THE LINUX FOUNDATION | Research

TODO

The 2024 State of OSPOs and Open Source Management

New Horizons for OSPOs in Small and Medium Organizations

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THE 2024 STATE OF OSPOS AND OPEN SOURCE MANAGEMENT

94% of organizations **USE OPEN SOURCE SOFTWARE** in products or services.

77% of **LARGE** organizations **HAVE AN OSPO.**

19% of **SMALL,** and **33%** of **MEDIUM** organizations **HAVE AN OSPO.**

105% GROWTH OF OSPOS IS EXPECTED FOR SMALL ORGANIZATIONS over the next one to two years compared with just 12% for very large organizations.

80% of organizations report that OSPOs have a **MEANINGFUL POSITIVE IMPACT** on their ability to work with open source communities.

#1 OSPO responsibility for small & medium organizations: **DEVELOP AND EXECUTE OPEN SOURCE STRATEGY.**

#1 OSPO responsibility for large organizations: **ESTABLISH AND IMPROVE OSS POLICY AND PROCESSES.**

Top benefits reported from organizations having an OSPO are **BETTER LICENSE COMPLIANCE AND INCREASED TRANSPARENCY** of collaboration.

#1 benefit anticipated from implementing an OSPO by organizations not having one is **MORE AWARENESS OF OSS USE AND DEPENDENCIES.**

#1 OSPO **CHALLENGE** reported from organizations having an OSPO is **INTERNAL AWARENESS** across teams of the program or initiative.

91% of OSPOs are involved in **MANAGING SECURITY ISSUES**

84% of OSPOs are involved in **DEVELOPING OR MANAGING GenAI INFRASTRUCTURE.**

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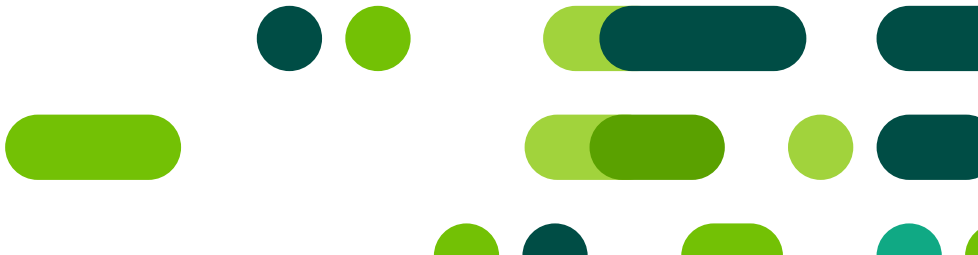


FOREWORDS

Open Source Program Offices (OSPOs) serve as centers of excellence, pivotal in formulating open source strategies tailored to business priorities. They enhance compliance, foster industry relationships, improve security practices, and bolster industry influence—all while driving innovation.

The role of OSPOs varies based on an organization's objectives and size. Smaller firms often focus on tactical tasks, while larger ones adopt more strategic and influential approaches to drive innovation. Common challenges include raising internal and executive awareness and effectively tracking performance metrics that reflect return on investment (ROI), often leaving OSPOs undervalued and under-resourced.

The 2024 State of OSPOs and Open Source Initiatives report highlights the evolving role of OSPOs across sectors. This report not only underscores the diverse applications of OSPOs, but also reflects their crucial role in an advancing technological landscape, evidenced by OSPO support in managing risks and infrastructure related to open AI. Such involvement is essential as organizations navigate the complexities of emerging technologies.

As we look towards the future, I believe OSPOs will expand beyond open source to encompass digital public goods, including open standards, open data, open content, and open AI models—encouraging us to enhance global collaboration and equitable access to technology.

Annania Melaku, *NGINX*

The TODO Group celebrates its tenth anniversary this year, reflecting on a decade of profound influence in championing the best practices of Open Source Program Offices (OSPOs) worldwide. Over this period, the TODO Group has been both a repository of knowledge and has actively contributed to the ecosystem by publishing an array of guides. What began as a focused endeavor to ensure compliance with open source licenses has since morphed into a comprehensive strategy within organizations, touching on the enhancement of developer productivity, the bolstering of security measures within software supply chains, and the strategic alignment of open source technologies to drive organizational innovation among various stakeholders.

Looking ahead, there exists an untapped potential in the expansion of OSPO participation. It is my hope that in the next decade, the embrace of OSPOs will extend beyond the confines of traditional corporate environments to encompass the realms of academia, universities, and governmental institutions. Such an expansion would not only democratize access to the permissionless innovation that open source enables, but also foster a culture of collaborative development in new types of organizations. We hope you will join us in this effort.

Chris Aniszczyk, *The Linux Foundation*

INTRODUCTION

This report explores the evolving role of open source program offices (OSPOs) in enterprises of all sizes, with a particular focus on small and medium enterprise organizations. OSPOs, which are responsible for managing an organization's open source strategy, compliance, and contributions, are becoming increasingly vital as the use of open source software, open hardware, data sets, and AI models and standards expands globally. This report offers insights into the current state of OSPOs, highlighting their benefits, challenges, and projected growth.

A key theme of this report is the rise in OSPO adoption occurring in smaller organizations. While historically OSPOs have been more prevalent in large enterprises, the survey underlying this report indicates a significant shift, with smaller organizations recognizing the strategic value of formalized open source management. For example, 19% of small organizations currently have an OSPO, but the expected growth in adoption over the next one to two years is over 100%. This reflects the growing recognition among smaller organizations that OSPOs can provide critical support in managing open source contributions, improving license compliance, and fostering innovation.

This report also identifies the benefits that OSPOs bring to organizations. These include better compliance with open source licenses, increased transparency in collaboration, and improved security practices—key factors in today's competitive and regulated business environment. Additionally, this report touches on the emerging role of OSPOs in managing risks related to generative AI (GenAI) technologies, as well as their involvement in the development and management of AI infrastructure, which is increasingly built on open source frameworks.

Despite these benefits, many organizations, particularly smaller ones, still face challenges in establishing and maintaining OSPOs. Lack of internal awareness, executive support, and resource constraints remain significant barriers. However, as the open source ecosystem continues to grow and evolve, the importance of OSPOs is only expected to increase.

The TODO Group engaged Linux Foundation Research in 2024 Q2 to develop and execute an empirical research study to understand organizational usage of open source software, adoption of OSPOs or similar initiatives, their primary responsibilities, and their impacts on the organization. The target audience included respondents who met the following criteria:

- Must work full time or part time in the information technology field
- Must work for an organization involved with open source software at any level
- Must understand the status of OSPOs and open source involvement within the organization

Linux Foundation Research's 2024 OSPO survey development occurred in Q2, and the survey took place in Q3, yielding 222 completed surveys. For more information about the survey methodology and survey demographics, see the Methodology chapter at the end of this report.

ORGANIZATIONAL INVOLVEMENT IN OPEN SOURCE

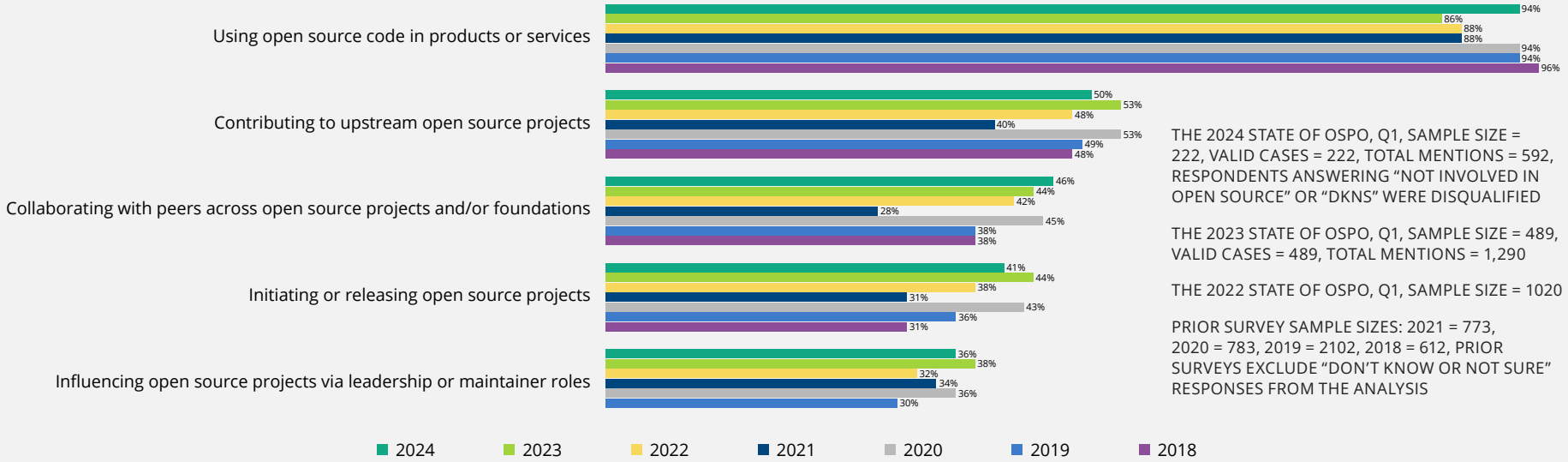
Organizations play a crucial role in the open source ecosystem through various forms of involvement, starting with using open source software in software development. Figure 1 shows that use of open source software is widespread and generally has been for the last seven years, reaching 94% in 2024. Many organizations incorporate open source tools, frameworks, and libraries into their development processes, leveraging the flexibility, cost savings, and innovation that open source offers. By integrating open source components such as Linux, Kubernetes, or Apache, organizations can build scalable, efficient solutions without the overhead of proprietary software. This allows for quicker development cycles and easier integration with modern infrastructure.

Beyond just using open source software, Figure 1 also shows that 50% of organizations actively contribute to upstream projects. This involves submitting patches, bug fixes, and enhancements back to the original open source projects they rely on. Contributing upstream ensures that improvements benefit the entire community while reducing the technical debt that comes with maintaining internal forks. By sharing these enhancements, organizations also foster collaboration and maintain the long-term sustainability of the projects they depend on.

FIGURE 1

ORGANIZATIONAL INVOLVEMENT IN OPEN SOURCE SOFTWARE

Where is your organization on its open source journey? (SELECT ALL THAT APPLY)



THE 2024 STATE OF OSPO, Q1, SAMPLE SIZE = 222, VALID CASES = 222, TOTAL MENTIONS = 592, RESPONDENTS ANSWERING "NOT INVOLVED IN OPEN SOURCE" OR "DKNS" WERE DISQUALIFIED

THE 2023 STATE OF OSPO, Q1, SAMPLE SIZE = 489, VALID CASES = 489, TOTAL MENTIONS = 1,290

THE 2022 STATE OF OSPO, Q1, SAMPLE SIZE = 1020

PRIOR SURVEY SAMPLE SIZES: 2021 = 773, 2020 = 783, 2019 = 2102, 2018 = 612, PRIOR SURVEYS EXCLUDE "DON'T KNOW OR NOT SURE" RESPONSES FROM THE ANALYSIS

Risk Mitigation Strategy Through Upstream Contribution

Upstream contribution to the projects an organization relies on can enhance the security of critical infrastructure and has a direct impact on the organization risk mitigation return on investment (ROI).

In 2024, 46% of organizations also engage in collaborating with peers across projects. Open source communities are inherently collaborative, and organizations often work together, even with competitors, to develop shared solutions. Joint contributions to widely used projects, such as Kubernetes, Jupyter, Pytorch, or TensorFlow, help ensure that these tools meet the needs of all stakeholders. There are also good examples of industry-specific collaboration. The Power Grid Model, developed in the open under LF Energy, is currently being applied in a wide variety of use cases, including grid planning, expansion, reliability, and congestion studies. This model offers an independent open technology base that speeds up and simplifies the development of critical power system technologies for DSOs and related organizations and is seeing use from energy organizations and academic institutions, including RSE, Aliander, and the Delft University of Technology.

Additionally, 36% of organizations often influence open source projects via leadership or maintainer roles. In this capacity, key developers or engineers within a company may take on roles as project maintainers, steering committee members, or foundation board members. These leadership roles allow organizations to guide the direction of critical projects, ensuring that the roadmap aligns with their business needs and long-term strategies. Through governance and active maintenance, organizations help ensure project stability, innovation, and broad community involvement while fostering a healthy and sustainable open source ecosystem.

Together, these forms of engagement highlight how organizations contribute to the vitality and growth of open source software, benefiting both their internal development and the broader tech community.

OSPO AND OPEN SOURCE INITIATIVE INVOLVEMENT VARIES BY ORGANIZATION SIZE

Organizational reliance on OSPOs varies by organization size due to several primary factors related to the complexity of resource availability; open source involvement; the importance of open source to the company; and governance, risk, and compliance (GRC) requirements.

Resource availability: Larger organizations often have more resources—financial, human, and technical—that allow them to establish dedicated OSPOs. These companies are more likely to manage multiple open source projects, contribute to upstream development, and ensure compliance with open source licenses, making an OSPO essential for coordinating and overseeing these activities. Additionally, large companies may have legal teams that work closely with OSPOs to navigate intellectual property issues. In contrast, smaller companies or start-ups may not have the resources to support a full OSPO. They often rely on a small team or individual developers to manage open source usage and contributions. While open source may still be critical to their operations, they might not have the need for a formalized office until they grow and scale their operations.

Complexity of open source involvement: With their global reach, large organizations often rely on a wide array of open source technologies, which require careful management and strategy. An OSPO in large companies plays a role in ensuring compliance with open source licenses, setting internal policies, and fostering collaboration across departments. Moreover, these companies often contribute to or maintain large, widely used open source projects, necessitating a more structured and formal approach. Smaller companies often have a narrower focus on using open source tools rather than contributing to or maintaining major projects. This reduces the complexity of managing their open source engagements. Instead of an OSPO, small companies may delegate open source responsibilities to developers or legal teams on a part-time basis.

Strategic importance of open source: For large companies, open source often plays a strategic role, whether it's about influencing industry standards, driving innovation, or gaining access to a large developer community. In these cases, an OSPO is crucial for managing contributions, ensuring compliance, and fostering relationships with open source communities. Additionally, the OSPO helps align open source activities with the company's long-term business goals and technological strategies. Open source may be essential to smaller organizations, but it's often more tactical than strategic. These companies might focus on using open source software for cost-saving and flexibility rather than actively shaping open source ecosystems. As such, they may not see the immediate need for a formal OSPO until they grow or their involvement in open source projects becomes more significant.

Regulatory and compliance needs: Larger companies, especially those in highly regulated industries such as finance, healthcare, or telecommunications, face stricter compliance and regulatory requirements. An OSPO ensures that open source usage adheres to industry standards and legal requirements, managing risks associated with licensing, security, and intellectual property. While smaller companies also face legal obligations, the scale and scope of compliance management tend to be smaller, reducing the need for a dedicated OSPO.

2024 DATA SHOWS A STRONGER FOCUS ON SMALL AND MEDIUM ORGANIZATIONS COMPARED WITH 2023

The worldwide distribution of organizations involved in IT include those that consume IT products and services (end users) and those that produce IT products and services (IT vendors, service providers, integrators, and consultants). These organizations collectively are heavily skewed toward small (1 to 49 employees) and medium (50 to 999 employees) organizations. There are an estimated 100,000 large organizations (1,000 to 9,999 employees) and very large organizations (10,000+ employees) worldwide. However, given that there about 360 million businesses in the world[1] (including sole proprietorships), larger organizations account for only a fraction of 1% of the total business landscape. Our surveys tend to contain a disproportionate number of large and very large organizations because larger organizations have more complex environments; have far more IT experience; and provide more valuable insights into open source adoption, use, contribution, and best practices. However, since more than 99.9% of organizations have fewer than 1,000 employees, focusing on the dynamics of small organizations is incredibly important.

