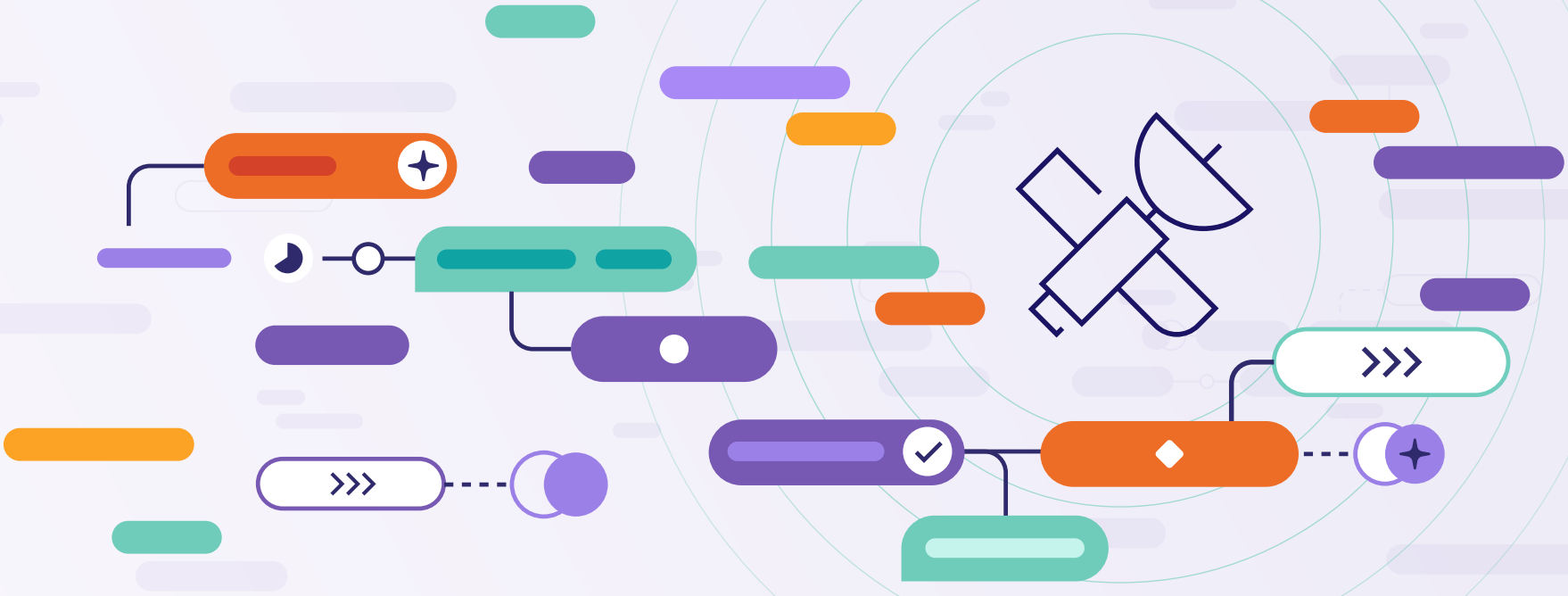
GitLab

2024 Global DevSecOps Report

What's next in DevSecOps for telecommunications



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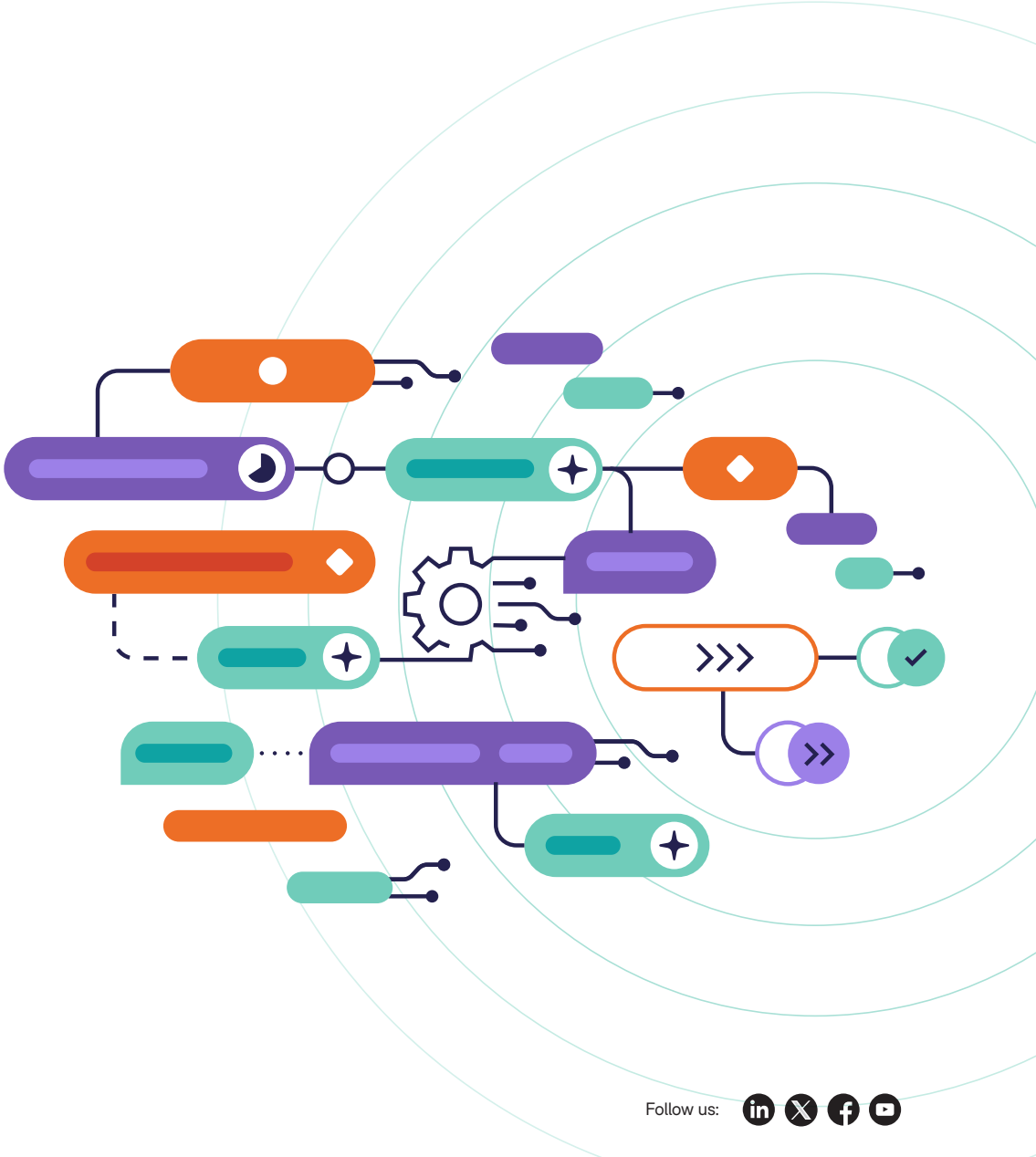


What's next in DevSecOps for telecommunications

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 telecommunications sector? This industry has some unique challenges and needs — from protecting customer data to modernizing and controlling costs — that could make their progress and priorities a bit different.

