



Open Source Program Office (OSPO) 2021 Survey

TODO Group

In Partnership With
Linux Foundation Research & The New Stack



OSPO adoption is still highest in the tech industry,

but the public sector and education are coming on strong

P21

Those saying the **OSPO is very or extremely critical to the success of engineering**

or product teams rose from 54% to **63%** in the last year



P22



The professionalization of OSPOs continues,

with **58%** of OSPOs being formally structured, up from 54%

P30

51% said an **increase in funding for their open source initiatives**

is very or somewhat likely this fiscal year



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77% of respondents said their **open source program had a positive impact**

on their company's software practices

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63% of respondents planning to create an OSPO are **expected to initiate the process within a year**



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The fourth annual Open Source Program Office survey included 1,141 participants. This year's dataset was more representative than ever of the broader business world.

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The findings indicated there are many opportunities ahead to educate companies about how OSPOs can benefit them.

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Professionalization continued among OSPOs, with 58% of those programs formally structured, up from 54% the previous year. Prospects for more funding brightened compared to 2020.

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OSPOs had a positive impact on their sponsors' software practices, but their benefits differed depending on the size of an organization.

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Companies that intended to start an OSPO hoped it would increase innovation. But setting a strategy and a budget remained top challenges to their goals.

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Almost half of survey participants without an OSPO believed it would help their company. But of those that didn't think it would help, 35% said they haven't even considered it.

Value of Open Source Participation **61**

27% of survey participants said a company's open source participation is at least very influential in their organization's buying decisions.

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Major challenges for OSPOs cited by survey respondents included recruiting OS developers, internal awareness of OS programs, and budget support.

Methodology & Demographics



Methodology

The 2021 Open Source Program Office (OSPO) Survey was fielded by the Linux Foundation and The New Stack from June 10 through June 29, 2021. The goal was to gauge the creation of open source program offices (OSPOs) and how those offices operate. This is the fourth consecutive year the study has been conducted.

Respondents were solicited via social media and with emails to The Linux Foundation, The TODO Group, and The New Stack email lists. Overall, **1,141 survey participants made up the final data set**, but many of the conclusions are focused on 932 organizations that we know have at least two employees and for which there are no other respondents from that organization participating in the survey. Throughout the study, the base sample is for organizations with multiple employees unless otherwise noted.

Notes about survey demographics and methodology

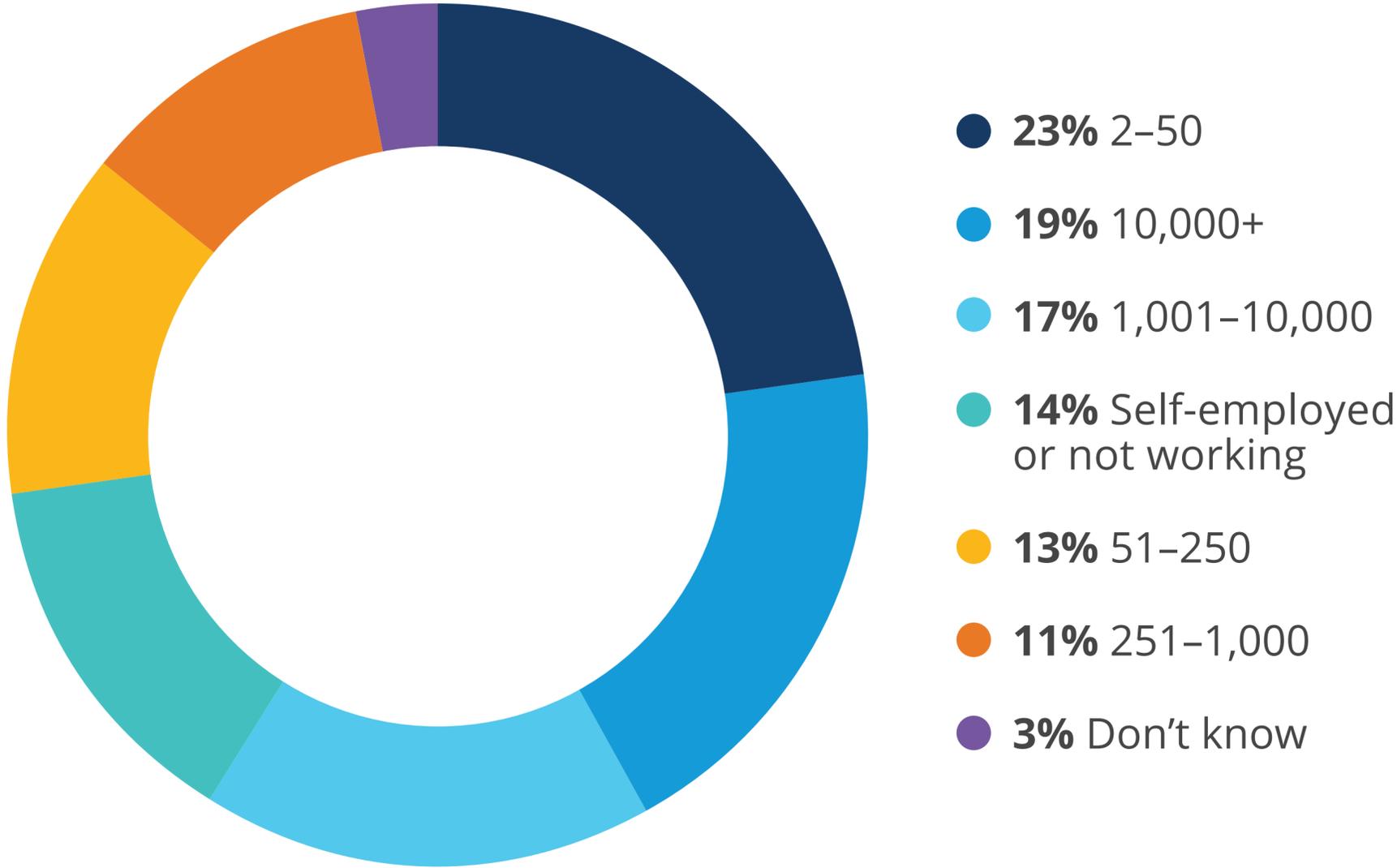
- There were more survey participants who described themselves as “self-employed” or “not working” than in previous years. Charts that do not say “Organizations with multiple employees” in the footnote include these respondents and those that answered “do not know.”
- There were fewer respondents who work for tech companies than in previous years, but upon review this does not explain the drop in some of the metrics we observed.
- 58% of the educational organizations participating were universities.

Notes About the Full Data File

- The data file that has been made publicly available has all personally identifiable information removed.
- Questions with narratives have been edited and translated, with extraneous comments removed.
- In addition, the nomination variables have been cleaned to remove responses that duplicated vendors that had been mentioned elsewhere in the report.

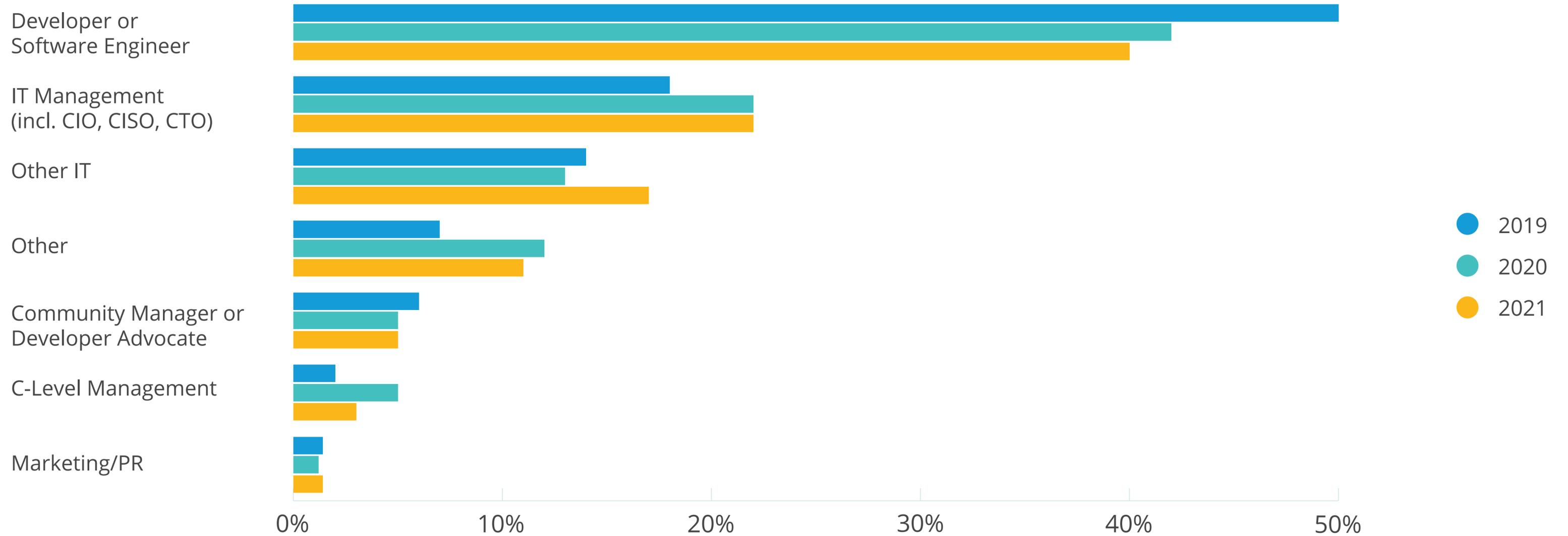
How many people work for your company or organization?

Full sample N=1141



Which category most closely defines your role?

2019 N=1430, 2020 N=585, 2021 N=583

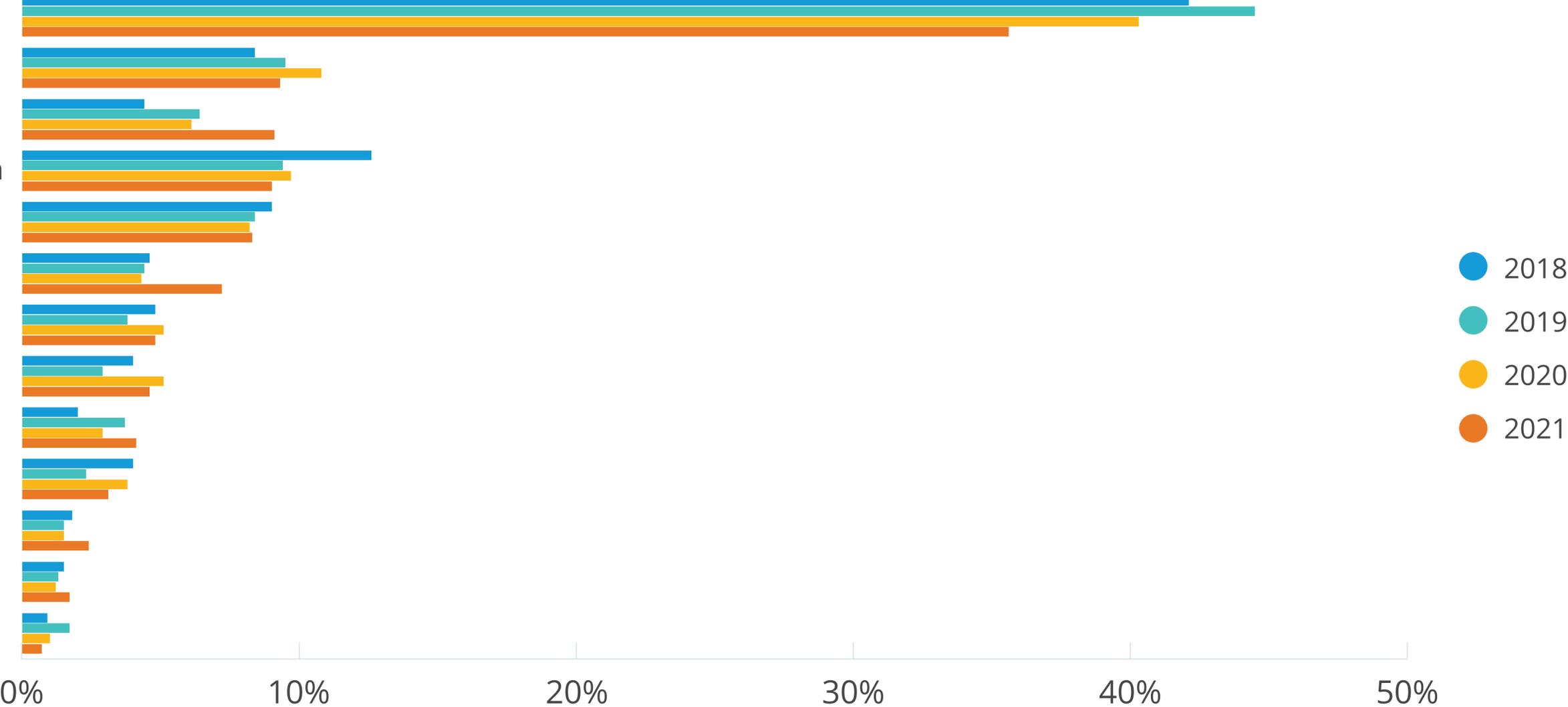


What industry is your company in?

2018 N= 676, 2019 N=2354, 2020 N=876, 2021 N=932

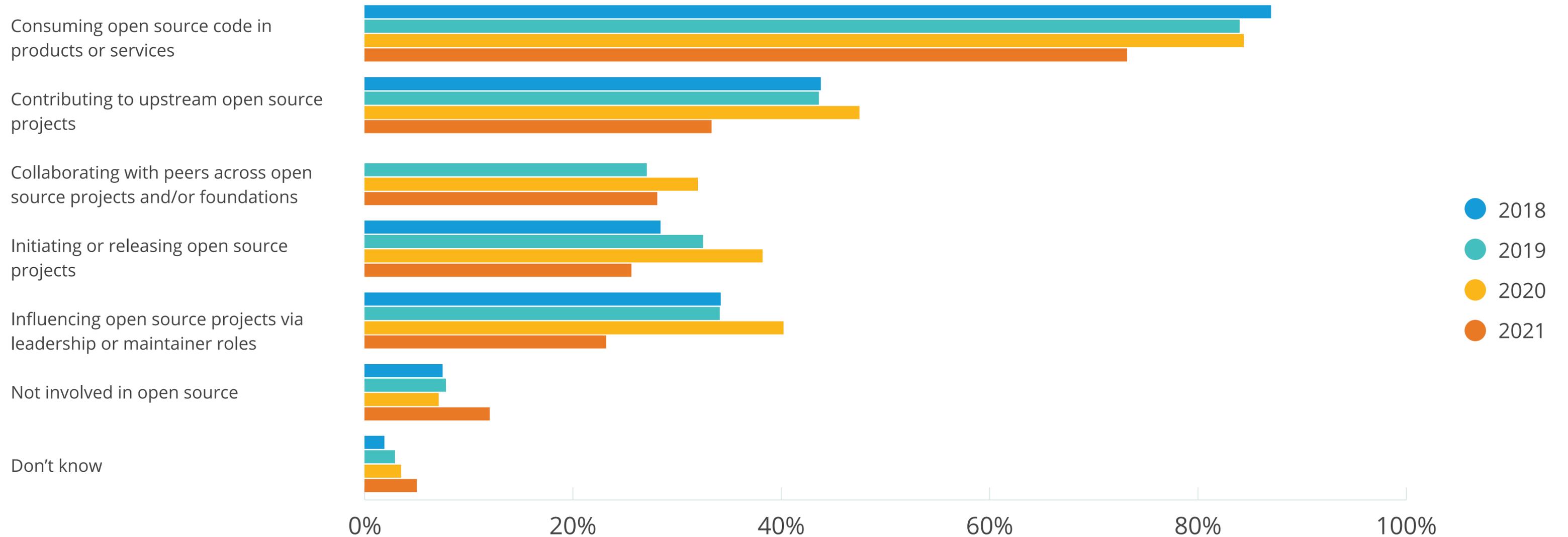
Technology (software or IT)

- Other
- Education
- Telecom, Communications, or Media
- Financial Services
- Government
- Transportation and Automotive
- Healthcare
- Retail
- Manufacturing and Raw Materials
- Defense
- Utilities
- Insurance



Where is your company or organization on its open source journey?

2018 N=454, 2019 N=1430, 2020 N=586, 2021 N=581

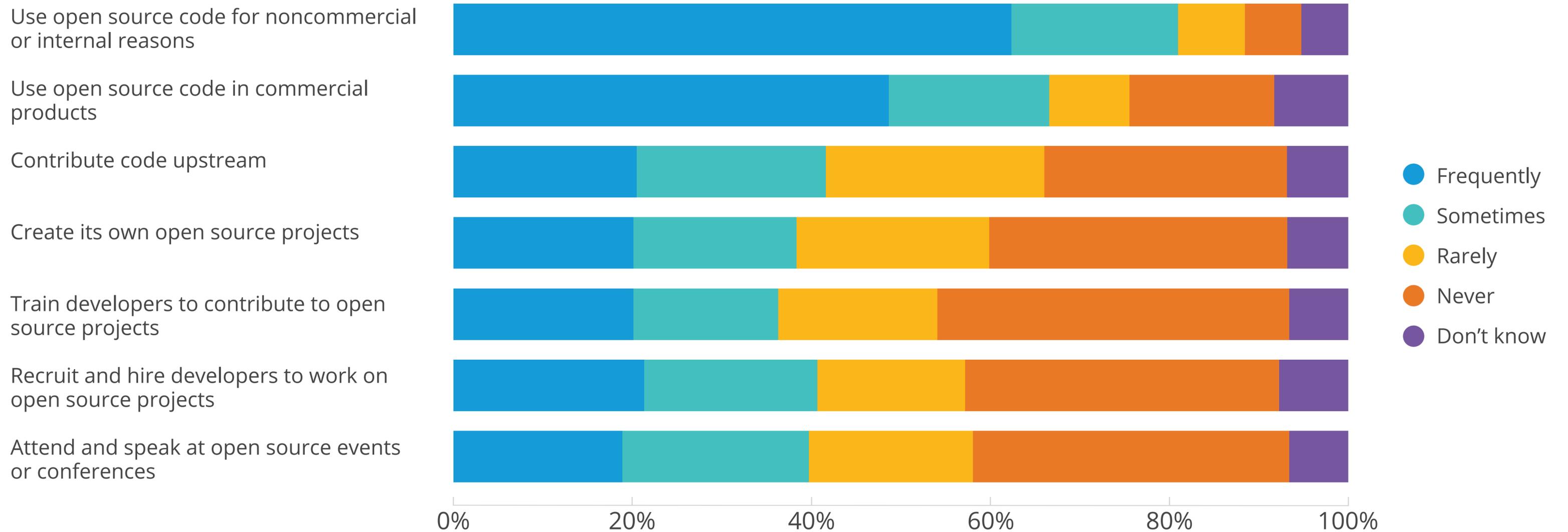


Key Findings



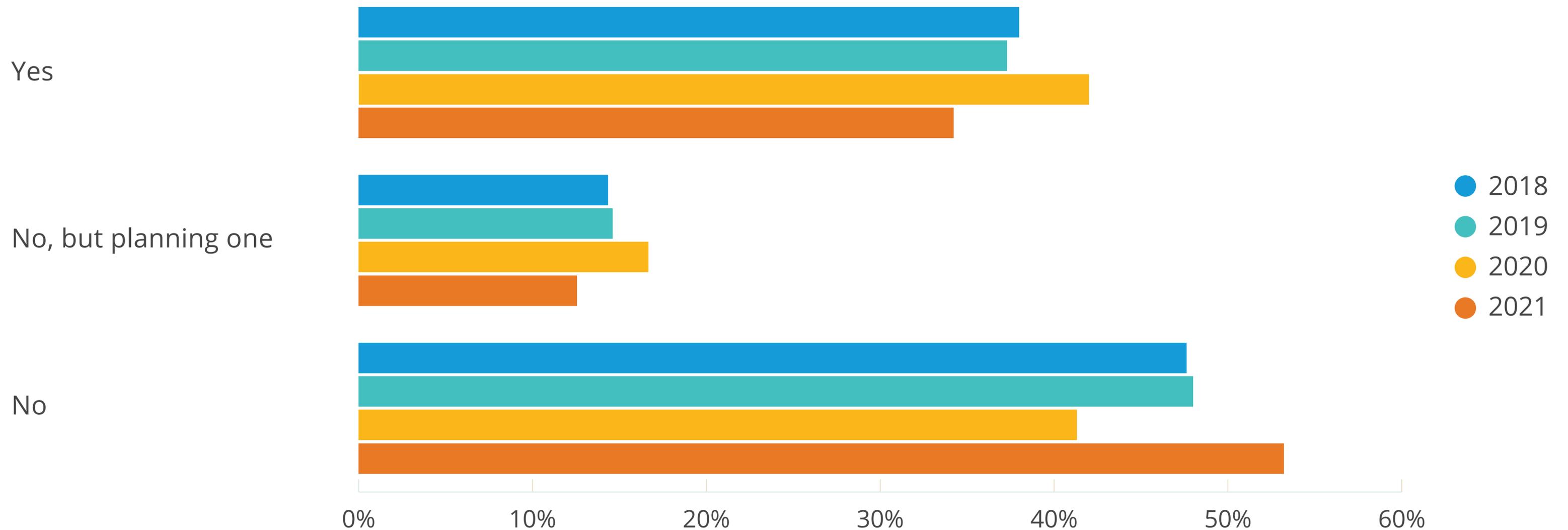
How often does your organization do the following activities?

N=923



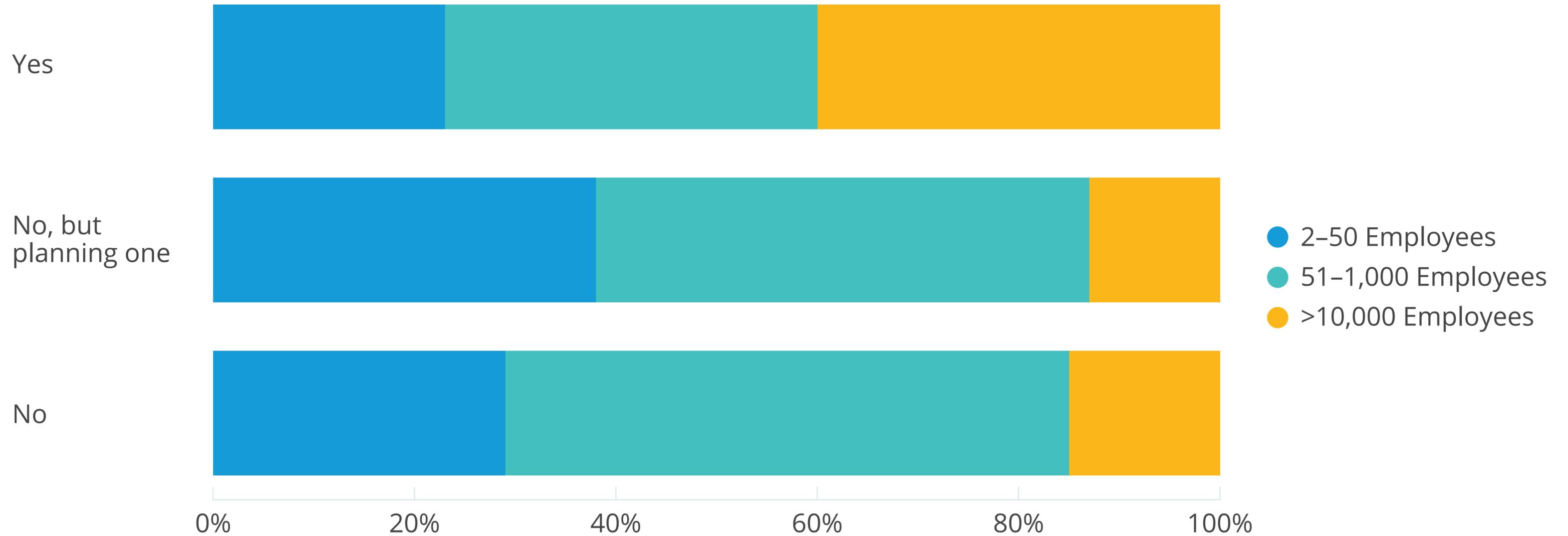
Does your organization have a management initiative or program (either formal or informal) around open source?