OSPO adoption is highly correlated with company size. Figure 2 shows that the percentage of organizations in our sample with an OSPO is just 19% for small organizations (1 to 49 employees), 33% for medium organizations (50 to 999 employees), 50% for large organizations (1,000 to 9,999 employees), and 77% for very large organizations (10,000+ employees). Comparatively, the percentage of organizations that do not have an OSPO shows an inverse relationship. Figure 2 also shows that 61% of small organizations do not have an OSPO, and this value declines to 59% for medium organizations, 42% for large organizations, and 14% for very large organizations.

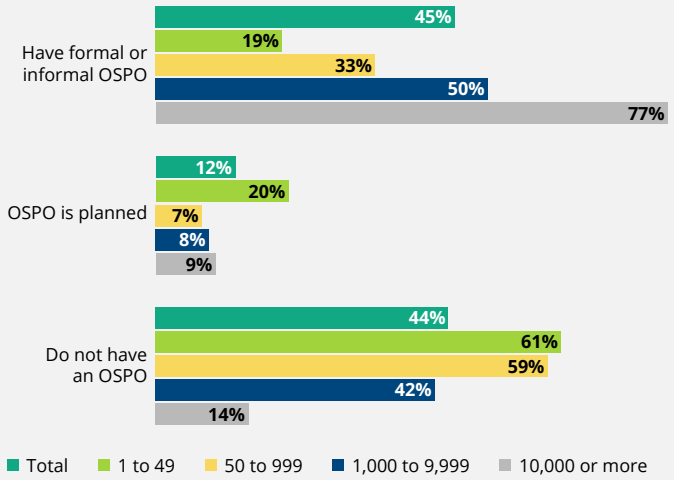
1 Source: Statista, 2024

FIGURE 2

OSPO INVOLVEMENT BY COMPANY SIZE

Does your organization have an OSPO or similar open source initiative?

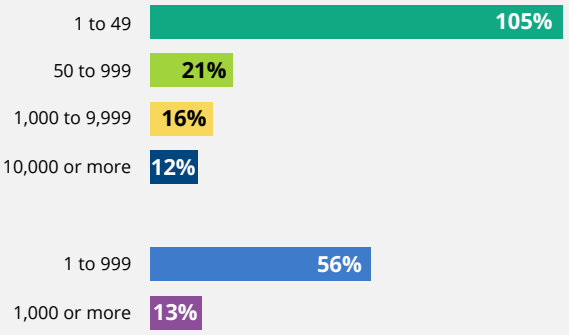
SEGMENTED BY: HOW MANY PEOPLE WORK IN YOUR COMPANY?



THE 2024 STATE OF OSPO, Q12 X Q4, SAMPLE SIZE = 220

Estimated OSPO growth in 2024 to 2026

SEGMENTED BY: COMPANY SIZE

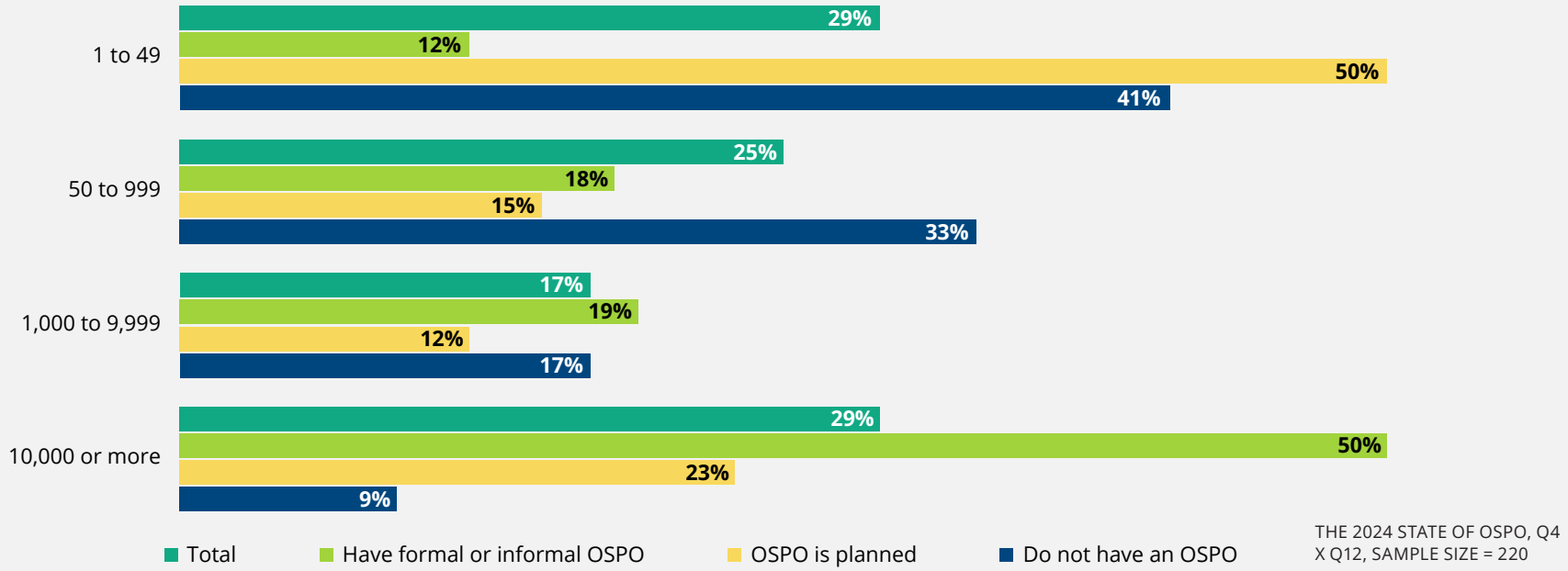


THE 2024 STATE OF OSPO, Q4 X Q12, SAMPLE SIZE = 220

FIGURE 3

COMPANY SIZE SEGMENTED BY OSPO ADOPTION

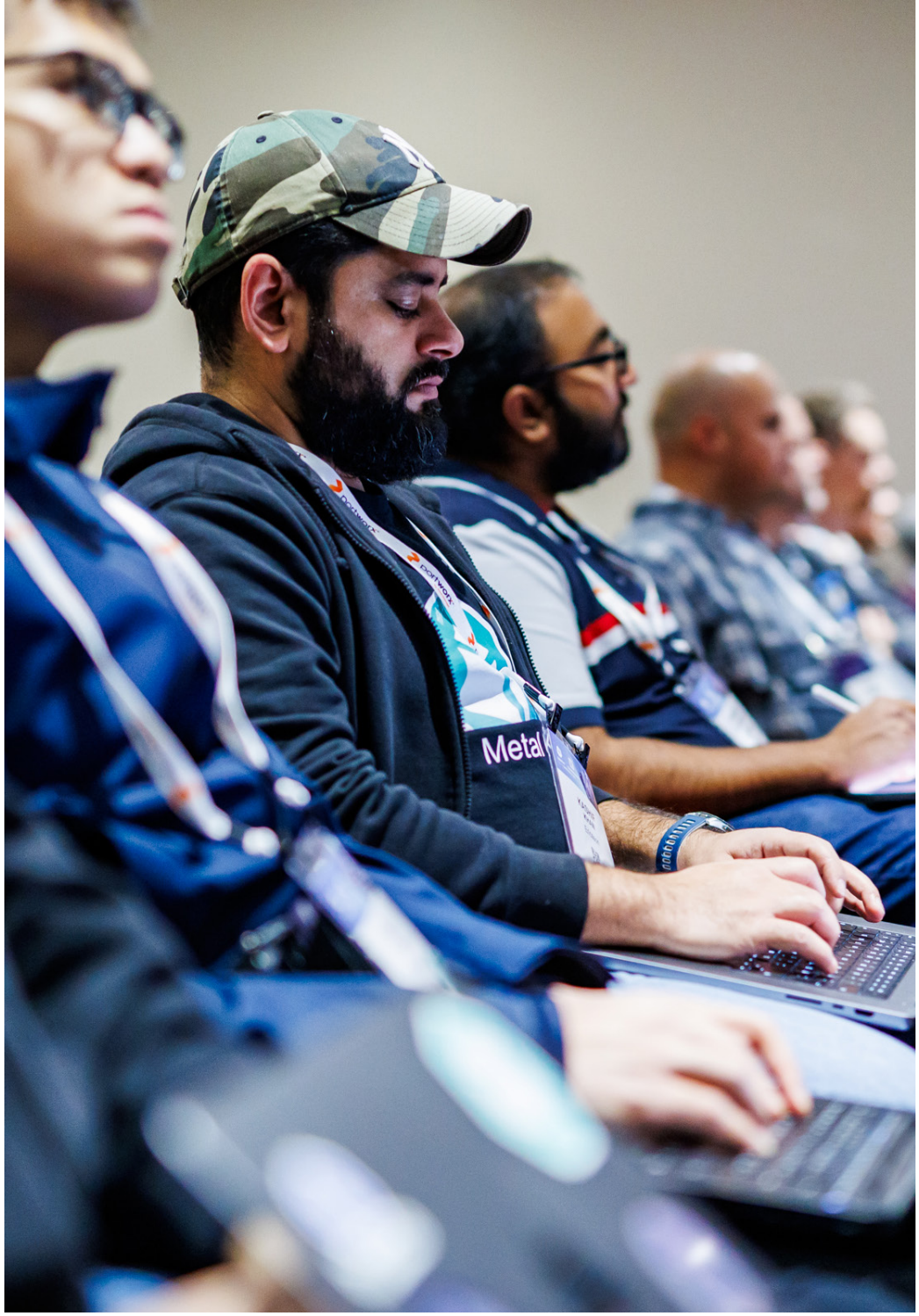
How many people work in your company? SEGMENTED BY: DOES YOUR ORGANIZATION HAVE AN OSPO OR SIMILAR OPEN SOURCE INITIATIVE?



THE 2024 STATE OF OSPO, Q4
X Q12, SAMPLE SIZE = 220

The most interesting data point derived from Figure 2 is that the percentage of organizations planning to implement an OSPO remains robust. One-fifth (20%) of small organizations are planning to implement an OSPO, as are 7% to 9% of medium, large, and very large organizations. This enables us to derive the projected growth of OSPOs over the next one to two years segmented by company size, which is shown in the bottom chart in Figure 2. OSPO growth is strongest for small and medium organizations, at 105% and 56%, respectively. Large and very large organizations, by virtue of their higher existing penetration rates, will see growth rates of 16% and 12%, respectively.

To further our analysis by company size, it is useful to reverse the category and segmentation shown in Figure 2. Figure 3 shows company size segmented by state of OSPO adoption. Figure 3 shows that the distribution of organization by size is relatively balanced from a categorical perspective, with 29% for small organizations (1 to 49 employees), 25% for medium organizations (50 to 99 employees), 17% for large organizations (1,000 to 9,999 employees), and 29% for very large organizations (10,000+ employees). However, this sample significantly undercounts small and medium organizations while overcounting large and very large organizations. But the advantage of this sample is that its balance enables meaningful analysis of each employee size category, which is critical in enabling



us to understand the differing perspectives, needs, and behaviors across employee size categories.

The distribution of OSPOs in our sample (either formal or informal) is 12% for small organizations, 18% for medium organizations, 19% for large organizations, and 50% for very large organizations.

What is especially encouraging is that organizations of all sizes have plans for OSPOs. Figure 3 shows that 50% of planned OSPOs are within small organizations. The remaining 50% are distributed across medium organizations (15%), large organizations (12%), and very large organizations (23%).

OSPOS AND OPEN SOURCE INITIATIVES SHOW A POSITIVE IMPACT ON OPEN SOURCE DEVELOPMENT AND RESOURCING

An OSPO plays a crucial role in enhancing an organization's engagement with the open source ecosystem, bringing a variety of positive impacts, as shown in Figure 4.

A leading key benefit shown in Figure 4 is the improved ability to work with open source communities, which 80% of organizations with OSPOs ranked as extremely, very, or moderately impactful. By coordinating contributions and fostering collaborations, an OSPO ensures that the company can participate in and leverage open source projects more effectively. This leads to stronger relationships with community developers, allowing the organization to stay current with innovations and ensure that its contributions are well received and impactful.

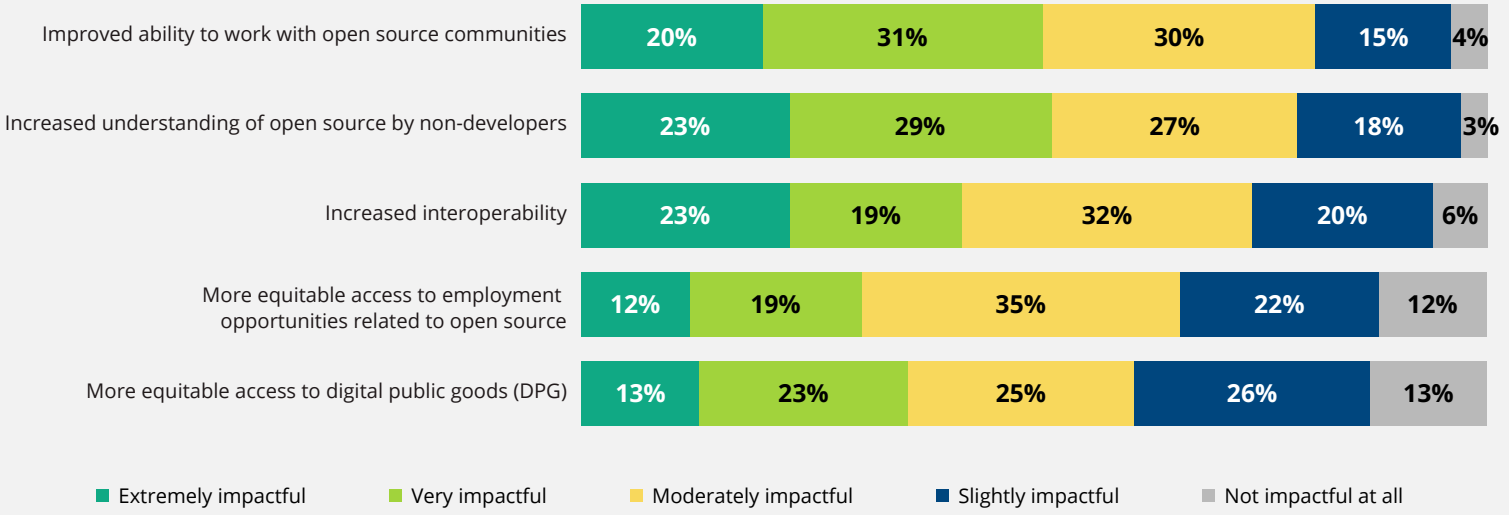
Another leading impact (which 78% of OSPOs ranked as extremely, very, or moderately impactful) is the increased understanding of open source by non-developers within the organization. OSPOs facilitate education and advocacy efforts, which help employees outside the technical team—such as legal, HR, or marketing—grasp the importance and mechanics of open source software. This broadens the organization's open source culture and helps align business goals with community-driven initiatives.

