Smart Connected Devices Forecast, 2010-2020

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Agenda

- Definitions and Assumptions
- Key Findings
- WW PCs
- WW Tablets
- WW Smartphones
- WW Smart Connected Devices
- Conclusions

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Definitions

- PCs
  - Personal computers, typically desktops or notebooks, are devices that come with keyboards which run full desktop operating systems and feature larger (generally 10”+) displays. TECHnalysis Research counts 2-in-1s (such as Microsoft Surface), convertibles, and hybrids as PCs.
- Tablets
  - Devices which commonly, but not exclusively, run mobile operating systems and do not include a keyboard. Small tablets are defined as having screens from 7-7.9” and large tablets have screens 8”+.
- Smartphones
  - A mobile computing device, typically without a keyboard, that features a screen under 7” in size. Small smartphones have screens under 5” and large smartphones have screens that are 5” -6.9”.
- Smart Connected Devices
  - The combined total of PCs, tablets and smartphones.

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Assumptions

- Businesses will continue to need and use PCs for the foreseeable future
- Windows 10 will be well-received and drive modest PC growth
- Small tablets for consumers will continue to be negatively impacted by the strong growth of large smartphones (“phablets”)
- Commercial adoption of tablets will grow, but will be limited by impact of large smartphones
- Large smartphone adoption outside the US will continue to grow at a rapid pace
- Small smartphone price points will reach below $50 to enable strong growth in developing countries
- Device lifetimes across all categories, but particularly tablets and smartphones, will lengthen, thereby decreasing the frequency of purchases
- Software and services that enable the sharing of data and activities across device types will continue to grow and evolve

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Top Line Worldwide Messages

- The PC market has stabilized and is expected to remain relatively flat through the forecast period
  - Modest commercial upticks will offset modest declines in consumer purchases
- Slow replacement cycles and competition from large smartphones will cause the tablet market to begin a slow decline from last year's peak that's expected to last through 2020
  - Large tablets will regain the majority from small tablets by the end of the forecast
- Smartphone sales continue to grow, but will peak in 2018 at around 1.8 billion units and then start a slow decline
  - Large smartphones will become the majority of shipments in 2018 and surpass 1 billion in 2019
  - Small smartphones shipments peaked in 2014 and will shrink by 1/3 in 2020
- Total smart connected device shipments peak in 2018 at 2.4 billion and revenues peak in 2015 at $651 billion
- Google-originated offerings will retain a dominant share of operating systems with about 2/3 of the total, while Apple will have about 17% and Microsoft about 16%

