GitLab

2024 Global DevSecOps Report

What's next in DevSecOps for the public sector

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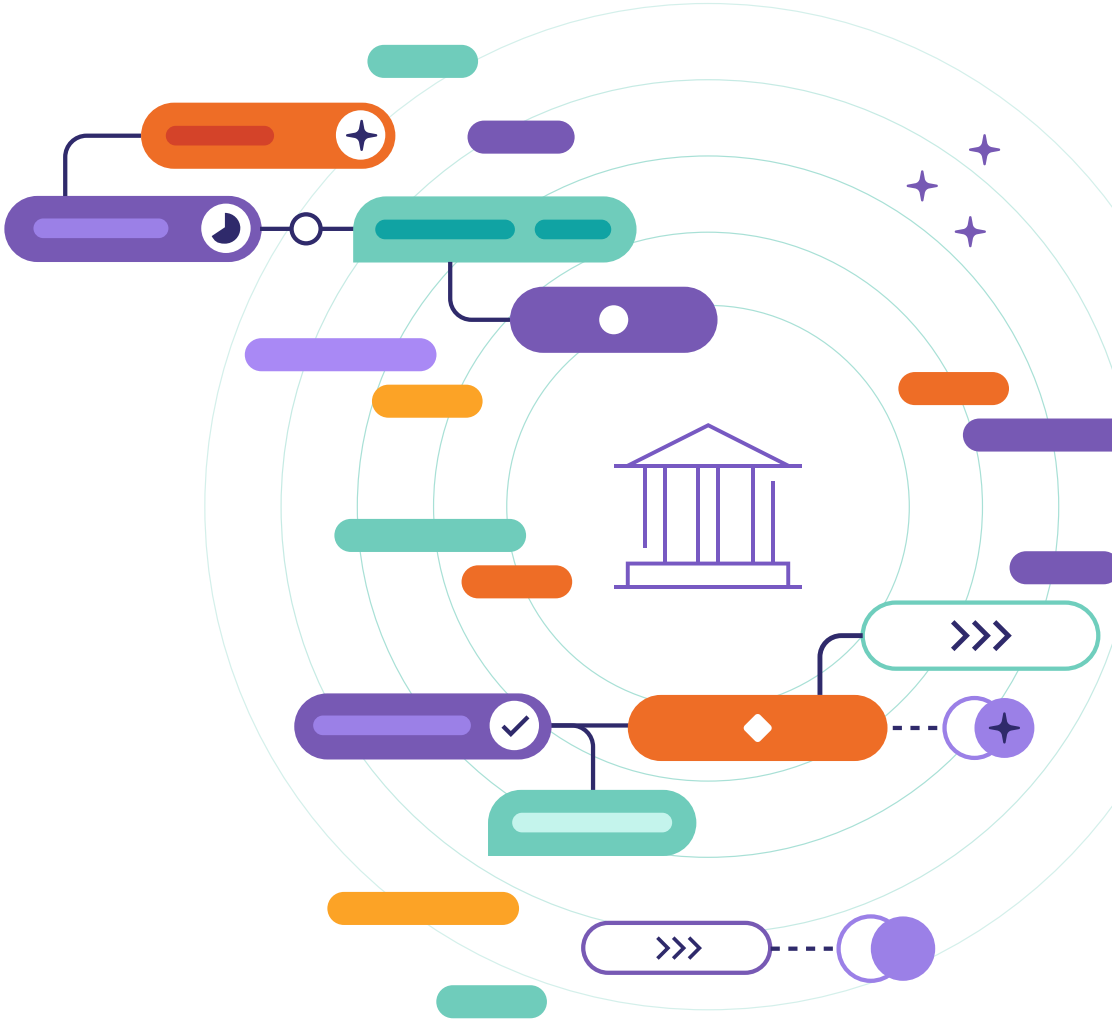
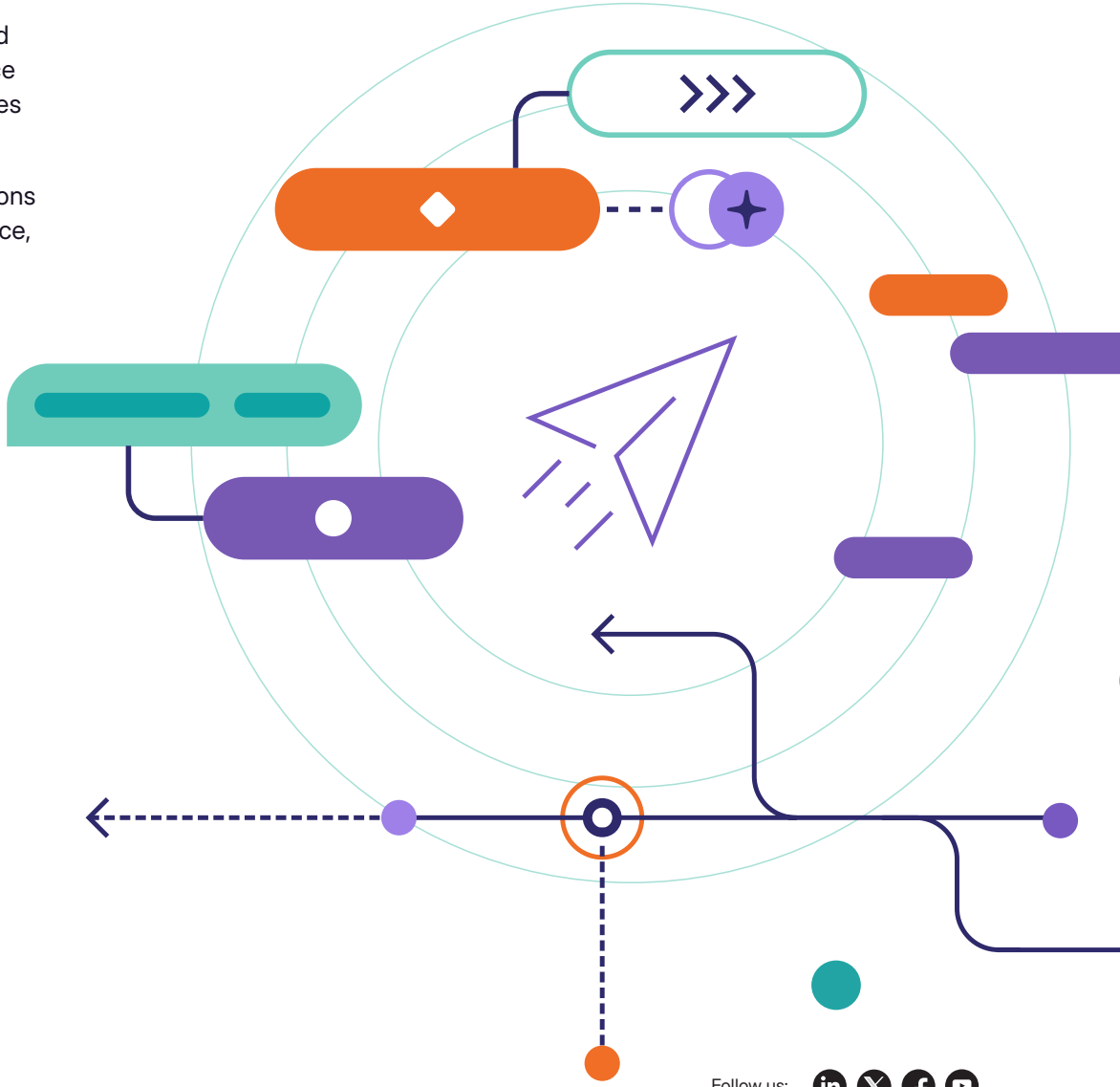


What's next in DevSecOps for the public sector

It's clear from our 2024 Global DevSecOps Survey of more than 5,000 DevSecOps professionals that artificial intelligence (AI), security, and automation are top of mind for organizations across the board.

