

2023 IoT & Edge Commercial Adoption Survey Report

Table of Contents



03

Introduction

04

Executive Summary

05

Key Findings

19

Recommendations

22

Methodology & Demographics

Introduction

Welcome to the 2023 IoT & Edge Commercial Adoption Survey Report!

Within these pages, you'll discover pivotal insights and emerging trends that are essential for navigating the dynamic IoT and edge computing landscape.

The 2023 survey was conducted with the purpose of gaining a better understanding of the IoT & edge industry landscape. Specifically, it focused on identifying the requirements, priorities, and challenges faced by organisations deploying and utilising commercial IoT & edge solutions.

With global participation from 1037 individuals spanning various industries and job functions, this report reflects a diverse range of perspectives.

We trust you'll find this report insightful and invite your questions and feedback.

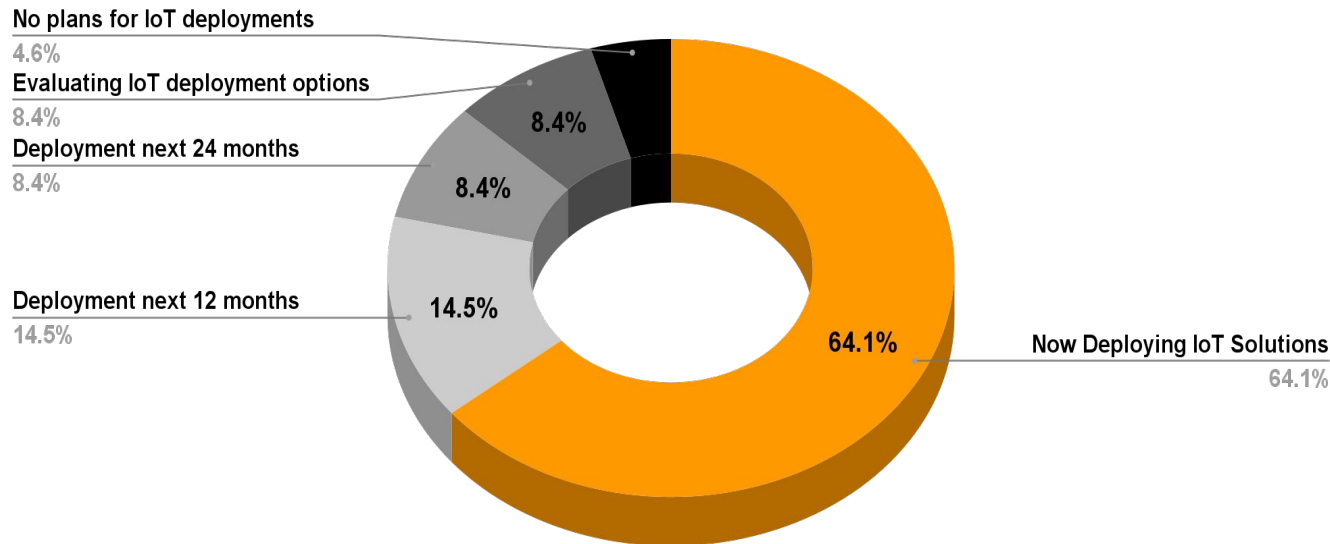
Executive Summary

- **IoT Adoption Surged in 2023:** 64% of respondents are now deploying IoT solutions, up from 53% in 2022. An additional 23% are planning to deploy within the next 12-24 months. Less than 5% have no IoT deployment plan.
- **Edge Computing Adoption Holds Steady, Acceleration Anticipated:** Adoption of edge computing solutions remains at 33% (same as 2022), with an additional 30% indicating plans to deploy within the next 24 months. 27% are still evaluating edge platforms, while only 10% have no plans to deploy edge solutions.
- **Rising Investments Signal Scale-Up in Production Deployments:** 17% of respondents spent between \$1-10M in 2023 (more than double that of 2022), growing to 23% in 2024. 5% anticipate spending over \$10M. This trend indicates a transition from proof-of-concept to ROI-focused deployments.
- **There is a Trend Towards a Larger Number of IoT & Edge Assets per Deployment**
Deployments of fewer than 1K managed assets will remain steady or decline, while larger deployments are on the rise, with an impressive 10% of deployments consisting of 50K or more devices. In terms of asset implementation, the mix between greenfield and brownfield is almost equal.
- **IoT is Increasingly Strategic With the C-Suite Driving Investment Decisions:** 49% of organisations reveal that decisions are predominantly driven by the C-suite. This marks a significant increase from the 38% reported in 2022, indicating the growing strategic importance of IoT.
- **75% of Organisations Embrace Open Source in IoT and Edge:** 75% of organisations are actively incorporating open source into their deployment plans. The widespread use of IoT and edge solutions based on open source technologies highlights how open source has become key in shaping today's technology landscape.



Key Findings

IoT Adoption Surged in 2023



64% of respondents are now deploying IoT solutions, up from **53%** in 2022.

An additional **23%** are planning to deploy within the next 12-24 months.

Less than **5%** have no IoT deployment plan.

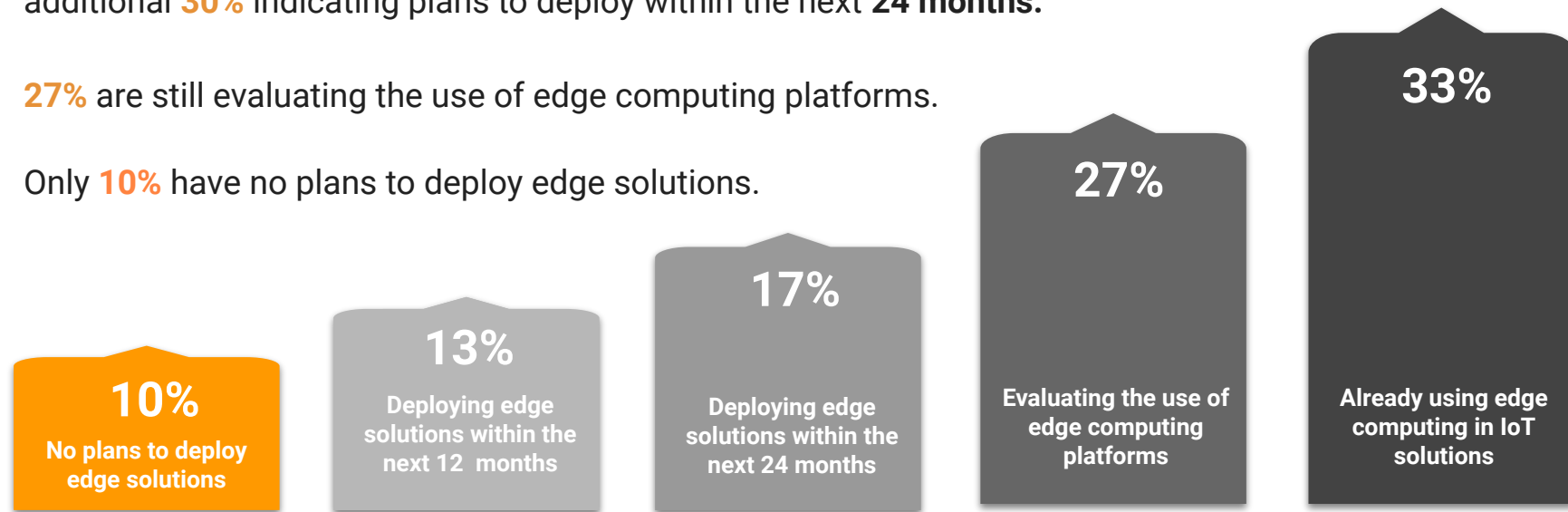
Q: Which of the following statements best describes your organisation's IoT deployment status?

