

# MOVR

## Mobile Overview Report July – September 2018

## ASIA

## NORTH AMERICA

## EUROPE

### Form Factor



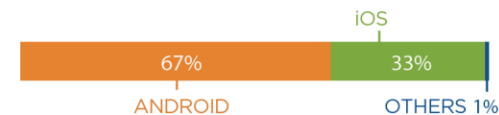
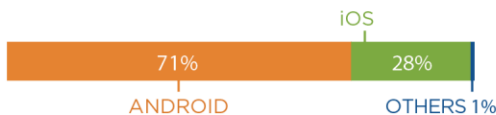
### Top 5 Smartphones



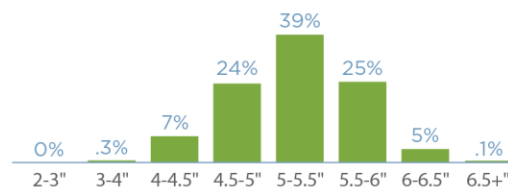
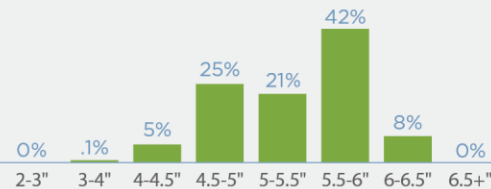
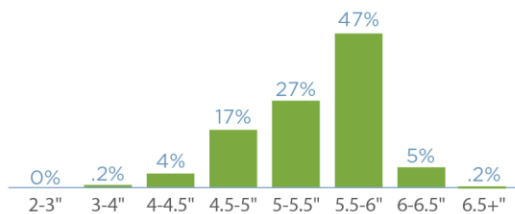
### Top 5 Tablets



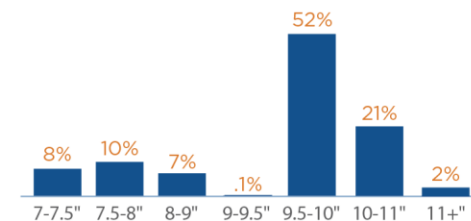
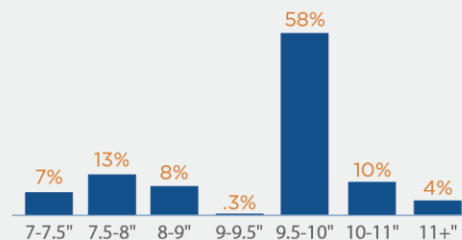
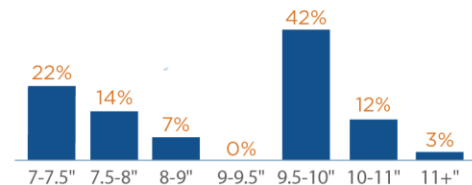
### Smartphone OS



### Smartphone Diagonal Size



### Tablet Diagonal Size

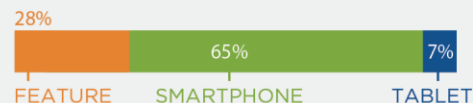


## SOUTH AMERICA

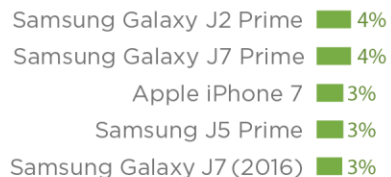
## AFRICA

## OCEANIA

### Form Factor



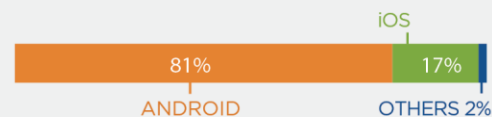
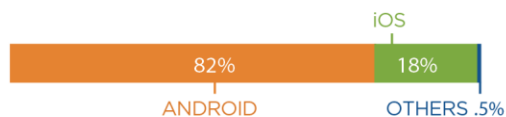
### Top 5 Smartphones



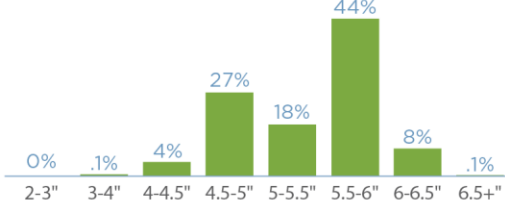
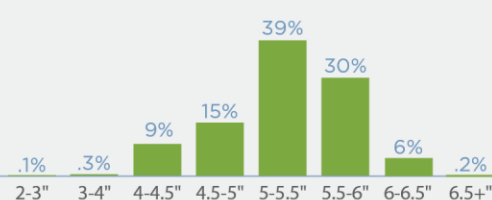
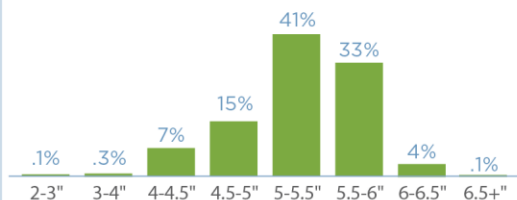
### Top 5 Tablets



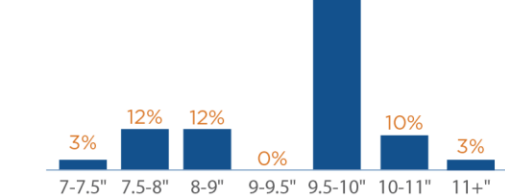
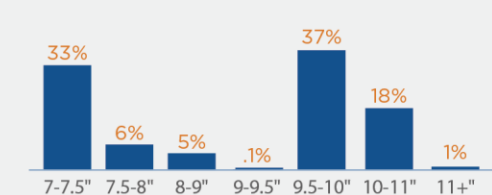
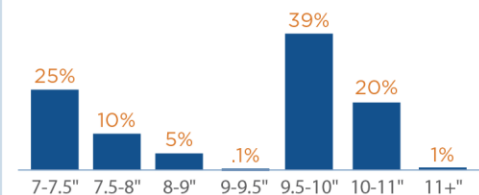
### Smartphone OS



### Smartphone Diagonal Size



### Tablet Diagonal Size



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## Q2 2018 to Q3 2018 Comparisons



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## Top Smartphones

- New to the list this quarter is the Samsung Galaxy J7 Pro.
- Dropping off the list this quarter is the Apple iPhone 5S.
- North America and Oceania continue to be concentrated markets for brands, with the top smartphones accounting for 58.90% and 65.18% respectively. With a drop in brand loyalty of 0.06% in North America and 0.084% in Oceania since Q2 2018.

Top Smartphones	Africa	Asia	Europe	N. America	Oceania	S. America
Apple iPhone X	1.71%	5.69%	2.74%	6.22%	7.86%	1.46%
Samsung J7 Prime	1.21%	4.74%	0.10%	0.59%	0.29%	3.77%
Apple iPhone 7	2.75%	4.40%	6.93%	8.32%	8.82%	3.16%
Apple iPhone 7 Plus	2.04%	3.66%	2.41%	7.47%	7.91%	1.86%
Apple iPhone 6S	1.86%	3.04%	5.35%	6.01%	6.66%	2.40%
Apple iPhone 8 Plus	1.53%	2.66%	2.26%	6.69%	8.48%	1.16%
Apple iPhone 6	1.99%	2.50%	3.27%	4.03%	4.17%	2.63%
Apple iPhone 8	1.20%	2.49%	2.96%	4.38%	5.04%	1.10%
Samsung Galaxy J7 2015	0.98%	2.01%	0.07%	0.69%	0.08%	2.10%
Samsung Galaxy J7 Pro	0.81%	1.61%	0.63%	0.28%	0.25%	0.84%
Apple iPhone 6S Plus	1.13%	1.18%	0.91%	2.79%	2.84%	0.69%
Samsung Galaxy S7	1.12%	0.50%	2.86%	2.71%	3.73%	0.82%
Samsung Galaxy S8	1.43%	0.81%	3.26%	2.67%	4.30%	1.52%
Apple iPhone SE	0.57%	0.57%	2.78%	2.33%	1.54%	1.10%
Samsung Galaxy S7 Edge	1.62%	1.18%	2.27%	1.47%	1.99%	0.99%
Samsung Galaxy J2 Prime	0.01%	0.00%	0.01%	0.73%	0.11%	3.83%
Samsung J5 Prime	1.11%	0.48%	0.05%	0.28%	0.34%	2.81%
Samsung Galaxy J7 (2016)	0.42%	1.48%	0.65%	0.31%	0.07%	2.64%
Samsung Galaxy J5	1.61%	1.15%	0.81%	0.28%	0.19%	2.62%
Motorola Moto G (5) Plus	0.04%	0.04%	0.20%	0.57%	0.14%	2.62%
Samsung Galaxy Grand Prime+	3.62%	1.15%	0.08%	0.11%	0.37%	0.04%
<b>Others</b>	<b>71.24%</b>	<b>58.68%</b>	<b>59.39%</b>	<b>41.10%</b>	<b>34.82%</b>	<b>59.84%</b>



## Top Smartphone Trends (2018 Q3 vs. 2018 Q2)

- Oceania saw the largest adoption trend in a 1.90% increase in usage of the Apple iPhone 8 Plus.
- North America had the second largest increase in smartphone usages with 1.60% adoption of the Apple iPhone 8 Plus.
- Asia had the third largest adoption of a smartphone this quarter with a 1.49% increase in Apple iPhone X usage.
- Apple iPhone X, Apple iPhone 8 Plus, and Apple iPhone 8 had the most growth this quarter.
- Largest drop in usage is from the Apple iPhone 7, 6S, and 6. Presumably, many of these users are upgrading to newer iPhone models, thus explaining the growth in iPhone 8, 8 Plus, and X.

Top Smartphone Trends	Africa	Asia	Europe	N. America	Oceania	S. America
Apple iPhone X	0.43%	1.49%	0.84%	1.44%	0.97%	0.31%
Samsung J7 Prime	-0.03%	0.02%	0.02%	0.12%	-0.05%	0.21%
Apple iPhone 7	-0.99%	-0.54%	0.36%	-0.54%	-0.48%	0.12%
Apple iPhone 7 Plus	0.01%	-0.75%	0.22%	-0.16%	-0.32%	-0.08%
Apple iPhone 6S	-0.09%	-0.70%	-0.39%	-0.86%	-0.88%	-0.33%
Apple iPhone 8 Plus	0.60%	0.59%	0.71%	1.60%	1.90%	0.21%
Apple iPhone 6	0.33%	-0.52%	-0.38%	-0.76%	-0.55%	-0.49%
Apple iPhone 8	-0.53%	0.97%	0.86%	0.93%	0.92%	0.28%
Samsung Galaxy J7 2015	-0.19%	-0.18%	-0.01%	-0.04%	-0.01%	-0.22%
Samsung Galaxy J7 Pro	0.15%	0.17%	0.10%	0.06%	0.01%	0.26%
Apple iPhone 6S Plus	0.33%	-0.53%	-0.02%	-0.40%	-0.37%	-0.11%
Samsung Galaxy S7	0.07%	-0.03%	-0.13%	-0.26%	-0.29%	0.01%
Samsung Galaxy S8	0.03%	0.06%	0.14%	-0.11%	0.15%	0.42%
Apple iPhone SE	0.00%	0.06%	-0.29%	-0.35%	-0.12%	-0.29%
Samsung Galaxy S7 Edge	0.07%	-0.07%	-0.26%	-0.23%	-0.22%	-0.16%
Samsung Galaxy J2 Prime	0.00%	0.00%	-0.01%	0.14%	-0.02%	0.44%
Samsung J5 Prime	0.03%	-0.02%	0.00%	0.03%	-0.02%	0.15%
Samsung Galaxy J7 (2016)	-0.01%	0.03%	-0.11%	0.00%	-0.07%	0.23%
Samsung Galaxy J5	-0.16%	-0.19%	-0.19%	-0.03%	-0.13%	-0.37%
Motorola Moto G (5) Plus	0.01%	-0.01%	0.01%	-0.02%	0.00%	-0.01%
Samsung Galaxy Grand Prime+	0.17%	0.15%	0.00%	-0.04%	-0.05%	-0.01%
<b>Others</b>	<b>-0.23%</b>	<b>0.01%</b>	<b>-1.48%</b>	<b>-0.50%</b>	<b>-0.37%</b>	<b>-0.57%</b>

## Top Tablets

- The most significant market share for tablets remains with Apple's iPad Airs, with the iPad Air 2 leading for the sixth quarter in a row.
- The iPad Air 2 is the most popular tablet across all continents except for Africa where the Samsung Galaxy Tab E is most popular.
- The Northern American and Oceania tablet markets are much more concentrated with the top tablets making up 74.74% and 82.62% of the market respectively.
- Joining the list this quarter is the Apple iPad 2018 and Apple iPad Pro 10.5 (2017). Dropping off the list this quarter is the Canaima TR10RS1.

