

Top Tech Trends of 2019: Artificial Intelligence, 5G and Augmented Reality

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Advancements in technology are non-stop, from artificial intelligence and 5G to augmented reality and so on. These innovations have widespread impacts on businesses and consumers. We interviewed William Sheehan, CFA®, Vice President, Research Analyst, to share our perspectives on upcoming trends in technology.



Artificial Intelligence

Artificial intelligence (AI) and machine-learning platforms allow for projects to be completed more quickly and efficiently than in the past. How do these innovations affect health care from a research and development (R&D) perspective? How about autonomous driving?

Artificial intelligence and machine learning accelerate the time-to-market development of many products as companies can direct a significant amount of computing power at problem solving. With cloud service providers like Amazon Web Services offering customers the opportunity to tap into supercomputer-like architectures for a usage-based fee, the barriers to entry on AI/ML acceleration have been significantly reduced and customers can budget these dollars from opex instead of capex.

There are many potential use cases in health care from accelerating development time on new drugs to expanding access to health care in emerging markets. IBM Watson uses data analytics to offer additional insight on patient data and therefore use patient similarity to help identify potential treatments.

In developing autonomous driving solutions, large sums of data must be processed in order for a vehicle to understand the purpose of traffic signs, help identify pedestrians and adapt to everchanging circumstances. In a true low latency 5G world, it could be

possible for these applications to be run in a data center and transmitted over a cellular network, but for the foreseeable future expect each autonomous test vehicle to effectively be a “supercomputer on wheels.”



5G Network

Wireless technology is becoming faster with the transition to fifth-generation networks, or 5G. How will 5G impact the industry? How will it impact consumers?

While 5G network buildouts have already begun, the commercialization of 5G remains a question as there is not yet a “killer application” for the network. This leaves operators in a position where they must build their networks before they are certain of the monetization path. 4G networks enabled speeds for “killer apps” like streaming media, social connectivity and mobile search, all of which consumers valued compared to 3G networks. With 5G speeds around 20x that of 4G, cellular experiences on par with home or work connections may be enough for some consumers. However, if consumers are reluctant to pay a significant premium simply for even faster download speeds, alternative applications will need to emerge.

While 5G phones are currently available in some cities, with additional launches through 2019 and 2020, we expect 5G to take some time to ramp as operators find the “killer apps” beyond speed. We view low latency 5G networks as a key enabler of exciting technologies like autonomous driving and telemedicine. Fixed base wireless is another possible application that would allow cellular carriers to compete with high speed internet providers; if done properly, this competitive product to cable internet at home could be one of the better monetized use cases and an entirely incremental revenue stream for telcos.



Augmented Reality

Another hot topic is augmented reality (AR). What is it? How are businesses utilizing this interactive technology? What are the trends in wearable tech?

Augmented reality (AR) applications combine virtual images with the real environment, as seen with the first generation of Google Glass or a “heads up display” in a video game. While early applications have been largely entertainment related, there will be interesting B2B and B2C applications developed over time. In the B2C arena, we are already seeing primitive versions of commerce applications with furniture shopping where a customer can scan the measurements of a room and see how a piece of furniture would fit; when polished, this will help lower the hurdles of online furniture shopping. In B2B applications, one can conceptualize heads up displays for surgeons with a patient’s full vitals or for soldiers like in a video game.

The first generation of wearable technology largely ended up as trendy novelties, with Fitbit and Jawbone bands ending up in desk drawers. However, the promise of health tracking remains possible, and we have seen that better executed with products like the recent generations of Apple Watch, offering increased functionality and style. We see wearable tech eventually expanding the health care focus, potentially reducing insurance premiums for those living healthy lifestyles and helping to aid in preventative medicine or early detection.



Privacy

For years, we’ve been seeing the balance of benefits of tech (production, efficiency) and risks (data, security, “big brother”). How do you see this balance playing out?

Every wave of technology comes with positives and negatives; the negatives of this current wave are certainly amplified by social media, but the positives deserve significant attention as well. Mobility has created connections never before possible, increased worker efficiency, and helped accelerate economic growth. While this has created an “always on” problem with technology addictions for some, we believe there are still clear net positive benefits for society.

Regarding privacy, we may be entering a wave of backlash as more users realize the permanence of what they post online. Apple has more recently embraced privacy as a key selling feature for the iPhone. While this may be somewhat self-serving as they don’t

monetize their customers through targeted advertising, the idea of keeping your data private seems to resonate with customers and could lead to share shift from Android over time.



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