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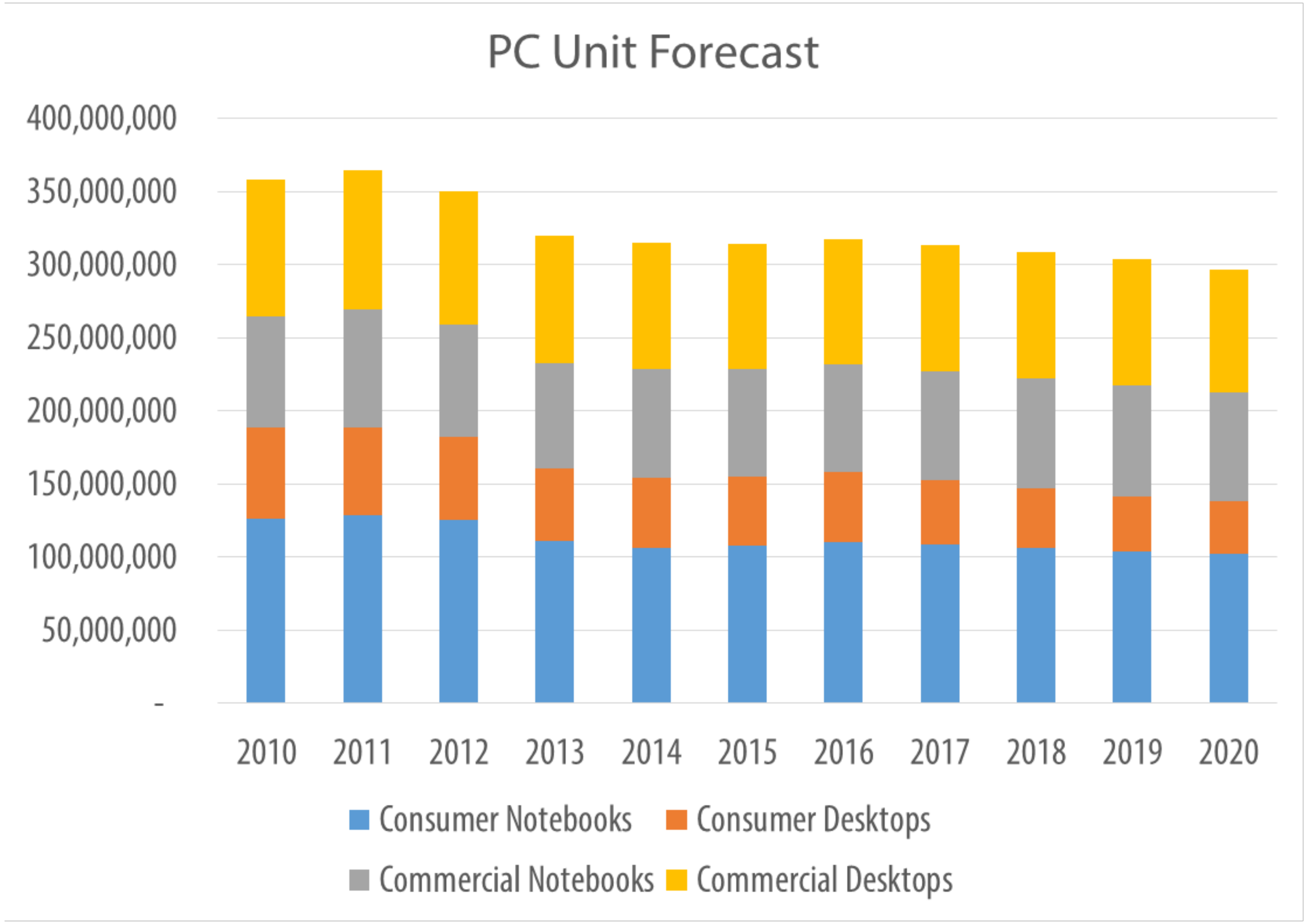
WW PC Forecast



- PC market now stabilized with modest bump in 2016 from Windows 10
- Shipments to fall under 300 million by 2020

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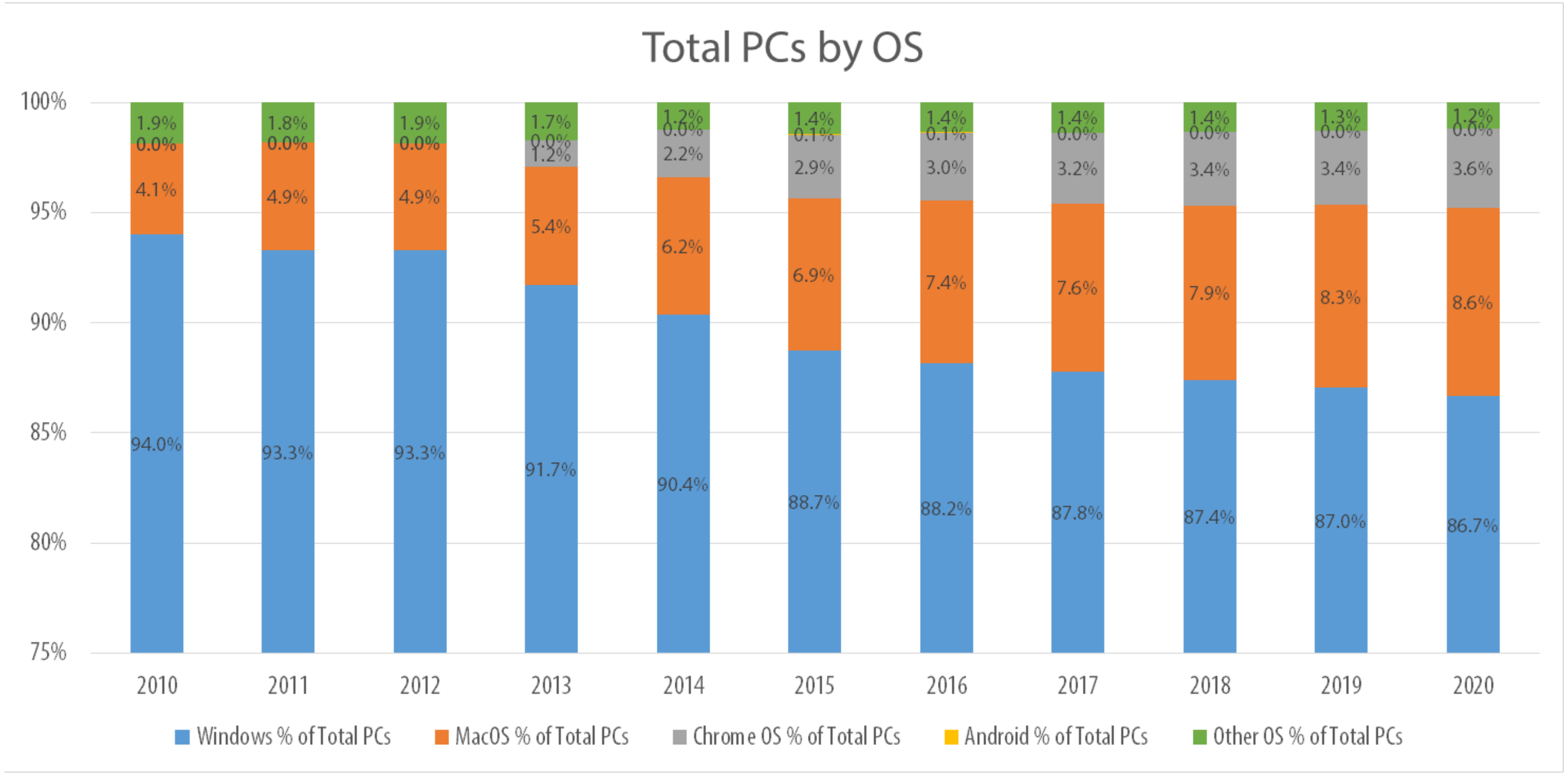
WW PC OS Forecast



