Looking Beyond Gadgets, Six Trends in Consumer Electronics

We all love gadgets. They seem to occupy most of our waking moments even when we sleep via a sleep app to monitor your sleep patterns. But do you think about what drives the development of those gadgets? Or what your smart phone will do next?

IEEE (Institute of Electrical and Electronics Engineers) is the world’s largest technical professional association that’s dedicated to advancing technology for the benefit of all us humans. The organization goes back to 1844 when electricity was just starting to impact society – the telegraph and electric power and light. In fact, there’s a pretty interesting timeline that shows major technological milestones from 1844 through today. Famous members range from Alexander Graham Bell, Elihu Thomson, whose company merged to form General Electric and Bernard M. Oliver, who you can thank for the hand-held calculator.

According to a few of these IEEE experts post CES 2012, they identified six trends they believe will dictate the next product development cycles of consumer electronics companies around the world. In other words, your next gadget, might have these capabilities.

1. Ubiquitous, Nonstop Connectivity
Internet-connected devices aren’t new, but their increased connection capabilities are changing the way society works as a whole.

“A fully connected society will require a shift in the way people work, think and live,” said Dr. Henry Samueli, IEEE Fellow and chief technical officer at Broadcom Corporation. “It’s not just about the device itself; it’s about
connecting all the devices together and sharing content. In a few years, all consumer electronic products will be able to share content – quickly and seamlessly – in a way that is transparent to the user.”

2. Cloud-Based Applications
Constant connectivity and seamless mobility means more data storage. Technology companies and service providers are turning to the cloud for increased storage and computing power.

“Cloud-based services are able to process and access information that would otherwise be impractical to achieve on a small, under-powered device,” said Stuart Lipoff, IEEE Fellow. “By taking advantage of powerful servers and the wealth of information in the cloud, the little battery powered device in your pocket takes on the power of a super-computer.”

Lipoff predicts new applications such as pattern recognition and various forms of artificial intelligence, including facial recognition, will be among the product features consumers can expect in the future.

3. Streaming Web-Based Video
According to Richard Doherty, IEEE Senior Member, 2012 will be the tipping point for online video consumption. “The upswing in web-based video streaming can be credited to the widespread availability of video-capable internet TVs and external devices,” said Doherty. “These devices include video consoles and innovative, optimized net streaming boxes.”

4. Intelligent Transportation
Safer, faster, more convenient transportation is a growing trend affecting commuters and consumers worldwide. Intelligent Transportation Systems (ITS) focus on the use of ordinary devices (such as a cell phone or GPS) that are enabled with built-in custom software so cars and buses can “communicate” with roadways and transportation systems.

Developments in consumer electronics for ITS are leading to a future where the technology can help provide a more streamlined traffic flow, better usage of energy resources and fewer vehicular accidents.

“Consumers everywhere will benefit from the advancement of ITS,” said IEEE Senior Member Alberto Broggi. “Vehicles will be able to monitor their surroundings and warn drivers of pedestrians, traffic patterns, and other vehicles, resulting in safer commuting. Advanced sensors will allow vehicles to detect and warn drivers of any immediate stops or dangers in the way of the vehicle, which can significantly decrease the likelihood of vehicle accidents.”
5. Automated Metadata
Dr. Tom Coughlin, IEEE Senior Member, predicts devices that automatically aggregate and generate data such as location and time stamp information will continue to rise in popularity, helping consumers catalog their experiences.

“When consumers take photographs or capture video or audio, they will be able to archive and access their information more easily,” said Coughlin. “The device will capture precisely where and when the photo or video was taken, and the format it was taken in, for quick and easy access. In the future, we’ll see that technology advance even further with the use of social networking interactions and image recognition technology creating new searchable content to enhance the value of the images.”

6. Convergence of Home Networking Technologies
Taking advantage of all the home networking technologies out there to create reliable “always on” connectivity is something consumers will see more of in 2012. According to Oleg Logvinov, IEEE Standards Association Member, 2012 will mark the beginning of a new trend: the convergence of home networking technologies. This will enable a rich consumer experience providing the ability to use various types of devices to access multimedia content.

“As our technologies become unified, consumers will be given the ability to monitor energy usage as a part of their daily routine,” said Logvinov. “This function will become an integral part of the user experience, allowing them to modify their behavior to become more energy efficient.”

