2021-2023 Emerging Technology Roadmap for Large Enterprises

IT Professionals from 437 Organizations Collaborated to Benchmark Adoption Plans, Anticipated Value and Risk for 111 Infrastructure and Operations Technologies

Network

Deployment Risk

Deployment Risk

The risk factors noted in each technology is based on the analysis of potential risk posed, including marketplace/vendor maturity, architectural complexity, security risk, talent availability, regulatory/compliance challenges, implementation cost, and disruption to existing processes and services.

1. I&O and IT leaders have increased the adoption of emerging technologies as organizations begin to recover from the pandemic by seeking innovation opportunities. Across all technology domains, 58% of respondents reported either an increase or a plan to increase emerging technology investment in 2021, compared with 29% in 2020. In tandem, I&O functions have witnessed a reduction in deployment timelines, with all technologies in deployment expected to reach adoption within the next six to 18 months.

2. Talent shortages are a rising and significant challenge for successful adoption of emerging technologies. The year 2021 has seen the emergence of a new challenge to emerging technology adoption, compared with just 4% in 2020 and 16% in 2019.

3. The need for resiliency drives the business case for the majority of emerging technology deployments this year, as organizations are investing heavily in creating a strong hybrid-cloud base, supported by several multcloud technologies.

4. Improving and maintaining IT infrastructure security is a significant priority for organizations as they tackle rising threats, particularly to endpoint devices in the new hybrid work environment. From 2020 to 2021, the number of security technologies in deployment rose sharply — from hybrid work environment. From 2020 to 2021, the number of security technologies in deployment rose sharply — from 35% in 2020 to 63% in 2021.

5. I&O leaders are creating distributed platforms, supported by cloud technologies, that can enable an “anywhere operations” model for employees. To allow the smooth movement of work environments and information between and outwards of organizations, organizations are investing heavily in creating a strong hybrid cloud base, supported by several multcloud technologies.

6. Improving and maintaining IT infrastructure security is a significant priority for organizations as they tackle rising threats, particularly to endpoint devices in the new hybrid work environment. From 2020 to 2021, the number of security technologies in deployment rose sharply — from 35% in 2020 to 63% in 2021. Also, in 2021, 61% of respondents reported that they have either increased or are planning to increase investments in security technologies, a significant jump from just 27% in 2020.

7. I&O executives are deploying highly disruptive emerging technologies to ensure continued, uninterrupted access to enterprise networks and effective delivery of network services within organizations. Investments in network technologies have been continued growth, as 52% of respondents note that they have increased or plan to increase investments in network technologies in 2021, compared with 53% in 2020.

8. Organizations are investing in technologies that enable intelligent data and analytics capabilities to scale enterprises-wide digital ambitions. I&O functions are deploying enterprise technologies that can accelerate change in 2021, such as artificial intelligence (AI)-cloud services, AI/ML solution (AaaS) platforms and data science and machine learning platforms, while intelligent automation for infrastructure managed services, blockchain platforms and IoT platforms are in the pilot stage this year.