2018 N=676, 2019 N=876, 2020 N=2345, 2021 N=932



OSPO Roadmaps by Size of Organization

2-50 Employees N=268, 51-1,000 Employees N=466, >10,000 Employees N=220

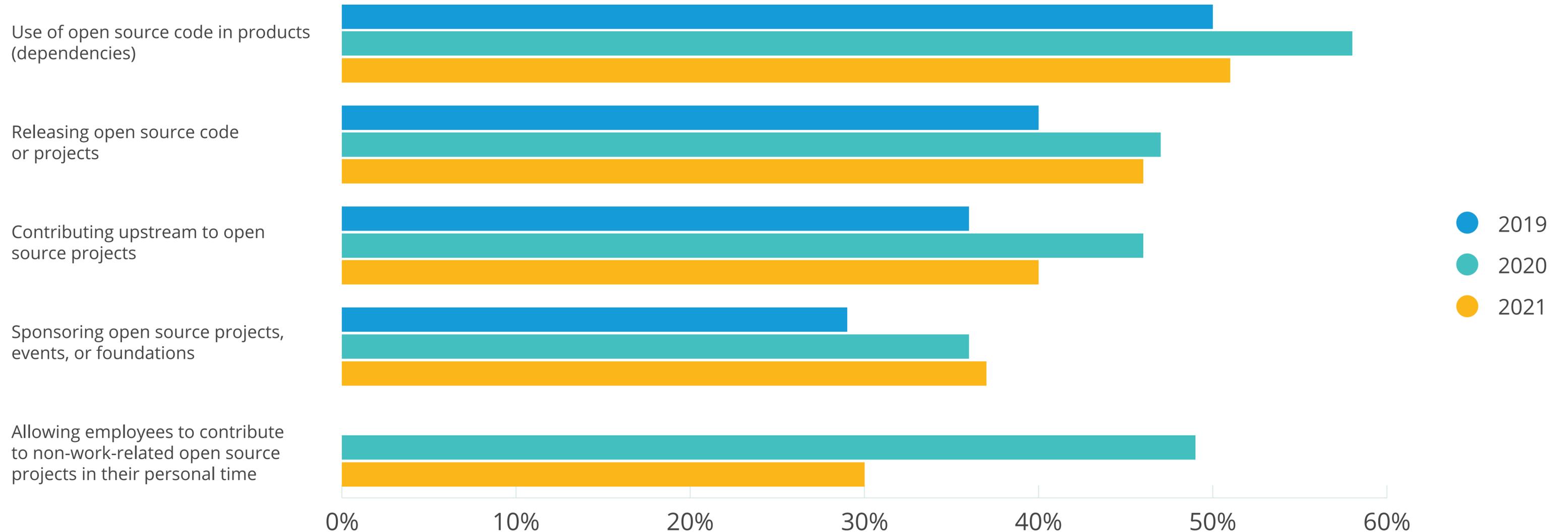


Notes on the Data on Organizations with OSPOs

While there was a drop in respondents that have OS programs, the decline was least pronounced among organizations that have more than 10,000 employees – it is at 60%, down from 64%. All other organizations appear to have programs closer to the average.

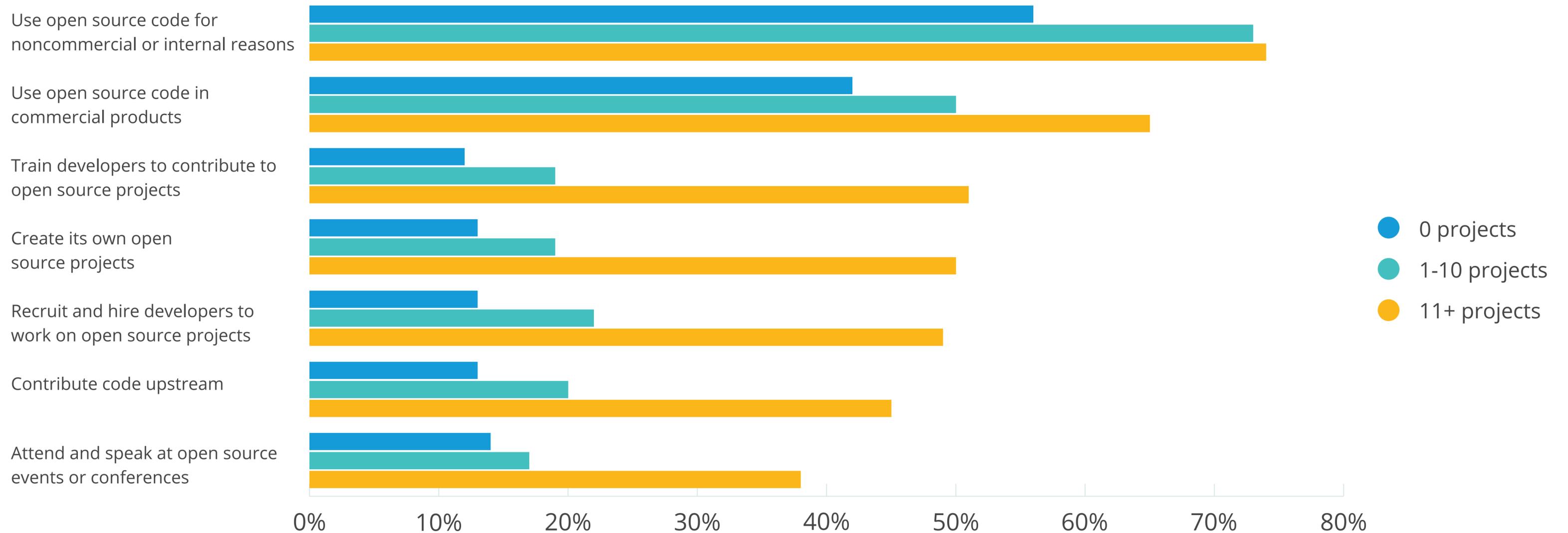
Does your organization have a formal policy governing use and contribution to open source projects in the following areas?

2019 N=1157, 2020 N=872, 2021 N=921



Frequent Activities by the Number of Projects Maintained

0 Projects N=685, 1-10 Projects N=205, 11+ Projects N=102

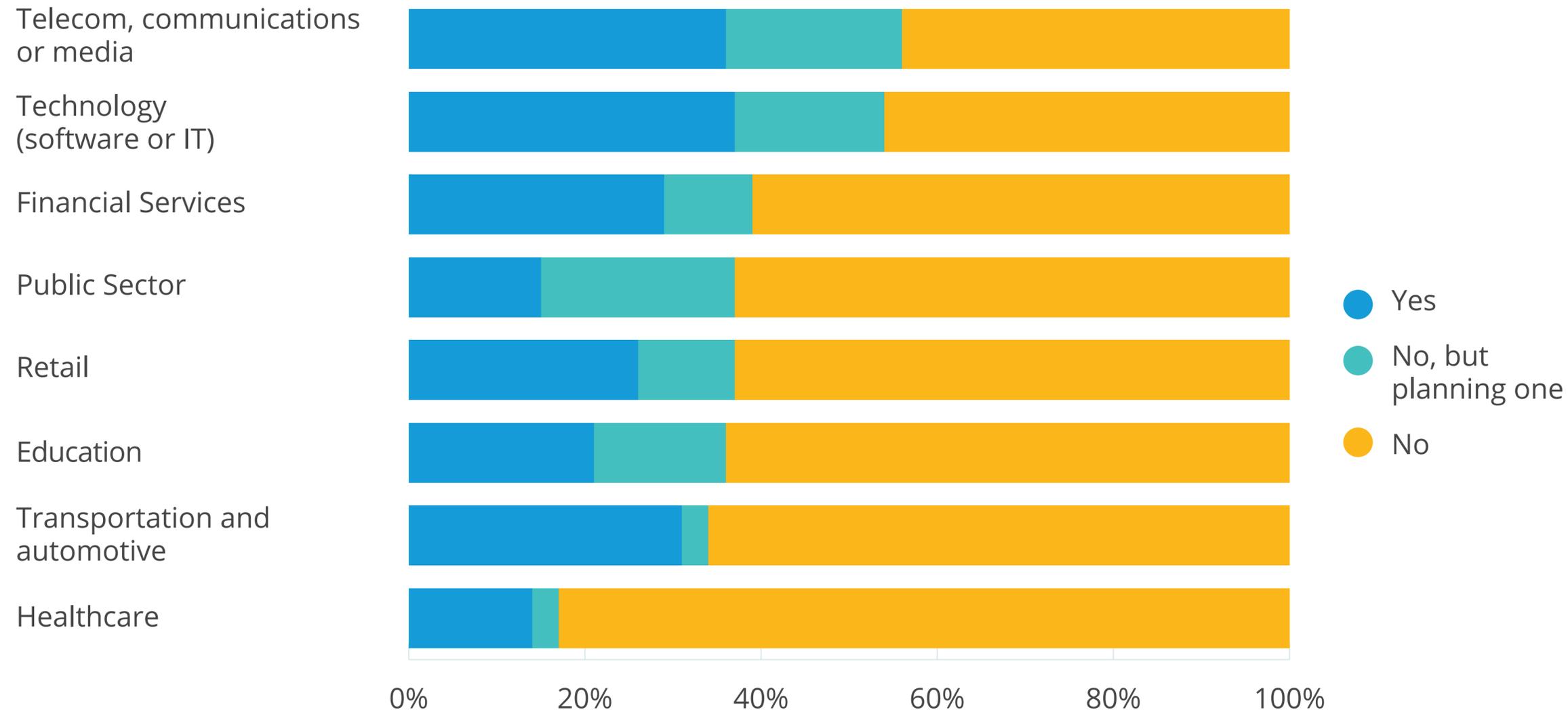


Key Takeaways About Open Source Usage Data

- The drop in policies about use of open source in products and contributing upstream is consistent with the drop in respondents involved with these activities.
- It's far more common for organizations to use open source software than to contribute to OS projects.
- Frequent contributors saw less severe declines.

Who's Got an OSPO? Adoption by Industry

Telecom, communications or media N=55, Technology (software or IT) N=254, Financial Services N=51, Public Sector N=51, Retail N=27, Education N=72, Transportation and automotive N=29, Healthcare N=29



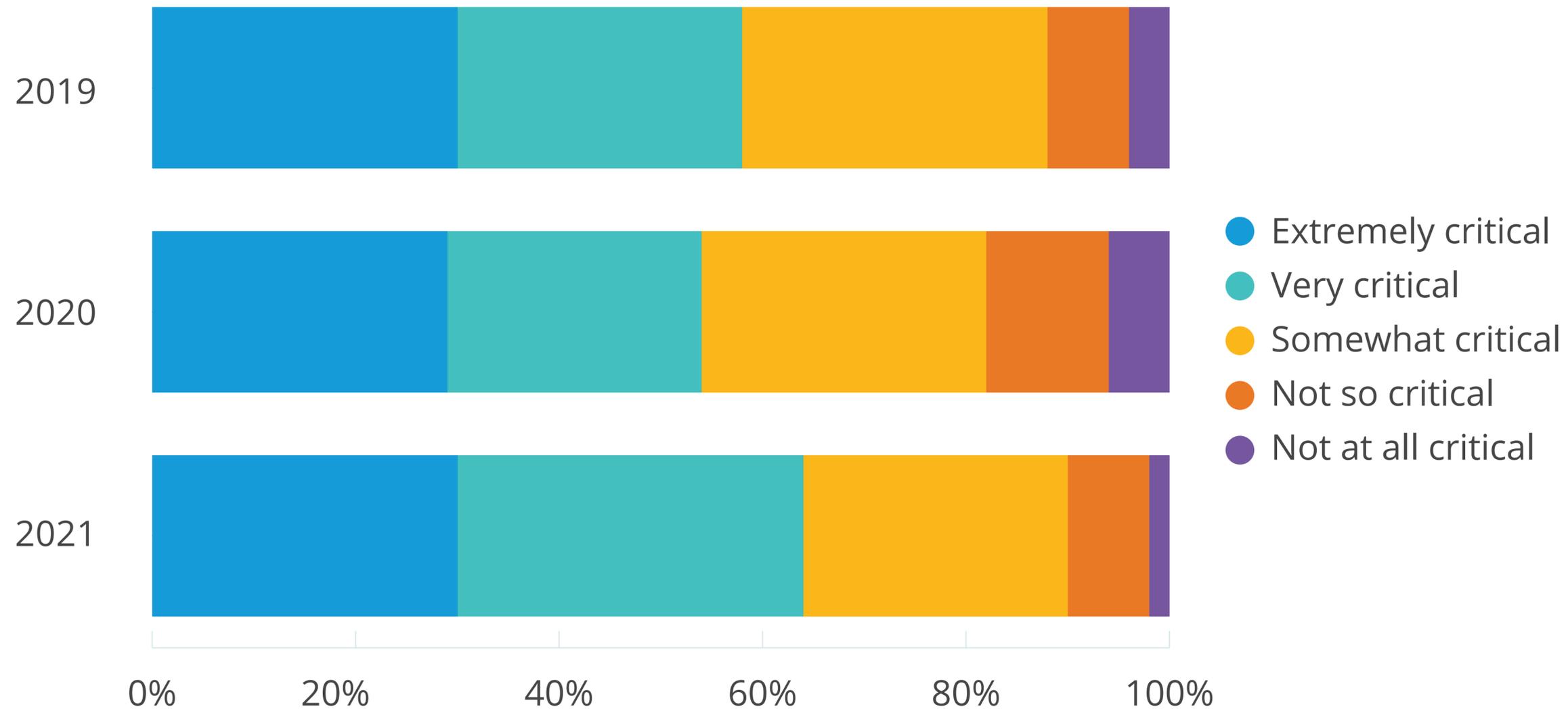
OSPO adoption is still highest among tech, but the public sector and education categories are also coming on strong.

Universities are more than half of the educational organizations.

Public sector consists mostly of local and national governments, with a few other NGOs mixed in.

How business-critical is your open source program to the success of your engineering or product teams?

2019 N=519, 2020 N=248, 2021 N=192



Those saying the OSPO is very or extremely critical to the success of engineering or product teams **rose from 54% to 63% in the last year.**

75% of companies with 50 or fewer employees **say it is at least very critical.**

Does your organization use its open source program office as a way to further its strategic relationships and build partnerships?

N=208



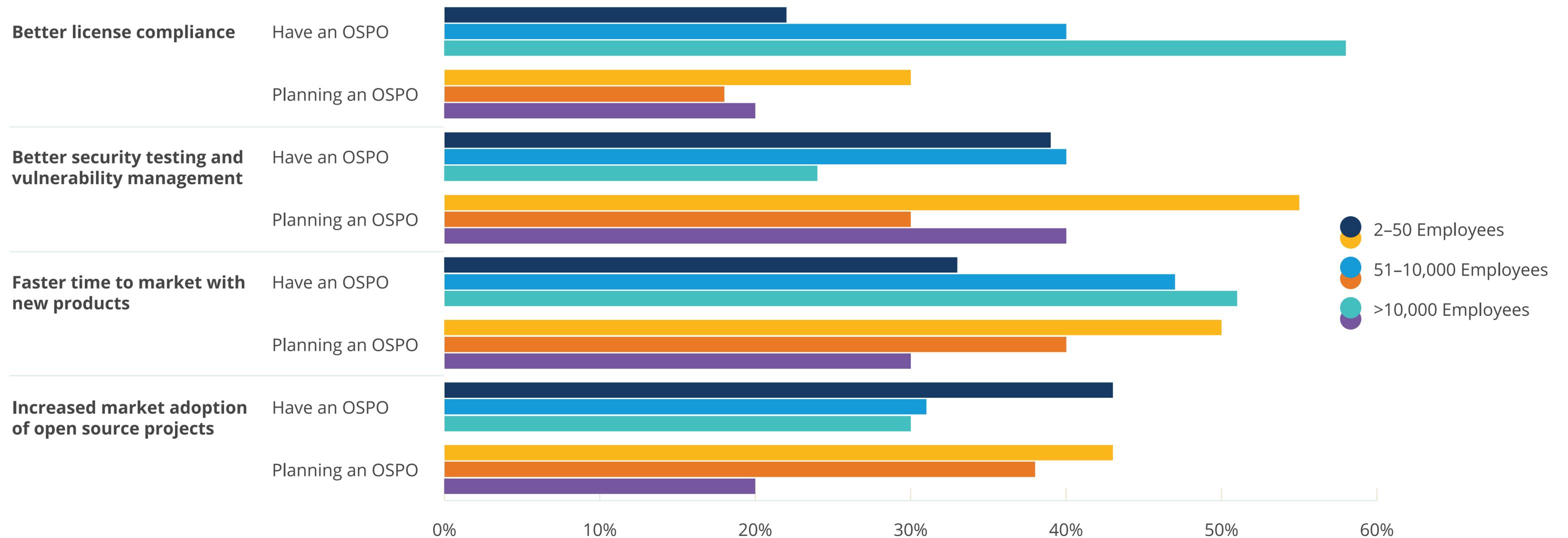
- 57% Yes
- 22% No
- 21% Don't know

The following are even more likely to report using their OSPO to build partnerships and further strategic relationships:

- 77% of those respondents whose OSPOs **report to the CTO.**
- 77% of those who **frequently contribute upstream.**
- 75% of survey participants **from small tech companies.**

OSPOs Create Real Benefits for Organizations That Have Them, but Goals Differ Based on Organization Size

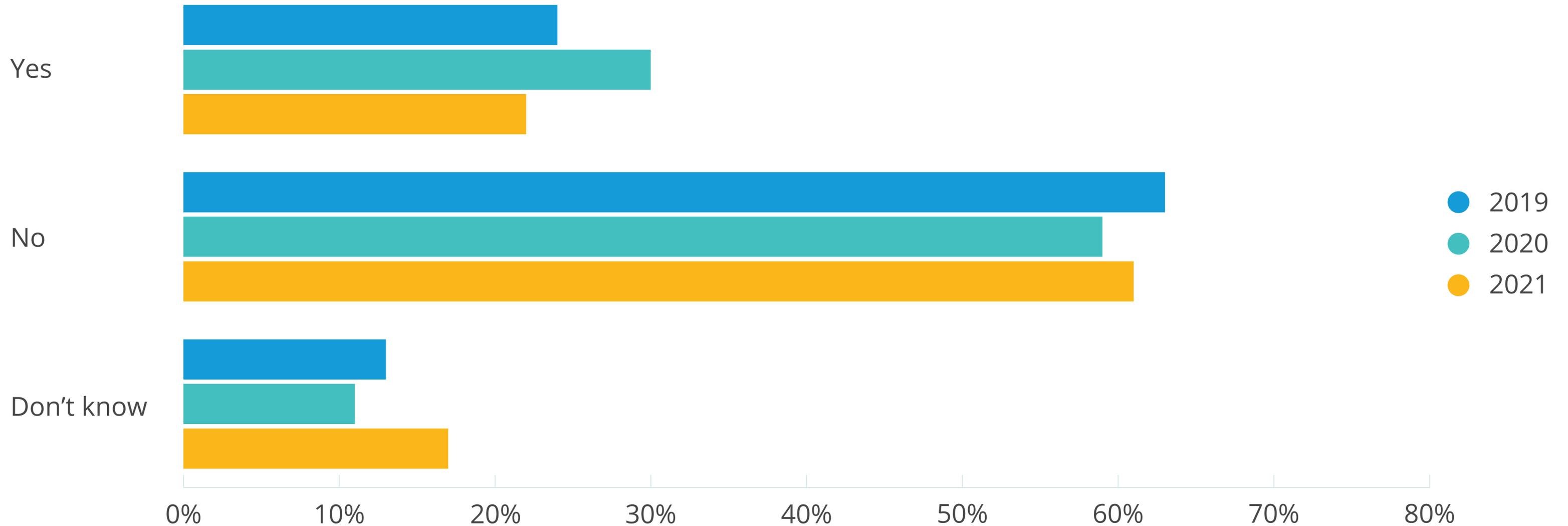
2-50 employees with OSPO N=52, 50-10,000 employees with OSPO N=76, >10,000 employees with OSPO N=85, 2-50 employees planning an OSPO N=40, 50-10,000 employees planning an OSPO N=50, >10,000 employees planning an OSPO N=10



Is your company a member or sponsor of an open source foundation(s)?

(e.g., The Linux Foundation, The Apache Foundation, Eclipse Foundation, OpenJS Foundation)

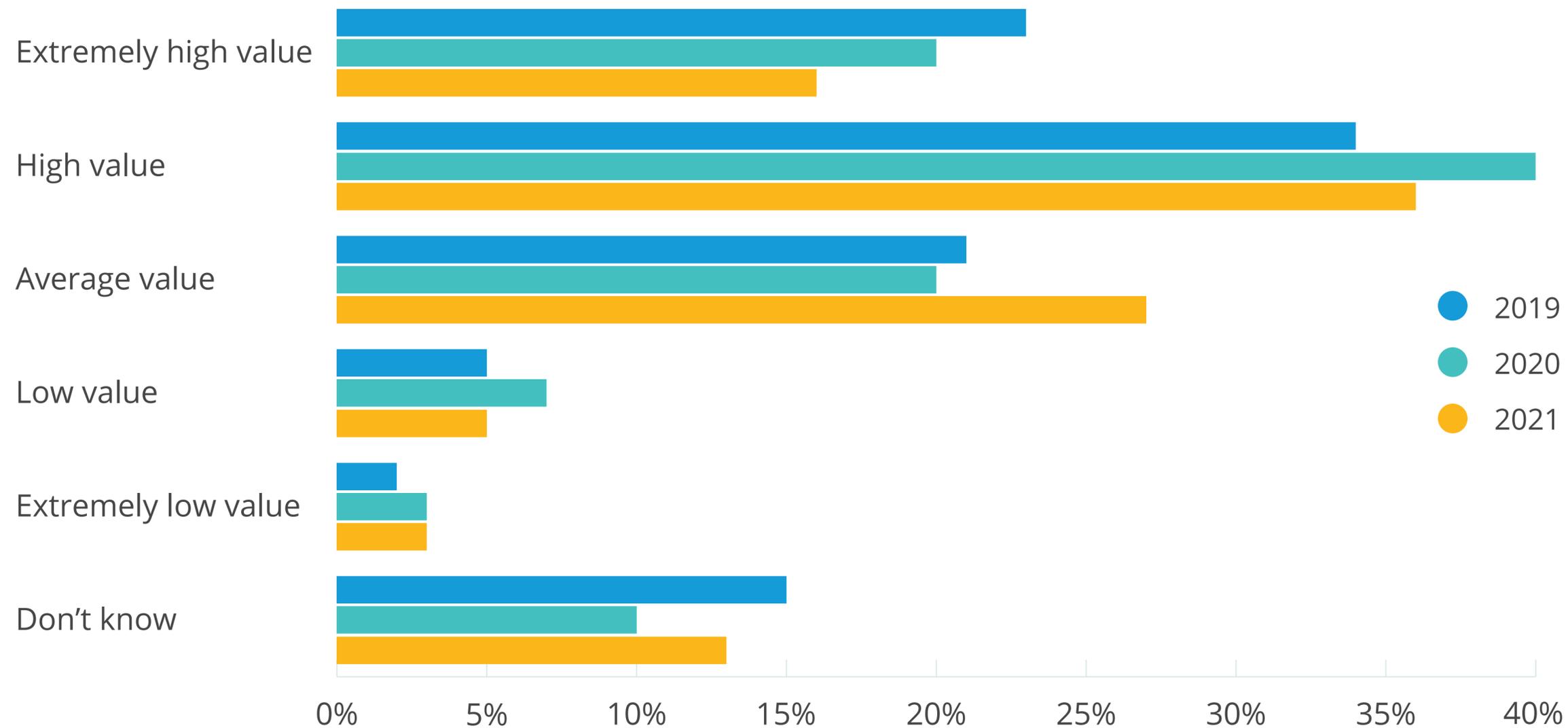
2019 N=1533, 2020 N=605, 2021 N=608



How valuable is the support and return on your investment you have received from these open source foundations?

