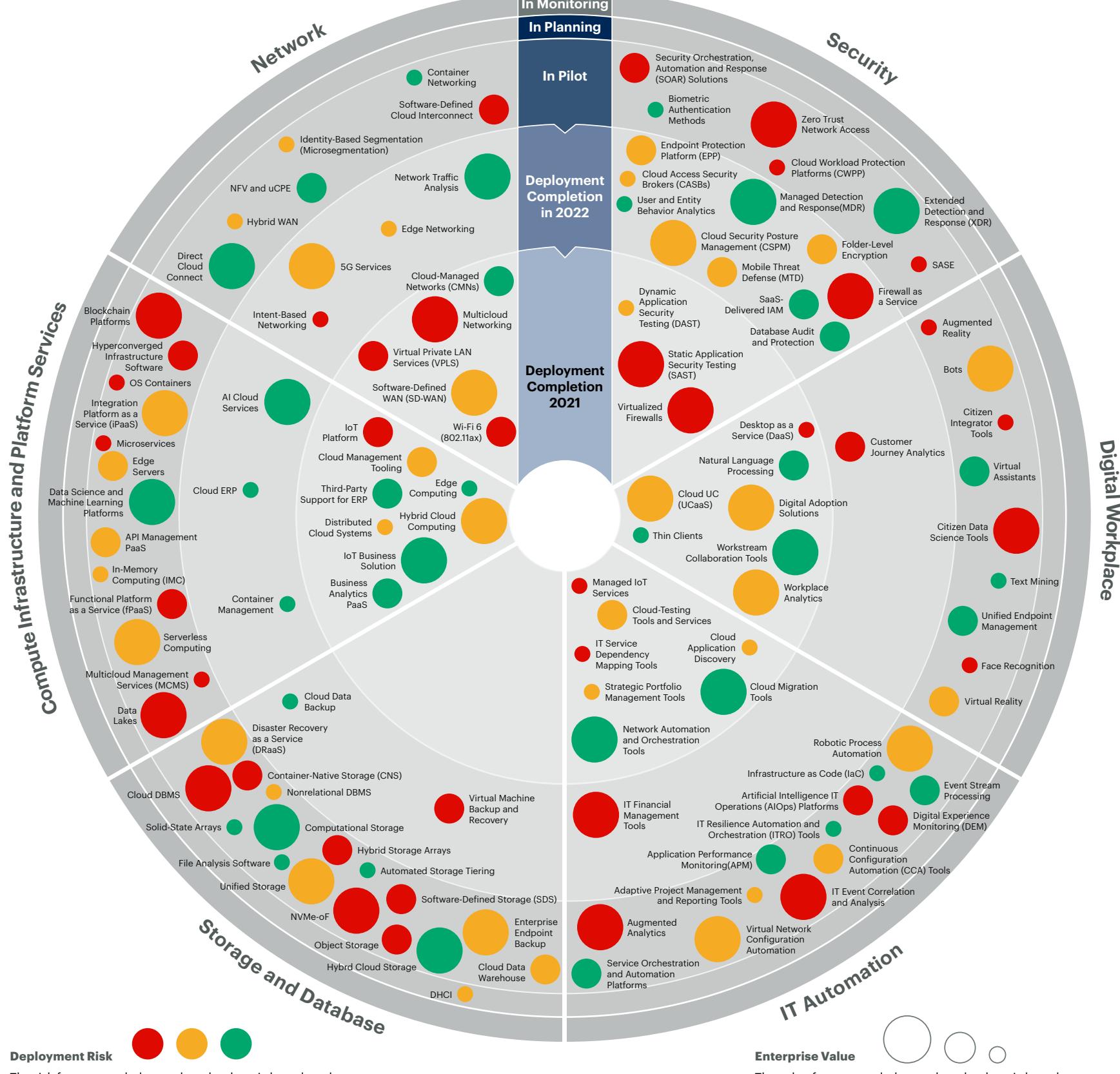


2021-2023 **Emerging Technology Roadmap for Midsize Enterprises**

IT leaders from more than 400 midsize enterprises collaborated to map the adoption of 115 emerging technologies according to their deployment stage, enterprise value and deployment risk.