In terms of technology, 73% of OSPOs report that increased interoperability is extremely, very, or moderately impactful. By guiding open source contributions and adoption, OSPOs help organizations build systems that integrate smoothly with widely used open source solutions. This not only reduces vendor lock-in but also enhances compatibility across various platforms, driving more agile and adaptable business operations.

FIGURE 4

THE POSITIVE IMPACT OF OSPOS AND SIMILAR INITIATIVES ON OPEN SOURCE DEVELOPMENT AND RESOURCING

What is the impact of having an OSPO that is managing open source operations on the following goals?



THE 2024 STATE OF OSPO, Q36, SAMPLE SIZE = 100, ORGANIZATIONS WHO HAVE AN OSPO (FORMAL OR INFORMAL), SORTED IN DESCENDING ORDER BASED ON THE SUM OF EXTREMELY, VERY, AND MODERATELY IMPACTFUL, DKNS RESPONSES EXCLUDED FROM THE ANALYSIS

Two-thirds (66%) of OSPOs perceive more equitable access to open source employment opportunities as being extremely, very, or moderately impactful. By promoting and nurturing open source contributions from within the organization, individuals gain visibility and credibility within global communities, often leading to career growth and opportunities that are based on merit and skill rather than geographic or institutional limitations.

Lastly, Figure 4 shows that 61% of OSPOs report that more equitable access to digital public goods is having an extremely, very, or moderately positive impact on the organization. By contributing to open source projects, organizations help create and maintain software that is freely available, fostering innovation and reducing barriers to entry for smaller entities or underprivileged communities worldwide.

OSPO RESPONSIBILITIES VARY WITH ORGANIZATION SIZE

The leading responsibilities for OSPOs and similar OSS initiatives vary considerably based on company size. Larger organizations are very focused on using an OSPO to leverage their use of open source, mitigate risk, and stay current with industry trends and practices. OSPOs in smaller organizations are primarily focused on developing an OSS strategy, executing on this strategy, using best practices to guide their strategy, and implementing processes that reflect these best practices.

LARGER ORGANIZATIONS FOCUS OSPOS ON POLICY, RISK MITIGATION, AND BEST PRACTICES

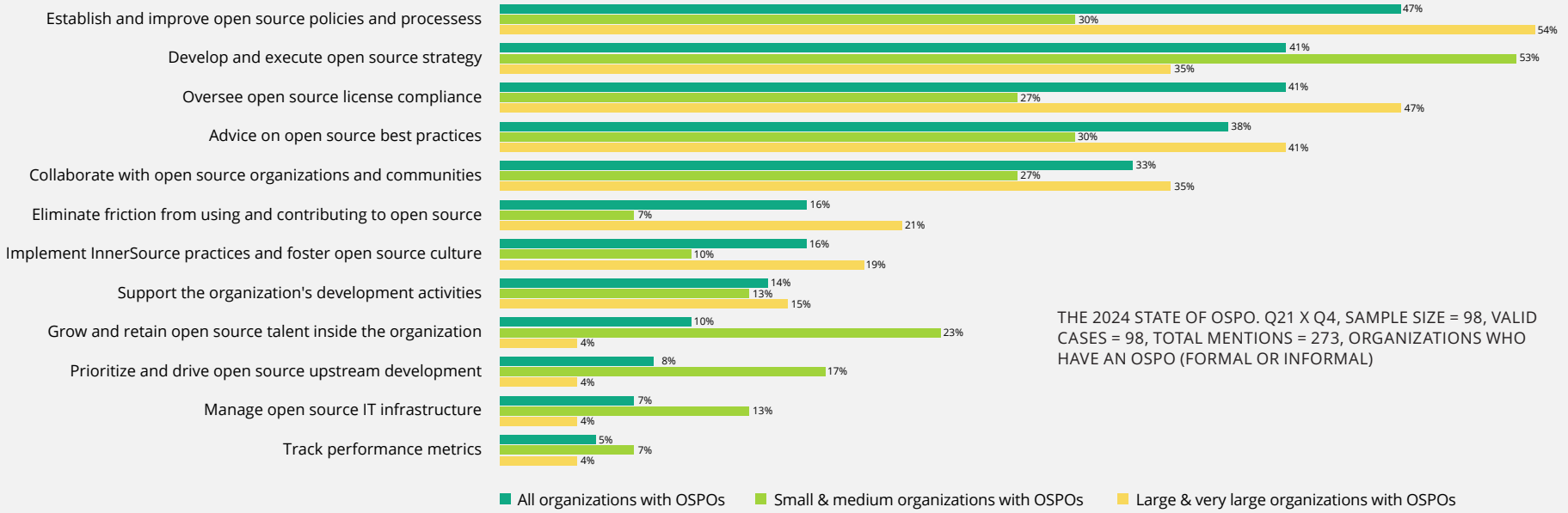
In larger organizations (1,000+ employees), an OSPO plays a critical role in managing and maximizing the use of open source technologies. Figure 5 shows the top three OSPO responsibilities for larger organizations: Establish and improve open source policies and processes; oversee open source license compliance; and seek advice on open source best practices.

FIGURE 5

OSPO AND SIMILAR INITIATIVE RESPONSIBILITIES VARY WITH ORGANIZATION SIZE

What are the top responsibilities of your OSPO or similar open source initiative?

(SELECT UP TO THREE THAT MOSTLY APPLY) SEGMENTED BY: HOW MANY PEOPLE WORK FOR YOUR COMPANY ?



THE 2024 STATE OF OSPO. Q21 X Q4, SAMPLE SIZE = 98, VALID CASES = 98, TOTAL MENTIONS = 273, ORGANIZATIONS WHO HAVE AN OSPO (FORMAL OR INFORMAL)

Figure 5 shows that the leading responsibility for an OSPO for 54% of large and very large organizations is to **establish and improve open source policies and processes**. In larger organizations, open source policies provide structure and governance regarding the integration of OSS into development workflows. A well-defined policy ensures that the use of OSS aligns with the organization's business goals, security standards, and legal requirements. Without clear processes, developers might inadvertently introduce vulnerabilities, licensing issues, or noncompliance risks. An OSPO's role is to constantly refine these policies to accommodate evolving technologies, new open source contributions, and emerging threats.

Another leading responsibility that 47% of large and very large organizations identified is the ability to **oversee open source license compliance**. Compliance with open source licenses is a major concern for large organizations, which often use hundreds, if not thousands, of OSS components. Ensuring that the company adheres to the terms of open source licenses—whether permissive or restrictive—is critical to avoid legal risks, such as violations that could lead to litigation, reputational damage, or financial penalties. OSPOs are responsible for tracking all OSS components, educating developers about licensing obligations, and conducting regular audits to maintain compliance.

The third-ranked OSPO responsibility, which 41% of large and very large organizations reported, is to **seek advice on open source best practices**. The open source landscape is constantly evolving. To stay competitive, OSPOs need to seek advice from experts, participate in open source communities, and stay abreast of emerging trends and best practices. This ensures that the organization is leveraging OSS strategically, contributing to the community effectively, and staying ahead of potential security or legal risks.

SMALLER ORGANIZATIONS FOCUS OSPOS ON STRATEGY, EXECUTION, PROCESS, AND BEST PRACTICES

In small and medium organizations (1 to 999 employees), an OSPO plays a crucial role in effectively managing open source software to drive innovation and growth. The top three OSPO responsibilities are developing and executing an open source strategy, seeking advice on open source best practices, and establishing and improving open source policies and processes.

Figure 5 shows that 53% of smaller organizations believe that the leading responsibility of an OSPO is to **develop and execute an open source strategy**. Small and medium organizations often rely on open source software for cost-effective solutions and accelerated development. An OSPO helps craft a clear strategy that aligns open source usage with the company's overall goals, ensuring that it supports both innovation and competitiveness. This strategy might include identifying which OSS projects are essential to the business, contributing back to the community, and balancing the use of internal resources with external collaboration. Without a strategy, these organizations might face inefficiencies or miss opportunities to leverage OSS for growth.

A leading OSPO responsibility, which 30% of smaller organizations reported, much like larger organizations, is to **seek advice on open source best practices**. For smaller organizations with limited resources, staying informed about open source best practices is essential to optimizing their OSS engagement. The OSPO plays a key role in seeking advice from open source experts; participating in relevant communities; and staying up to date with trends in security, licensing, and project governance. By following best practices, these organizations can avoid pitfalls such as compliance issues or unintentional security risks while maximizing the value of open source contributions.

Another leading OSPO responsibility, identified again by 30% of smaller organizations, is to **establish and improve open source policies and processes**. Even in smaller organizations, a structured approach to open source is critical. OSPOs help establish processes for the selection, use, and management of open source software across teams. This includes policies for ensuring proper licensing compliance, security reviews, and contribution guidelines. As the organization grows, the OSPO continuously improves these processes to remain aligned with the company's evolving needs and the open source ecosystem.

OSPO BENEFITS ALSO ALIGN WITH EXPECTATIONS OF ORGANIZATIONS PLANNING TO IMPLEMENT OSPOS

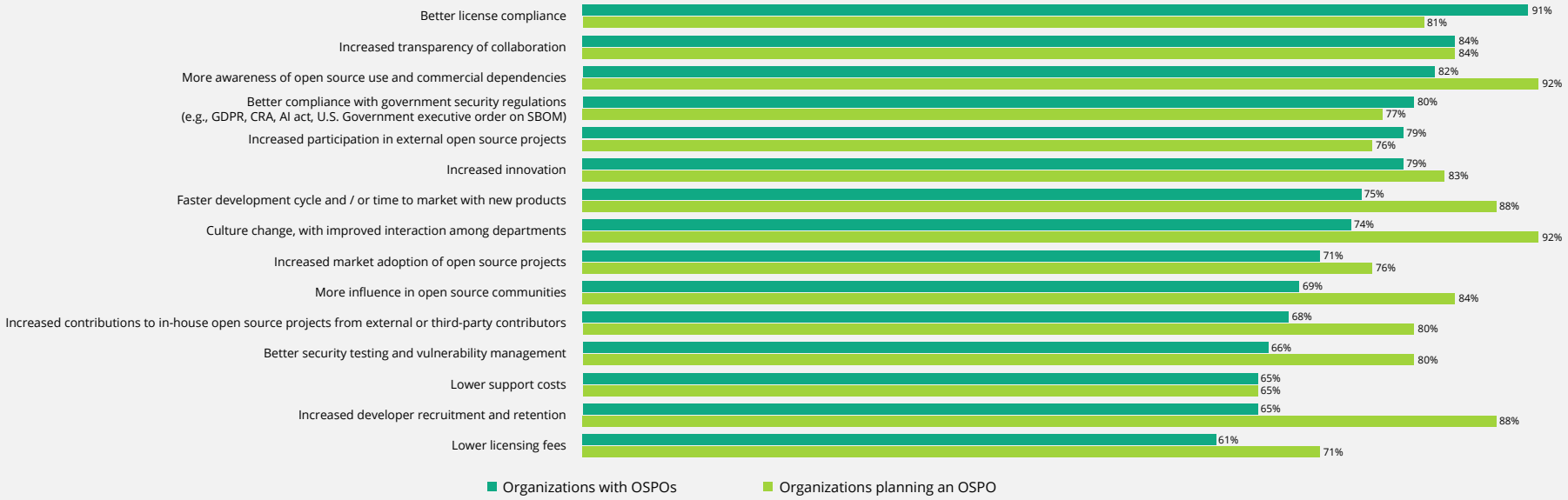
OSPOs or similar initiatives offer significant benefits to organizations. Figure 6 identifies these benefits, ranked in descending order based on organizations reporting that a benefit was extremely, very, or moderately impactful. The data has been segmented by those organizations that have an OSPO (actual benefits) and those organizations planning to implement an OSPO (anticipated benefits). Figure 6 shows that for the leading benefits, anticipated impact and actual impact are well aligned.

FIGURE 6

COMPARING THE ACTUAL BENEFITS OF OSPOS TO THE EXPECTED BENEFITS BY ORGANIZATION PLANNING OSPOS

How impactful are the following OSPO benefits?

(COMPARING ACTUAL BENEFITS FROM ORGANIZATIONS WITH AN OSPO AND EXPECTED BENEFITS FROM ORGANIZATIONS PLANNING AN OSPO)



THE 2024 STATE OF OSPO, Q35, SAMPLE SIZE = 100, SHOWING ONLY ORGANIZATIONS WHO HAVE AN OSPO (FORMAL OR INFORMAL), DKNS RESPONSES EXCLUDED FROM THE ANALYSIS.
THE 2024 STATE OF OSPO, Q44, SAMPLE SIZE = 26, SHOWING ONLY ORGANIZATIONS WHO ARE PLANNING AN OSPO, DKNS RESPONSES EXCLUDED FROM THE ANALYSIS.
RESPONSES REFLECT ORGANIZATIONS WHO SELECTED "EXTREMELY IMPACTFUL", "VERY IMPACTFUL", OR "MODERATELY IMPACTFUL".

However, further down the list, there are numerous examples where the anticipated benefit significantly exceeds the actual benefit. The complexities of managing open source contributions, compliance, security, and community relationships can temper the anticipated gains in areas such as development speed, interdepartmental collaboration, external contributions, security, recruitment, and cost savings. Organizations must have realistic expectations and recognize that the benefits of an OSPO require time and sustained effort to fully materialize.

The leading benefit in Figure 6 is **better license compliance** (91% actual, 81% anticipated). Open source software often comes with complex licensing terms that organizations must adhere to. Failure to comply with these licenses can result in legal risks, financial penalties, and reputational damage. OSPOs ensure that organizations are fully aware of and compliant with open source licenses. This benefit has the greatest impact because it mitigates potential legal and financial risks, allowing companies to leverage OSS without inadvertently violating licensing agreements.

Increased transparency of collaboration is also a leading benefit (84% actual, 84% anticipated). OSPOs foster greater transparency in how organizations collaborate on open source projects, both internally and with external communities. This transparency is critical for trust, accountability, and smoother collaborations, especially when working with third-party contributors. It enhances an organization's reputation in the open source community and promotes a more efficient and equitable development process. The impact here is substantial because it drives trust-based relationships and strengthens the organization's standing in the broader tech ecosystem.

The next OSPO benefit is **more awareness of open source use and commercial dependencies** (82% actual, 92% anticipated). Modern software development increasingly relies on open source components. OSPOs play a crucial role in identifying and managing these dependencies, ensuring that organizations are aware of the OSS components integrated into their products. Awareness of dependencies allows organizations to better assess security risks, ensure continuity, and quickly react to vulnerabilities or updates in the OSS they depend on. This is a high-impact area because security risks and dependency management have become critical in today's complex software supply chains.

Another leading benefit is **better compliance with government security regulations** (80% actual, 77% anticipated). Governments around the world are introducing regulations related to software security, data protection, and open source usage. OSPOs help organizations stay compliant with these regulations by tracking open source usage and ensuring that security protocols and regulatory requirements are met. Compliance with government regulations not only avoids fines and legal problems but also enhances the organization's credibility, making this benefit particularly impactful in regulated industries.

Increased participation in external open source projects is also a leading OSPO benefit (79% actual, 76% anticipated). OSPOs often encourage employees to contribute to external open source projects, which benefits the organization by building a positive reputation and establishing expertise in the community. Contributions can lead to better collaboration with external developers and access to innovations and improvements. Increased participation has a direct impact on the organization's technical advancement and the cultivation of relationships that can open doors to further collaborative efforts.