(Question asked only to members or sponsors of an open source foundation.)

2019 N=364, 2020 N=184, 2021 N=135



There is a problem.
A big drop in organizations getting high value, going from 60% in 2020 to 52% in 2021.

Opportunities for Greater Adoption of OS Practices and Programs

Open Source Program Movement Has Room to Grow

- 35% of organizations that don't have an OSPO said it's because they haven't considered one.
- 28% said they don't see the business value.
- 19% said they have never heard of OSPOs.
- 49% of all respondents whose organizations don't have plans for an OSPO said they believe their organization would benefit from having one. 42% don't know.

OSPO Structure

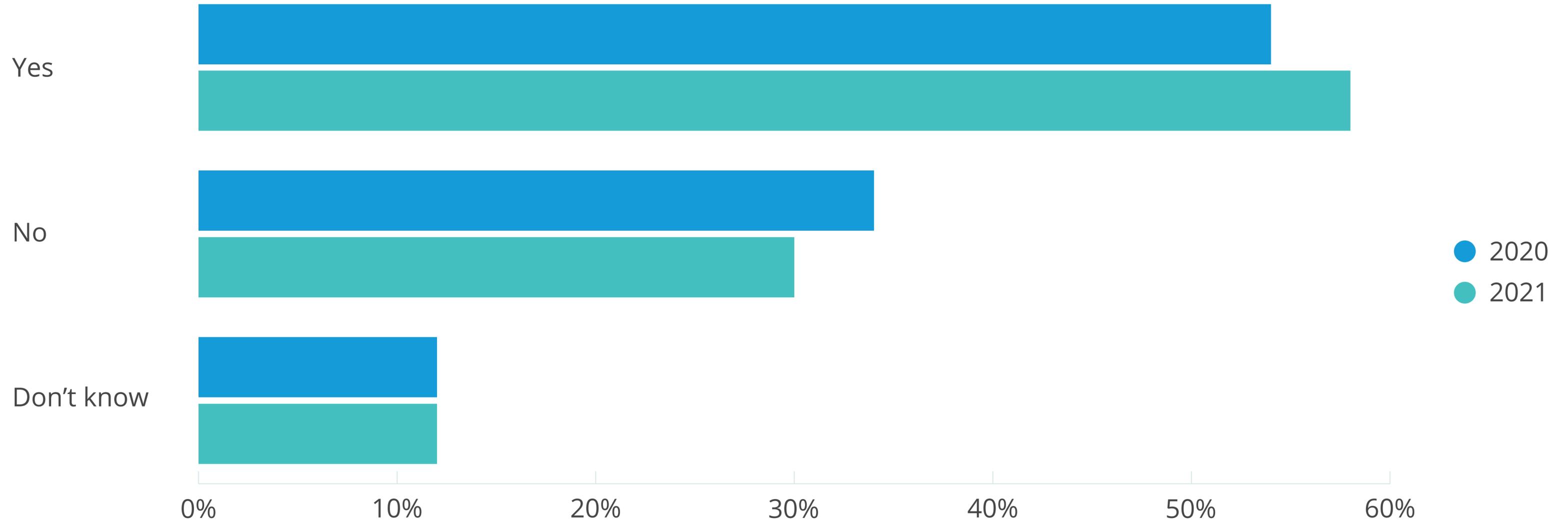


OSPOs: A Growing Professionalism

- The professionalization and formalization of OSPOs continues. 58% of OSPOs are formally structured, up from 54%.
- Half of respondents that could provide an answer to the question about the OSPO's structure said the initiative has 10+ employees involved.
- 45% of companies with 2-50 employees had 2-4 staff.

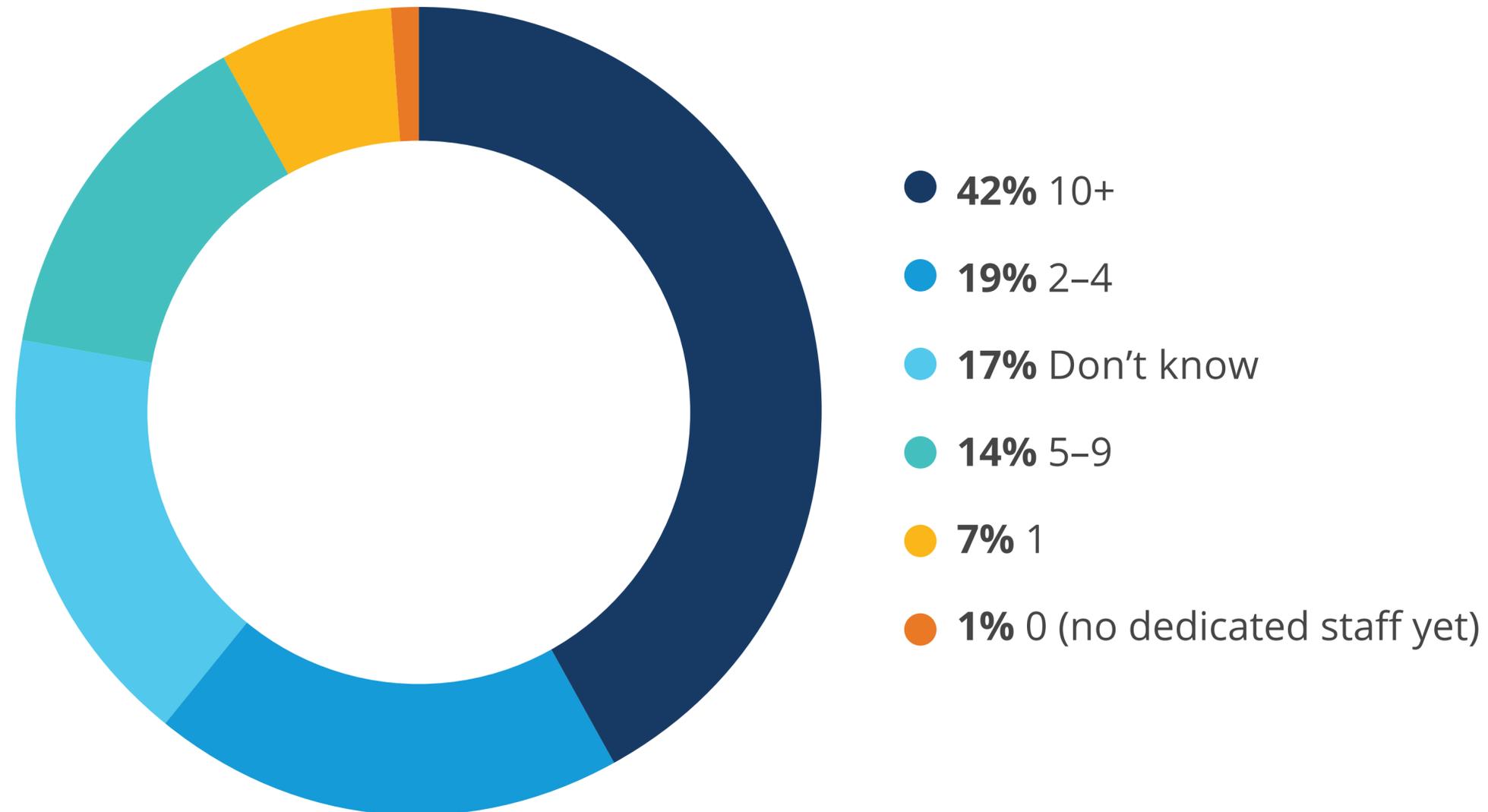
Is the program or initiative formally structured with dedicated person-hours, reporting structure and/or job titles?

2020 N=249, 2021 N=264



How many employees are part of your open source program?

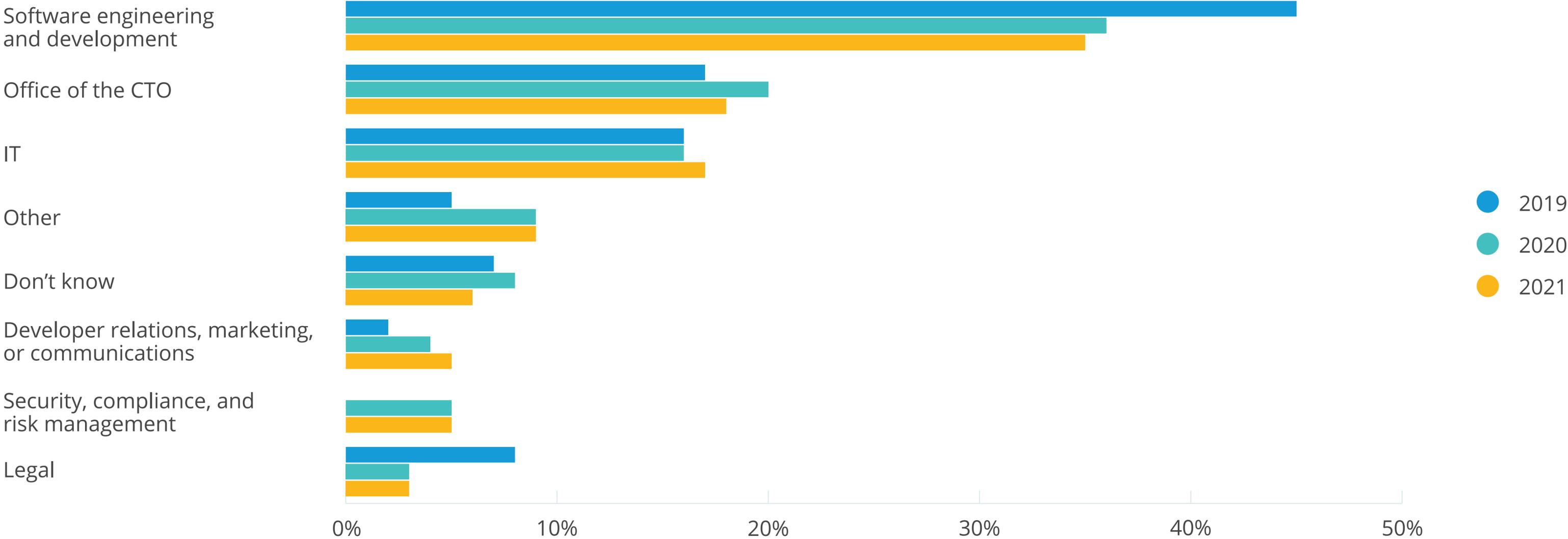
N=208



Where is the open source program or initiative located within the organization?

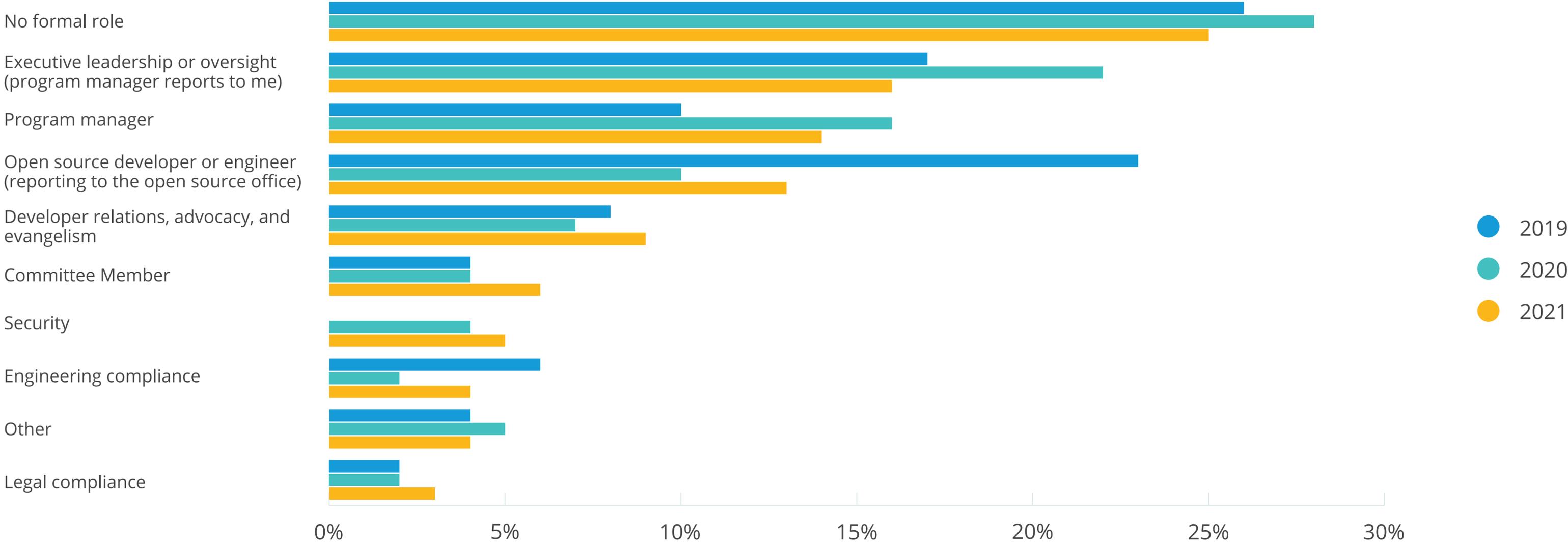
If the effort is informal, answer based on who the primary organizers report to.

2019 N=522, 2020 N=249, 2021 N=208



What is your role in the open source program?

2019 N=522, 2020 N=249, 2021 N=208



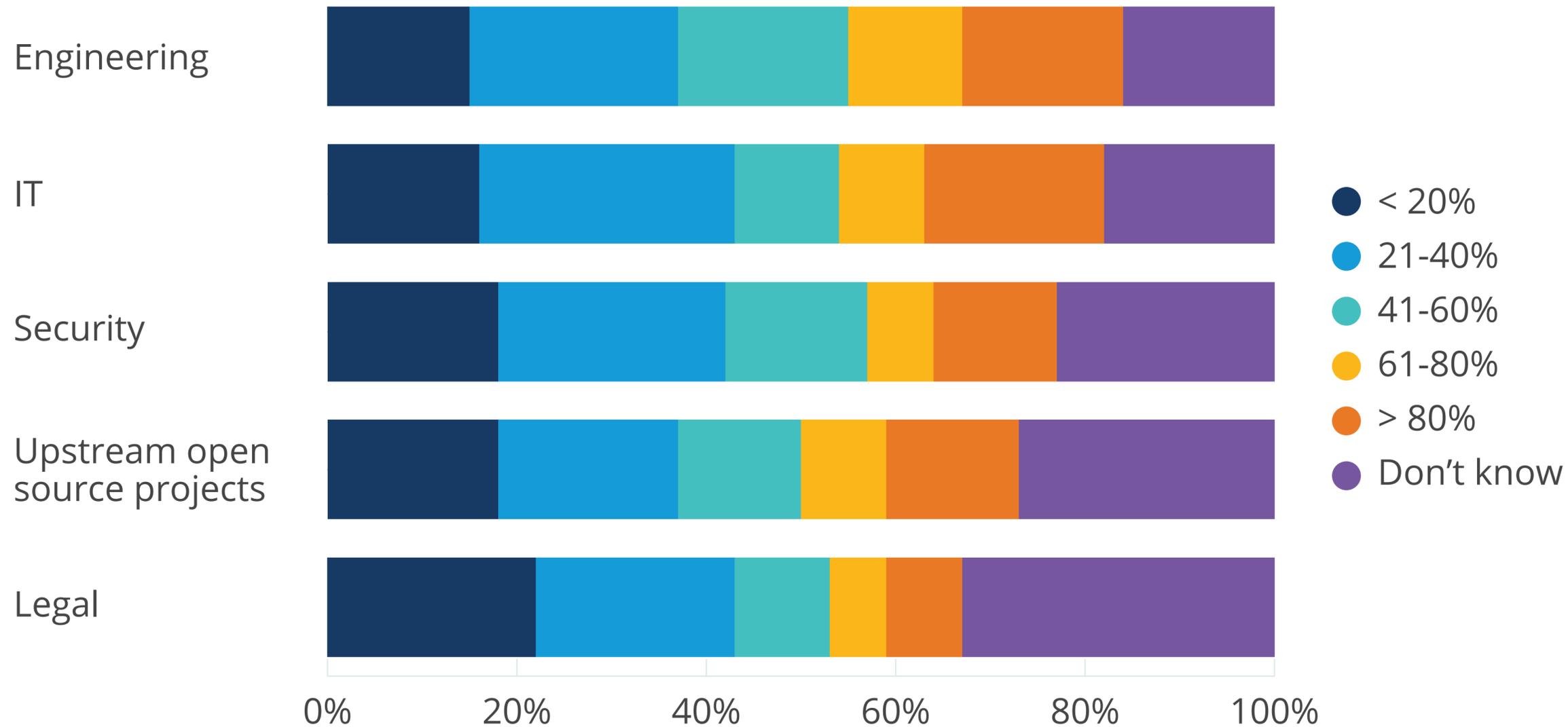
Notes on the Data About OSPO Structure

- 11 of the 13 “don’t knows” are from organizations without formally structured programs.
- Note the drops that came after 2019.
- 35% of OSPOs are located in Software Engineering and Development departments, and another 18% are within the Office of the CTO.
- Survey participants in leadership roles dropped from 38% to 30%. Does recruitment for the study next year need to be improved?

What percentage of your open source program's time is spent collaborating with the following departments?

(Total can equal more than 100%)

N > 197



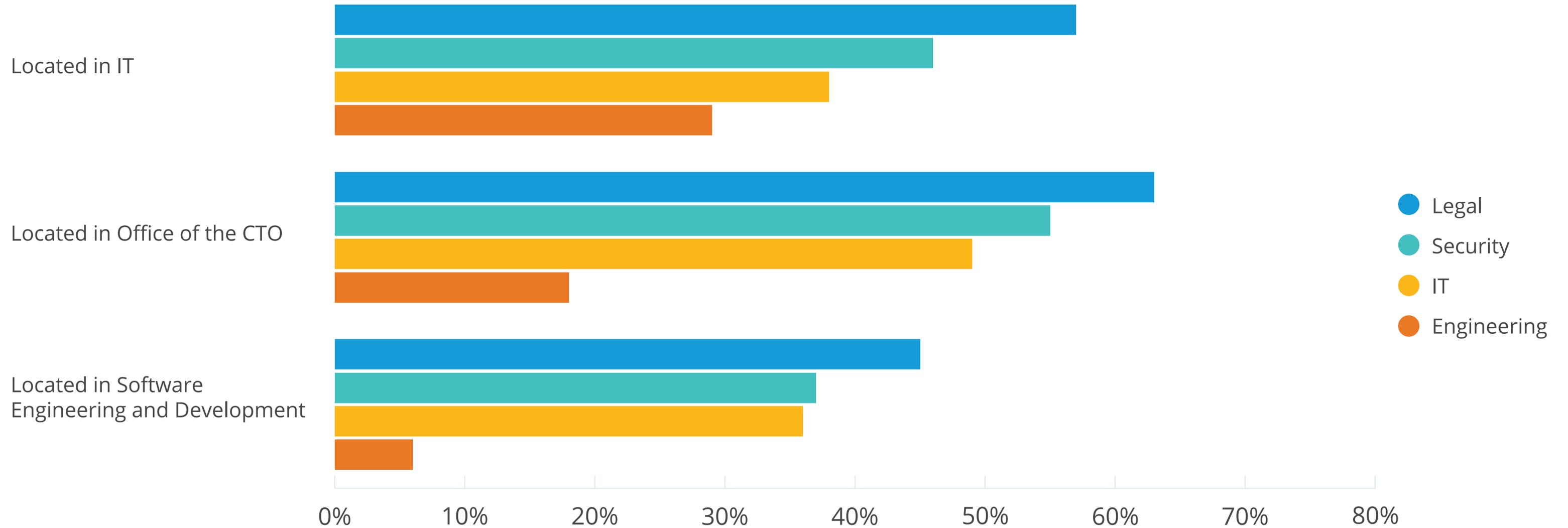
Respondents in an executive leadership or program manager role only answered "don't know" on average 7% of the time, so **they are on top of things.**

OSPOs located in a department **tend to collaborate with that department.**

Collaboration Impacted by Organization Structure

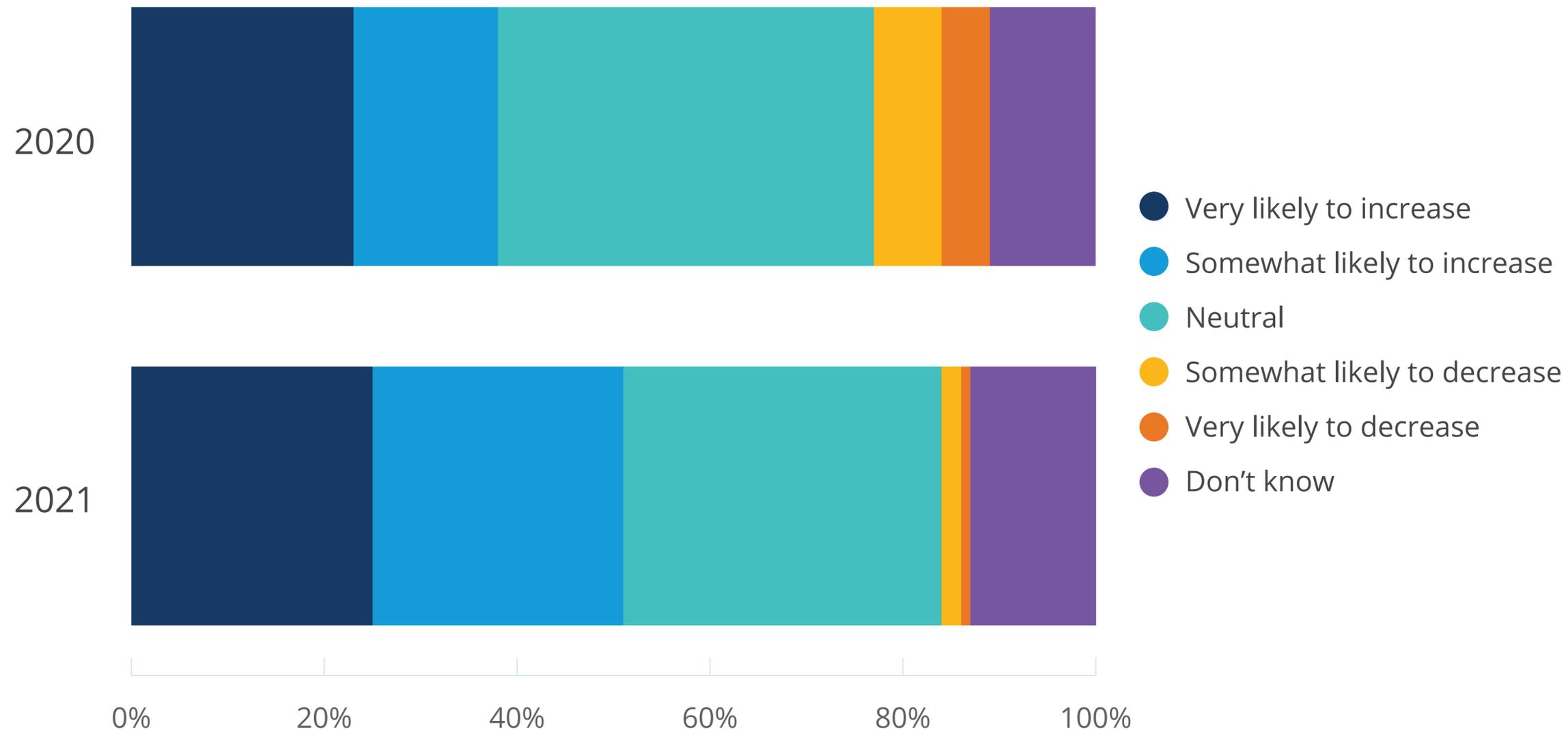
Percentage of organizations spending <20% of time collaborating with a department

N > 197, Located in Software Engineering and Development N > 69, Located in Office of the CTO N > 49, Located in IT N > 42



In light of recent macroeconomic conditions, what is the likelihood that funding for your company's open source initiatives will increase or decrease in the upcoming fiscal year?