- Windows will continue to dominate PC shipments, staying close to 87% even in 2020
- MacOS share will grow to 8.6% by the end of the forecast, more than double the 3.6% share of Chrome

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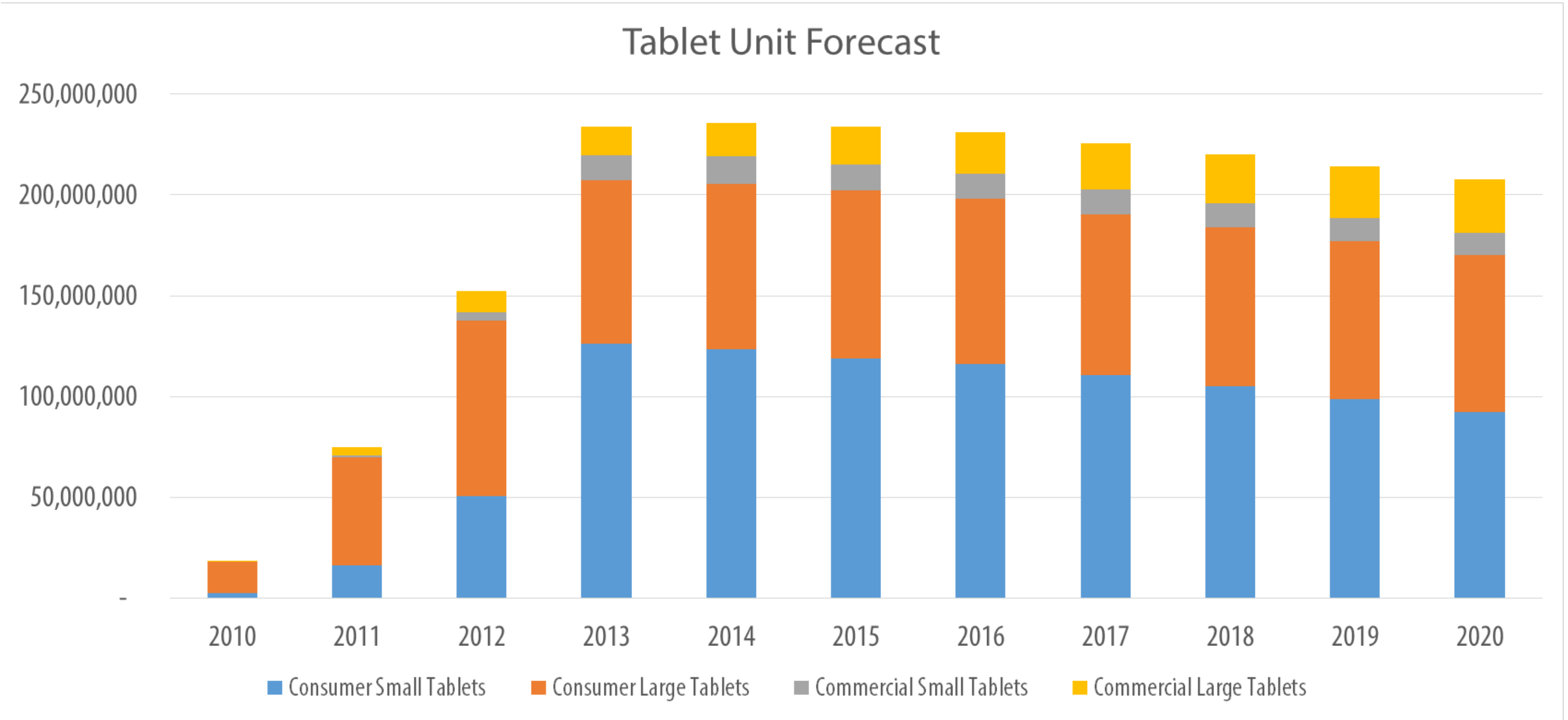
WW Tablet Forecast