Top Tablets	Africa	Asia	Europe	N. America	Oceania	S. American
Apple iPad Air 2	5.49%	10.20%	12.15%	13.95%	14.88%	7.12%
Apple iPad Air	3.85%	6.61%	9.92%	11.28%	10.88%	5.40%
Apple iPad 2017	3.98%	5.72%	6.80%	10.27%	10.34%	3.61%
Apple iPad 4	3.51%	4.22%	5.82%	6.59%	7.79%	5.79%
Apple iPad mini 2	2.53%	4.84%	4.48%	5.78%	4.60%	5.00%
Apple iPad Pro 9.7	1.47%	3.19%	1.94%	3.43%	2.76%	1.15%
Apple iPad mini 4	0.69%	4.09%	2.28%	3.06%	3.05%	2.17%
Apple iPad mini	1.90%	3.01%	2.59%	2.76%	3.06%	1.05%
Apple iPad 2	1.97%	1.50%	2.72%	2.74%	3.88%	1.34%
Apple iPad 2018	0.51%	1.98%	1.80%	2.63%	2.43%	1.20%
Samsung Galaxy Tab A 10.1	2.20%	0.63%	5.43%	1.24%	1.83%	0.70%
Samsung Galaxy Tab A 9.7	2.19%	0.68%	2.62%	0.98%	1.16%	1.04%
Apple iPad 3	2.23%	2.44%	2.46%	2.49%	3.27%	2.90%
Samsung Galaxy Tab 3 Lite	1.50%	4.21%	0.73%	0.60%	0.30%	4.56%
Apple iPad Pro 10.5 (2017)	1.14%	3.53%	1.77%	2.25%	2.30%	1.20%
Samsung Galaxy Tab E	5.94%	2.07%	2.22%	1.63%	0.16%	4.17%
Vodafone Tab Mini 7	3.36%	0.03%	0.10%	0.00%	0.01%	0.00%
Samsung Galaxy Tab 3V 3G	3.23%	1.77%	0.05%	0.04%	0.12%	1.17%
Samsung Galaxy Tab 4 10.1	2.43%	0.55%	1.90%	0.90%	0.84%	0.94%
Samsung Galaxy Tab 4 7.0	2.41%	2.01%	0.54%	0.59%	0.04%	1.76%
Samsung Galaxy Tab A	0.28%	1.15%	0.09%	1.48%	8.90%	0.99%
Intel ECS TR10CS1	0.01%	0.01%	0.00%	0.03%	0.00%	4.50%
<b>Other</b>	<b>47.16%</b>	<b>35.56%</b>	<b>31.59%</b>	<b>25.26%</b>	<b>17.38%</b>	<b>38.41%</b>





## Top Tablet Trends (2018 Q3 vs. 2018 Q2)

- The largest growth (4.25%) comes from Oceania's increase in usage of the Samsung Galaxy Tab A, the 2<sup>nd</sup> largest growth (1.84%) comes from North America's usage in Apple iPad 2018.
- Globally, the Apple iPad 2018 had the most growth in 2018 Q3 of all other tablets (7.19%)
- The largest drop in usage (2.32%) comes from South America's increase in usage of the Apple iPad Air, the 2<sup>nd</sup> largest drop in usage (1.56%) comes from Oceania's usage in the Apple iPad Air 2.
- Globally, the Apple iPad Air had the largest drop in usage in 2018 Q3 of all other tablets (6.15%).

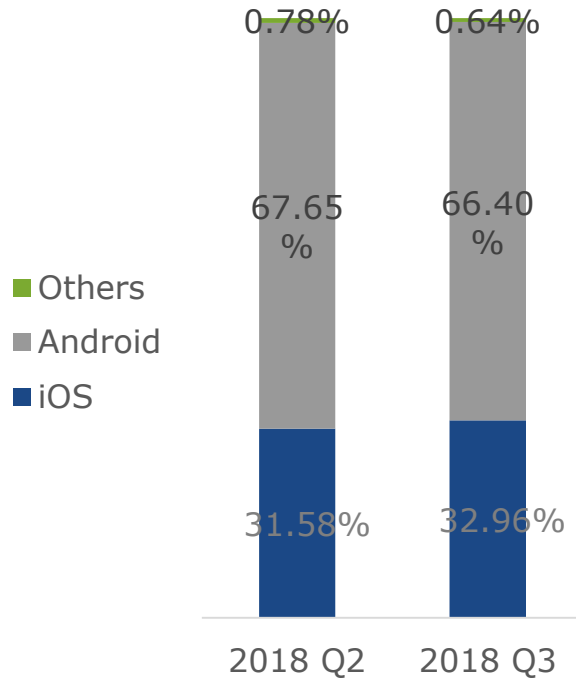
Top Tablet Trends	Africa	Asia	Europe	N. America	Oceania	S. American
Apple iPad Air 2	0.12%	-1.16%	0.07%	-0.91%	-1.56%	-0.20%
Apple iPad Air	0.01%	-1.55%	-0.06%	-0.84%	-1.39%	-2.32%
Apple iPad 2017	0.49%	0.50%	1.00%	0.89%	-0.45%	0.53%
Apple iPad 4	0.12%	-1.04%	-0.32%	-0.81%	-0.96%	-1.04%
Apple iPad mini 2	0.19%	-0.67%	0.20%	-0.56%	-0.64%	1.03%
Apple iPad Pro 9.7	0.30%	0.32%	-0.04%	-0.15%	-0.12%	-0.23%
Apple iPad mini 4	-0.52%	0.14%	0.12%	0.07%	-0.29%	-0.27%
Apple iPad mini	-0.01%	-1.05%	0.02%	-0.32%	-0.28%	-0.47%
Apple iPad 2	-0.54%	-0.68%	0.22%	-0.32%	0.02%	0.07%
Apple iPad 2018	0.41%	1.44%	1.27%	1.84%	1.38%	0.85%
Samsung Galaxy Tab A 10.1	0.61%	-0.01%	0.29%	0.09%	0.05%	0.10%
Samsung Galaxy Tab A 9.7	-0.14%	0.06%	-0.25%	-0.03%	-0.23%	-0.02%
Apple iPad 3	0.33%	-0.21%	0.01%	-0.28%	-0.20%	0.78%
Samsung Galaxy Tab 3 Lite	0.09%	1.07%	-0.09%	-0.05%	-0.19%	0.34%
Apple iPad Pro 10.5 (2017)	0.10%	1.05%	0.24%	0.15%	0.33%	-0.02%
Samsung Galaxy Tab E	0.85%	0.66%	-0.15%	0.07%	-0.24%	-0.81%
Vodafone Tab Mini 7	0.21%	0.02%	0.00%	0.00%	0.00%	0.00%
Samsung Galaxy Tab 3V 3G	-0.26%	0.02%	-0.01%	0.00%	-0.03%	-0.16%
Samsung Galaxy Tab 4 10.1	-0.12%	0.06%	-0.27%	-0.37%	-0.07%	0.13%
Samsung Galaxy Tab 4 7.0	-0.43%	0.18%	-0.12%	0.00%	-0.05%	-0.11%
Samsung Galaxy Tab A	-0.01%	0.05%	0.01%	0.02%	4.25%	0.16%
Intel ECS TR10CS1	0.01%	0.00%	0.00%	0.00%	0.00%	-0.09%
Canaima TR10RS1	0.00%	0.00%	0.00%	0.01%	0.00%	-0.08%
<b>Other</b>	<b>-1.79%</b>	<b>0.80%</b>	<b>-2.15%</b>	<b>1.49%</b>	<b>0.67%</b>	<b>1.83%</b>



## Global Smartphone OS Versions

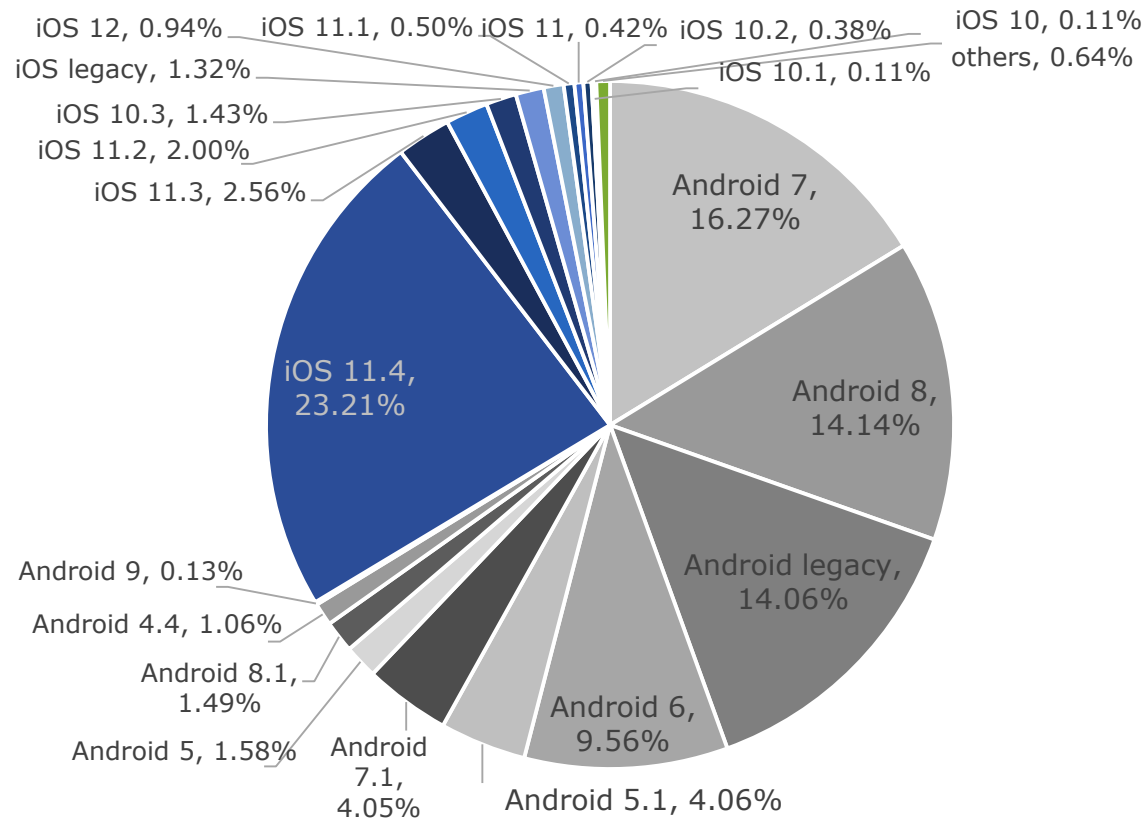
- Android remains the most used OS with 66.40% in 2018 Q3.
- Android 7.0 continues to be the top Android OS since during 2018 Q3 with 16.27%. Version 8.0 is new from last quarter and is already the second most popular Android OS with 14.14%.
- Apple's upgrade process is much more effective than Android's, with most of their users on iOS version 11.4.
- In fact, iOS version 11.4 with 23.21% is the most popular OS version globally across both Android and iOS.

### Smartphone OS



Others Definition:  
As of this quarter, "Windows Phone" is included with all others

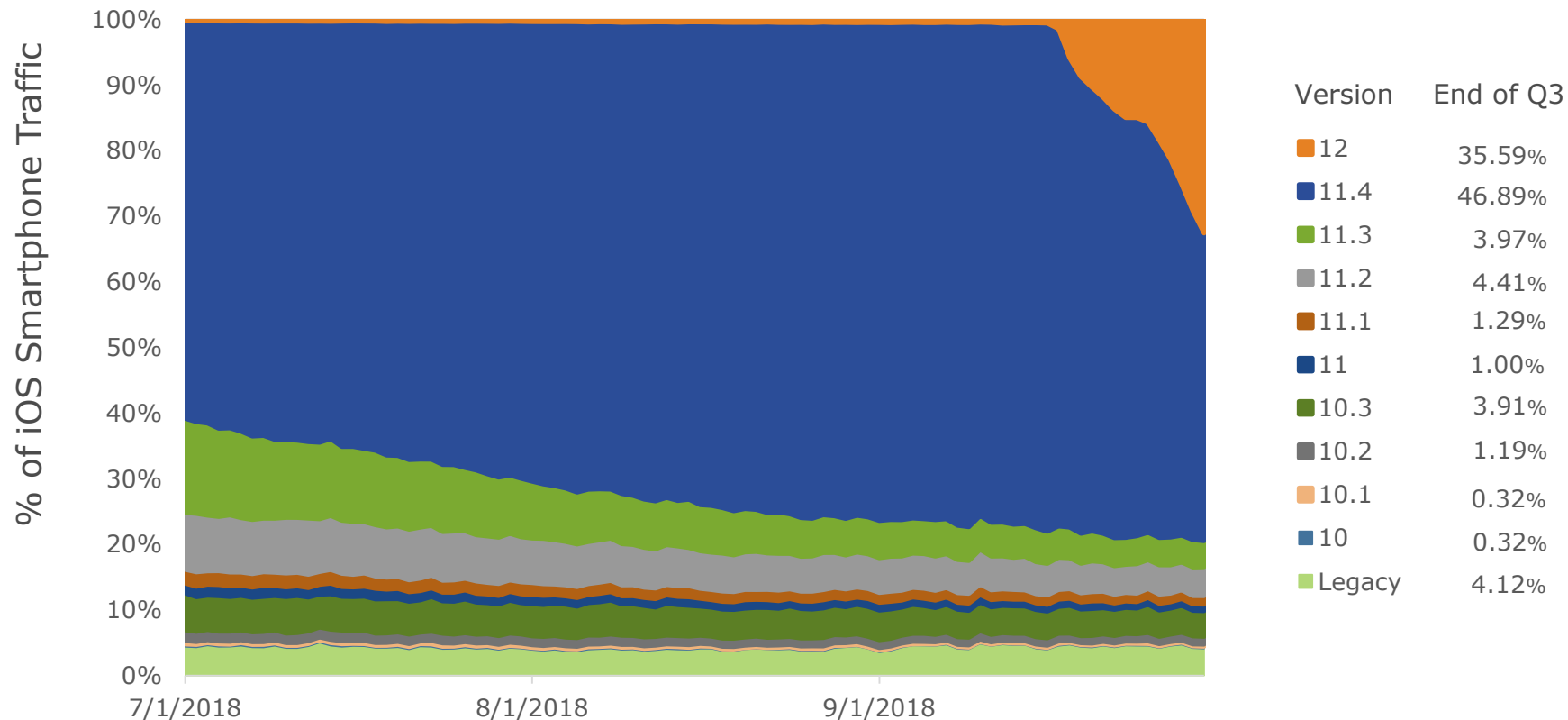
### Smartphone OS Share – Global 2018 Q3





