HARTFORDFUNDS

Our benchmark is the investor.®

What's Driving the Future of Business?

Discover the emerging innovations that are giving early adopters a competitive edge.

ARTIFICIAL INTELLIGENCE (AI). Big data. Blockchain. Cloud computing. Data visualization. Machine learning. Robotic process automation.

You've come across at least a handful of those terms before. Some of them you understood. Some of them, not so much. What you might not have realized is how crucial these emerging technologies could be for what comes next for industries of all shapes and sizes.

What sounded like techno babble is set to help drive tomorrow's growth. And you probably just sampled their impact this morning.

Today

You use the fruits of these technological labors each day—often without even realizing it. That Starbucks mobile app you launched on your phone this morning is a great example. It displayed your preferred beverage to your barista even before you got to the register to order. That helped expedite your customer experience. It got you out the door faster.

Your new favorite novel that you bought on your Kindle for your daily commute to work was recommended to you by Amazon. Because it maintains a history of all of your previous digital purchases, the online retailer helped determine and suggest your next book.
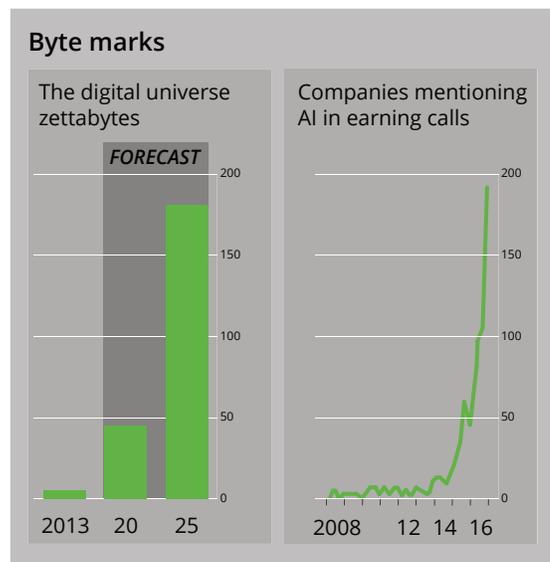
Those experiences were all accomplished through the use of big data.
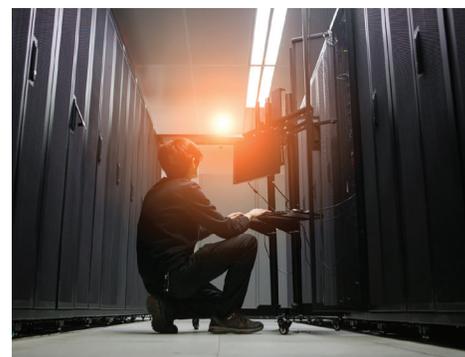
How did we get here?

For decades, incremental building blocks have been laid out for a super highway of data. Thanks to the convergence of connectivity, a data explosion, and accessibility to massive computing power, we hit a tipping point less than a decade ago (**FIGURE 1**).

FIGURE 1
Providing the Fuel for Analytics

Byte marks

The digital universe zettabytes

FORECAST

	2013	20	25

(Values: 0, 50, 100, 150, 200)

Companies mentioning AI in earning calls

	2008	12	14	16

(Values: 0, 50, 100, 150, 200)

Source: IDC, 2017; 1 zettabyte (ZB) = A trillion gigabytes or 4,919,131,752,989,213 books

Key Points

- The confluence of connectivity, a data explosion, and accessibility to massive computing power has produced a series of transformational technologies.

- Corporations are investing heavily in the exploration of these technologies to modernize the way they do business.

- Understanding the behind-the-scenes implementation of these innovations can better help pinpoint opportunities.

The wide adoption of smart phones and the introduction of 4G broadband cellular technology made the wireless internet experience comparable to a desktop one. Prices fell for data storage, which quickly led to the ability to store more information at a much lower cost. Always connected consumers began creating and storing more data around the clock with every credit card purchase they made and each app they opened. This led to an accumulation of data unheralded in history.

Why should you care?

Corporations are investing heavily in the exploration of these technologies to modernize the way they do business. With a greater ability to become more efficient and focused, the companies utilizing these data and analytics could be set to prosper. Nearly eight out of 10 executives say they fear disruption from data-driven competitors.[1]

For example, UPS, the package delivery and supply chain management company is employing game-changing tools to make doing business a lot cheaper, easier, and more effective. They're using new technologies, such as advanced analytics and artificial intelligence, to create more optimal routes for their drivers.

In the first year of using a technology called Orion (On-Road Integrated Optimization & Navigation), the company says it reduced 85 million delivery miles driven and 8.5 million gallons of fuel. It helped shave off time across its fleet of vehicles helping to deliver an operational savings of up to $50 million a year.[2]

More of a focus

It's just one example of a well-established traditional company adopting cutting-edge technologies in all aspects of their business. Today, 53% of companies use big data analytics. That's a staggering increase from 17% just three years ago.[3]

Business leaders are building data science teams to extract a competitive advantage from all of the available data that's now available. By creating a better understanding through analytics and then aiming to predict future behavior with smart machines, they'll be able to target consumers unlike ever before.

For operational processes, many are also exploring opportunities to automate or transform through data sharing, too. The goal: finding cost savings thanks to smart machines fueled by all of the available new data.

What's next?

Those businesses that don't dip their toes into embracing the changes could face an uphill battle to compete against those who do. This surge of data creation isn't slowing down either. By 2025, an average person is expected to interact with a connected device once every 18 seconds or nearly 4,800 times on a given day.[4]

Understanding the behind-the-scenes implementation of these innovations can better help pinpoint opportunities. These businesses are putting themselves in a position to succeed by achieving a competitive advantage through reducing the cost of operation and driving customer retention with more tailored experiences.

[1] Big Data Executive Survey 2018, NewVantage Partners, 2/18
[2] "Big Data Delivers Big Results at UPS," UPS, 2014
[3] 2017 Big Data Analytics Market Study, Dresner Advisory Services, 12/17
[4] "Data Age 2025: The Evolution of Data to Life-Critical," IDC, 4/17

Taking a Closer Look
Below are seven disruptive innovations that are most likely to drive the future of business.

1. **Artificial Intelligence**
   Field of computer science dedicated to solving cognitive problems associated with human intelligence, such as learning, problem solving, and pattern recognition

2. **Big Data**
   Extremely large data sets that may be analyzed computationally to reveal patterns, trends, and associations, especially relating to human behavior and interactions

3. **Blockchain/Distributed Ledger Technology**
   An electronic distributed ledger or list of entries maintained by participants in a network of computers. Blockchains use cryptography to process and verify transactions on the ledger, providing comfort to users that entries are secure.

4. **Cloud Computing**
   The use of various services, such as software development platforms, servers, storage, and software, over the internet

5. **Data Visualization**
   Tools used to help people understand the significance of data by placing it in a visual context

6. **Machine Learning**
   Techniques used to build, train, and test neural networks that use probabilities to predict outcomes and help identify patterns in structured and unstructured data

7. **Robotic Process Automation**
   The automation of business processes through the use of software robots and artificial intelligence

HARTFORDFUNDS

Our benchmark is the investor.®

hartfordfunds.com   888-843-7824   hartfordfunds.com/linkedin