The final leading benefit is **increased innovation** (79% actual, 83% anticipated). Perhaps the most significant long-term impact of OSPOs is the innovation that stems from open source involvement. By engaging with the open source community, organizations can more rapidly adopt cutting-edge technologies, integrate external innovations, and contribute to a dynamic feedback loop that accelerates their own innovation processes. This helps an organization stay competitive and future-proof its technology strategies.

SOME ANTICIPATED BENEFITS REVEAL UNREALISTIC EXPECTATIONS

The anticipated benefits of establishing an OSPO often set high expectations for companies, especially in terms of accelerating product development, fostering internal collaboration, and increasing influence in the open source community. However, the reality frequently falls short of these expectations, particularly in the following areas:

- **Faster development cycle/time to market for new products** (75% actual, 88% anticipated): One of the most highly anticipated benefits of an OSPO is a faster development cycle, where teams leverage open source to bring products to market more quickly. In theory, reusing and building upon existing open source code should significantly reduce development time. However, the actual benefit may not live up to this expectation due to the need to rigorously vet open source components, ensure compliance with licensing, and manage integration issues. Additionally, OSS often comes with its own development timelines, which may not align with the company's deadlines, leading to delays rather than speed. Therefore, while an OSPO can streamline certain aspects of development, the complexities involved can negate much of the anticipated acceleration.

- **Improved interaction between departments** (74% actual, 92% anticipated): A common expectation is that an OSPO will break down silos within an organization, promoting better interaction between departments, such as legal, engineering, and product teams. However, the actual benefit may be less significant than anticipated due to entrenched organizational structures and existing communication barriers. While an OSPO can facilitate some cross-departmental collaboration, particularly around compliance and licensing, it does not inherently resolve broader collaboration challenges. The complexity of aligning goals across departments can result in slower-than-expectedimprovementsininternalcommunication and interaction. Some organizations are exploring InnerSource as a way to bridge these gaps by adopting open source principles within their internal development processes. By combining the efforts of an OSPO with InnerSource practices, or through close collaboration with an InnerSource program office (ISPO), organizations may see a more significant improvement in cross-departmental interaction. While this study does not analyze this concept in detail, we will address it more thoroughly in the years to come.
- **More influence in open source communities (69% actual, 84% anticipated):** Organizations frequently expect that establishing an OSPO will quickly lead to increased influence in open source communities. While OSPOs can certainly help companies become more involved, the level of influence gained often falls short of expectations. Building influence in open source communities requires sustained contributions, active participation in governance, and the nurturing of relationships over time. Many companies underestimate

the effort and time required to establish themselves as influential contributors. As a result, the anticipated rapid rise in influence often fails to materialize in the short term.

- **Increased contributions to in-house projects from external third-party contributors (68% actual, 80% anticipated):** Another anticipated benefit is that external third-party contributors will participate in in-house open source projects. However, in reality, attracting significant external contributions is challenging. Companies may not fully understand that for external developers to invest time in contributing, the project must both be technically interesting and have a strong community culture. Organizations often overestimate the appeal of their internal projects and underestimate the effort needed to foster a thriving external contributor base, resulting in fewer contributions than expected.

- **Better security testing and vulnerability management (66% actual, 80% anticipated):** Security is a key concern, and OSPOs often must act in a strong GRC role as well as an advisory capacity on best practices for security. Managing open source security is a continuous and complex process that involves more than simply identifying issues. It requires rapid responses, thorough testing, and collaboration—often across multiple teams. The result is that while OSPOs contribute to better security, the actual impact may involve the joint collaboration of the OSPO, operations, security teams, and developers through process, frameworks, and tools.
- **Increased developer recruitment and retention (65% actual, 88% anticipated):** Many organizations expect that involvement in open source through an OSPO will enhance their ability to attract and retain top developer talent. However, while open source participation can improve recruitment, many overstate the actual benefit. Developers gravitate toward organizations for a variety of reasons, including the work environment, culture, compensation, and career opportunities, not just open source engagement. While an OSPO can be a valuable tool in attracting developers, it is not a panacea for recruitment and retention challenges, and its impact on these areas may be less pronounced than expected.
- **Lower licensing fees** (61% actual, 71% anticipated): Finally, companies often expect significant cost savings through the use of open source software, particularly in terms of reduced licensing fees. However, the actual cost savings may be smaller than anticipated after consideration of factors such as compliance management, security, and ongoing maintenance. Additionally, while open source software itself may be free, integrating and supporting it within proprietary systems can incur substantial costs. As a result, the overall reduction in licensing fees may not be as large as initially expected.

CHALLENGES FACING OSPOS AND SIMILAR OSS INITIATIVES

OSPOs are no different than any other organizational entity. Consequently, an OSPO has a mission, has expectations of benefits, and encounters challenges that require overcoming. Figure 7 shows the top 10 challenges facing OSPOs and segments the data by organization size: smaller organizations (fewer than 1,000 employees) and larger organizations (1,000 or more employees). Generally, the differences between these two segments fall within the margin of error, but there are four instances in Figure 7 where there is a difference of 10 percentage points or more.

FIGURE 7

TOP 10 CHALLENGES FACING OPSOS AND SIMILAR OSS INITIATIVES

How often does your open source program or initiative face the following challenges? SEGMENTED BY: HOW MANY PEOPLE WORK FOR YOUR COMPANY?

THE 2024 STATE OF OSPO, Q37, SAMPLE SIZE = 98, ORGANIZATIONS WHO HAVE AN OSPO (FORMAL OR INFORMAL), PERCENTAGES ARE THE SUM OF "EXTREMELY FREQUENTLY", "VERY FREQUENTLY", AND "SOMETIMES" RESPONSES, DKNS RESPONSES EXCLUDED FROM THE ANALYSIS

The overall leading challenges facing OSPOs and similar OSS initiatives are internal awareness of the program (86%), executive awareness and support (84%), tracking metrics and performance (84%), insufficient people to work on the program (83%), and the ability to influence OSS projects (80%).

The challenge of tracking metrics and performance presents an unusual dichotomy. In Figure 5, tracking performance metrics was a responsibility of OSPOs that only 5% of the respondents identified as a top three activity. This seems to suggest that tracking metrics is a low priority. However, Figure 7 shows that tracking metrics and performance is clearly an important challenge. OSPOs acknowledge the importance of tracking performance metrics for proving the value of their work to stakeholders, securing funding, and aligning with business goals and that it is an activity that is vital for long-term success. However, OSPOs often prioritize short-term tasks, such as policy enforcement or compliance, over the time-consuming process of defining and tracking performance metrics. In this way, it becomes a low priority operationally, but it is still recognized as an essential challenge that will eventually require addressing.

Internal awareness of an OSPO is the leading challenge for large and very large organizations (89%), as shown in Figure 7, based on the question, "How often does your OSS program or initiative face the following list of challenges?" and responses of "Extremely frequently," "Very frequently," and "Sometimes." While it seems counterintuitive that large organizations have more difficulty with internal awareness of their OSPO compared with small and medium organizations (75%), large organizations have complex, distributed structures with multiple departments and silos. This fragmentation makes it harder to spread internal awareness of the OSPO, as employees in different units may not be aware of its existence or importance. Communication and coordination across departments, which is more straightforward in smaller companies, can become a bureaucratic hurdle in larger entities.

The other leading challenge where large and very large organizations diverge from small and medium organizations is **insufficient people to work on the program** (86%). While this, too, would seem to be more of a small company challenge, the scale of open source activities in large organizations is typically more extensive, requiring more dedicated personnel. These organizations may contribute to, maintain, or consume vast numbers of open source projects. As a result, the need for skilled personnel to manage compliance, contributions, and collaborations is significantly higher. However, due to the specialized nature of OSPO roles, finding individuals with the right expertise becomes a bottleneck. Smaller organizations often have fewer open source engagements, so their staffing needs are more manageable, making it easier to balance resources.

Small and medium organizations are less able to leverage the benefits that come from economies of size and scale.

Figure 7 shows that 85% of small and medium organizations face challenges in **creating educational programs** for their employees. Unlike larger organizations, which can invest in dedicated training departments and resources for open source learning, smaller companies may struggle to develop these initiatives internally. Education programs require time, skilled instructors, and materials, which are harder to provide in organizations with tighter budgets and smaller teams. As a result, they may lack the infrastructure to effectively educate employees about open source best practices and contributions. Fortunately, CSPs, foundations, and third-party vendors are finding success in delivering open source training courses and certification exams.

Finding and recruiting open source developers is more difficult for 82% of small and medium organizations due to their lower visibility and brand recognition in the tech community. Large organizations often have established reputations, extensive networks, and higher salaries, making them more attractive to top open source talent. In contrast, smaller organizations may not be as well known or able to offer competitive compensation packages, making it harder to attract experienced open source developers. Additionally, large companies often have more specialized recruiting teams, while smaller companies rely on general hiring processes, further complicating the task of identifying and securing skilled open source contributors.

THE ROLE OF OSPOS IN ADDRESSING OPEN SOURCE SECURITY ISSUES

The extent to which an OSPO or similar OSS initiative addresses open source security issues can vary greatly depending upon organization size. Figure 8 shows that in small and medium organizations, OSPOs often play a more central role in driving security decision-making, where 50% are responsible for making the security-focused decisions. This contrasts with larger organizations, where just 33% of OSPOs make decisions and 55% of OSPOs primarily provide advisory support. This difference arises largely due to organizational structure, resource availability, and the scope of responsibilities.

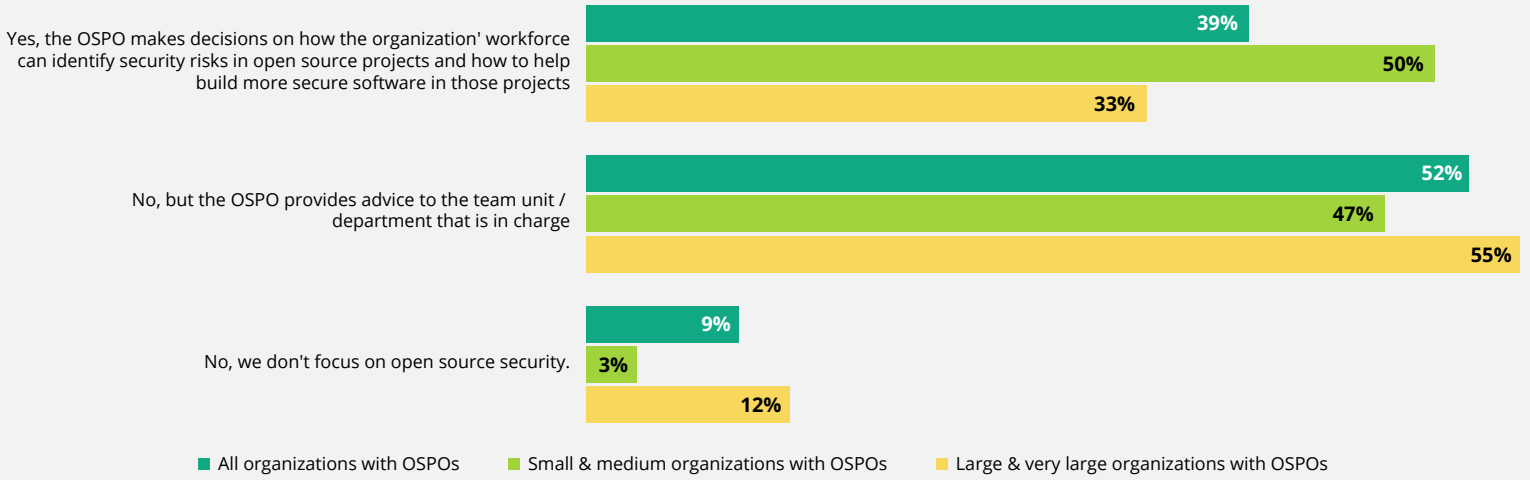
In small and medium organizations, the OSPO may also oversee security aspects related to open source use, as it has direct insight into the software being integrated into the organization. With fewer layers of management and fewer specialized security teams, OSPOs naturally take on the responsibility of making security decisions, such as managing vulnerabilities in OSS components, ensuring compliance with licensing, and establishing best practices for the secure development and use of open source tools.

FIGURE 8

THE ROLE OF OSPOS IN ADDRESSING OPEN SOURCE SECURITY ISSUES BY ORGANIZATION SIZE

Does your OSPO or similar open source initiative directly address open source security issues?

(SELECT ONE) SEGMENTED BY: HOW MANY PEOPLE WORK FOR YOUR COMPANY?



THE 2024 STATE OF OSPO, Q16 X Q4, SAMPLE SIZE = 98, DKNS RESPONSES EXCLUDED FROM THE ANALYSIS

Conversely, in large organizations, dedicated, well-resourced security departments generally handle security decision-making. Often, these departments are separate from the OSPO, which acts as an advisor rather than a decision-maker. In these environments, the OSPO's role is to provide insights and recommendations regarding the security of open source software, but the final decisions rest with the security team, which has the authority and infrastructure to manage security at scale. This division allows teams to focus on their specialized roles.

This year, our 2024 OSPO survey included two free-text questions designed to identify security-focused best practices. The following are quotes that are worthy of a best practices list:

- Monitor CVEs and direct them to the appropriate development team to address.
- Implement tools that shift left the analysis of components.
- Implement a pipelined SBOM generation process.
- Assess the maturity of FOSS components, including the level of contribution to each.
- Establish guidelines for selecting open source components.

OSPO ROLE IN MANAGING GENAI RISKS

Some of the ways that GenAI adds value include the automation of complex tasks, the creation of unique content, personalization, better decision-making, more comprehensive product development, and more effective customer support. However, the benefits of GenAI do not come without risk.

Organizations of all sizes are beginning to use their OSPOs to help manage the risks associated with GenAI. While OSPOs traditionally focus on managing open source software usage, contributions, and compliance, their role is evolving to include managing the complexities and risks associated with AI, especially GenAI. Ways in which OSPOs can aid in the management of risk include governance and compliance, licensing and IP management, security, bias mitigation, interdepartmental collaboration, and policy development.

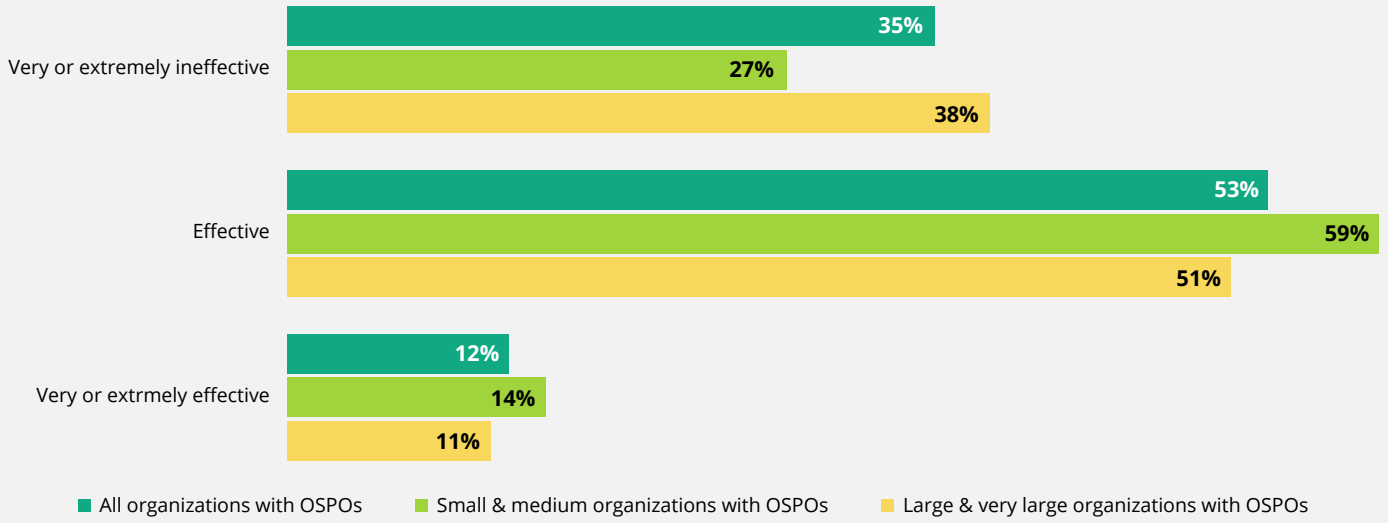
Figure 9 shows that OSPOs are generally effective at managing GenAI compliance risk. Overall, 53% of organizations with OSPOs feel that their OSPOs are effectively managing risk, but the number of organizations that feel like their OSPOs are extremely

FIGURE 9

THE EFFECTIVENESS OF OSPOS IN MANAGING GENAI RISK

How effective is your OSPO open source compliance at proactively managing Gen AI risks today?