But what about the public sector? This industry has some unique challenges and requirements — from countering cybersecurity threats to maintaining compliance and accelerating software delivery — that could make their progress and priorities a bit different.

We analyzed the 687 survey responses from development, security, and operations professionals in the public sector (defined in our survey as government, aerospace, and defense organizations). Let's take a look at what this industry is doing and struggling with — on everything from AI to onboarding developers.

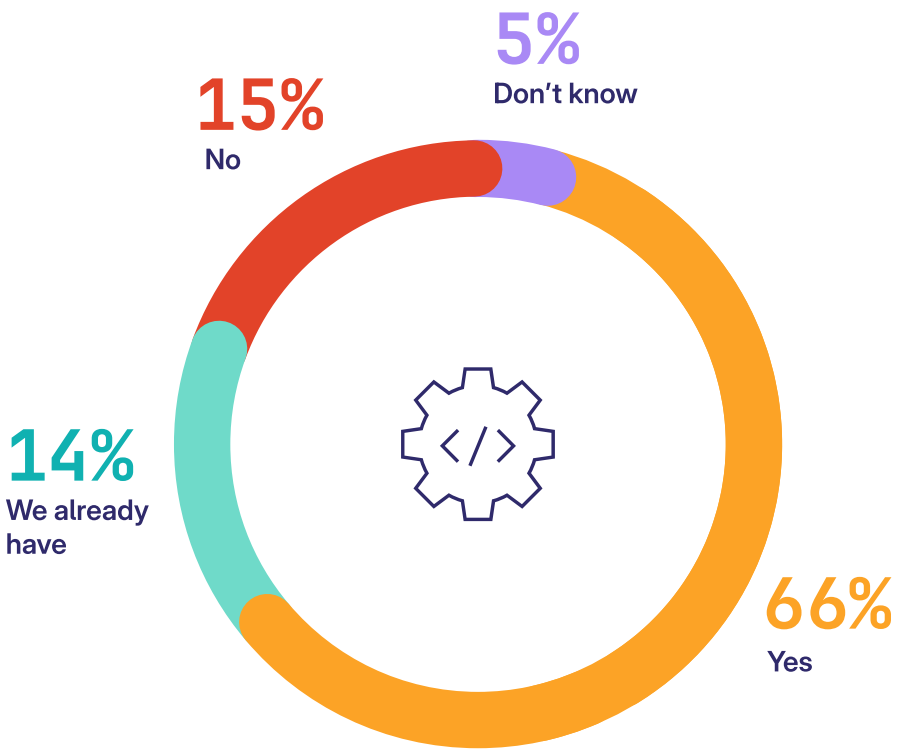


Investing in security, AI, and a DevSecOps platform

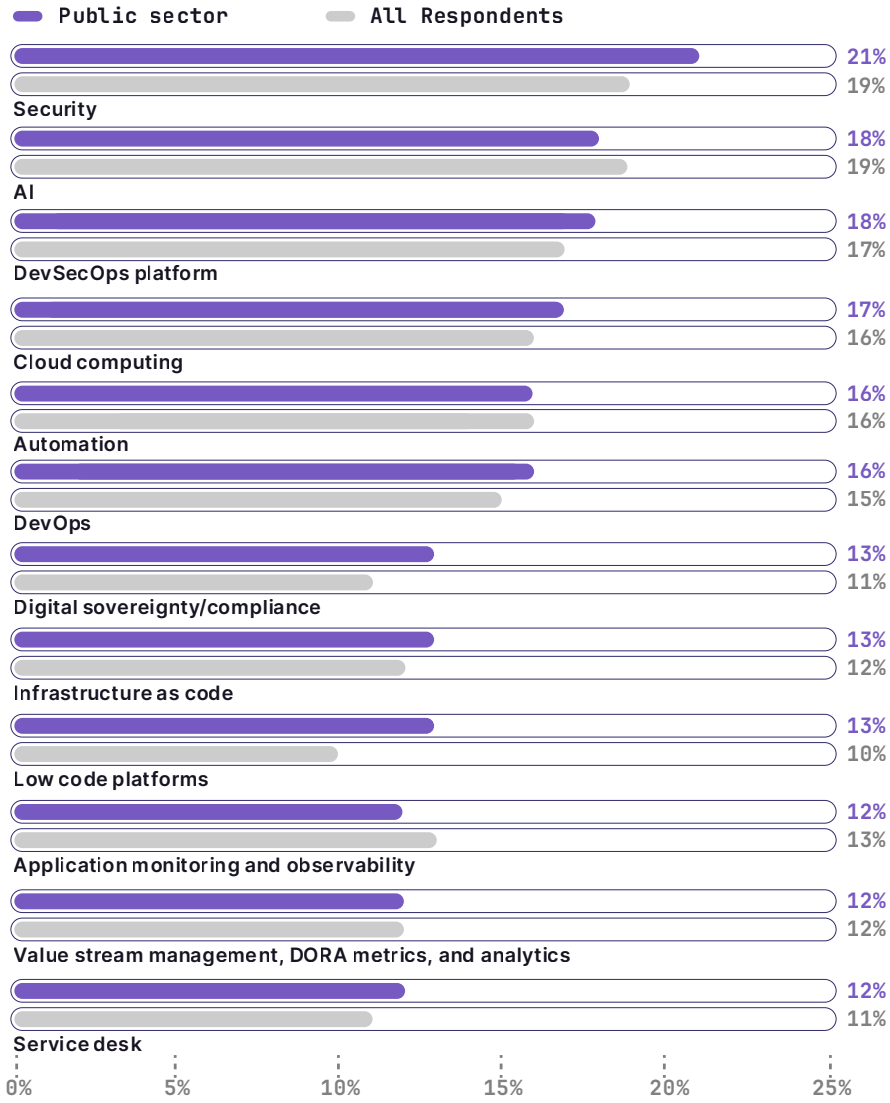
Not surprisingly, security was the most commonly cited investment priority for respondents in the public sector.

AI and a DevSecOps platform were tied for second, which makes sense given the public sector's plans for adopting AI, their focus on security and compliance, and their desire to consolidate their toolchain.

Do you want to consolidate your toolchain? (according to the public sector)



What are your organization's top 3 IT investment priorities in 2024?



Europe leads the way for AI adoption

According to our survey, the public sector as a whole is currently using AI in the software development lifecycle (SDLC) more than their peers in other key industries, including financial services, telecommunications, and software/computer hardware. But this doesn't tell the whole story.

AI usage in the public sector varies substantially by geographic region.