We analyzed 515 survey responses from telecommunications industry professionals across development, security, and operations roles. Let's take a look at what they're doing and struggling with, on everything from security to AI.

Investing in security, DevOps, and AI

The telecommunications industry has somewhat unique priorities. As it is for many industries, security was the most commonly cited investment priority for respondents in telecommunications.

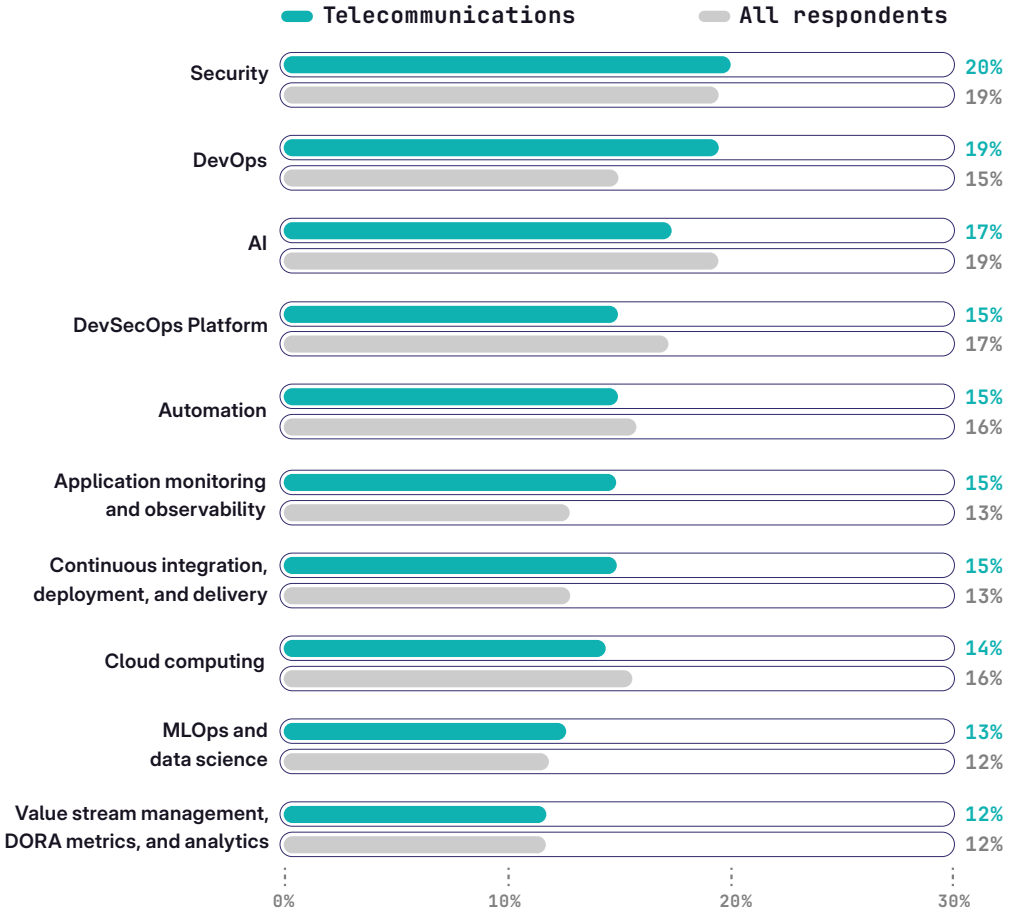
But unlike other industries we got ample responses from, DevOps was their second highest priority — ahead of AI, automation, and several other options. Respondents in telecommunications were less likely to report that their organization currently uses DevOps or DevSecOps methodologies, and more likely to use Lean, Kanban, and Waterfall methodologies. While telecommunications may be at an earlier stage of DevOps and DevSecOps maturity than other industries, they are prioritizing catching up in 2024.

AI was the third most common investment priority for respondents in the telecommunications industry, and for good reason. They're clearly interested in AI, but they may not be as far in actually implementing it in software development.

Top investment priorities for telecommunications in 2024:

1. Security
2. DevOps
3. AI

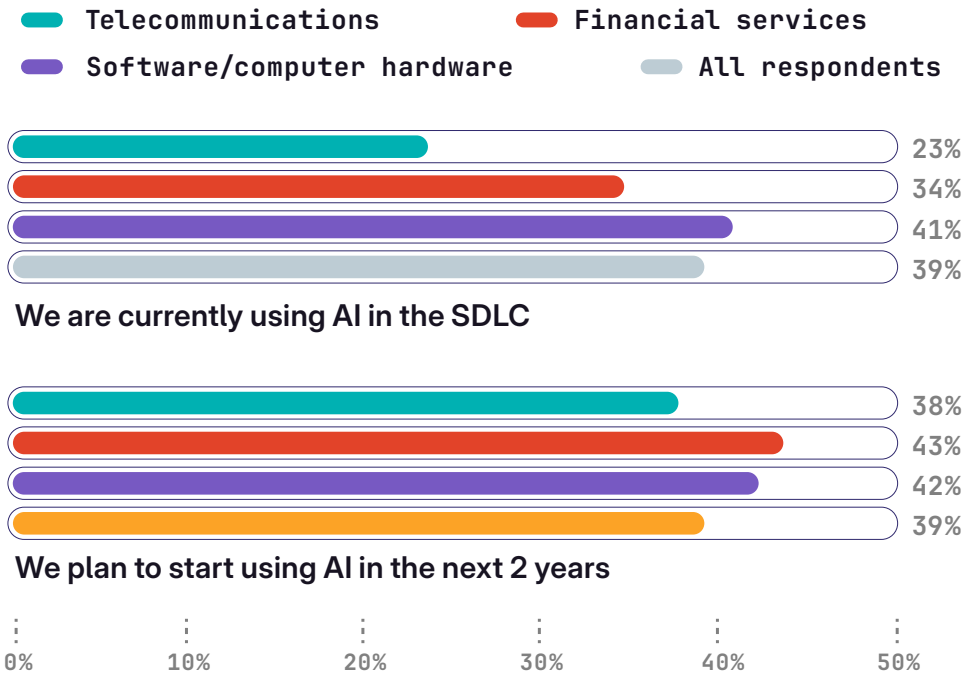
What are your organizations top 3 IT investment priorities in 2024?



Falling behind on AI

The telecommunications industry is substantially behind on using AI in the software development lifecycle (SDLC). Only 23% of respondents in telecommunications said they were currently using AI in software development, compared to 39% of those across all industries. And only 61% of those in telecommunications say they are currently using AI or plan to in the next two years, compared to 78% of all respondents.

