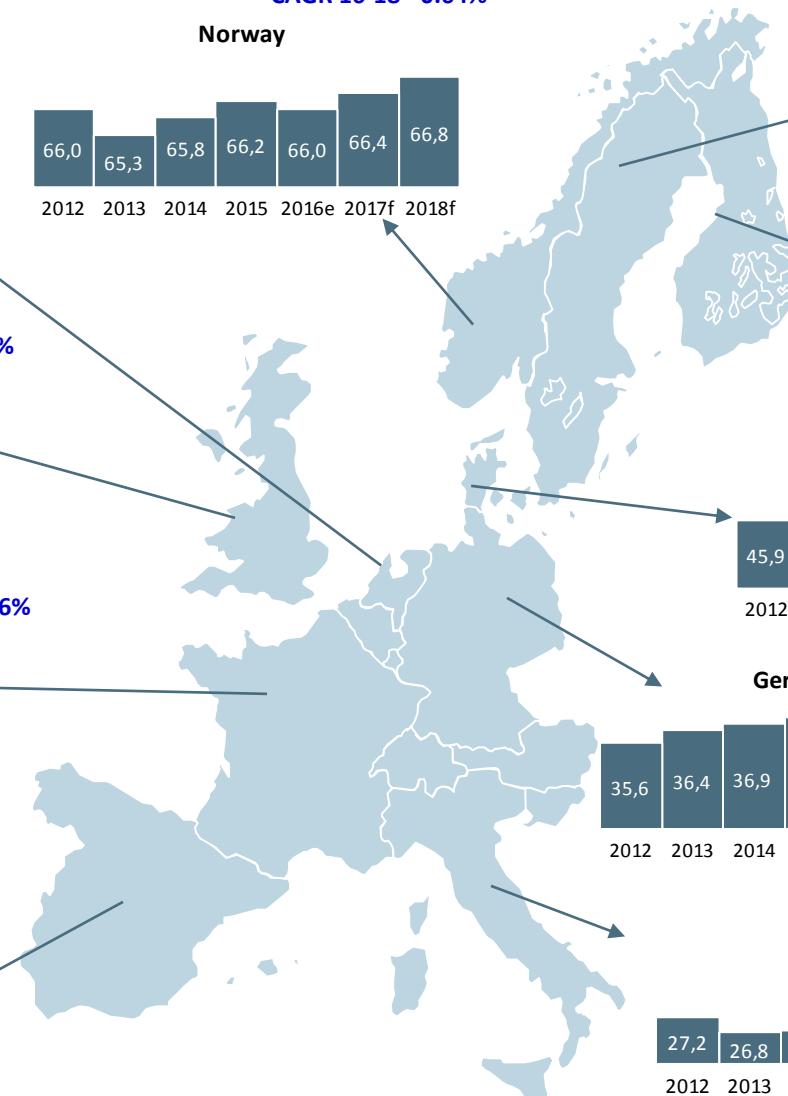
## Uncertainties linked to Brexit

- The results of the EU referendum led to a good amount of uncertainty regarding its future impact on the UK economy and MEWP rental market and, to a larger extent, on the European economy.
- Even if the following months have proven rather better than expected, with almost no impact, questions remain regarding the outcome of Brexit.

## MEWP rental revenue per inhabitant and MEWP rental fleet per 100 000 inhabitants

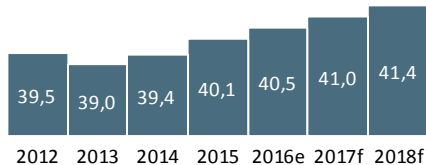


# MARKET TRENDS AND DRIVERS – GDP PER CAPITA



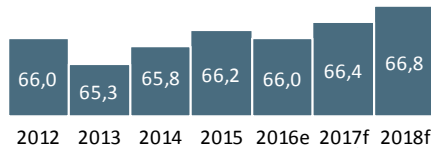
**CAGR 16-18 = 1.09%**

**The Netherlands**

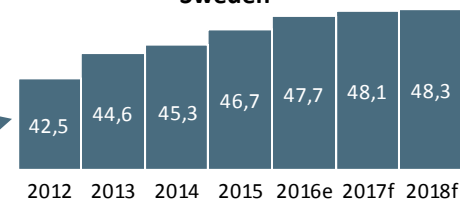


**CAGR 16-18 = 0.64%**

**Norway**

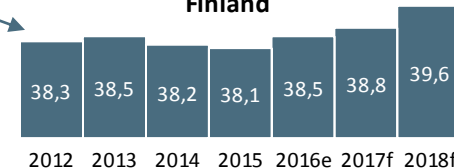


**Sweden CAGR 16-18 = 0.59%**

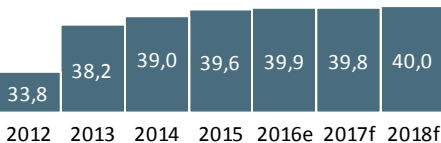


**CAGR 16-18 = 1.35%**

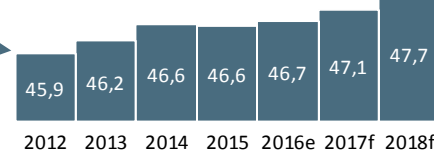
**Finland**



**UK CAGR 16-18 = 0.20%**



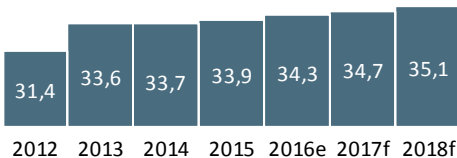
**Denmark**



**CAGR 16-18 = 1.01%**

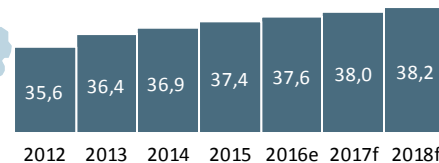
**France**

**CAGR 16-18 = 1.06%**

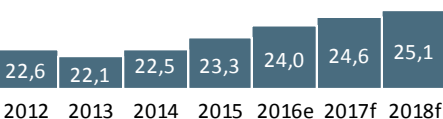


**CAGR 16-18 = 0.81%**

**Germany**

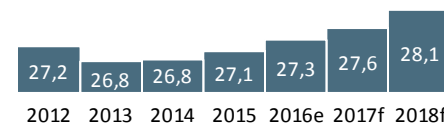


**Spain CAGR 16-18 = 2.22%**

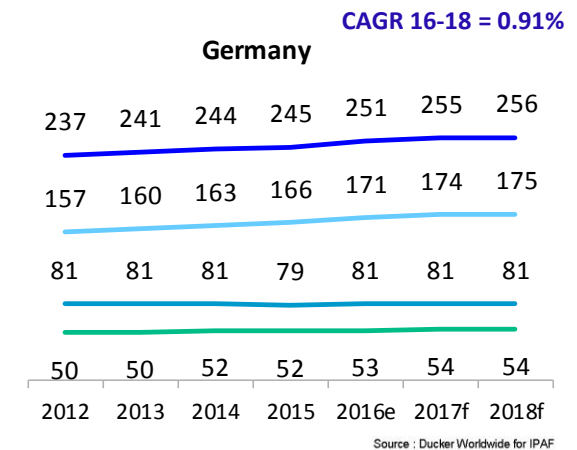
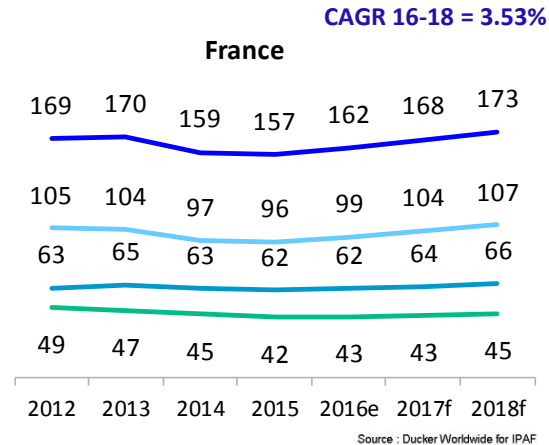
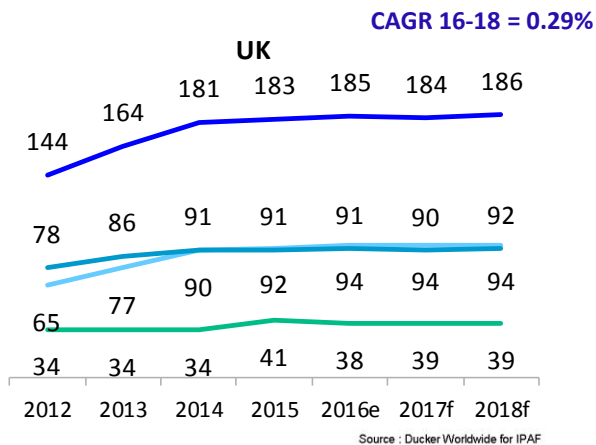


**Italy**

**CAGR 16-18 = 1.33%**



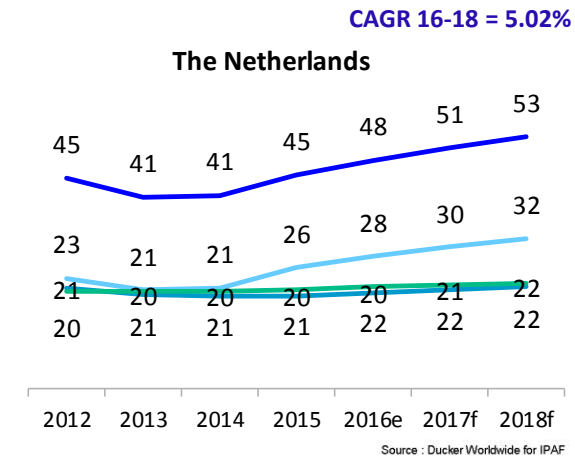
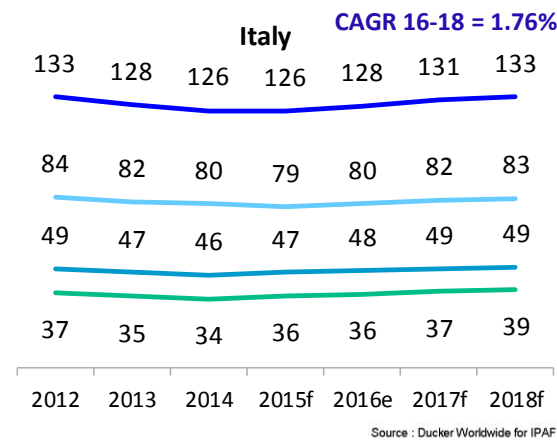
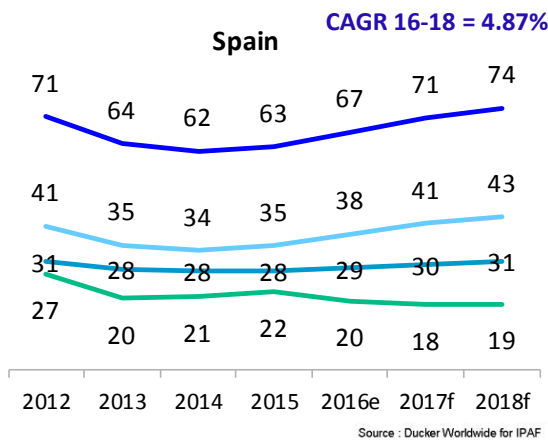
The French construction market has entered a phase of sustained recovery, while the UK and German ones are expected to experience more moderate growth, being almost flat in the UK.