## iOS Smartphone Operating System Trends

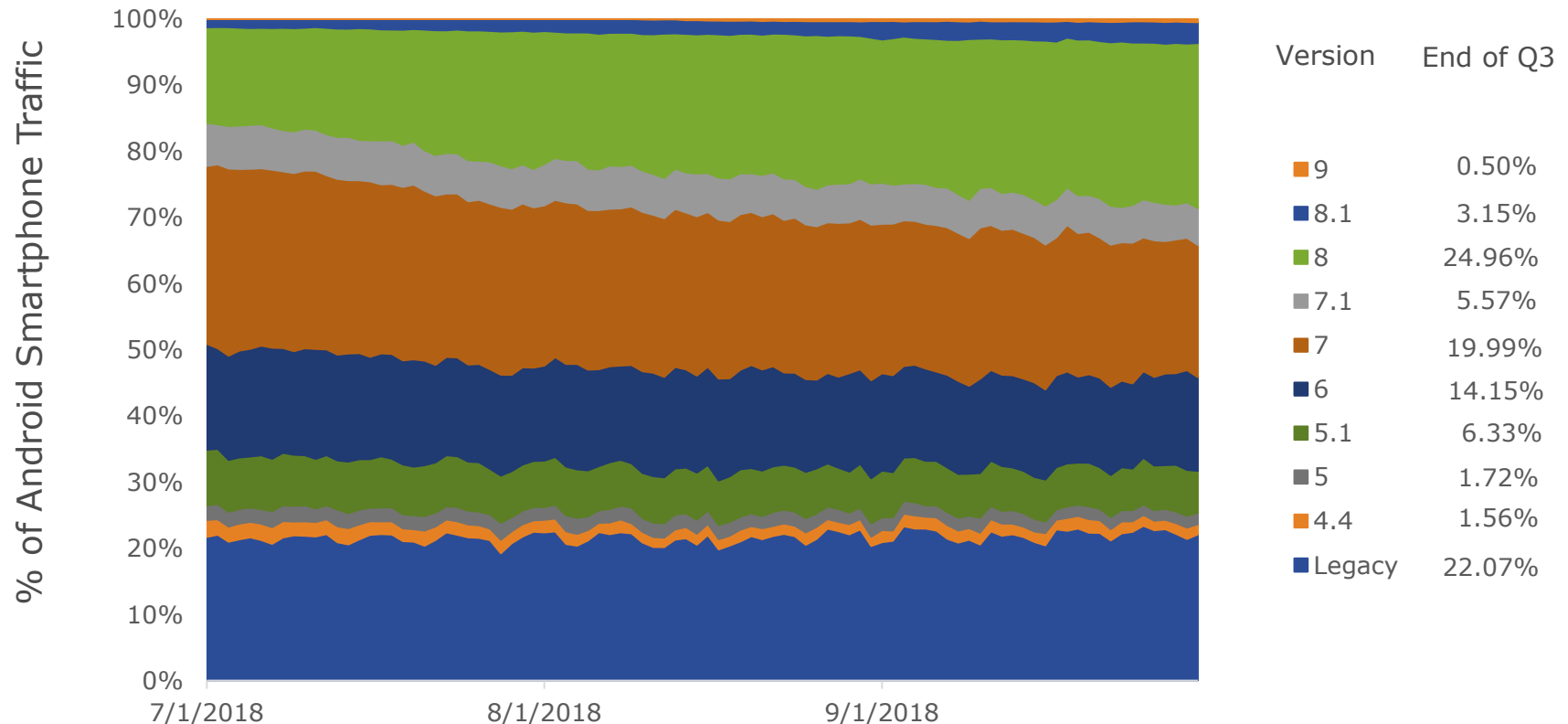
- iOS 11.4 remains the most popular iOS, ending September with 46.89% but dropping by 13.81% from the beginning of 2018 Q3. iOS 12 is new this quarter, gaining on iOS 11.4 with adoption.
- Over 93% of users are on 11.x or above, indicating the success of Apple iOS upgrade process.
- All of the 10.x releases total only 5.74%.
- The iOS 11.x releases show a trend toward the most recent version. Unlike last quarter, there is a slight lag in adoption for iOS 11.x with iOS 11.2 having more usage than 11.3.
- Similarly, the 10.x and 9.x iOS users have also continued this trend, adopting the most recent version more than later iOS versions.





## Android Smartphone Operating System Trends

- Android 8.0 is the new top OS version at the end of 2018 Q3, beating out Android 7.0 by 4.97%.
- Android Legacy versions (before 4.4) are the second largest category, accounting for 22.07%
- Android released 9.0 this quarter, but it generates only 0.5%.
- Android has always struggled to upgrade users. However we do have some hope with the many users shifting to Android 8.0 from the previously popular Android 7.0 version.



Point of Clarification:

Unlike the Global Smartphone OS Versions, this data is measured at the end of 2018 Q3, and not counted throughout the quarter.

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**Samsung Galaxy Note 9  
and Apple iPhone XS &  
XS Max**



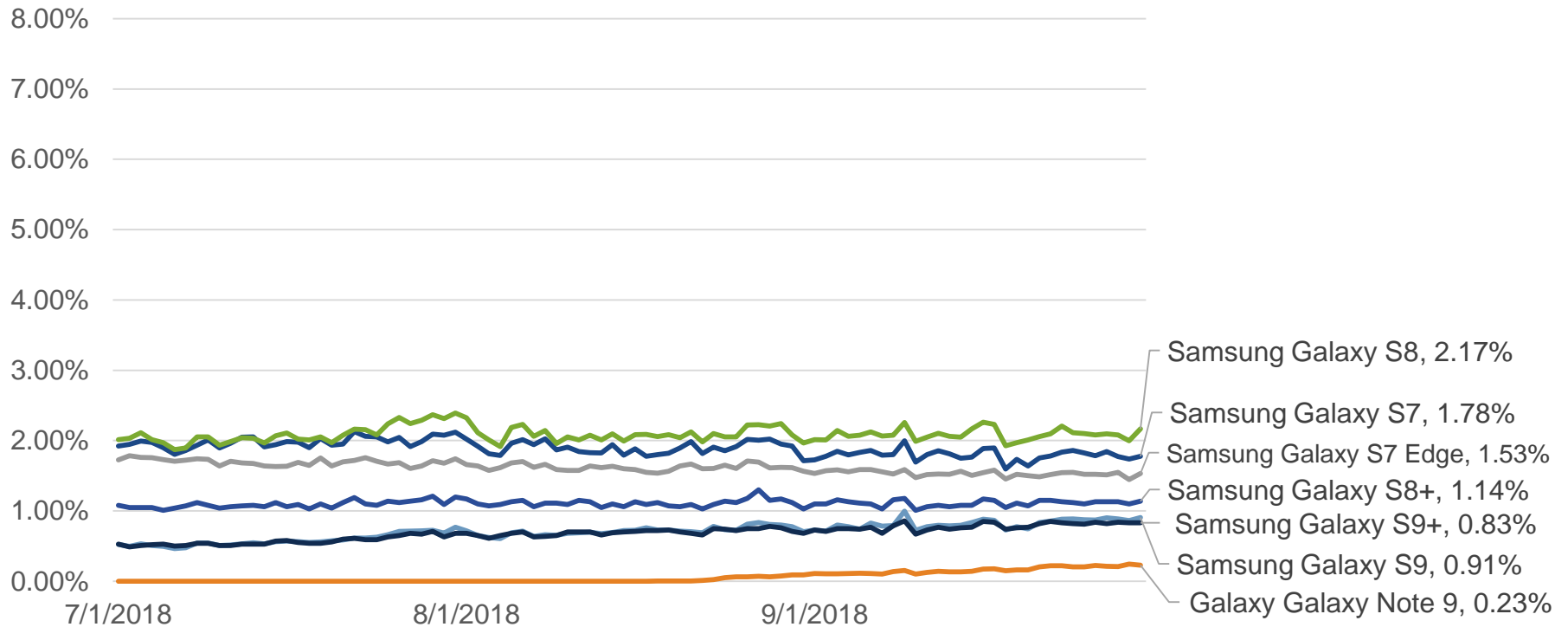
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## Samsung Galaxy: Global

- Samsung Galaxy Note 9 shipped on August 24, 2018. By the end of September, it represented 0.24% of all smartphone traffic.
- Samsung Galaxy S8 was the most popular Samsung premium smartphone with 2.17%.

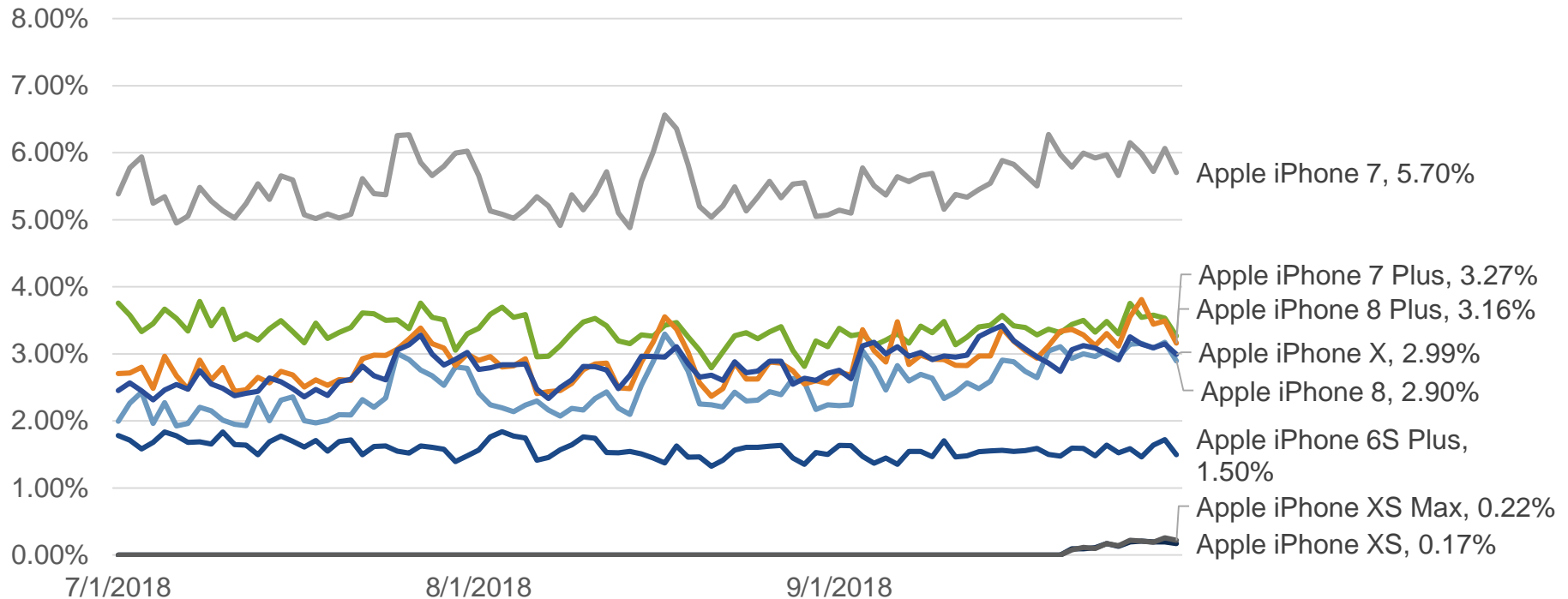
### Recent Samsung, Global, September 2018



## Apple iPhones : Global

- The Apple iPhone XS and XS Max started to ship on September 21. By the end of September, they accounted for 0.17% and 0.22% of all smartphone usage.
- The Apple iPhone 7 remains the most popular smartphone in the world, with 5.7%.