- Tablet market peaked in 2014 and expected to fall slowly through forecast period
- Large tablets to overtake small (<8”) by 2020

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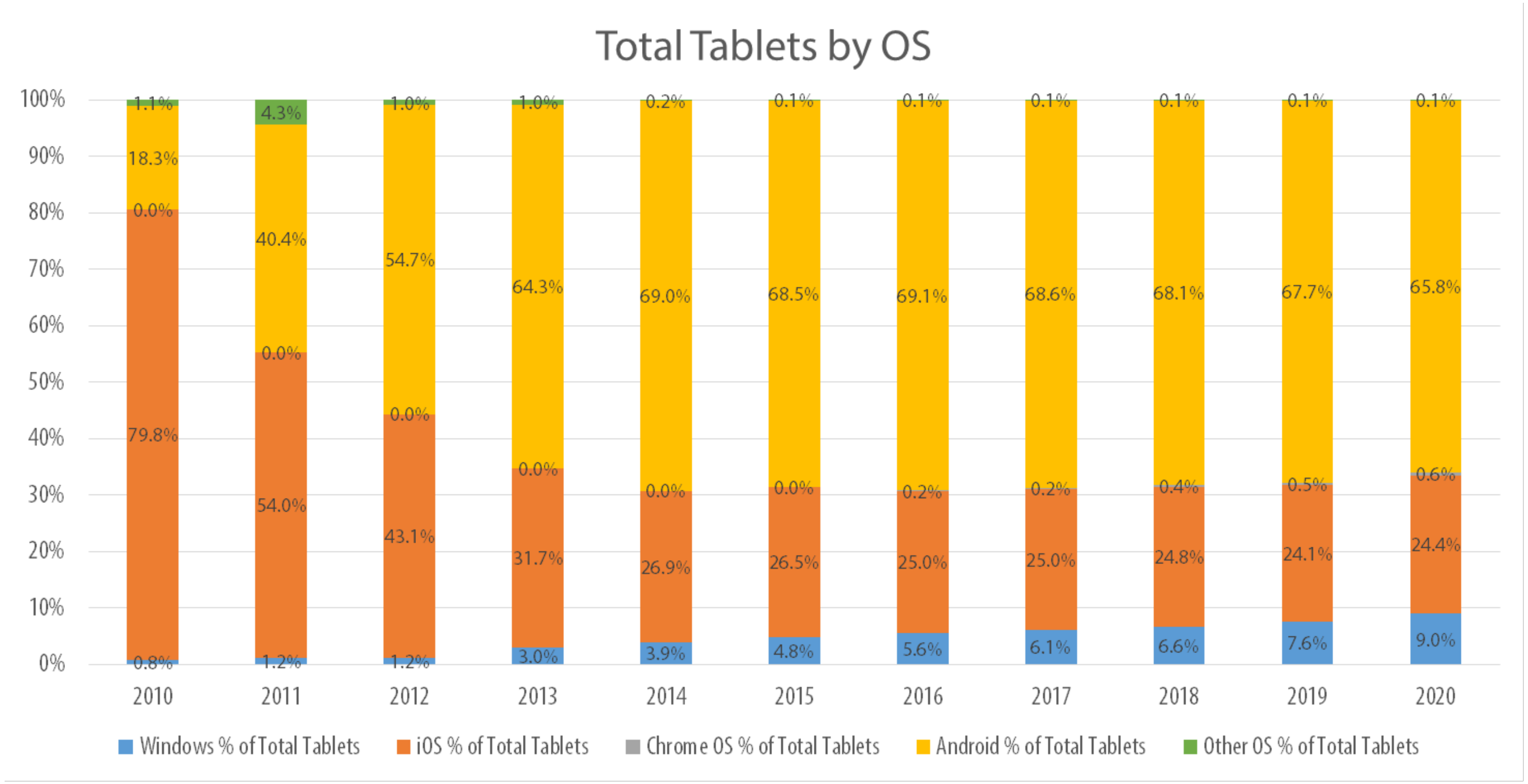
WW Tablet OS Forecast