Construction put in place in billion Euros based on Euroconstruct 2016.

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

Construction outlooks are positive for Spain, Italy and the Netherlands. The construction market is particularly expected to take off in the Netherlands and in Spain, with a CAGR close or even above 5%.

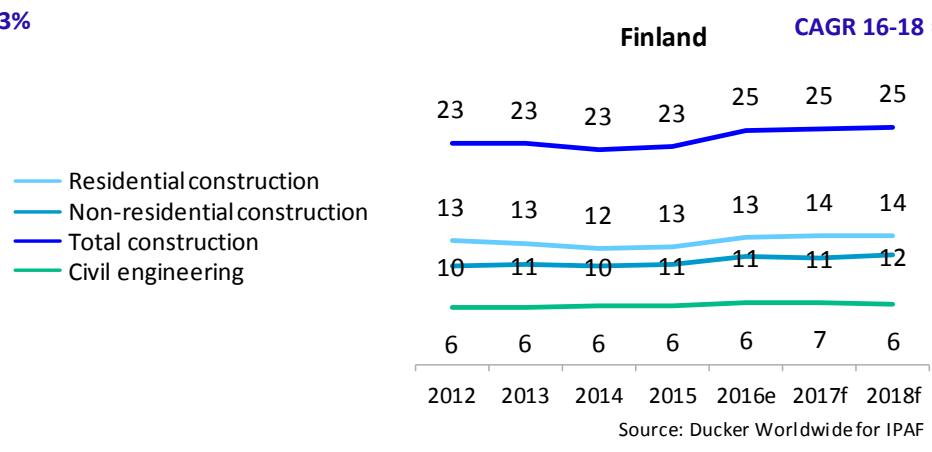
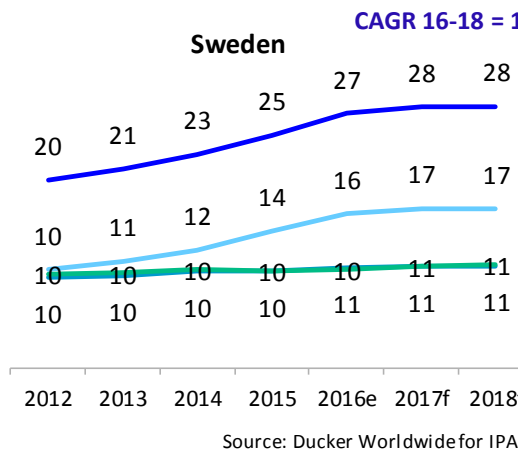
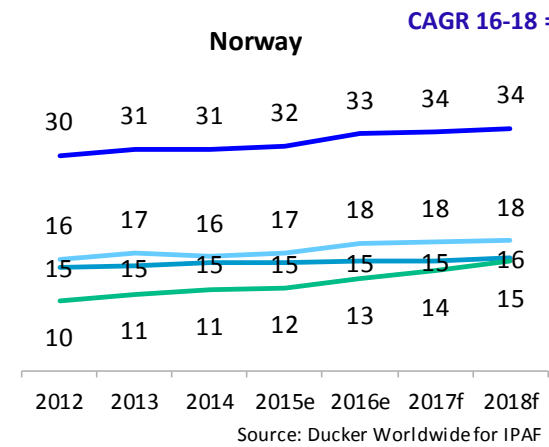
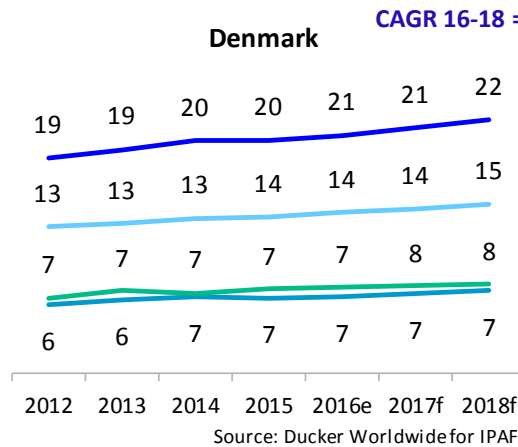


Construction put in place in billion Euros based on Euroconstruct 2016.

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



Construction markets are expected to grow in all Nordic countries, though at different paces. While it should be strong in Denmark, it is expected to be more moderate in Norway and Sweden and lower in Finland.

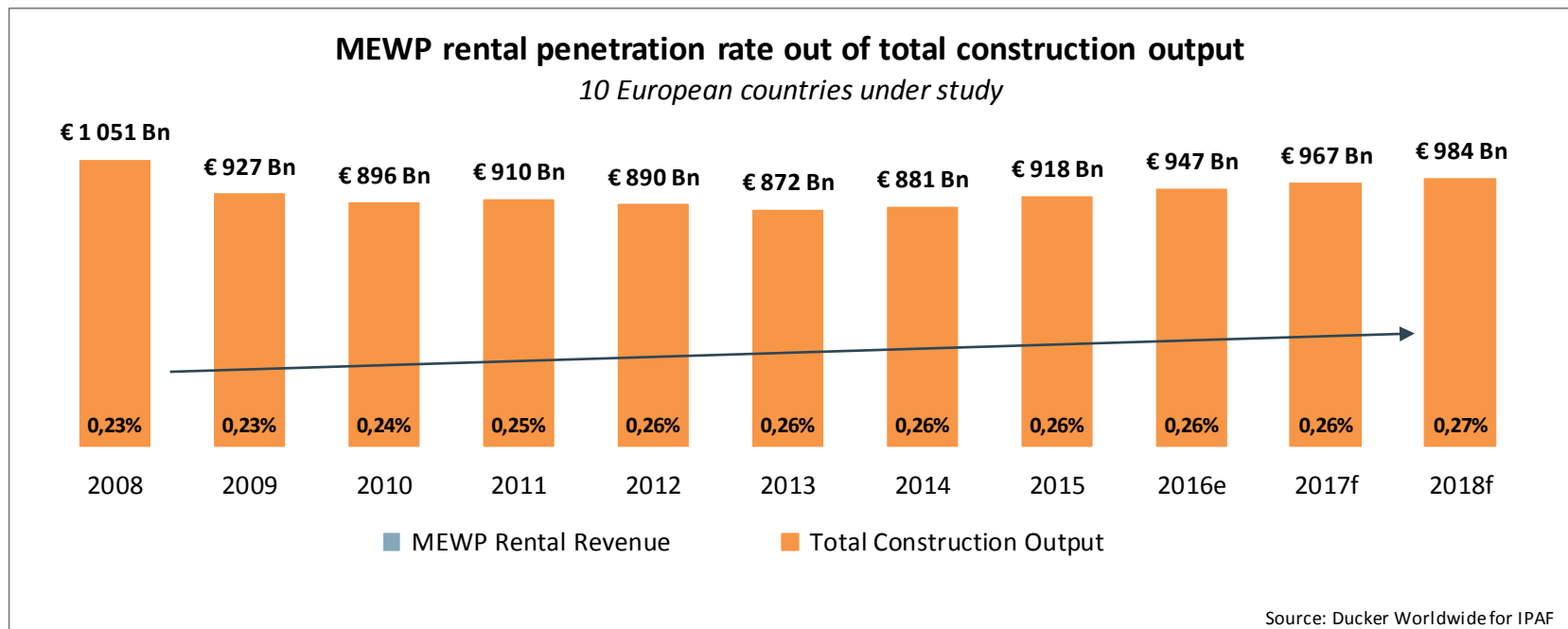


Construction put in place in billion Euros based on Euroconstruct 2016.





Though the European MEWP rental revenue represents a very small share of total European construction output, this share is increasing slightly from year to year to become more significant.



*Construction put in place in billion Euros based on Euroconstruct 2016.*

# APPENDIX TO EUROPE

## IPAF Powered Access Rental Market Report 2017 - EUROPE

*The International Powered Access Federation*

*[www.ipaf.org/reports](http://www.ipaf.org/reports)*



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## Ten countries under study

- France
- Germany
- Italy
- Netherlands
- Nordic Region (DK, NO,SE, FI)
- Spain
- UK

- Austria
- Belgium
- Bosnia
- Bulgaria
- Croatia
- Cyprus
- Czech Republic
- Estonia
- Greece
- Hungary
- Ireland
- Latvia
- Lithuania
- Luxembourg
- Macedonia
- Malta
- Poland
- Portugal
- Romania
- Slovak Republic
- Slovenia
- Switzerland

# NORTH AMERICA INFORMATION

## IPAF Powered Access Rental Market Report 2017

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# MARKET SIZE AND DYNAMICS 2008 - 2018

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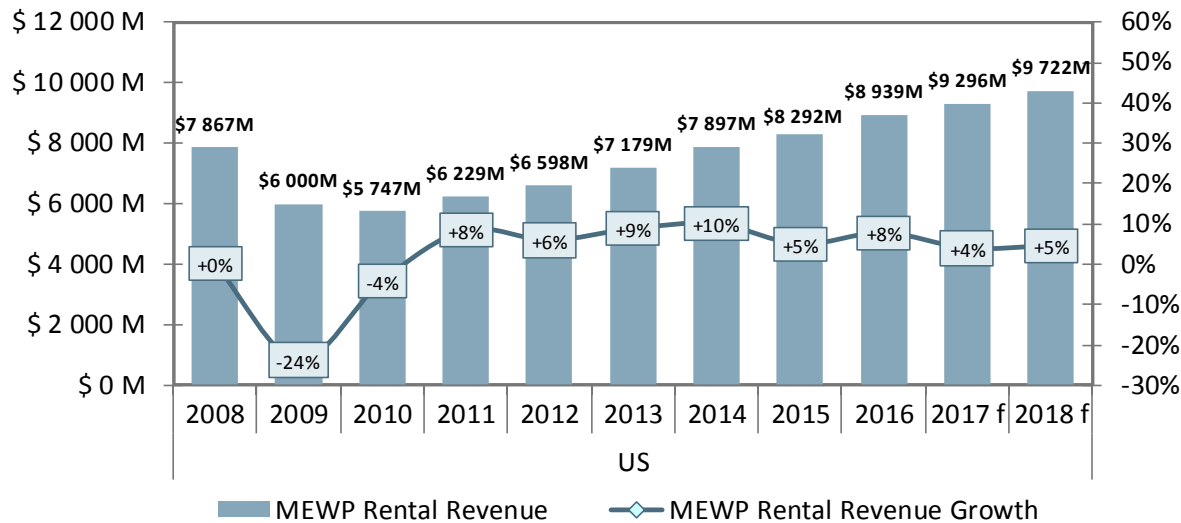


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The US revenue from the MEWP rental activity grew by 8% in 2016, primarily from fleet expansion and raising rental rates, both driven by a growing demand. The US rental market is showing very positive ongoing evolution, with significant growth levels expected again in 2017 and 2018.

- Petrochemical projects started in 2016 and are expected to impact the revenue growth until 2022.
- The dynamic industrial, commercial and infrastructure construction market is positively influencing the MEWP rental market.
- While North American MEWP manufacturers initially showed signs of caution in their forecast for 2016, the year outcome showed much more positive than initially expected, and the MEWP rental industry is showing positive outlooks.
- The services stand for on average approximately 5% of rental companies' total revenue.

