CLOUD NATIVE COMPUTING FOUNDATION | GITOPS MICROSURVEY

Learning on the job as GitOps goes mainstream

Six years after the first pattern was published, GitOps has crossed the chasm and cleared the adoption threshold, which — for better or worse — means there are now a lot of people learning on the job!

CNCF's latest microsurvey on GitOps found that **31%** of respondents started using GitOps in their cloud and Kubernetes environments during the past 12 months. They joined the **60%** who'd been working with GitOps for a year or more.

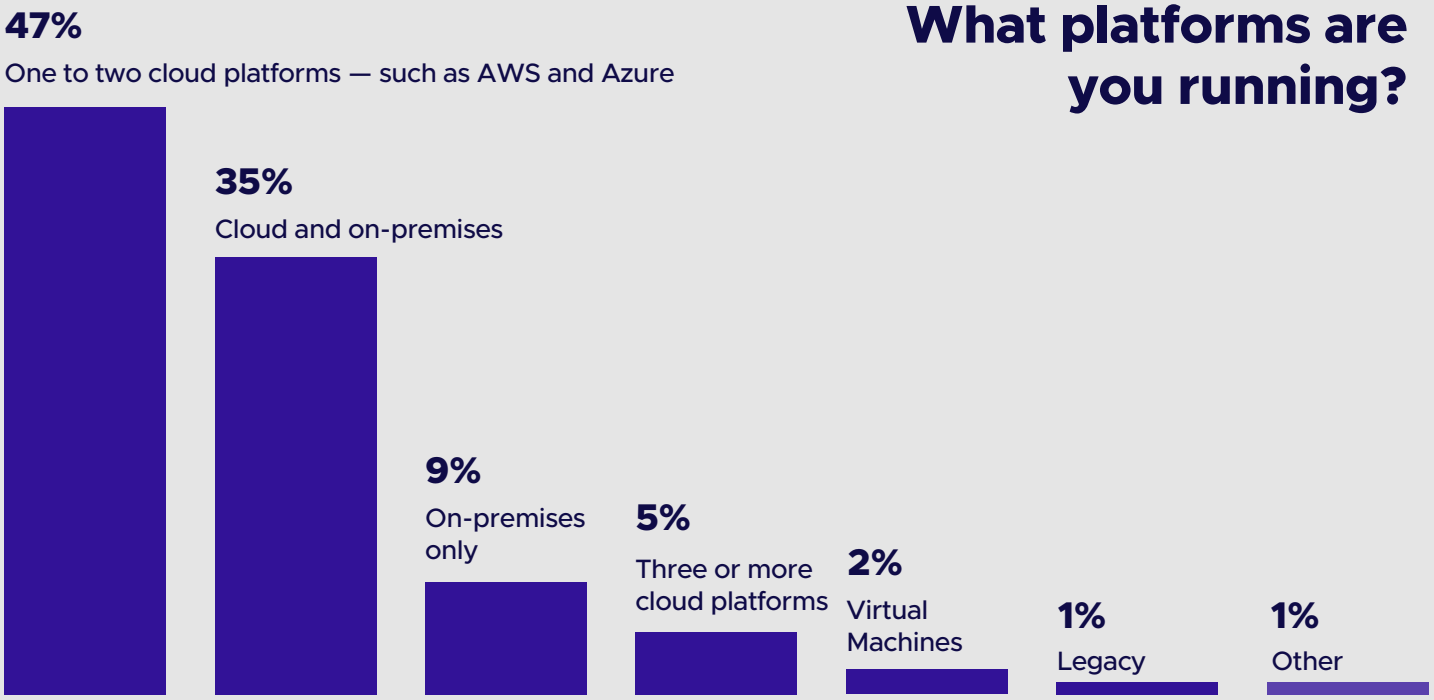
How long have you been using GitOps tools and practices?

And, of those still holding out, a further **67%** believe they will begin their journey to GitOps tools and practices during the coming year.

