

By [Amy L. Dickson](#)

Last night, a few colleagues and I popped into the Washington Technology Industry Association's (WTIA) [Tech in Focus panel session on The Internet of Things \(IoT\)](#). Featuring panelists from hot tech companies in the region, I wanted to get to the bottom of the IoT buzz: What is it? And why now?

Apparently RIGHT NOW is the perfect time to launch a full ecosystem of small data-driven devices that connect to the Internet. Here's why:

- The price of computing is falling, eliminating cost barriers. Chips, materials – all of it is cheaper/faster/better than at any other time in the past.
- The prevalence of connectivity—Wi-Fi, and especially robust LTE networks—is opening up creativity doors for software developers and visionaries. If you can dream the data flow, chances are, you can build it too.
- Collecting the data is fine, and machine-to-machine technology isn't new, but with the ubiquity of cloud computing and some heavy processing power, we can now make sense of that same data.
- Finally, the industry wants something new to believe in. We are past the smartphone now—this is the new promise of the Internet.
- AsPaul Hammann, CEO of Ombitron, a Seattle-based company developing an IoT platform put it, "My smartphone can do this. Why can't I have a little thing that does this?" The ability to use existing resources (power, connectivity, computing devices) to solve new problems is massively attractive to innovators. This is a green field and there are no incumbents in this space.

These little devices, sensors, or systems don't require huge bandwidth or large amounts of power. Many can operate on 2G networks, rely on self-generating power sources, and feed valuable data into the cloud automatically. But the IoT world is horribly fragmented at the moment, much like the early, bespoke PC market of the 1980s. You have to put it together yourself and there's no guarantee everything is going to talk to each other. Not yet, anyway.

So what are the primary use cases? The panelists agreed that tackling inefficiencies is top of mind. They are looking at where to cut costs, maximize processes, and automate where we can. Whether that's route optimization for fleets to save fuel, to regulating HVAC systems to only operate at peak and necessary times, most IoT applications are geared toward making the best use of what we have. While 20% of the IoT devices will be consumer-facing, the other 80% won't be sexy at all. You'll see them most in industrial fields and manufacturing.

With all of this data flying around, how do we make it more useful? Chris Ruff, CEO of UIEvolution urges developers to focus more on situational interfaces—ones that make sense in the context of use cases—to add value. Only then will we see the adoption increase. By providing a platform for developers to focus on building the IoT devices of the future, we will see life get better behind the scenes, regardless of regulations and standards bodies.

"Try to build apps that don't require an interface," Ruff explained. "The more UI there is, the more likely people will make mistakes. Start by building things simply, then add complexity as needed. Don't try to design for the world," he warned. We would also argue that as those interfaces become more complex, user testing and interface optimization will become increasingly important in the formula for success.

And yes, security risks are still high, and those risks increase as the attack surface increases. With Gartner projecting that we will have 50 billion devices on the Internet of Things by 2020 that shows security for those devices will be a growth industry.

So what's next? Standards bodies will fight it out for at least another decade. In the meantime, let's keep building, testing, and optimizing. By focusing on value-add user experiences, we will see IoT devices begin to work together harmoniously. They must in order to be ultimately successful. Additionally, we are likely to see IoT devices verticalize where the standards can take even longer. Key IoT verticals to watch will be automotive, healthcare, building systems, and energy.

As developers focus on the problems at hand, they will envision better solutions over time. The IoT is so much more than an extension of the smartphone. Instead, I would say it's the Internet of the Future.

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