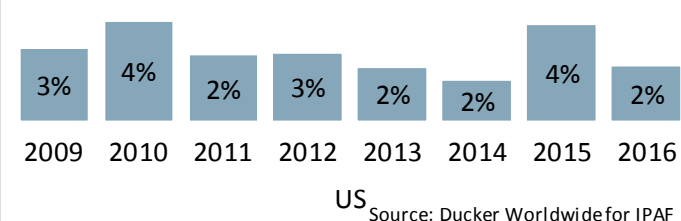
### MEWP Rental Revenue & AWP Rental Revenue Growth



Source: Ducker Worldwide for IPAF

Re-rental, i.e. cross-hire, decreased by 2% and represented around 2%, this level was also typical for the US market in the years 2013-2014.

### Re-Rental

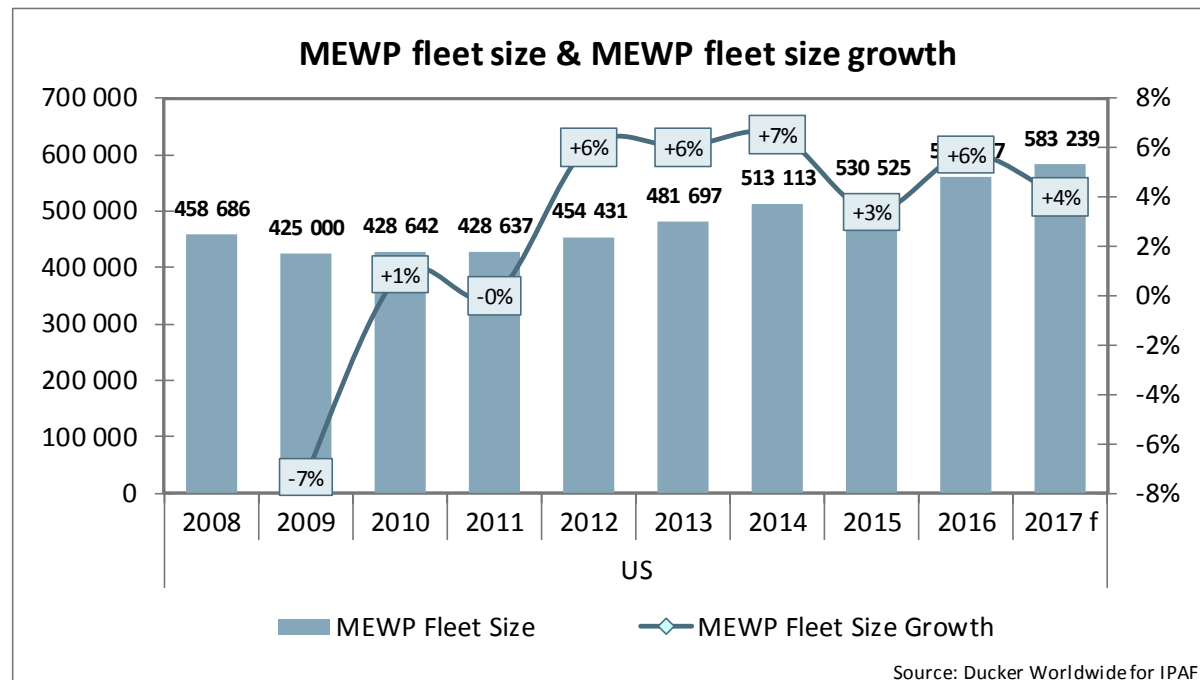


US Source: Ducker Worldwide for IPAF

End-of-year data

After rather moderate growth of 3% in 2015, the fleet increased by 6% in 2016, reaching approximately 560 800 units. Due to the excellent market situation and positive outlook from the rental industry, further fleet growth is forecast for 2017, though at a slightly slower pace.

- Both booms and scissors fleet experienced an increase. however higher booms of 125-150 ft were reported as most wanted in 2016.
- Manufacturers of MEWPs though initially relatively cautious, reported good sales levels at the end of 2016 in the US.
- The positive trend is going to continue, though a slight slowdown of new equipment investment is expected in 2017.

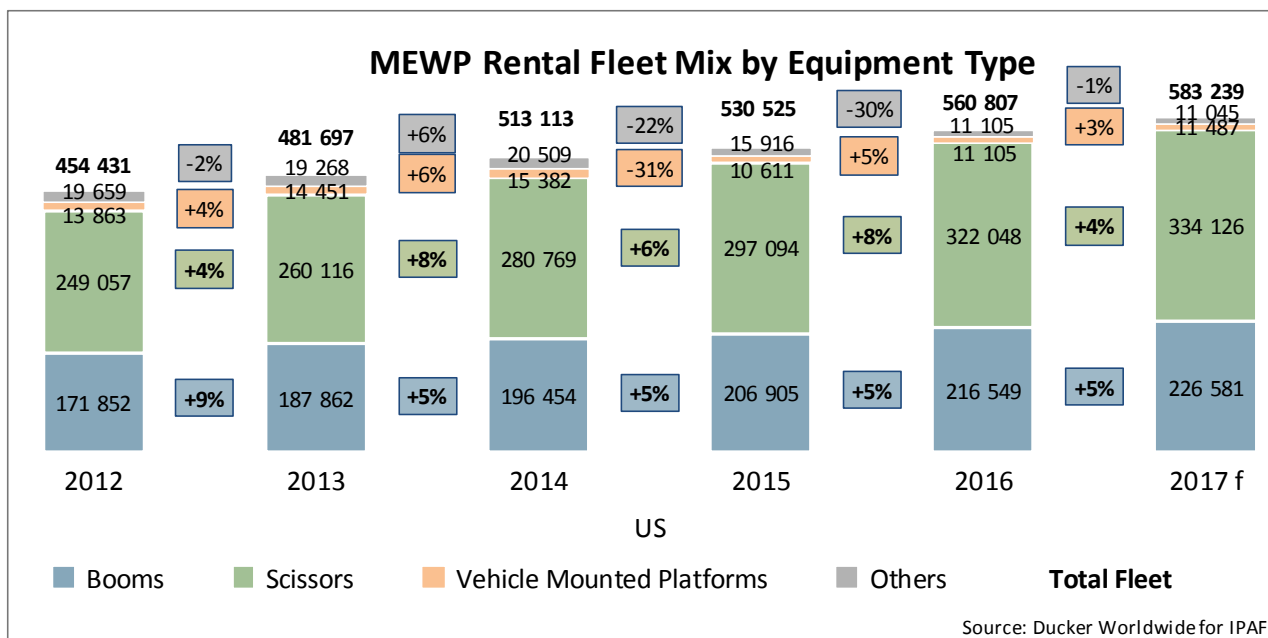


*Note: Included are powered access: all booms, scissor lifts and vertical masts;  
Excluded: Low-level access equipment (<10ft high), telescopic material handlers, forklifts, cranes, mast climbers;*



The US scissor fleet experienced the highest growth in 2016, and should continue to expand more rapidly than booms in 2017.

- Scissors, typically requiring lower investment than booms, are the preferred MEWP type in the US by end-users, and are also experiencing the highest growth.



*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;*

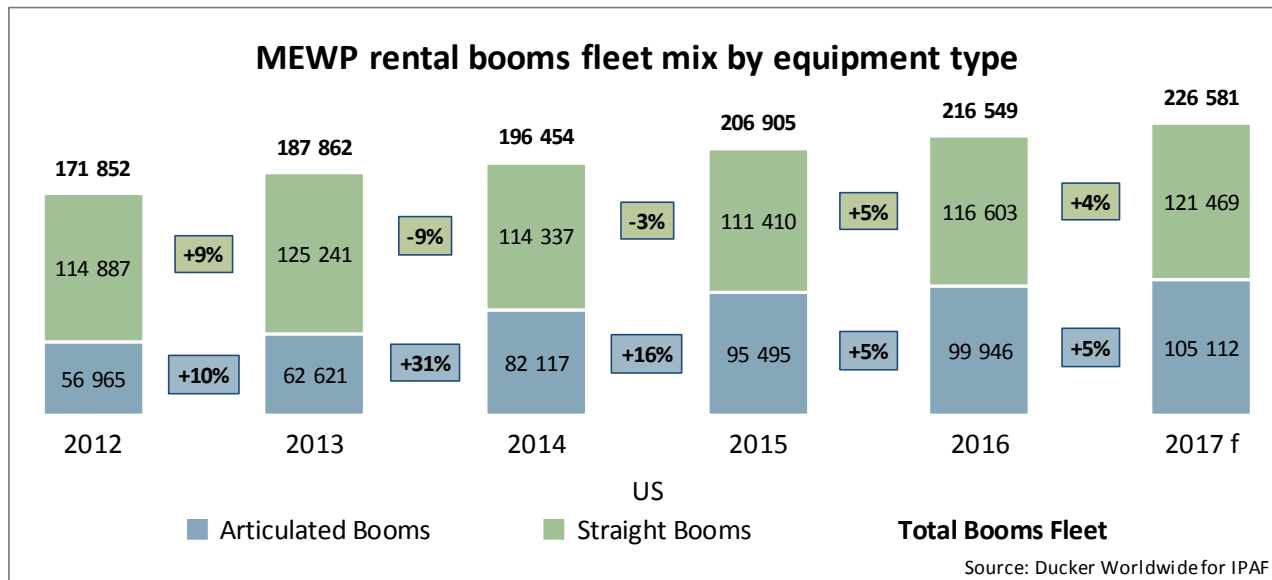
+X% % unit growth, e.g. Boom fleet increased by 5% from 2015 to 2016

*Other includes vertical lifts, vertical masts.*





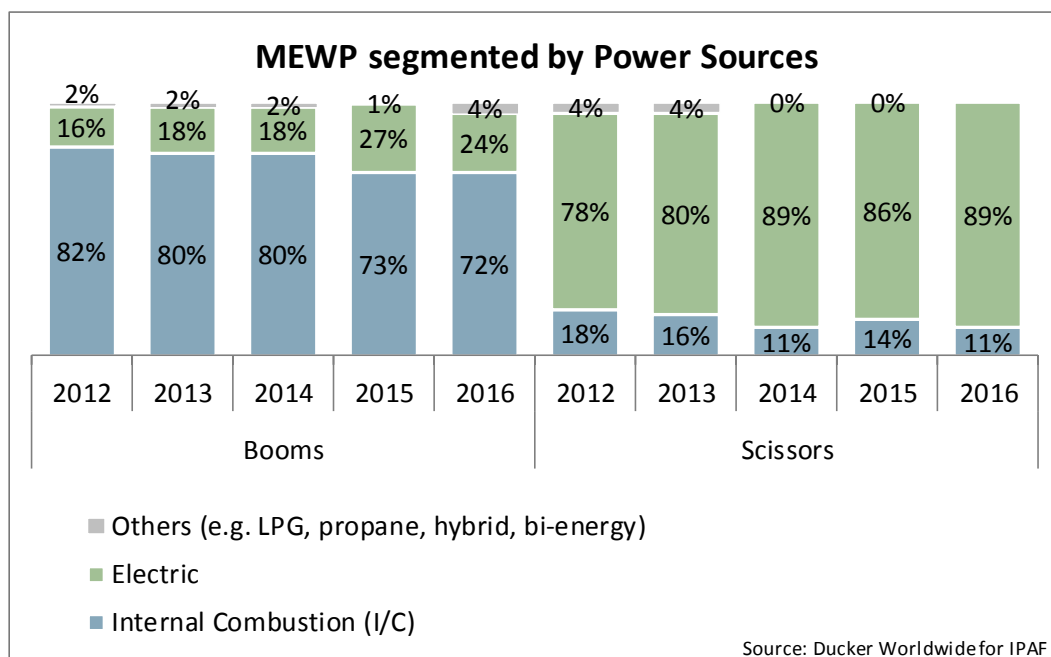
Contrary to European markets, straight booms continue to account for the majority of booms in the US, approximately 55%. However, their share is continuously decreasing as articulated booms are gaining interest in this market.