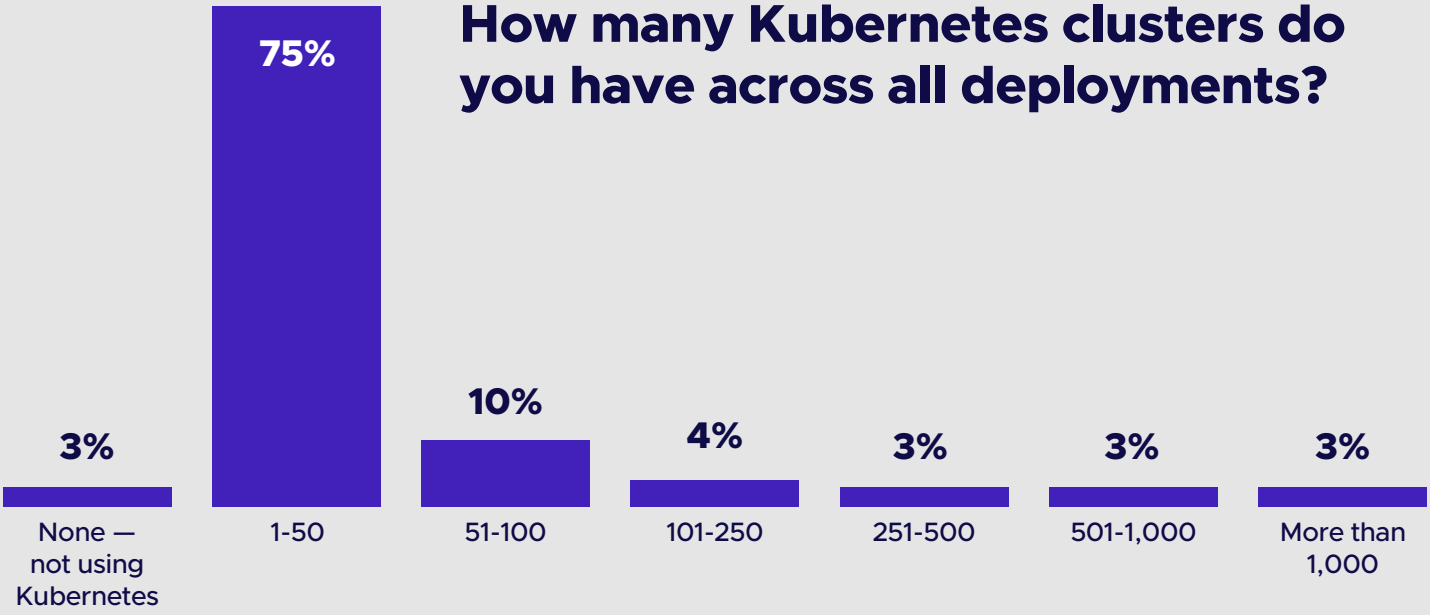
If you are not already employing GitOps tools and practices, when do you plan to begin?

The backdrop for this is the rise and consolidation of multi-cloud and hybrid-cloud as the foundation for digital businesses (used by **47%** and **35%**, respectively), with the majority of respondents — **75%** — running environments comprising up to 50 Kubernetes clusters. Further, more than half (**54%**) of respondents leverage GitOps in more than **26%** of their cloud native deployments.