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

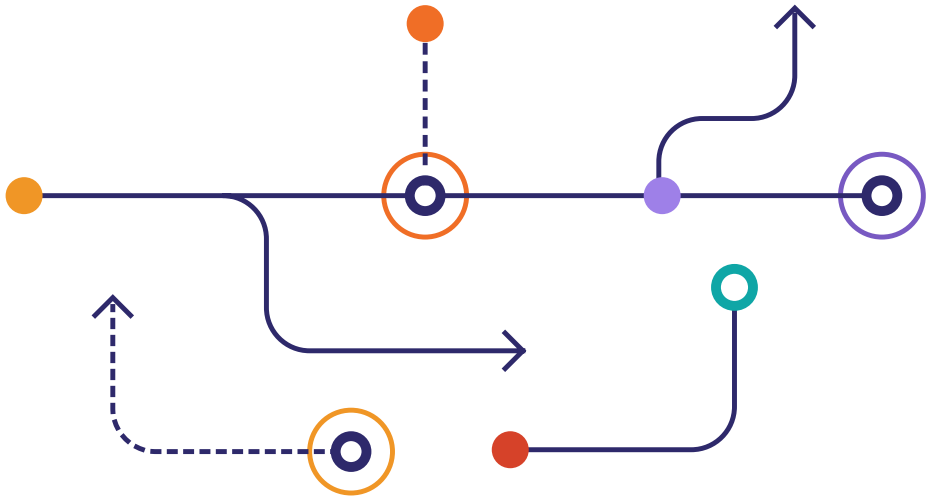


AI still is important to the telecommunications industry, though. More than half (53%) of telecom respondents agree it's essential to adopt AI to avoid falling behind and, as noted earlier, AI is one of their most common investment priorities for 2024.

So what's holding telecommunications back when it comes to adopting AI in the SDLC? The key challenges the industry has when it comes to AI largely fall into two buckets: security and experience. Of the respondents in telecommunications who have used AI in software development, the top obstacles they reported were concerns around privacy and data security, difficulty procuring AI tools, lack of skill set, lack of knowledge about AI, and concerns around security vulnerabilities.

What are the top obstacles your organization has encountered using AI in the SDLC? (according to telecommunications)

These concerns probably aren't surprising to those in telecommunications. On one had, organizations in the industry tend to have a harder time hiring DevSecOps professionals with cutting-edge technical skills. When they do, those employees tend to stick around longer than they do in other industries, and don't necessarily keep up with the latest trends in software development. And on the other hand, security is paramount for telecommunications, and as we'll cover later, this year's survey shows the industry has some room for improvement there.



Integrating AI into all aspects of software development

Software engineering teams in telecommunications 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 explanations of how code works, and summaries of code changes.

When asked how they are planning to use or are interested in using AI, this year's telecommunications respondents identified another set of use cases, such as 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 were interested in adopting, suggesting that natural-language chat interfaces are an appealing way for DevSecOps teams to engage with AI tools.

Top ways telecommunications respondents are currently using AI:

68%

Code generation and **code suggestions/ completion**

61%

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

51%

Summaries of **code changes**

44%

Summaries of **code reviews**

43%

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

Top ways telecommunications respondents are interested in using AI:

44%

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

41%

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%

Suggestions for who can **review code changes**

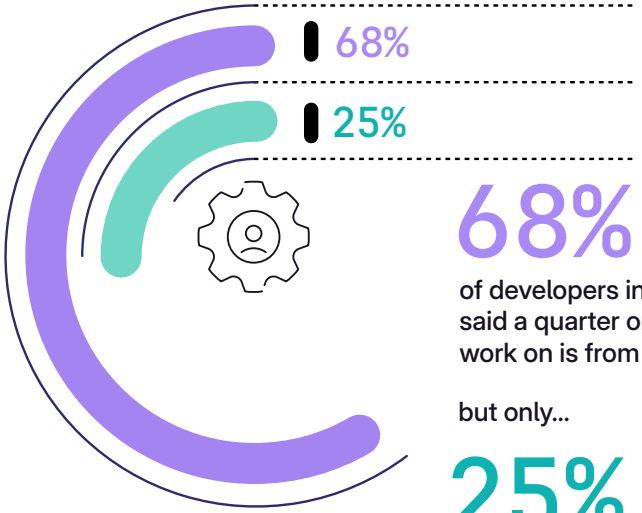
34%

Fixing failed **pipeline jobs**

Software supply chain security is a potential weak spot

Within the telecommunications industry, 68% of developers said a quarter or more of the code they work on is from open source libraries.

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 25% of respondents in the telecommunications industry said their organizations are currently using SBOMs to enable security in the software development lifecycle.



