

# Beware Big Brother in the family room?

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It was a dystopian revelation straight out of Orwell: The hyper-connected “smart TV” that lets you binge-watch your favourite Netflix or Amazon series at the touch of the remote has other capabilities that aren’t quite spelled out in the user’s guide. Like allowing the government to snoop on your conversations.

The news, contained in a trove of CIA documents released by Wikileaks on March 7, may have come as a surprise to the typical TV viewer curled up on the sofa. It was much less startling to those familiar with the Internet of Things, a mushrooming network of everyday gadgets – including televisions – that are connected to the Web and through it to each other.

The vulnerabilities of this network were on full display as recently as last October, writes SAGE Business Researcher freelance correspondent Scott Sowers in his recent report on the IoT. That’s when still-unknown hackers gained control of hundreds of thousands of connected devices and wielded them to wage a cyberattack that took down large parts of the Internet in the United States and Europe. CNN, The Guardian, Twitter, Netflix and Reddit were among the companies temporarily knocked offline by the assault.

Even as experts worry about the IoT’s potential for misuse, it grows apace. The German-based research firm Statista estimates that it encompasses 28.4 billion devices worldwide, ranging from baby monitors to thermostats to smart phones. That number will grow to 50 billion by the end of the decade, according to Statista.

Proponents argue that this technology holds great potential and is already improving our lives, Sowers writes. They point to the IoT’s impact on the tech industry as it develops cloud-based data storage and artificial intelligence; the auto industry as it develops self-driving vehicles; the housing industry as it makes homes “smart”; and the health and fitness industry as it markets sensors for athletes and exercise buffs.

“In our personal lives, the IoT is supposed to help make us more productive and provide a certain level of convenience,” author and futurist Jacob Morgan tells Business Researcher.

A wide range of companies have taken note and are jumping in. One report estimates that close to \$6 trillion will be

spent on research related to the Internet of Things in the next five years. Businesses are anticipating benefits from the IoT that include lower operating costs, greater productivity, new products and new markets for them.

Cloud-based data storage and artificial intelligence form the IoT's spine, and two heavyweights, Amazon and Microsoft, are battling for domination. It's a fair fight: Last fall Microsoft reported that sales of Azure, its flagship cloud product, rose 116 percent from August 2013, and revenue for its "Intelligent Cloud" business increased 8.3 percent over the same period to \$6.38 billion. As for Amazon, its Web Services subsidiary is also prospering, generating more than \$10 billion in annual revenue from sales of its cloud products in 2016.

Another IoT battleground is autonomous vehicles that use sensors, cameras and radar – and soon may be able to communicate with each other through the Internet. Google has been a pathfinder in this field but now faces intense competition from Ford, GM, Uber, Tesla and the Chinese tech company Baidu, Sowers reports.

There are even companies trying to develop a market for products that counter the IoT's vulnerabilities. California-based Silent Pocket sells a "Faraday cage" – based on a technology invented by 19<sup>th</sup> century scientific giant Michael Faraday – that blocks electromagnetic fields, including Wi-Fi signals. A key fob protector runs about \$20; a leather Faraday briefcase will set you back \$675.

Some experts say these IoT purveyors are getting way ahead of themselves, and far out front of the market. They say it's not at all clear that consumers really want an Internet-enabled trash can, thermometer or egg tray. And consumers, they say, will be the final arbiters of the IoT's future.

"Like an enabled toaster, who needs it?" says Bruce Schneier, chief technology officer with Resilient, an IBM company. "That's a consumer demand issue and the market corrects for that."



Notes:

- This blog post is based on the report [The Internet of Things](#), SAGE [Business Researcher](#), by Scott Sowers.
- The post gives the views of its authors, not the position of LSE Business Review or the London School of Economics.
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**Ken Fireman** is managing editor for SAGE Business Researcher, which delivers deep dives on contemporary business issues to students and faculty three times a month. He was previously a senior editor for economics and politics at Bloomberg News and a White House correspondent, national political reporter and Moscow bureau chief for Newsday. @kfireman1



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