### Recent iPhones, Global, September 2018



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## Video in Image Contexts (MP4 in img tags)



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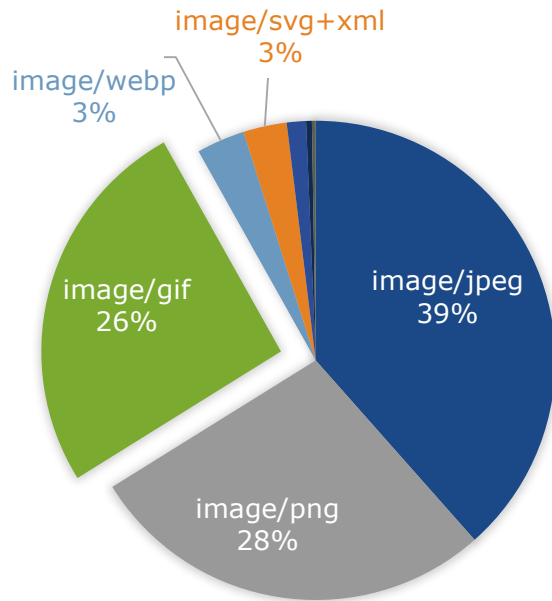




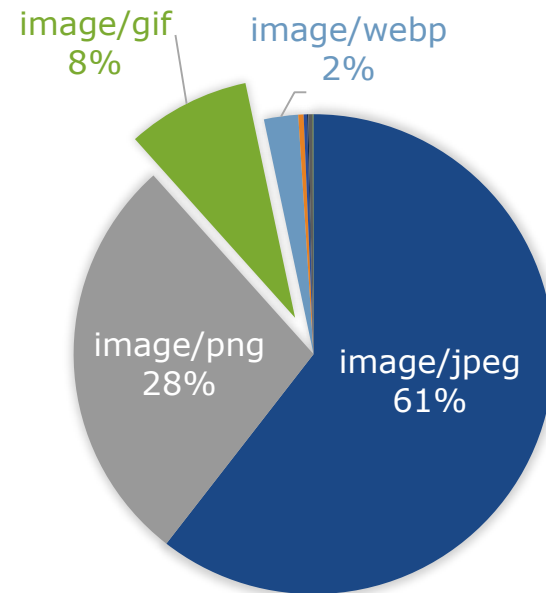
## Top Image Formats on the Internet

- Among image requests, JPEGs are the most prominent, followed by PNG and GIFs.
- While GIFs make up almost one third of image requests, they only count for 8% of image payload. In other words, GIFs are frequently small files like icons, tracking pixels, and non-visible artifacts.
- However, because GIFs are among the most inefficient image formats, when used for animated images, they generate much larger files than necessary.

### Image Requests

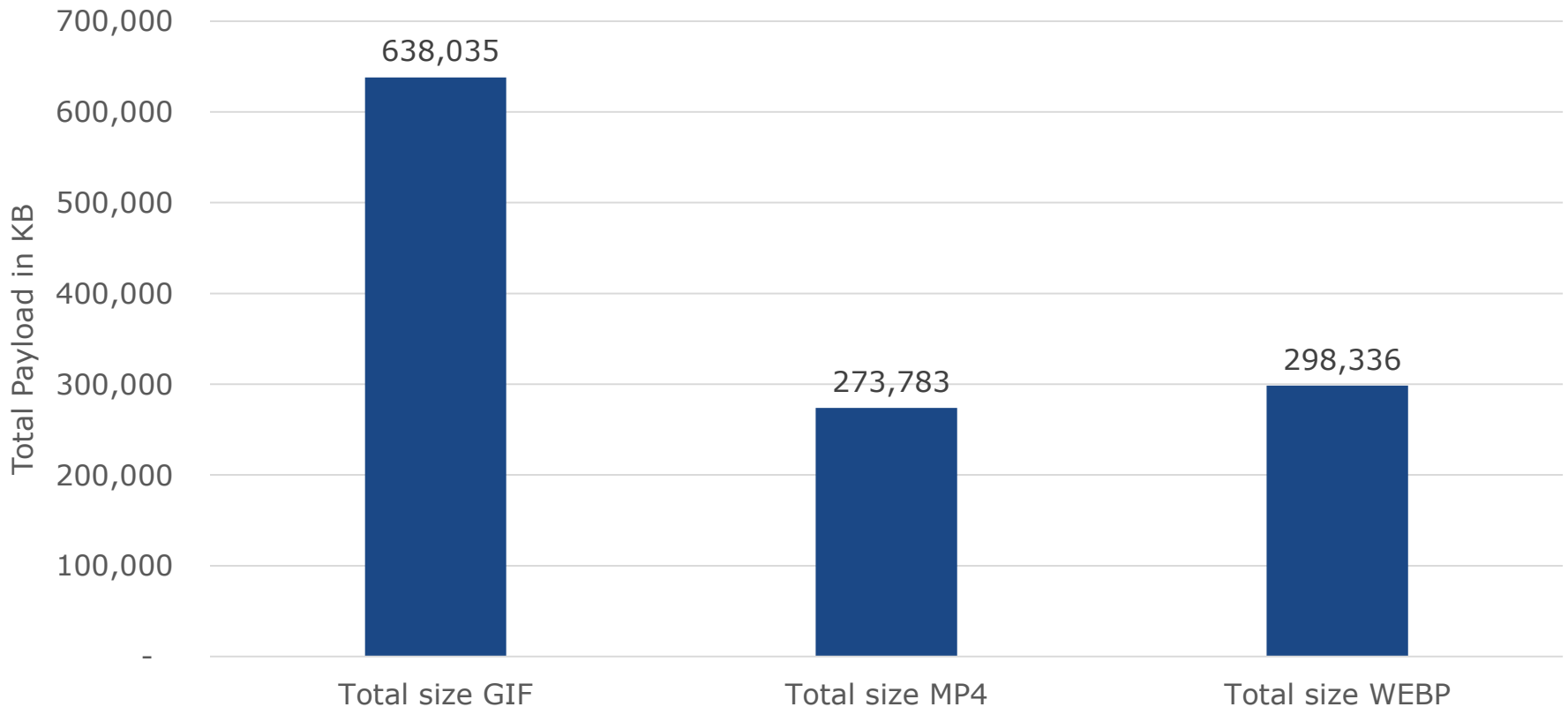


### Image Payload



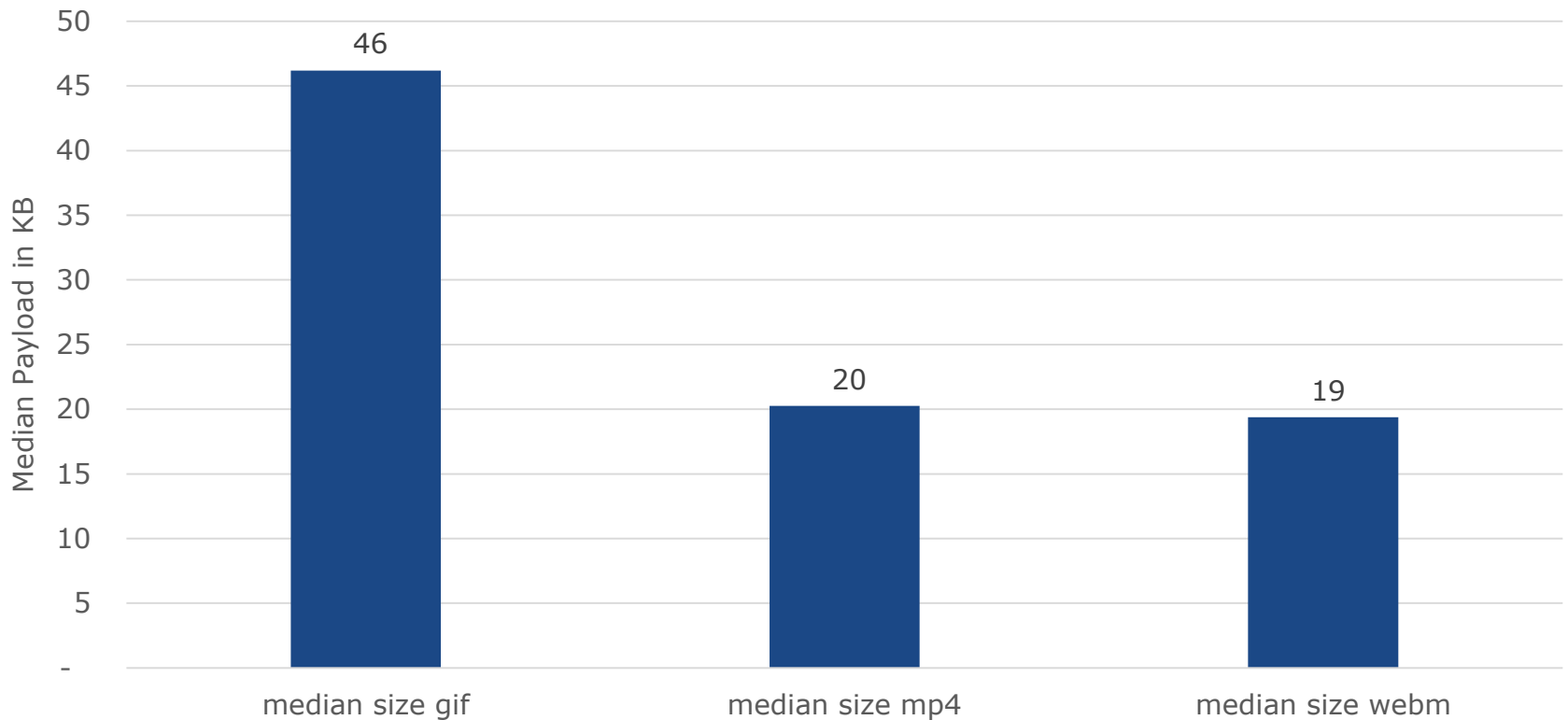
## Total Video Sizes of Image Files

- We studied a sample of more than 3,600 GIF animations and converted them to MP4 and WEBP.
- When comparing identical videos in GIF, MP4, and WEBP video formats, the GIF has the largest total video payload.
- MP4 and WEBP files are much more efficient alternatives for video, generating only 43% and 47% of the GIF's payload.
- In other words, MP4 reduces the payload by 57% and WEBP reduces payload by 53%.



## Median Video Sizes of Image Files

- When comparing the total size in the last slide with median size in this slide, we see that WEBM is slightly more efficient.
- This is where we see the difference between a codec made for images and one made for video. MP4 is more efficient for the large, movie-like GIFs while WEBM is more efficient in the realm of the classic GIF use cases.



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## Multi-SIM Support



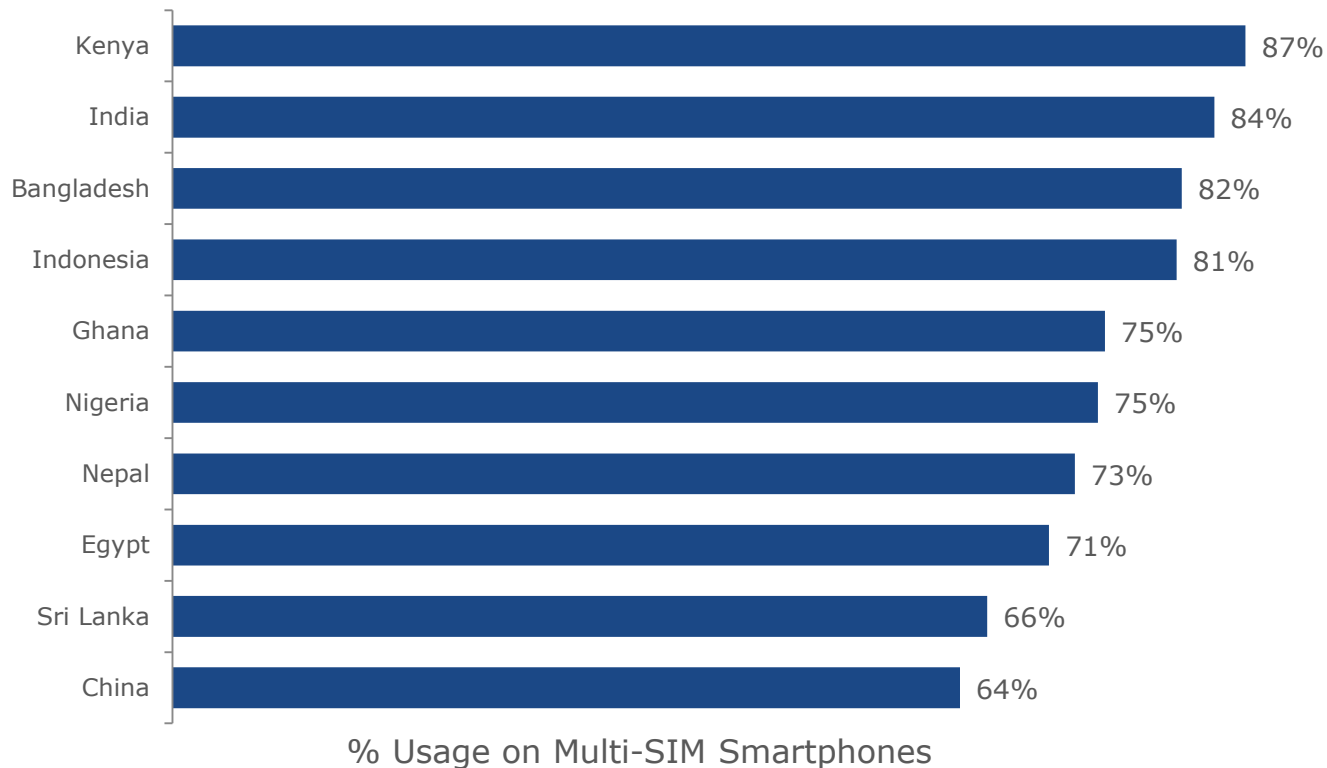
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## Top 10 Countries Ranked By Percent of Multi-SIM Usage

- Multi-SIM devices represent the highest percent of usage in developing countries.
- Kenya, India, Bangladesh, and Indonesia all have over 80% of smartphone usage coming from devices capable of multi-SIM.
- Of the 50 countries studied, 14 of them had multi-SIM usage over 50%.