2020 N=248, 2021 N=206



Respondents were twice as likely as last year to believe macroeconomic conditions have increased the likelihood that funding for their company's open source initiatives will increase this fiscal year. **51% said an increase is very or somewhat likely,** and 4% said a decrease is somewhat or very likely (overall, that's 47% being net positive vs. 25% net positive in the 2020 study).

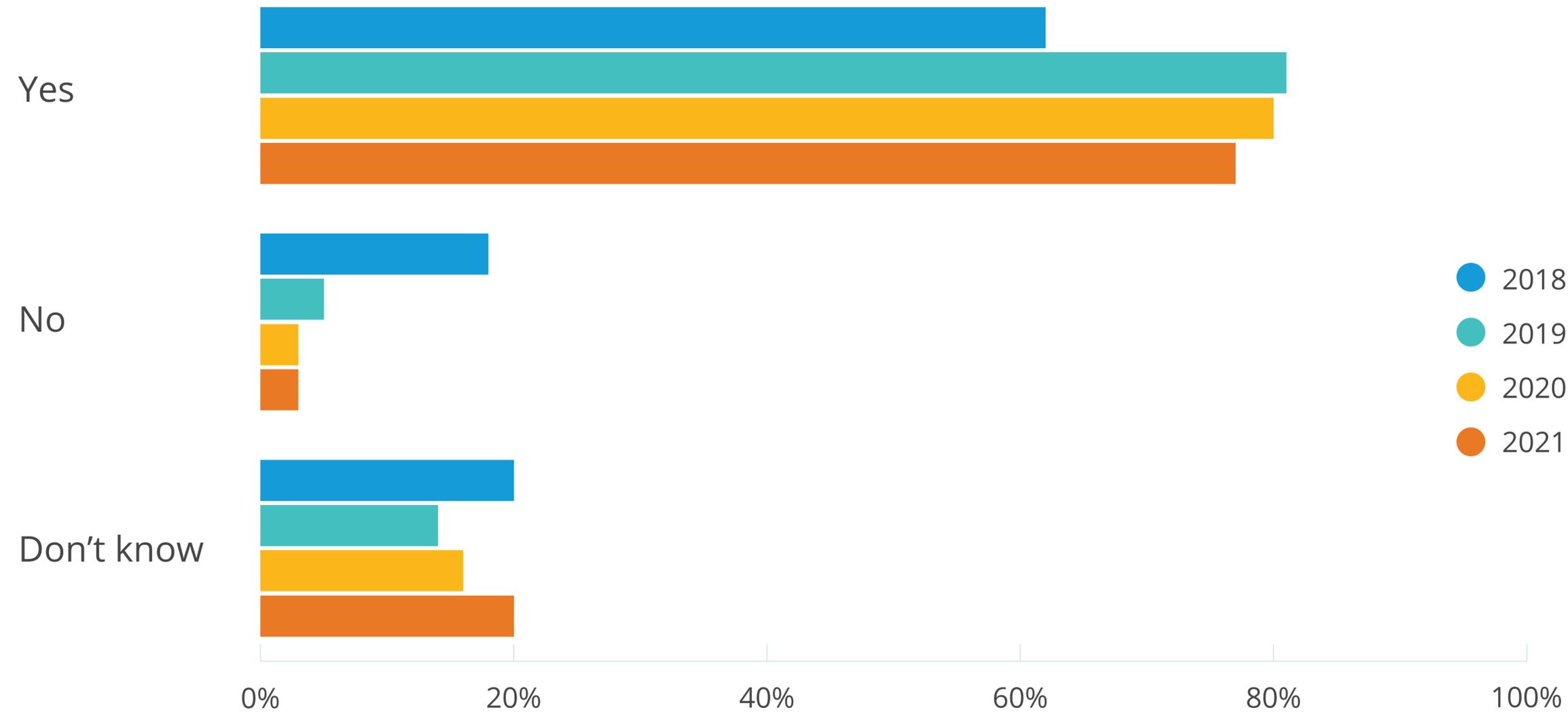
OSPO Benefits & Responsibilities



Has the open source program had a positive impact on your company's software practices?

If yes, please provide one or two specific examples.

2018 N=148, 2019 N=519, 2020 N=250, 2021 N=208



Although there is a slight drop, **77% is still great.**

Narrative examples highlighted **improved code quality** and examples in which the CI/CD pipeline has been leveraged.

The **instinct to collaborate** both internally and externally were linked to open source culture and InnerSource.

Comments from Survey Participants on the Impact of their OSPO

Better license compliance and CI/CD:

- “We are redesigning our pipeline to better leverage artifact management instead of building from forked projects....We are getting better license information in our mobile apps as we are implementing a better compliance process.”

Better code quality and/or review:

- “A number of projects end up creating synergies between emerging companies, which join efforts to solve a common problem and take the project to a higher quality level...improved documentation of every project (e.g., CII Badges in all of them)”

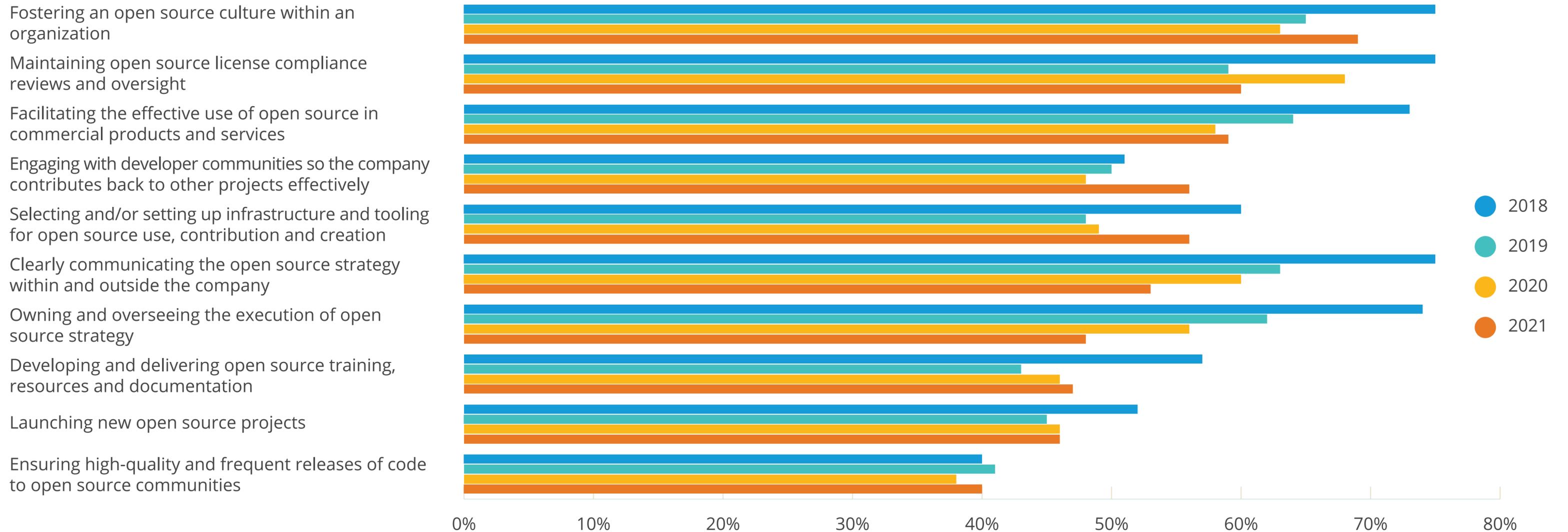
Helps with recruitment and training

- “The growth in the individual engineers and programmers, skills and partnered further educational opportunities are seen with a kind of team pride.... The increased communication between departments has been a boon. We now see cohesive application development spanning multiple disciplines simultaneously.”

What are the primary responsibilities of the open source program?

(Check all that apply)

2018 N=134, 2019 N=516, 2020 N=292, 2021 N=259



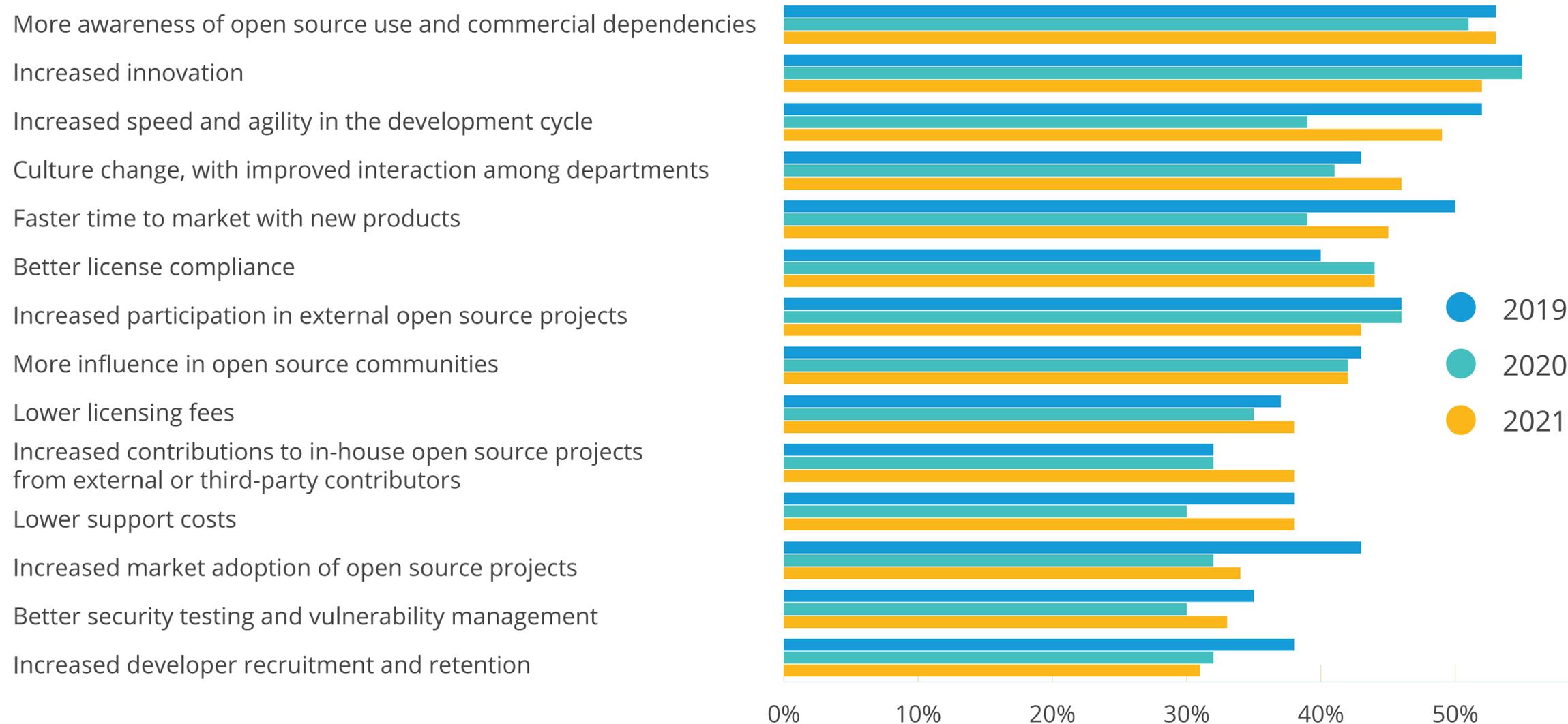
Takeaways from the Data on OSPO Responsibilities

- Fostering an open source culture is now the primary responsibility of an OSPO.
- Maintaining open source license compliance reviews and oversight has dropped from 68% to 59% of survey participants citing it as a primary responsibility. At 86%, it is the most cited primary responsibility among large non-tech companies (excluding public sector and education, too).
- Engaging with developer communities rose from 48% to 56%. These efforts bear fruit. When this is a primary responsibility, the percentage of OSPOs that recognize the following benefits changes:
 - Increased contributions to in-house open source projects from external or third-party contributors (38% to 47%).
 - Increased market adoption of open source projects (34% to 43%).
 - Increased participation in external open source projects (43% to 57%).
 - More influence in open communities source (42% to 58%).

What are the areas where your company has most benefited from the open source program?

(Check all that apply)

2019 N=202, 2020 N=246, 2021 N=202



The recognized benefits mostly remained the same, with regression back to the mean.

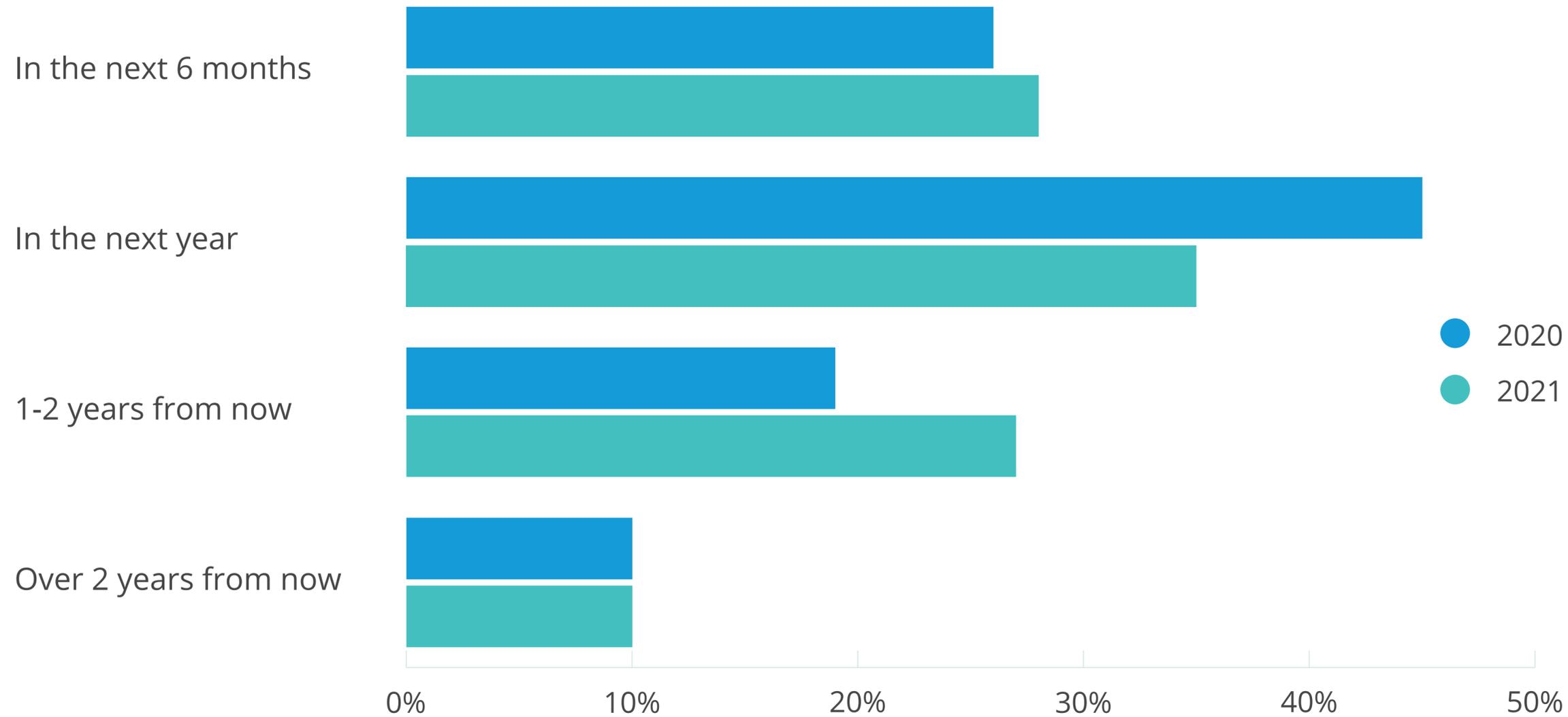
After a sharp drop in 2020, **speed and agility in the development cycle** are again among the top benefits.

Planning an OSPO



When does your company plan to start a program?

2020 N=100, 2021 N=97



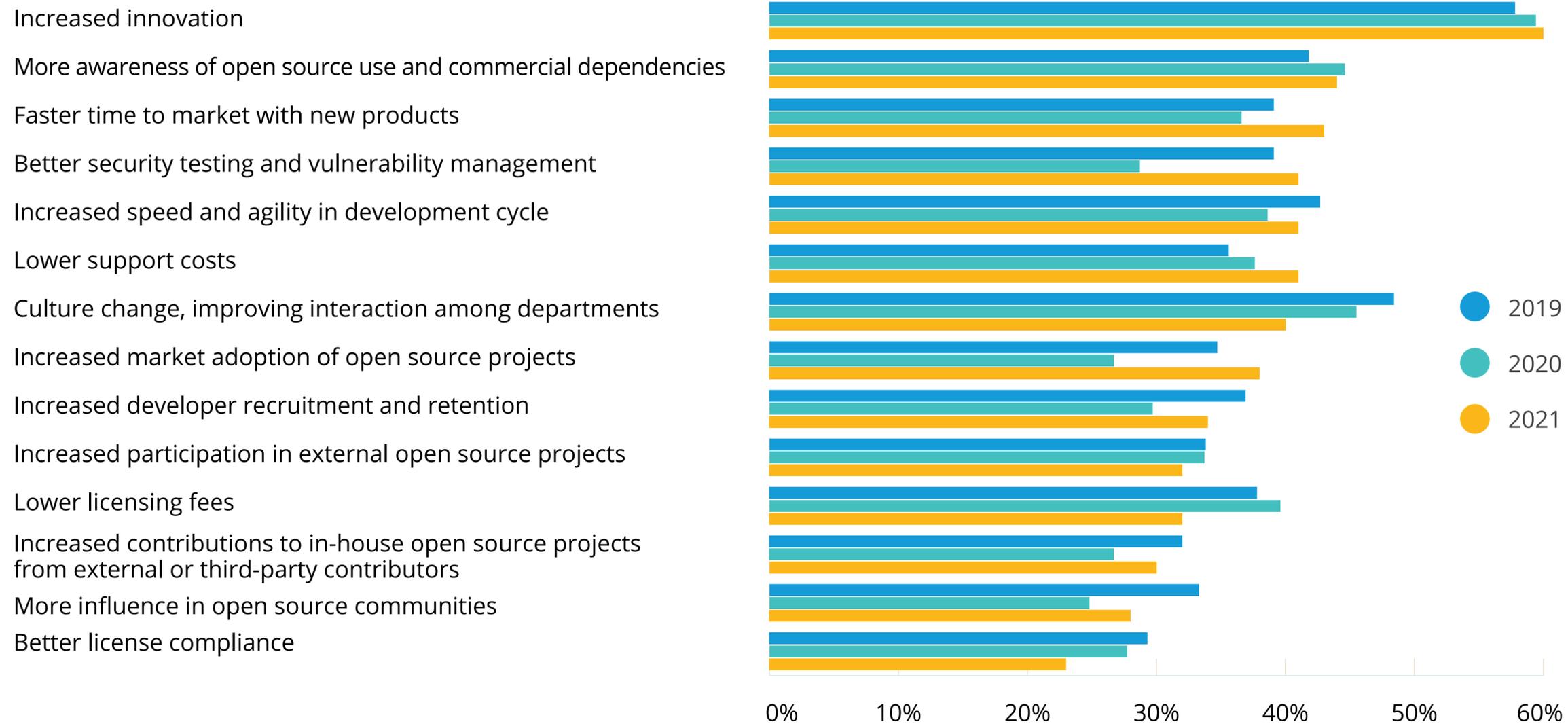
63% of plans to create an OSPO are **expected to be initiated within a year.**

While those plans are near-term, compared to 2020, **roadmaps are more likely to be pushed out further.**

What does your company aim to accomplish by starting an open source program?

