

ISSUE
BRIEF

CUTTING-EDGE TECHNOLOGIES: Cloud Computing Is the Catalyst of the Benefits Created by Cutting-Edge Innovations

One of the many benefits of cloud computing is that it catalyzes the positive effect of cutting-edge technologies, generating societal benefits and economic growth. Policies that create an environment conducive to cloud computing will produce significant, positive results as these new technologies evolve.

Examples of cutting-edge technologies enabled by cloud computing include:

- Cloud computing allows a tremendous amount of data, collected from multiple locations, to be stored and analyzed in a cost-effective way. This enables data analytics to be performed on a large scale.
- Artificial intelligence uses vast amounts of data to “train” algorithms to solve complex problems and achieve certain goals. Cloud computing allows this data to be collected and analyzed efficiently.
- There are multiple uses for blockchain technology from financial transactions to manufacturing, and many new uses are constantly emerging. Cloud computing allows participants in blockchain transactions to remotely record information in decentralized ledgers and subsequently access them.

The cloud not only enables cutting-edge technologies to function, but it facilitates access to these technologies. Governments, businesses, and even individuals can take advantage of data analytics, artificial intelligence, blockchain solutions, or other technologies developed by third parties who offer cloud-based solutions. This is done in a very cost-effective way, with minimum upfront investment by the user. Thus, the benefits of these technologies become exponentially larger through the use of cloud computing.

These cutting-edge technologies, enabled or substantially improved by the use of cloud computing are creating benefits in nearly every industry sector. The automotive industry is one of many examples. In the automotive industry, companies leverage the cloud to increase productivity. They use data analytics to improve accuracy in demand forecasting and adjust production plans. Proactive maintenance powered by artificial intelligence-enabled tools reduces unscheduled downtime of machinery. The need for costly repairs and recalls can also be substantially reduced by the use of blockchain technology to more efficiently track faulty components.

The benefits of innovations powered by cloud computing and enabled by emerging technologies are not only available to large corporations. Small- and medium-sized enterprises can — and in many cases already are — leveraging these technologies. For instance, family-owned restaurants can use data analytics software to better predict demand, which allows them to adjust supply orders and staff schedules accordingly; local firms can grow their business by leveraging software that uses artificial intelligence to make recommendations on which sales leads to prioritize; and accounting firms can improve the efficiency of their business by using blockchain technology to streamline compliance with regulatory requirements.

Emerging technologies have the potential to improve our lives even further. But this can only be achieved if cloud computing can continue to be leveraged. It is, therefore, crucial that countries continue to strive to create an environment that favors the continued development and deployment of cloud computing so that these technologies continue to promote societal benefits and economic growth.