momentum is building fast around the next big broadband advancement: a world where billions of intelligent sensors and devices produce the data ingredients for a quantum leap forward in environmental intelligence, automation, predictability and ubiquitous connectivity. These capabilities will have dramatic and positive impact on our economy and our quality of life.

Already around the world, forward-thinking cities are managing everything from vehicle traffic flows to air-quality controls with the aid of real-time sensors communicating over broadband networks. Farmers in the American Midwest are optimizing fertilization and water resources by letting network-connected devices determine when to apply either as conditions demand. Oceanographers are collecting new insights about current patterns, animal life and coastal conditions by listening in on the collective data hum produced by intelligent sensors. Wearable sensors powered by embedded software systems are helping patients monitor and respond to key health indicators. At home, it’s now possible for your thermometer to adjust itself, your lights to illuminate and your music system to greet you with a song from a favorite artist, without you ever touching a single object.

Rightly so, this “Internet of Things” (IoT) transformation has captured tremendous interest, reflected by investment activity that’s rising fast. The private-investment analysis firm CB Insight estimates financing for IoT companies rose to a record level in 2013, with $1.1 billion invested across 153 different deals.

As the broadband Internet moves away from its early conception of computer-to-computer connectivity and into a new arena sensor-produced, network-of-networks intelligence, it’s tempting to think of the IoT as the ultimate realization of our broadband world. But I believe otherwise. While the idea of machines working in the background to monitor and automate everyday functionality is tremendously provocative, a bigger, more powerful movement is dovetailing at the same time. And it’s one I’m convinced will transcend anything the IoT by itself can achieve.

Internet of People

It’s what I think of as a broadband-powered network of human intelligence; colloquially, the Internet of People. It’s a data environment in which a single individual instantly can access thousands of intelligent touch points and information resources drawing on big-data analytics and powered by cloud computing. Its product is an economic, cultural and scientific renaissance made possible by transcending prior limitations of knowledge delivery and by empowering human beings with a collective, newfound intelligence. It is where the IoT intersects with the human capacity for innovation and thoughtful creation.

Imagine, for example, what might happen if detailed knowledge about relationships between roadway bridge conditions and interstate trucking mishaps, captured from sensor-fed U.S. Dept. of Transportation databases, happened to be available to anyone with a broadband connection and a sense of curiosity. Would the realization of insights into possible causes and remedies for incidents be more likely to increase or to decrease? Would the possibility of creative solutions be greater, or would it be reduced? Would an ad-hoc group of students, armed with computers and data analysis skills, be more likely or less likely to identify an entrepreneurial opportunity as a result? Or by examining different sensor-powered databases, might our team forewarn of a looming health crisis? Or predict an asteroid’s approach?

These are mere off-the-cuff examples – there are countless others – of opportunities that will emerge as we apply our collective human creativity to sensor-gleaned data on a large scale. Researchers are becoming excited about the possibilities. “Recently, the research trend has shifted from IoT devices and resources to IoT information, since the ultimate goal of the IoT research is to enable ubiquitous access and utilization of the physical information.”

by Rouzbeh Yassini, Ph.D.
world information," wrote the University of Surrey’s Wei Wang in a 2013 paper published in the journal Automatica.

Outlines of possibility

The toolkit we are building in the form of broadband connectivity has the potential to harness data sources and provoke creativity on a massive scale that I’m not certain we can yet begin to imagine. You can see the outlines of possibility, though, in early manifestations: Crowd-sourcing of capital. Open-source software that invites collaboration from contributors across the world. Mash-ups of creative content that yield new and interesting art forms. Open environments for application development that allow anybody with a good idea to fulfill global demand – or delight a single individual. A window to global commerce for an inventive thinker working from a garage. Manufacturing of physical goods anywhere from massively deployed 3D printers. A worldwide classroom for inventive thinker working from a garage. Manufacturing of physical goods anywhere from massively deployed 3D printers. A worldwide classroom for any student to learn, to create and to produce.

The Internet of People

Cable industry role

• Connect every school in America to gigabit networks to build an open standard, embedded system platform that supports intelligent, real-life and real-world applications.
• Have learning from managing and operating 1 gigabit solutions to schools, deploy gigabit networks to every home.
• Connect the majority of the 30 million “forgotten” Americans using alternative spectrum solutions.

Many important of all, make broadband universally attainable by instituting affordable pricing, similar to the $50 per month/per gigabit Singapore provides to its citizens.

As the list above reflects, a key trigger for the Internet of People is empowering every student in the nation with gigabit broadband. This will serve as a catalyst to multiply the innovations of today’s youth and instruct us in how to create the service model, consumer care platform, and application suite that will yield a true information economy and the benefits it confers.

Connecting schools at gigabit speeds also will provoke upgrades to service provider backbones, provisioning systems, routing, switching, security and service activation work flows encouraging a much-needed departure from cable’s legacy 6 MHz channel model. This digital highway is the foundation of cable’s transformation to an Internet of People model.

Technology isn’t the only important ingredient, however. We need to make learning available across universities, community colleges and high schools – a new generation of teachers skilled in educating students about emerging systems, software and (application) development. The goal: for everyone to learn, to create and to produce.

The broadband cable industry has the unique opportunity to enable success and innovation for every American household if it can accomplish five critical tasks:

1. Connect every school in America to one gigabit-per-second, two way broadband system.
2. Collaborate with the software industry to build an open standard, embedded system platform that supports intelligent, real-life and real-world applications.
3. Have learning from managing and operating 1 gigabit solutions to schools, deploy gigabit networks to every home.
4. Connect the majority of the 30 million “forgotten” Americans using alternative spectrum solutions.
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