

Deutsche Bank Markets Research

North America

United States

TMT

IT Hardware and Supply Chain

Industry

Scribner's Slice of Apple

Date

25 March 2018

Periodical

A weekly take on Apple news

For the week ending March 23, 2018

Next week's launch of new lower priced iPads was in focus this week, as was talk that Apple is developing its own MicroLED displays. In iPhone news, reports suggest a lower-priced version of iPhone X may be coming this fall, nearly half of all new iPhones will feature OLED displays, and production trials for new models are likely to start in C2Q-18 to avoid any yield issues that could delay delivery. Also, IBM and Apple are adding machine learning capabilities to their enterprise iOS app development partnership, Apple products are becoming higher proﬁle on popular TV shows, and Apple's California ﬂeet of self-driving cars has grown to 45.

Lower-priced iPads may be announced next week

Apple is hosting an education event at Lane Tech College Prep High School in Chicago on March 27, where the company is expected to unveil education-related software and hardware, according to the Washington Post. Both the Washington Post and Bloomberg expect Apple to introduce a lower-priced iPad device at the event, although Bloomberg noted that the sub-$1,000 MacBook in development is unlikely to be ready for launch next week. The Washington Post report indicates that Apple's iOS accounts for just 12% of school technology, trailing Google's 60% and Microsoft's 22% share due to these companies' more aﬀordable laptops and free software. As we have written in prior Scribner's Scribbles, while the tech revenue generated by the education segment remains small, at less than 10% of the market, the products used in schools are important as they set a precedent for future use. In our view, students' familiarity with school technology informs adult purchases, making education an important indicator of long-term technology trends.

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MicroLED screens in small-scale, in-house design and production

Apple has reportedly started in-house development of MicroLED displays for testing purposes at a secret facility in California, according to Bloomberg. The technology, which has the potential to make future devices thinner, brighter, and more power eﬃcient, is most likely to ﬁrst be featured in Apple Watch, before iPhone in three to ﬁve years. Apple began working on MicroLED screens in 2014 with the acquisition of LuxVue, and according to DB semicap equipment analyst Sidney Ho ([link](https://research.db.com/Research/Document?rid=8102945e-0517-41f5-abc4-983a83a43108-604&amp;kid=RP0001&amp;documentType=R)), technology challenges, high production costs, and the

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Companies featured

Apple Inc. (AAPL.OQ),USD168.85 Hold

2017A 2018E 2019E

|  |  |  |  |
| --- | --- | --- | --- |
| EPS (USD) | 9.21 | 10.88 | 10.80 |
| P/E (x) | 14.9 | 15.5 | 15.6 |
| EV/EBITDA (x) | 7.9 | 9.2 | 9.7 |
| *Source: Deutsche Bank* |  |  |  |

*Our price target is based on shares trading at 14x our FY-19E EPS. Upside risks include stronger-than-expected smartphone sales and share gains, signiﬁcantly higher margins, and a faster ramp of new product categories including Watch and Apple Pay. Downside risks include slower smartphone sales, market share losses in smartphones, and weaker growth in Services sales.*

lack of manufacturing infrastructure mean that MicroLED is unlikely to be used in smartphones in the next three years. (ht[tps://www.bloomberg.com/ne](http://www.bloomberg.com/news/articles/2018-03-19/apple-is-said-to-)ws/art[icles/2018-03-19/apple-is-said-to-](http://www.bloomberg.com/news/articles/2018-03-19/apple-is-said-to-) develop-displays-to-replace-samsung-screens)

Lower-priced iPhone X may be coming

Apple could launch a lower-priced version of iPhone X this fall, enabled by the use of components featuring lower capacities or lower-level speciﬁcations, according to Digitimes. The upcoming device could have a BOM (bill of materials) that is more than 10% lower than the current iPhone X, despite featuring a 5.85- inch OLED display. The report reiterated Digitimes' prior beliefs that Apple could release a new 5.85-inch and a 6.45-inch OLED iPhone, and a 6.1-inch LCD iPhone in 2018.