(Check all that apply)

2019 N=225, 2020 N=101, 2021 N=100



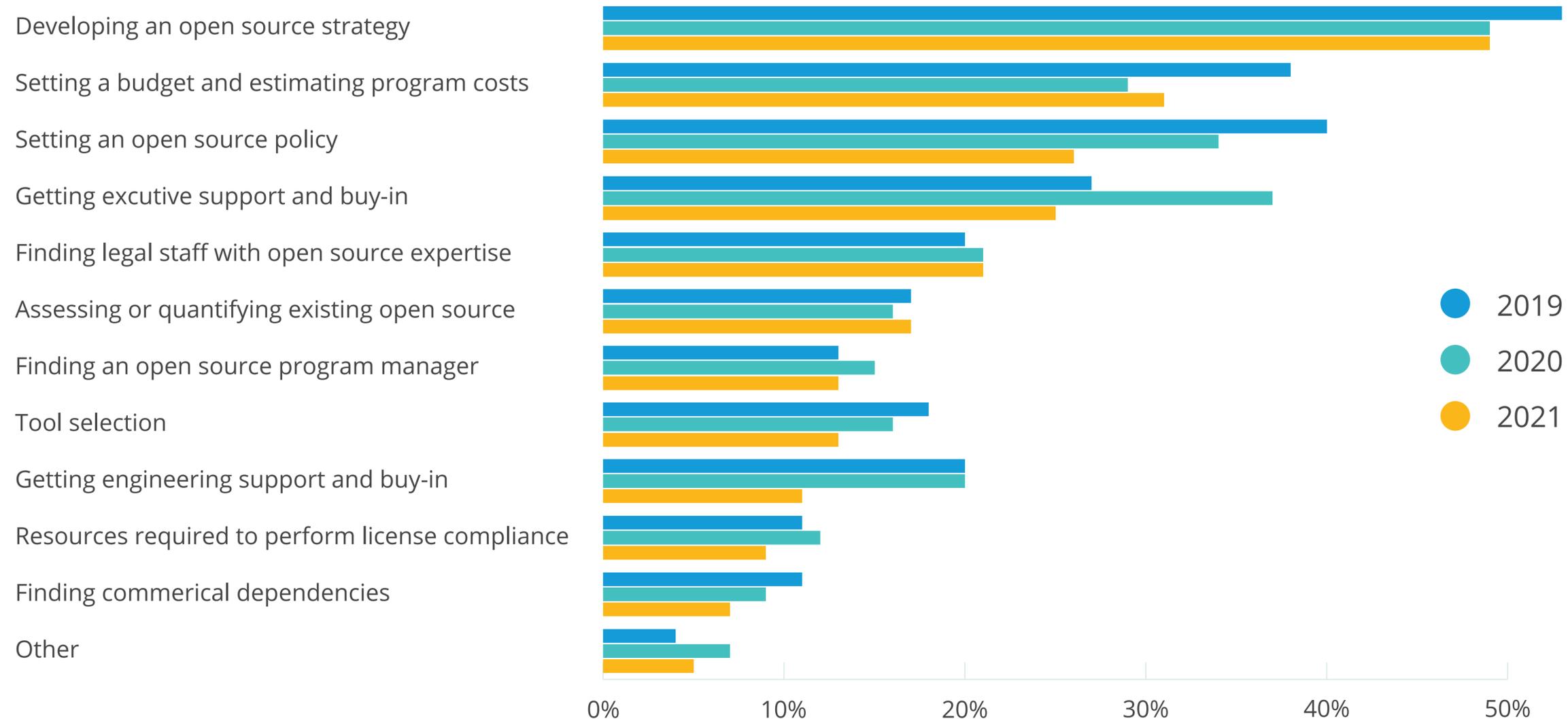
Licensing fees and compliance continues to be at the bottom of the reasons to create an OSPO.

The software and IT companies are more likely to look to accomplish other goals, including influencing open source communities (44% vs. the study average of 28%), and better license compliance (37% vs. 23%).

What have been the top three biggest challenges in establishing an open source program?

(Choose three)

2019 N=226, 2020 N=101, 2021 N=110



Developing an open source strategy continues to be the top challenge.

The second most cited challenge is **setting a budget** and estimating costs.

Although it is mentioned less often than in previous years, **setting an open source policy** is still the third most cited challenge.

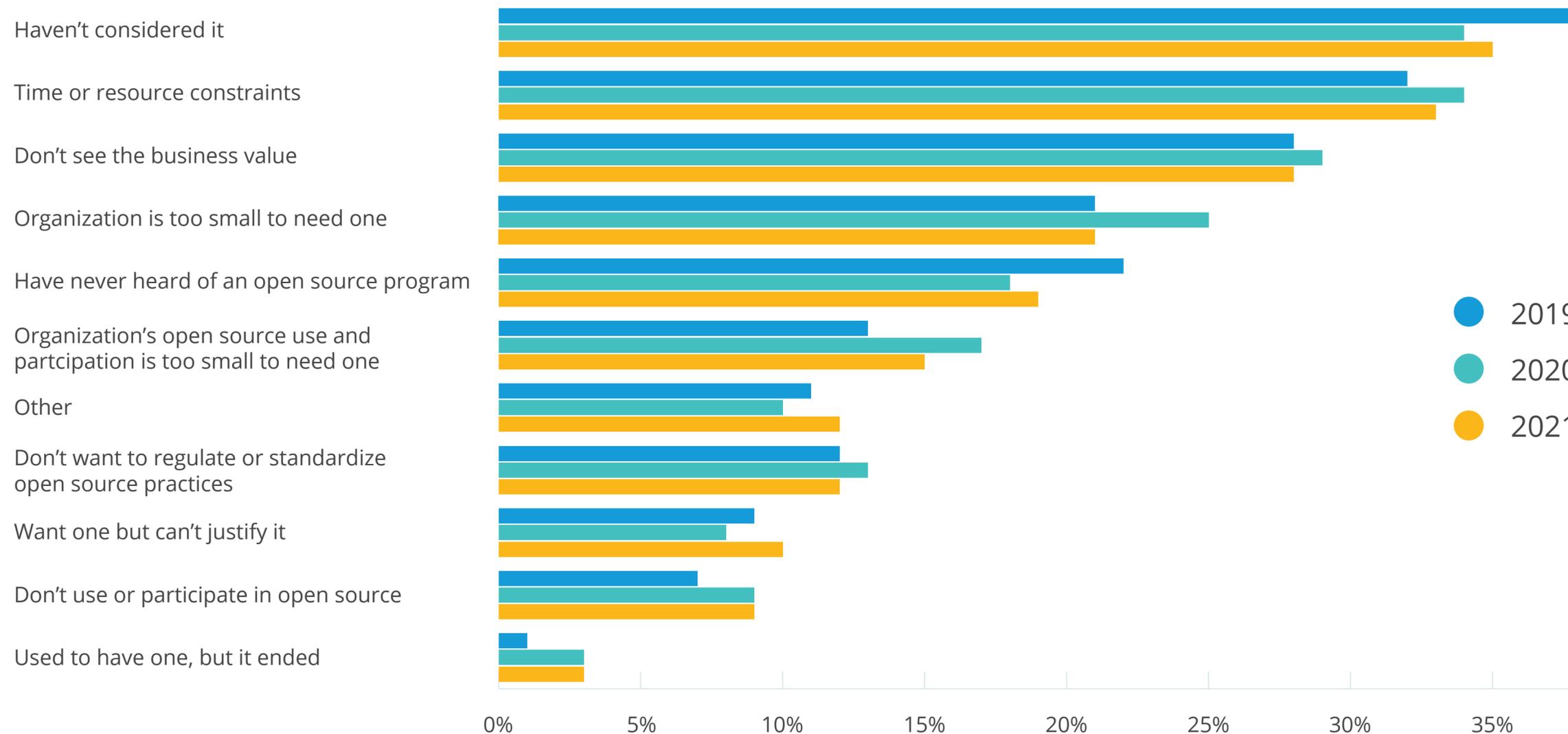
Organizations without an OSPO



Why doesn't your company have an open source program?

(Check all that apply)

2019 N=226, 2020 N=101, 2021 N=110

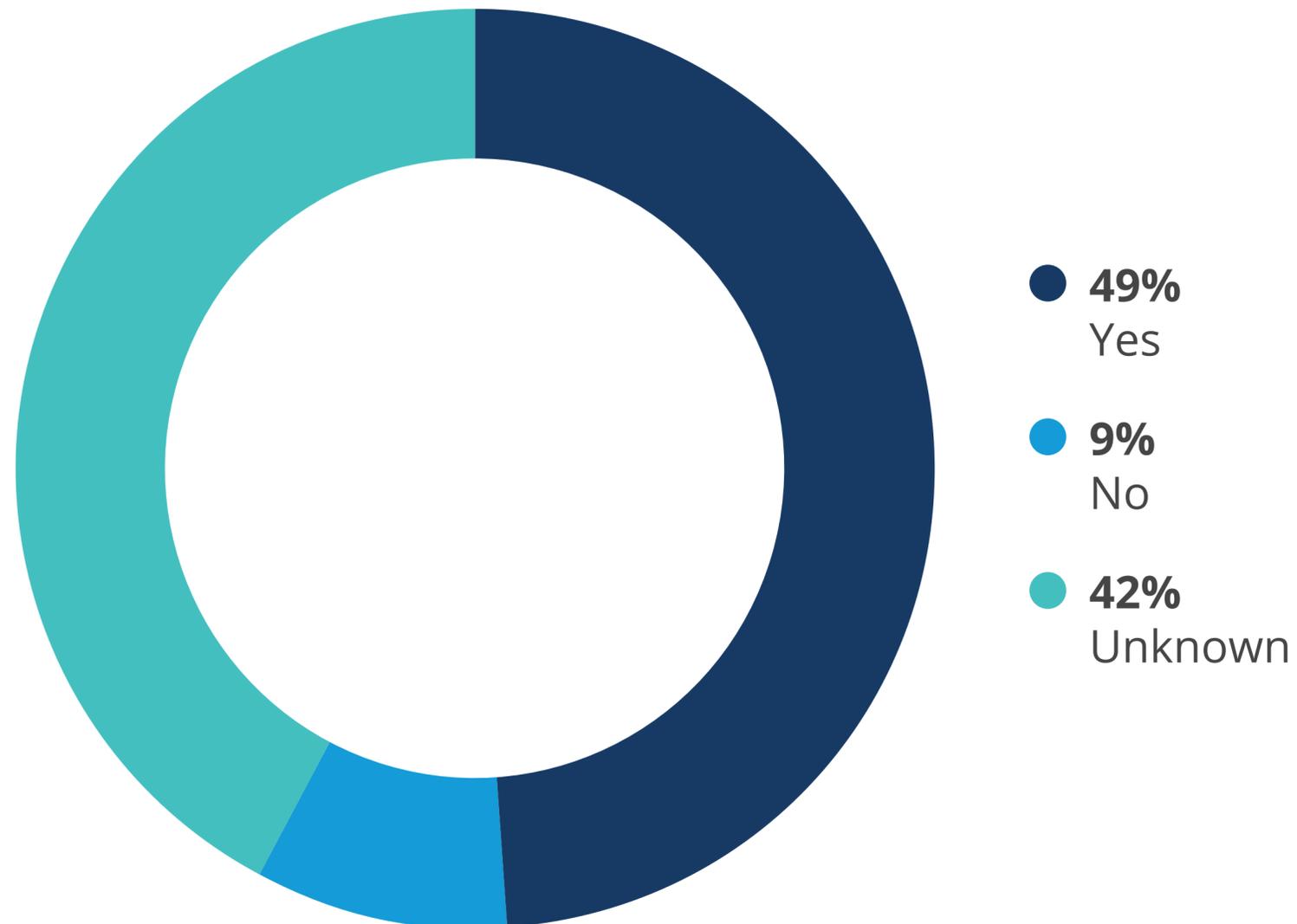


The reasons for not having a program have not changed over the last few years.

47% of the small organizations (2-50 employees) without any plans for an OSPO cited size as a reason for not having one.

Would your company benefit from an open source program?

N=462



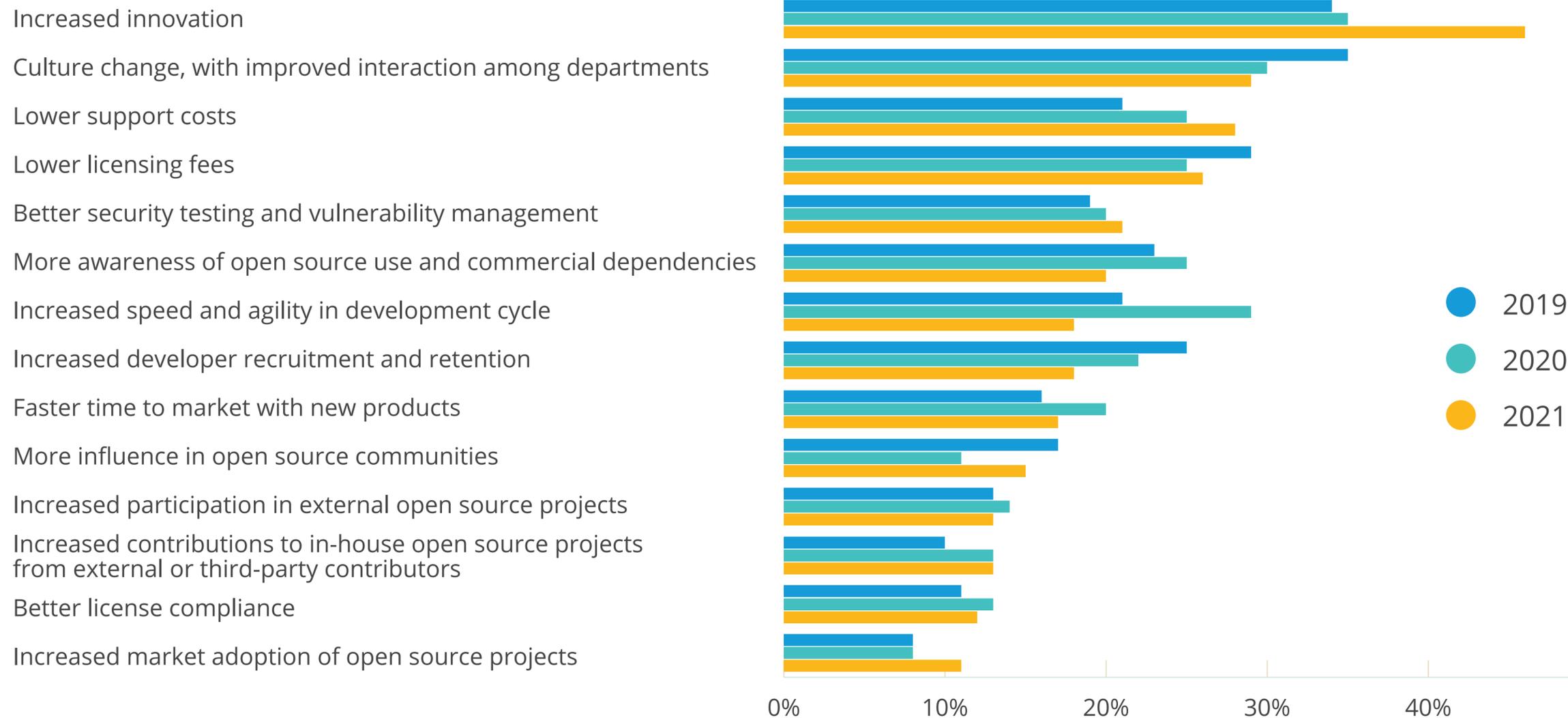
Almost half of respondents without plans for an OSPO **still think their company would benefit from one.**

The audience is **positively inclined** to be interested in the topic.

That said, 42% **still don't know if the company would benefit** or not.

The respondents that replied “Yes” about benefiting from an open source program are asked,
What are the top three ways your company would benefit from an open source program?

2019 N=187, 2020 N=183, 2021 N=187



Increased innovation jumped as an expected benefit, going from 35% to 46%.

40% of survey participants with OSPOs in university, government, or civic institutions mentioned **lower licensing fees.**

How would you approach creating an open source program within your organization?

(Asked of respondents who think their organization would benefit from an OSPO.)

“Communicate with upper management about the benefits of exchange knowledge with [the] open source community to get in the loop of the latest tendencies.”

“The main issue within my company is selling it to management types. I would establish the case in terms of possible efficiency improvements in the processes, automation potential, risk reduction in research/implementation, increased innovation, standardization, and better development recruitment prospects. It would help to have figures.”

“Based on the requirements given, I’d suggest usage and contribution for an open source program so that it will help the community, reduce overall cost [instead of paid software] and thereby improve our market.”

“Starting by explaining people WTF open source is, and why it can be useful both in everyday work and in everyday attitude.”

Narrative commentary emphasizes the importance of **showing the benefits to senior management.**

Several respondents’ proposals dealt with **open source education in general** as opposed to a specific OSPO program.

More Comments from Respondents About How They Would Create an OSPO

“Creating an ambassadorship program that would help create awareness, adaptation of our open source projects which will in turn increase contributions to our in-house open source projects from external contributors. The following will be a possible approach for the program:

1. Define the program in a way that meets organizational needs as well as helps the open source community.
2. Designate a program manager.
3. Allocate funds to the program and using the funds for the program.
4. Production of swags, event funds, etc.
5. Conduct technical workshops.
6. Share the program with stakeholders or possible partners.”

More Comments from Respondents About How They Would Create an OSPO

"I would first have team leads and directors compile a list of projects/initiatives that we have which utilize open source resources. The next step would be to identify gaps in knowledge or capability and begin drafting a roadmap. That roadmap would start with growing our organizational knowledge/capability (**Stage 1**) and then move onto three additional stages.

Stage 2: Develop a process for adding open source to existing and new projects. Being able to identify which resources would benefit which opportunity.

Stage 3: Contribute to open source projects. Add features, review revisions, collaborate with other organizations.

Stage 4: Review our usage of open source, draft policy/procedures, and compile use-case examples for future reference.

More Comments from Respondents About How They Would Create an OSPO

“I’d first create some material to let the word spread:

1. Common learning resources to let people not in the open source learn about it; learning module about the cultural shift that the open source requires; learning module about the benefits of a healthy open source exposure and participation, for both the employees and the company itself.
2. Courses on good contributing behaviors.
3. Courses on maintainership.
4. Courses on governance models for the open source...

Then, I’d create a framework composed by:

- a. Rules for a healthy communication in the open source.
- b. Rules to propose new open source projects.
- c. Rules to propose changes to existing open source projects.
- d. Rules to share the IP of the open source projects between the authors and the company.
- e. Best practices for being involved in open source projects.
- f. Nominate two (or more, depending on the company size) ‘open source stewards’ to guide employee approaching a new topic for them. I even proposed this plan to my current company, but I was not listened to.”

Suggestions from University Respondents ...and Public Sector Respondents

“Bring key players together (administration, strategy, developers, users, stakeholders).”

“Generate awareness and standardization around how the employees, MSc and Ph.D. students contribute to OSS and advertise our contribution.”

“In a very hierarchical, top-down organization, the initiative would need to be sponsored from the top. Would need strategies to ‘sell’ open source strategy benefits to leadership.”

“It’s unclear. There seems to be a highly ‘no-one ever got fired for using Microsoft products’, and a system of paid kickbacks to overcome.”

“Lobby for increased adoption and support of open-source products.”

“My organization is a public university and needs a global project that allows to be oriented towards open source, but the costs and the inertia of change are bigger (and the influence of Microsoft, Oracle, ...is bigger also).”

“Sensitizing the colleagues upon the importance of using FOSS.”

...and from Public Sector Respondents

“E-governance platforms where university students can contribute.”

“Government organization is regulated by policy, defined on the Premier and Cabinet level. You need parliament lobby to explain [to] people that open source software is more secure in the long run. OSS improves availability even after vendor ceases support. OSS improves cyber-security as source code allows analysis beyond ‘we scanned host with our tool, there is no known vulnerability’. But unless you put it into law and policy, government[s] would not use it.”

“In collaboration with others. An open source program oriented to small local towns public admin would have important utility.”

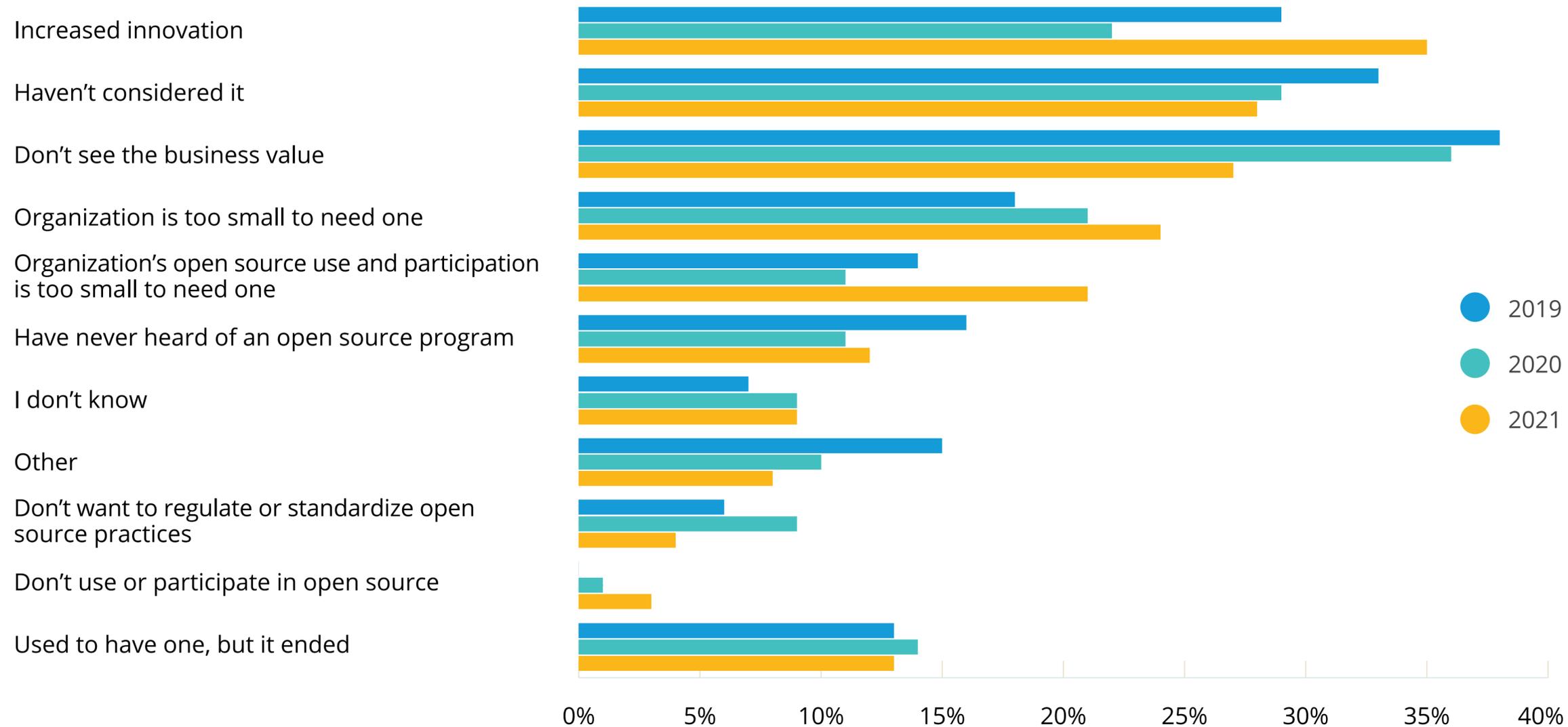
More from Survey Participants Who Work in the Public Sector

“I tried a lot, but I work in [the federal government] and here the corruption is the common path. The government prefers to pay for companies that deliver overpriced tools than train and keep the internal staff using open source ones. I try to break the system and use it, but I’m almost alone with a small team.”

“We’re a government. So we are not creating products, we’re just here to support our own IT. The organization culture likes to have a contractor or software vendor ‘responsible’. Everybody thinks there needs to be a support contract for basically everything. This culture makes it difficult to work with upstream open source projects.”

Respondents that replied “No” or “Unknown” regarding benefiting from an open source program were asked “Why not?”

2019 N=226, 2020, N=101, 2021 N=110



‘Haven’t considered it’ rose to 35%, which means that the increase cannot be explained only by an increase in survey participation. While this could be partly due to the sample, the study was distributed to the entire Linux Foundation list in 2019.

The decline in organizations citing “small size” can be seen as a positive.