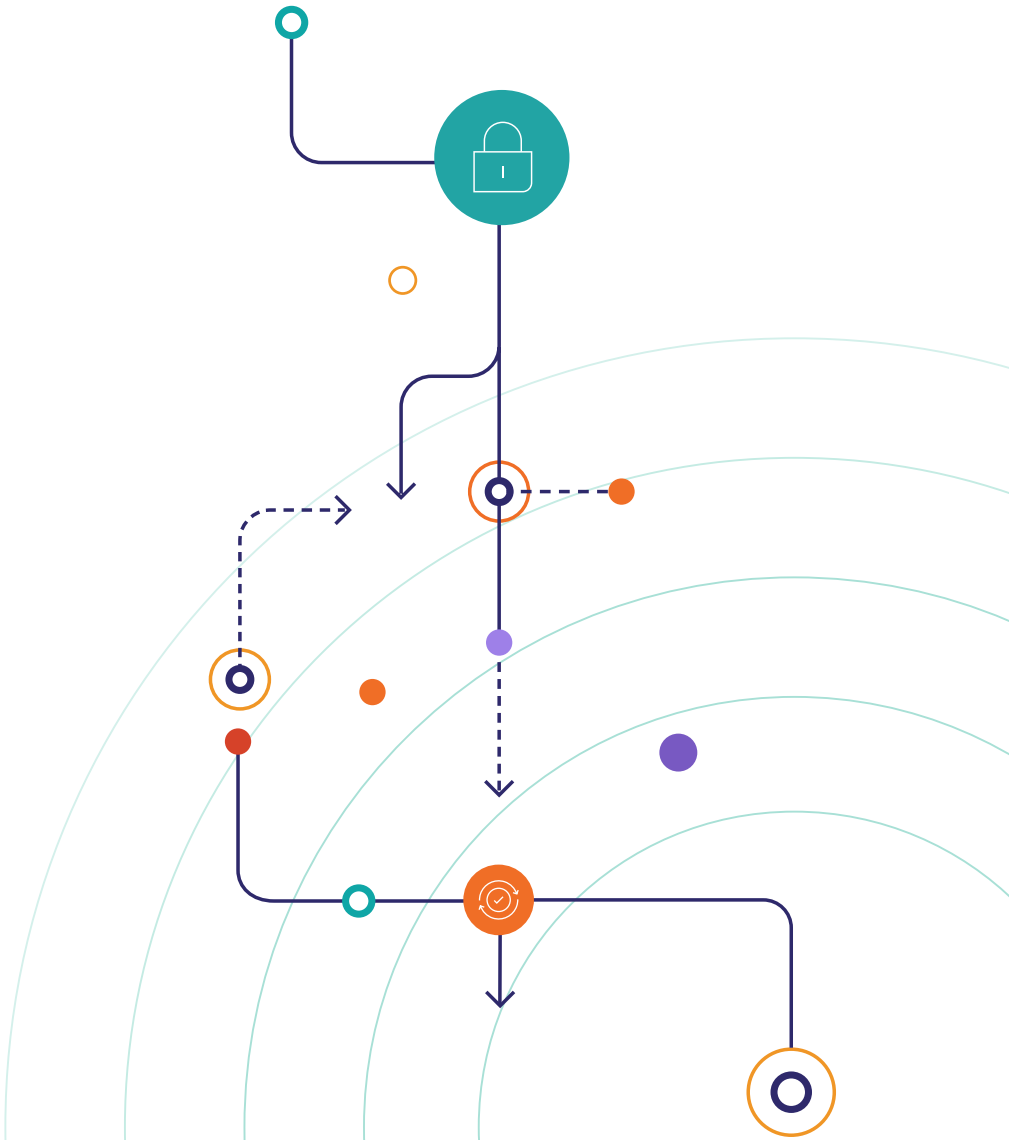
68%

of developers in telecommunications said a quarter or more of the code they work on is from open source libraries...

but only...

25%

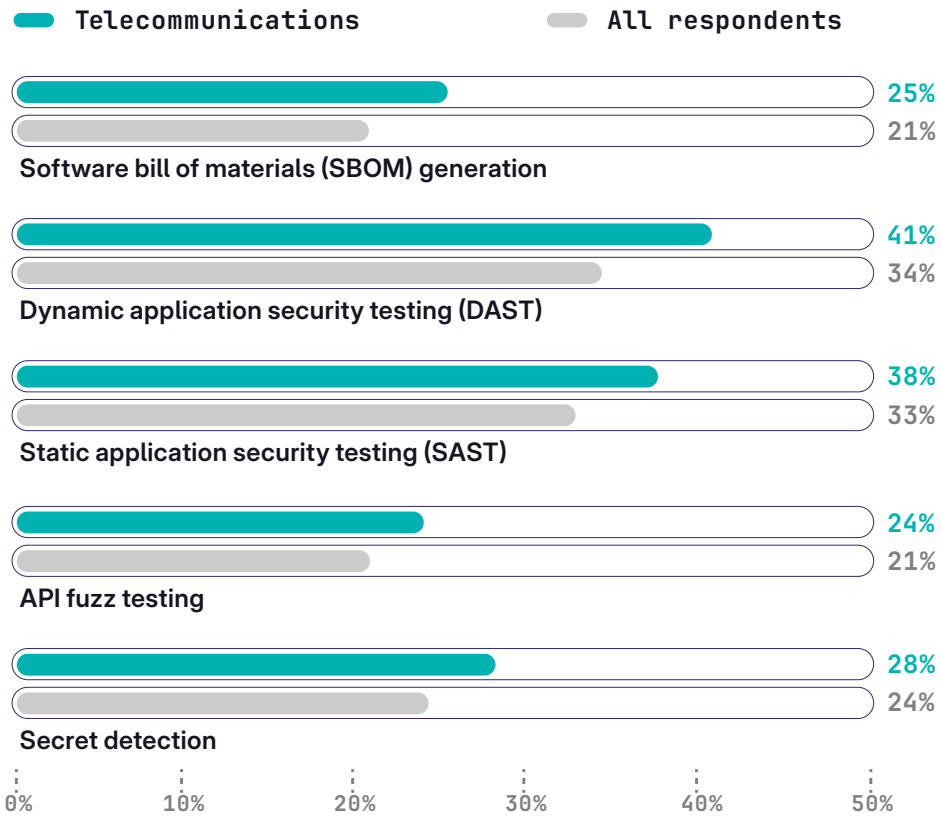
of respondents in telecommunications said their organization uses SBOMs.



Security is a priority, but still a challenge

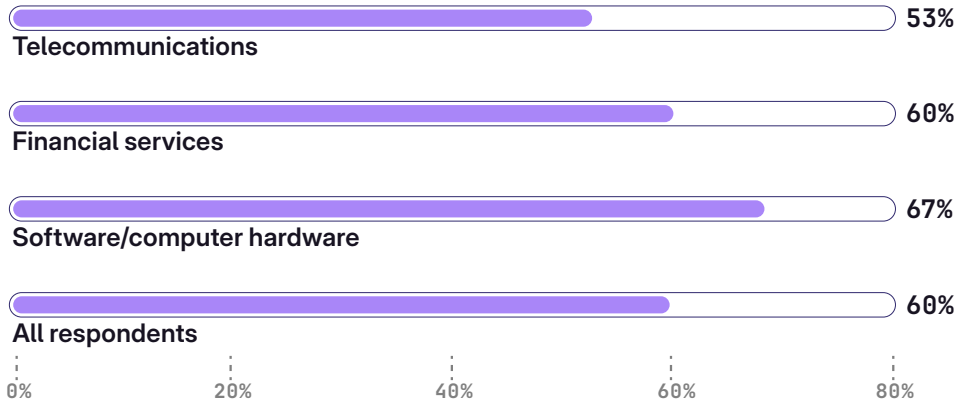
In this year's survey, we found that the telecommunications industry is a bit ahead of the curve on using many security-related technologies.

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



However, they're less likely to feel confident about their team's security. Only 53% of respondents in telecommunications say 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.

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

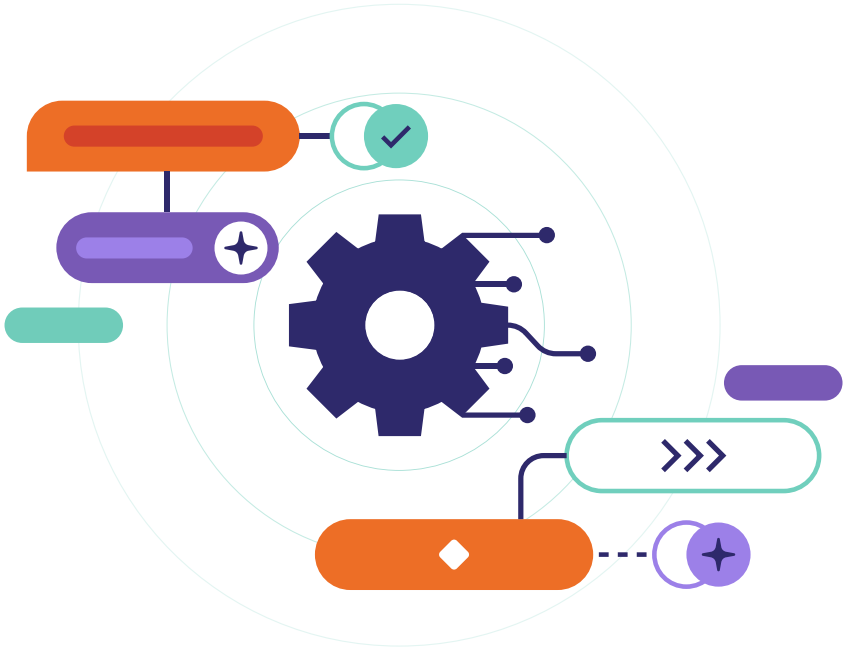


Why is the telecommunications industry less confident in their approach to security? The results from our survey point to a possible cultural gap around security.

