

Issue Overview: The Internet of things

By Bloomberg, adapted by Newsela staff on 09.08.16

Word Count **662**

Level **1070L**



TOP: Smart Home at the 2015 Mobile World Congress Conference on July 15, 2015 in Shanghai, China. Courtesy of Getty Images.

DEFINITIONS

hacker

A person who uses computers to find private information

sensor

A device or object that can pick up and respond to a wireless signal

wireless

Technology that sends signals and information over airwaves instead of through wires

Some look forward to the day

when their sleeping baby's diaper will tell them when it's wet before the wetness wakes the baby. Others dread the day when a hacker or the government can learn everything about them that their car, devices and even organs can reveal. Either way, that day is coming. A wave of cheap sensors connected to the Internet is beginning to invade objects all around the world. Linked by wireless technology, they will make up what's been called the Internet of Things.

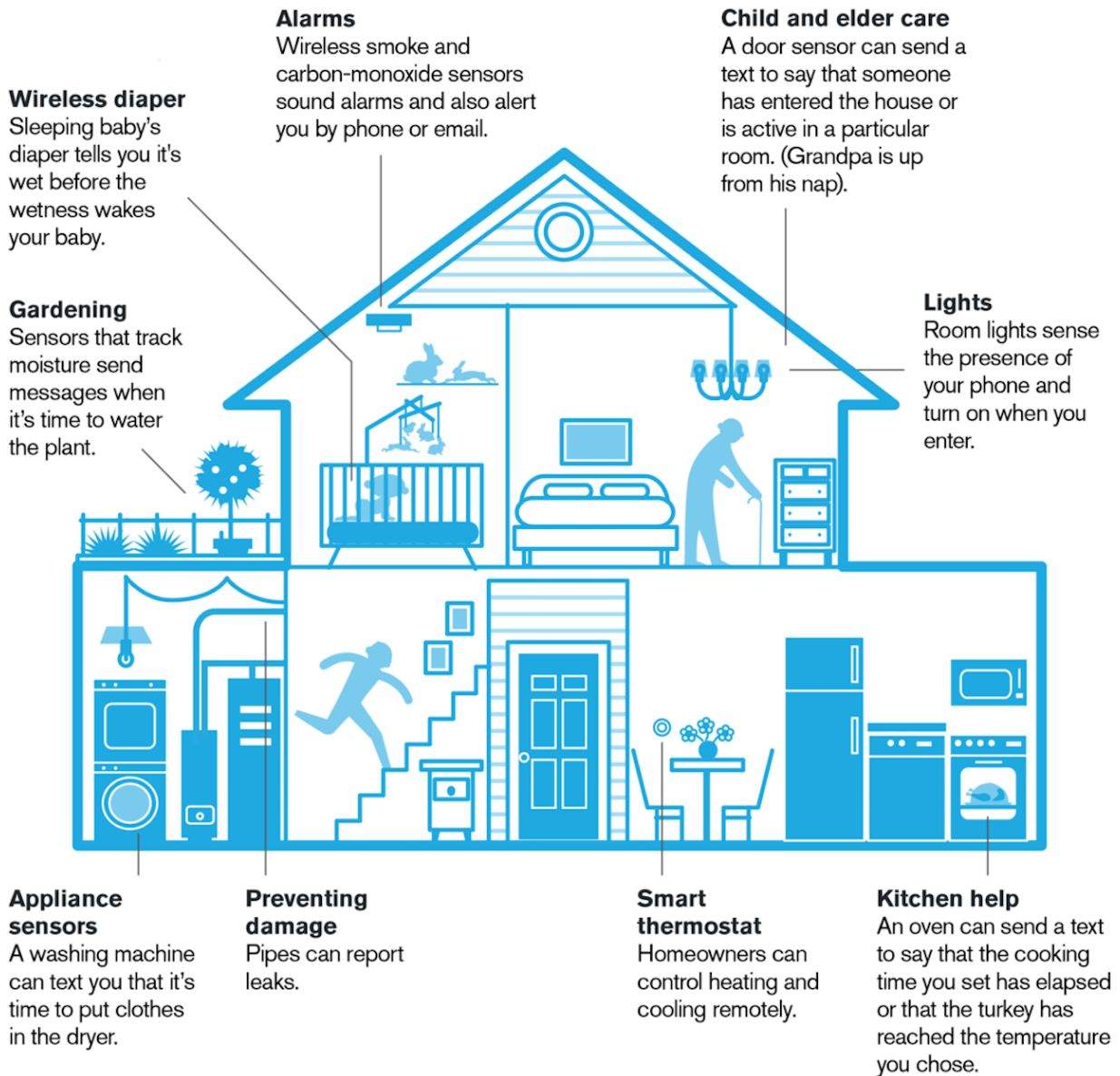
Altogether, the network of connected objects is expected to eventually dwarf the Internet of people. Some researchers predict that by 2020, as many as 20 billion devices will be connected. Compare that to just more than 6 billion now. For consumers, that could mean coffeemakers that delay grinding when a person hits their alarm's snooze button. For businesses, it could mean gigantic savings when pipes report their own leaks or warehouses place their own orders. Cows that need milking could communicate through something more direct than mooing.

The Situation

Tech giants like Samsung, Apple and Google have been connecting all kinds of devices — from thermostats to smart watches — to the Internet. In 2015, Amazon introduced Dash Buttons. These devices attach to washing machines and pantry doors. Homeowners can press them to reorder supplies like detergent and food. This year, GE put out a washer that can automatically reorder detergent if it's running out. Makers of devices ranging from printers to medical devices are following their lead.

In February, technology company Cisco bought Jasper Technologies for \$1.4 billion to help customers connect and manage devices wirelessly. Companies like Microsoft and IBM have created new tools to help smaller companies manage Internet-connected devices. In February, the Linux Foundation said it would build an operating system for the Internet of Things. Intel and NXP, who make computer chips, are supporting that effort. One challenge continues to be getting devices to talk to each other. For example, a homeowner may need one mobile app to turn up the heat and another to turn on a home alarm system. Safety is an even bigger question, illustrated by a video a hacker titled "Weaponizing Your Coffee Pot."

Smart Things Automate the Home



The Background

In 1982, computer science students at Carnegie-Mellon University put sensors in a Coca-Cola vending machine. They connected it to an early version of the Internet. This allowed them to tell if the machine was empty without having to walk all the way there. Kevin Ashton of MIT coined the term "Internet of Things" in 1999. But until the rise of smartphones led to a steep

drop in prices for sensors, web-connected devices remained out of consumers' reach. Smartphones use sensors to track everything from motion to eye movement. Sensors typically connect to a hub or other devices through Wi-Fi or Bluetooth technologies.

The Argument

More information means more problems. The information collected, monitored and transferred by wireless devices can include names, addresses, credit card numbers or even health information. Doors and electrical systems can provide clues into whether a house is empty. Some worry that the Internet of Things could become a playground for hackers to turn devices against their owners or steal information. So while technology companies move ahead quickly, U.S. officials are moving more slowly, making rules to help keep consumers safe. Former U.S. Vice President Dick Cheney said last year that he disabled the wireless feature on his defibrillator in 2007. He feared terrorists could use it to kill him. The U.S. Federal Trade Commission last year brought charges against the maker of web-enabled cameras for not protecting them from hackers. Hardware companies are also struggling to figure out which devices most people will be willing to pay to connect to the web. Nest says its \$249 thermostat will pay for itself by lowering heating and cooling bills. But wireless diapers may have to be a lot cheaper before people regard them as anything more than a novelty.