SEGMENTED BY: HOW MANY PEOPLE WORK FOR YOUR COMPANY?



THE 2024 STATE OF OSPO, Q19 X Q4, SAMPLE SIZE = 75, DKNS RESPONSES EXCLUDED FROM THE ANALYSIS

or very ineffective at managing risk (35%) is three times the number of organizations that say that their OSPOs are extremely or very effective at this task (12%).

Figure 9 also shows that there are differences in effectiveness by organization size. Three-quarters (73%) of small and medium organizations believe that their OSPO is effective, very effective, or extremely effective at proactively managing AI risk. This contrasts with the 62% of large and very large organizations that also feel this way.

Often, small and medium organizations are better at proactively managing GenAI risk due to their agility, streamlined decision-making processes, and ability to quickly adapt. These smaller organizations typically have flatter organizational structures, allowing them to implement policies, respond to challenges, and iterate on processes more swiftly than larger enterprises with complex hierarchies. This agility is crucial when managing emerging technologies such as GenAI, where risks such as data privacy, bias, and intellectual property issues evolve rapidly. Smaller organizations also often have closer cross-functional collaboration. Teams working on technology, legal, and compliance are likely to have more direct communication, enabling a more integrated approach to identifying and mitigating GenAI risk. In contrast, large organizations may face communication bottlenecks, with different departments operating in silos, which can delay risk management efforts.

OSPO AND SIMILAR OSS INITIATIVE INVOLVEMENT IN THE DEVELOPMENT AND MANAGEMENT OF AI INFRASTRUCTURE

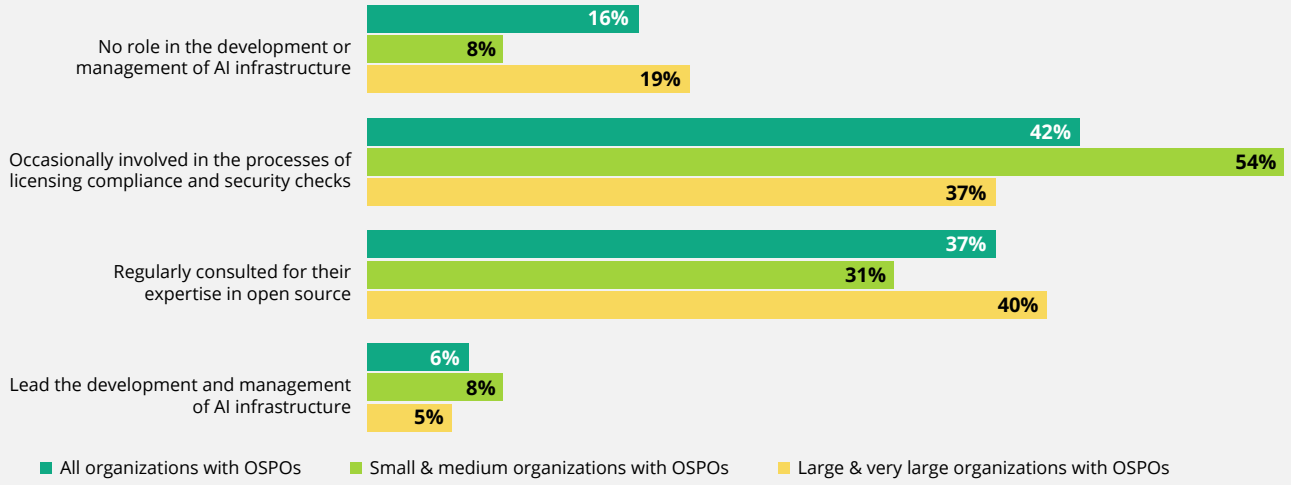
Because the majority of OSPOs are already managing AI risk—especially in small organizations—it is not difficult to infer that these OSPOs could also take on the task of managing AI infrastructure. Figure 10 shows that while OSPOs typically don't lead the development and management of AI infrastructure, they are very much involved in its oversight, given that 42% are occasionally involved and 37% are regularly involved. The reason for this significant involvement is that GenAI frameworks such as TensorFlow and PyTorch are largely open source, and OSPOs are the bridge between open source communities and the organization. GenAI models also incorporate various libraries, some of which come with different open source licenses, and GenAI requires significant computational resources (typically cloud native), which means the involvement of Kubernetes.

Figure 10 also shows that 92% of OSPOs at small and medium organizations have some involvement in the development and management of GenAI infrastructure compared with 81% of OSPOs at large and very large organizations. The explanation for this is that OSPOs and similar OSS initiatives at small and medium organizations typically take a broader role in addressing business needs. They have more hands-on responsibility for customizing and optimizing open source AI solutions to meet specific organizational goals. In contrast, OSPOs at larger organizations tend to focus more on governance, compliance, and contributions to external projects, leaving day-to-day infrastructure management to other, more specialized teams.

FIGURE 10

OSPO INVOLVEMENT IN THE DEVELOPMENT AND MANAGEMENT OF AI INFRASTRUCTURE

To what extent are OSPOs involved in the development and management of AI infrastructure within their organizations? (SELECT ONE) SEGMENTED BY: HOW MANY PEOPLE WORK FOR YOUR COMPANY?



THE 2024 STATE OF OSPO, Q20 X Q4, SAMPLE SIZE = 98, DKNS RESPONSES EXCLUDED FROM THE ANALYSIS

WHY ORGANIZATIONS NEED OSPOS OR OTHER OSS INITIATIVES

The continuing momentum behind open source software and its extensive use across organizations of all sizes indicates that OSPOs can be invaluable in helping organizations of all sizes optimize how open source can best support their needs. Figures 11 and 12 compare OSPO attributes across organizations with OSPOs and organizations without OSPOs. The differences are significant and point to the challenges that organizations without an OSPO bear in maximizing their investment and return on open source and recruiting developers with open source expertise.

THE IMPACT OF OSPOS ON ORGANIZATIONAL INVOLVEMENT IN OPEN SOURCE

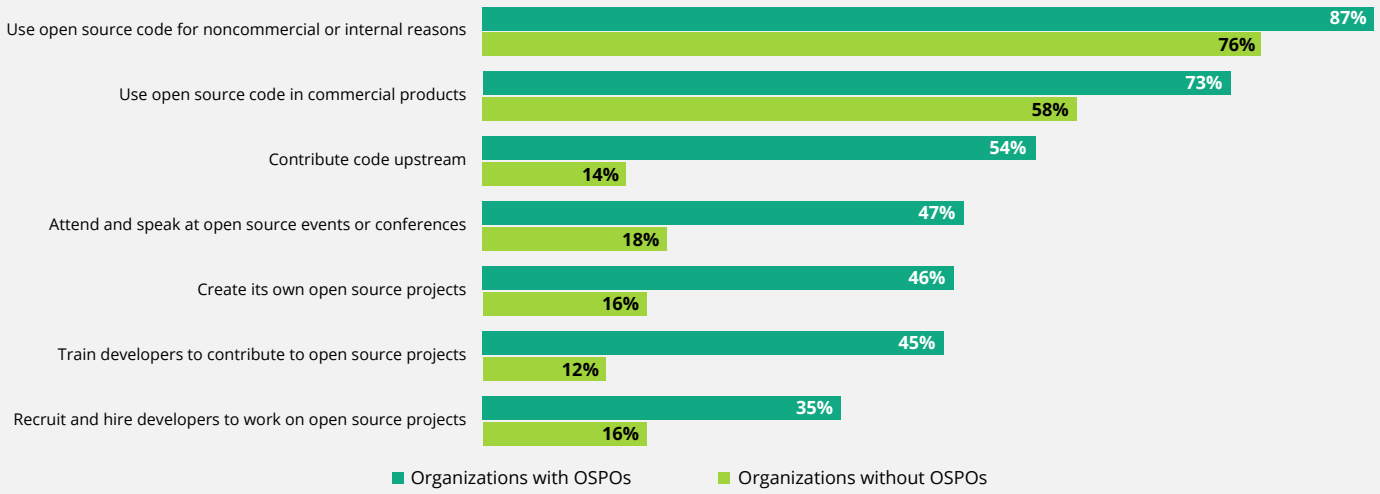
Figure 11 shows higher meaningful use of open source in organizations that have OSPOs. Since nearly all organizations use open source, the difference stems from the lower response rates at organizations without OSPOs across high use categories: "Very frequently," "Frequently," and even "Sometimes." Organizations without an OSPO are not likely to have an organized approach

FIGURE 11

COMPARING OPEN SOURCE ORGANIZATIONAL INVOLVEMENT: WITH AND WITHOUT AN OSPO

How often does your organization do the following activities?

(COMPARING ORGANIZATIONS THAT HAVE AN OSPO TO ORGANIZATIONS THAT DO NOT HAVE AN OSPO)



THE 2024 STATE OF OSPO, Q7, ORGANIZATIONS ANSWERING "VERY FREQUENTLY" OR "FREQUENTLY", COMPARING ORGANIZATIONS WHO HAVE AN OSPO (FORMAL OR INFORMAL) (N=100) AND ORGANIZATIONS THAT DO NOT HAVE AN OSPO (N=96), DKNS RESPONSES EXCLUDED FROM THE ANALYSIS

to using open source, which can negatively impact product or service quality and time to market while opening the organization to security (reputation) and IP use (financial) risk.

The differences are even more stark in when looking at the collaborative aspects of open source, as Figure 11 shows. Open source contributions and involvement at conferences are an important dimension of open source[2], and OSPOs increase an organization's involvement by a factor of 3 or 4.

2 Stephen Hendrick and Bianca Trinkenreich, "2024 Open Source Developer Survey: How Developers Benefit from Professional Events," The Linux Foundation, October 2024.

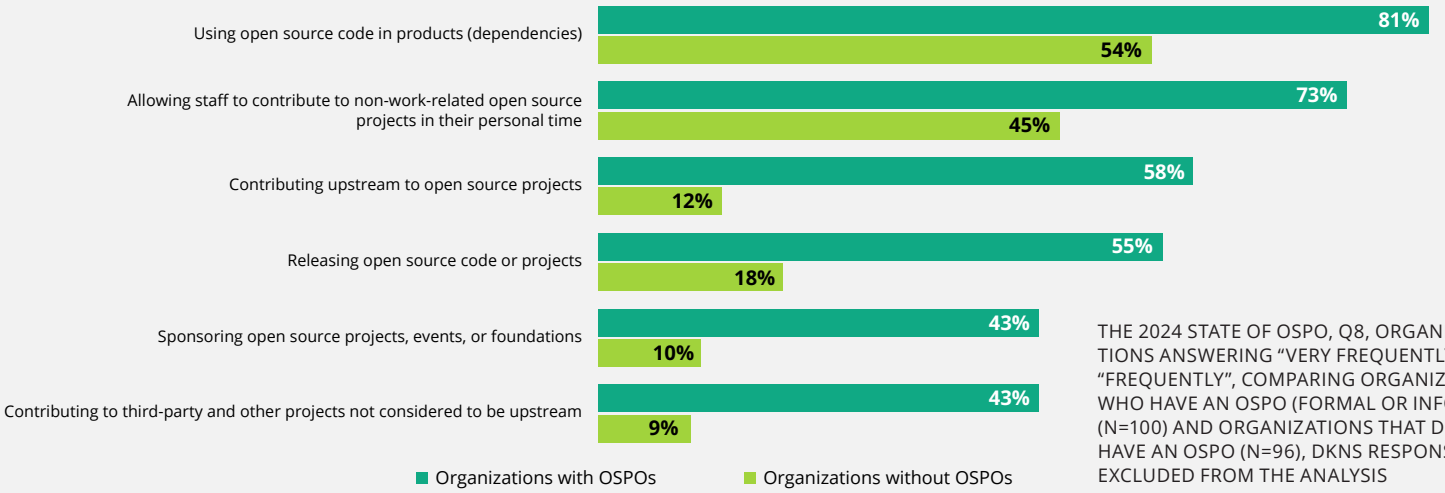
THE IMPACT OF OSPOS ON ORGANIZATION GOVERNANCE IN OPEN SOURCE

When it comes to having or following a formal policy regarding the use of or contribution to open source, organizations with OSPOs have distinct advantages, including hard and soft benefits over organizations without OSPOs. The hard benefits of an OSPO include clear policies for using or contributing to open source code; license compliance; monitoring of code for vulnerabilities; risk management; and review of open source code for quality, maintainability, and alignment with the organization's technical standards prior to integration into the product. Figure 12 shows that the risk of using open source code in products in organizations

FIGURE 12

COMPARING OPEN SOURCE ORGANIZATIONAL GOVERNANCE: WITH AND WITHOUT AN OSPO

How often does your organization follow a formal policy governing use and/or contribution to open source projects in the following areas? (COMPARING ORGANIZATIONS THAT HAVE AN OSPO TO ORGANIZATIONS THAT DO NOT HAVE AN OSPO)



THE 2024 STATE OF OSPO, Q8, ORGANIZATIONS ANSWERING "VERY FREQUENTLY" OR "FREQUENTLY", COMPARING ORGANIZATIONS WHO HAVE AN OSPO (FORMAL OR INFORMAL) (N=100) AND ORGANIZATIONS THAT DO NOT HAVE AN OSPO (N=96), DKNS RESPONSES EXCLUDED FROM THE ANALYSIS

with OSPOs is 19%, which is less than half that of the 46% for organizations without OSPOs.

The soft benefits that an OSPO provides include facilitating organizational contributions to open source projects; orchestrating training for developers and teams on how to safely and effectively use open source software; ensuring that the use of open source aligns with the company's innovation goals; helping select, deploy, and manage tools that streamline the process of using open source software; and overseeing the governance of and contribution to open source projects that the company relies on.

WHY ORGANIZATIONS DO NOT HAVE OSPO PLANS

There are a number of reasons why organizations do not have OSPOs. These reasons do vary considerably based on organization size. Figure 13 shows that the overall leading reasons why organizations do not have an OSPO are time or resource constraints (40%), the organization is too small to need one (39%), and the organization hasn't considered it (35%). However, taking organization size into consideration significantly shifts the findings.