Comments from Survey Respondents Who Don't Think or Don't Know If Their Organization Would Benefit from an OSPO

- “Requires too much human capital to maintain. More acceptable to pay for products and resources.”
- “I said ‘unknown’ before, not ‘not.’ I think it would be beneficial to improve best practices, but I do not get to choose.”
- “We’re a hospital — not a product development house.”

Value of Open Source Participation

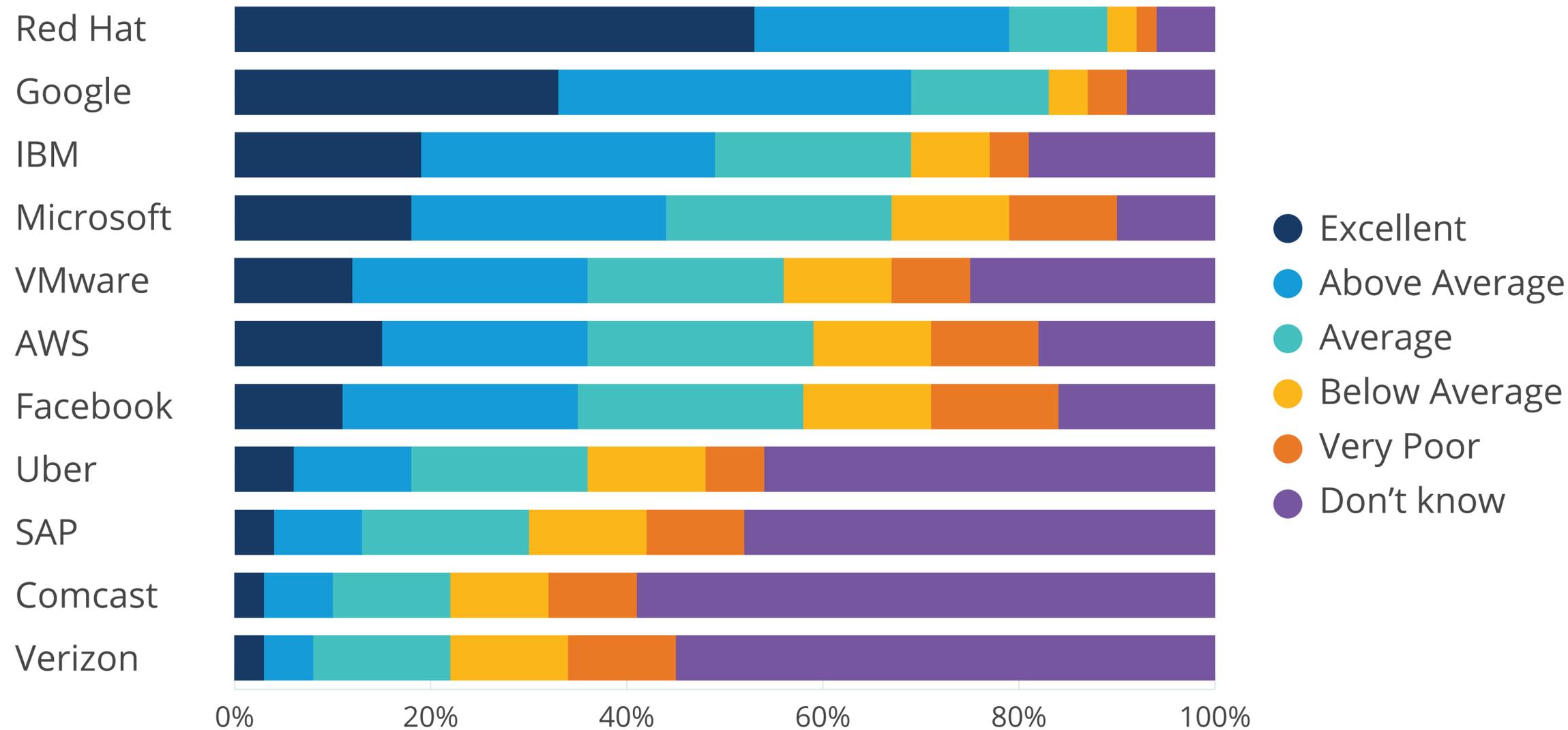


Research

THE NEW STACK

Open Source Community Citizenship

Full Sample: AWS N=717, Comcast N=703, Facebook N=714, Google N=718, IBM N=715, Microsoft N=720, Red Hat N=721, SAP N=717, Uber N=711, Verizon N=711, VMware N=722

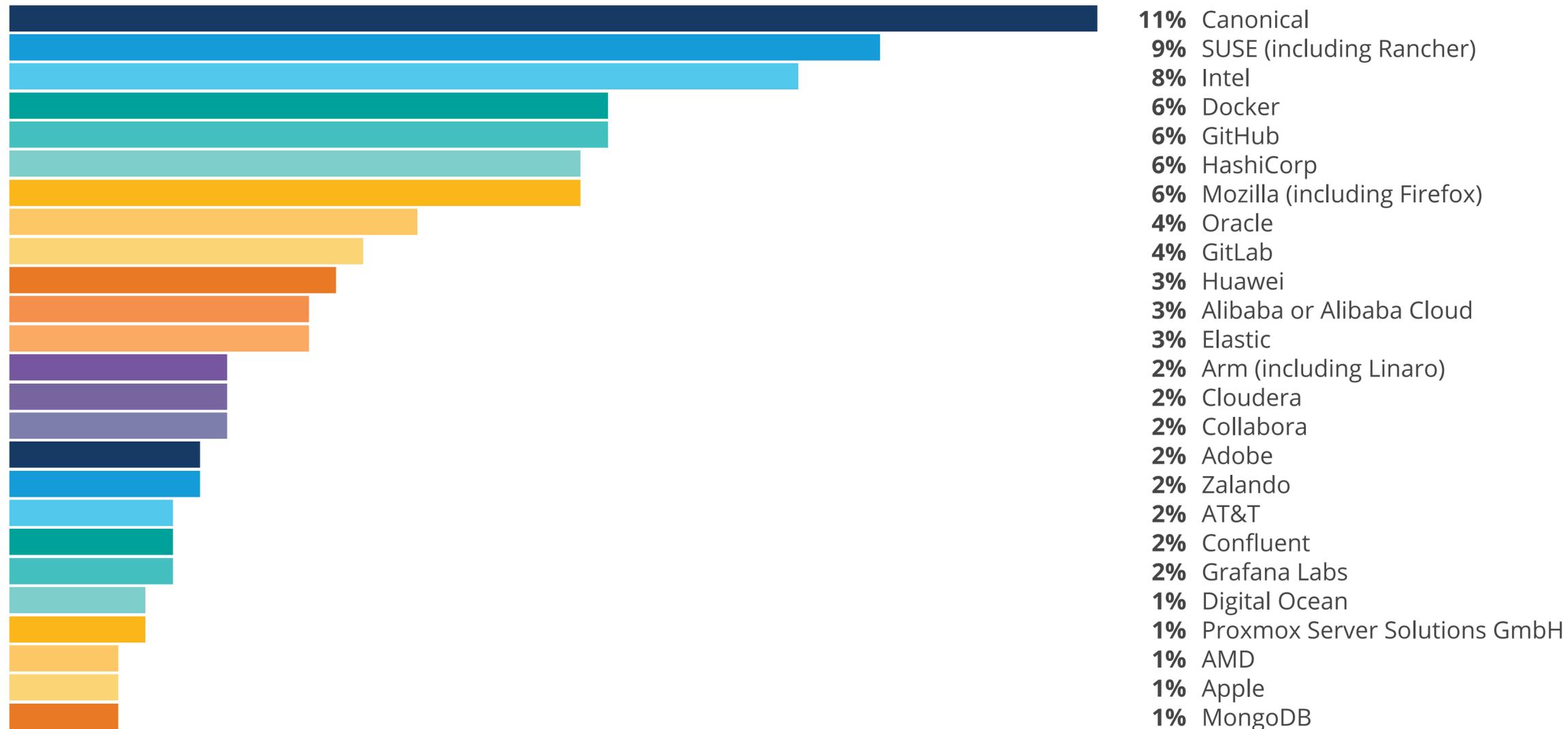


The full question was:

The following list represents a range of large companies that participate in open source communities. To what degree do you perceive each of them to be “good open source community citizens” in terms of contributions, collaboration and leadership on open source projects and initiatives within the open source ecosystem?

Open-ended Nominations of Technology/Software Companies That Exemplify Good Open Source Community Citizenship

Full sample N=353



The full question was:

Excluding the aforementioned companies, please nominate up to three technology or software companies that exemplify good open source community citizenship in terms of contributions, collaboration and leadership on projects and initiatives within the open source ecosystems.

If we exclude the self-employed and retired respondents, **Canonical is still the leader**, but much closer to the pack.

Many technologies with companies associated with them were named. It was sometimes difficult to tell if people were referring to the company or project, but sometimes an identifier like "Inc." was added to the end.

Open-ended Nominations of Technology/Software Companies That Exemplify Good Open Source Community Citizenship

Full sample N=141



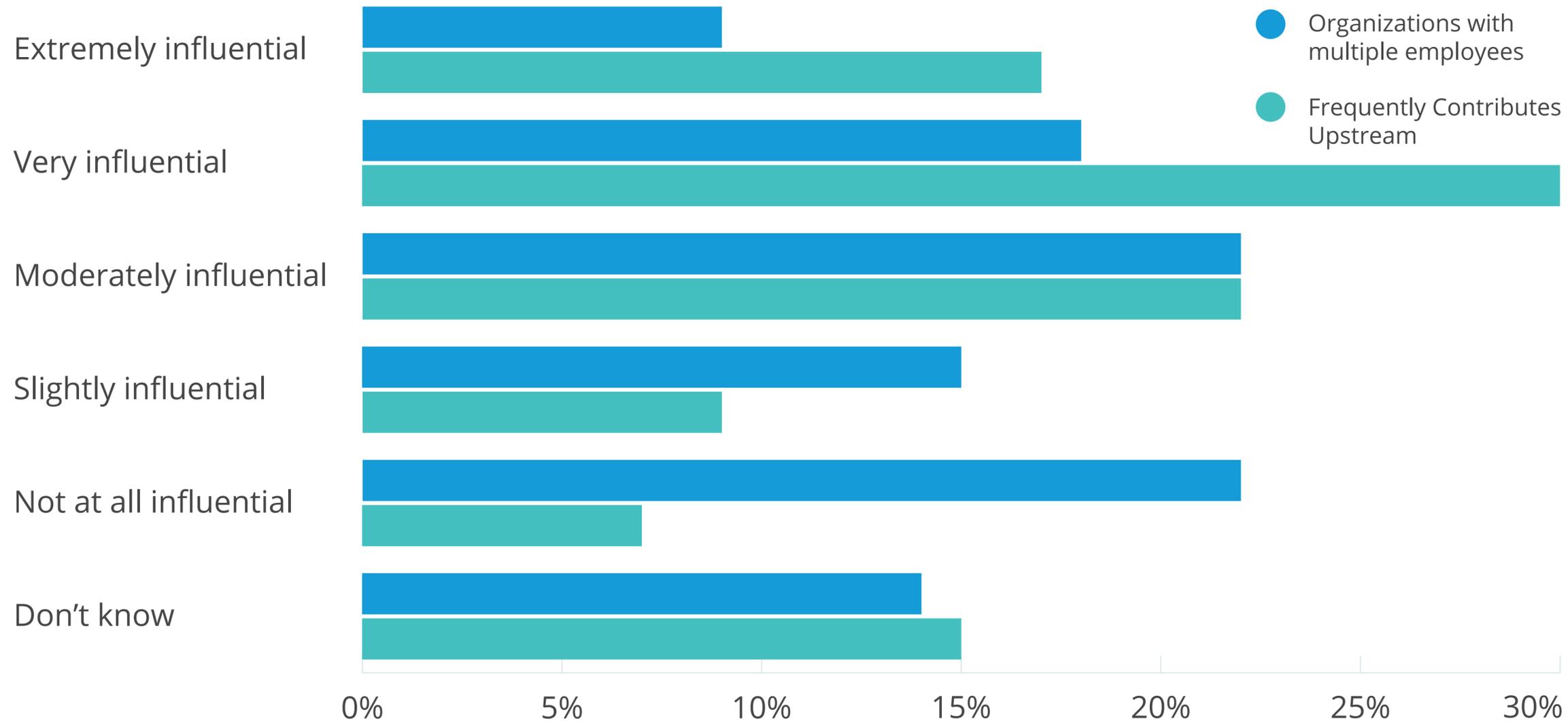
The full question was:

Excluding the aforementioned companies, please nominate up to three non-technology or software companies —so-called end users — that exemplify good open source community citizenship in terms of contributions, collaboration and leadership on projects and initiatives within the open source ecosystems.

Toyota Group, BMW and Tesla are all automobile related. **Self-driving cars, Lidar, and transportation related software is a big driver for open source activities.**

To what degree does a company's participation in, and contributions to, the open source community influence your organization's buying decisions?

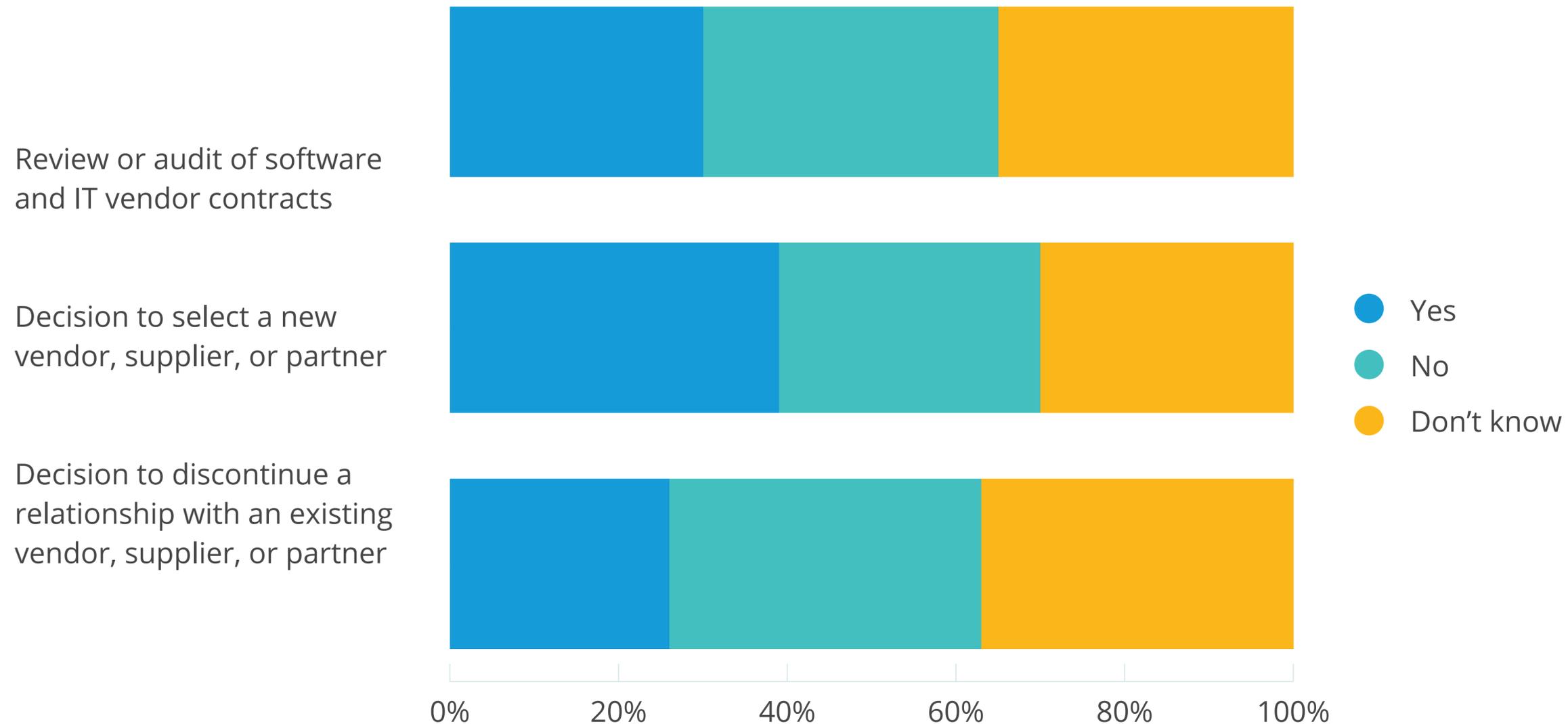
Organizations with multiple employees N=592, Frequently Contributes Upstream N=115



47% of organizations that frequently contribute upstream say a **company's open source community citizenship is at least very influential to its buying decisions**, vs. only 27% of all organizations surveyed.

In the last five years, has anyone in your organization included participation in open source ecosystems as criteria for the following?

Frequently Contributes Upstream N=115



46% said yes to one of the three criteria, that goes up to 55% for frequent contributors.

Organizations with an OSPO are even more likely to have used these criteria – 63% have used one within the last 5 years.

However, among those with no plans to form an OSPO, **only 32% have used any of these criteria**, and notably only 16% had used the criteria to discontinue a relationship

Organizations that contribute upstream or just maintain a project use these criteria much more often.

Only 14% of healthcare organizations review or audit software and IT vendor contracts.

Takeaways from the Data on Open Source Participation and Criteria for Organizational Decisions

- 46% said yes to one of the three criteria, that goes up to 55% for frequent contributors.
- Organizations with an OSPO are even more likely to have used these criteria – 63% have used one within the last 5 years.
- However, among those with no plans to for an OSPO, only 32% have used any of these criteria, and notably only 16% had used the criteria to discontinue a relationship.
- Organizations that contribute upstream or just maintain a project use these criteria much more often.
- Only 14% of healthcare organizations review or audit software and IT vendor contracts.

Comments on the criteria used to evaluate vendors and other partners on OS ecosystem participation

- “Do they initiate open-source projects? Do they have a community manager? How big is their community?”
- “Do they have open-source mathematical software to demonstrate subject matter expertise?”
- “Does their build/test/deploy machinery instill confidence in quality and velocity?”

The question was:

“If your organization has assessed vendor, supplier or partner participation in open source ecosystems, what were the criteria or metrics used to evaluate performance? What would you tell your peers seeking to conduct similar evaluations?”

More comments on the criteria used to evaluate vendors and other partners on OS ecosystem participation (and advice to peers)

- “Do a proof of concept from a usability, scalability, security standpoint, comparing apples to apples with a commercially licensed software for features and functionality. During the proof of concept, engage in the open source community giving feedback and some of the new vendors [will] generally respond very well to feature suggestions, security improvements.”
- “Stake in the project (funding and number of contributions): shouldn’t be too big (single party running the show) or too small (hardly contributing). Open project organization so the roadmap is clear and others can take part in the discussion.”
- “The health (or lack thereof) of an org’s open source projects are generally a good indicator of an org’s management practices and values, and provides valuable information that can indicate what an org will be like to work with. Poorly managed open source projects correlate strongly with poor management of partner relationships.”

More comments on the criteria used to evaluate vendors and other partners on OS ecosystem participation (and advice to peers)

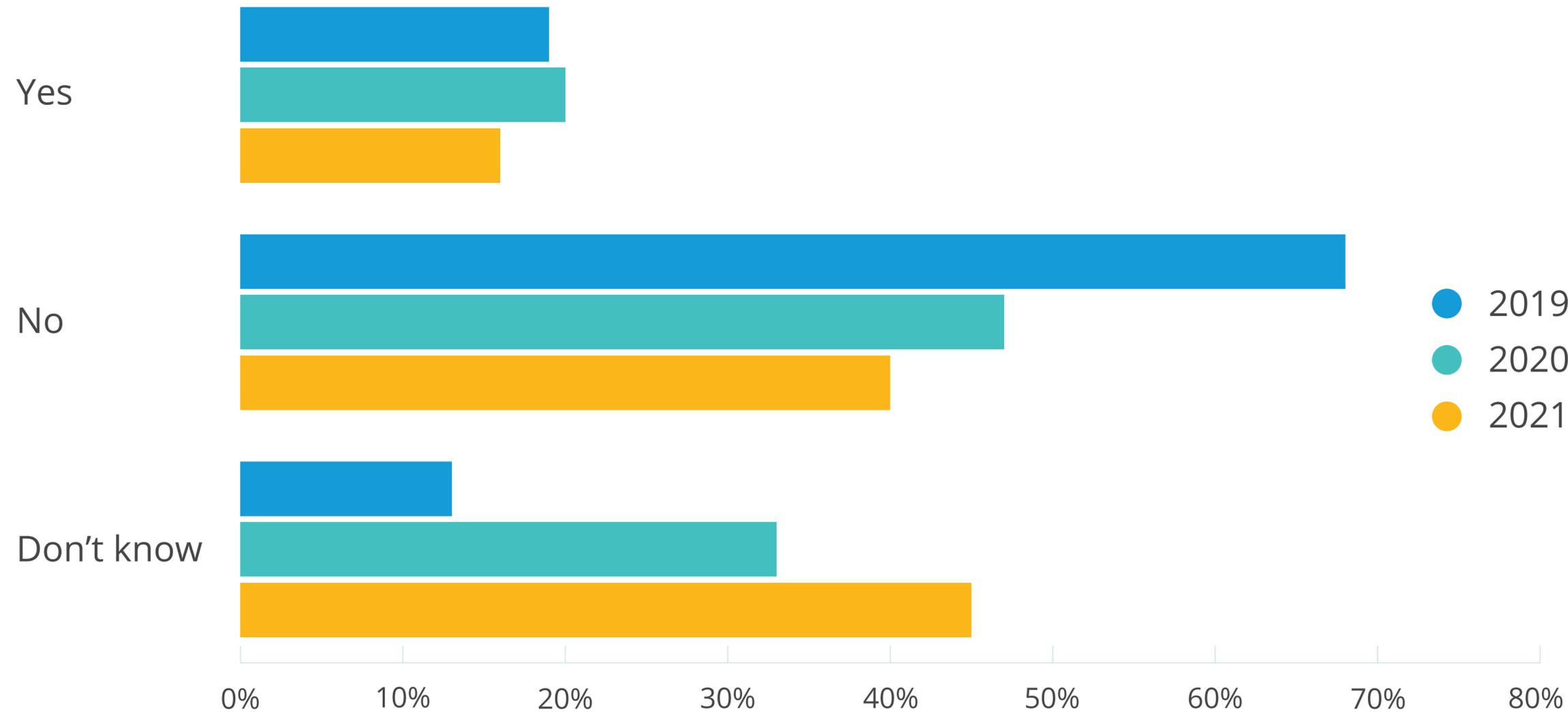
- “I would tell my peers to review and verify the professional certifications of the employees of the vendors, suppliers, and partners before closing a deal.”

“[Sample metrics]

- Mean response time to get support and solutions on OS components.
 - Software quality metrics applied (or try to be) on included OS components.
 - Legal consequences on license management”
- “Quality of the software and support in long term. Continuous improvement to take advantages of new technologies and use cases. Community strength and sharing of info. Documentation quality and updates. Truly provide open source licenses without holding features for commercial purpose. An open mind to listen to users and critics for changes and adaptation of features.”

Does your company require a Contributor License Agreement (CLA) for external contributions to your open source projects?