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

Key Takeaways

Automation

- MSEs are piloting conversational AI technologies to open new service-delivery channels.** MSEs are testing bots and virtual assistants to increase efficiency and ease of interaction for employees, customers or other users. MSEs value promises of increased customer and employee satisfaction more than they fear the risks associated with talent unavailability and implementation costs.
 - MSE CIOs are investing in hyperautomation technologies to focus on process automation.** MSEs are investing in data science and machine learning platforms, AI and robotic process automation (RPA) to support their automation efforts. They are matching their large-enterprise peers in

- efforts. They are matching their large-enterprise peers in hyperautomation investments with 88% of MSEs planning to deploy these technologies by 2022.

3. MSEs are piloting citizen technologies to democratize development, integration and data analytics at scale.

MSEs have moved from monitoring citizen technologies in 2021 to piloting citizen data science tools and citizen

- in 2021 to piloting citizen data science tools and citizen integrator tools. These tools enable resilience and enhance employee productivity. MSEs are keeping up with their large-enterprise peers when it comes to experimentation with citizen technologies to support self-service development and integration by business teams.

Digital Workplace

4. **MSEs are leapfrogging investments in edge computing to improve their speed and agility.** MSEs have bypassed the piloting stage to directly deploy edge computing technology after large enterprises overcame the risks as early adopters. Fifty-eight percent of the MSEs plan to deploy this technology by the end of 2021 to address concerns such as latency, bandwidth, data privacy and autonomy in the hybrid working environment.
 5. **MSEs are investing in digital reality technologies to improve connections and collaboration in hybrid environment.** After years in the not monitoring and monitoring stages, more than half of MSEs are now

- Monitoring stages, more than half of MSEs are now experimenting with virtual reality (VR) and augmented reality (AR) to expand both real-world and virtual surroundings of users. Despite costs associated with implementation risks, CIOs see significant benefits to keeping customers and employees engaged in a virtual environment.

6. MSEs are deploying both Wi-Fi 6 and 5G to support employee productivity. MSEs have accelerated their investments in both cellular and wireless technologies to improve speed and agility. Ninety-three percent of the MSEs plan to simultaneously deploy these technologies by 2022 to meet the divergent network and security demands of the hybrid working environment.

7. Hybrid working environments prompt CIOs to invest

Section 1

3. **MSE CIOs are increasing their investments in cloud security to enable resilience and enhance employee productivity.** CIOs are evolving their network security by deploying cloud-based controls such as cloud access security brokers (CASBs), cloud security posture management (CSPM) and cloud workload protection platforms (CWPP) to facilitate more scalable, integrated and dynamic security needs of the organization. Eighty-nine percent of the MSEs plan to deploy these technologies by the end of 2022 to have an overlapping set of capabilities to address cloud risks.
 9. **MSEs are investing in secure access service edge (SASE) to enable simpler, consistent end-to-end networking and**

- to enable simpler, consistent end-to-end networking and access management.** Having already deployed zero trust network access and SaaS-delivered IAM, MSEs are piloting SASE to deliver the rich set of secure networking and security services in a consistent and integrated manner to support the needs of digital business transformation, edge computing and workforce mobility. Despite having high implementation rates, MSEs continue to face challenges in fully

- and working mobility). Despite having high implementation costs, MSEs are investing in SASE to improve ease of use, while at the same time reducing complexity.

10. MSEs are investing in hybrid cloud storage for disaster recovery, cybersecurity and nondisruptive testing. In response to an increase in highly publicized ransomware attacks, 50% of the MSEs plan to deploy hybrid cloud storage by the end of 2021 to enable resilience in their organizations. CIOs are piloting hybrid cloud storage investments to create

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