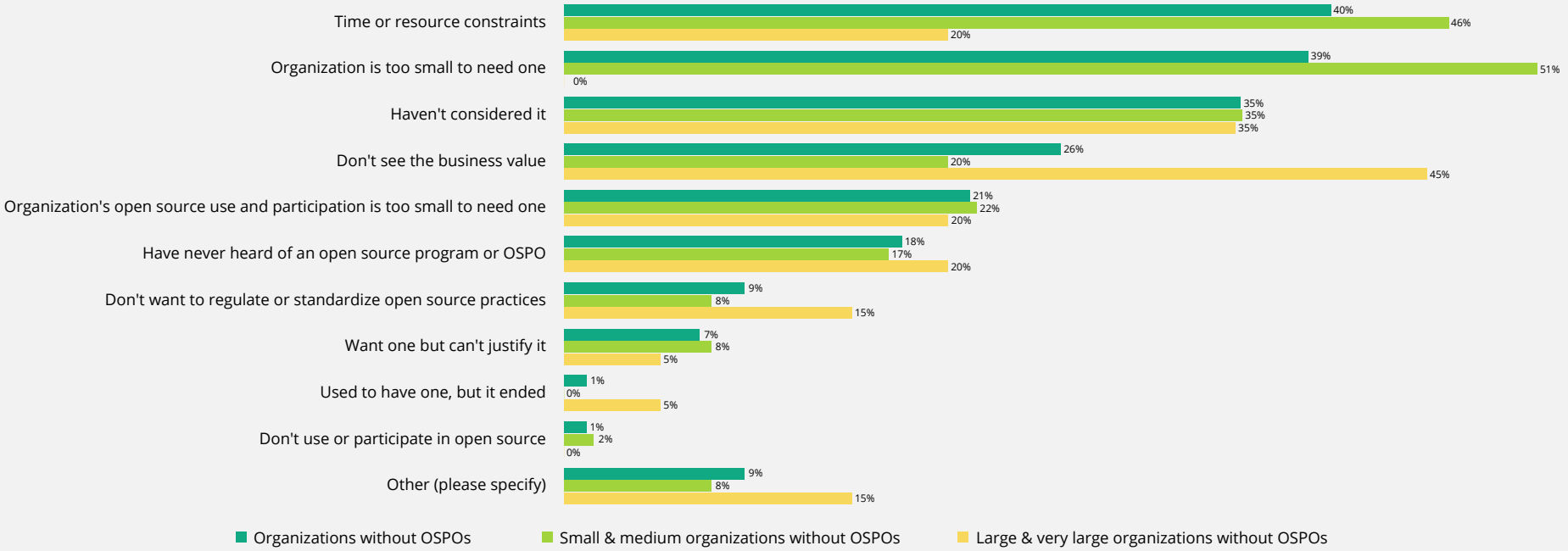
The leading reasons for not having an OSPO for small and medium organizations are the same as the overall reasons, but

FIGURE 13

WHY ORGANIZATIONS DO NOT HAVE OSPOS

Why doesn't your organization have a plan to create an OSPO or similar open source initiative?

(SELECT ALL THAT APPLY) SEGMENTED BY: HOW MANY PEOPLE WORK FOR YOUR COMPANY?



THE 2024 STATE OF OSPO. Q46 X Q4, SAMPLE SIZE = 96, VALID CASES = 96, TOTAL MENTIONS = 187, ORGANIZATIONS WITHOUT OSPOS, DKNS RESPONSES EXCLUDED FROM THE ANALYSIS

the emphasis changes. The size of the organization—the response that says the organization is too small to need an OSPO—becomes the leading issue at 51%, followed by time or resource constraints (46%), and then haven't considered it (35%). For small organizations with fewer than 50 people, we can understand these concerns, but adding or staffing a developer to begin building an OSPO would be advantageous to medium organizations—especially when they approach 100 employees.

Large and very large organizations have OSPO concerns that overlap with small organizations, but the leading issues for them are quite different. The leading reason why 45% of larger organizations do not have an OSPO is that they don't see the business value in it. When we unpack this business value concern, we find a variety of explanations:

- **ROI:** Larger organizations tend to focus on initiatives that provide clear, immediate ROI. Many see a variety of OSPO benefits—such as community engagement, code contribution, and improved innovation—as long-term investments. Some also see these as "soft" benefits and as difficult to quantify (as discussed in Figure 12).
- **Unclear way to measure different ROIs:** Organizations may struggle to create KPIs or metrics that demonstrate how an OSPO directly impacts the bottom line, leading to hesitation in dedicating resources to such a program. Without clear metrics to measure success or impact on risk mitigation, the value of an OSPO may remain undervalued, making it harder for leadership to justify its creation.
- **Misunderstanding the value of OSS:** Many organizations equate open source with just "free software" and don't fully appreciate the collaborative innovation, cost savings, and risk mitigation that come with proper governance of open source use.
- **Competing priorities:** Larger organizations often have numerous pressing initiatives (such as cloud migration, cybersecurity, or digital transformation projects), and an OSPO might not rank high on the list of priorities, especially if open source governance and contribution are not immediately seen as critical to the business.

The only other leading concern is that 35% of larger organizations haven't considered an OSPO. There are some plausible explanations for this. If there is a view of open source as simply content that can augment development, then there is not likely to be a need to formulate an open source strategy. It is also possible in larger organizations that leadership or key decision-makers may not fully understand the potential value of open source as a competitive differentiator. Finally, the inertia of larger organizations can make them resistant to change—especially if there is not a clear short-term business case for an OSPO.

HOW ORGANIZATIONS WITHOUT OSPOS WOULD BENEFIT FROM HAVING ONE

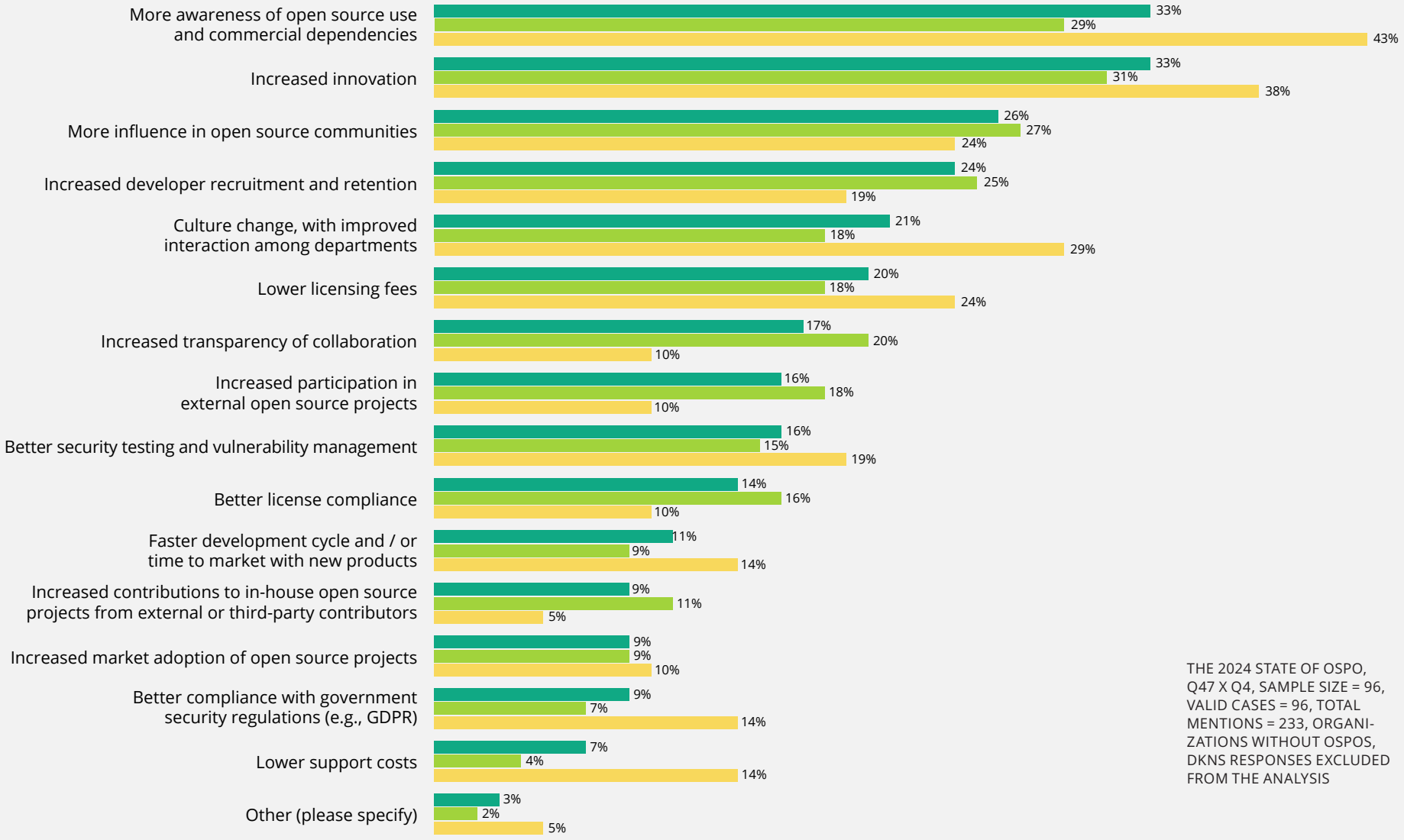
Figure 14 shows that from the point of view of organizations that do not have an OSPO, there are two primary benefits of having an OSPO: more awareness of open source use and commercial dependencies (33%) and increased innovation (33%). Although this represents the voice of just one-third of organizations without an OSPO, these percentages rise to 43% for use and dependencies and 38% for innovation in large and very large organizations.

Organizations without an OSPO are already schooled in issues related to open source licensing, compliance, or security vulnerabilities and therefore understand the benefits of having an OSPO but have yet to commit because of problems such as siloed development, too strong a focus on short-term needs, a lack of a long-term strategic focus, or leadership that lacks insight into the importance of what an OSPO can provide.

FIGURE 14

HOW ORGANIZATIONS WITHOUT AN OSPO WOULD BENEFIT FROM HAVING ONE

What are the top three ways your organization would benefit from an OSPO or similar open source initiative? (SELECT UP TO THREE RESPONSES) SEGMENTED BY: HOW MANY PEOPLE WORK FOR YOUR COMPANY?



THE 2024 STATE OF OSPO, Q47 X Q4, SAMPLE SIZE = 96, VALID CASES = 96, TOTAL MENTIONS = 233, ORGANIZATIONS WITHOUT OSPOS, DKNS RESPONSES EXCLUDED FROM THE ANALYSIS

CONCLUSIONS

The 2024 State of OSPOs and Open Source Initiatives report highlights the growing importance of OSPOs across organizations of all sizes. As organizations increasingly rely on OSS to drive innovation, reduce costs, and streamline development processes, the role of OSPOs has become central to managing open source engagement, compliance, and contributions.

Large organizations have been early adopters of OSPOs; small and medium organizations are now experiencing rapid growth in OSPO adoption. While only 19% of small organizations currently have an OSPO, the expected growth in adoption for smaller firms is 105% over the next one to two years. This highlights the increasing recognition among small and medium organizations of the value that a dedicated OSPO can bring, particularly in terms of strategic open source use and risk management. Larger organizations, which have long understood the benefits of formal OSPO structures, continue to maintain OSPOs at high levels, with 77% of very large organizations having an OSPO in place.

The responsibilities and focus of OSPOs differ significantly based on the size of the organization. In larger companies, OSPOs primarily focus on policy enforcement, license compliance, and mitigation of the risks associated with open source use. These organizations often have complex open source engagements across multiple projects and rely on their OSPOs to ensure that their contributions align with industry standards and regulatory requirements. In contrast, smaller organizations often prioritize developing and executing open source strategies, which are crucial for driving innovation and business growth. OSPOs in small and medium organizations are also responsible for educating teams about best practices in OSS and ensuring proper compliance with licenses, albeit on a smaller scale than larger organizations.

The most significant benefits of OSPOs are improvements in license compliance and increases in transparency and collaboration. Open source licenses can be complex, and OSPOs play a critical role in ensuring that organizations adhere to these terms, thereby avoiding legal and financial risks. Additionally, OSPOs enhance transparency and collaboration within organizations, both internally and with external open source communities. This fosters a more open and collaborative culture, enabling organizations to contribute more effectively to open source projects, which in turn benefits the broader community and strengthens the organization's reputation within the ecosystem.

Another area where OSPOs have made a positive impact is in addressing security issues related to open source software. With 91% of OSPOs involved in managing security concerns, it is clear that these offices are crucial for identifying vulnerabilities and ensuring that open source components are integrated securely into organizational infrastructure. This is particularly important, as organizations increasingly depend on open source software to power critical systems and applications.

The report also underscores the emerging role of OSPOs in managing the risks associated with GenAI. As organizations begin to adopt GenAI technologies, OSPOs are stepping up to manage governance, compliance, and ethical considerations related to these advancements. Smaller organizations, in particular, appear to be more agile in managing GenAI risks, thanks to their flatter structures and closer, cross-functional collaboration between teams. OSPOs are also becoming increasingly involved in the management and oversight of AI infrastructure, especially in the context of open source AI frameworks such as TensorFlow and PyTorch, which require careful management of open source licenses and contributions.

Despite the many benefits of OSPOs, there are challenges that organizations face in establishing and maintaining these offices. One of the most significant challenges is internal awareness and executive support. OSPOs, particularly in large organizations,

often struggle to raise awareness of their importance and garner the necessary support from leadership. Additionally, there are resource constraints, particularly for smaller organizations, which may not have the personnel or financial capacity to establish a dedicated OSPO. Finding and recruiting skilled personnel to manage OSPOs is another challenge, as the specialized nature of open source governance requires individuals with expertise in legal, technical, and community engagement aspects.

Some organizations still don't see the business value of establishing an OSPO, particularly in industries where open source software may not be as strategically critical. However, for those organizations that do not yet have an OSPO, the potential benefits are clear: increased awareness of open source dependencies, improved innovation, and better security testing and vulnerability management. These benefits are particularly pronounced for larger organizations, which are more likely to reap significant returns from formalized open source governance structures.

OSPOs are vital for maximizing the potential of open source software, open standards, open collaboration, and open data, being a support arm that provides advice on compliance, innovation, and managing security risks across team units. As the use of open source software continues to expand, the role of OSPOs will only become more critical in helping organizations navigate the complexities of the open source ecosystem. For organizations that have not yet established an OSPO, the data in this report makes a compelling case for doing so.

METHODOLOGY

ABOUT THE SURVEY

A web survey that Linux Foundation Research and its partners conducted from June to September 2024 provided the basis for this study. The survey's goal was to understand organizational usage of open source software, adoption of OSPOs or similar initiatives, their primary responsibilities, and their impacts on the organization. In this section, we present the study methodology and context regarding how we analyzed the data followed by the demographics of the respondents.

From a research perspective, it was important to eliminate any perception of sample bias and ensure high data quality. We handled the elimination of sample bias by sourcing our usable sample from Linux Foundation subscribers, members, partner communities, and social media. We addressed data quality through extensive prescreening, survey screening questions, and data quality checks to ensure that respondents had sufficient professional experience to answer questions accurately on behalf of the organization they worked for.

We collected survey data from industry-specific companies; IT vendors and service providers; and nonprofit, academic, and government organizations. Respondents spanned many vertical industries and companies of all sizes, and we collected data from several geographies, including the Americas, Europe, and Asia-Pacific.