End of the year data

Electric or hybrid machines are continuously gaining importance in the US. While internal combustion however still holds the lion share of the booms fleet, electric engines completely dominate the scissors market.

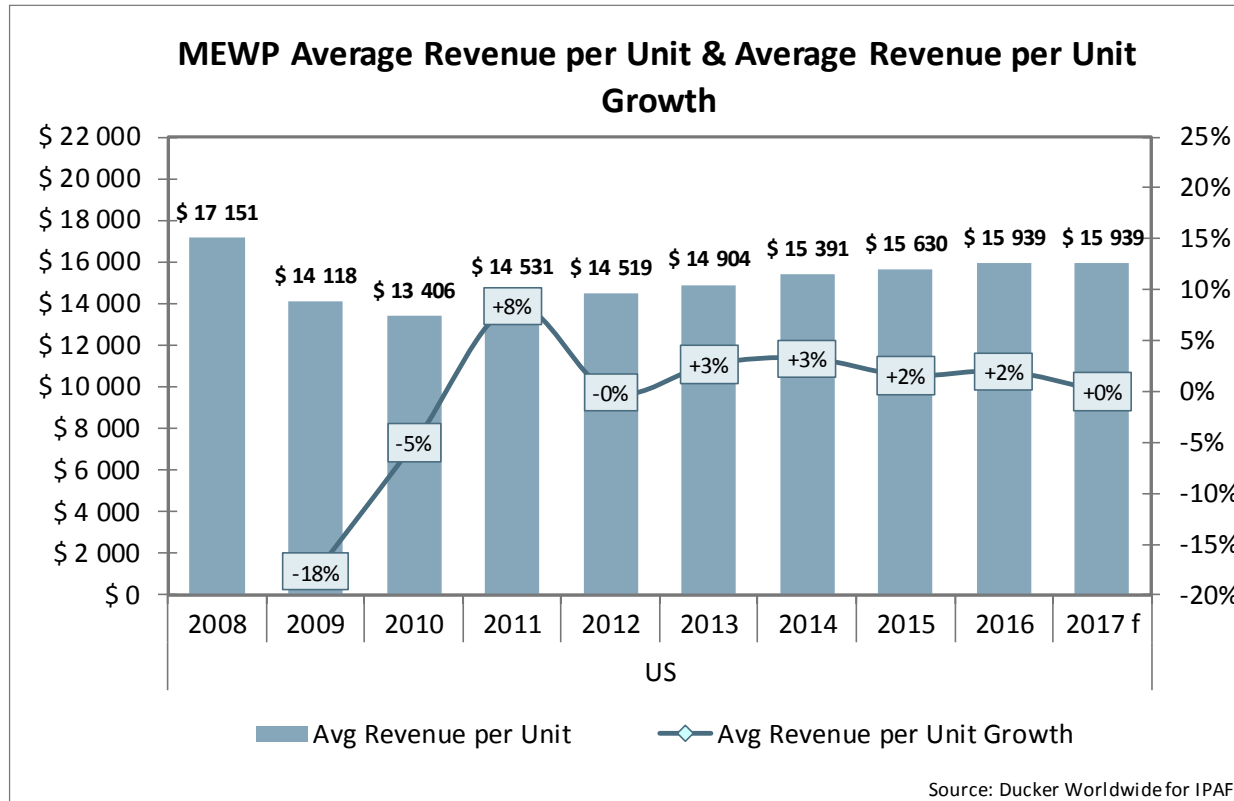
- Hybrid boom usage increased partly due to a significant promotion from manufacturers. In addition hybrid machines are deemed highly versatile for indoor and outdoor usage.
- Some companies also reported starting to use propane-powered booms.



*% of fleet powered by electric vs. diesel engine.*

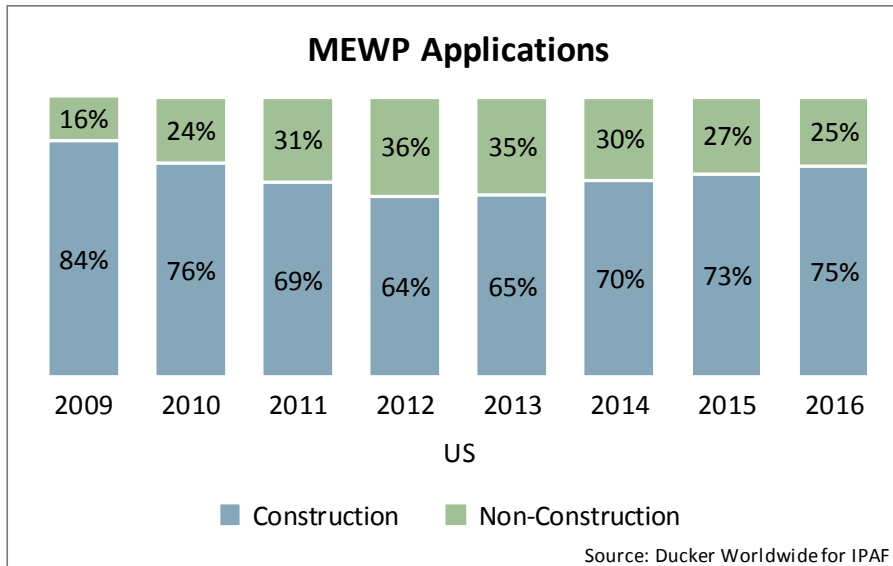
High fleet utilisation and higher rental rates contributed to a higher revenue per unit in 2016 (+2)%, which confirms 2015 growth levels. Stabilisation is expected in 2017.

- While the US rental market shows highly positive signs of growth, the revenue per unit has still not reached pre-recession levels, and some questions are raised concerning the rental activity overall profitability.



Though oil and gas is decreasing in importance, other construction related sectors are booming and drive the rental revenue towards construction end applications.

- The construction sector accounts for approximately 75% of the rental revenue source.
- In the non-construction sector the MEWPs go either to facility management or events, other sub-categories did not play a role in 2016.

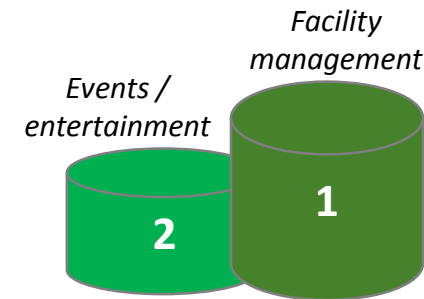


Share of rental revenues

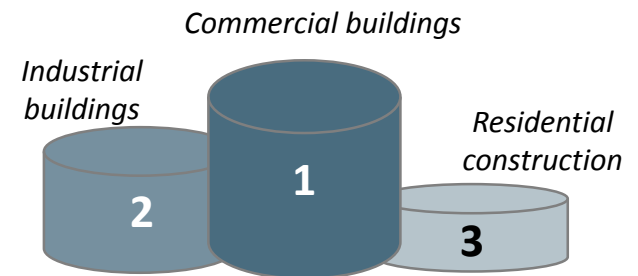
Non-construction includes industry, maintenance, cleaning, utilities, events.

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

### Main non-construction sub-sectors



### Main construction sub-sectors



# INVESTMENT 2008 - 2018

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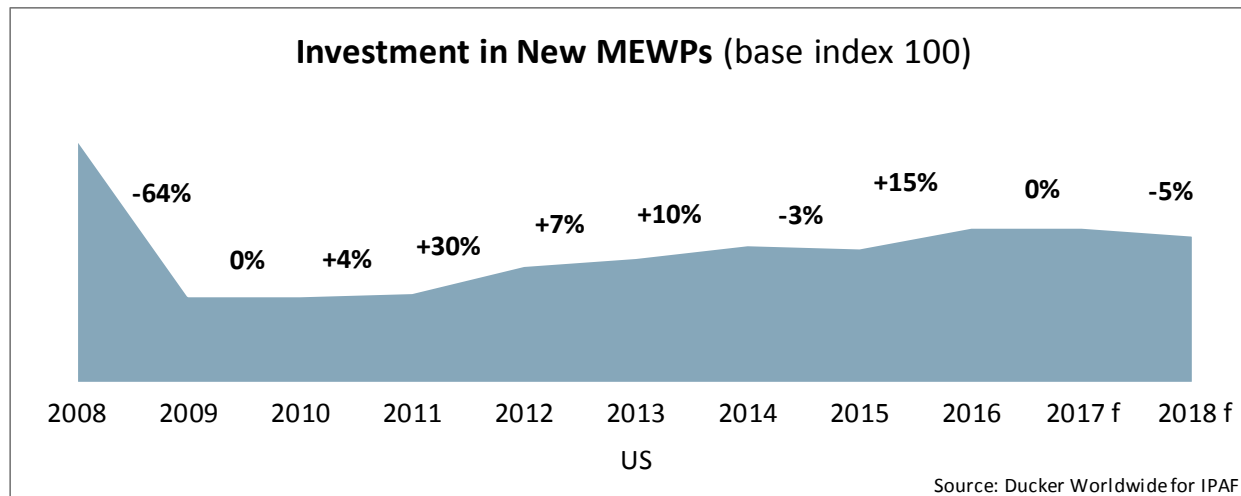


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The US rental companies significantly increased investments in 2016 after several years of limited improvements. New equipment purchases were directed to both fleet renewals and fleet expansion.

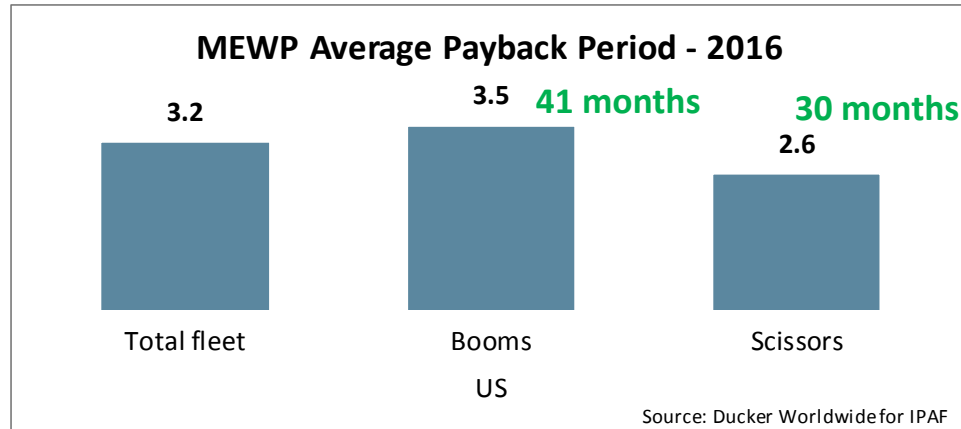
- Although 2016 was an election year and the situation relatively uncertain, rental companies finally showed optimism in their investments.
- Indeed construction projects were already expected to kick-in starting in 2017, and drive market demand up.





The return on investment slightly improved for both booms and scissors. Booms are paid off on average after three and a half years, while for scissors' it is two and half years.