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

- 64% said the security team has a difficult time getting the development team to prioritize remediation of vulnerabilities, compared to 59% across all industries.
- Only 37% said they have role-based access control (RBAC) in place, compared to 44% across all industries.
- Only 13% said they have developers run static application security testing (SAST), compared to 18% across all industries, 22% for financial services, and 29% for software/computer hardware.
- Only 14% said they have developers run dynamic application security testing (DAST), compared to 17% across all industries and 26% for software/computer hardware.
- 11% said they use 15 or more tools for software development, compared to 7% across all industries.

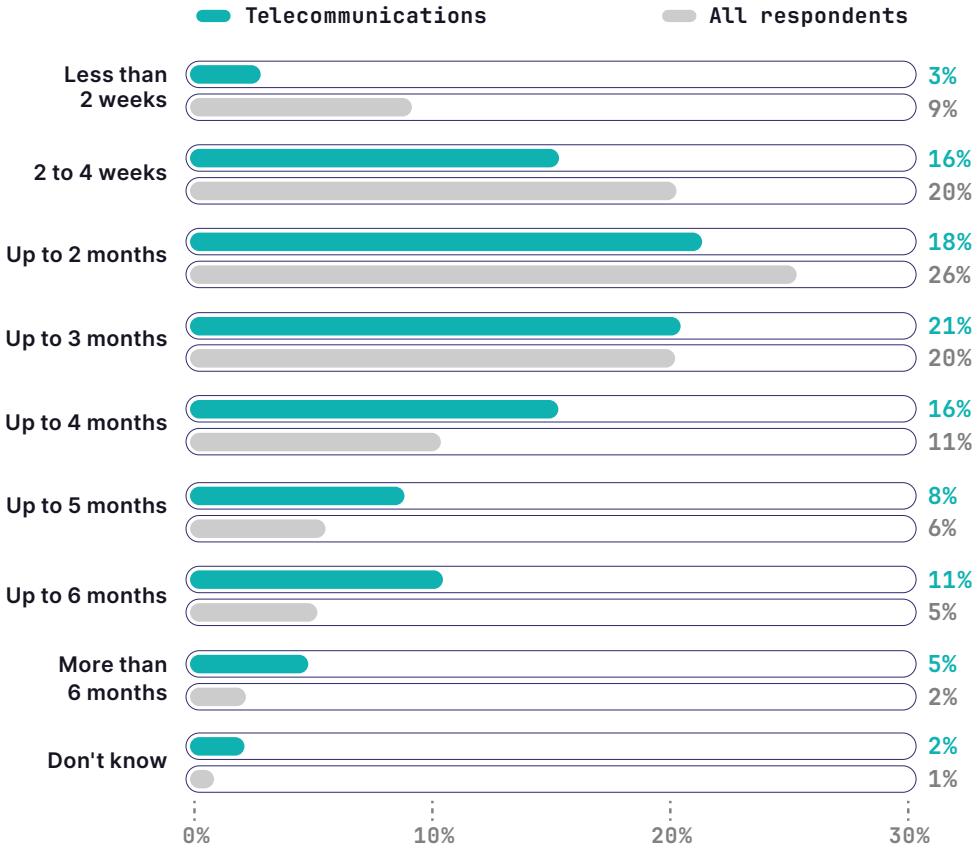
Also, because nearly every company and organization relies on the telecommunications industry to deliver their service properly and securely, DevSecOps professionals in telecommunications have a heightened sense of security and also often have to build the plane while flying it, so to speak.



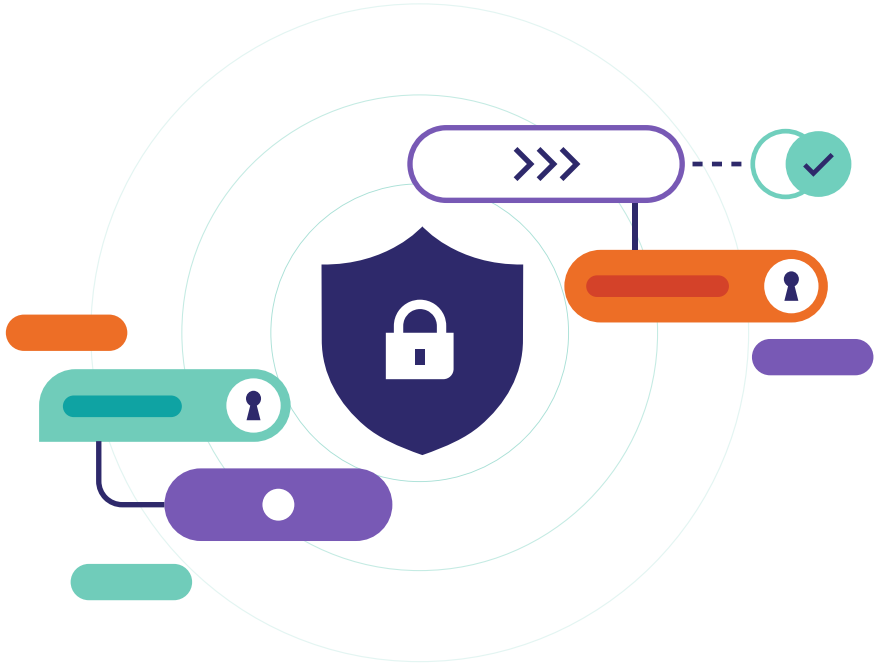
Onboarding is a challenge

Developer onboarding is an area that is especially challenging for the telecommunications industry. Only 19% of respondents there said they were able to onboard developers in less than a month, compared to 29% across all industries.

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



One thing that may be contributing to the telecommunications industry's difficulty with onboarding is the number of tools they use for software development. A full 11% of respondents in telecommunications said their team uses 15 or more tools for software development, compared to 5% in financial services, 9% in the software/computer hardware industry, and 7% of respondents from all industries. Also, only 55% of those in telecommunications said they can understand what is happening across all stages in the SDLC, compared to 61% across all industries.



Developers want AI and automation

When asked how their organizations can improve developer experience, developers in the telecommunications industry were clear: adopt AI, increase compensation, and expand automation. Of note, developers in telecommunications were significantly more likely to select "better pay" than their peers in other industries — 39% of developers in telecommunications noted it, compared to 22% of developers in financial services, and 21% in the software/ computer hardware industry.

