Where the Internet of Things Could Take Society by 2025

By Tanya Roscorla ON MAY 14, 2014

Picture this: A world flooded with a sea of data from every connected device on the planet -- devices found in and on human bodies, in homes, around communities, in products, and in the natural environment. And these devices on the Internet of Things are sharing information constantly with the promise of making people's lives better.

But the government, corporations and criminals can all tap into these data streams and use what they find for evil, if they so choose. And that tension comes through loud and clear in a report on the Internet of Things that includes opinions from more than 1,600 experts.

The Pew Research Center Internet Project and Elon University's Imagining the Internet Center released the report on Wednesday, May 14, as part of an ongoing future of the Internet series inspired by the Web's 25th anniversary. Eighty-three percent of these experts, which included education leaders, agreed that the Internet of Things would have "widespread and beneficial effects on the everyday lives of the public by 2025." The remaining 17 percent said it would not, and both camps elaborated on their answers in paragraph form.

Their explanations fall under six major points:

1. The Internet of Things and wearable computing will take major steps forward in the next 11 years.
2. Increased data from connected things will cause privacy concerns to come to the forefront and encourage the growth of profiling and targeting people, which will greatly inflame conflicts in various arenas.
3. Despite advancement in information interfaces, most people won't be connecting their brains to the network.
4. Complicated, unintended consequences will arise.
5. A digital divide could deepen and disenfranchise people who don't choose to connect to the network.
6. Relationships will change depending on people's response to the Internet of Things.

Through 2025, wearable health apps represent the biggest change for Jim Hendler, a professor of Computer Science at Rensselaer Polytechnic Institute. He suggests in his response that they will continue to improve and become more specialized to help people who want to be healthier.

While it's up in the air as to whether Google Glass will be popular or fail in the next decade, the idea of a device that overlays information onto the physical world will stick around, said David Clark, senior research scientist at MIT's Computer Science and Artificial Intelligence Laboratory.

"A scannable world will be one in which people are always able to get information about essentially anything they encounter," Clark said.

And they'll also use coordinated appliances that will improve their lives, said Vint Cerf, vice president and chief Internet evangelist for Google. That's the benefit. But these appliances also come with a risk that hostile forces can take over control of them and do major damage.

These benefits will outweigh concerns about privacy, monitoring and tracking for most people, responded Scott McLeod, director of innovation for the Prairie Lakes Area Education Agency in Iowa. And by 2025, people will take wearable computing and sensors for granted.

College professor Peter R. Jacoby likened wearable and scannable technology to the bread and circuses that a satire of the Roman empire credited with keeping the population under control. And while the Internet of Things will have widespread and harmful effects, wearables and scannables could also serve to keep people happy while the government goes about its business.

"By 2025, we will have long ago given up our privacy," Jacoby said. "The Internet of Things will demand — and we will give willingly — our souls."

Similarly, the Internet of Things will be a tool for other people to keep tabs on what the populace is doing, according to Frank Pasquale, a law professor at a large U.S. university. This ankle monitor of the mind will allow employers to track typing and eye movements so they can see who's the most productive, and the Internet of Things will allow people to monitor and manipulate individuals.

"There will be a small class of 'watchers' and a much larger class of the experimented upon, the watched," Pasquale said.

One of the major takeaways from experts is that while many people are excited about the future of the Internet of Things, they express concern about privacy and security, said Janna Anderson, co-author of the report, director of the Imagining the Internet project and associate professor of communications at Elon University. Experts also suggest proactively evaluating the Internet of Things before it becomes pervasive rather than as it unfolds, Anderson said.

"This is an indication that policy makers and everyone else should stay focused on the evolving use of complex technology, because they do pose large ethical and moral challenges in addition to the technical challenges," Anderson said. "And they do present some worrisome future implications that have to be addressed."

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