

Deutsche Bank Markets Research

North America

United States

TMT

IT Hardware and Supply Chain

Industry

Scribner's Slice of Apple

Date

8 October 2017

Periodical

A weekly take on Apple news

For the week ending October 6, 2017

Apple-related headlines continue to be dominated by reports of iPhone X shipment delays due to component shortages, with Digitimes faulting low yields for 3D sensing modules. In other news, a handful of reports have emerged of bursting iPhone 8 devices, industry sources and hiring plans suggest Apple is working on proprietary chips, Siri's IQ lags competitors but may get a boost from new hires, and Apple is launching a digital partnership with Ohio State University. Also, MLB is testing Apple's NFC technology, Ireland could be ﬁned for Apple tax breaks, a ﬁx for Apple Watch Series 3 connectivity is available, and Apple acquired AI start-up Regaind.

3D sensing module supply constraint limiting iPhone X production

Low production yield rates for 3D sensing modules are delaying shipments of Apple's iPhone X and other new smartphone models, according to Digitimes. Supply chain sources suggest that Apple has lowered its targets for C4Q-17 iPhone X shipments due to limited 3D sensing module supply and that the low yield rates are ongoing. [(http://www.digitimes.com/news/a20171003PD208.html)](http://www.digitimes.com/news/a20171003PD208.html))

Reports of swelling iPhone 8 batteries

Apple conﬁrmed it is looking into reports of iPhone 8 and 8 Plus batteries expanding, causing the devices to split open, according to TechCrunch. Since the devices went on sale on Sept 22, CNET has documented six diﬀerent incidents with the batteries, while Reuters has reported a seventh occurrence in China. Unlike competitor Samsung's issues with exploding Galaxy Note 7 batteries last year, there have been no indications of explosion or scorching caused by batteries in the iPhone 8.

(https://techcrunch.com/2017/10/06/apple-is-looking-into-reports-of-iphone-8- batteries-swelling/)

More Apple chips may be developed in-house

Apple is considering developing proprietary chips for its devices, according to The Nikkei. Speciﬁcally, industry sources believe Apple could build its own core processors for notebooks, modem chips for iPhones, and a chip integrating touch, ﬁngerprint, and display driver functions. The report suggests Apple is looking to ﬁll 200 chip-related positions, based on job postings on Apple.com, and has built signiﬁcant chip capabilities through seven acquisitions since 2008. As we have noted in previous Slices, Apple has reportedly been developing proprietary

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Companies featured

Apple Inc. (AAPL.OQ),USD153.48 Hold

2016A 2017E 2018E

EPS (USD) 8.31 9.05 10.20

P/E (x) 12.6 17.0 15.0

EV/EBITDA (x) 6.0 9.1 8.1

*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.*

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graphics chips, a T310 chip for Macs, and an AI-focused chip called the Apple Neural Engine.

(https://asia.nikkei.com/Business/Companies/Apple-A-semiconductor- superpower-in-the-making?page=2)

Siri ranks below competition, but could get a boost from new hires

Three Chinese researchers found Siri to have the lowest IQ of the top four artiﬁcial intelligence (AI) systems, as reported by CNBC. Google’s IQ was the highest with a score of 47.28, followed by Baidu (32.92), Microsoft's Bing (31.98), and Apple’s Siri (23.94). Separately, Apple has reportedly hired a team of six from messaging assistant Init.ai to join the Siri team, according to TechCrunch. (ht[tps://www.cnbc.com/2017/10/02/google-ai-has-almost-twice-the-iq-of-siri-](http://www.cnbc.com/2017/10/02/google-ai-has-almost-twice-the-iq-of-siri-) says-study.html?)

(https://techcrunch.com/2017/10/04/apple-acqui-hired-the-team-from- messaging-assistant-init-ai-to-work-on-siri/)

Launch of digital learning partnership with Ohio State University

Apple and Ohio State have announced The Digital Flagship University, a program to closely integrate Apple hardware and technology and the university's curriculum and community. The partnership will include the construction of an on- campus iOS design laboratory, access to Apple's coding curriculum, and starting in Fall 2018, use of an iPad Pro and accessories worth $1,000 for all incoming students. The Columbus Dispatch estimates that the retail cost of the program would be $10M, but expects the university to incur a lower cost due to discounts. In addition to the hardware, the university is expected to pay for the construction of the iOS lab, while Apple will contribute staﬀ to support the lab and provide access to its Swift coding software and curriculum. (https://news.osu.edu/news/2017/10/04/digital-ﬂagship/) [(http://www.dispatch.com/news/20171004/ohio-state-apple-team-up-on-unique-](http://www.dispatch.com/news/20171004/ohio-state-apple-team-up-on-unique-) technology-initiative)

Oakland As testing a new NFC-based ticketing system

The Oakland Athletics, one of Major League Baseball's teams, is experimenting with a new ticketing system based on Apple’s NFC technology. The new system allows fans to enter the stadium by tapping an iPhone or Apple Watch against a ticket scanner. Developed by Tickets.com, the technology is expected to be ready for use at all 23 MLB venues at the start of the 2018 season. (https://techcrunch.com/2017/10/02/an-mlb-team-is-using-ios-11s-nfc-feature- for-contactless-stadium-entry/)

European Commission seeking to ﬁne Ireland over Apple tax dispute

Ireland may be facing penalty payments for failing to extract 13B Euros from Apple. While the country is appealing the European Commission's (EC) August 2016 ruling that Ireland illegally provided Apple with tax beneﬁts, the country was still expected to seek repayment. Due to Ireland's lack of progress in the collection of the funds from Apple, the EC has referred Ireland to the EU court. [(http://europa.eu/rapid/press-release\_IP-17-3702\_en.htm)](http://europa.eu/rapid/press-release_IP-17-3702_en.htm))

Fix for Apple Watch Series 3 connectivity released

Apple has released a new software update, watchOS 4.0.1, to address the cellular connectivity issues with new Apple Series 3 LTE devices. The watches, which became available on Sept 22, initially lost connectivity when trying to connect to unauthenticated Wi-Fi networks.

(https://support.apple.com/en-us/HT208071)

Acquisition of computer vision startup Regaind

Apple has acquired French computer vision technology startup Regaind for an undisclosed fee, according to TechCrunch. Regaind had been developing a computer vision API based on artiﬁcial intelligence technology to derive insights about images.

(https://techcrunch.com/2017/09/29/apple-quietly-acquires-computer-vision- startup-regaind/)

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 15x. 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.