Edge Computing Adoption Holds Steady, Acceleration Anticipated

Adoption of edge computing solutions remains at **33%** (same as 2022), with an additional **30%** indicating plans to deploy within the next **24 months**.

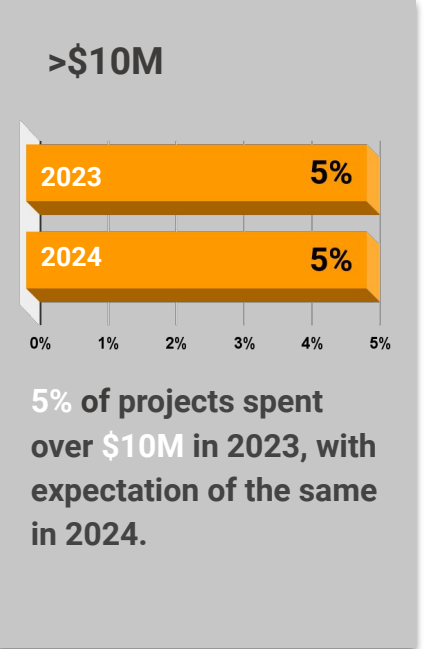
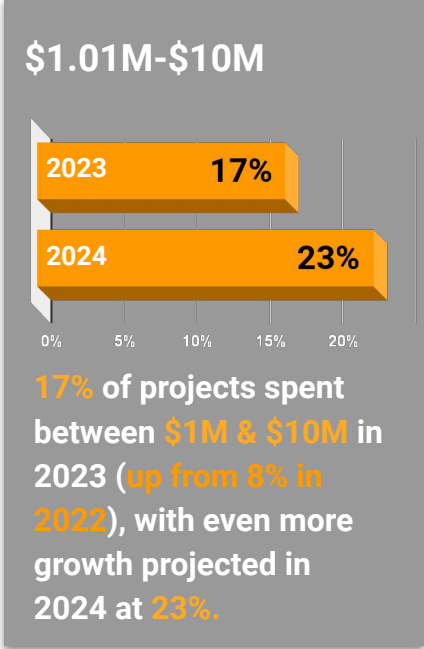
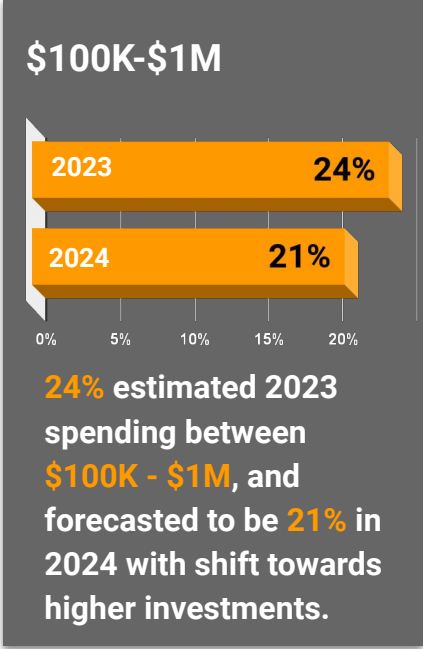
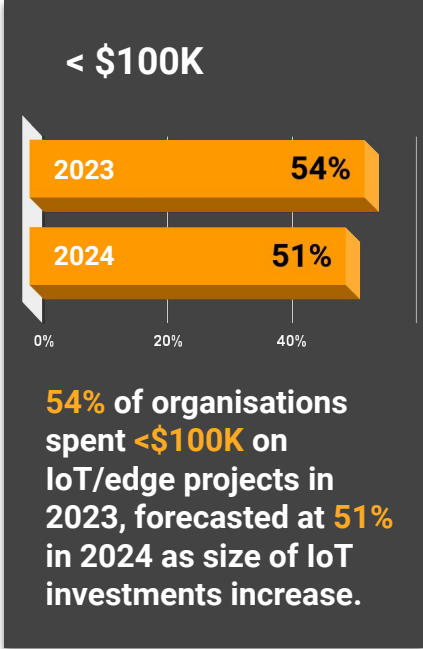
27% are still evaluating the use of edge computing platforms.

Only **10%** have no plans to deploy edge solutions.