2019 N=1506, 2020 N=592, 2021 N=593

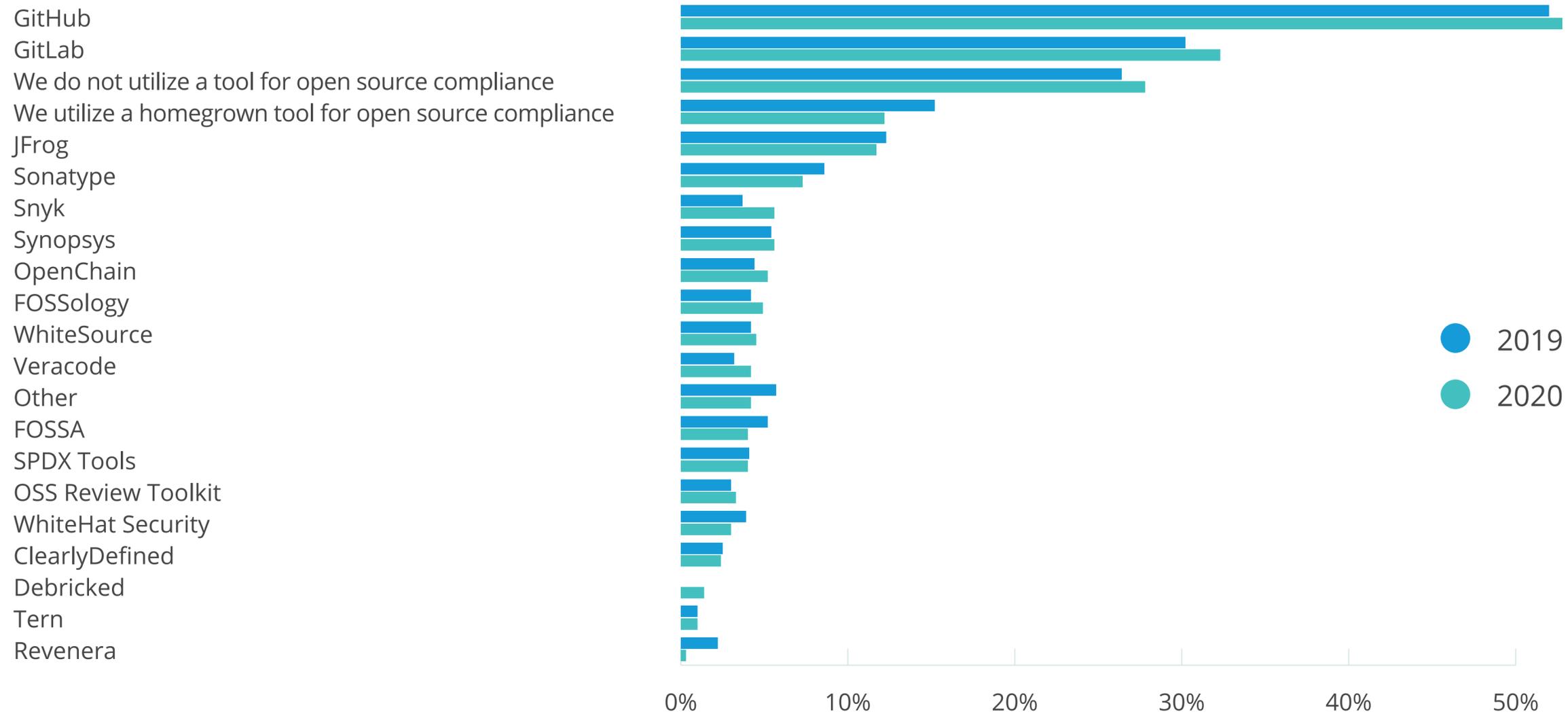


A **dramatic increase** in **“Don’t know”** responses.

34% of organizations with an OSPO also require a CLA. Only 5% of those with no plans for an OSPO have such a requirement. They are also the most likely not to know the answer to the question.

Which of the following tools and methodologies does your organization utilize for open source compliance?

2020 N=592, 2021 N=572; *Reverera was Flexera before 2021; **WhiteHat Security is now part of NTT | Application Security



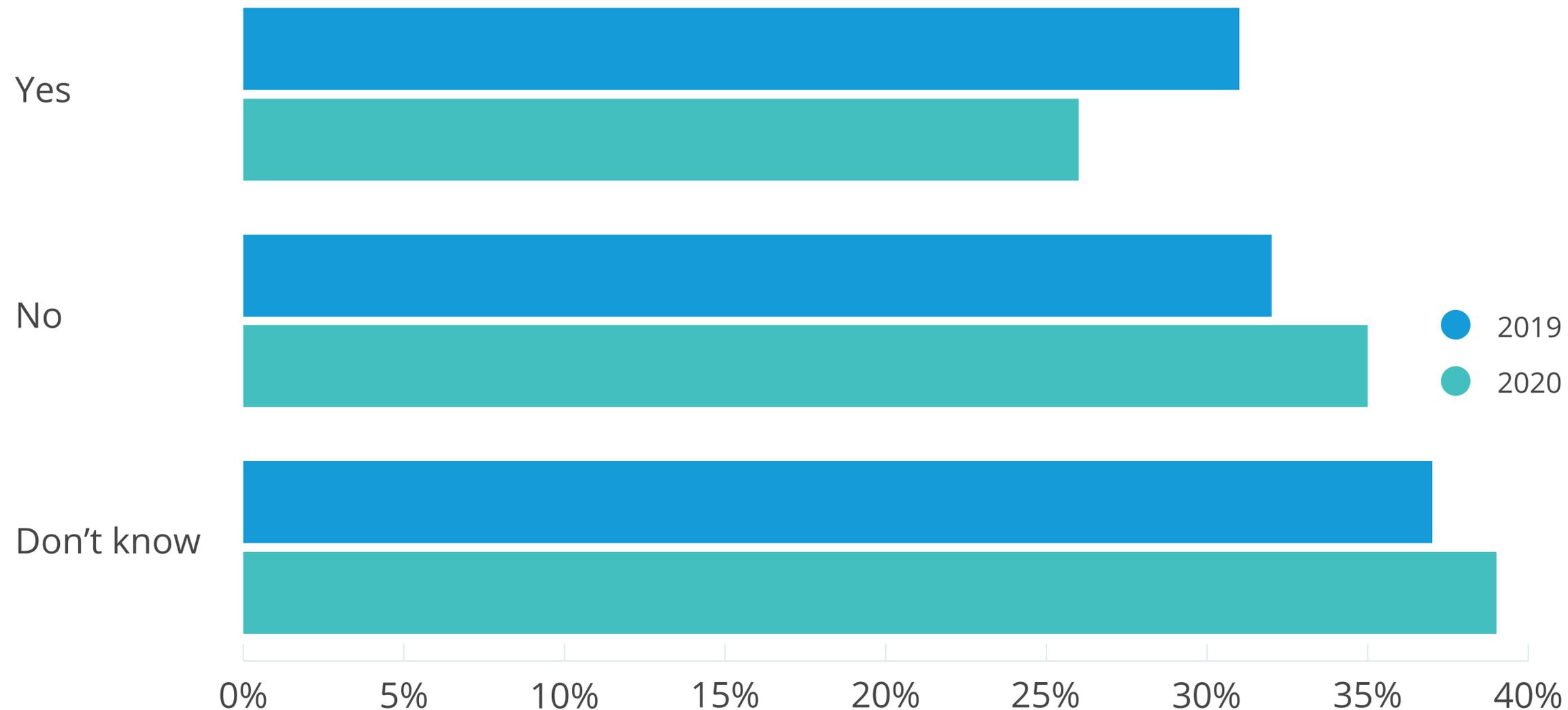
In 2020, the wording was slightly different and read:
“Which of the following open source compliance tools and methodologies does your organization utilize?”

There is **a drop in companies using a homegrown methodology** or tool.

However, there is **no increase in usage of vendors** or existing methodologies.

Does the information security function within your organization access data from software composition analysis tools that are used for automated open source compliance?

2020 N=577, 2021 N=577



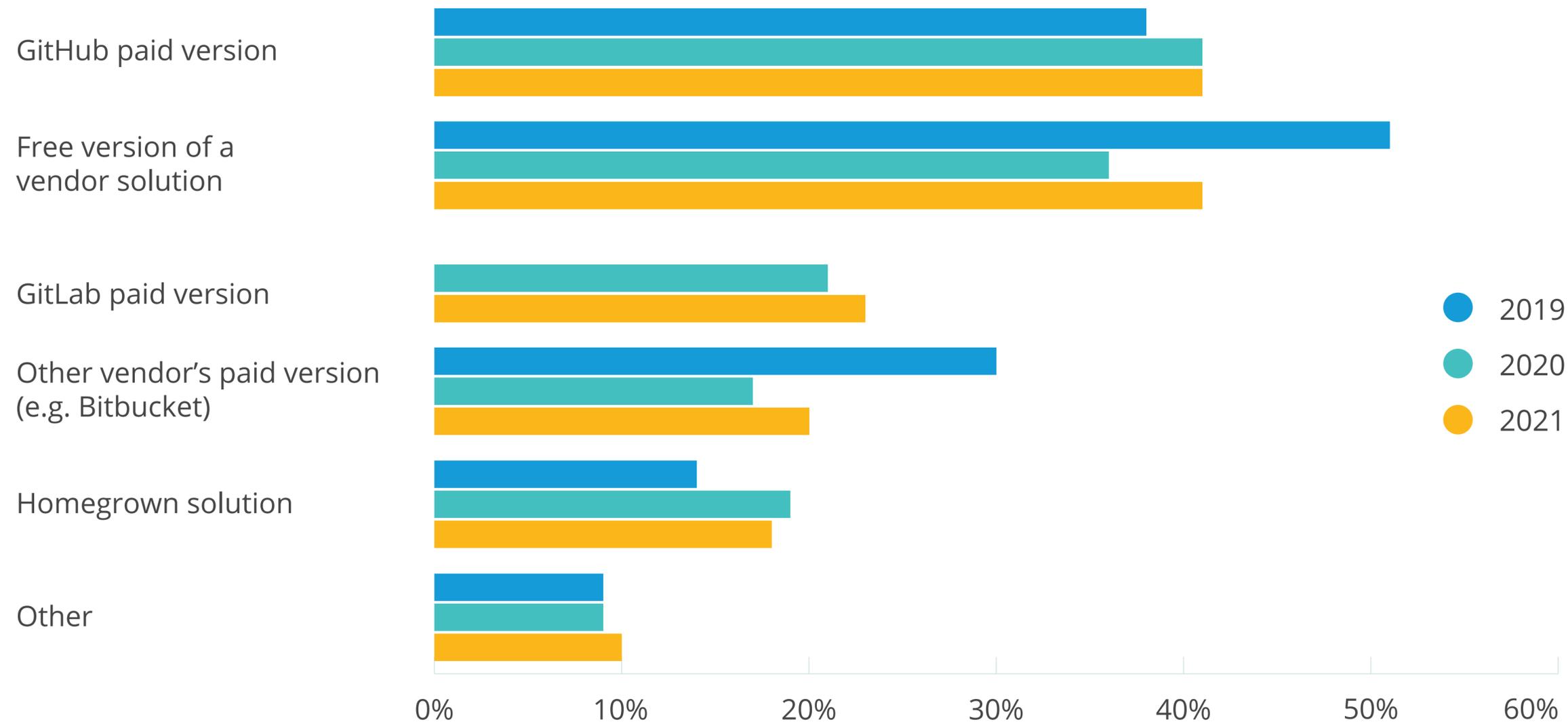
In 2020, the wording was slightly different and read:
"Does the information security function within your organization access data from automated tools that are also used for open source compliance?"

26% is even worse than the 32% reported last year. This is bad news. If this trend doesn't change, opportunities brought about by SBOM adoption will not be fully seized.

What kinds of tools does your company use to manage open source code repositories?

(Check all that apply)

2019 N=1319, 2020 N=553, 2021 N=525



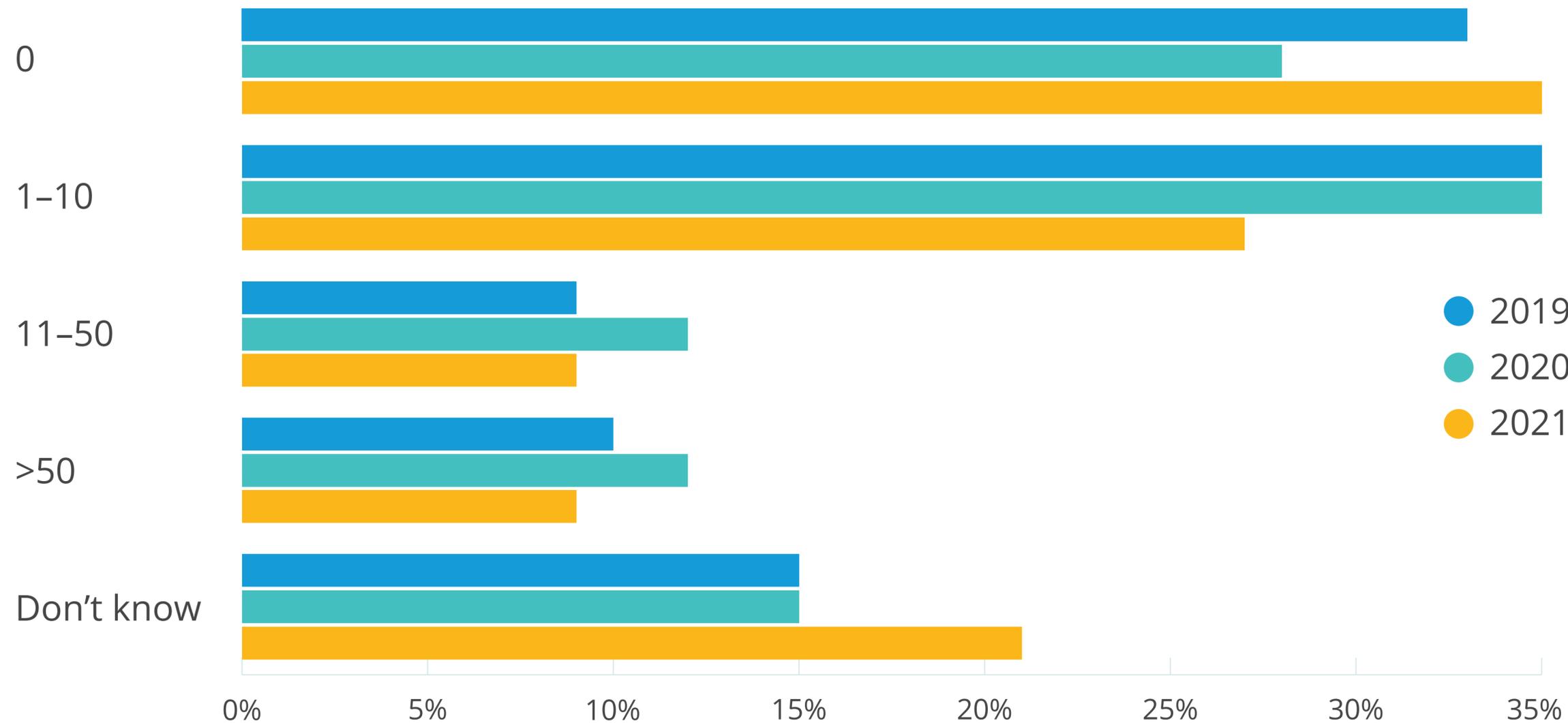
For "Other," many respondents didn't know, and others said none was being used.

A few mentioned Gerrit and Azure.

Only one cited Gitee.

How many open source projects does your company maintain?

2019 N=1501, 2020 N=601, 2021 N=593



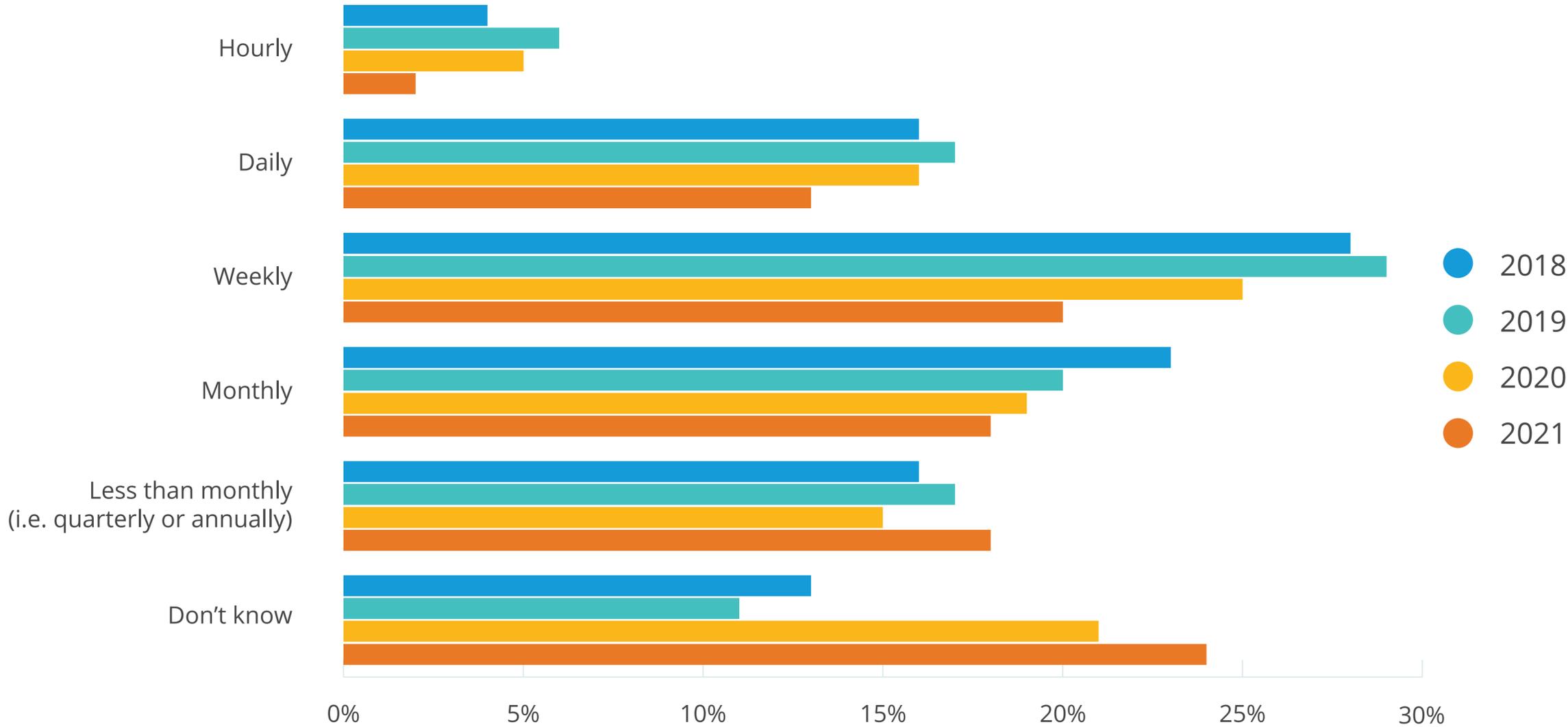
Only 43% of respondents affirmatively said their organization is maintaining a project.

Only 27% of those with no plans to create an OSPO maintain a project, while that rises to 55% among those with plans, and 68% for companies with OSPOs.

14 of the 43 big tech companies participating in the survey maintain 51 or more projects.

How often does your average application development team release code into production?

2018 N=454, 2019 N=1502, 2020 N=599, 2021 N=593

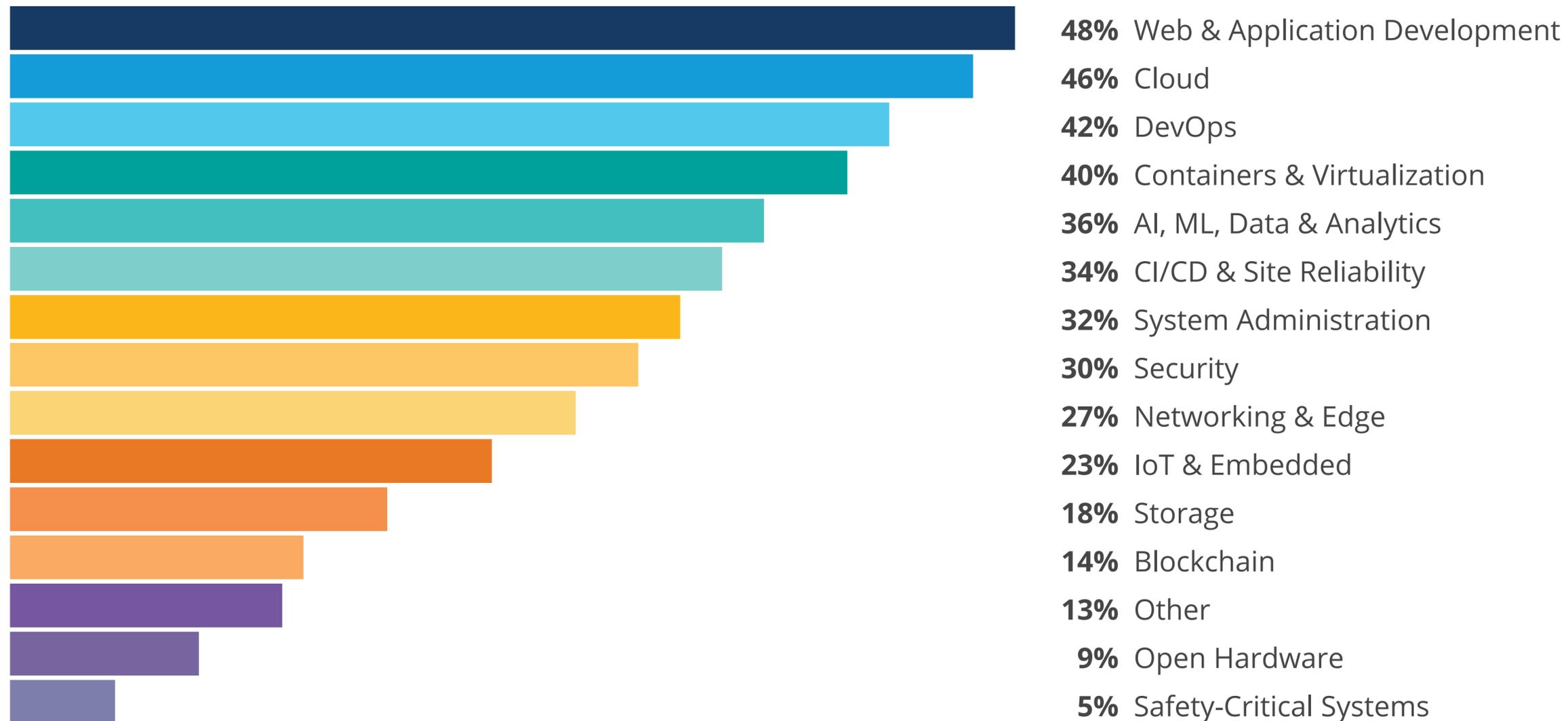


If we take out the “Don’t know” responses, the decline in the “Hourly + Daily” goes from 25.5% in 2019 to 21.1% in 2021, but **the declines in the weekly and other categories continue to be significant.**

Which technology area does your company focus its open source activities on?