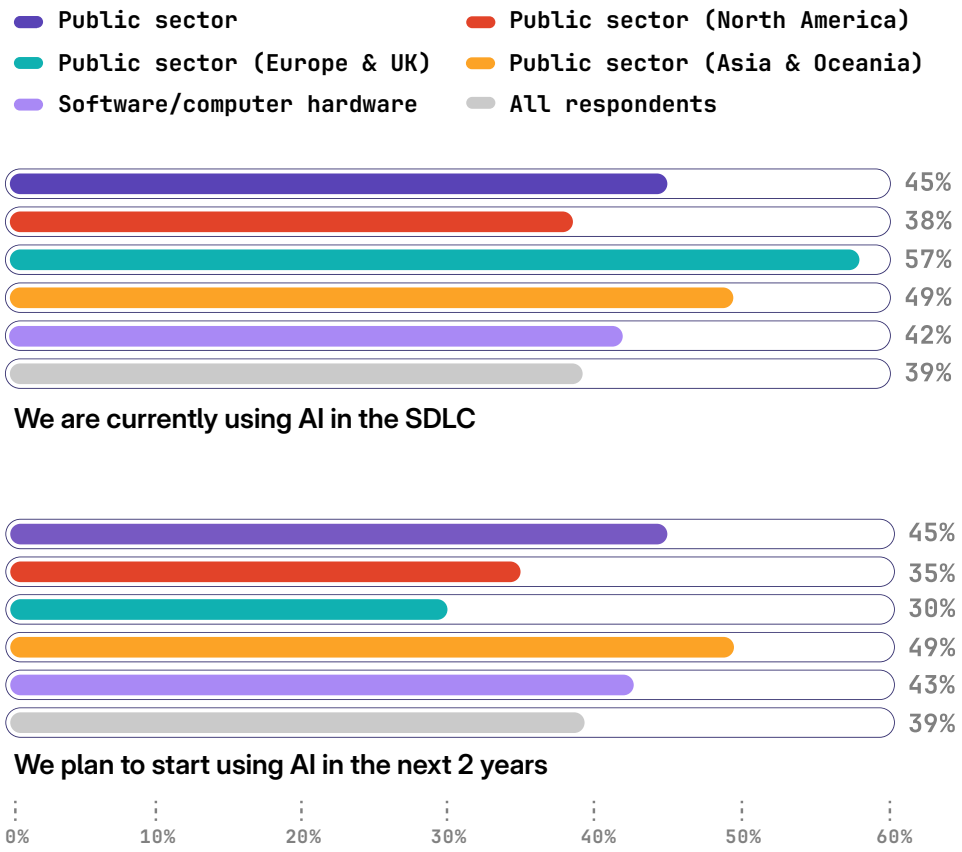
In North America, 38% of respondents said their organization is currently using AI for software development. This is similar to what we found for all respondents across industries and regions (39%), but lower than their public sector peers in other regions. Many are planning to start using AI, though. Three-quarters (75%) of public sector respondents in North America are currently using AI or plan to in the next two years.

In Europe and the U.K., more than half of respondents in the public sector (57%) reported that their organization is currently using AI in the SDLC — and 88% are currently using AI or plan to in the next two years.

In Asia and Oceania, nearly half (49%) of respondents said their organization is currently using AI in the SDLC, with a total of 82% currently or planning to use AI in the next two years.

A few things could have helped Europe get ahead on adopting AI for software development. First, the European Union (EU) set the parameters for AI adoption, by passing the EU Artificial Intelligence Act, earlier than the United States and many other countries. Second, the EU is investing in AI with The Digital Europe Programme (DIGITAL) and Horizon Europe.

Is your organization using or planning to use AI in the software development lifecycle?



Integrating AI into all aspects of software development

Software engineering teams in the public sector are eager to adopt generative AI to help them accelerate code creation. In fact, it's one of the top ways they're using AI, along with code explanations, and summaries of code changes.

When asked how they are planning to use or are interested in using AI, this year's public sector respondents identified another set of use cases, including forecasting productivity metrics and identifying anomalies, vulnerability explanations and remediation, and chatbots that allow users to ask questions.

Chatbots appeared in both the top five current use cases and the top five use cases that respondents are interested in adopting, suggesting that natural-language chat interfaces are an appealing way for DevSecOps teams to engage with AI tools.

Of note, the top ways public sector respondents are currently using AI didn't different much by region. One difference worth noting is that fewer respondents in Europe reported using AI to explain how a piece of code works — in that region, it was the fourth most common use case instead of the second. Also, in Asia and Oceania, the two most common use cases reported were explanations of how a piece of code works and chatbots that allow users to ask questions using natural language.

Top ways public sector respondents are currently using AI:

54%

Code generation and **code suggestions/ completion**

45%

Explanations of **how a piece of code works**

41%

Summaries of **code changes**

39%

Summaries of **code reviews**

38%

Chatbots that allow users to ask questions in **documentation using natural language**

Top ways public sector respondents are interested in using AI:

44%

Forecasting **productivity metrics** and identification of anomalies across the **software development lifecycle**

44%

Suggestions for who can **review code changes**

43%

Explanations of how a **vulnerability can be exploited** and how to remediate it

40%

Chatbots that allow users to ask questions in **documentation in natural language**

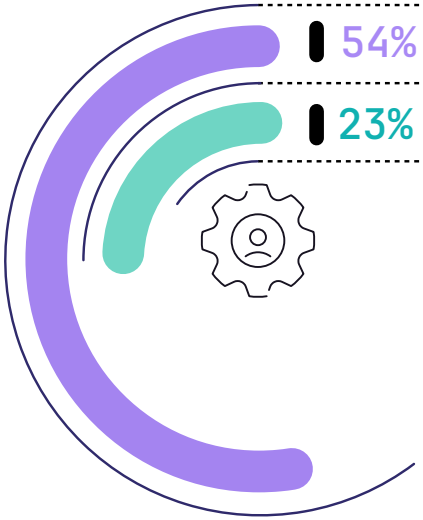
38%

Fixing failed **pipeline jobs**

Software supply chain security is a potential weak spot

Within the public sector, 54% of developers say at least half the code they work on is from open source libraries. That's significantly higher than average, with only 40% of developers across all industries reporting that more than half the code they work on is open source.

Capabilities like a software bill of materials (SBOM) — a list of all the components, libraries, and modules that make up an application — are essential for maintaining the security of the software supply chain, especially as the amount of code pulled from open source libraries increases. However, in our survey, only 23% of respondents in the public sector said their organizations are currently using SBOMs to enable security in the SDLC.



54%

of developers in the public sector said at least half of the code they work on is from open source libraries...

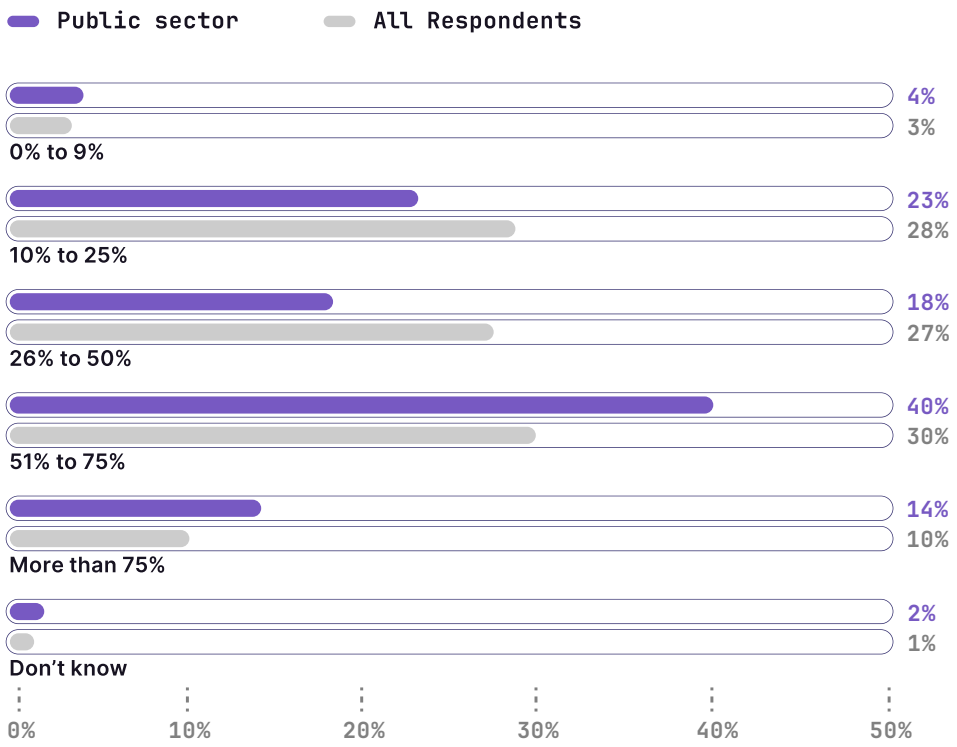
but only...