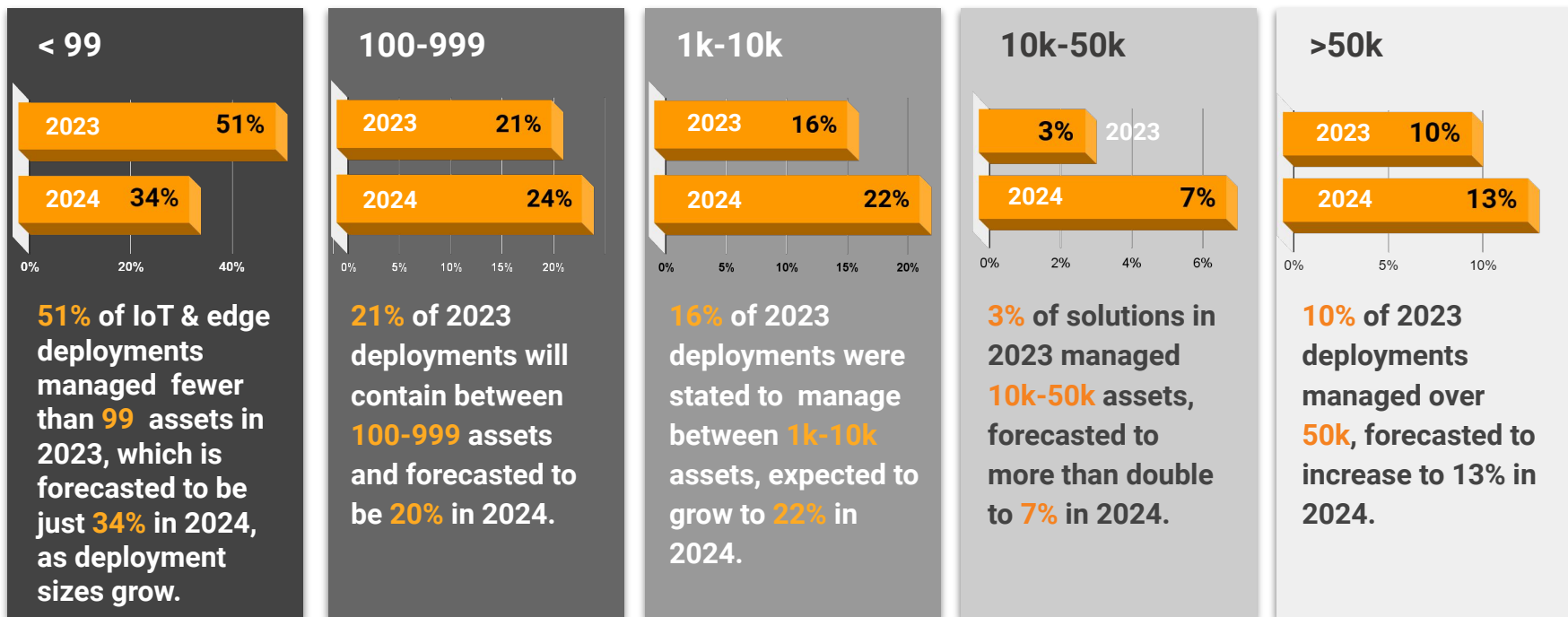
Q: Which of the following statements best describes your organisation's use of edge computing?

Rising Investments Signal Scale-Up in Production Deployments



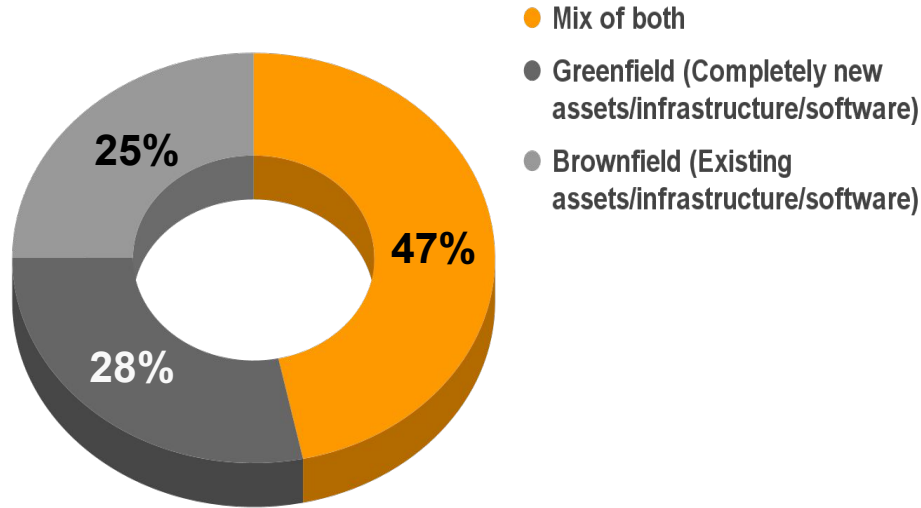
Q: How much will your organisation invest into IoT/edge solutions in the current and next fiscal years?

Trend Towards More Assets per Deployment



Q: How many assets are part of your IoT/edge solutions in the current and next fiscal years?

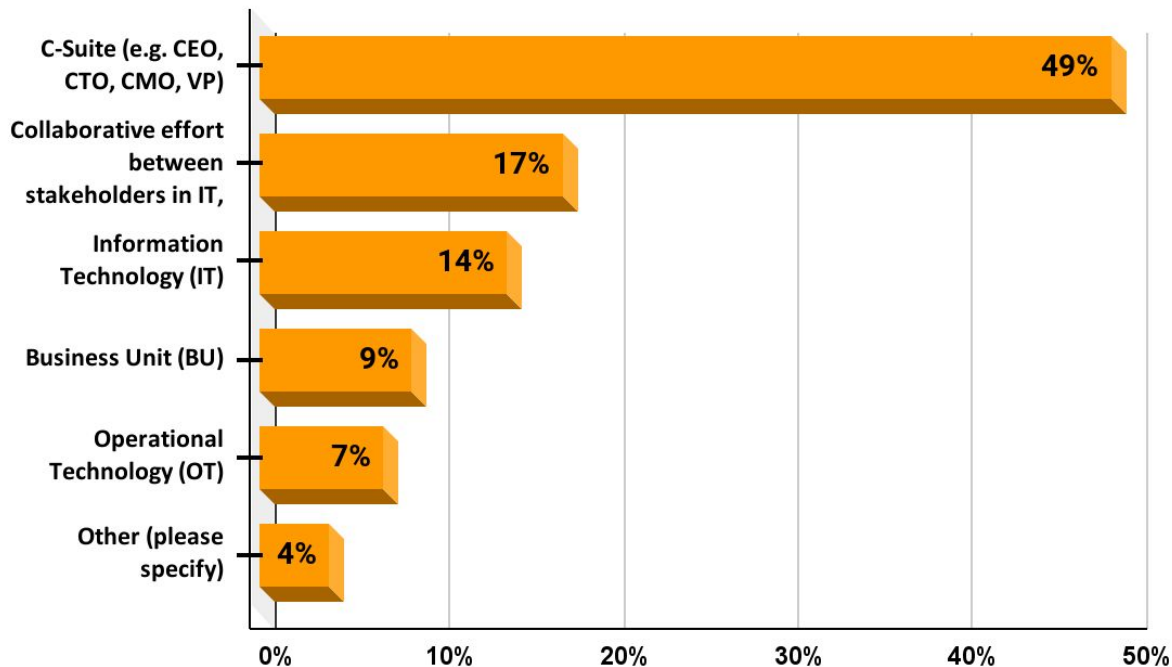
Nearly Even Split Between Greenfield & Brownfield



47% of IoT and edge computing implementations blend new and existing assets, while **28%** are entirely new (greenfield). The remaining **25%** represent upgrades to existing assets (brownfield). This dynamic mix reflects the diverse approaches organisations are taking to implement and integrate IoT and edge technologies.