- Android will dominate tablet market throughout forecast due to lower price offerings
- iOS will remain a steady ¼ of all shipments
- Windows tablets will grow, driven by commercial adoption

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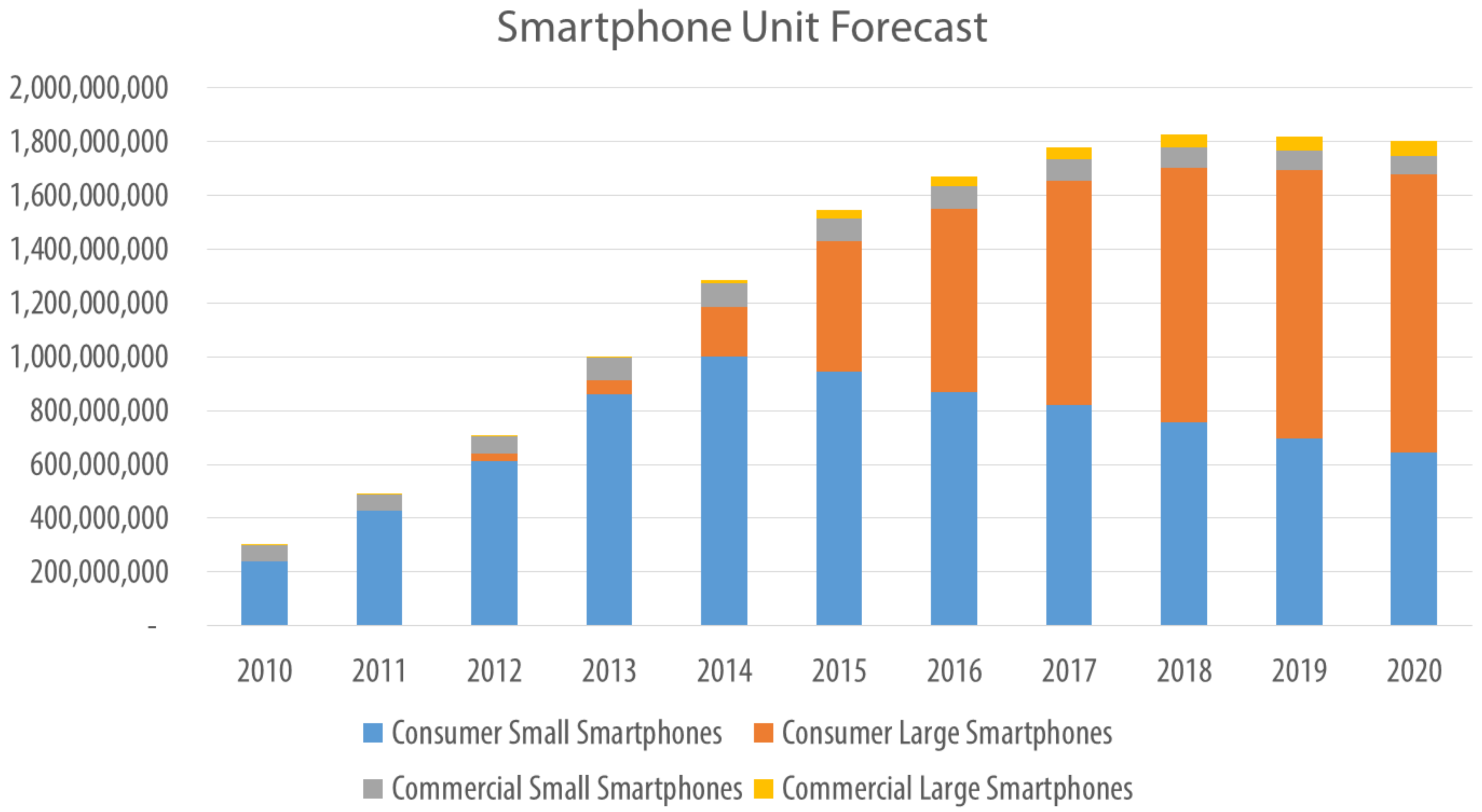
WW Smartphone Forecast