23%

of respondents in the public sector said their organization uses SBOMs.

This number will likely increase as more countries and organizations regulate the software supply chain. For example, in the United States, the federal government (and any companies selling software to the federal government) are encouraged to follow the NIST cybersecurity framework, which highly recommends using an SBOM. And public sector organizations are following suit: The U.S. Army now has a mandate to begin incorporating SBOMs into most new contracts that involve software.

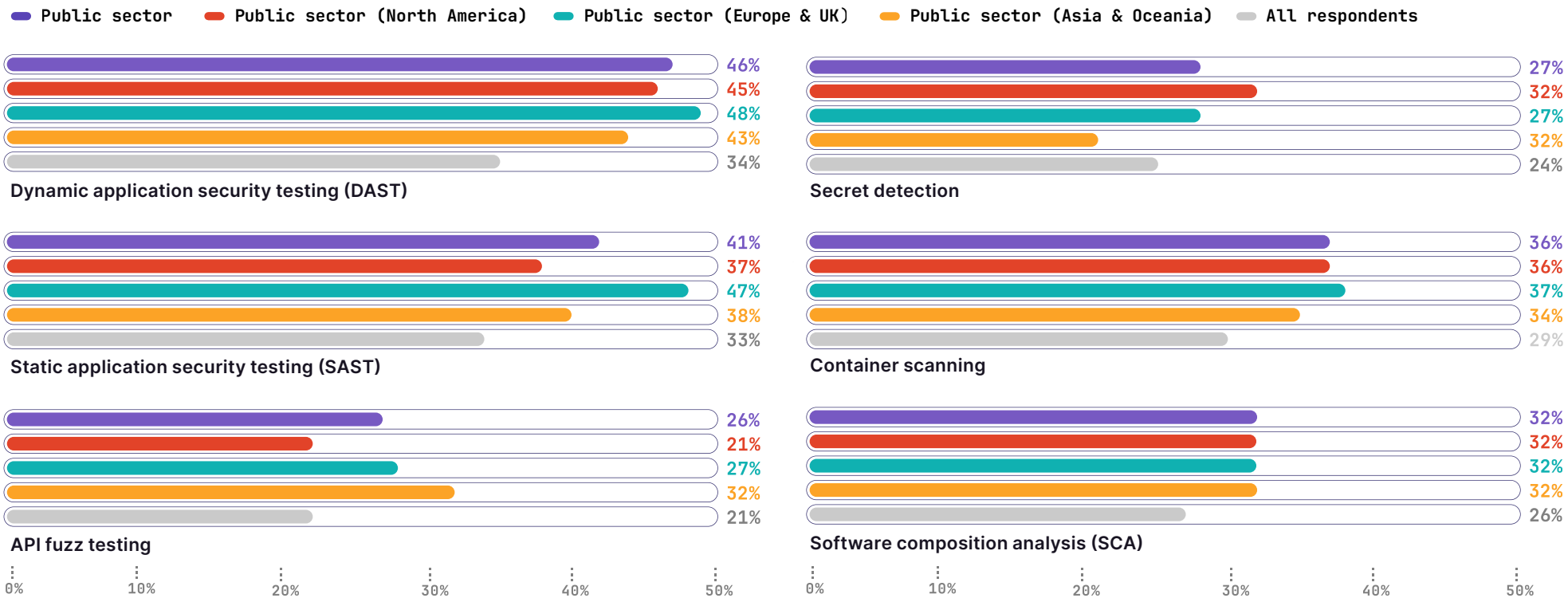
Approximately how much of the code in the applications you work on is from open source (OSS) libraries?



Security is a priority, but still a challenge

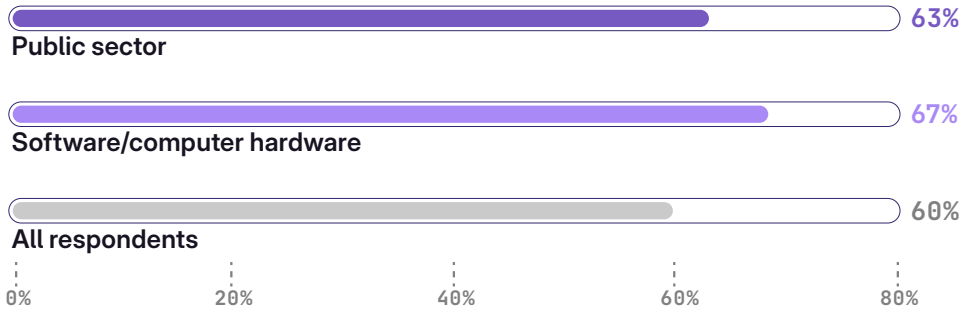
In this year's survey, we found that the public sector is a bit ahead of the curve when it comes to using many security-related technologies, such as dynamic application security testing (DAST) and software composition analysis (SCA). Of note, the public sector in Europe is particularly ahead of the crowd when it comes to using static application security testing (SAST). The tool, which analyzes code for security vulnerabilities, is used in Europe at significantly higher rates than all respondents across industries, as well as public sector respondents in other regions.

How does your organization enable security in the software development cycle?



However, public sector respondents don't feel much more confident about their team's security. Only 63% said they are confident in their organization's approach to application security, compared to 60% of respondents across all industries, and 67% in the software/computer hardware industry. (Note: Public sector respondents in different regions were similarly confident in their security.)

Percentage of respondents who feel confident in their organization's approach to application security



Why isn't the public sector more confident in their approach to security? The results from our survey point to some possible areas for improvement.

Of the security professionals in the public sector who took the 2024 Global DevSecOps Survey:

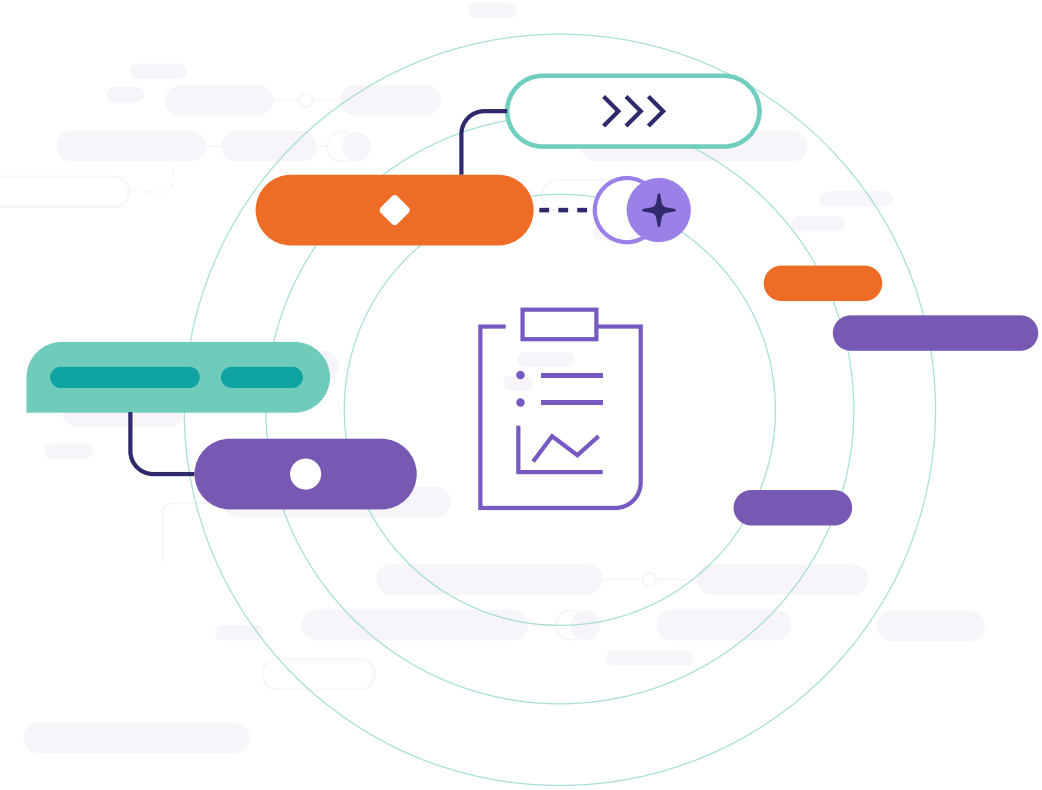
67% said the security team has a difficult time getting the development team to prioritize remediation of vulnerabilities, compared to 59% across all industries.