Q: What kind of implementations are you working on?

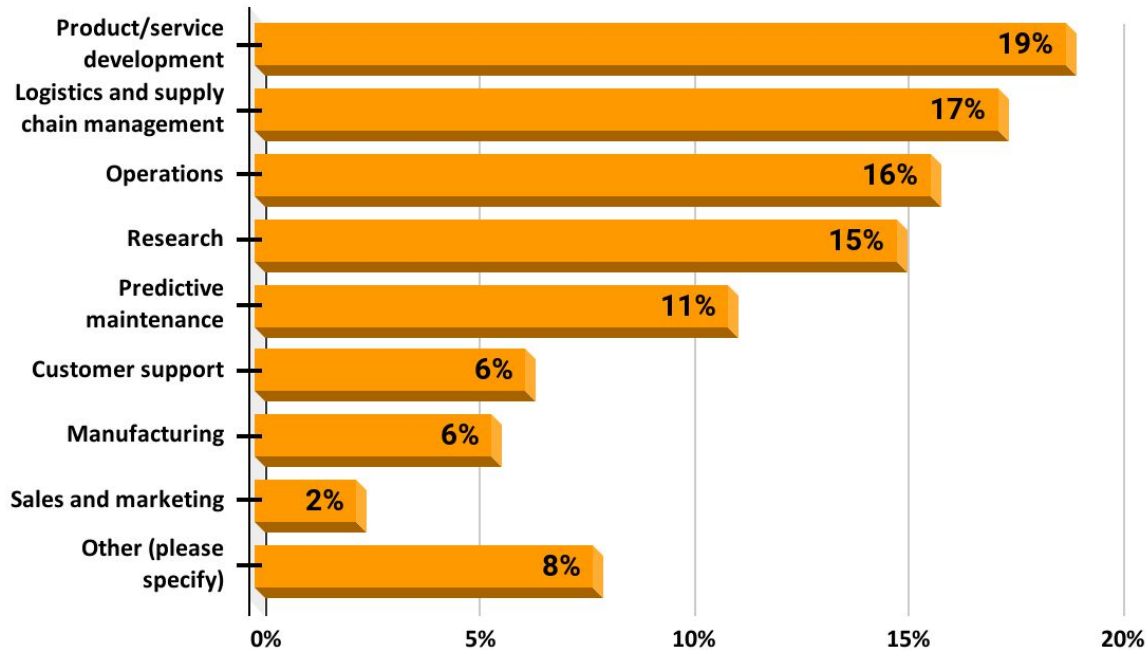
IoT is Increasingly Strategic: C-Suite Drives Investment Decisions



49% of organisations reveal that decisions are predominantly driven by the C-suite. This marks a significant increase from the 38% reported in 2022, indicating the growing strategic importance of IoT.

Q: For which industry or industries are you building IoT solutions? (Select all that apply)

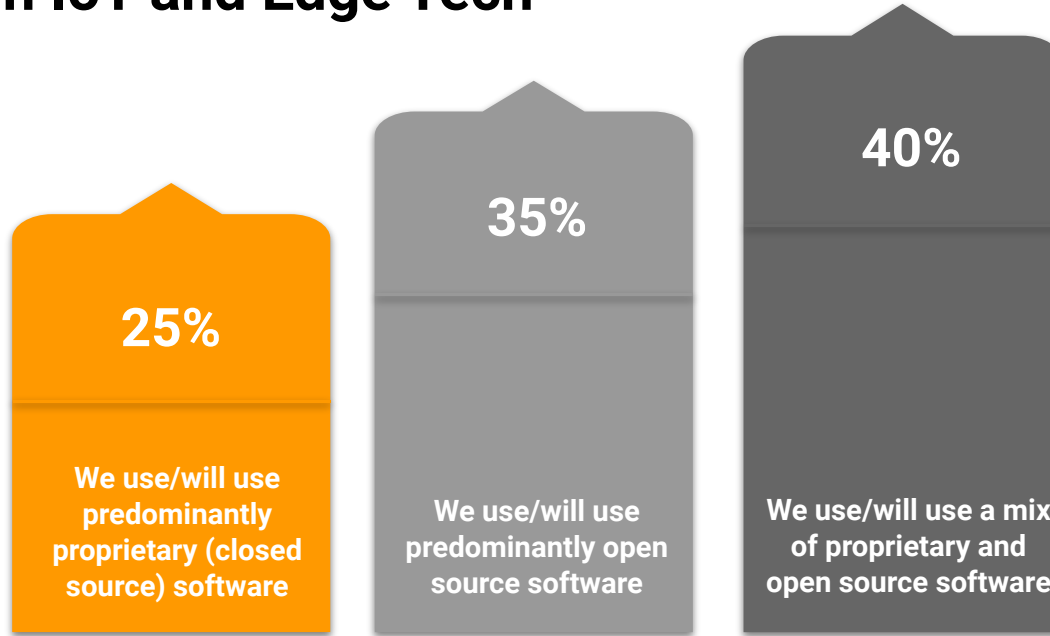
Broad Organisational Impact of IoT & Edge Tech



Respondents anticipate broad organisational impact of IoT and edge tech. Product and service development ranks highest at 19%, followed by logistics and supply chain management at 17%, and operations at 16%.

Q: Within your organisation, where do you expect IoT/edge solutions to have the greatest impact?