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

Top changes that could be made to improve developer satisfaction, according to developers in telecommunications

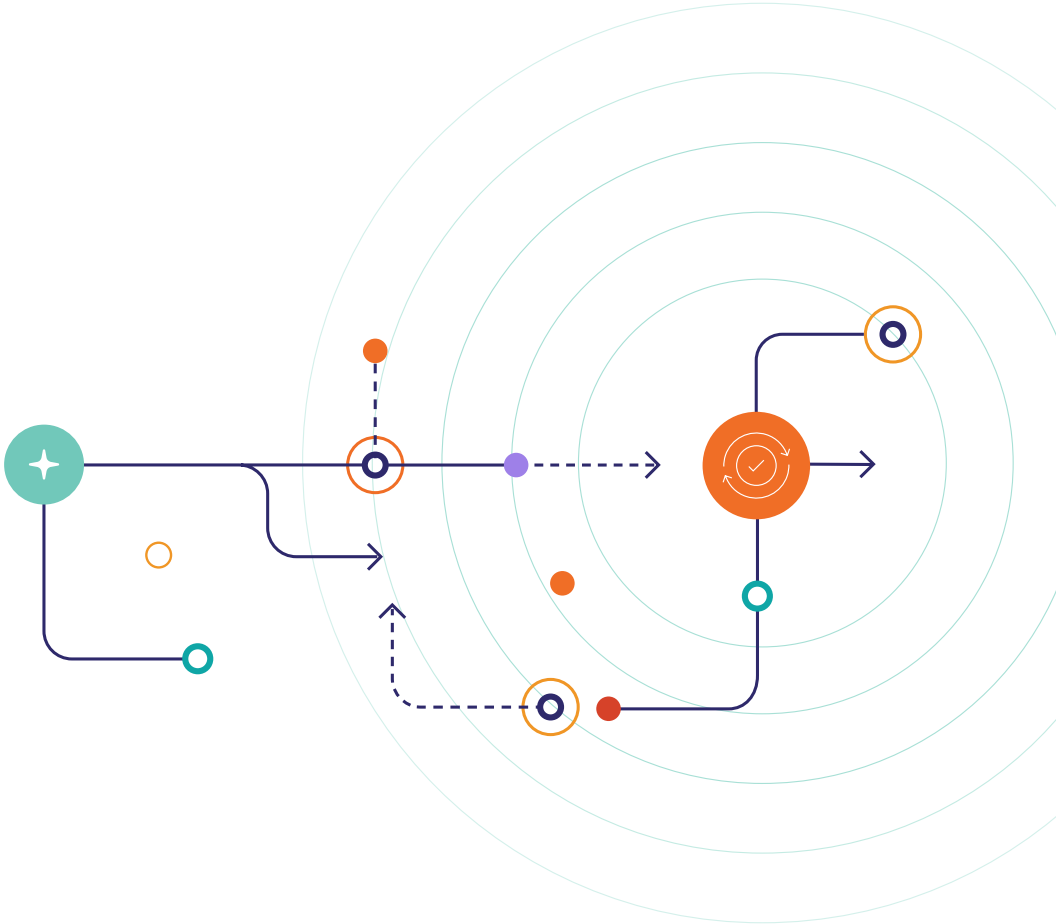
39%
Use of AI assistants

39%
Better pay

35%
Increased automation

26%
Improving collaboration

23%
Growth and development opportunities



Demographics and methodology

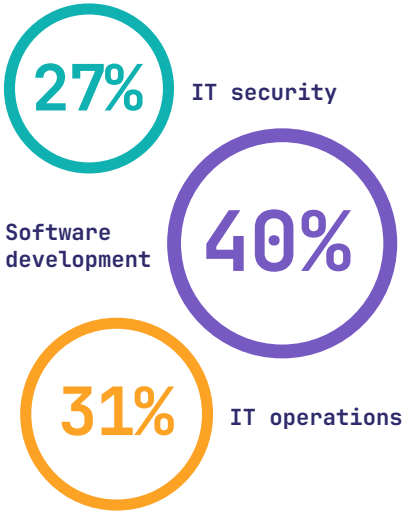
We collected a total of 5,315 survey responses in April 2024 from individual contributors and leaders in development, IT operations, and security across a mix of industries and business sizes worldwide.

We used two sampling methods for the data collection:

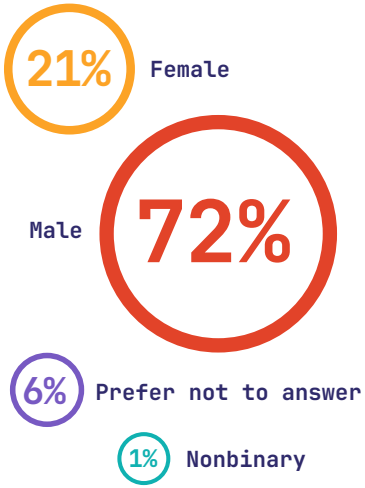
- We distributed the survey via GitLab's social media channels and email lists.
- A third-party research partner, Omdia, conducted panel sampling, which reduces bias in the sample. Omdia used its proprietary access to lists, panels, and databases to gather quality responses and cleaned the data throughout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

Here's a closer look at the survey respondents:

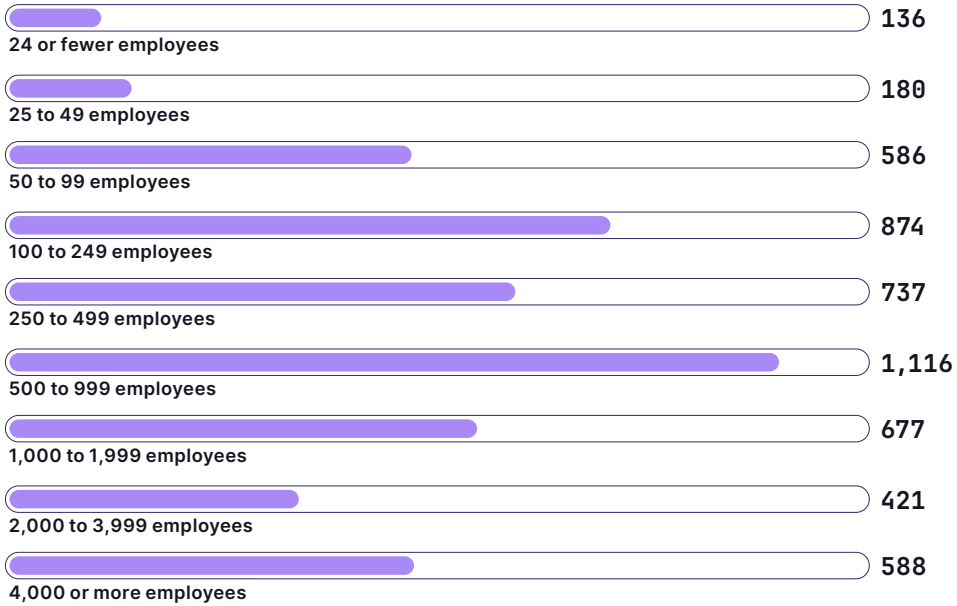
Functional area



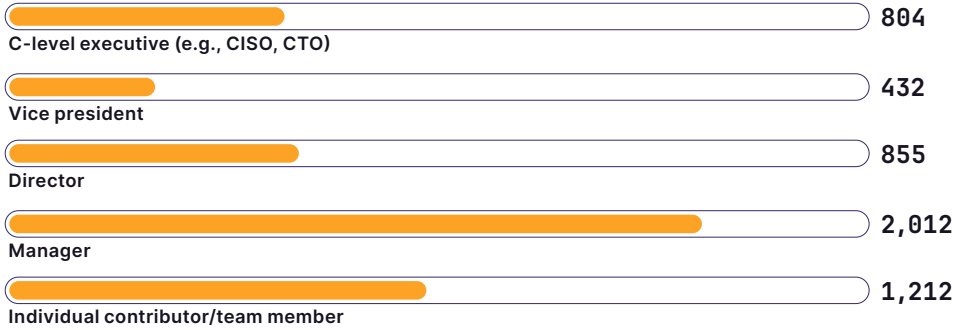
Gender



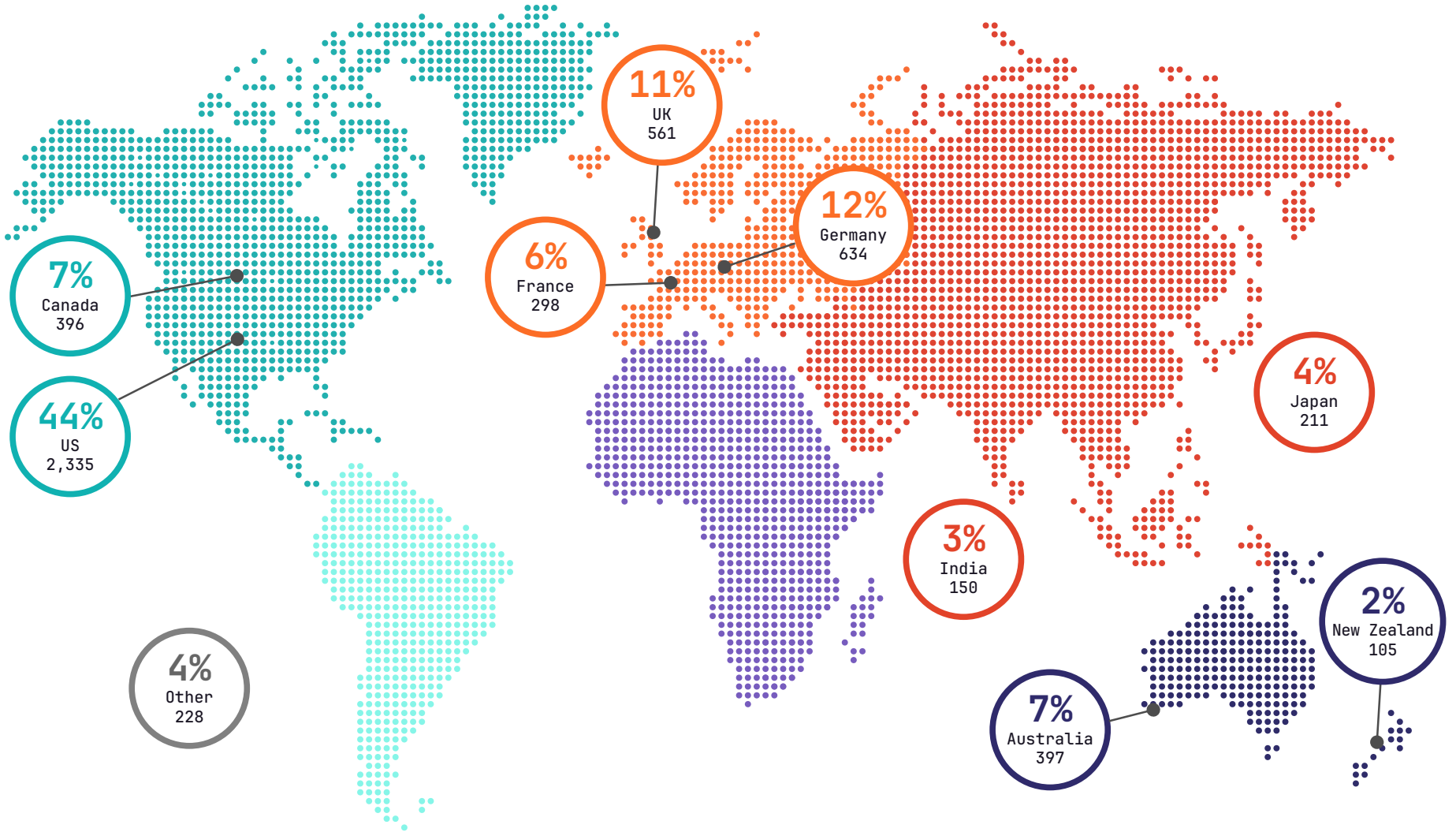
Organization size



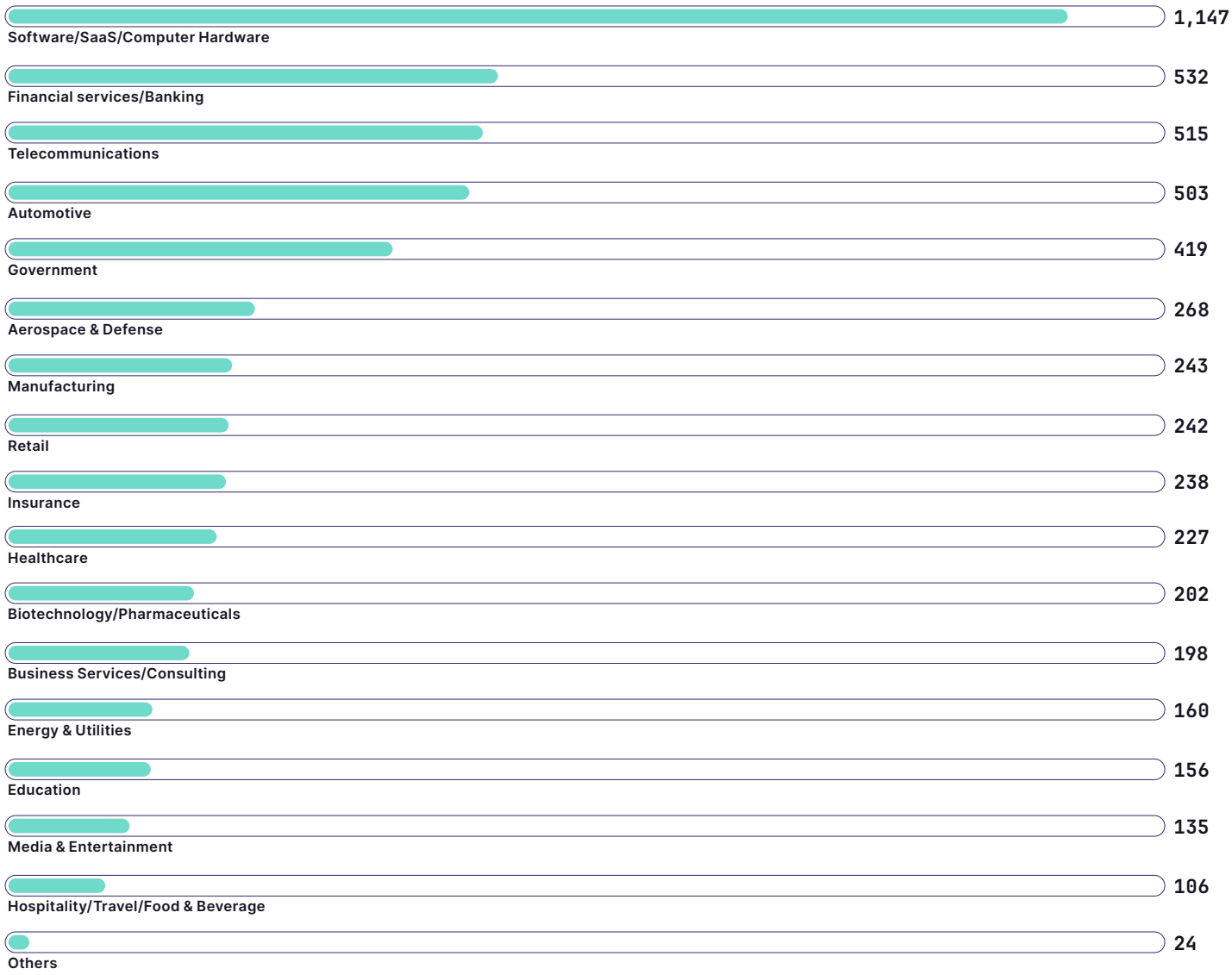
Job role



Geography


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

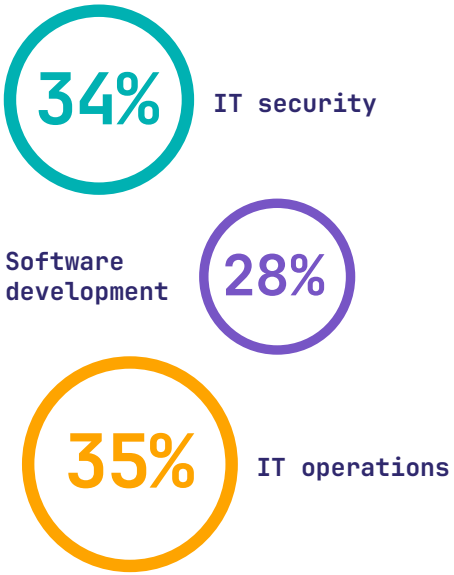
Industry


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

Demographics of telecommunications respondents