- Smartphone market expected to peak in 2018
- Large smartphones (5”+) will surpass small smartphones in 2018 and reach over 60% share in 2020

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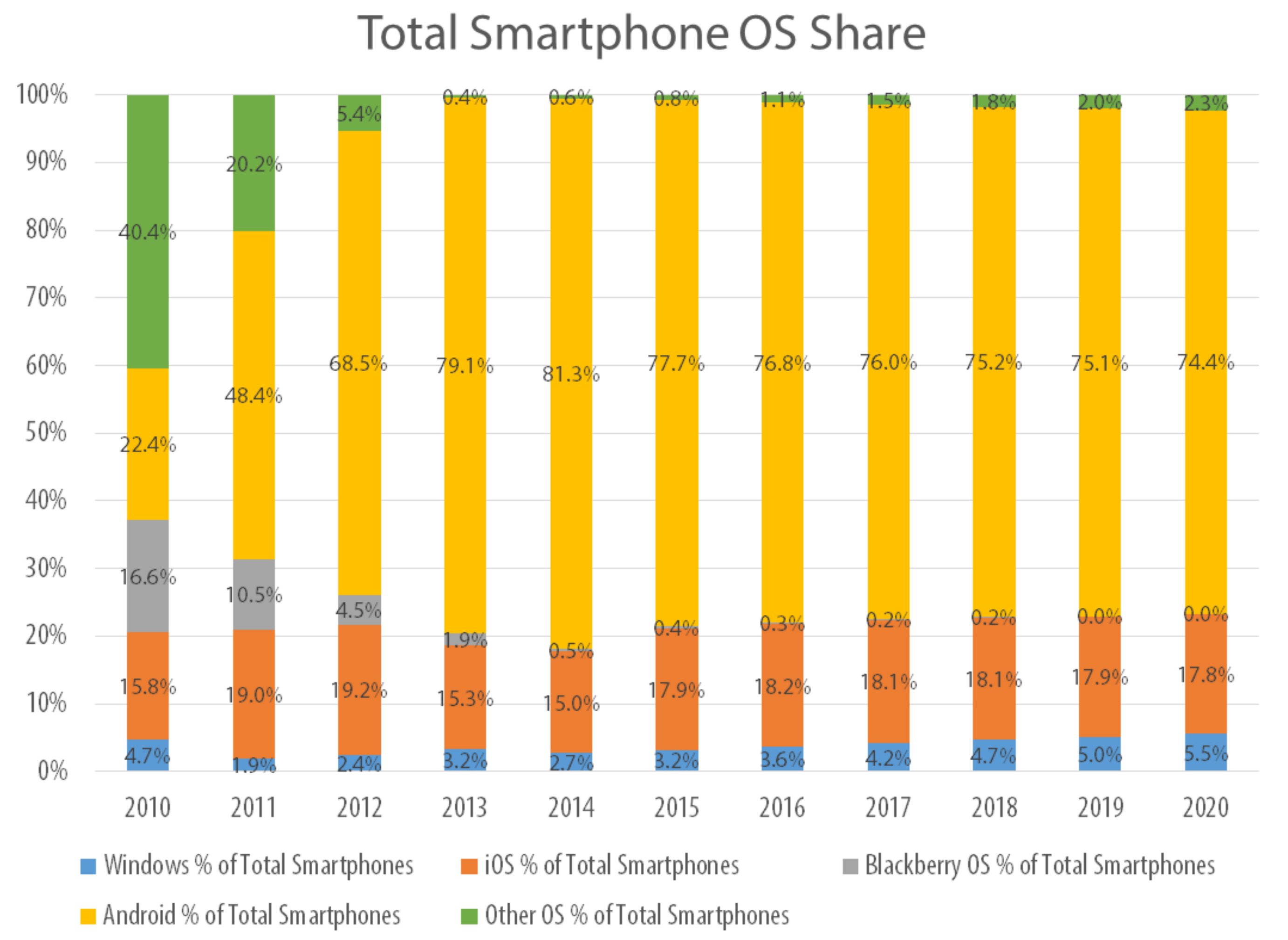
WW Smartphone OS Forecast