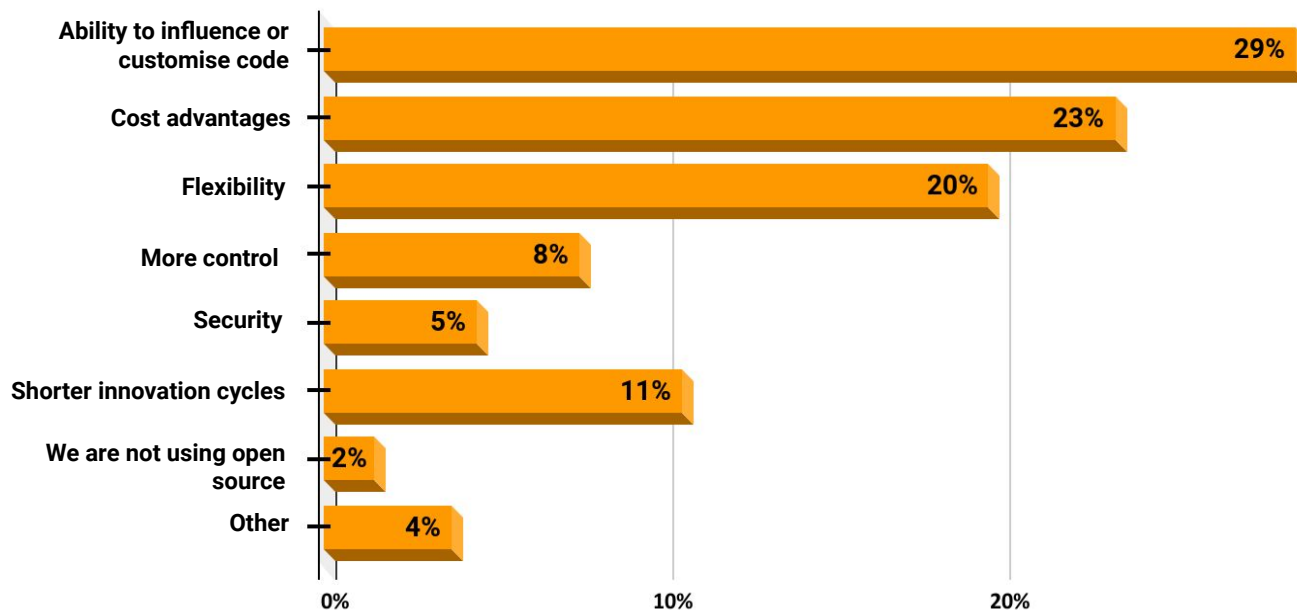
75% of Organisations Embrace Open Source in IoT and Edge Tech



75% of organisations are actively incorporating open source into their deployment plans. The widespread use of IoT and edge solutions based on open source technologies highlights how open source has become key in shaping today's technology landscape.

Q: Which of the following statements best describes your IoT and edge software strategy?

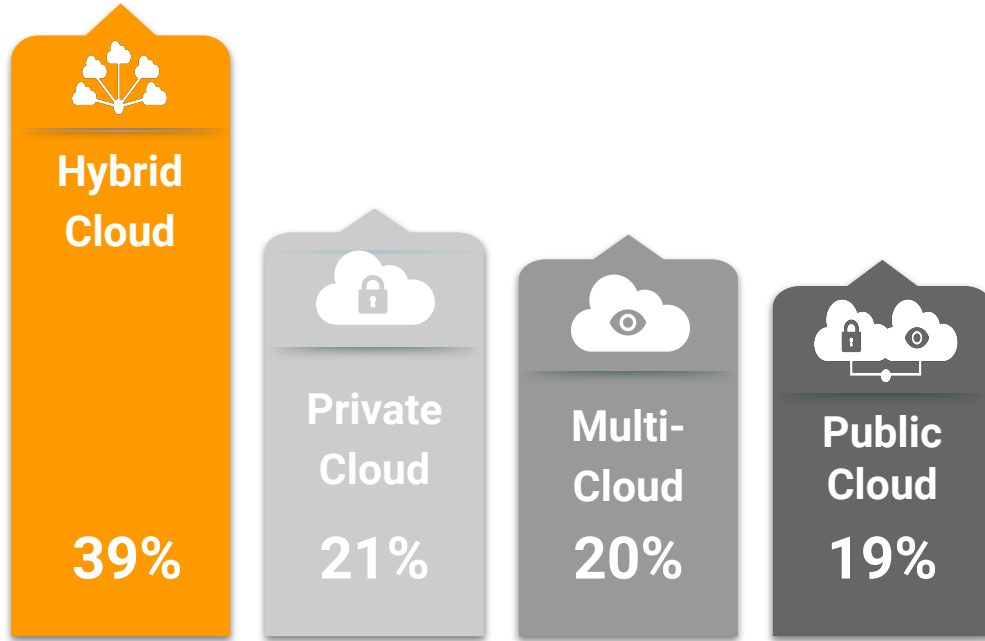
Key Benefits of Open Source Technologies



Consistent with prior surveys, respondents recognize open source advantages, attributing the greatest benefits to their **ability to influence or customise code** within projects, substantial **cost advantages**, and heightened **flexibility**.

Q: What do you see as the primary benefit of using open source technologies?

Hybrid IoT Cloud Strategies Lead The Way

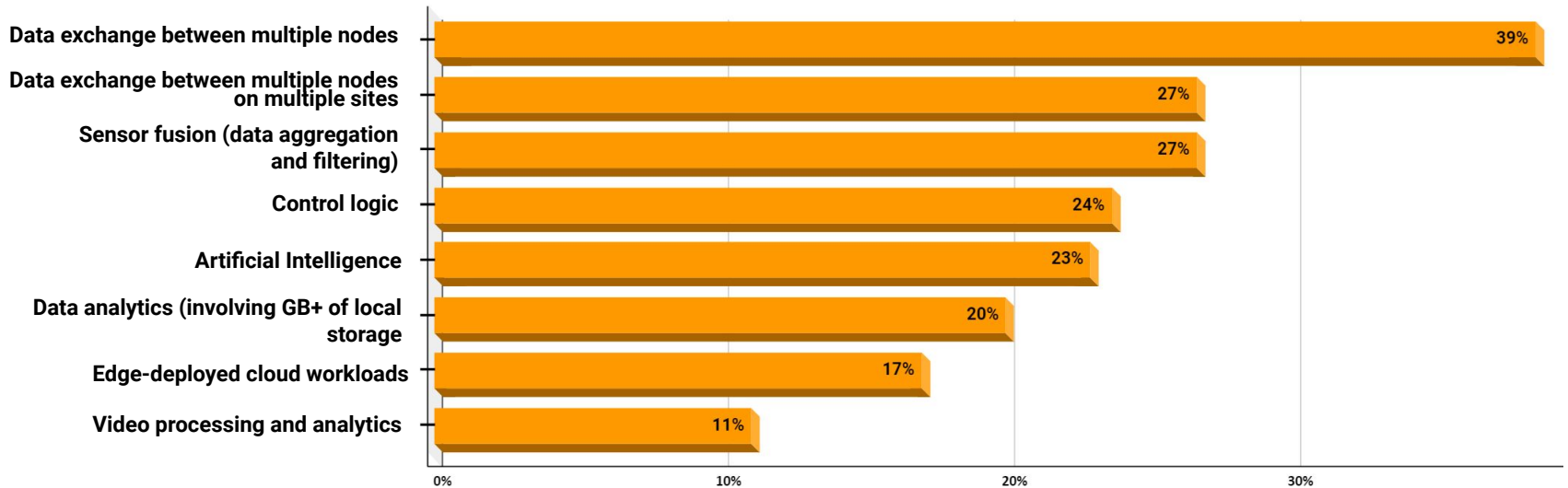


39% of organisations are adopting hybrid IoT cloud strategies. Meanwhile, private cloud (21%), multi-cloud (20%), and public cloud (19%) solutions are in a virtual tie for 2nd place, reflecting a diverse approach to cloud deployment.