- The higher utilisation of the US fleet combined with increasing rental rates allowed for a reduced payback period.
- In addition, the fact that the majority of the US fleet consists of electric scissors – typically less expensive machines – also impacts positively on the payback period.
- For all these reasons, the US fleet shows on average a better return on investment than Europe.



**3.2 = 3 years and 2 months**

# OPERATIONAL ASPECTS 2008 - 2018

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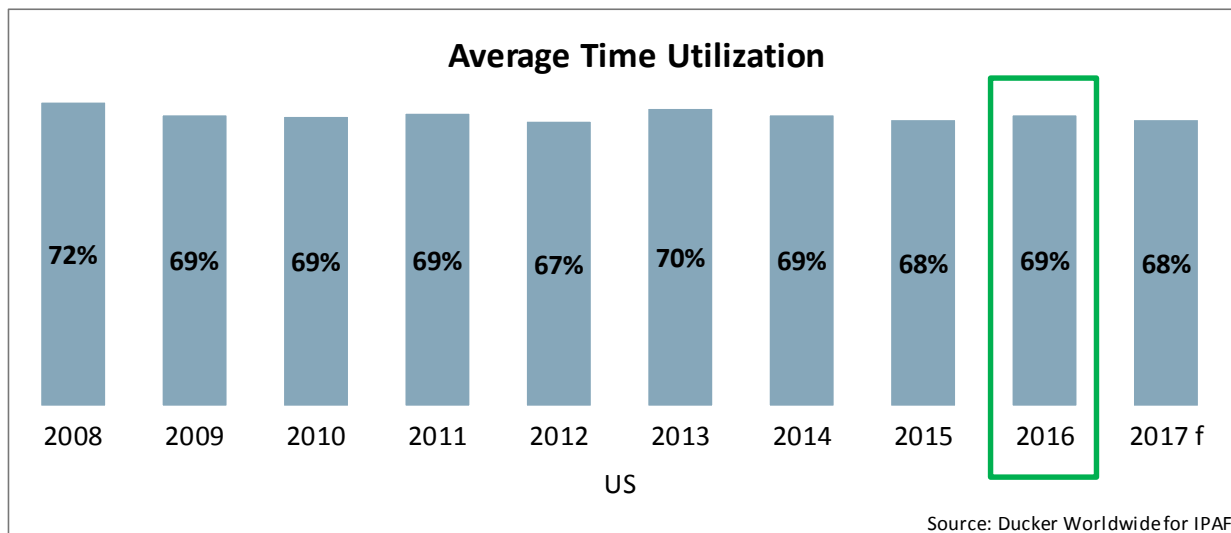
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Utilisation increased by 1 point in 2016, reaching 69%. The average US utilisation level is higher than that of Europe. Strong utilisation in US is possible due to very good maintenance service offered across the country.

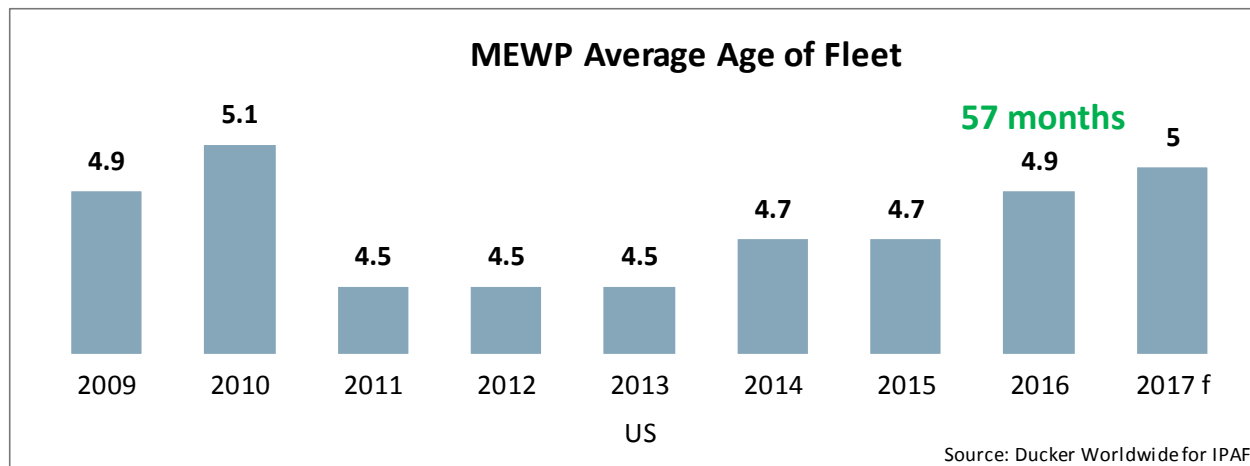
- The higher utilisation is possible for the biggest rental fleets due to an 24/7 service offering maintenance of machines and providing repairs at every time.
- 2017 is expected to bring stabilisation or possibly a slight decrease in utilisation, albeit at a high level.





## OPERATIONAL ASPECTS – AGE OF FLEET

The average age of the US fleet is close to five years. It is expected to remain in similar levels in the coming years. While US rental companies have renewed and expanded fleets in 2016, the high demand also allowed them to keep and maintain machines slightly longer than they used to.

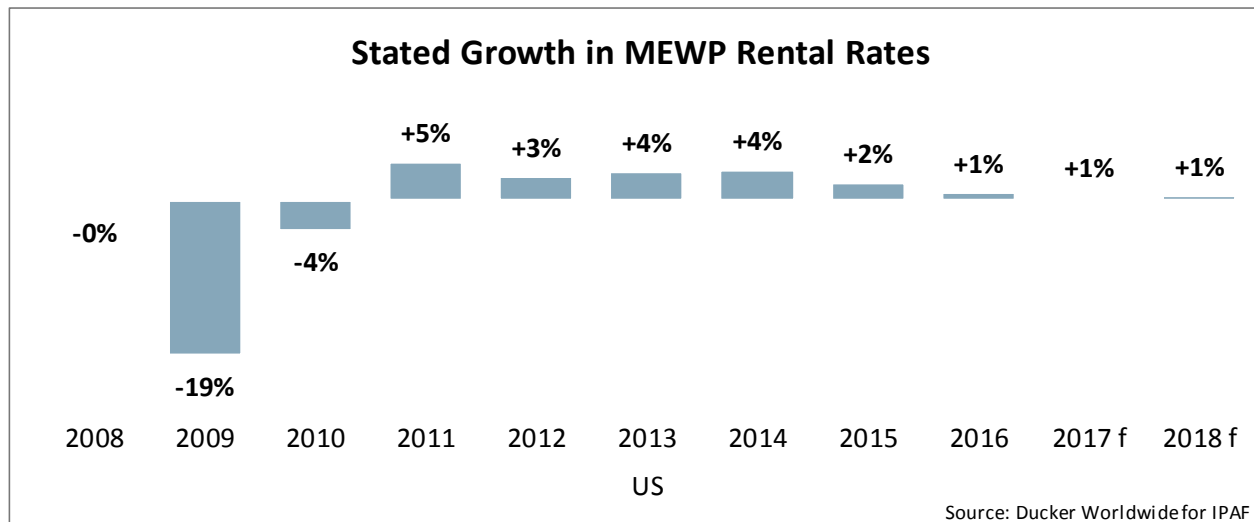


*4.9 = 4 years and 9 months*



After a regular, steady growth of rental rates since 2011, rental prices stabilised in 2016. Rental companies expect to continue raising their rates gradually in the next few years.

- Increasing competition on the market prevented higher increase of rates in US.
- As several major infrastructure projects are planned in the coming years, rental companies expect that strong competition to work on these projects will put pressure on prices.



Safety features such as secondary guarding are increasingly required by rental customers.

- On-board generators are also in heavy demand on both booms and scissors.
- In addition, narrow-aisle scissors are a trend in North America.

## Booms

1	Secondary guarding device
2	Generator

## Scissors

1	Generator
2	Secondary guarding device
3	Narrow aisle machine

Other mentioned features are:

**Electron Beam Refining (EBR) welders**  
**Non-air / Foam tyres**

# A PERSPECTIVE FROM THE MANAGING EDITOR OF *INTERNATIONAL RENTAL NEWS* IPAF Powered Access Rental Market Report 2017 – NORTH AMERICA

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- If you look at the rental growth graphs produced by the American Rental Association (ARA) you might be tempted into immediately moving your business Stateside. The US rental scene has been experiencing growth of between 5% and 10% annually since 2011, and its consultant, IHS Markit, is forecasting continued expansion at similar rates up to 2020.
- This isn't to do with President Donald Trump's proposed US\$1 trillion infrastructure spending – though that would no doubt be welcome – but more a reflection of an overall buoyancy in the country's economy.
- Kenneth Simonson, the Chief Economist at the Associated General Contractors of America (AGC), which represents 26,000 companies in the US construction sector, said recently that he was optimistic about prospects for the US economy and construction with contractors generally “upbeat” and order books reasonably full.
- “It will be spotty in terms of business segments that are growing. And there is a huge amount of uncertainty that didn't exist [before the Presidential election]. But contractors are still mostly upbeat and order books are reasonably full, for building contractors in particular.” – Simonson said.
- The oil and gas downturn did have a deleterious impact in 2015 and 2016, though with fossil fuel prices staring to edge up again it would seem that the worst may have passed.
- It should also be said that capital exchange rates of the largest rental companies in the US were coming down off the high levels of the previous years, something that was inevitable. That was impacting on the financial results of the big two OEMs, JLG and Genie, and even prompting some cost cutting and trimming of manufacturing footprints.
- However, that trimming activity should not be mistaken for a downturn in rental end markets which, as Ashtead reported, “remain very supportive”.



- As you would expect, the growth of the market is fuelling changes in the rental market, with consolidation continuing apace. The showpiece acquisition of the past 12 months was United Rentals' deal to buy NES Rentals, the Chicago-based aerials specialist led by former IPAF President Andy Studdert. NES was a €352 million revenue business, so it was a significant deal.
- United's biggest competitor in the US, Sunbelt Rentals, couldn't boast a single transaction to match that, but it came reasonably close with the acquisition of New York-based Pride Equipment for US\$277 million. That deal was supplemented by more than a dozen others over the past 18 months, as well as multiple greenfield openings (49 new stores in the year to April 2017). Sunbelt is not standing still.
- The important place of aerials in the US rental sector was meanwhile reinforced by Blueline Rentals to create a dedicated access division during 2016.
- It was also a year with some significant OEM-related news, with Time Manufacturing sold by its Irish owner of 40 years, O'Flaherty Holdings, to Houston-based private equity company Sterling Group. Also in the truck-mounted sector, Ruthmann's cooperation with Reachmaster produced a new product launch at the Conexpo show in March this year.
- The industry is also grappling with new ANSI regulations that will require load monitors in booms, a development that will see the introduction of dual capacity machines similar to those that have been seen in Europe for many years.
- That will require a major adjustment both by rental companies and end users, with a major educational effort underway. It is probably a good thing that it is happening during a period of growth.

# MARKET TRENDS AND DRIVERS

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Manufacturers have put a strong focus on MEWP design in light of pending ANSI standards.

### **MEWP new safety standards**

- ANSI new safety standards will require the following elements to be installed:
  - Platform load-sensing systems that will alarm and prevent platform movement until load is removed, except for emergency override system.
  - Tilt sensors for chassis inclination will require, in addition to existing alarm, prevention of the MEWP from continuation of travel in the selected direction for type 3 MEWPs; for group A MEWPs, further elevation shall not be allowed.
  - Depending on the manner in which the effects of wind force are applied to stability tests and calculations, increased weight (counterweight) may be required.