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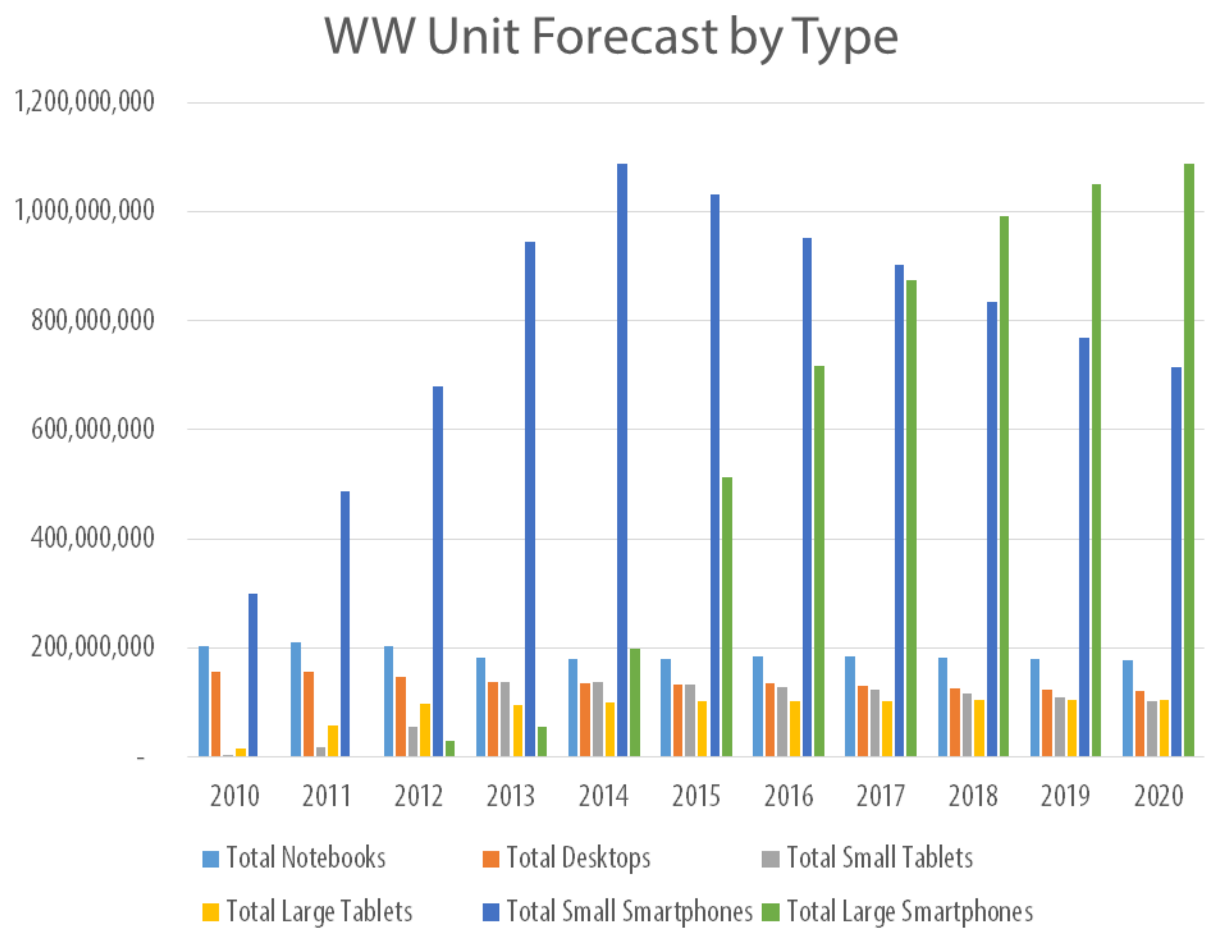
- Android expected to dominate smartphone share, but Apple will gain based on strength of larger size offerings
- Windows phones will increase share, but only modestly