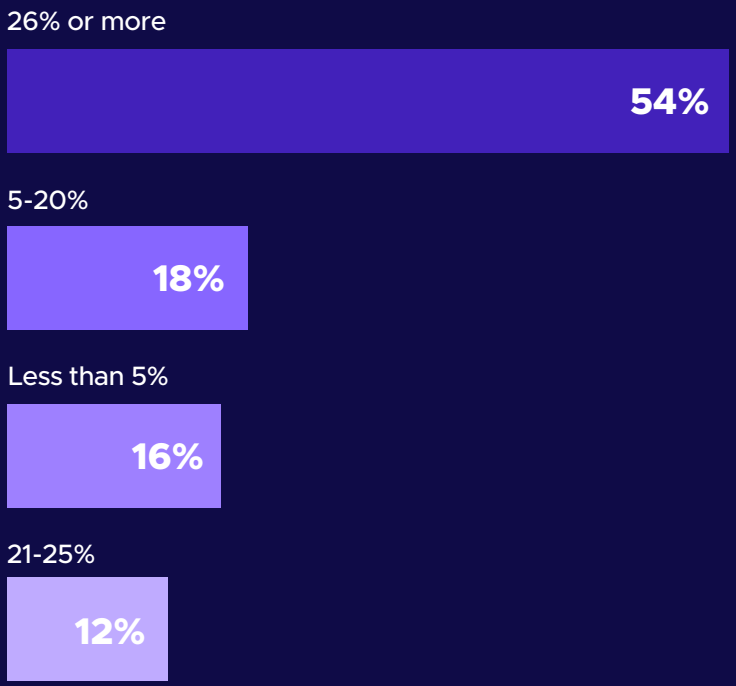
What platforms are you running?



How many Kubernetes clusters do you have across all deployments?