### **Training trends**

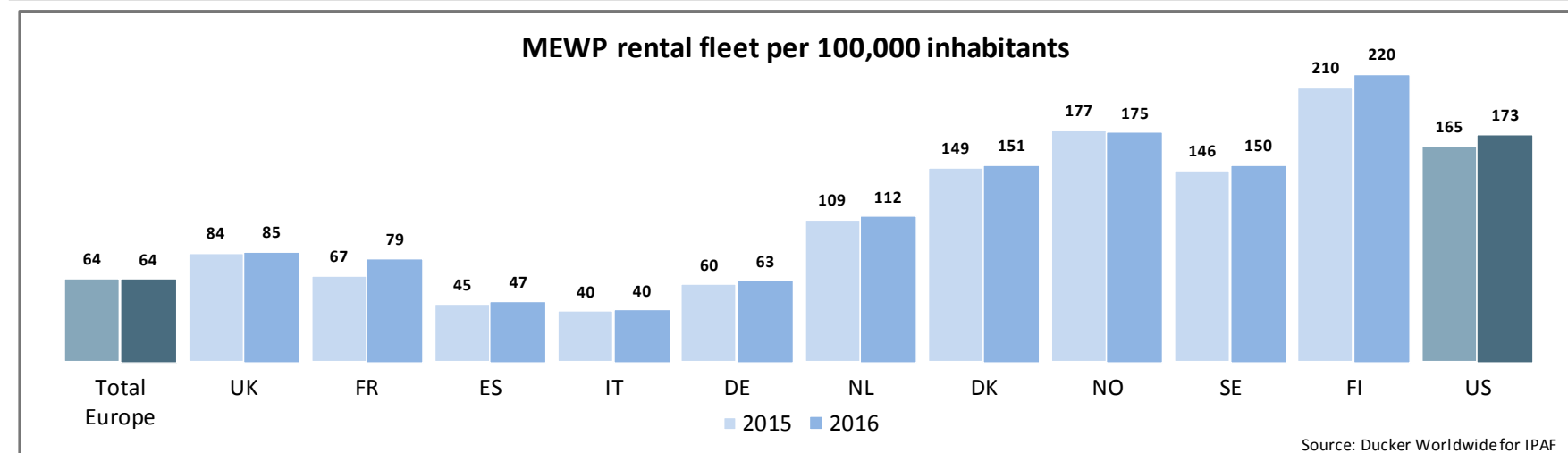
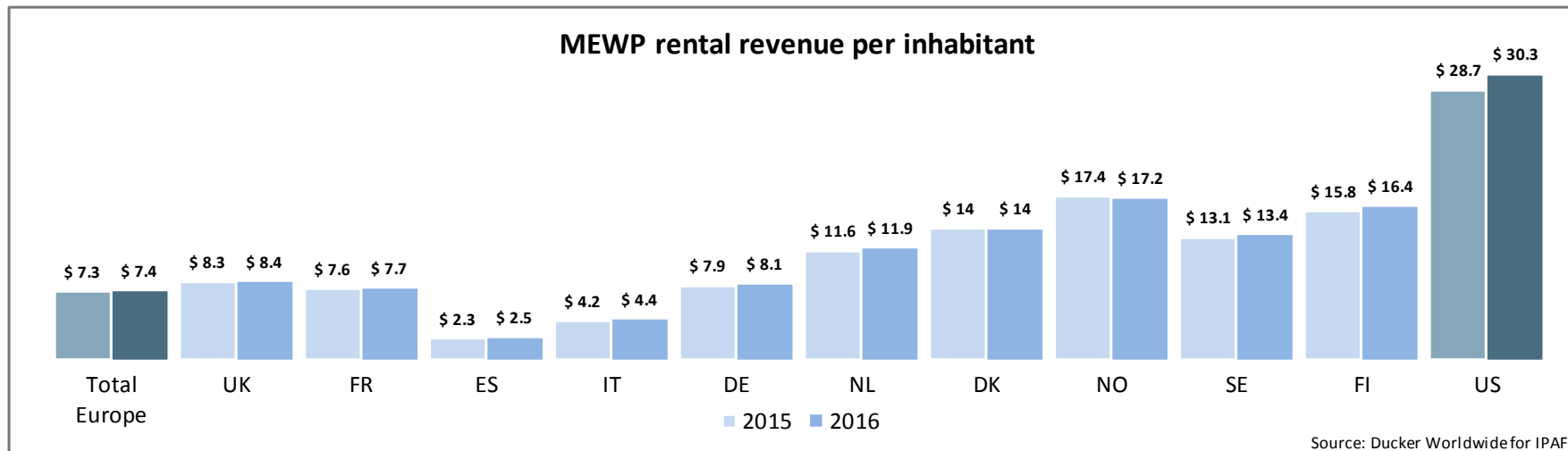
- Any entity directing personnel to operate a MEWP is responsible to perform a site risk assessment, select the correct MEWP for the task, and ensure that operators and supervisors are training and working in compliance of the standard.
- Additionally, MEWP occupants must receive basic safe-use knowledge.
- While OSHA does not have a specific requirement for MEWP training, the requirement for a safe work place requires the personnel to have some level of training.
- ANSI new training standards will increase the specific requirements for what will be accepted as compliant training. CSA standards are generally accepted in Canadian provinces.

### **Rental companies' market concentration**

- As in Europe, the intense market competition continued to drive strong mergers and acquisitions activities in the MEWP rental market in North America, in order for the players involved to acquire market share, and limit competition.

## Country Population Penetration – MEWP rental revenue per inhabitant.

Exchange rate: \$1 = €0.911

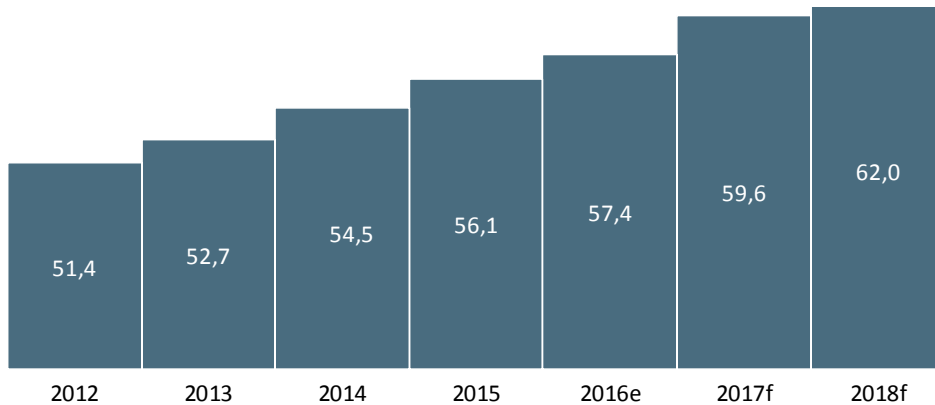




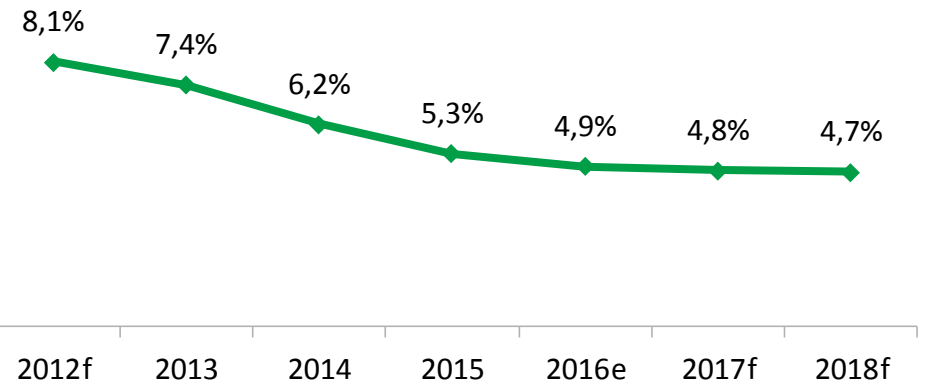
US economic indicators are generally favourable. GDP has increased and is expected to continue to grow. Unemployment rates fell slightly to 4.9% in 2016 and is expected to continue falling until 2018.

CAGR (2012-2018): 1.62 %

US - GDP per Capita



US - unemployment rate



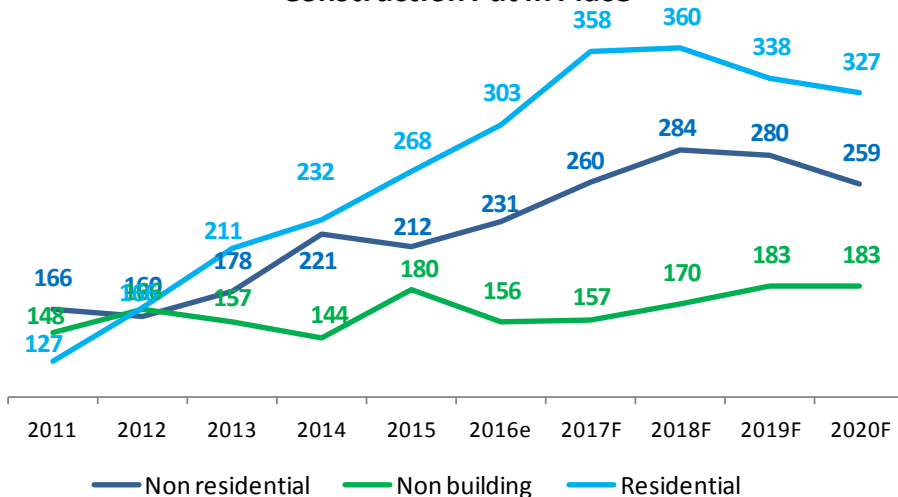
Source: Ducker Worldwide for IPAF

Thousand US dollars at 2016 prices. Source: International Monetary Fund, World Economic Outlook Database, October 2016  
CAGR = Compounded Annual Growth Rate

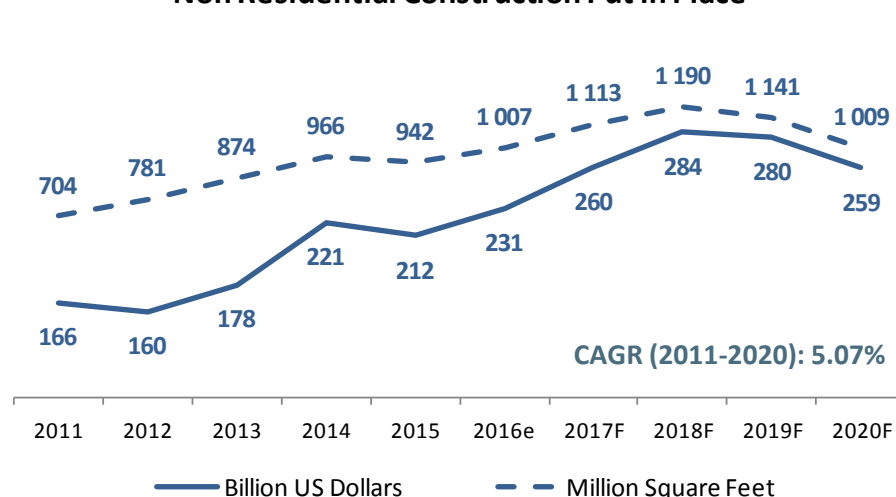
Source: International Monetary Fund, World Economic Outlook Database, October 2016

The residential construction sector is showing strong growth, but is expected to slow in 2018. Non-residential construction also shows positive growth. The non-construction sector is experiencing decline.