WW Smart Connected Devices Forecast



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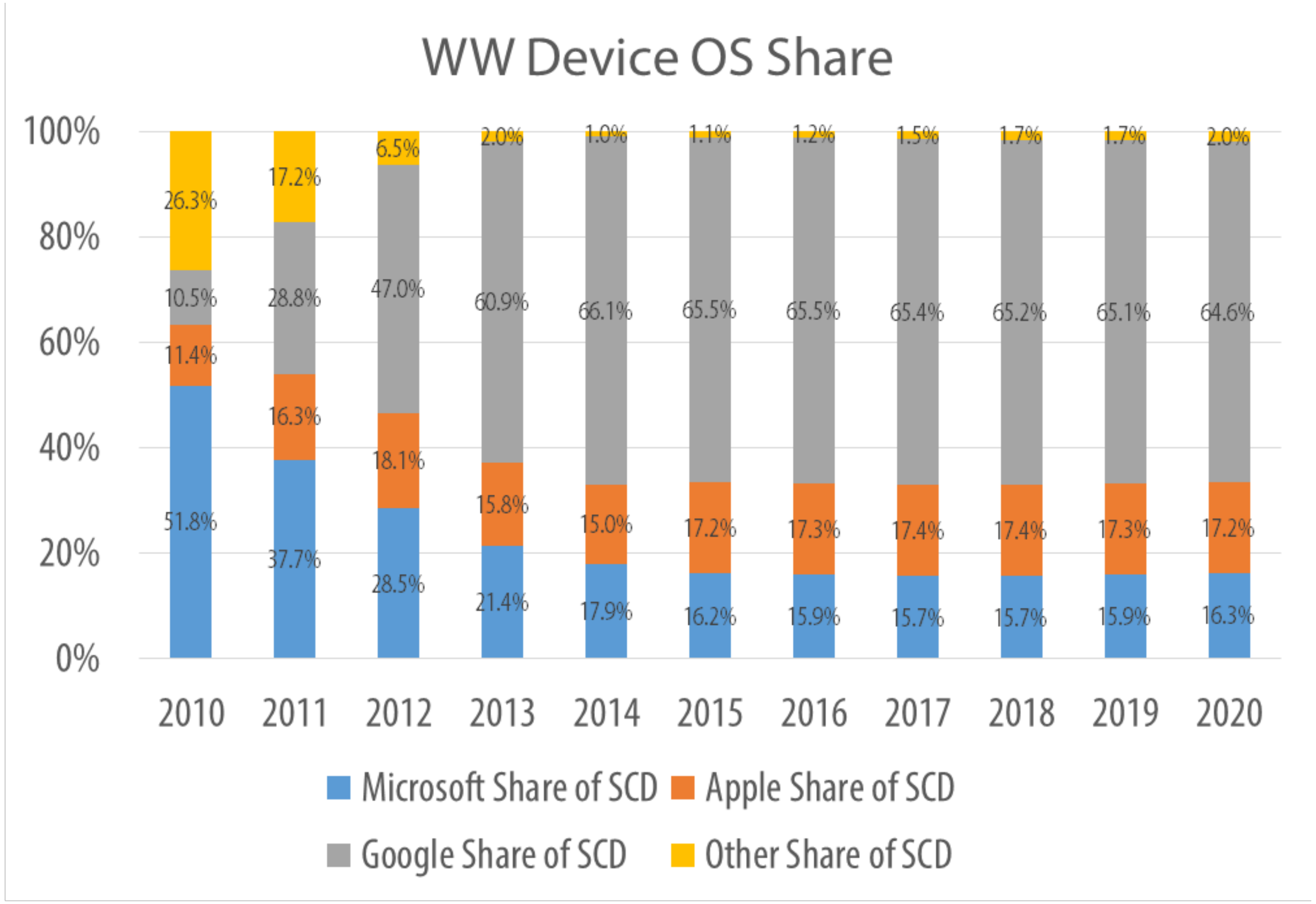
- Total SCD shipments peak at just under 2.4 billion in 2018 and then fall modestly from there
- Large smartphones (5”+) will surpass 1 billion units by 2019

Total Smart Connected Device OS Share



- As with tablets and smartphones, Google-created offerings dominate the total share of smart connected devices
  - Those under true Google influence, however, are a much smaller percentage
- Apple and Microsoft will battle for second with Apple expected to maintain a modest lead

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Conclusions

- The large smartphone category is redefining the entire device landscape
  - Negatively impacting tablets, which provides renewed vigor to PCs
  - Driving continued strong growth for smartphones overall
- Smartphones are the only remaining growth category for traditional device sales and that will put increased pressure on hardware makers
  - Even smartphones run out of steam within a few years
- The revenue story is much more challenging and won't be growing beyond this year
- Android-based devices will continue to dominate, but with the ongoing splintering of the OS, Google's ability to leverage that success will be limited
  - Developments like Android Open Source Project (AOSP) as well as Cyanogen will dilute the control that Google has

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