The 2024 OSPO survey comprised 50 questions that addressed screening, respondent demographics, the impact of the OSPO within the organization, and specific questions to those organizations either planning an OSPO or that do not have an OSPO. For information about access to the 2024 OSPO Survey, its dataset, and survey frequencies, see the Data.World access information below. Figure 15 shows the high-level design of the survey.

Survey screening involved the use of three variables to validate the respondent:

- Must work full time or part time in the information technology field
- Must work for an organization involved with open source software at any level
- Must understand the status of OSPOs and open source involvement within the organization

FIGURE 15

SURVEY DESIGN

Pages	Questions	Question categories	Who answers the questions
P1		Introduction	All respondents
P2	Q1–Q6	Tell us about yourself and your organization	All respondents (N=222)
P3	Q7–Q12	Tell us about your organization's OSS policy	All respondents (N=222)
P4–P5	Q13–Q21	Tell us about the OSS program or initiative	Respondents with OSPOs (N=100)
P6	Q22–Q33	OSPO top-3 effectiveness deep dive	Respondents with OSPOs (N=6 to 46)
P7	Q34–Q37	OSPO impact	Respondents with OSPOs (N=100)
P8	Q38–Q40	OSPO and OSS sustainability	Respondents with OSPOs (N=100)
P9	Q41–Q45	OSPO plans	Respondents with OSPO plans (N=26)
P10	Q46–Q47	No OSPO plans	Respondents with no OSPO or OSPO plans (N=96)
P16	Q48–Q50	Optional closing questions	All remaining respondents

A total of 222 respondents completed the survey. The margin of error for this sample size was + / - 5.5% at a 90% confidence level and + / - 6.5% at a 95% confidence level.

We stratified the data collection by company size, geographic region, and organization type. We segmented the data primarily by geographic region, company size, and type of organization.

Although there was a requirement for respondents to answer nearly all questions in the survey, we made a provision when a respondent was unable to answer a question by adding a "Don't know or not sure" (DKNS) response to the list of responses for every question. However, this created a variety of analytical challenges.

One approach was to treat a DKNS just like any other response to know the percentage of respondents that answered DKNS. The advantage of this approach is that it shows the exact distribution of data collected. The challenge with this approach is that it can distort the distribution of valid responses, i.e., responses where respondents could answer the question.

Some of the analyses in this report exclude DKNS responses. This is because we can classify the missing data as either missing at random or missing completely at random. Excluding DKNS data from a question does not change the distribution of data (counts) for the other responses, but it does change the size of the denominator used to calculate the percent of responses across the remaining responses. This has the effect of proportionally increasing the percentage values of the remaining responses. Where we have elected to exclude DKNS data, the footnote for the figure includes the phrase "DKNS responses excluded."

The percentage values in this report may not total to exactly 100% due to rounding.

DATA.WORLD ACCESS

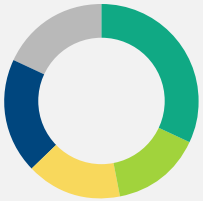
Linux Foundation Research makes each of its empirical project datasets available on Data.World. This dataset includes the survey instrument, raw survey data, screening and filtering criteria, and frequency charts for each question in the survey. You can find Linux Foundation Research datasets, including this project, at data.world/thelinuxfoundation. Access to Linux Foundation datasets is free but does require you to create a Data.World account.

RESPONDENT DEMOGRAPHICS

These demographics provide you with a profile of the 2024 OSPO Survey respondents. We have regrouped all the demographics in Figure 16 to facilitate a more insightful analysis. For the original source data and study frequencies, please see the Data.World access section above.

FIGURE 16

RESPONDENT ROLE

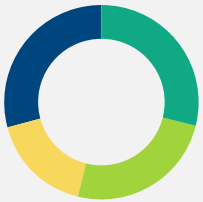


- Developer **32%**
- IT Management **15%**
- Other IT & Security **16%**
- Non-IT staff **19%**
- Other **18%**

TYPE OF ORGANIZATION

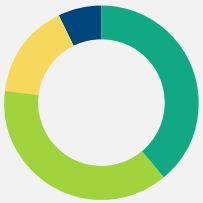
- End-user (of IT) **23%**
- HW/SW vendor or supplier **27%**
- CSP/MSP/SO/Consultant **25%**
- Gov/Foundation/Academia/Other **25%**

COMPANY SIZE (employees)



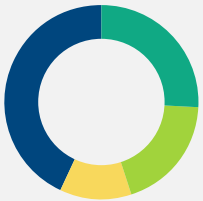
- 1 to 49 **29%**
- 50 to 999 **25%**
- 1,000 to 9,999 **17%**
- 10,000 or more **29%**

GEOGRAPHIC REGION of Headquarters



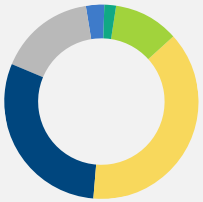
- The Americas **39%**
- Europe **38%**
- Asia-Pacific **16%**
- Rest of World **7%**

DOES ORGANIZATION HAVE AN OSPO?



- Yes, formally structured **26%**
- Yes, informally structured **19%**
- No, but it is in planning **12%**
- No **43%**

HOW CRITICAL IS OSPO to achieving organization goals



- Not critical at all **2%**
- Not critical **11%**
- Somewhat critical **38%**
- Very critical **30%**
- Extremely critical **16%**
- DKNS **3%**

THE 2024 STATE OF OSPO, Q3, 6, 4, 5, 12, SAMPLE SIZE = 222, Q34, SAMPLE SIZE = 100

PROJECT SPOTLIGHTS

As part of our commitment shared in the 2023 end-of-year TODO Steering Committee report to creating an "OSPO Year in Review" section for the OSPO Annual Survey (intended to be shared widely across organizations and foundations to highlight key developments within each community) this year's OSPO survey introduced a Project Spotlight section.

From June to August 2024, TODO issued a call for content, inviting LF staff in roles such as project management, communications, or similar positions within specific LF projects to contribute. Contributors were asked to focus on content relevant to public sector OSPOs, academic OSPOs, or enterprise OSPOs, providing insights into tools their projects are developing, SIG best practices for open source management in specific sectors, and other valuable resources. In addition to LF projects, TODO also reached out to organizations supporting TODO as Associates and participated as a community partner in the study, such as the InnerSource Commons Foundation. After sending three reminders, the submission deadline closed in September. We gathered the input from the projects that submitted content and included their contributions in the report. Projects that did not provide submissions were not included.

CHAOSS

As a joint effort with TODO Group, the CHAOSS OSPO Metrics working group aims to advance how organizations understand the value that open source projects can provide as well as the value of these programs/initiatives.

The CHAOSS community is actively participating on the OSPO Book content creation, shaping the content of a chapter on metrics, which will share the outcomes of the work done in this Metrics working group.

A pull request with these additions will be added to the working repo early next year.

Resources:

- https://chaoss.community/kb/working-groups/
- https://ospobook.todogroup.org/

CLOUD NATIVE COMPUTING FOUNDATION

The Cloud Native Computing Foundation (CNCF) supports and promotes OSPOs in the cloud native ecosystem. CNCF facilitates community interactions through initiatives such as the OSPO Birds of a Feather sessions at events such as KubeCon. These sessions offer a platform for OSPO professionals to discuss challenges and share best practices. The community-driven OSPO Book Project compiles valuable insights from practitioners, creating a comprehensive industry resource.

In collaboration with the TODO Group, the CNCF conducts annual OSPO surveys, providing insights into industry trends and challenges. The

2023 survey revealed a 32% increase in OSPO adoption, highlighting the growing importance of structured open source management.

The CNCF's mentoring programs, such as the LFX platform, Google Summer of Code, and Outreachy, supported over 140 individuals in 2023. These initiatives foster talent and contribute to the sustainability of the open source ecosystem.

The CNCF emphasizes security by partnering with organizations such as the Open Source Technology Improvement Fund. Regular security audits, including fuzzing audits, ensure robust security practices within CNCF projects.

Resources:

- https://www.cncf.io/announcements/2024/06/11/cloud-native-computing-foundation-and-linux-foundation-release-line-up-for-kubecon-cloudnativecon-open-source-summit-ai_dev-china-2024/
- https://www.cncf.io/blog/2023/11/07/cncf-fuzzing-updates-2023/
- https://www.cncf.io/reports/cncf-annual-survey-2023/
- https://www.cncf.io/blog/2023/12/28/ostifs-2023-cloud-native-computing-foundation-audit-impact-report-is-live/

FinOps Foundation

The open source FinOps Framework is the operating model for FinOps. It helps organizations get the most value out of their investments in cloud infrastructure and services by enabling timely, data-driven decision-making and creating financial accountability through collaboration between engineering, finance, and business teams. The Framework's 2024 update reflects current practices.

In early 2023, a FinOps Foundation Working Group embarked on an ambitious journey to develop an industry standard for cloud billing data files. This initiative evolved into a JDF Specification Project that the Linux Foundation hosts, now known as FOCUS. FOCUS 1.0 was released in June, with v1.1 expected in November. Four of the world's largest cloud service providers—AWS, Google, Microsoft, and Oracle—now generate cloud billing files in the FOCUS format, and practitioners are beginning adoption.

The FinOps Foundation offers a variety of individual training and certification programs to advance FinOps practitioners' careers and practices. Courses range from beginner to advanced and include free introductory courses. Tens of thousands of individuals have become certified in over 80 countries. In 2024, $1 million in scholarships are available for people who show a passion for helping to shape the future of FinOps but do not otherwise have the ability to pay for training courses or certification exams. Dozens of major service and platform providers have also become certified through our certification programs for organizations.

Resources:

- What is FinOps?
- FinOps Foundation website
- FinOps Framework
- State of FinOps Annual Survey results
- FinOps Training & Certification
- FOCUS (FinOps Open Cost & Usage Specification) website

InnerSource Commons

The InnerSource Commons is an open source community that empowers organizations and people worldwide to apply and gain the benefits of open collaboration in their internal work. InnerSource Commons has an active ISPO working group that collaborates closely with the TODO community. Some

OSPOs across large organizations work with ISPOs or implement InnerSource Patterns to foster open collaboration within organizations, serving as a cultural mechanism to facilitate open source activities in the future.

Resources:

- https://innersourcecommons.org/learn/patterns/

Leading High-Performance Working Group Meetings

The Leading High-Performance Working Group Meetings (LFC120) course, which LF Strategic Programs developed, is a vital resource for enterprise leaders managing open source software programs and projects. The course equips participants with practical tools and strategies to enhance the effectiveness of working group meetings, ensuring that these collaborative sessions drive meaningful outcomes.

LF AI & DATA

The LF AI & Data Foundation is pivotal in supporting OSPOs whose organizations are engaging within the data and AI ecosystem by providing essential resources.

Generative AI Commons, a community-driven group at LF AI & Data, introduced the **Model Openness Framework (MoF) and the Model Openness Tool (MoT)**.

- The MoF offers a comprehensive system for evaluating the openness of machine learning model development lifecycles, assessing the public availability of various components and their licensing conditions.
- The MoT provides a straightforward mechanism for users to understand the components included in each model and the licenses associated with these components, clarifying the permissible uses of the model and its parts.

Resources:

- Explore the interactive landscape.
- Check out our technical projects.
- Watch TAC Talks.
- Learn about Generative AI Commons.
- Check out MoF and MoT.

THE LINUX FOUNDATION | Education

Open source advocacy is an essential role for OSPOs, not only within their organization but externally as well. Education and standard-setting provide the ideal platform for OSPOs to fulfill their advocate role. As an education and skill level standards setter, OSPOs have an important role in identifying which IT courses and certifications align with the company's practices and needs as well as ensuring that selected educational opportunities deliver value for learners and their teams.

Linux Foundation Education offers 150+ open source–related courses, many free, featuring more than 30 open source best practice courses. Titles include:

- Open Source Management & Strategy
- Antitrust Laws and Open Source Software Project Management and Participation (LFC105)
- Open Source Licensing Basics for Software Developers (LFC191)
- Implementing Open Source License Compliance Management (LFC194)
- A Beginner's Guide to Open Source Software Development (LFD102)
- Developing Secure Software (LFD121)
- Open Source Contribution in Finance (LFD137)

LF Education is also an essential resource for vendor-neutral, skills-based IT certifications, including its soon-to-be-launched CODE certification in collaboration with TODO, specifically for enterprise open source developers. Our 20+ industry standard–setting certifications use real-world problem-solving to prove that participants have the knowledge and critical thinking skills to hit the ground running. Our certification catalog includes:

- FINOS Financial Services Certified Open Source Developer (FSOSD)
- Certified Kubernetes Application Developer (CKAD)
- Certified Kubernetes Security Specialist (CKS)
- OpenJS Node.js Services Developer (JSNSD)
- Certified GitOps Associate (CGOA)

LF ENERGY

Digital solutions for the power sector have traditionally been highly proprietary, with utilities working with a small group of vendors on their technical needs. However, as the energy transition and decarbonization of energy systems proceeds, the need for increased interoperability and speed of innovation is causing open source adoption to accelerate. Efforts to evangelize open source to the power sector include the publication of case studies that demonstrate successful real-world implementations and research such as the Open Source Sustainability Ecosystem Report, which provides an overview of open source projects designed for this field. Additionally, in 2023, LF Energy sponsored a report, Software-Defined Vertical Industries: Transformation Through Open Source, which examines how open source has transformed vertical industries such as energy.

LF Energy has also made OSPO education an important component of its own events. The 2024 Open Sustainability Policy Summit included a panel discussion with OSPO leads at French transmission system operator RTE, Carnegie Mellon University, and the U.S. Department of Homeland Security and Department of Health and Human Services providing an introduction to OSPOs. LF Energy Summit 2024 will include a panel discussion with OSPO leads from RTE as well as distribution system operators Alliander (Netherlands) and E.ON (Germany).

THE LINUX FOUNDATION | Europe

To date, through research on OSS trends in Europe (September 2024) and the open source opportunity in the European public sector (September 2023), we have contributed to a growing evidence base of the value of OSPOs as a powerful catalyst for driving open source adoption and collaboration in the public sector:

- OSPOs are gaining traction as effective mechanisms for facilitating an open source–friendly culture within the public sector.
- OSPOs help remove legal and organizational barriers against open source adoption, aiding developers in using open source more easily.
- OSPOs translate E.U. and national laws into practical actions at regional and local levels.
- OSPOs are crucial for fostering collaboration between public sector organizations, ideally forming interconnected networks.
- By investing in OSPOs, organizations can foster a culture of reciprocity, reap the benefits of open source, and drive innovation in the public sector.
- OSPOs serve as vital bridges between organizations and the open source community, acting as diplomats and forging strategic partnerships.
- OSPOs facilitate upstream contributions to the OSS ecosystem, helping organizations move beyond mere consumption to active participation.

Drawing on these insights and networks with OSPOs in the European public sector, LF Europe is collaborating with the TODO group to form a working group specifically for public sector OSPOs called Linux Foundation Europe

Public Sector Open Source working group. The working group focuses on sharing best practices, addressing common challenges, and promoting the establishment and effective operation of OSPOs across European public sector organizations.