60% said security vulnerabilities are mostly discovered by the security team after code is merged into a test environment, compared to 55% of all respondents.

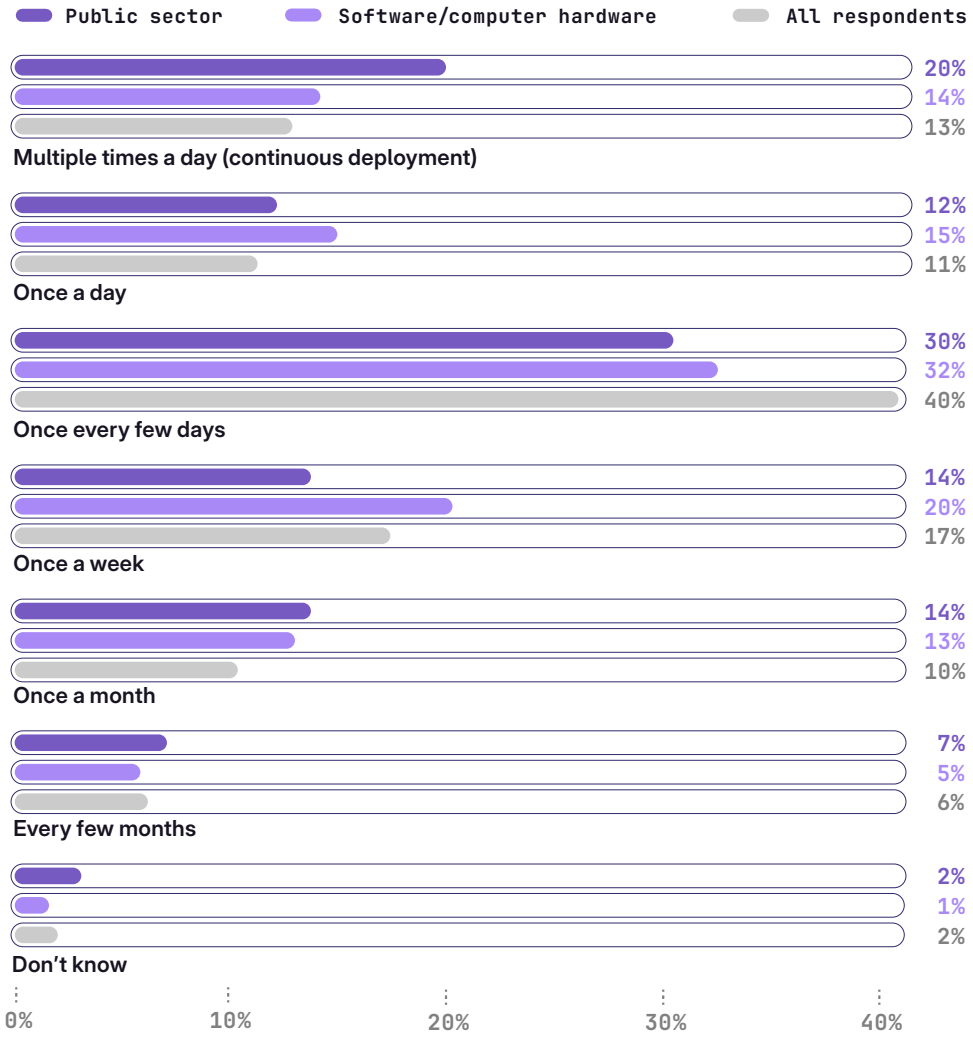
Only 51% said DevOps/DevSecOps practices are mature and well ingrained in their organization, compared to 53% across all industries.

Leading the way on continuous deployment

The public sector is ahead of the curve on deploying multiple times per day, or continuous deployment. A full 20% of developers in the public sector said their organization deploys multiple times per day, compared to 13% across all industries. Many in the public sector have been investing in deployment automation and continuous delivery over the years, and it seems to be paying off.



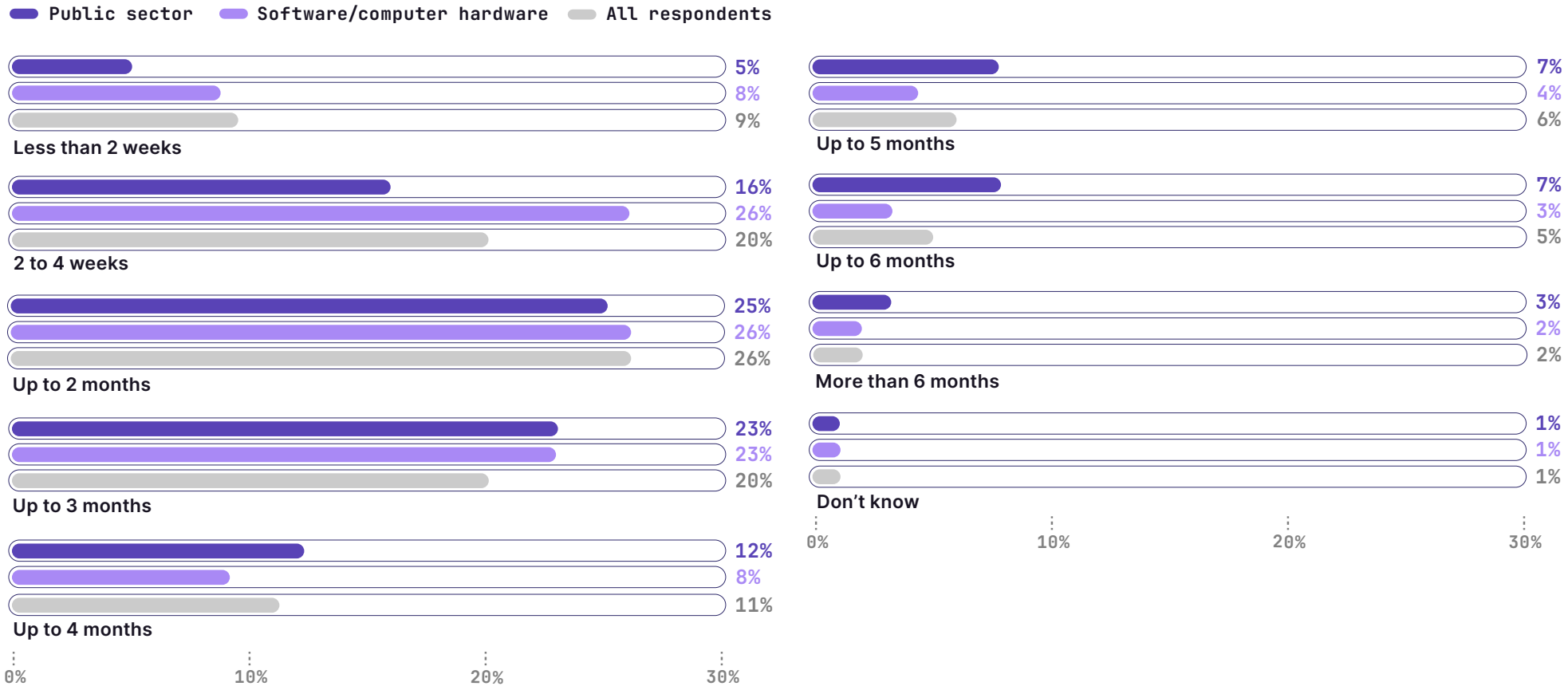
How often does your organization deploy to production? (according to developers)