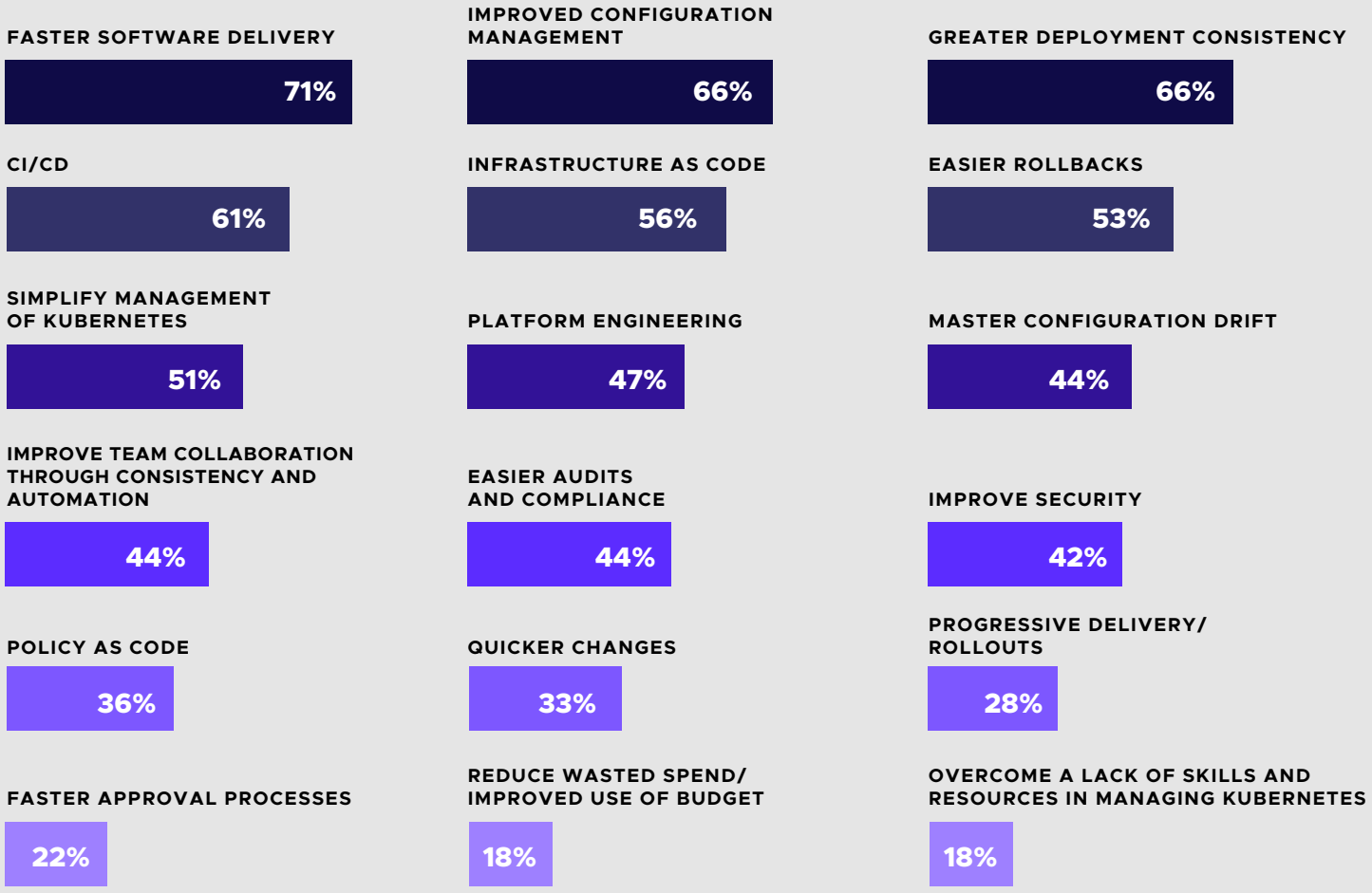
What percentage of your cloud native deployments leverage GitOps?



