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CES 2014: Implications for Apple

The major CES trends should not be lost on its arguably biggest no show. Even if not immediately, several technologies showcased at CES will eventually force Apple to create more powerful devices with more memory, perhaps abandon long-rumored entries into new markets and decide on the role it wants to play in other ecosystems.

Here are seven of the most prominent CES 2014 technologies and what they might mean for Apple.

4K/UltraHD Television and UltraHD Content: The televisions with a horizontal resolution of about 4,000 pixels will soon displace the 1080p televisions that have become the dominant format for home viewing. Available content is holding them back, just as it did DVDs and Blu-Ray. But eventually, and inevitably, 4K content will arrive, and with it, larger files.

Samsung UHD TV

With 4K content, Apple will need to carry content on its servers in yet another resolution. Apple already carries "standard definition" content on many items, in addition to HD content. With UltraHD, it will need to carry a third variation, one that will likely increase the need for memory on its devices. 16GB is already a very low end for carrying meaningful amounts of content, but with UltraHD 64GB, or even 128GB may not be sufficient to meet consumer demand. These formats will also affect streaming requirements as graphic chips and network access must also improve to meet the data demands of UltraHD.

The advent of 4K television may also be a negative for Apple in its rumored entry into the television market. It may not deter them, but the engineering investment being made by Samsung, LG and others will act as a strong barrier to entry, especially now that they are not just offering larger screens, but also curved OLED-based displays.

Apple would be better off concentrating on content and software relationships rather than hardware development. If they do go into the television market as a supplier, they will likely follow their computing consumer business model with a very few, high-end specialized devices rather than trying to create a broad offering. Their work on Apple TV will be valuable as they will be able to offer add-on services for any TV. But as TV's themselves become wireless and more intelligent, Apple will need to keep Apple TV ahead of the competition's offerings in order for people to opt-into their ecosystem rather than use the one already installed on the television.

Industry Analysis

Wearables: Wearables, from most reports, remain a work in progress. The last year or so has been spent talking about the Apple Watch, but we haven't seen product yet, and one of the main reasons is that it isn't clear what the Apple watch would bring to the Apple experience. If a wearable device simply beeps for appointments, provides weather updates or processes passes-thru notifications, it doesn't offer that much value-add beyond the phone. Wearables, however, can act as sensors for environment and body, augment reality, control music, keep the phone experience hands-free (but probably not hands-free and wrist-free simultaneously) and even share the time—but for all the things wearables could do, there is no consensus on what consumers want to do with them, or what they could be intrigued into doing that they haven't yet imagined.

Metawatch

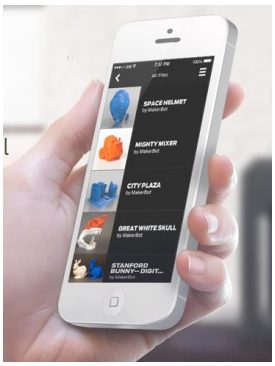
Apple would do well to create the software for the wearable ecosystem and leave most of the wearable design and implementation to third parties. As much as Apple's fans may want the company to get into the wearable market, the uncertainty surrounding the success and use cases for products could easily create subpar experiences or products that could threaten Apple's reputation. Apple, however, may be willing to expend some of its considerable cash to bravely experiment on new products in search of a market. That does not negate the need for a wearable architecture that includes communications protocols and device interfaces where Apple could easily establish dominance.

Smart Automobiles: Apple has already aggressively moved into the automobile market (iOS in the Car), along with rival Microsoft. As auto manufacturers seek to differentiate themselves, they will be looking for new technologies to integrate into their dashboards. Apple needs to offer both integration as well as an overall metaphor that creates an "Apple Experience" within the automobile. Many automobile interfaces haven't been thought through as a holistic system. Having Apple offer a complete solution, perhaps even as an aftermarket in addition to any OEM opportunities, would be welcomed by consumers hoping their cars will one day come equipped with information technology as easily navigated as their phones.

The Internet of Things: The thing that will be sitting at the heart of the Internet of Things may well be your iOS device. Having everything connected will be great, until everything is connected and you don't know what data to look at, how it correlates with other data, and perhaps most importantly, how devices that move or view something coordinate their actions into something meaningful rather than random. Cisco, for instance, in a commercial, says that an ambulance coordinates with street signals, which sounds fine, until you get two or more crises taking place at the same time that require the same intersection from different positions.

Connected homes will likely come before connected external environments, and iOS devices can easily manage discrete items like thermostats or lighting systems. As part of the larger technology community, however, Apple needs to help create the protocols required to manage the coordination of devices, especially those operating in realtime.

Intuitive computing: gestures and voice, in particular Siri, will need to get much more sophisticated to keep up with rising consumer expectations. Apple's cameras and sensors are some of the best on the market, but shaking an iPhone to skip a song is a far cry from Microsoft Kinect's whole body experience. With the acquisition of PrimeSense (November, 2013), Apple needs to deliver innovative gestures and movement interfaces in the mobile realm.



3D Printing: Apple might not feel pressure from 3D printers, as it is highly likely that iOS devices will emerge as a major technology interface to drive the print experience. Case makers, however, may have to rethink their models, selling copy-protected printer designs rather than the cases themselves, particular for smaller items like the iPhone.

Robotics and Drones: Amazon's vision for home delivery via drones is probably going to hit a snag from both the FAA and hunters (who may see drones as a new target). iOS, however, in Robotics and Drones, as in 3D printing, will likely emerge as a key interface for driving or flying. Even as robots and drones become more autonomous, devices will still be needed for various processing and management tasks like monitoring video, setting destinations and invoking fail-safes before your drone plows into the neighbor's minivan.

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About the Author

Daniel W. Rasmus, the author of *Listening to the Future*, is a strategist and industry analyst who helps clients put their future in context. Rasmus uses scenarios to analyze trends in society, technology, economics, the environment, and politics in order to discover implications used to develop and refine products, services and experiences. His latest book, *Management by Design,* proposes an innovative new methodology for the design workplace experiences. Rasmus's thoughts about the future of work have appeared recently in *Chief Learning Officer Magazine*, *Government eLearning!* and *KMWorld*. Rasmus is an internationally recognized speaker. He has addressed audiences at CeBIT, The Front End of Innovation, The National Association of Workforce Boards, ProjectWorld, KMWorld, The CIO Association of Canada and Future Trends. He writes regularly for *Fast Company, iPhone Life* and *PopMatters*. Rasmus is the former Visiting Liberal Arts Fellow at Bellevue College in Bellevue, WA where he continues to teach strategy and social media.