Resources:

- https://lists.linuxfoundation.eu/g/public-sector-oss

The Open 3D Foundation (O3DF) is home to a community of artists, content creators, developers, and technology leaders focused on building and fostering Open 3D Engine (O3DE), the modular, fully featured, high-fidelity, real-time, open source 3D engine. Some industry collaboration examples follow:

- O3DF worked with the Rochester Institute of Technology and Magic Spell Studios to sponsor a team of students and faculty to build O3DE's first-ever commercial game. State of Matter, an FPS puzzler where the player is an intergalactic agent tasked with delving into an abandoned facility on a frozen asteroid, is now available on Steam. Players find themselves immersed within the engaging narrative context of this story while discovering the intricate workings of the new element Plutinite. The game places the focus on freedom of thought and creativity and doesn't have a single path to victory.
- Carbonated Inc. announced in March 2024 that its popular game "Mad World," developed using O3DE, will be shipping on iOS and Android devices later in 2024. This will likely be the first commercially released mobile game utilizing O3DE.
- Robotec.ai uses O3DE for many simulation and robotics use cases. As a part of these efforts, the company has contributed a GenAI framework, ROS2 integration, and Autoware integration and has developed several sensors for use in simulations. Currently, Robotec.ai is implementing simulation scaling in the cloud using O3DE.

Resources:

- Open 3D Foundation: https://o3df.org/
- O3DE: https://o3de.org/
- Discord: https://discord.com/invite/o3de
- YouTube: https://www.youtube.com/channel/UCTC8GDw1XidOTUBEFRbN-sA

The OpenChain Project has an extensive global community of over 1,000 companies collaborating to make the supply chain quicker, more effective, and more efficient. This community maintains OpenChain ISO/IEC 5230, the international standard for open source license compliance programs, and OpenChain ISO/IEC 18974, the international standard for open source security assurance programs. Both of these standards have seen growing adoption momentum in the supply chain, with a recent PwC-sponsored survey showing that 31% of large German companies already use or plan to adopt OpenChain ISO/IEC 5230.

The OpenChain project community develops best practices to reduce friction and increase efficiency across all aspects of open source process management. It focuses on commercial and noncommercial open source process management in the supply chain.

Resources:

- Main site: https://openchainproject.org/
- Certification support: https://openchainproject.org/get-started
- Reference material: https://openchainproject.org/resources

Open Mainframe Project is the focal point for open source on the mainframe, with projects that aid in the ability for enterprises to leverage their mainframe investments across their entire IT infrastructure and business units. Open Mainframe Project has made significant inroads in the adoption of open source for mainframe customers. A proof point of this work comes from the 2024 Arcati Mainframe Yearbook, which indicated that "For z/OS-specific items, respondents indicated that Zowe was either running now, or soon will be in 85% of their mainframe shops."

The Open Mainframe Project Mentorship Program has helped more than 150 students on their open source journey. This program connects secondary education students with the mainframe industry through contributions to mainframe-benefiting open source projects. For mainframe customers, this has become a way to advocate for the use of open source within their organizations and has been a source of hiring top talent.

Resources:

- Open Mainframe Project website
- Landscape of technical projects and other mainframe open source projects

The Open Programmable Infrastructure (OPI) Project focuses on using open software and standards, as well as frameworks and toolkits, to enable the rapid adoption of data processing unit (DPU) and infrastructure processing unit technology. One of the OPI resources interesting to open source managers is the lab, which focuses on testing hardware for conformance, portability, interoperability, and compatibility. The benefits of the lab include:

1. **Quality assurance:** Testing helps identify and fix bugs, security vulnerabilities, and performance issues before they affect users.
2. **Security:** Rigorous testing helps uncover and address potential security flaws, reducing the risk of exploitation and ensuring that solutions are safe for users.
3. **Compatibility**: DPUs often work with a variety of software and systems. Testing helps ensure compatibility across different environments and configurations, which is essential for seamless integration.
4. **Compliance and standards:** Many organizations have compliance requirements or standards that must be met. Testing these solutions help ensure that they adhere to these standards, which can be particularly important in regulated industries.
5. **Feedback and improvement:** Testing provides valuable feedback to developers about the solution behavior and performance. This feedback loop is crucial for continuous improvement and for addressing issues that may arise as the solution evolves.

The Open Source Security Foundation (OpenSSF), in collaboration with TODO Group, developed a list of ways recommended to help OSPOs to improve open source sustainability and security in their organization across team units:

1. **Focus on education.** Have every developer from your firm using or contributing to OSS learn how to develop secure software, e.g., by taking the free Developing Secure Software education module.

2. **Use multi-factor authentication (MFA) on developer accounts.** MFA makes it harder for attackers to take over developers' accounts to make malicious changes (e.g., on GitHub).
3. **Use a combination of tools in your CI pipeline to detect vulnerabilities.** See the OpenSSF guide to security tools. Tools shouldn't be the only mechanism, but they scale. For example, security code scanners (static application security testing tools) analyze source code and can report areas with likely vulnerabilities, while software component analysis/dependency analysis tools can warn you about known vulnerabilities in your dependencies.
4. **Adopt** OpenSSF Best Practices Badge criteria when evaluating, contributing to, and releasing projects as OSS.
5. **Measure OSS projects using the OpenSSF Scorecards.**
6. **Sign contribution agreements.** Require contributors from your organization to sign off on commits using DCO to increase confidence that code can be legally licensed and used in the open source project.
7. **Adopt sigstore,** the new standard for signing, verifying, and protecting software.
8. **Publish and consume a SBOM.** One such format is SPDX.
9. **Monitor and track** the overall health of open source projects with project health tracking tools such as the Linux Foundation's LFX and CHAOSS toolkit.
10. **Identify relevant guidance and share it with developers,** such as the OpenSSF concise guides for developing secure software and evaluating open source software.
11. **Create and nurture bidirectional communication between communities.** You can now leave your requests on OSPO Forum under the new OSPO Wishlist category.

Additionally, the OpenSSF has developed free courses for software developers on how to develop secure software. Examples include the Securing Projects with OpenSSF Scorecard Course, Securing Projects with OpenSSF Scorecard (LFEL1006), and the Secure Software Development Fundamentals Courses.

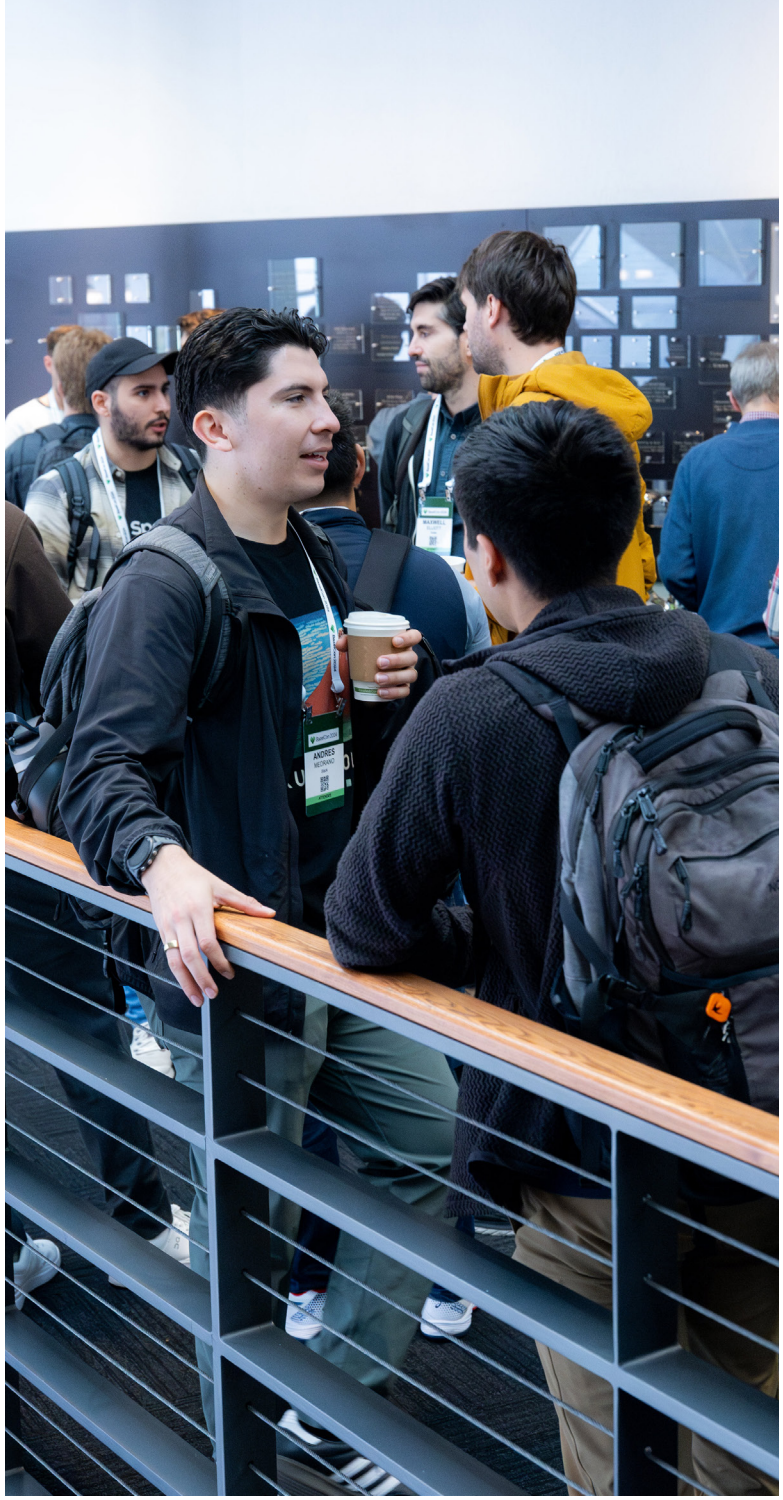
Resources:

- https://openssf.org/training/
- https://openssf.org/blog/2022/09/29/how-ospos-can-be-a-key-lever-for-open-source-sustainability-and-security/

While the engineering-driven approach to open source is well covered, a business-driven approach is less discussed but crucial for organizations to understand how open source can drive both innovation and financial value. Because of this, this September, the TODO Europe Chapter community started a new working group to collectively develop an Open Source in Business Whitepaper. This initiative began as part of the TODO Group's Touchpoint calls to create a guide to address the gap in knowledge and strategic guidance around open source adoption from a business-driven perspective. This guide aims to:

1. Provide businesses with tools to integrate open source into their core strategy
2. Help non-software-native companies (e.g., hardware or manufacturing) understand how open source can play a role in their business models
3. Educate business managers on the long-term investments required for successful open source strategies (e.g., building and nurturing open source communities)

The TODO Europe Chapter conducts open office hours on open source management strategic value and OSPO onramp during TODO Europe Chapter Touchpoint calls on the last Thursday of every month. TODO Steering Committee members facilitate office hours, and participation is open to all.



Resources:

- Working Repo: https://github.com/todogroup/ospology/tree/main/whitepapers/business-value

The OSPO book is one of the largest ongoing initiatives done in TODO, serving as a source of knowledge for organizations developing strategies to use, contribute to, and/or create open source projects through professionals working in OSPOs. It aids in gaining a better understanding of the OSPO's role and provides resources developed openly by a group of contributors with deep knowledge in open source strategy, community, and management. Some topics covered include:

- Why organizations may or may not need an OSPO
- Assessing an organization's readiness for implementing an OSPO
- The role of OSPOs in different types of organizations
- Common challenges and recommendations
- Practical recommendations in day-to-day operations, ranging from formulating open source policies to effectively engaging with external open source communities

Resources:

- Working Repo: https://ospobook.todogroup.org/

yocto PROJECT

Developer teams inside the organization, which many OSPOs provide support to, may face a range of challenges during embedded product development, from keeping up with license compliance to managing software supply chains and navigating new government regulations. Common questions include "How do I make sure we comply with license obligations, and how do I track changes?" and "How can I tell if my software is vulnerable, and is anyone

keeping an eye on this for me?" Yocto Project offers automated license analysis and manifest generation during the build process, helping OSPO managers and developer teams stay on top of license and regulatory requirements. It also generates detailed reports with CVE-specific metadata, which is crucial for tracking and fixing vulnerabilities. Plus, Yocto Project includes built-in software bill of materials (SBOM) features through SPDX, so you always know exactly what's in your software and where it came from.

Resources:

- yoctoproject.org

Zephyr® Project

The Zephyr Project is an open source, scalable real-time operating system supporting multiple hardware architectures. It is product ready, available through the Apache 2.0 open source license, and is free to use in commercial and noncommercial solutions.

The project includes three SBOMs by default in each build, providing OSPOs and security teams with a detailed understanding of exactly which code is being shipped and the licensing associated with each down to the file level, and monitors for vulnerabilities.

Zephyr provides a robust security model that aligns with industry standards, including features such as secure boot, encryption, and system integrity checks. This project has gained popularity within various industries, such as IoT, automotive, industrial, and healthcare, due to its unique attributes. OSPOs that care about collaboration within such strong ecosystems tend to stay at the cutting edge of technology development.

Resources:

- Zephyr website: https://www.zephyrproject.org/
- Products running on Zephyr: https://www.zephyrproject.org/products-running-zephyr/
- Developing with Zephyr: https://www.zephyrproject.org/products-running-zephyr/

ABOUT THE AUTHORS

STEPHEN HENDRICK is Vice President of Research at the Linux Foundation, where he is the principal investigator on a variety of research projects core to the Linux Foundation's understanding of how open source software is an engine of innovation for producers and consumers of IT. Steve specializes in primary research techniques developed over 30 years as a software industry analyst. Steve is a subject-matter expert in application development and deployment topics, including DevOps, application management, and decision analytics. Steve brings experience in a variety of quantitative and qualitative research techniques that enable deep insight into market dynamics and has pioneered research across many application development and deployment domains. Steve has authored over 1,000 publications and provided market guidance through syndicated research and custom consulting to the world's leading software vendors and high-profile start-ups.

ANA JIMENEZ is a Senior Project Manager at the Linux Foundation, where she supports an open source community spread across four continents involving over 3,000 practitioners and contributes to research on open source management. Prior to this role, Ana worked at Bitergia, a software development analytics firm, and recently completed an MSc in Data Science. Specialized in developer community health metrics, her final thesis focused on measuring the success of DevRel in open source development communities. Ana's thesis involved developing a set of Python scripts designed to gather, enrich, explore, model, and report GitHub data to measure developer communities. The research presents a model that profiles different types of developers based on their activity across various channels where the open source community engages with Open Distro technology (now OpenSearch). More details and documentation, including the scripts, are available in the GitLab repository here.

ACKNOWLEDGMENTS

We thank all the participants of the survey for kindly sharing their insights and experience. Special thanks to peer reviewers and Linux Foundation colleagues for their involvement in the various stages of the research process, including TODO Steering Committee Members involved during the review process—Britanny Istenes, Annania Melaku, Georg Kunz, Leslie Hearthown, Stephen Augustus, Nik Peters, and Ashley Wolf—as well as Linux Foundation staff members Chris Aniszcayk, Elizabeth Bushard, Hilary Carter, Mia Chaszeyka, Anna Hermansen, Adrienn Lawson, and Christina Oliviero.

THE LINUX FOUNDATION | Research

Founded in 2021, Linux Foundation Research explores the growing scale of open source collaboration, providing insight into emerging technology trends, best practices, and the global impact of open source projects. Through leveraging project databases and networks, and a commitment to best practices in quantitative and qualitative methodologies, Linux Foundation Research is creating the go-to library for open source insights for the benefit of organizations the world over.

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github.com/LF-Engineering

TODO

TODO is the largest global open community of practitioners who aim to create and share knowledge, collaborating on best practices and tools to leverage open source management operations for inside organizations through the establishment and continuation of OSPOs.
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