This has influenced the way people want to build and manage big, complex, and fast-changing technology fabrics. Kelsey Hightower once said we should "stop scripting and start shipping", and our data revealed how many view GitOps as the best way to achieve this.

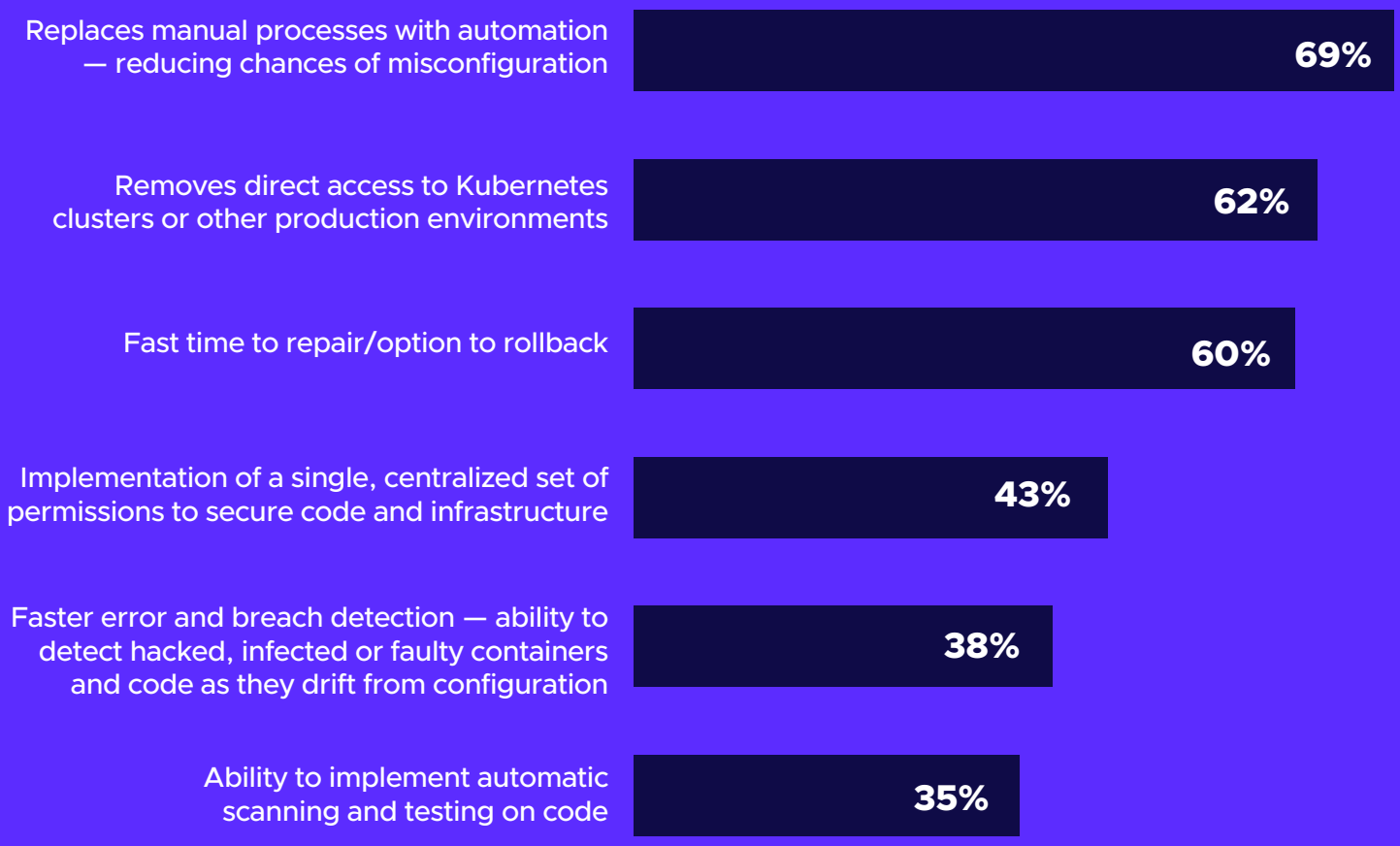
Faster software delivery was ranked the number-one reason for embracing GitOps (**71%**), with improved configuration management and greater deployment consistency tying second and third at **66%** each. Also landing in the top five list of GitOps draws were easier rollbacks (**53%**) and simplified Kubernetes management (**51%**).