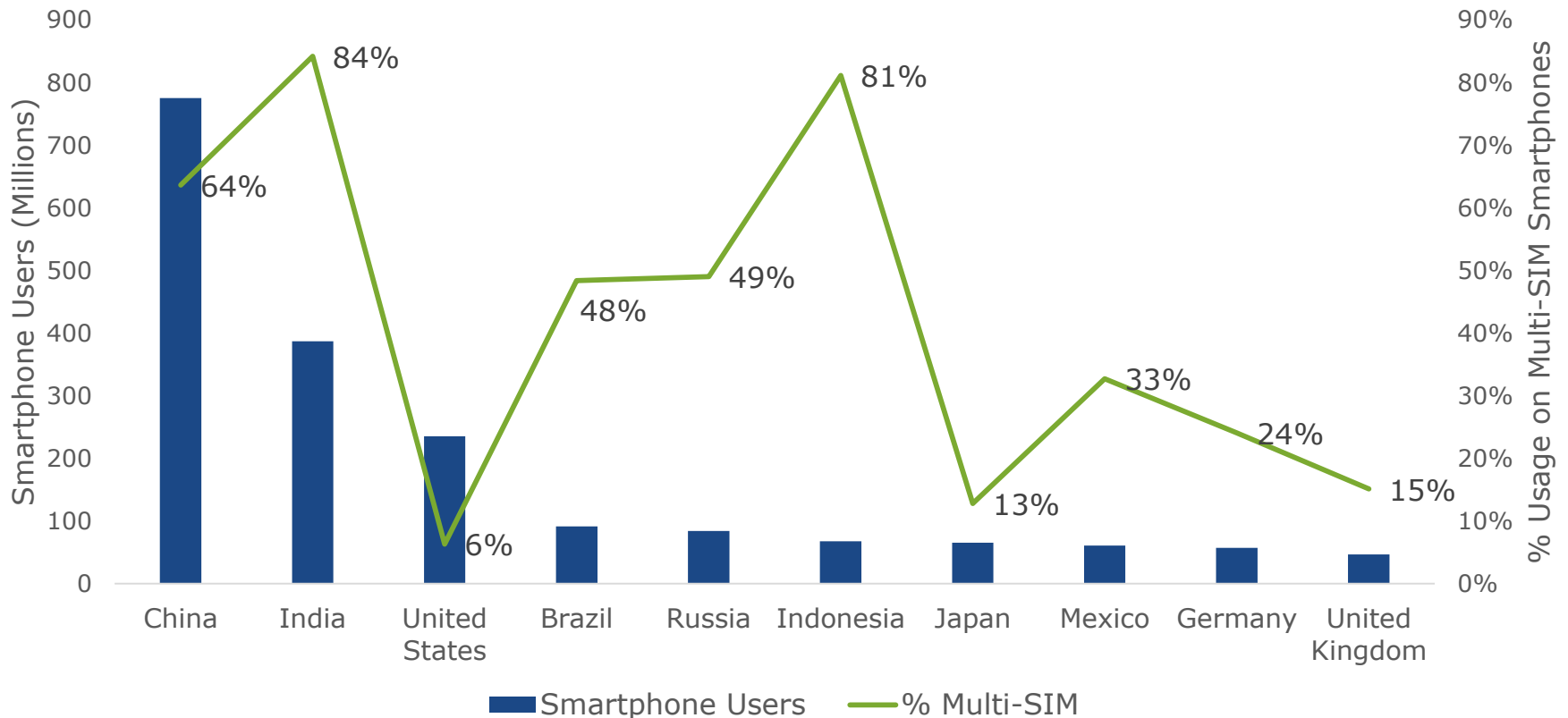
### Highest Percentage Use of Multi-SIM Smartphones by Country



## Multi-SIM Usage in World's Largest Countries (by Smartphone Subs)

- Looking at the largest countries in terms of smartphone subs, many have significant usage coming from devices with multi-SIM capability.
- China, India, Brazil, Russia, and Indonesia all have significant multi-SIM device usage.
- This does not indicate actual use of multiple SIMs, just that devices are capable of using multiple SIMs.

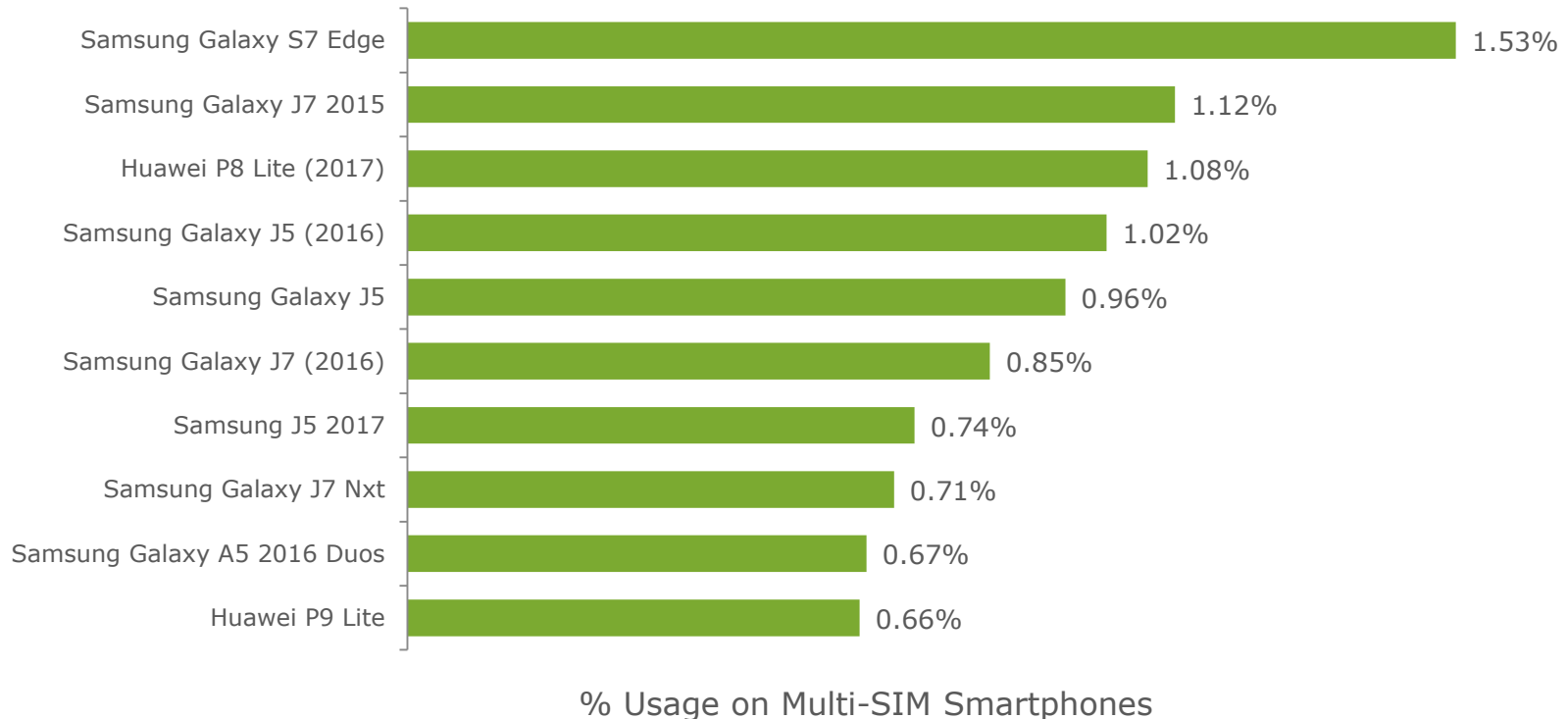
### Multi-SIM Device Usage in World's Large Mobile Markets



## Top Multi-SIM Smartphones

- Samsung Galaxy S7 Edge is the most popular multi-SIM smartphone during 2018 Q3 with 1.53% of usage.
- Samsung and Huawei smartphones dominate the top 10 multi-SIM.

### Top 10 Multi-SIM Smartphones 2018 Q3

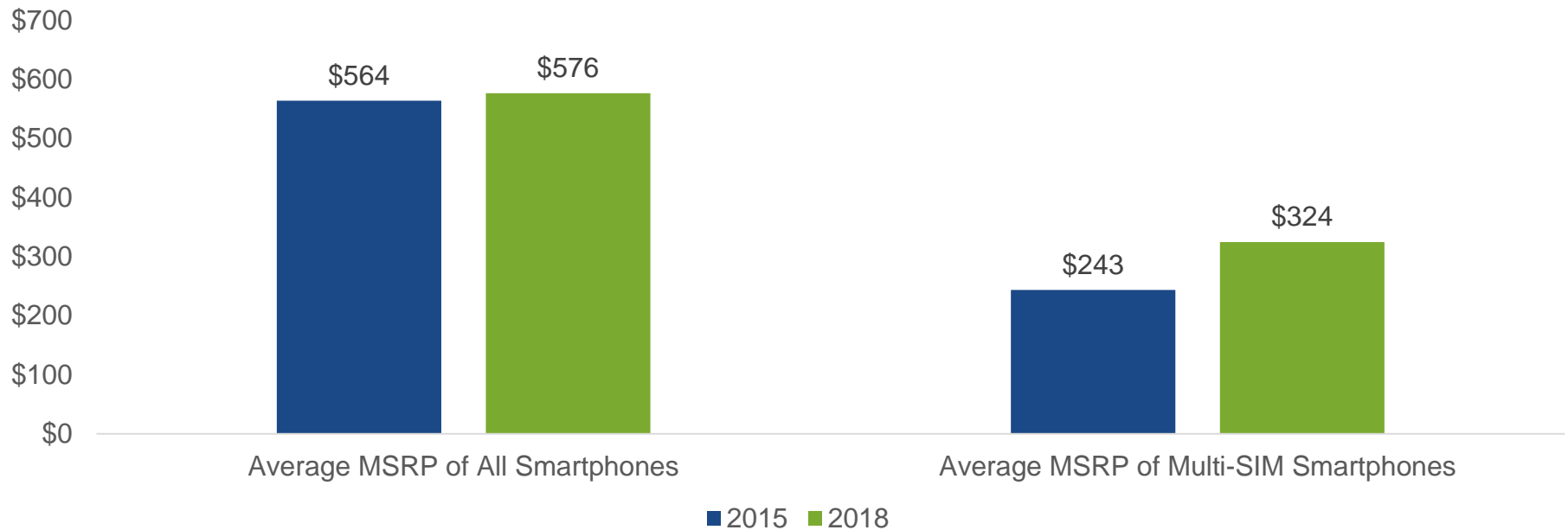




## MSRP of Smartphones Supporting Multi-SIM

- The average MSRP of a multi-SIM smartphone during 2018 Q3 is \$324.
- This average MSRP all smartphones is \$576, indicating that multi-SIM is a common feature on budget-oriented smartphones.
- The average MSRP of multi-SIM smartphones has increased from \$243 in 2015 to \$324 in 2018. Multi-SIM is increasingly included in higher end devices, raising the average MSRP.