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Almost half of 2018 iPhones expected to feature OLED displays

Apple is expected to buy 250-270M iPhone panels in 2018, including 110-130M OLED displays, according to Digitimes. The OLED panel orders will reportedly reﬂect 70-80M 5.85-inch displays for the current iPhone X plus an updated fall model and 40-50M 6.5-inch displays for an expected lower-priced iPhone model. The report suggests that Apple will also be ordering 60-70M 6.1-inch Low- Temperature PolySilicon (LTPS) LCD screens for a new iPhone device coming this fall, and another 60-70M LTPS LCD displays for iPhone 7, SE, and 8 devices. (https://digitimes.com/news/a20180319PD207.html)

New iPhone model trial production could start in C2Q-18

Apple could be looking to start trial production of new 2018 iPhone devices as early as C2Q-18, according to Digitimes. Industry sources suggest the company is looking to avoid the delivery delays experienced last year due to low yield rates on production of 3D sensing modules. (ht[tps://www](http://www.digitimes.com/news/a20180322PD203.html)).digit[imes.com/news/a20180322PD203.html)](http://www.digitimes.com/news/a20180322PD203.html))

IBM and Apple to add machine learning to enterprise collaboration

Apple and IBM are expanding their existing enterprise partnership to include new machine learning tools for iOS app developers. To facilitate the development of smart enterprise apps that 'learn' from user activity, the companies are integrating IBM's Watson technology with Apple's Core ML to bring machine learning capabilities to enterprises using iOS devices. (ht[tps://www](http://www.ibm.com/mobile/apple-partnership)).[ibm.com/mobile/apple-partner](http://www.ibm.com/mobile/apple-partnership))ship) [(http://www.zdnet.com/article/apple-ibm-add-machine-learning-muscle-to-](http://www.zdnet.com/article/apple-ibm-add-machine-learning-muscle-to-) enterprise-ios-pact/)

Increasing Apple product placement in popular TV shows

The promotional presence of Apple products on certain popular TV shows, is on the rise, according to Variety. The report indicates that Apple products have moved from subtle, on screen product placement in shows such as "Glee" and "American Horror Story" to weekly, on-screen credited roles on shows such as "9-1-1" and "Saturday Night Live." The article suggests the need to popularize and sell new, high-priced products is contributing to Apple's publicity eﬀorts. As we wrote in last week's Slices, a recent survey indicated that Apple's brand has dropped over the past two years to 29th place, which could also be fueling the company's interest in featuring products on popular TV shows. [(http://variety.com/2018/tv/news/apple-product-placement-911-](http://variety.com/2018/tv/news/apple-product-placement-911-)

advertising-1202732304/)

Apple has the second largest CA-based ﬂeet of self-driving cars

Apple's test ﬂeet of self-driving cars in California has grown to 45 in March, an increase of 18 cars since January, according to the Verge. Based on data from the Financial Times, Apple has the second largest number of permits for autonomous test cars in California after GM, and a larger ﬂeet than both Waymo and Uber. Apple is widely thought to be focused on the development of self-driving vehicle systems rather than proprietary self-driving cars. (ht[tps://www](http://www.theverge.com/2018/3/20/17143708/apple-self-driving-google-).thev[erge.com/2018/3/20/17143708/apple-self-driving-google-](http://www.theverge.com/2018/3/20/17143708/apple-self-driving-google-) waymo-california-uber)

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Apple Investment Thesis

Outlook

Apple has a dominant position in smartphones and tablets where its products represent the gold standard in both categories. These segments continue to oﬀer good growth opportunities, particularly smartphones, allowing Apple to outgrow overall IT spending. Despite healthy growth, slowing smartphone and tablet sales, as well as Apple’s already signiﬁcant revenue levels suggest growth will be more diﬃcult going forward. With puts and takes currently balanced, in our view, we consider shares as fairly valued and rate Apple a Hold.

## Valuation

Apple has traded at an average forward P/E of 13x since 2010 with a range of 9x to 16x. We believe shares should trade in line with these historical multiples and, because of its large market cap (3-4% of the S&P 500), should trade at a modest discount to the market. Our price target is based on shares trading at 14x our FY-19E EPS.

## Risks

Company-speciﬁc positive risks to Apple include stronger-than-expected smartphone sales and share gains, signiﬁcantly higher margins, and a faster ramp of new product categories including Watch and Apple Pay. Negative risks include slower smartphone sales, market share losses in smartphones, and weaker growth in Services sales.