

Intel experts share insights on tech trends for 2017 and beyond

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Intel is inventing foundational technologies for amazing new experiences from merged reality to 5G communications and from autonomous driving to artificial intelligence. As 2016 draws to a close, we asked five Intel leaders, many new to the company, for their thoughts on these tech trends that will shape the future of Intel and our industry. Here are some of their insights:

In 2017, AI-powered systems will go from exploration to adoption in the enterprise

The digitization of nearly everything has produced mountains of data. More data than human beings can consume, synthesize and put to use. But, with [artificial intelligence](#) technologies (cognitive computing and deep learning, as examples), we're gaining the ability to more effectively understand, interpret and act on all that information.

Gayle Sheppard, who joined Intel with the acquisition of cognitive computing company Saffron Technology, believes 2017 will be the year that AI-enabled decision systems move from exploration to enterprise adoption across a variety of industries. Saffron unifies what Sheppard calls "more chaotic, unstructured data" with manicured enterprise data to surface insights from patterns impossible to see before. This capability helps industries such as financial services improve the detection and prevention of fraud or helps retailers individualize product recommendations to achieve better outcomes for their customers.

Artificial intelligence, she said, will ultimately give all of us intelligent assistants for our professional and personal lives.

3-D collaboration will emerge as a driving use case for AR/VR

Today, augmented and virtual reality (AR/VR) are most commonly associated with gaming or entertainment. While these uses will undoubtedly gain in popularity, another potential "killer app" for AR and VR has more in common with the rise of spreadsheets, word processing and e-mail. According to Remi El-Ouazzane, chief executive of Movidius, a company Intel acquired in 2016, workplace collaboration is likely to propel the adoption of augmented reality (or what Intel calls "merged reality").

"Companies today are bound by two-dimensional collaboration," El-Ouazzane said. But, with merged reality, "you immerse yourself in an environment where, for example, engineers at different sites around the world could walk around an engine, working together as if physically in the same place at the same time."

To get us there, computers will need to process visuals with the speed and accuracy of the human eye. That's where Movidius comes in. The company was founded with the bold vision of giving sight to machines. Its leading vision processing unit combined with Intel RealSense depth-sensing technology is a powerful combination toward realizing that vision. "In merged reality, we are confronting two worlds, the actual world we can see with our eyes and a computer-generated world. The display where those synthetic elements are rendered needs to be good enough for your brain to accept them as being real," said El-Ouazzane.

Function will overtake form in automotive

Intel is dedicated to transforming the future of driving and designing the next generation of advanced driver assist systems and [autonomous driving](#) solutions. Intel's General Manager of the Automated Driving Solutions Division, Kathy Winter, joined Intel from Delphi where, in 2015, she was credited with achieving the first cross-country drive by an autonomous vehicle.

In 2017, she expects more autonomous cars on the road, gathering data to pave the way for the broad adoption of safe and reliable autonomous vehicles. Winter says the technology industry is accelerating the pace of innovation in the automotive industry, and changing how we value cars.

With function trumping form, the industry is ripe for the many foundational computing and communications technologies Intel offers. Another Intel business unit with compelling technology for the future of transportation is Intel's Programmable Solutions Group (PSG), formerly Altera. PSG General Manager Dan McNamara says that because field programmable gate arrays (FPGAs) can be customized and reprogrammed on the fly, they are a great fit for many of the specialized computing tasks automated driving requires.

In 2017, he expects to begin shipping a new automotive-grade Arria 10 FPGA that offers the highest performance processing by an FPGA at 20nm and will give automakers a head start on their ADAS systems.

In 2017, 5G prototypes start to take shape

Unlocking the true potential of automated driving requires a reliable, robust and pervasive wireless network. These requirements are the basis of 5G networks, which are expected to become available starting in 2020, though trials are already underway.

Rob Topol, General Manager of 5G business and technology within Intel's Communications and Devices Group, expects these 5G trials will pick up steam in 2017. One big advancement will be the prototype devices used for testing. "You will see us move from testing with larger trial platforms, to using more mobile and segment-specific form factors," Topol said. While 5G form factors will, ultimately, be limitless, that's a sure sign of progress.

Unlike 4G wireless, which largely focused on making smartphones faster, industry leaders look to 5G to provide the higher data rates (1-20 Gbps), lower latency and capacity needed for the blossoming Internet of Things (IoT), new service models and immersive new experiences. It's an ambitious undertaking that's well underway.

Provided by Intel

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