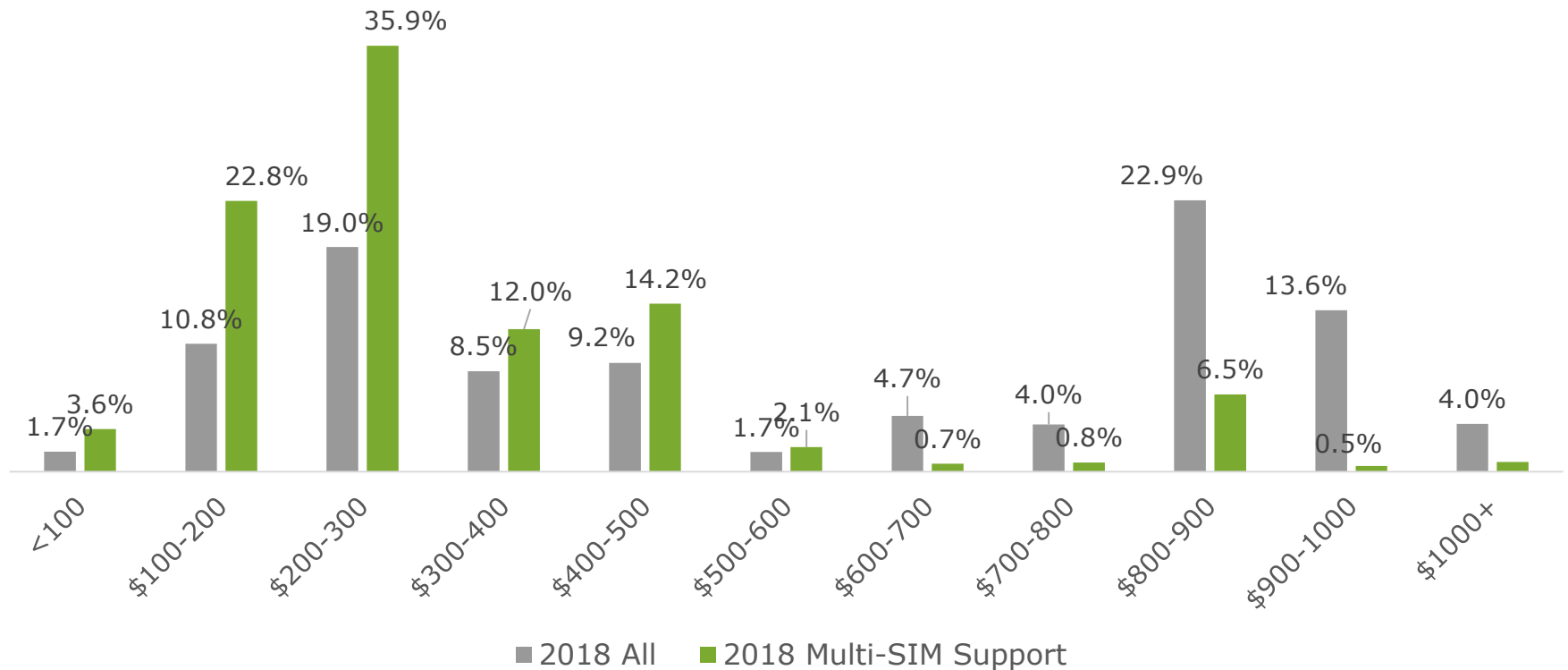
Average MSRP, All Smartphones vs Multi-SIM



## MSRP of Smartphones Supporting Multi-SIM

- 87% of multi-SIM smartphone usage occurs on devices under \$500.
- 35.9% of usage occurs on smartphones in the \$200-300 range.
- Newly launched Apple iPhone XS, XS Max, and XR have dual SIM slots. As these expensive phones grow in usage, the average MSRP will increase over the next several months.

MSRP of Smartphones Supporting Multi-SIM– 2018 Q3



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Spotlight:  
South Korea

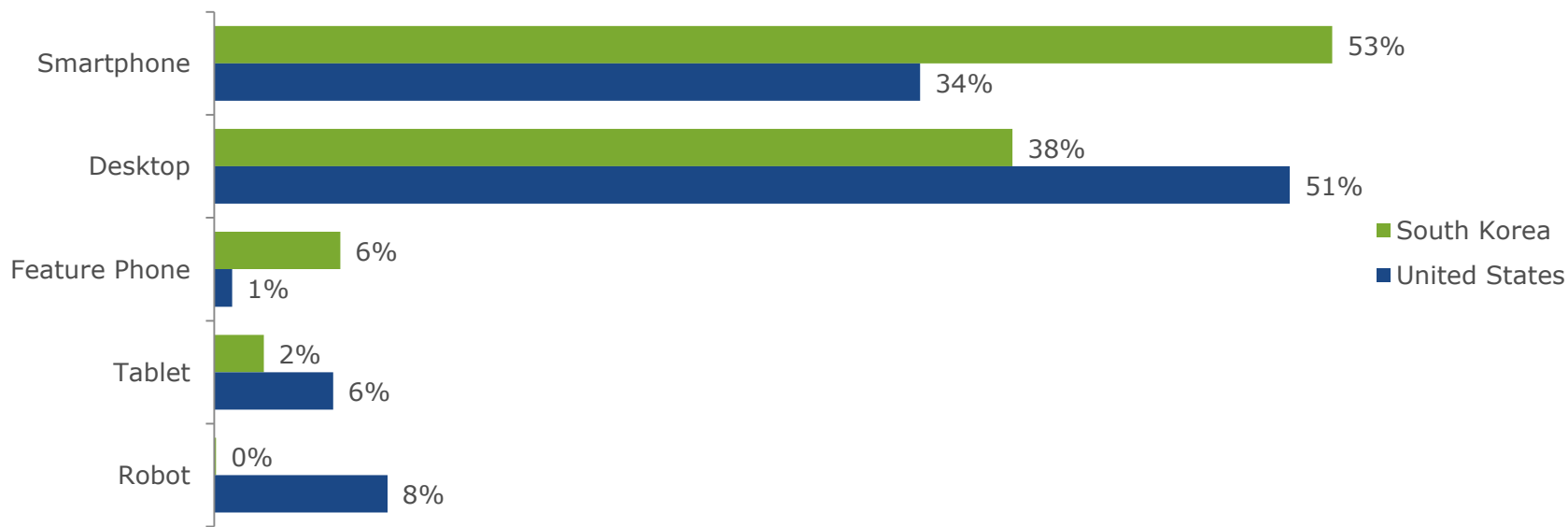




## Form Factor

- South Korea is a majority smartphone-dependent country with 53% using smartphones followed by 38% using desktop devices.
- The United States is a majority desktop-dependent country with 51% using desktops followed by 34% using smartphone devices.
- South Korea relies on feature phones at the same rate the United States relies on tablet devices, 6%.
- South Korea has a small amount of usage in the feature phone and tablet device sector and no significant reliance on robots.

## Form Factor



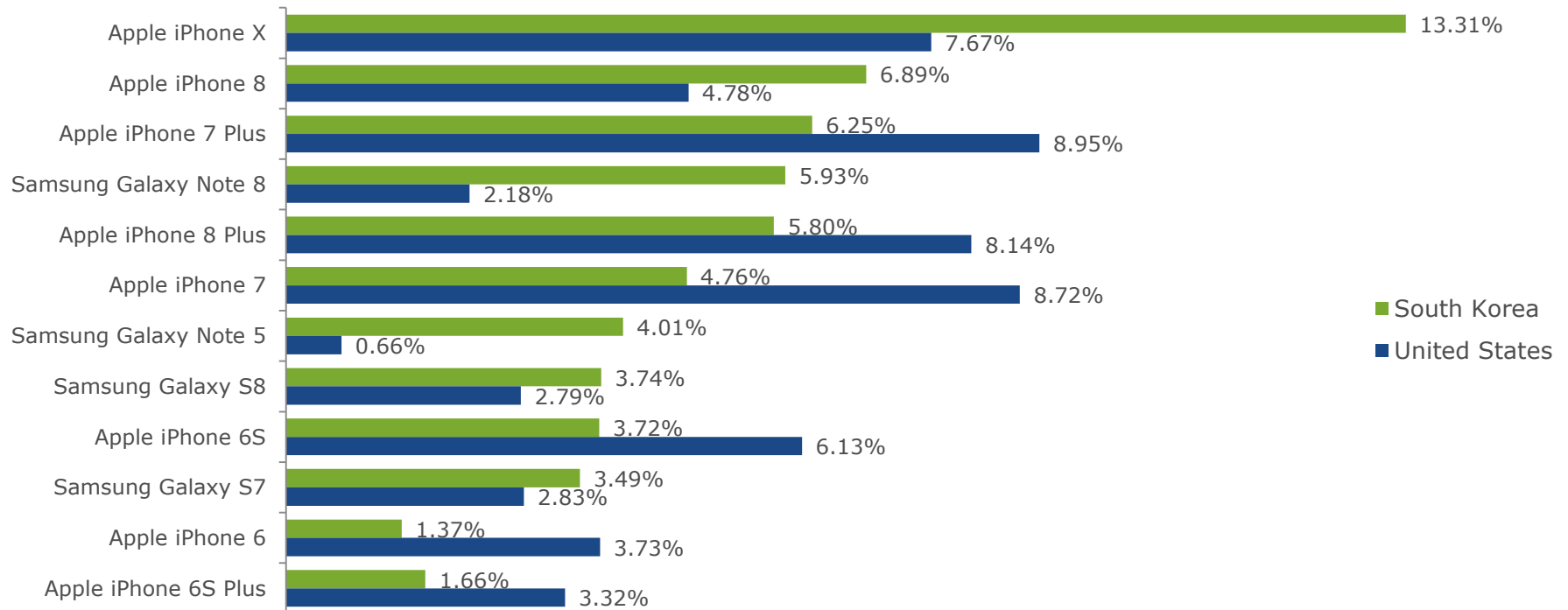
% of all device usage



## Top Smartphones

- The most used smartphone in South Korea during 2018 Q3 was the Apple iPhone X at 13.31%.
- The second most used smartphone in South Korea this quarter was the Apple iPhone 8 at 6.89%.
- The noticeable gap between 1<sup>st</sup> and 2<sup>nd</sup> place was a 6.42% difference.
- The most used smartphone in the United States during 2018 Q3 was the Apple iPhone 7 Plus at 8.95%. It was also the third most popular smartphone in South Korea at 6.25%.
- The second most used smartphone in the United States this quarter was the Apple iPhone 7 at 8.72%.

### Top Smartphones – South Korea vs. United States

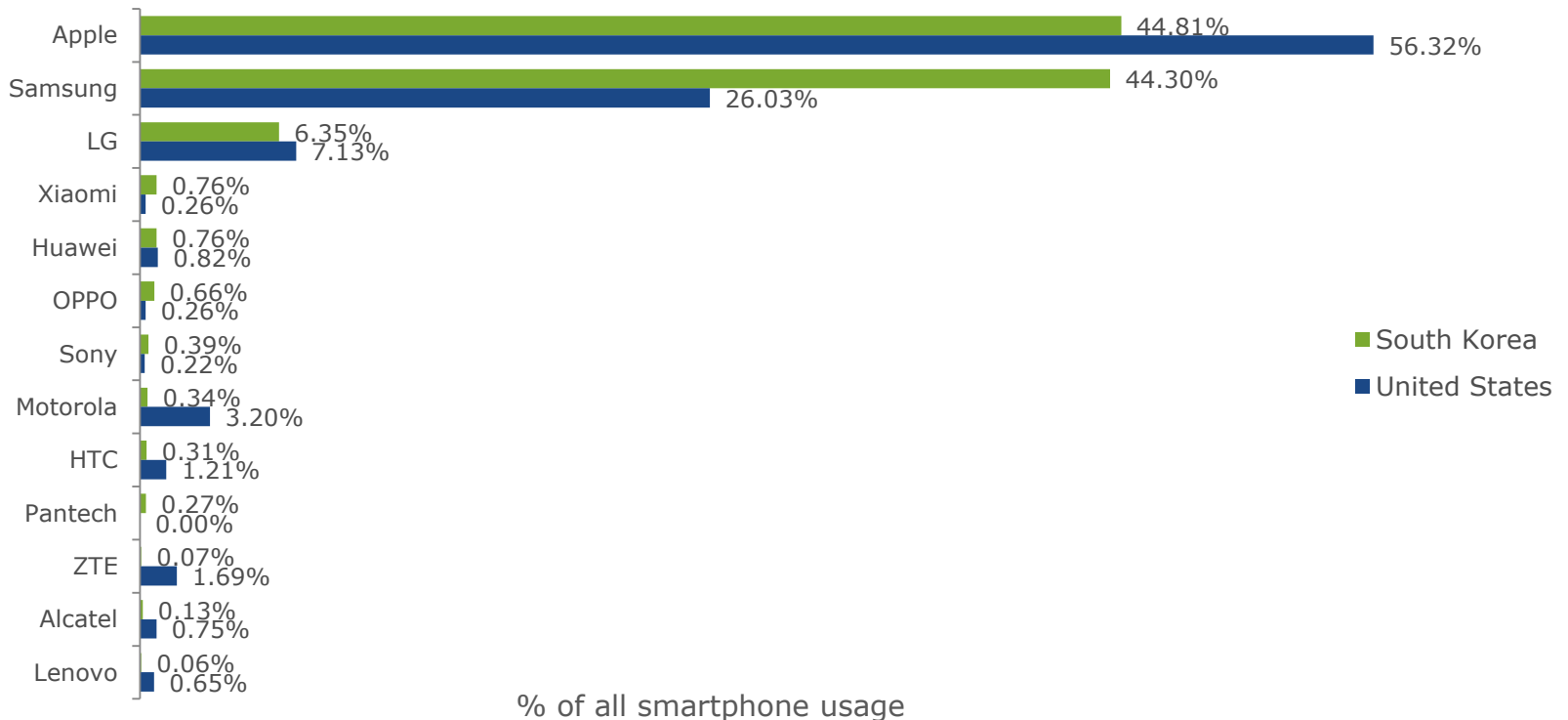




## Top Smartphone Manufacturers

- Apple is the leading smartphone manufacturer in South Korea for 2018 Q3 (44.81%) with a close 2<sup>nd</sup> being Samsung (44.30%).
- South Korea has a lower adoption of LG smartphones in 3<sup>rd</sup> place (6.35%).
- Apple is also the leading smartphone manufacturer in the United States for 2018 Q3 (56.32%).
- For the United States, Samsung is a distant 2<sup>nd</sup> place (26.03%).
- Similar to South Korea, LG smartphones had lower usage in 3<sup>rd</sup> place in the United States (7.13%).