What are your reasons for using GitOps? What objectives do you hope to achieve?



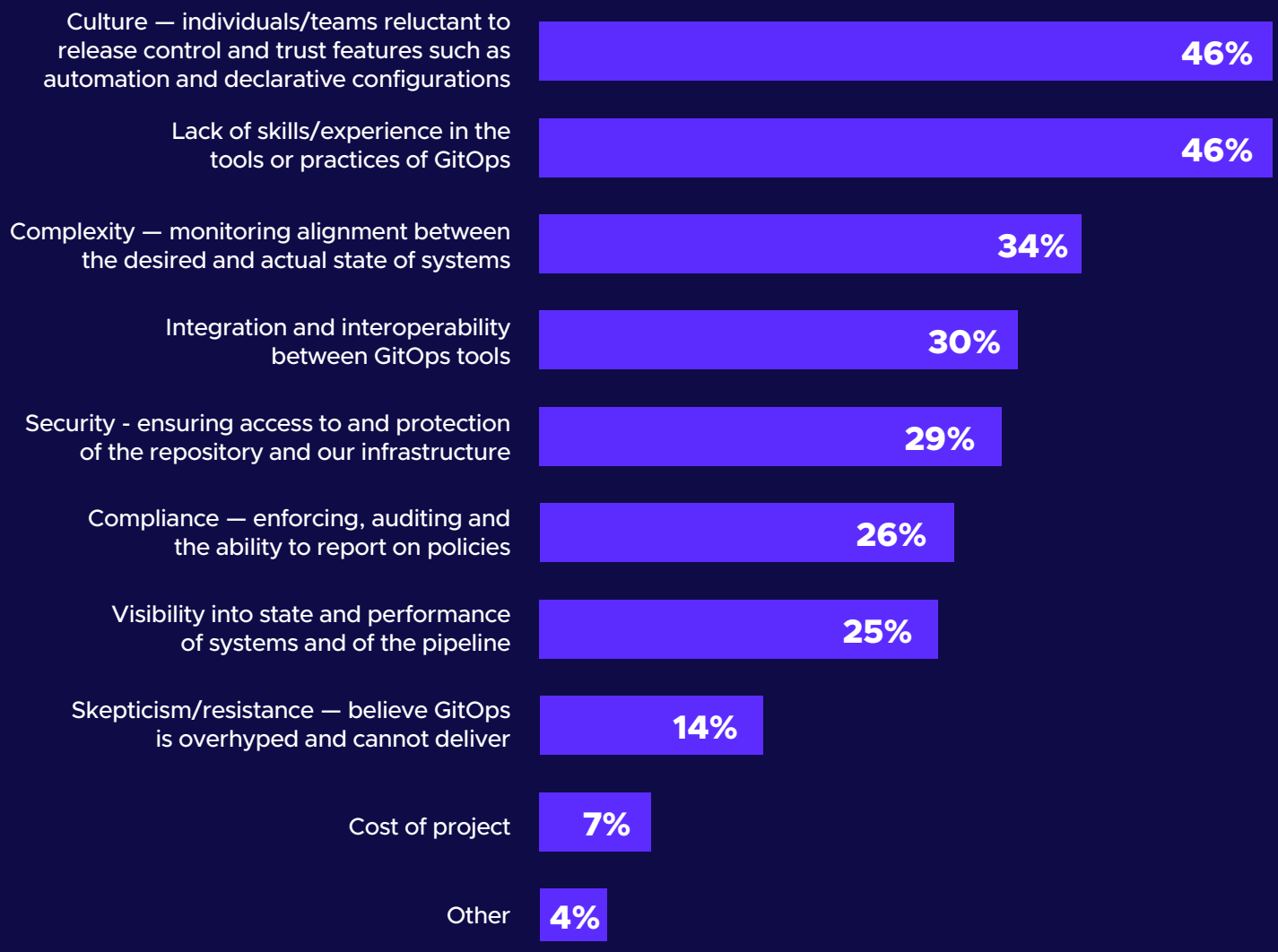
Pulling in some of the survey's highest responses were anticipated security improvements. GitOps' inherent automation is seen as a means to replace mistake-prone manual processes, removing the risk of misconfigurations that have long been exploited by attackers. Swapping manual for automation was ranked the number-one security benefit at **69%**. There's also a strong desire to shield Kubernetes and live production environments from direct access — this came second at **62%**. And, echoing an earlier question's findings, **60%** said fast repair and rollback are key objectives in the quest to improve security.