### Construction Put in Place



### Non Residential Construction Put in Place



Source: McGraw-Hill Construction, Dodge Construction Outlook 2016

# CANADIAN MEWP MARKET

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In 2016, the Canadian MEWP rental market remained rather flat, negatively impacted by the oil crisis and unfavourable exchange rate. Outlooks for 2017 are more positive and point to expect a slight revenue increase.

- As in 2015, the Canadian MEWP rental market stagnated in 2016 and revenue remained relatively flat.
  - Both the poor petro-chemical industry and unfavourable USD-CAD exchange rate negatively impacted the market.
  - The overall results hide a variety of situations and while the western provinces experienced the worst results, stagnation or even slight increase could be encountered in rental companies in the East.
- In 2016, the Canadian MEWP rental fleet size was of approximately 62 800 units, up by 1%, compared to 2015.
  - Typical fleet mix remains dominated by scissors, accounting for slightly more than 50%.
  - The share of booms decreased slightly in 2016 to approximately 40% of typical fleet mix: this type of equipment being traditionally used more in oil and gas industry, the sector's difficulties temporarily drove down demand.
- Utilisation rate remained stable at 67% in average.
  - It is reported to be higher on some niche equipment (higher or narrower machines for instance).
- Rental rates continued to decrease in 2016. MEWP rental companies faced fierce competition in a depressed market.
  - A stabilisation of rental rates is expected for 2017 driven by several positive elements including:
    - The end, or at least more limited impact, of the oil crisis;
    - No election year (2016 was the first year of a new government);
    - Positive infrastructure construction outlook.

# UNITED ARAB EMIRATES FOCUS

## IPAF Powered Access Rental Market Report 2017

*The International Powered Access Federation*

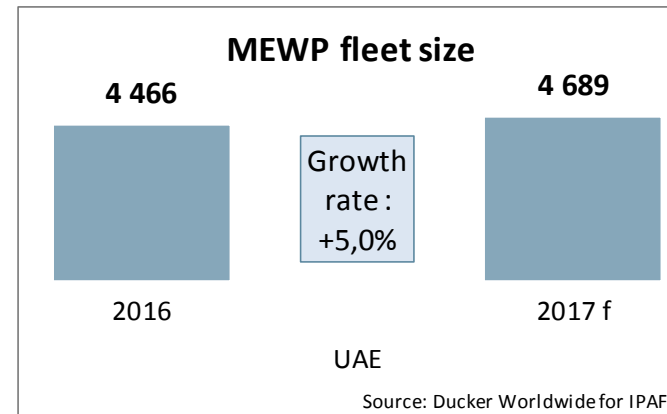
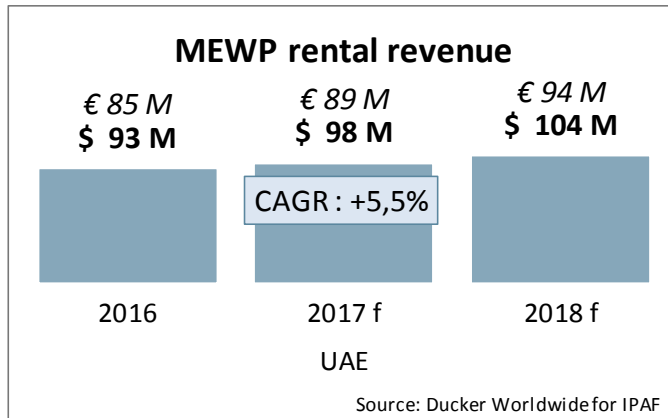
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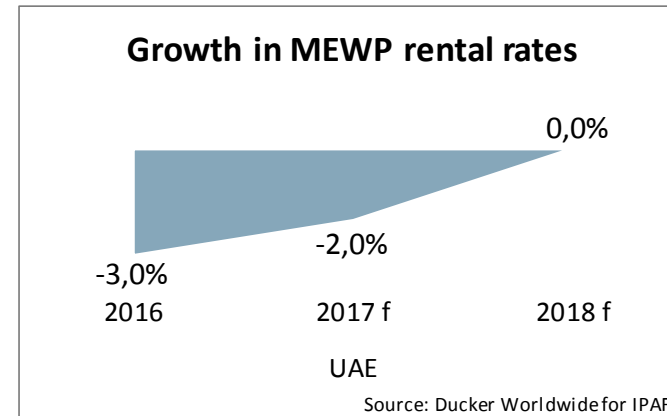
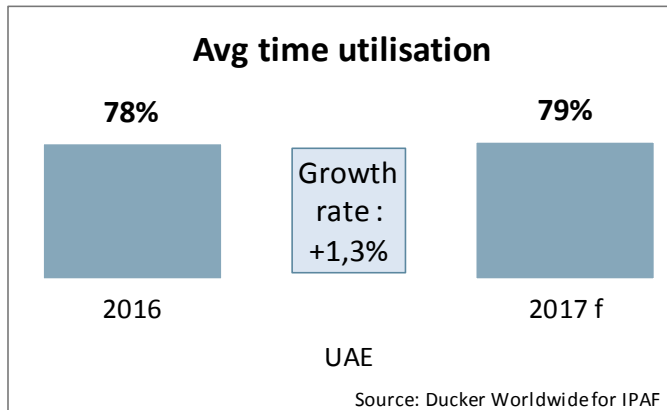
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The UAE MEWP rental market is currently strongly positively impacted by major construction projects that are ensuring a good level of growth for the next two years. Outlooks for the following years are more uncertain.

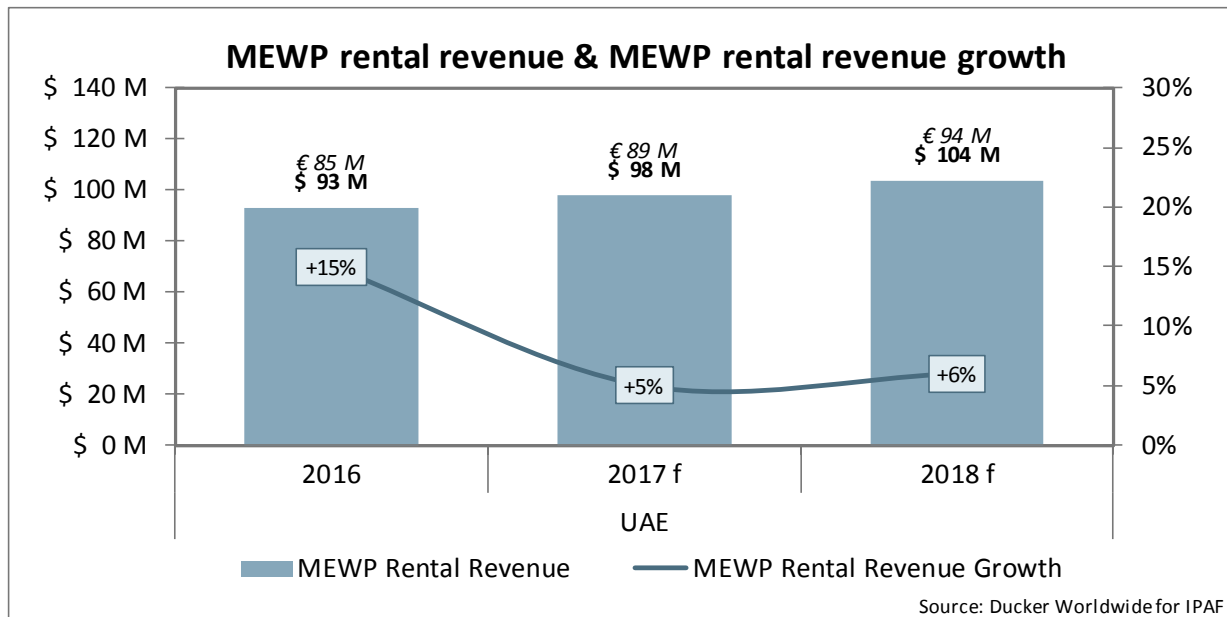


- Strong construction activity is fuelled by infrastructure projects linked to the Expo 2020 and should maintain the market dynamism until at least 2018, driving both fleet and utilisation increase.
- Nevertheless the competition is tough and rental rates continue to fall.





The UAE market is growing steadily, supported by large infrastructure projects ongoing until 2020. In 2016, its market value was equal to \$93 million or €85 million.

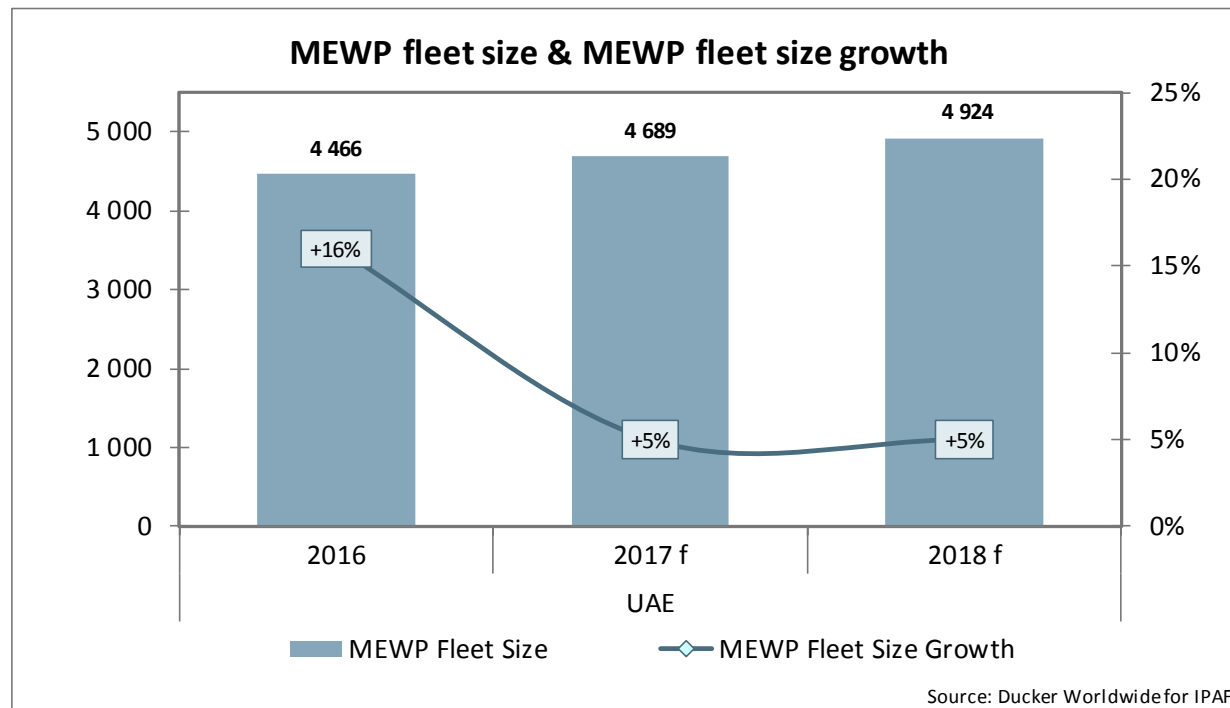


Exchange rate \$1 = €0,911

- In 2016, UAE MEWP rental market value was equal to \$93million, or €85 million.
- The market in the UAE is dynamic, growing at an annual rate above 5%.
- In 2016, it experienced an exceptional double-digit growth rate: The 2020 Expo in Dubai has boosted construction activity, which has led MEWP rental companies to invest massively and develop their MEWP fleet to answer to the growing demand.
- Outlook remains positive for the next two years. Nevertheless, uncertainties predominate after the 2018 period in a region where markets tend to change quickly, and where neighbour markets (such as in Saudi Arabia) are currently being challenged.