### Top Smartphone Manufacturers – South Korea vs. United States

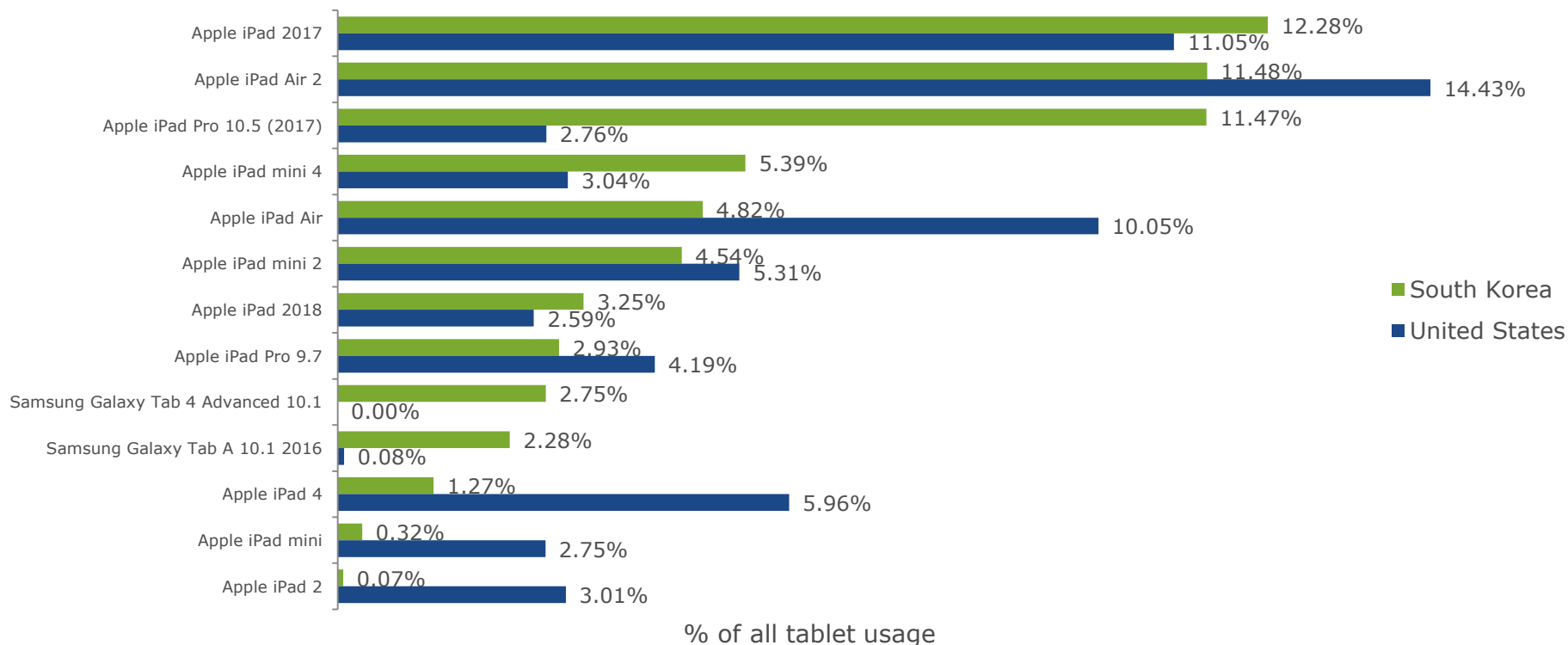




## Top Tablets

- The Apple iPad 2017 is the most popular tablet in South Korea with 12.28% usage this quarter.
- South Korea uses its top three tablets noticeably more than the rest of the tablet market. 2<sup>nd</sup> and 3<sup>rd</sup> place are the Apple iPad Air 2 (11.48%) and the Apple iPad Pro 10.5 (2017) respectively.
- The Apple iPad Air 2 is the most popular tablet in the United States with 14.43% usage this quarter.
- The United States also uses its top three tablets noticeably more than the rest of the tablet market. 2<sup>nd</sup> and 3<sup>rd</sup> place are the Apple iPad 2017 (11.05%) and the Apple iPad Air (10.05%) respectively.

### Top Tablets – South Korea vs. United States

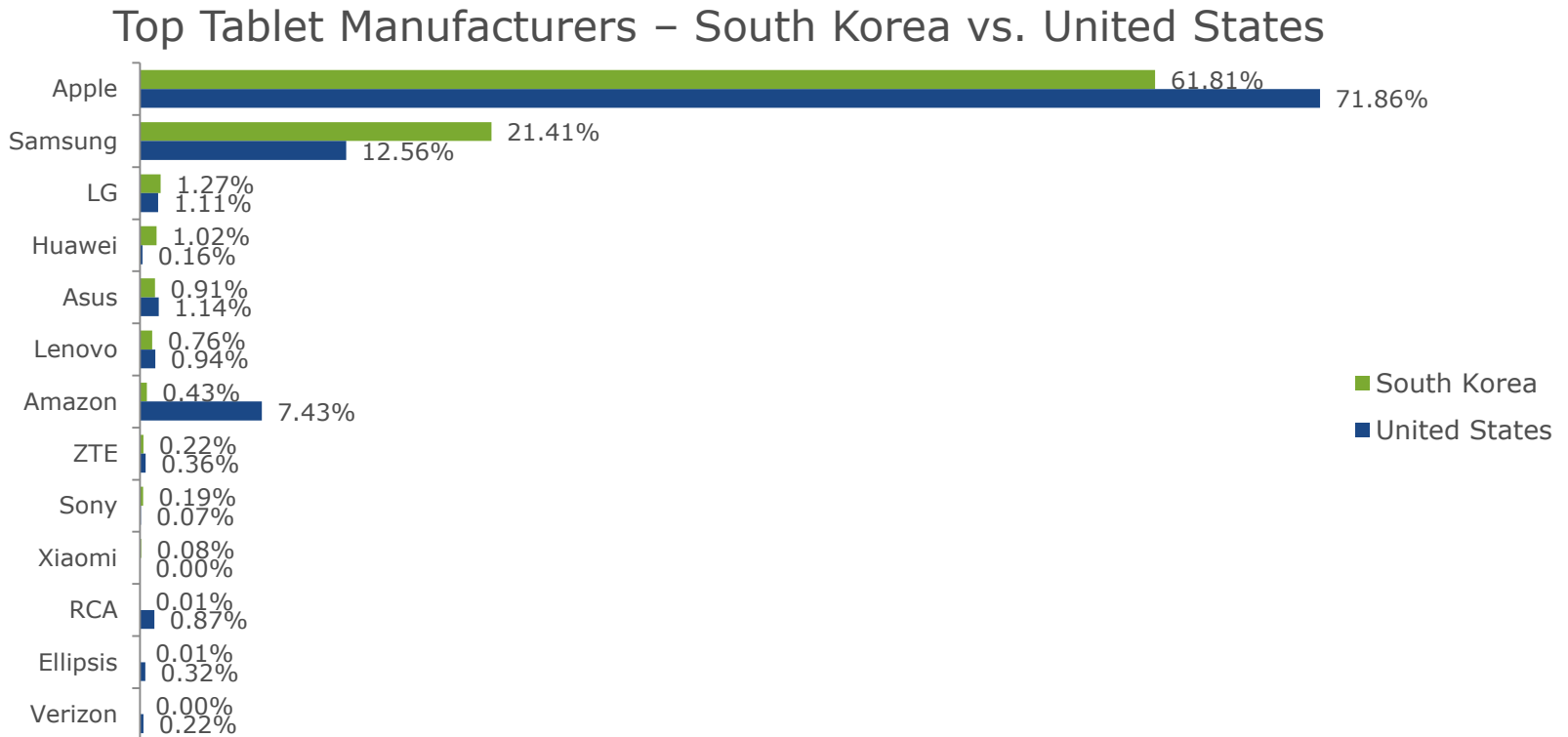






## Tablet Operating System

- In South Korea, Apple is the most popular tablet manufacturer with 61.81%.
- Apple is the most popular manufacturer in the United States with 71.86%.
- Samsung is the second most popular with 21.41% in South Korea and 12.56% in the United States.
- In the United States, Amazon is in 3<sup>rd</sup> place (7.43%) while South Korea has a distant 3<sup>rd</sup> place with LG (1.27%).



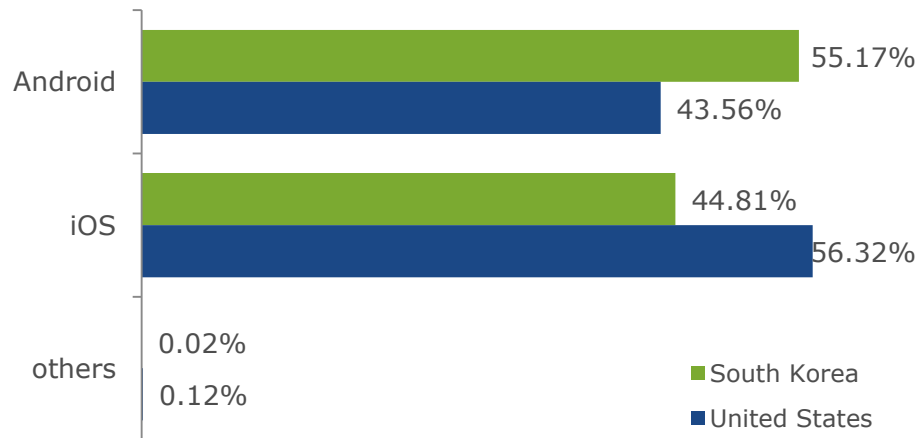
% of all tablet usage



## Smartphone OS Version

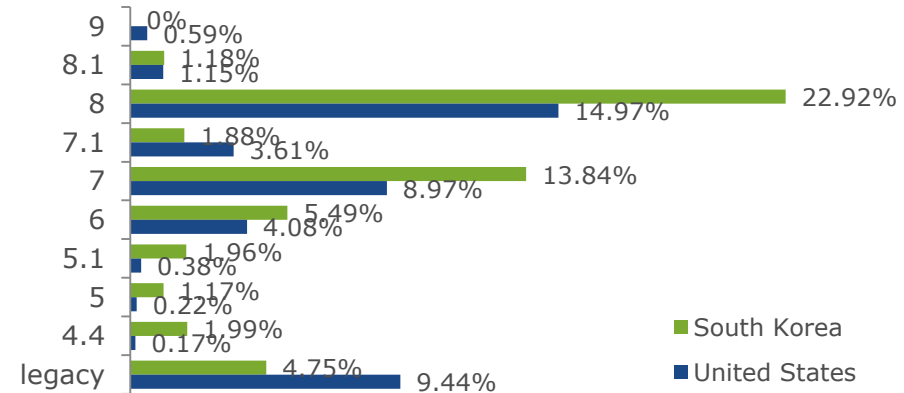
- Android leads the smartphone OS market in South Korea with 55.17% usage and iOS leads the smartphone OS marketing in the United States at 56.32%.
- In 2<sup>nd</sup> place, iOS has 44.81% of smartphone OS in South Korea versus Android's share in the United States at 43.56%.
- The most popular version of Android in both countries is version 8 with South Korea at 22.92% and the United States at 14.97%.
- For iOS, the most popular version during 2018 Q3 was 11.4. South Korea had 31.74% and the United States had 41.52% on 11.4.