Q: How would you describe your cloud strategy?

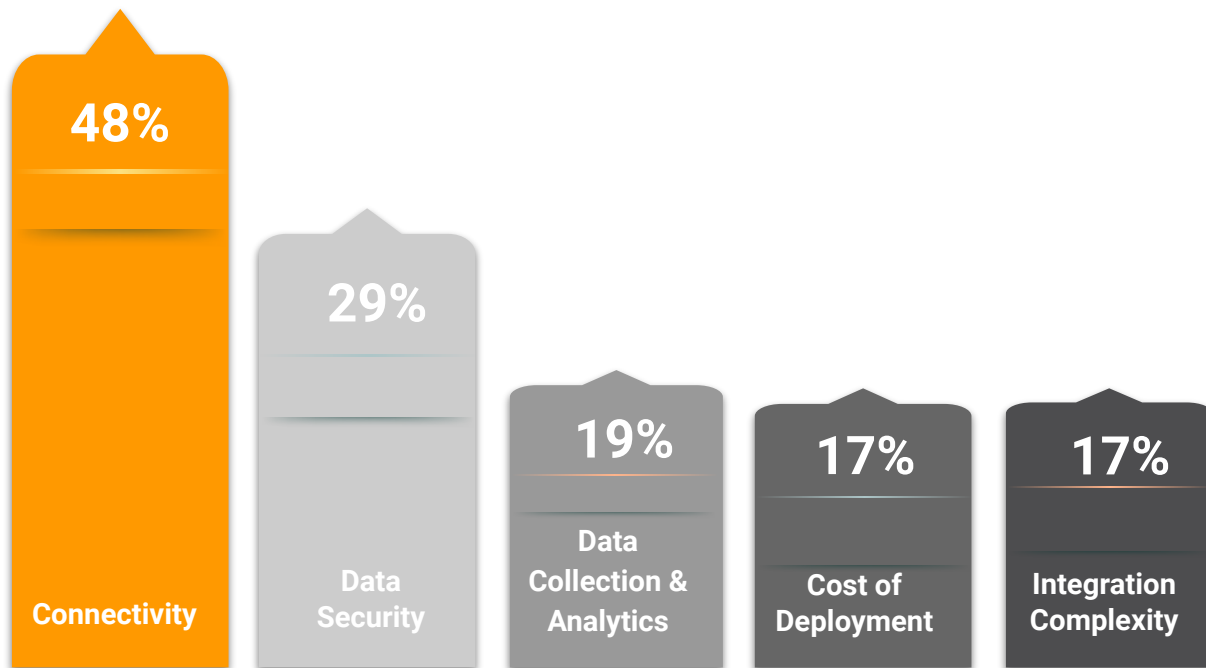
Data Management Dominates Edge Workloads

Edge computing is a natural extension of the hybrid cloud and facilitates machine learning (ML). The emphasis on data management signals commitment to ML at the edge.



Q: What types of edge computing workloads are you, or will you be running? (Select up to three)

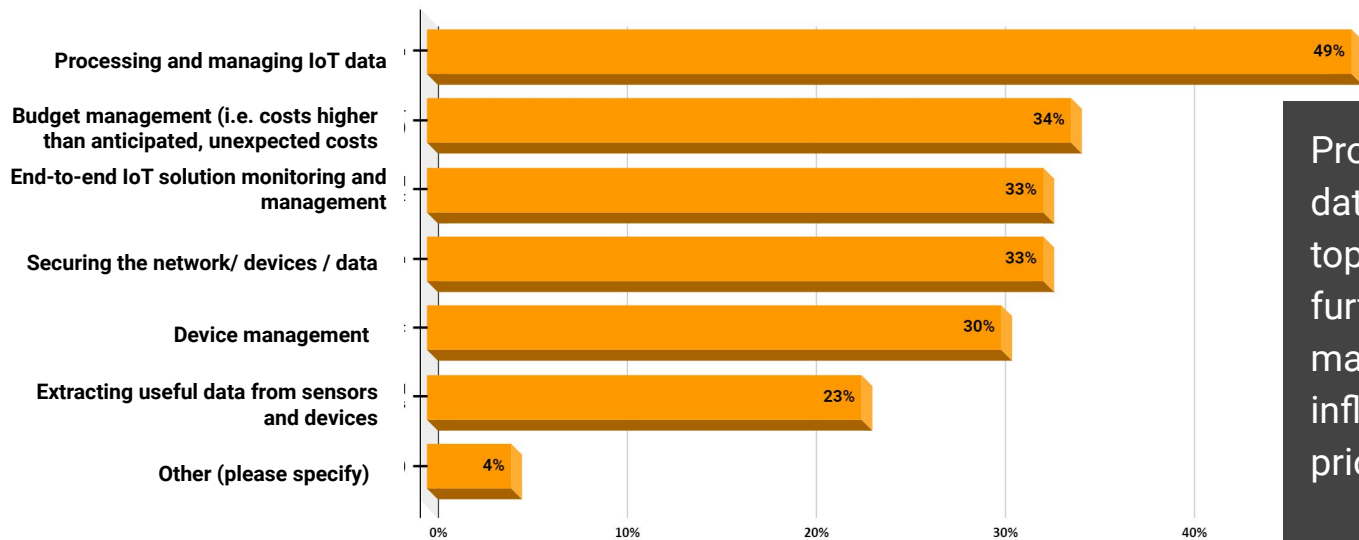
Connectivity is the Top Priority in IoT Deployment



48% of organisations prioritise connectivity as a design consideration. This is closely followed by data security (29%). This underscores the critical role connectivity plays in shaping design strategies, along with a concern that 5G may not yet be fully delivering on expectations.

Q: What are your organisation's top 3 concerns/priorities for IoT/edge solution deployment? (Please select up to three)

Operational Challenges: Prioritising Data, Budget, and Security



Processing and managing data (49%) is by far the top operational concern, further illustrating how machine learning is now influencing deployment priorities.