The UAE MEWP rental fleet was close to 4,500 units in 2016. It keeps growing strongly as new companies enter the market and existing companies continue to increase fleet size to meet existing demand.

- Two elements have driven the fleet size growth of the MEWP market in the UAE in 2016: The dynamism of the local construction market, requiring more machines, and the deterioration of the neighbouring Saudi market, leading to a massive de-fleeting move in favour of the UAE fleet size.
- Further fleet size increase is expected in the coming years, but at a more moderate rate.

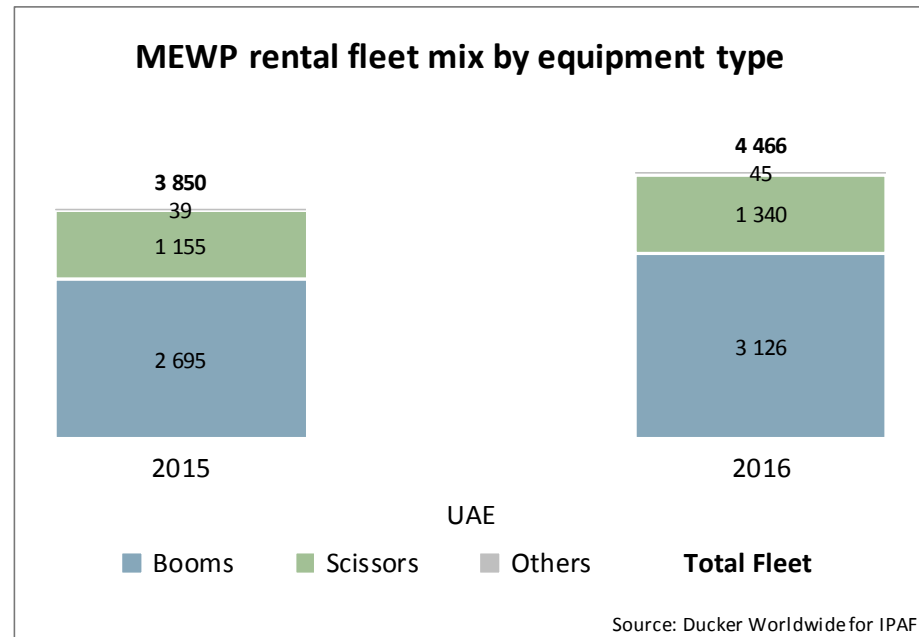


*Note: Included are powered access lifts: all booms, scissor lifts and vertical masts;  
Excluded: Low-level access equipment (<3m high), telescopic material handlers, forklifts, cranes, mast climbers;*



Boom lifts are the main type of MEWP offered by UAE rental companies. They account for approximately 70% of MEWP rental companies' fleets.

- Very few other MEWP types are reported in the UAE fleet
- The mix is expected to be maintained in favour of booms, which are preferred for their high versatility.



*Note: Included are powered access lifts: all booms, scissor lifts and vertical masts; Excluded: Low-level access equipment (<3m high), telescopic material handlers, forklifts, cranes, mast climbers;*

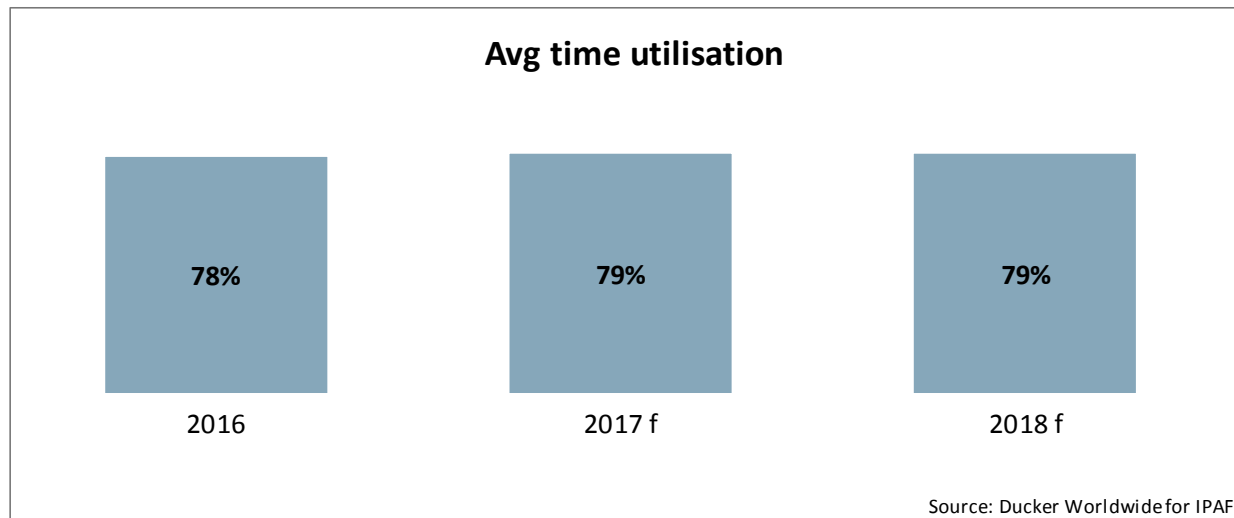
+X%

*% unit growth, e.g. booms fleet increased by 16% from 2015 to 2016. Others include: Vertical lifts, vertical masts, push-around, trailer mounted/towable.*



The average utilisation rate in UAE was 78% in 2016 and will increase slightly, due to the need to finalise the Expo 2020 projects.

- Typical utilisation rate is higher in Middle East countries than in Europe owing to the typical good weather conditions and warm climate, allowing construction works all year round.
- The fleet increase did not absorb all demand; utilisation increased as well in 2016. Pressure is on to finalise the projects linked to the Expo 2020.
- Utilisation rate is expected to continue improving in 2017 and should stabilise in 2018, once the Expo 2020 projects are over.

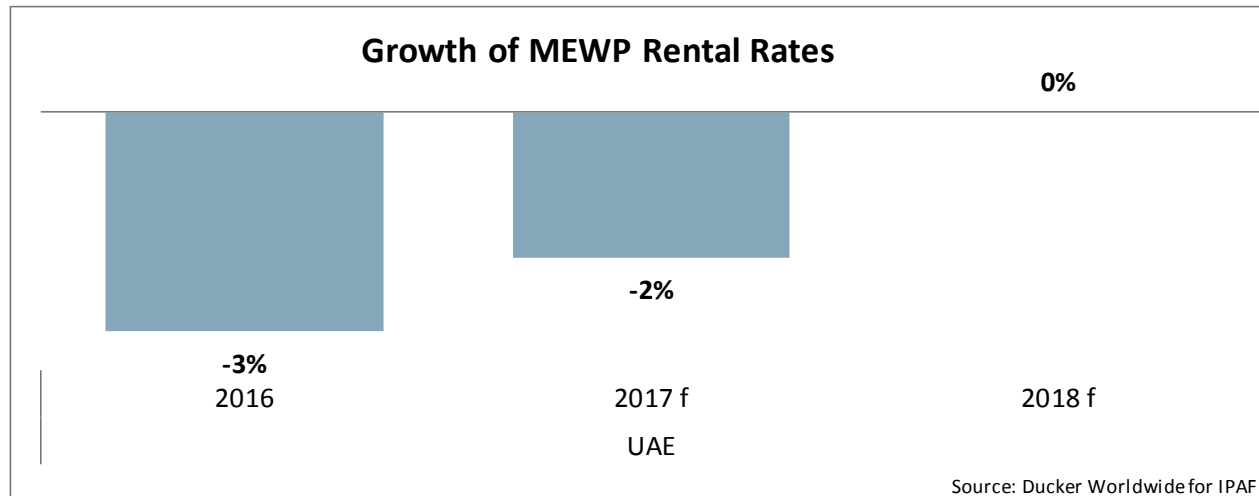


*Definition: Physical number of machines out on hire as % of total number in fleet at any given time.*



Rental rates suffered from tough competition in the UAE and decreased by 3% in 2016. The situation is not expected to improve in 2017. Nevertheless, it should stabilise in 2018.

- UAE is traditionally the easiest MEWP rental market in the Middle East to access for foreign companies.
- While the number of players increasingly developed over the past few years, the pressure on prices increased strongly as competition became fiercer, which resulted in rates decrease for several years in a row.
- MEWP rental companies expect the price war to continue in 2017 before a potential stabilisation in 2018.



# APPENDIX TO UAE

## IPAF Powered Access Rental Market Report 2017 - UAE

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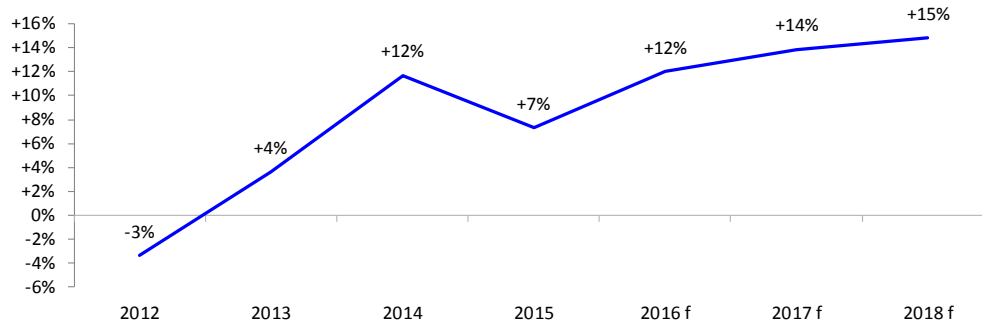
- Exchange rate:
  - The currency exchange rate used for the UAE is shown below. The same rate has been used throughout the time period (2016) in order to eliminate variation in growth rates due to exchange rate fluctuations rather than to the actual MEWP rental market.

	<b>Currency Unit</b>	<b>Converter to Euro</b>
US	USD	0,911



Macroeconomic indicators highlight the positive outlook for the UAE over the next two years.

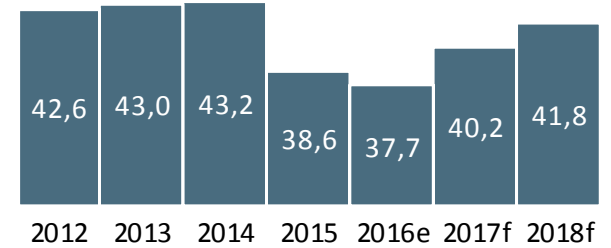
UAE - Construction Data - All construction industries



Source: Ducker Worldwide for IPAF

MEED Database – includes the following construction sectors: residential, non residential, oil, transport, power, industrial, gas, water, chemical

UAE CAGR 16-18 = 5.29%



UAE GDP per Capita in thousand euros - estimates based on IMF World Outlook Database – April 2017



# THANK YOU.

The International Powered Access Federation (IPAF) is a not for profit members organisation that promotes the safe and effective use of powered access equipment worldwide. Members include manufacturers, rental companies, contractors and users.

Offices in: UK, Brazil, China, Finland, France, Germany, Italy, the Netherlands, Singapore, Spain, Switzerland, Turkey, UAE, USA.

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