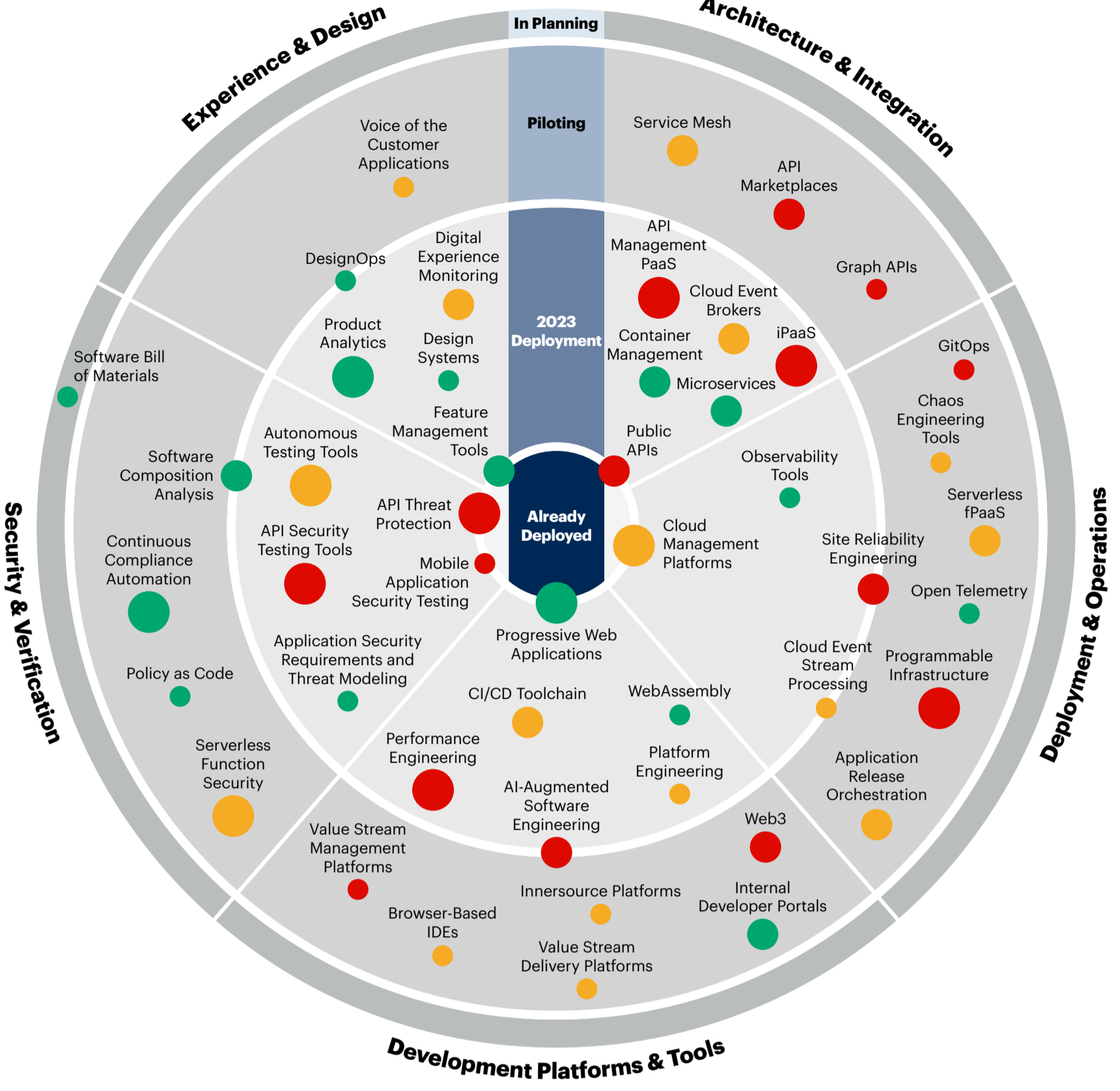


2023 Technology Adoption Roadmap for Software Engineering

More than 140 software engineering leaders from large enterprises shared their plans to map deployment timelines, enterprise value and deployment risk for 47 notable technologies and practices.



Enterprise Value

The value factor awarded to each technology is based on analysis of value drivers, including improved speed and agility, enhanced developer experience or productivity, increased cost efficiency or savings, delivery of superior capabilities to the business or customers, and enabling resilience and reliability.



Deployment Risk

The risk factor awarded to each technology is based on analysis of potential risks posed, including cybersecurity risk, a lack of available talent, high or unpredictable costs, and technical incompatibility or architectural complexity.



Adoption Phase

The adoption phase is determined by the current deployment plans for a majority of organizations. Technologies placed on the border between phases are on the cusp of moving into the next deployment phase.



CI/CD = continuous integration/continuous delivery; fPaaS = function as a service; IDE = integrated development environment; iPaaS = integration platform as a service

Key Takeaways

Software Engineering

- Delivering superior capabilities and providing cost efficiency are the primary value drivers of software engineering technology adoption.** Software engineering leaders cite “delivery of superior capabilities to the business or customer” and “providing cost efficiency or savings” as the primary value factors for the majority of the technologies in the roadmap. Each of these responses represents the primary value factor for approximately one third of the included technologies.
- Software engineering leaders cite high or unpredictable costs and talent availability as the primary risk factors when adopting technologies.** “High or unpredictable costs” is cited as the primary risk factor for 68% of the 47 technologies included in the survey. While cost is perceived as a primary risk for more technologies, talent availability risks are perceived as particularly acute. Fifty percent of technologies that have talent availability as the top risk factor were rated high-risk.
- Organizations are deploying technologies to manage increasingly complex application architectures.** Despite including the most high-risk technologies compared to other categories, 67% of the technologies in the architecture and integration category are planned for deployment in 2023.
- Organizations are investing in select, high-value platform technologies despite concerns about significant upfront costs.** Despite citing “high or unpredictable costs” as a top risk factor, software engineering leaders are currently deploying several platform technologies, including API management PaaS, iPaaS, and cloud management platforms — all of which are perceived as high-value.
- The need to improve developer experience and productivity is driving technology adoption.** High-quality developer experience has become a critical priority for software engineering leaders, with 58% reporting that it’s very or extremely critical to the C-suite at their organizations. Enhanced developer experience or productivity is the top overall value factor for technologies and practices in the developer platforms and tools category, which includes performance engineering, internal developer portals, and browser-based IDEs.
- Organizations are adopting security and verification technologies to improve resilience and reliability throughout the software development life cycle.** “Enabling resilience and reliability” is cited as the primary value factor for 50% of technologies and practices in that category. API security is a notable priority, with respondents ranking API threat protection and API security testing tools among the highest value technologies that enable resilience and reliability.
- User experience and design technologies are seen as low-risk ways to deliver value.** Organizations plan to deploy multiple tools in 2023 to support user experience and design. Sixty-seven percent of the technologies in the experience and design category are considered low-risk. “Delivering superior capabilities to the business or customer” is cited as the primary value factor for the majority of technologies in this category.

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