Q: What are the top 3 challenges to operating IoT/edge solutions? (Please select up to three answers)

Recommendations

- **Prioritise Edge Computing Integration:** While IoT adoption is on the rise, edge computing adoption has remained steady, though with an optimistic outlook. This indicates an opportunity to gain a competitive edge by prioritizing the integration of edge computing solutions. Evaluate the potential benefits of deploying edge solutions and consider the long-term advantages they can offer to your organisation.
- **Increase Budget Allocation for IoT & Edge:** With a trend towards higher investments in IoT and edge technologies, consider increasing budget allocation for these initiatives. As the number of assets managed per deployment is on the rise, allocating sufficient resources will be crucial for successful implementation and management of a growing IoT and edge ecosystem.

Recommendations

- **Facilitate C-Suite Decision-Making:** Understanding the increasing influence of the C-suite in decision-making, create offerings that resonate with top-level executives. Provide clear and strategic value propositions that align with organisational goals, making it easier for C-level decision-makers to choose your solutions.
- **Strategise for a Mixed Asset Implementation:** Given the trend towards a larger number of IoT and edge assets managed per deployment, strategise for a mixed asset implementation. Consider the balance between greenfield and brownfield deployments, ensuring flexibility to accommodate both new and existing assets. This approach allows for a more adaptable and scalable IoT and edge infrastructure, while also securely connecting vulnerable legacy devices.

Recommendations

- **Leverage Open Source Technologies:** With 75% of organisations actively incorporating open source into their IoT & edge deployment plans, be sure to consider open source in your initiatives. Embracing open source not only aligns with industry trends but also provides cost advantages, flexibility, and the ability to customise code – crucial factors for successful and sustainable IoT and edge implementations. Plus, transitioning between IoT cloud platforms is much easier when platforms are based on open source.
- **Emphasise Security Measures:** With the increasing adoption of IoT and edge solutions, security becomes paramount. Solution providers should emphasise robust security measures, addressing concerns related to data security, device security, and overall system integrity. Clearly communicate the security features of your solutions to instill confidence in potential users.

Methodology & Demographics

Methodology

Sponsored by the [Eclipse IoT](#) and [Eclipse Sparkplug](#) Working Groups, the 2023 IoT & Edge Commercial Adoption Survey was conducted from 4 April to 5 July 2023. The survey garnered participation through social media channels, the Eclipse Foundation websites, and the enthusiastic support of our valued members and partners.

A total of 1,037 respondents, comprising developers, committers, architects, and decision-makers, participated in the survey—a notable 15% increase from the previous year. These participants hail from diverse industries worldwide.

Among the respondents, 63% identified as open source users, with 21% actively contributing to open source projects.

Which Best Describes Your Role?



Developer



Executive



Engineering/R&D
Management



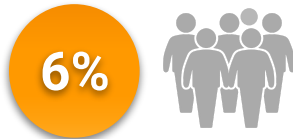
Other



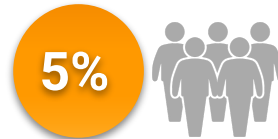
IT Management



Engineer/R&D (Hardware)