Onboarding is a challenge

Developer onboarding is an area that is challenging for the public sector. Only 21% of these respondents there said they were able to onboard developers in less than a month, compared to 29% across all industries. (This struggle to onboard developers quickly was seen around the world as well, with only 23% of public sector respondents in North America, 21% in Europe, and 22% in Asia and Oceania reporting that it takes less than a month.)

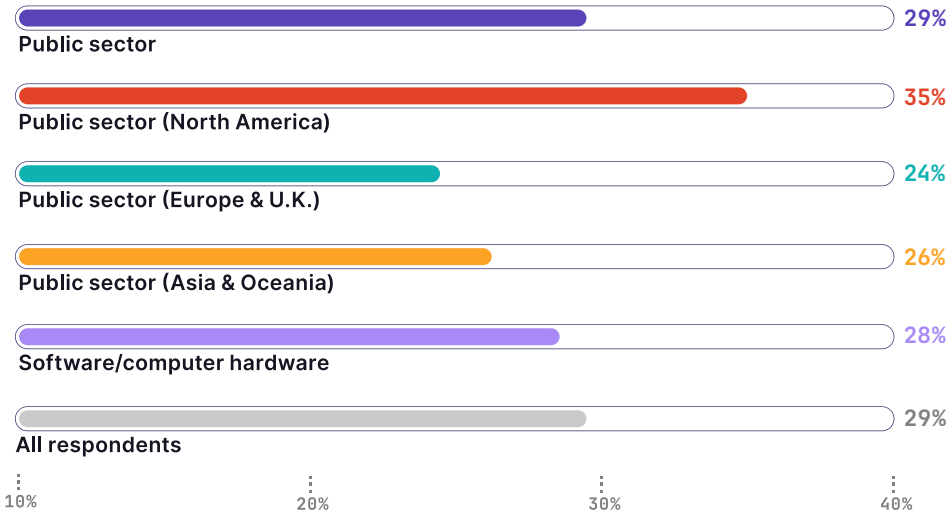
How long does it take to onboard new developers in your organization and get them up to speed on all your tools and processes?



It isn't surprising that onboarding tends to take longer in the public sector, given that many of these organizations have more complex hiring processes, legacy applications and tools that need to be learned, and tend to move more slowly in general.

Hiring and retaining developers isn't easy for the public sector either—especially in North America. More than a third of respondents (35%) there said their organization has a difficult time attracting, hiring, and retaining developers, compared to 29% of respondents across all industries and regions, and 28% in software/computer hardware.

Percentage of respondents who said it's difficult for their organization to attract, hire, and retain developers



Developers want more automation, collaboration, and AI

When asked how their organizations can improve developer experience, developers in the public sector were clear: increase automation, improve collaboration, and adopt AI.

Top changes that could be made to improve developer satisfaction, according to developers in the public sector:

32%
Increased automation

26%
Improved collaboration

25%
Use of AI assistants

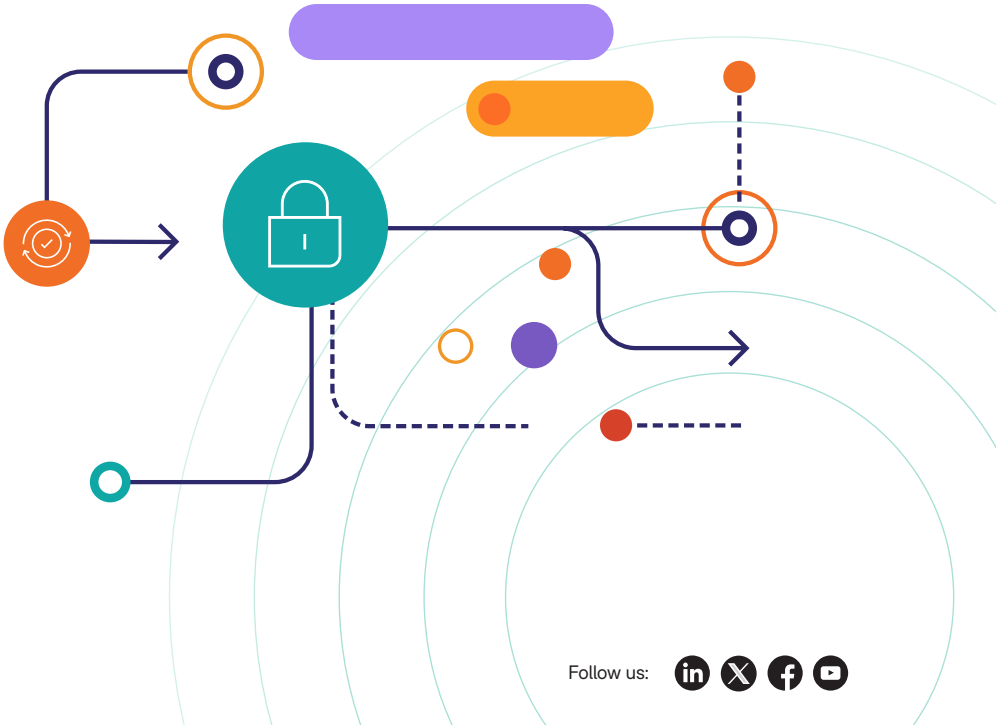
24%
Increased growth and developement opportunities

23%
More flexible work arrangements, such as remote or hybrid work

23%
A shared goal across individuals

Many developers in the public sector say they struggle to keep up with the amount of work and results that are expected of them, so these answers aren't surprising. Allowing and empowering developers to use automation and AI to ease their repetitive, day-to-day work could unlock a new level of productivity and developer experience for the public sector.

Interestingly, we saw a couple notable differences in the regional data for this question: Better pay is more important to public sector developers in North America, while flexibility to work remotely is more important for those in Europe and the U.K.



Demographics and methodology

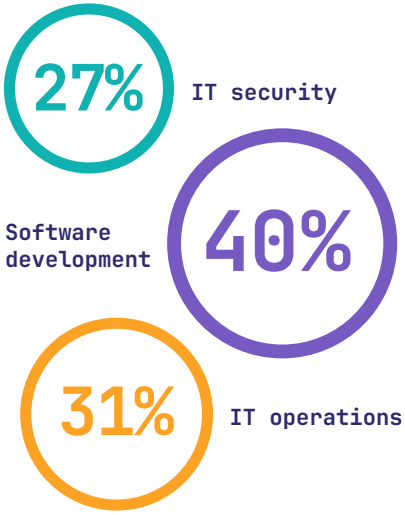
We collected a total of 5,315 survey responses in April 2024 from individual contributors and leaders in development, IT operations, and security across a mix of industries and business sizes worldwide.