Let's take a closer look at the 515 survey respondents in the telecommunications industry.

Functional area



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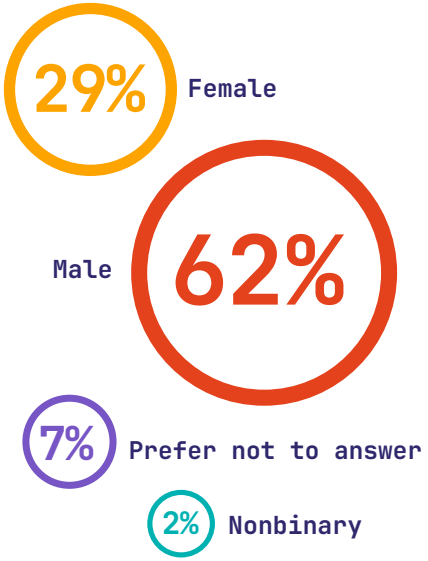

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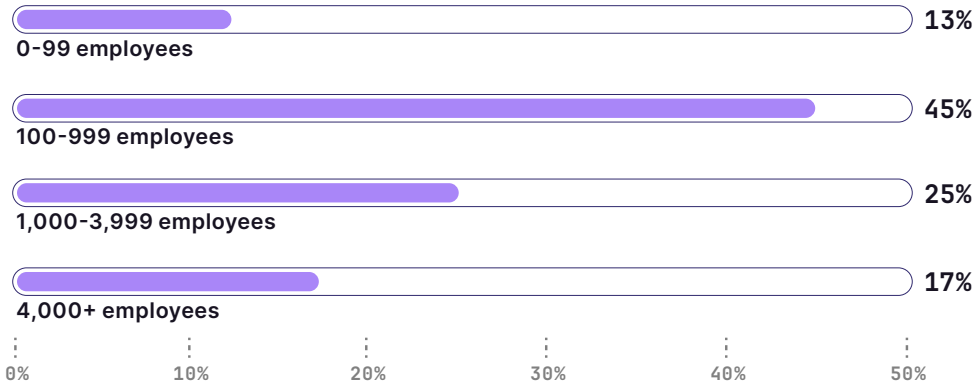

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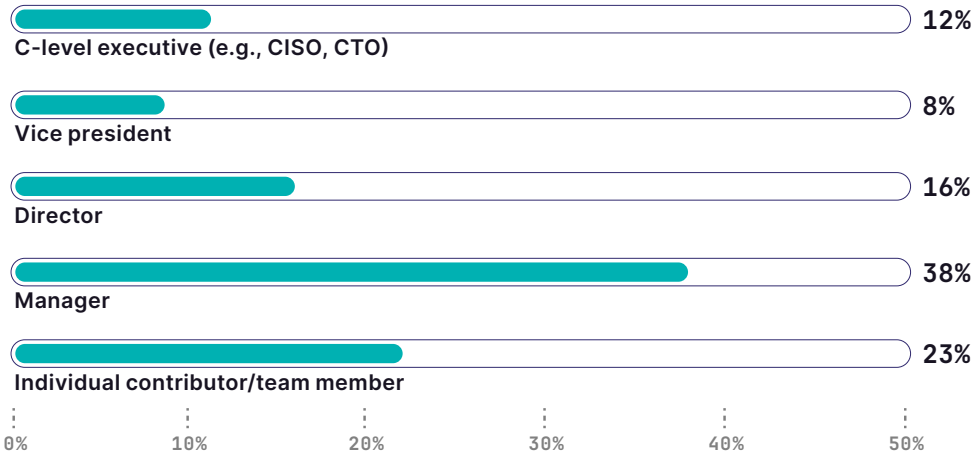

Geography of telecommunications respondents