What do you believe are/will be the biggest security benefits of GitOps?



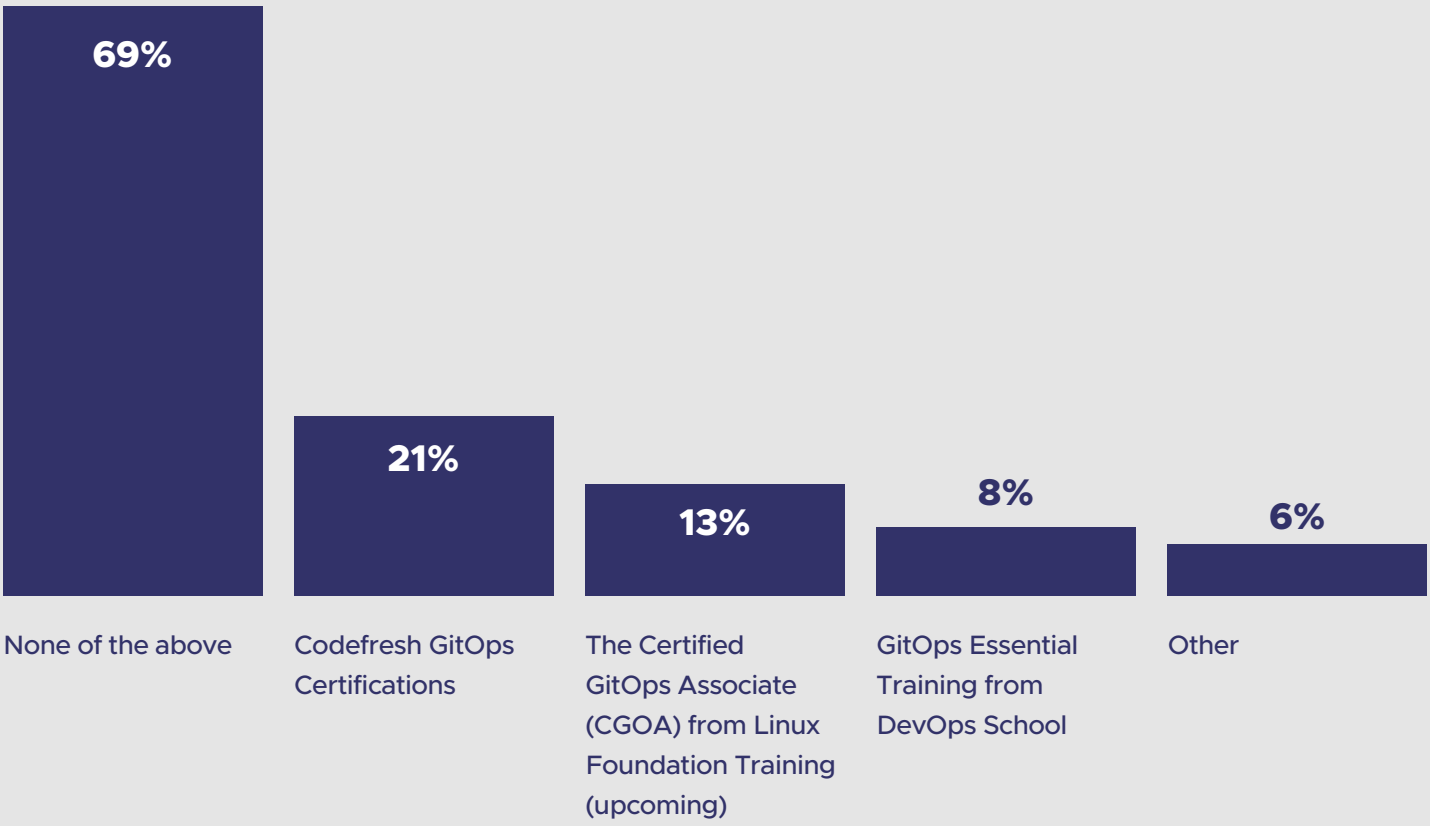
Interestingly, there is a crossover between automation and some cultural obstacles people have experienced or expect to encounter during their GitOps rollouts. A reluctance by DevOps team members to relinquish control and simply "trust" the machine or put their faith in features such as declarative configurations was listed as the biggest actual or perceived problem by **46.3%** of respondents. Lack of training and experience came second with **45.7%**.

What do you anticipate will be/or what have been your biggest challenges in adopting GitOps?