We used two sampling methods for the data collection:

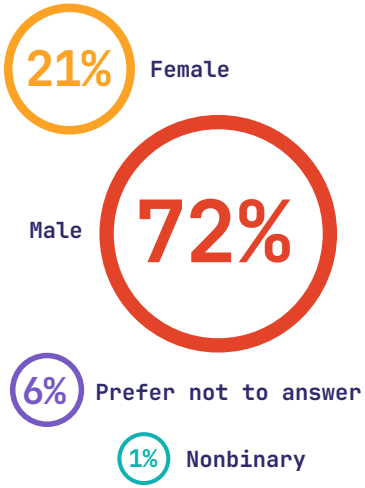
- We distributed the survey via GitLab's social media channels and email lists.
- A third-party research partner, Omdia, conducted panel sampling, which reduces bias in the sample. Omdia used its proprietary access to lists, panels, and databases to gather quality responses and cleaned the data throughout fielding to ensure data quality.

Here's a closer look at the survey respondents:

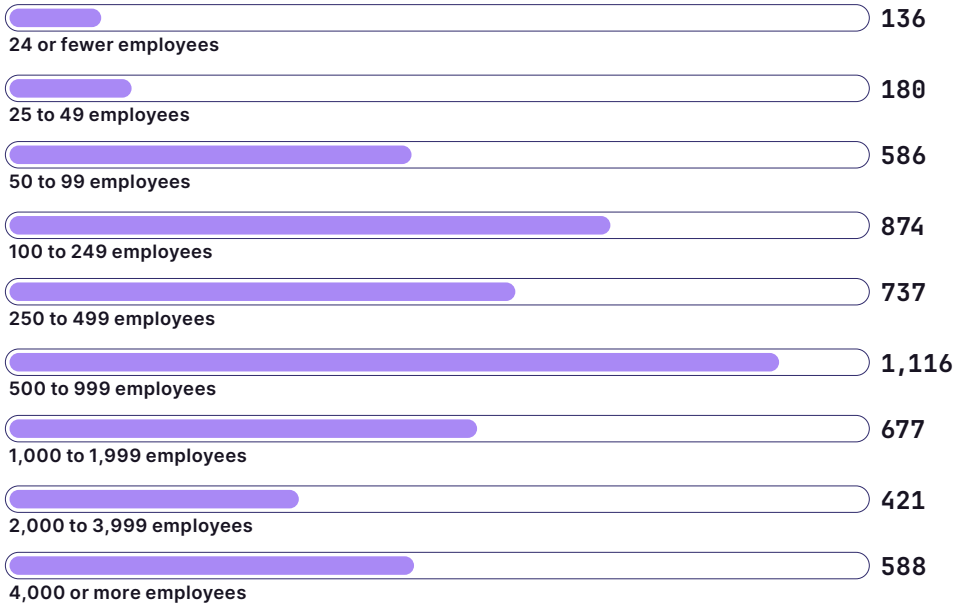
Functional area



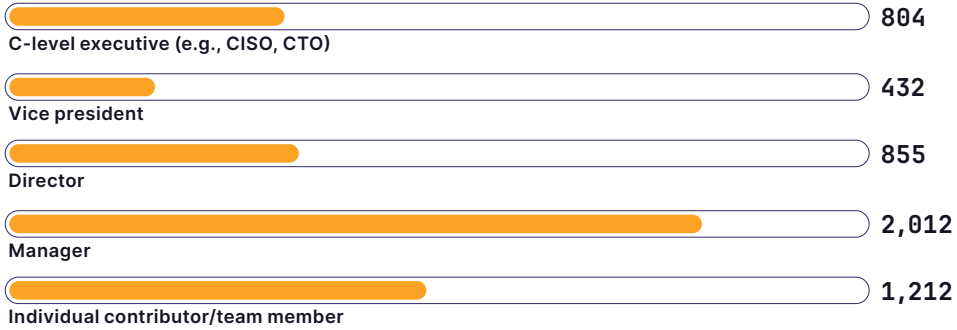
Gender



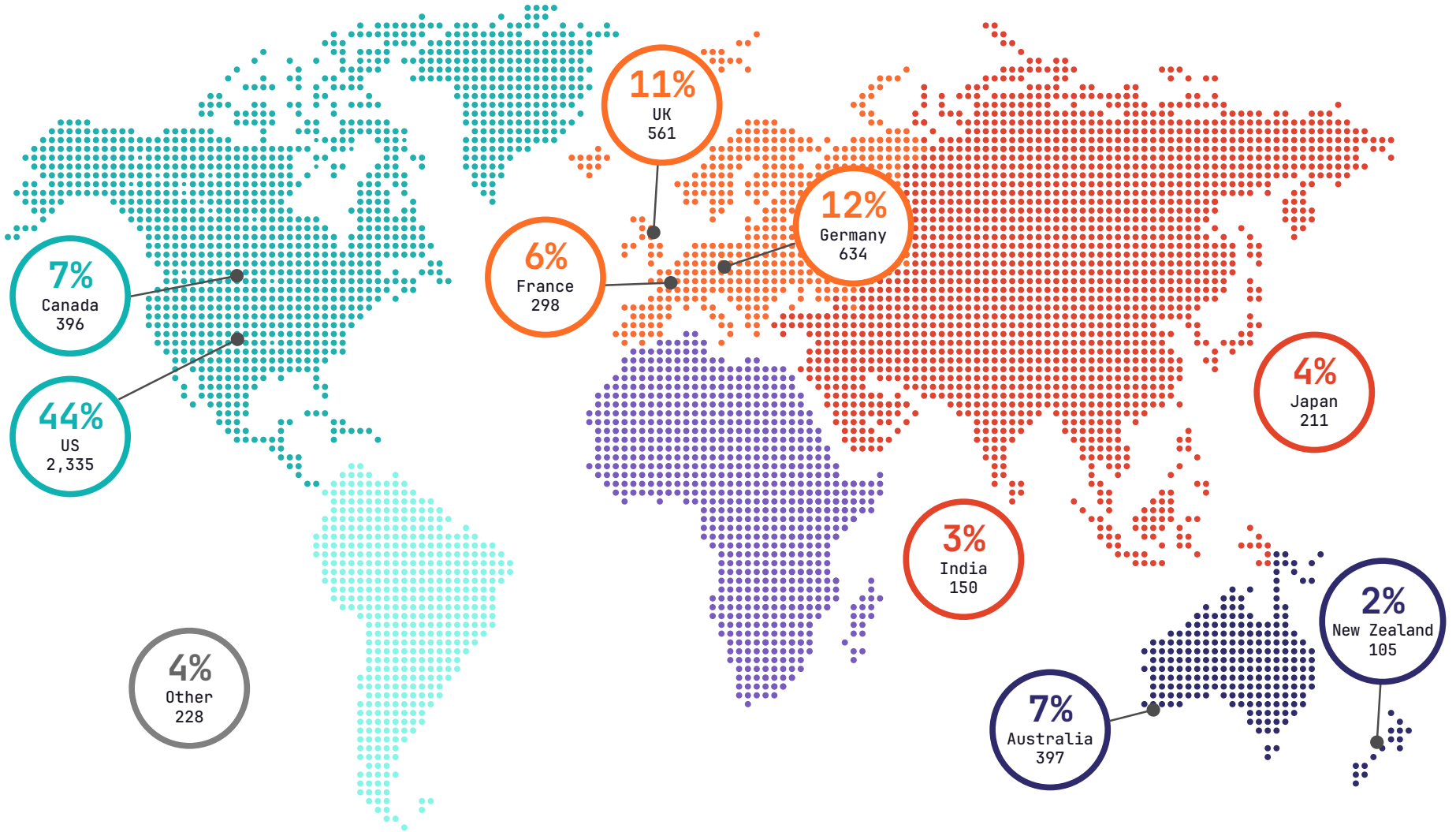
Organization size



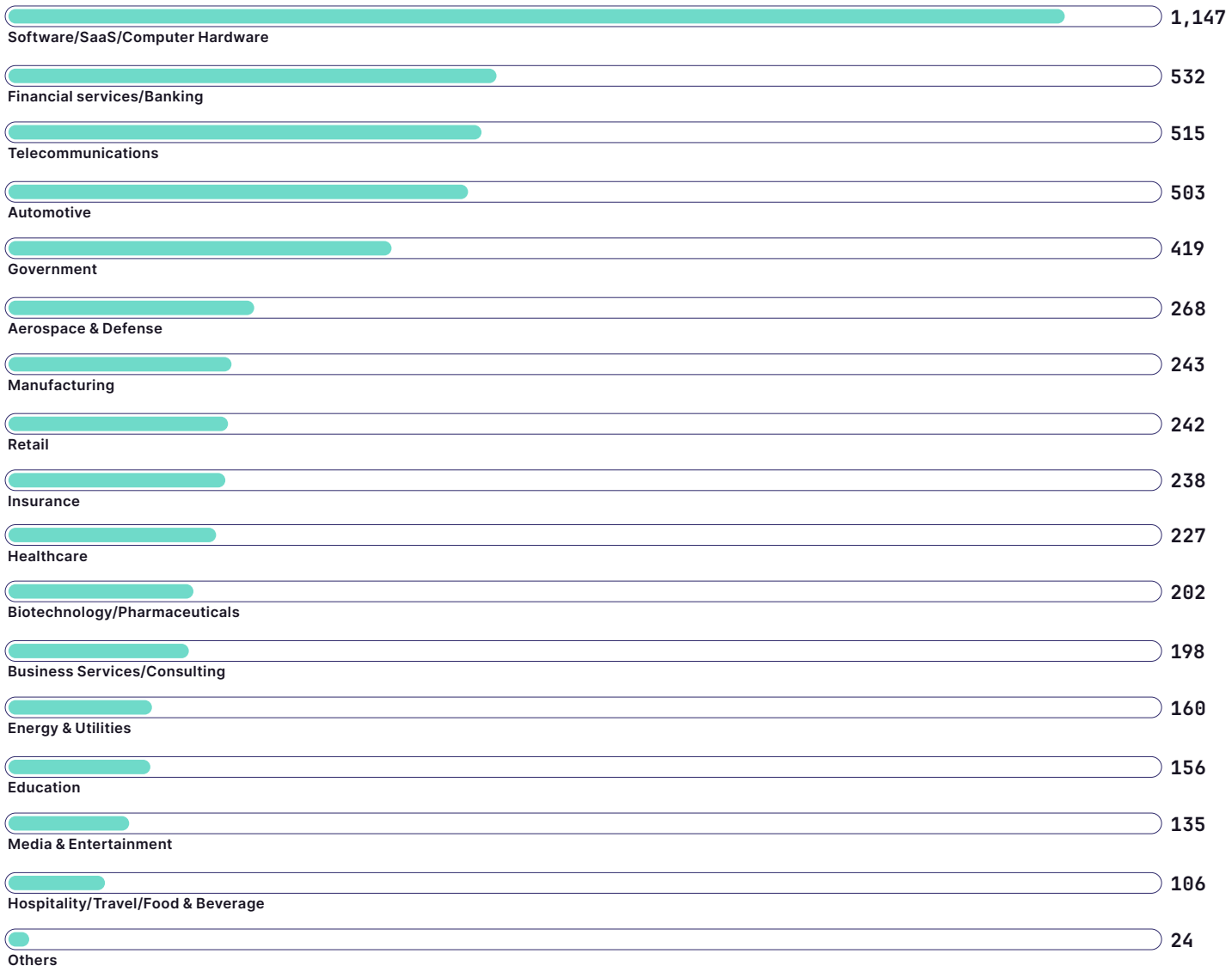
Job role



Geography


11%
UK
561
12%
Germany
634
6%
France
298
7%
Canada
396
44%
US
2,335
4%
Other
228
4%
Japan
211
3%
India
150
2%
New Zealand
105
7%
Australia
397