### Operating Systems – South Korea vs. United States



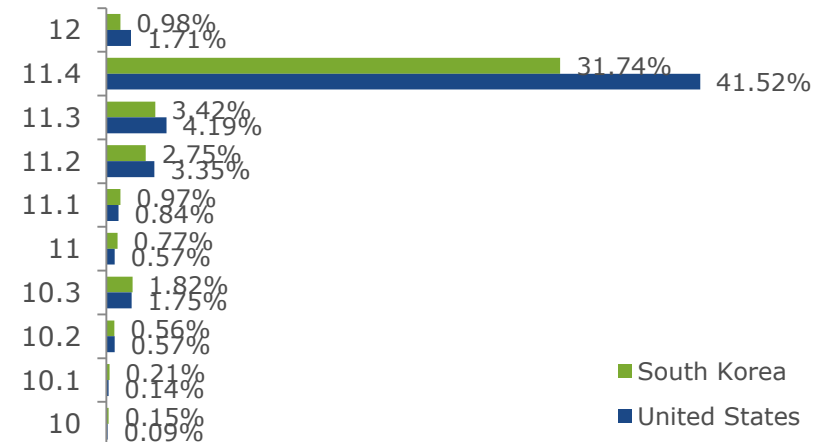
% of all smartphone usage

### Android OS – South Korea vs. United States



% of all Android smartphone usage

### iOS – South Korea vs. United States



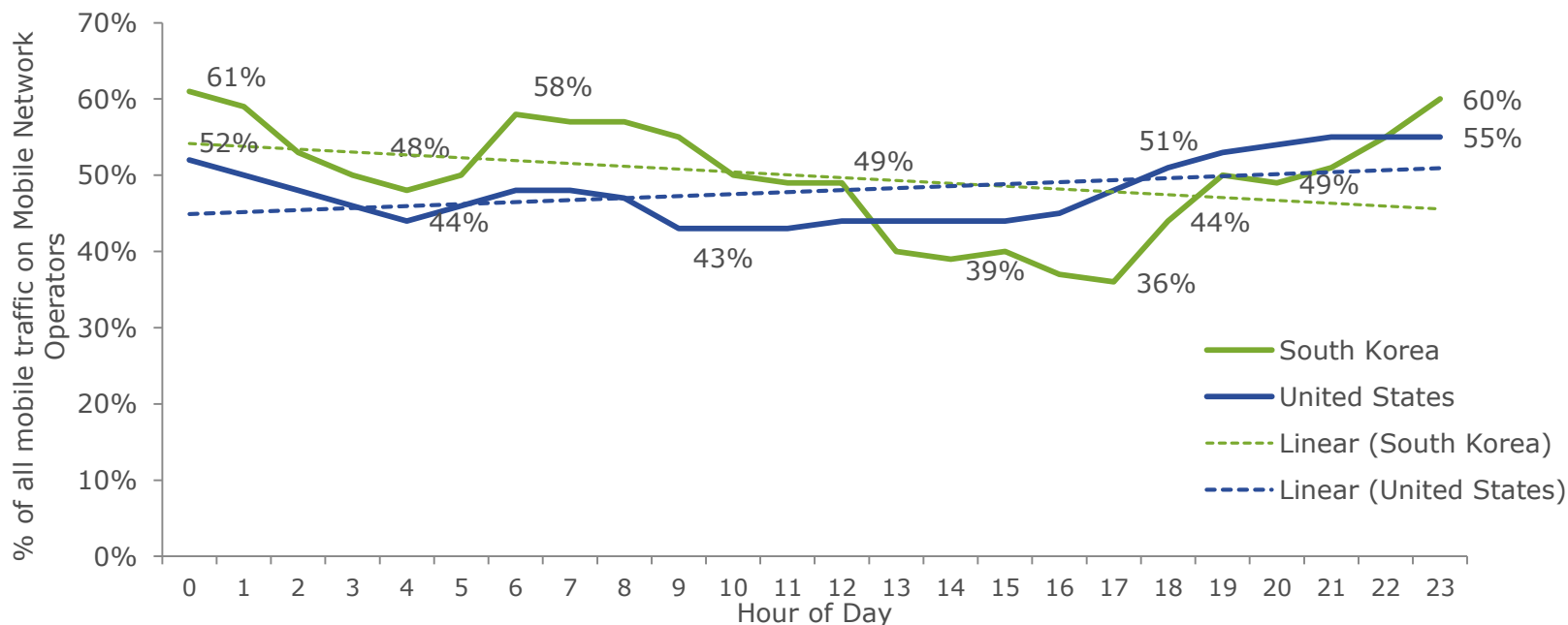
% of all iOS smartphone usage



## Mobile Network Operator Usage by Time of Day

- South Korea has an average of 50% of traffic on mobile network operators (MNO), but during the day the usage fluctuates between 36% and 61%.
- The United States has an average of 48% of traffic on mobile network operations, but during the day the usage fluctuates between 43% and 55%.
- South Korea's peak hour is around midnight with 61% (hour 0) and 60% (hour 23) of traffic on MNOs with a secondary peak (hour 6) at 58%.
- The United States' peak hour is right before midnight with 55% (hour 23), dropping to 52% the next hour.
- South Korea and the United States have inverse trendlines.

### % of Traffic on Mobile Network Operators by Hour of Day – South Korea vs. United States



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## About this Report & Resources



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# Report Specifications

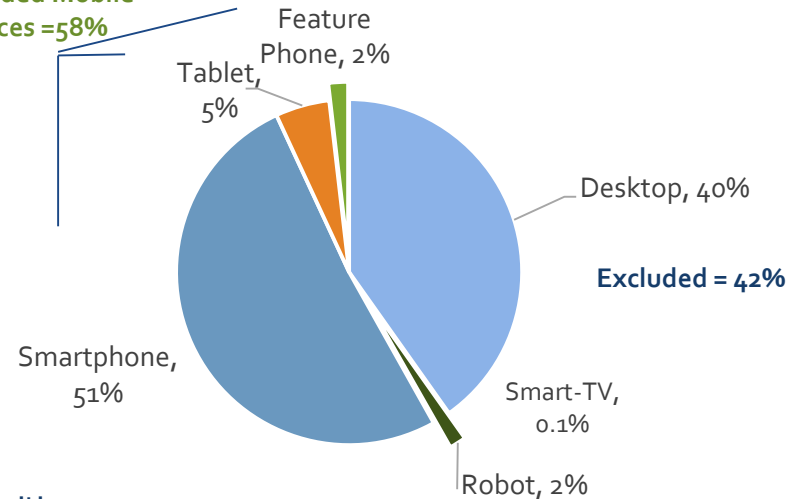
- Purpose of Report

- ScientiaMobile publishes MOVR to provide the mobile Web community with timely information on mobile Web device usage.
- Our goal is to stimulate interest in mobile device trends, device capabilities, and tools for analyzing and managing device fragmentation.

- Sources of Data and Filtering

- The information in this report is based on a representative sample of a larger data set. The sample size is over 89.3 billion requests from April 2014 to end of September 2018.
- MOVR focuses on mobile devices, consisting of smartphones, tablets, and feature phones.
- While the data set includes desktops, laptops, smart TVs, game consoles, apps, and robots, we have excluded them, unless otherwise noted.
- We have used an Equivalent Weighted Sites (EWS) methodology that indexes the traffic at each site and assigns an equal weight to each site.
- Samples sizes for Africa and Oceania are small enough that we have a low level of confidence that these figures are representative. However, the source data from these continents continues to grow. Over time, we will improve the quality of these figures. In the meantime, we feel that more information is better than less for people looking for insights in these continents.
- To download the data files supporting MOVR, or subscribe to future publications of MOVR, please visit us at [www.scientiamobile.com/movr](http://www.scientiamobile.com/movr)

Included Mobile  
Devices = 58%



## Definitions

- **What is a "hit"?** Each time a user visits a Web page and a user agent (UA) is generated and tested by WURFL (through a number of mechanisms), a "hit" is recorded in the ScientiaMobile dataset. All data reported in MOVR reflects hits, not the count of physical devices generating the hit.
- **What is a smartphone?** A smartphone must meet several criteria: it must be a wireless device, have a touch screen with horizontal resolution greater than or equal to 480px, and not be considered a tablet.
- **What is a tablet?** Criteria for a tablet include: a wireless device, be marketed as a tablet, and running a mobile or tablet OS. One exception is that a full version of Windows running on a tablet is considered to be a laptop.



## Definitions (continued)

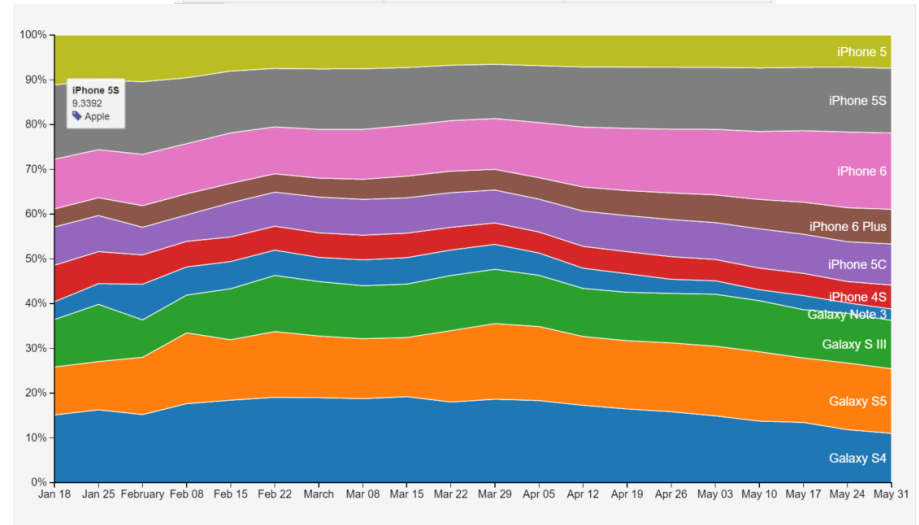
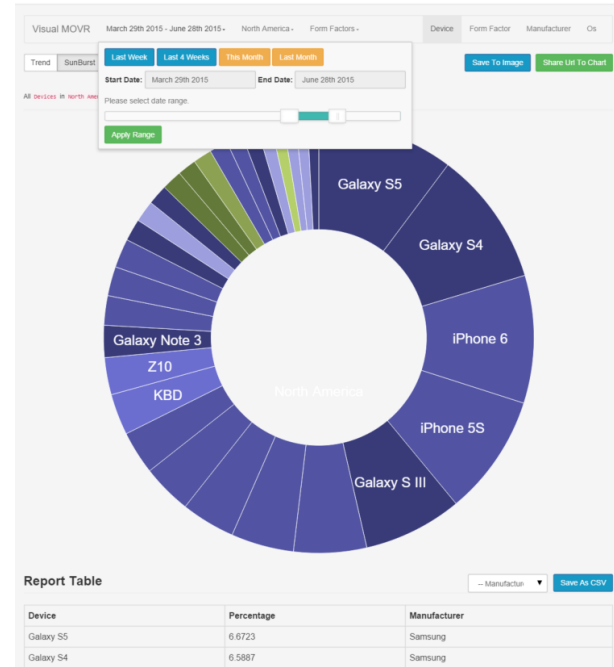
- *What is a feature phone?* It is a wireless device that falls into one of the three categories: classic feature phones, modern feature phones, and old smartphones.
  - **Classic feature phone:** Typically a bar, slide, or clamshell form factor with limited possibilities to install apps and a proprietary OS. Other criteria include a physical keyboard and a low price range. Examples are Nokia Series 30 and 40 or Motorola Razr devices.
  - **Modern feature phone:** These phones also have a low price range. They are “smartphone-like”, but targeted at the classic feature phone market. They may have a smartphone OS. They borrow features from classic feature phones, such as size or screen size. Examples are Nokia Asha series or Samsung Galaxy Pocket.
  - **Old smartphones:** These smartphones are older. Classic Blackberry devices and Symbian-based devices fall into this category. More recent devices with a touch screen, but with older hardware or older versions of Android, iOS or Windows Phone also fall into this category.
- *What is MNO Traffic?* Traffic originating from Mobile Network Operators (MNO). It is defined, in our research method, as the connection type provided by the browser navigator.connection API.

## About WURFL

- ScientiaMobile uses its WURFL products to collect and analyze the device intelligence contained in the MOVR report. WURFL is a Device Description Repository (DDR) that integrates an API and XML to provide an always-updated source for detecting devices and their capabilities. For more than 10 years, WURFL has been the industry standard for device detection. Today, ScientiaMobile offers a number of WURFL products to match a range of needs, from small developers to large enterprises.
- WURFL OnSite and WURFL InFuze provide businesses with high performance server-side device detection solutions.
- WURFL.js provides front-end developers with access to device detection through JavaScript snippets.
- WURFL InSight provides business intelligence analysts with a table-based device detection tool that will integrate easily with data analysis tools.
- ImageEngine combines mobile device detection with image resizing, image file optimization, and Content Delivery Network (CDN)-type delivery. It provides significantly faster downloads, especially on mobile devices.

## Visit the MOVR Visualization Tool

- We have **shortened** this quarterly report because you can now get **up-to-date reports** directly from our MOVR Visualization Tool at <https://www.scientiamobile.com/movr-visualization-tool/>
- With the MOVR Visualization Tool you can:
  - Run interactive reports on up-to-date MOVR information.
  - Export high-quality PNG images. Export data as CSV.
  - Share URL of reports you have generated.



## About ScientiaMobile

- ScientiaMobile provides the industry's most accurate and flexible device detection solution, helping customers deliver great web experiences and manage the increasingly fragmented mobile device ecosystem. ScientiaMobile sells WURFL, a constantly-updated repository that catalogues thousands of devices and their capabilities and provides access to them via range of API languages. The WURFL framework enables many organizations, including Fortune 500 companies, to effectively design and analyze web experiences for an ever-growing range of smartphones, tablets, smart TVs, and game consoles.
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- [WURFL.io](http://WURFL.io) offers a number of free tools for device detection and image tailoring.
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