

How Quickly Are Industries Adopting the Internet of Things?

Science fiction writer William Gibson is credited with saying, "The future is already here—it's just not evenly distributed." Such is the case with the Internet of Things (IoT).

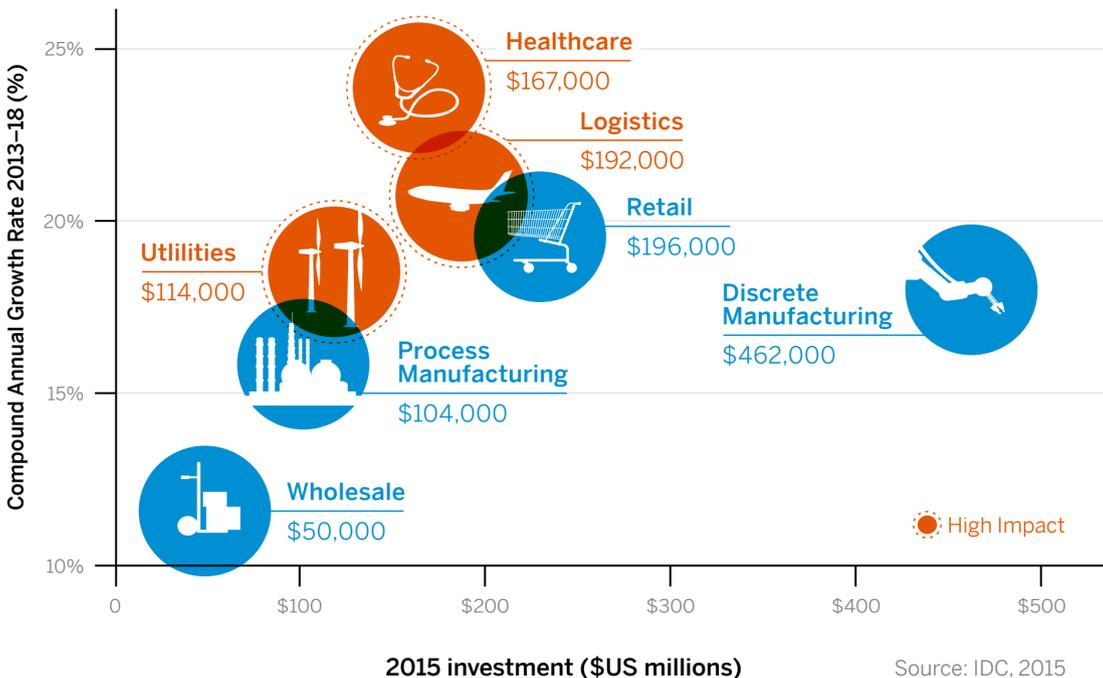
Digital business requires both data and the equipment to capture, store, manage, and analyze that data before enterprises can better inform their decisions, automate actions, and improve operations. IoT technology provides a way.

According to IDC, companies are ramping up their IoT investments rapidly, which can be seen in seven major industries with high levels of physical products or assets. Overall, the market research firm forecasts that IoT spending will increase 19% on average through 2018. Some industries, such as discrete manufacturing, have already invested significantly; others, such as healthcare, have spent less to date but are expected to expand quickly in the future.



Opportunities for Connection

The IoT is poised for rapid growth across a wide variety of industries that are connecting physical assets



\$114,000 invested
18% CAGR 2013-18

Utilities

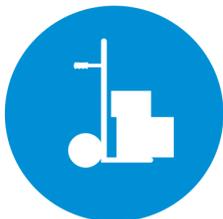
Utilities are still in the early stages of connecting their physical assets, a McKinsey Global Institute analysis finds. Deregulation and new market entrants are expected to prompt greater investments in the future. For example, smart metering systems and renewable energy sources, both growing activities in this industry, require IoT connections. And to compete, utilities will need to invest in systems that monitor and analyze data from smart devices at homes and businesses. Tata Consultancy Services notes. IDC predicts that eventually this industry will see a high impact from its IoT investments because both utility companies and consumers have a stake in making energy production and use more efficient.



\$167,000 invested
25% CAGR 2013-18

Healthcare

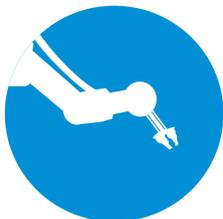
The industry as a whole has been slowed by regulatory and privacy concerns, Tata Consultancy Services research finds. But as healthcare providers install more equipment to connect medical devices to networks, they, too, will adopt more data-driven devices. Ultimately, IDC suggests that the IoT will have a high impact through monitoring applications and sensors that enable patients to manage their health and fitness.



\$50,000 invested
12% CAGR 2013-18

Wholesale

The IoT promises to bring new capabilities to distributors, including new opportunities to sell goods through industrial vending machines and automated transportation systems. However, the industry as a whole has been what McKinsey Global Institute calls a medium-level player on the road to digitization.



\$462,000 Invested
17% CAGR 2013-18

Discrete Manufacturing

Companies ranging from consumer goods makers to industrial manufacturers are applying IoT investments to monitor production and the flow of goods. Sensors enable predictive applications to schedule maintenance for jet engines, for example. And consumer goods makers are starting to experiment with marketing applications enabled by machine sensors and smartphones. Tata Consultancy Services notes.



\$196,000 invested
20% CAGR 2013-18

Retail

As VDC Research Group points out, the drive to digitize business has been going on since well before 2013. Prices for RFID transponders have dipped over the past decade, which has enabled retailers to affix tags to goods, speeding up inventory tracking and shipments processing and reducing shrinkage. *RFID Journal* reports.



\$192,000 invested
22% CAGR 2013-18

Logistics

Logistics firm DHL and networking vendor Cisco predict that there will be 50 billion connected devices by 2020, while making the point that this "represents only a tiny fraction of what could be connected—something on the order of 3% of all connectable things." The resulting connectivity will reshape how decisions are made about the way goods are stored, monitored, serviced, and delivered. According to IDC, the IoT will have a high impact on the logistics industry because the benefits are clear and easy to measure.



\$104,000 invested
15% CAGR 2013-18

Process Manufacturing

Companies in process industries have been heavy investors in technologies that make their assets more productive, including enterprise resource planning and supply chain management software. Leading players see the IoT as a way to extend the value of these investments. For example, Deloitte researchers note that oil and gas companies can bring more efficiency from resource processing and distribution by collecting and analyzing data from sensors and by monitoring equipment to reduce unplanned equipment outages.

The IoT Creates New Revenue Models

The Internet of Things represents a new course for automation and data-enabled decision making. Companies can use data collected from sensors on machines to create new business processes and revenue models.

It's no wonder the numbers that researchers at Gartner cite—6.4 billion connected things in use in 2016, an increase of 30% over 2015—sound both large (billions, up 30%) and small at the same time (we're just getting started). The found is being distributed unevenly, but it will reach just about everywhere, eventually.

6.4 billion connected things in 2016

SOURCE: "Charted," *Digitalist Magazine, Executive Quarterly*, Q1 2016 issue.