Industry


Software/SaaS/Computer Hardware
1,147
Financial services/Banking
532
Telecommunications
515
Automotive
503
Government
419
Aerospace & Defense
268
Manufacturing
243
Retail
242
Insurance
238
Healthcare
227
Biotechnology/Pharmaceuticals
202
Business Services/Consulting
198
Energy & Utilities
160
Education
156
Media & Entertainment
135
Hospitality/Travel/Food & Beverage
106
Others
24

Demographics of public sector respondents

Let's take a closer look at the 687 survey respondents in the public sector.

Functional area

30% IT security

Software development 30%

35% IT operations

Gender

23% Female

Male 67%

10% Prefer not to answer

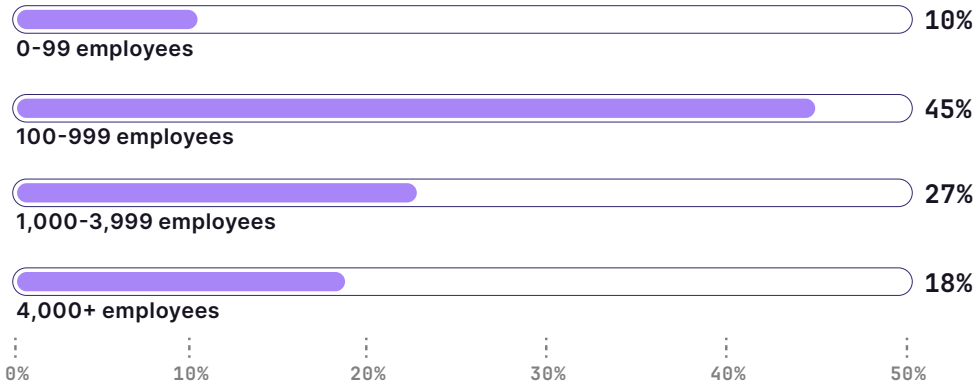
1% Nonbinary

Industry

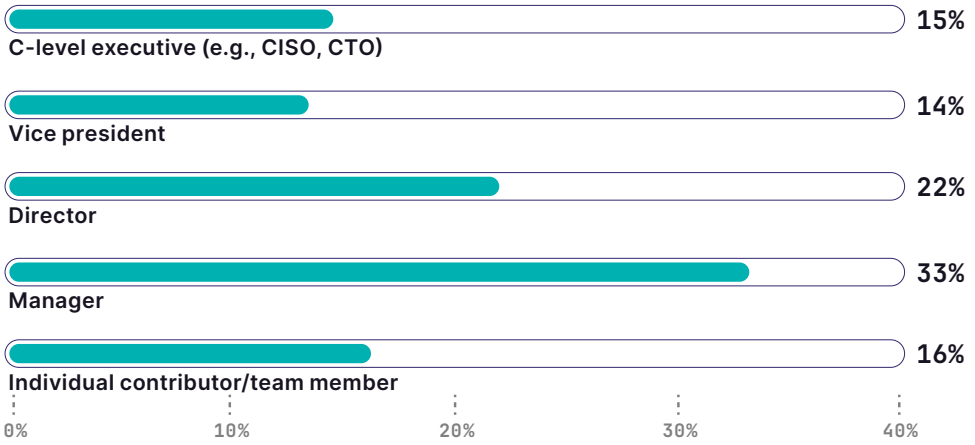
419 Government

238 Aerospace/defense

Organization size



Job role



Geography of public sector respondents