(Check all that apply)

N=563

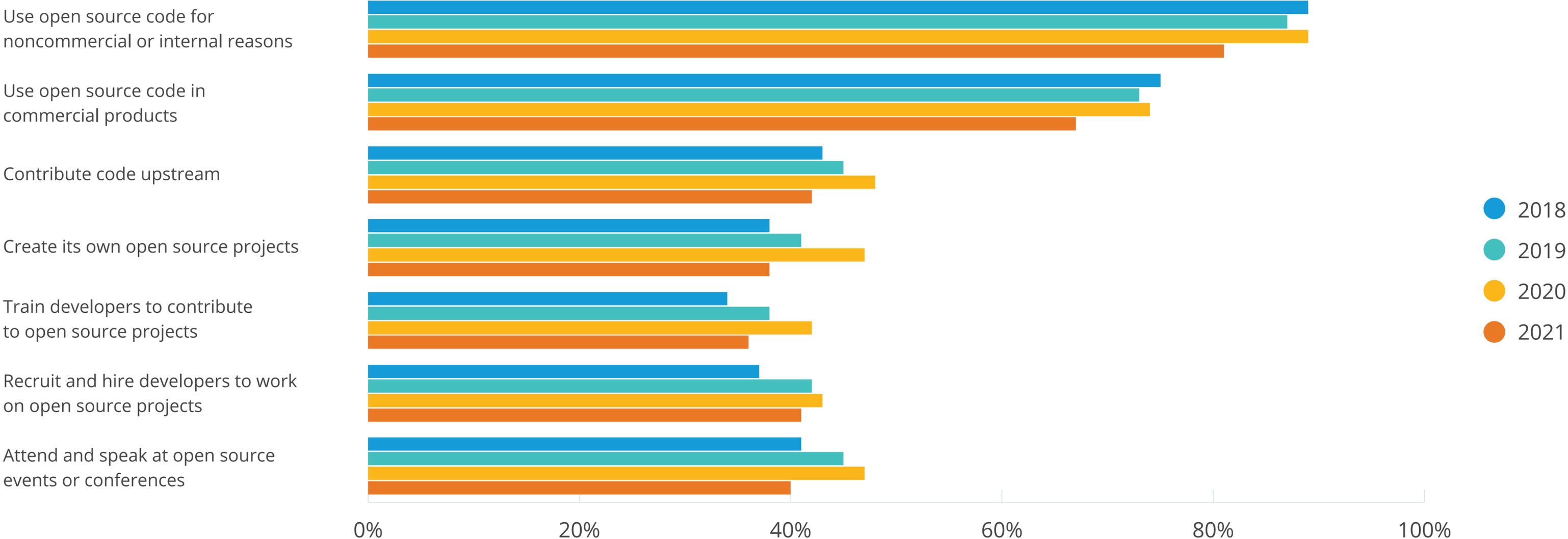


Web and application development is the most focus of open source activities. **The category is probably too broad to be useful.**

Web and App Dev, System Administration and Security were **the only areas that didn't see an increasing likelihood** that the technology would be focused on as the size of the company increased.

Decline in Organizations Conducting Open Source Activities

2018 N=672, 2019 N=2295, 2020 N=868, 2021 N=923



Notes on the Decline in OS Activities

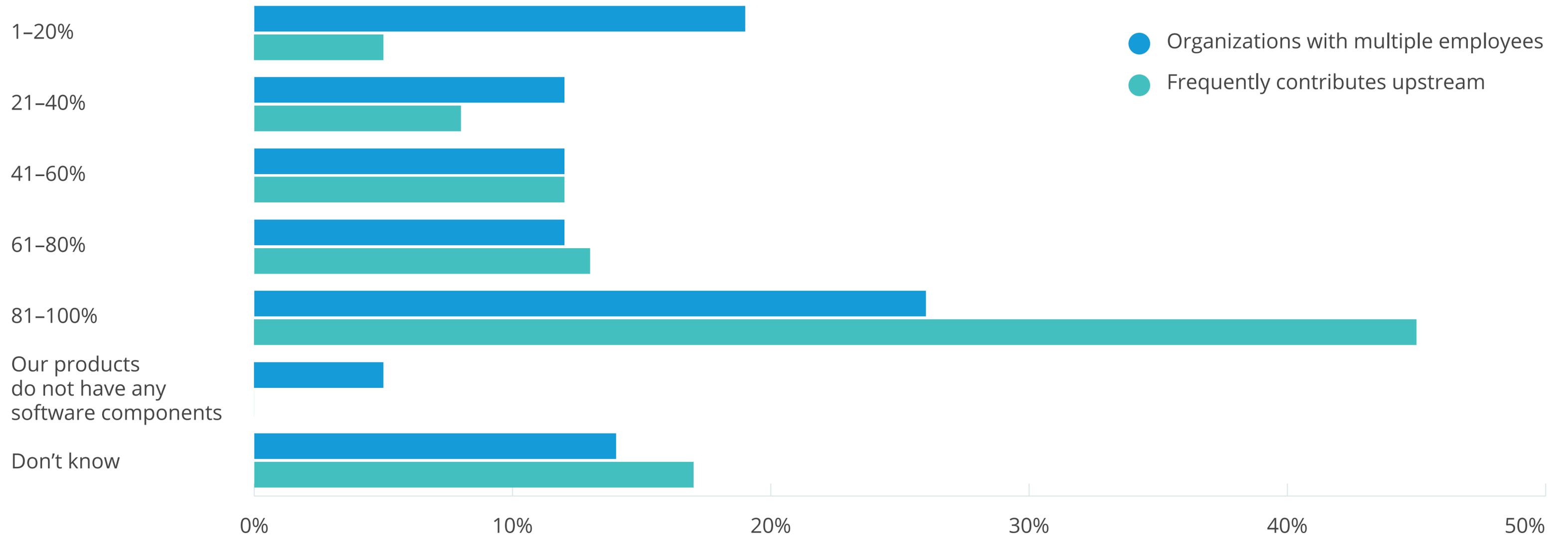
- There was a decline across the board in the percentage of participants that regularly use open source software and participate in the open source community.
- We made sure to just look at the regular contributors when doing time series analysis.
- Many of these drops can be explained away but should also be taken seriously. (The survey is now more representative of a broader range of companies and participants.)

Appendix



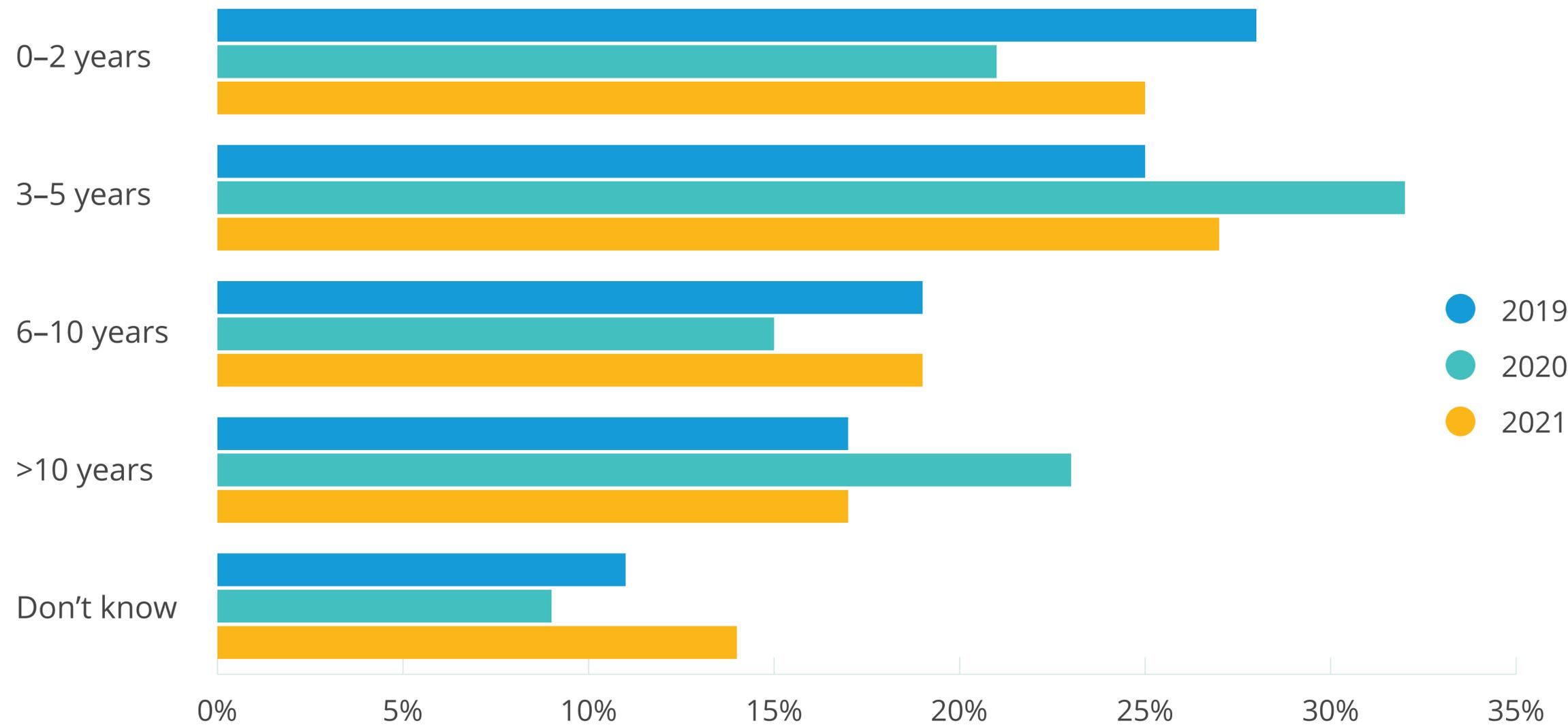
What percentage of your products include open source components?

N=932, Frequently contributes upstream N=202



How long ago was the program established?

2019 N=209, 2020 N=648, 2021 N=522

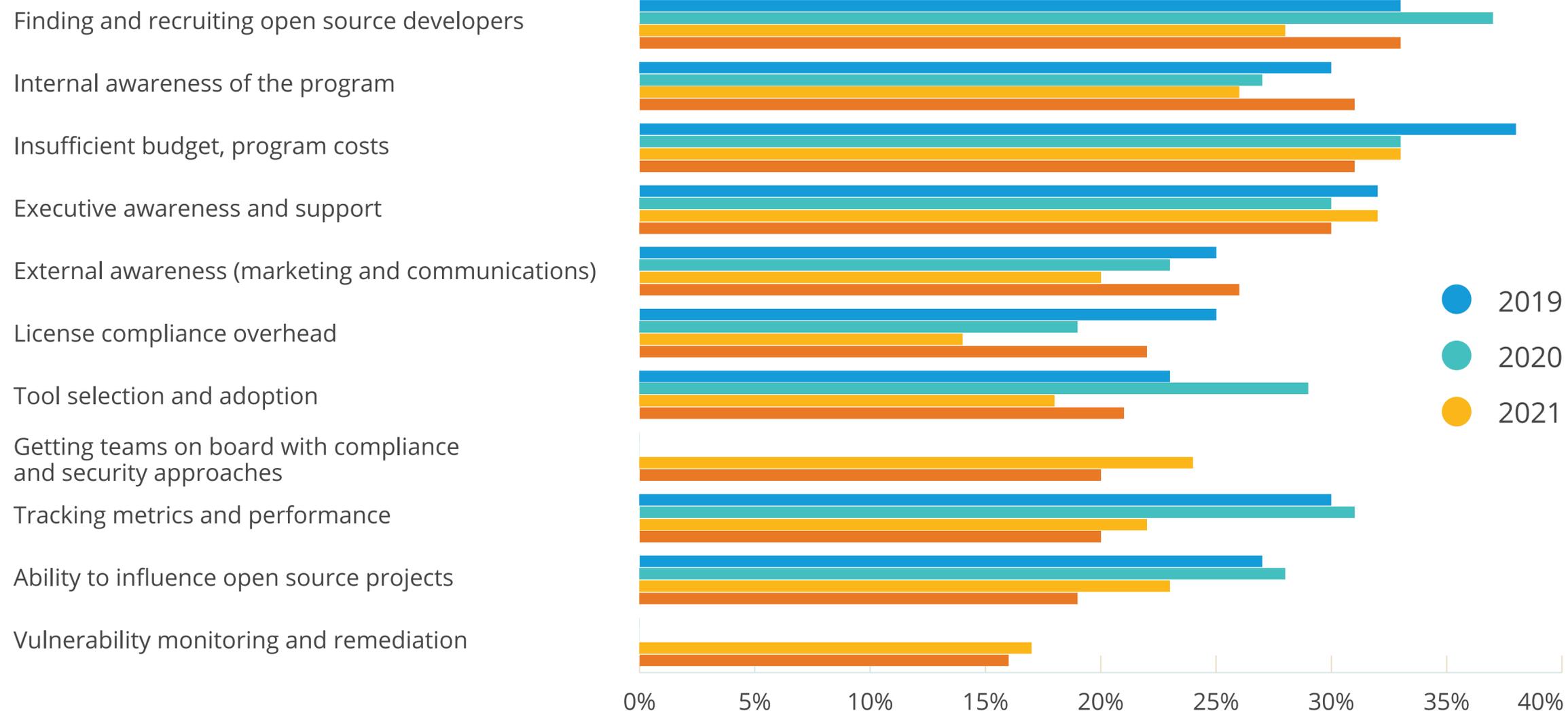


There was **no jump in the age of programs** like those seen in previous years.

What are the top three challenges your open source program faces?

(Choose three)

2019 N=529, 2020 N=250, 2021 N=208

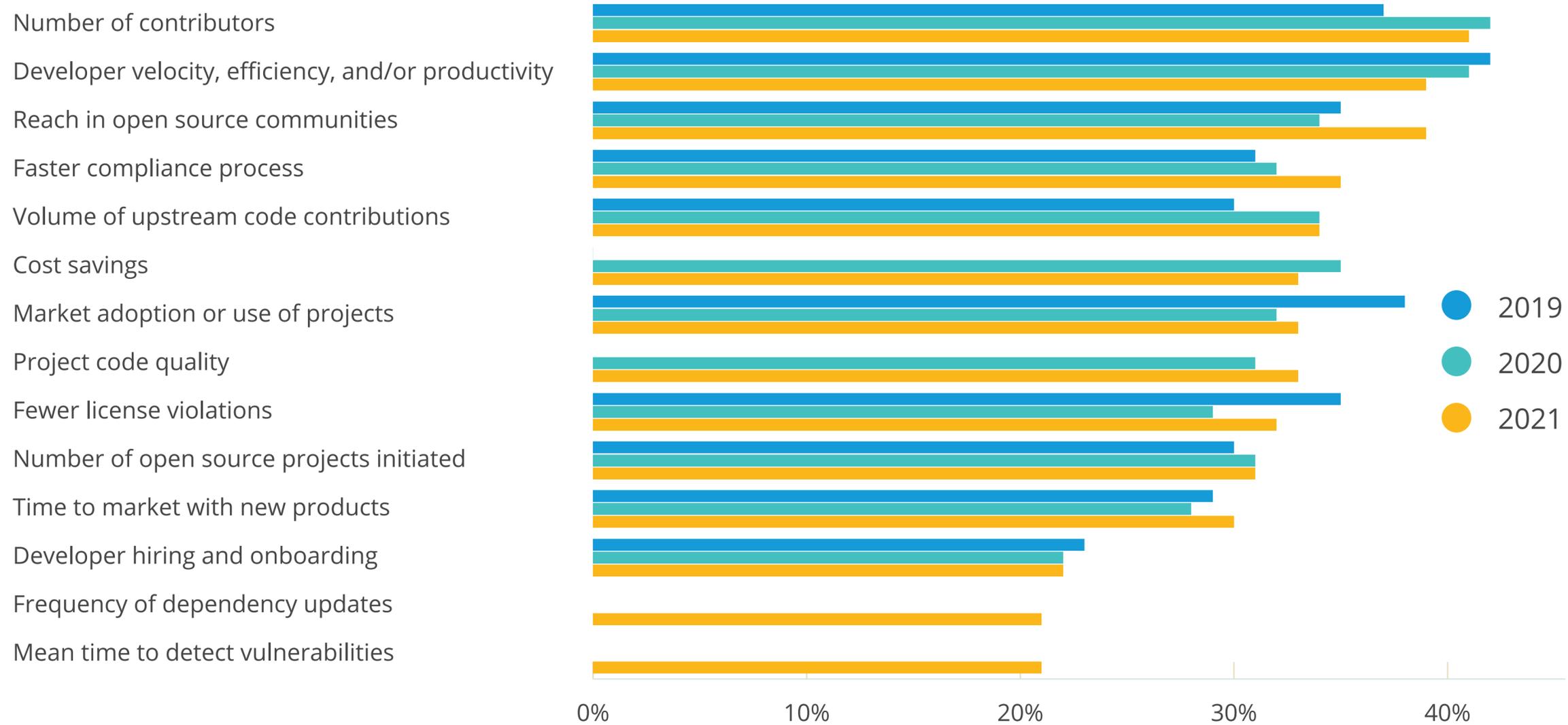


License compliance is a challenge for over 35% of companies with more than 10,000 employees vs. just 22% for the average company.

What are the ways your open source program quantifies success?

(Check all that apply)

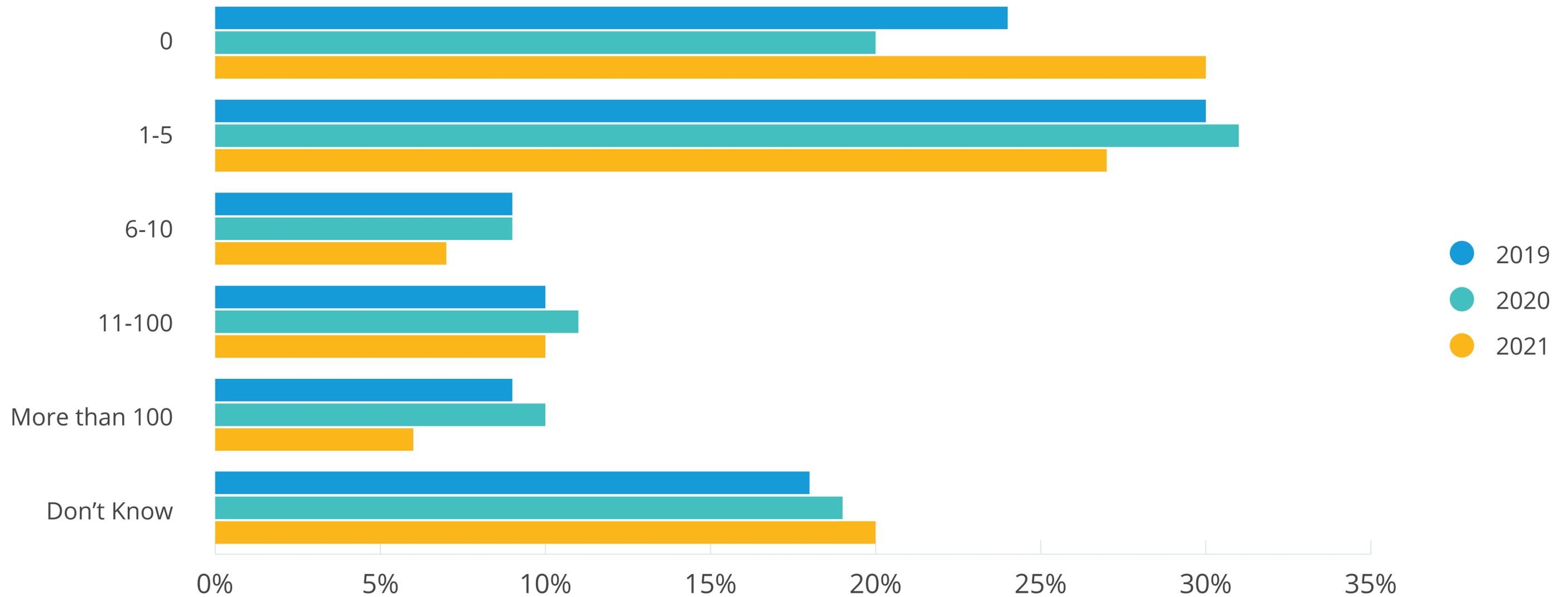
2019 N=517, 2020 N=231, 2021 N=202



Reaching into open source communities has become a more popular way to measure success, going from 34% to 39%.

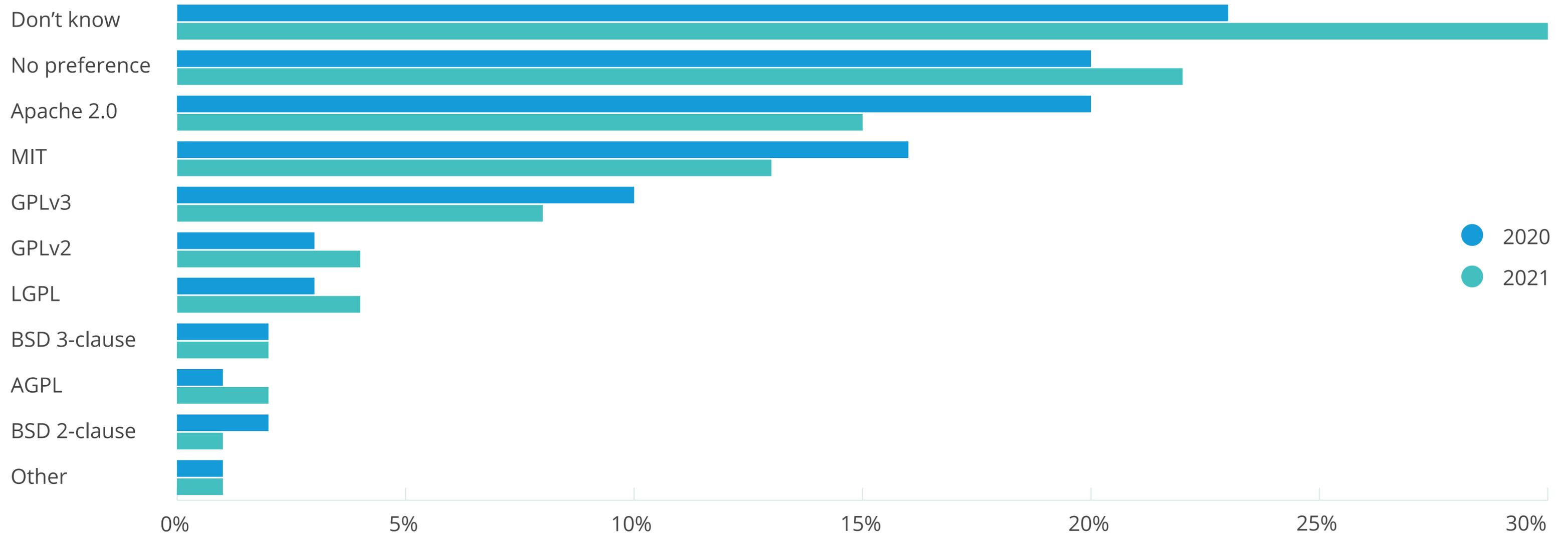
How many developers (full time or part time) in your organization contribute to open source projects you depend on?

2019 N=784, 2020 N=599, 2021 N=593



What is the preferred license for your company's open source projects?

2020 N=592, 2021 N=593





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