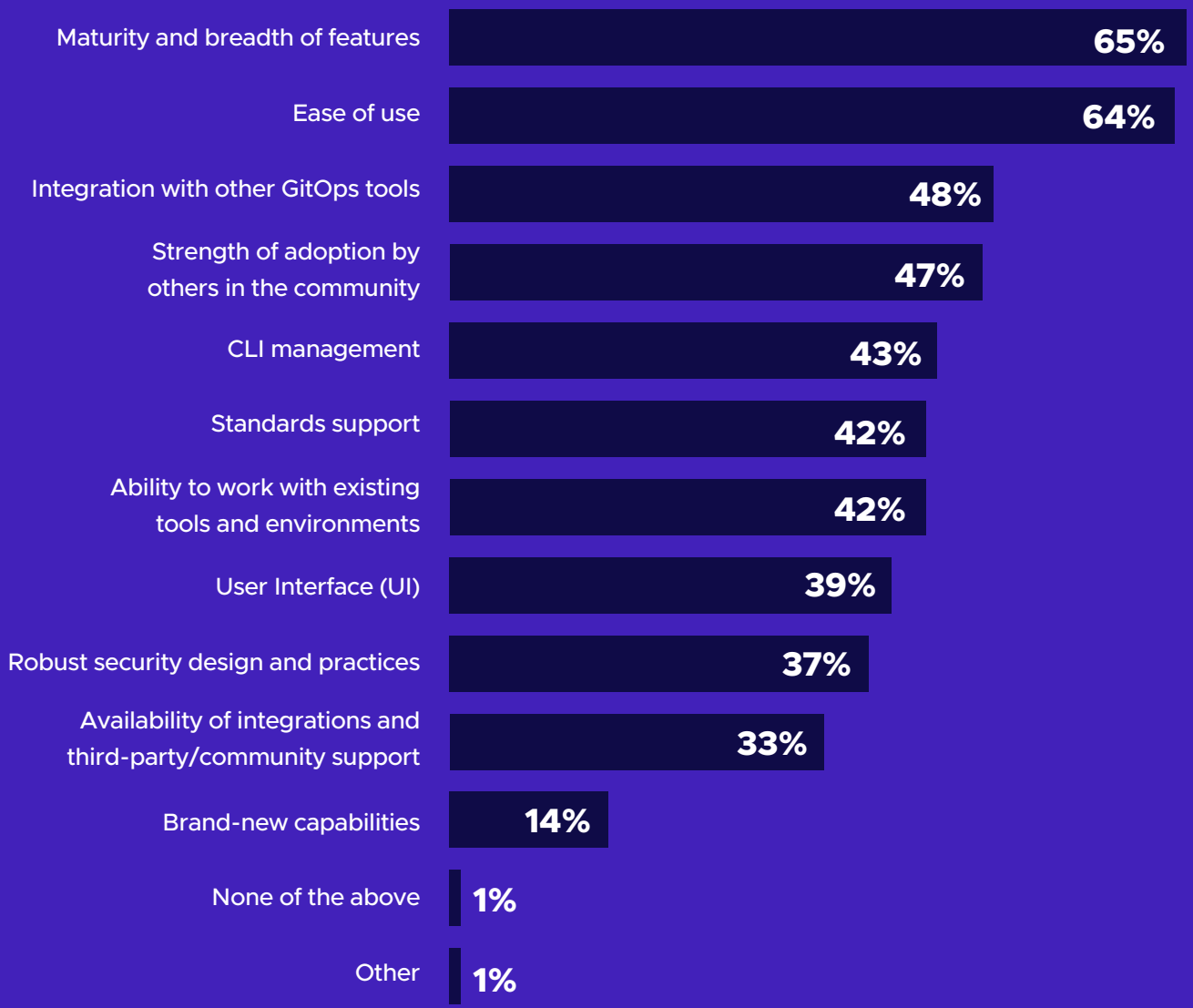
Despite these concerns over skills, few seem to be addressing the situation. Nearly **70%** not only had yet to complete any GitOps training or certification, but they also had **no plans** to participate in any courses.

Have you completed, or do you plan to complete, any certifications or training courses around GitOps?



With this in mind and with GitOps adoption riding high on cloud and Kubernetes, users are looking for two key attributes in tools and practices. First is maturity and breadth of features with **65%**, closely followed by ease of use at **64%**. Other factors polling strongly in people's considerations were integration with other makers' GitOps tools, the ability to work with existing tools and environment, and the strength of adoption by their peers.

What criteria did you apply for picking tools?



Finally, when it comes to adoption, **ArgoCD and Flux were the most widely used CNCF GitOps projects.**

Our GitOps microsurvey was conducted **between July and September 2023** with **220** overall responses with varying response rates throughout. Community members from the Continuous Delivery Foundation, Codefresh, and Weaveworks helped design the survey

To learn more about GitOps, get involved with the CNCF GitOps Working Group (WG). Sitting under the CNCF App Delivery Technical Advisory Group (TAG), the focus of the GitOps WG is to clearly define a vendor-neutral, principle-led meaning of GitOps and establish a base for interoperability between tools, conformance, and certification. Lasting GitOps programs, documents, and code will live within the CNCF OpenGitOps project, which is housed in the CNCF Sandbox and guided by the WG.

You can also attend the upcoming virtual event, GitOpsCon Europe 2023. The event will take place **online from December 5-6** and is designed for all levels, from those new to GitOps to those currently using GitOps within their organization. Talk topics will include getting started with GitOps, scaling and managing GitOps, lessons learned from production deployments, technical sessions, and thought leadership.

The full survey data can be found on GitHub.

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