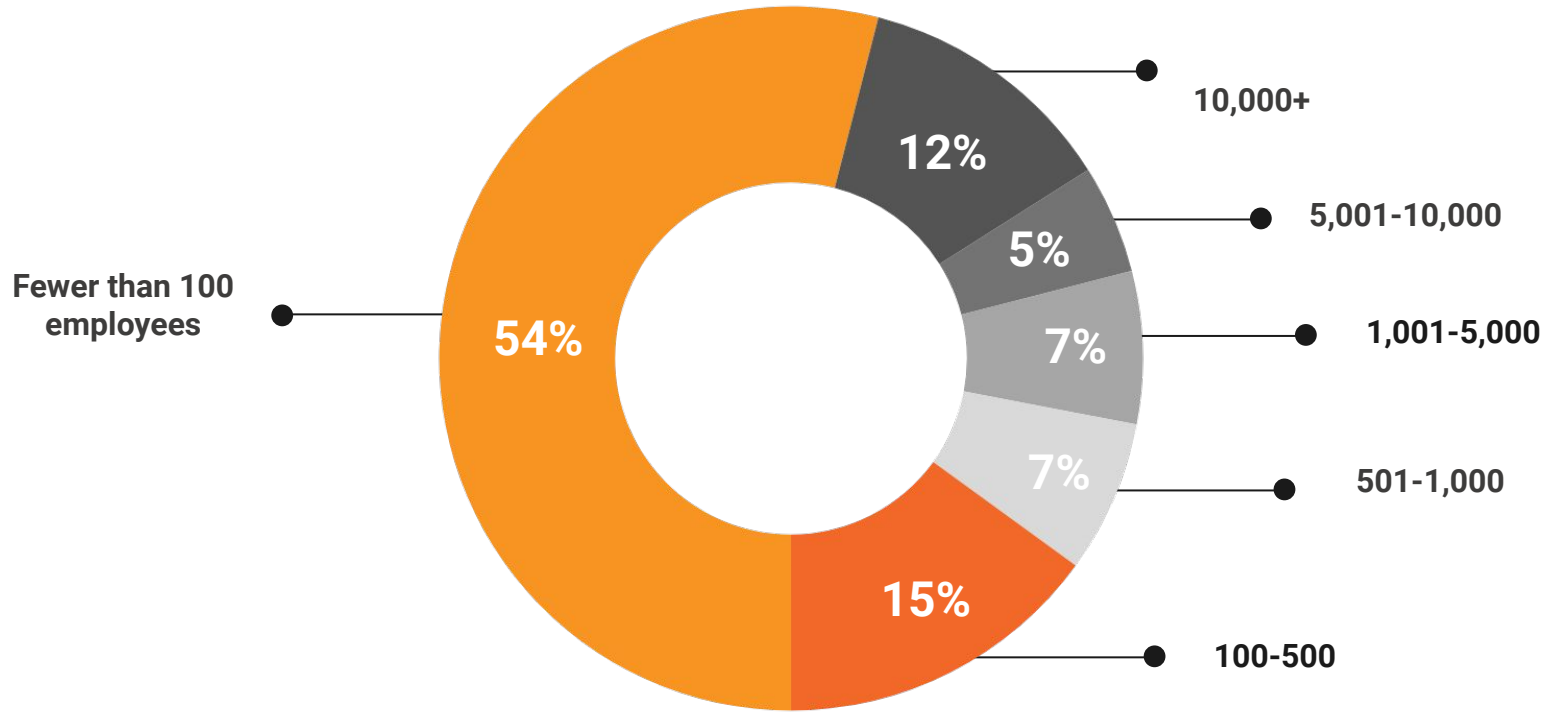


Product Manager

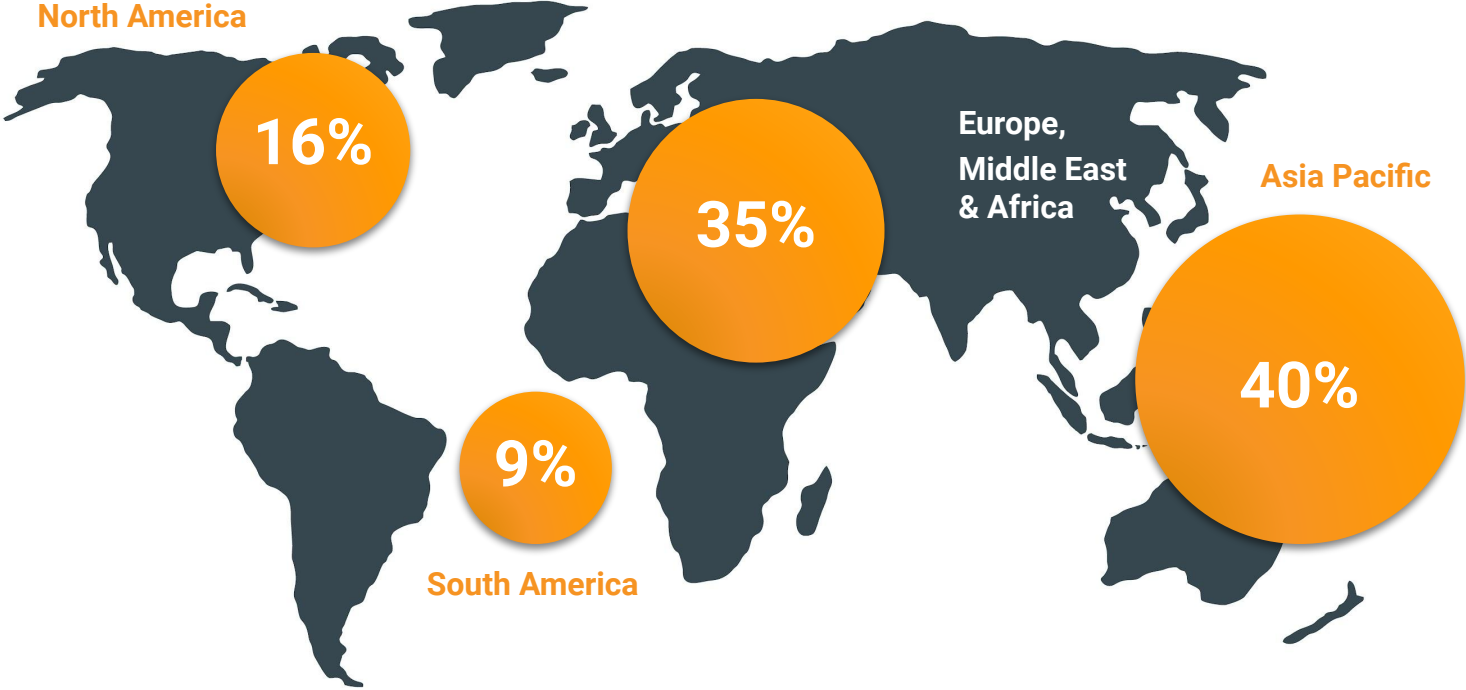


Marketing/Sales/Business
Development

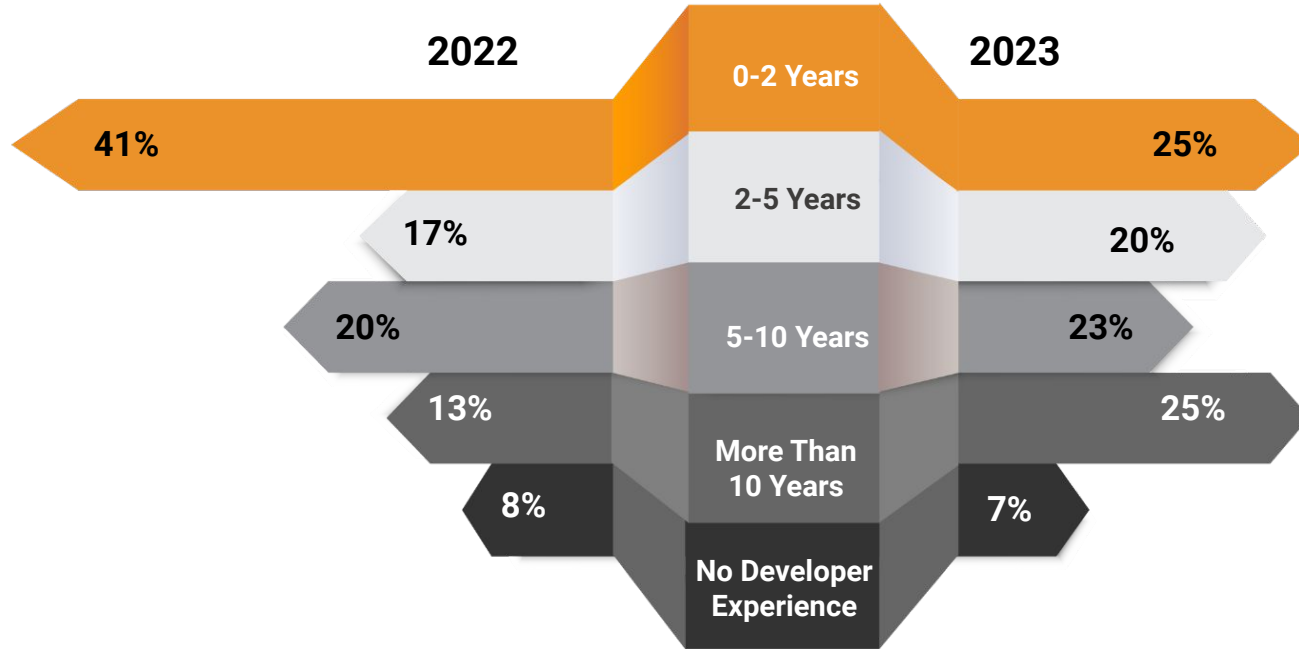
How Large is the Organisation You Work For?



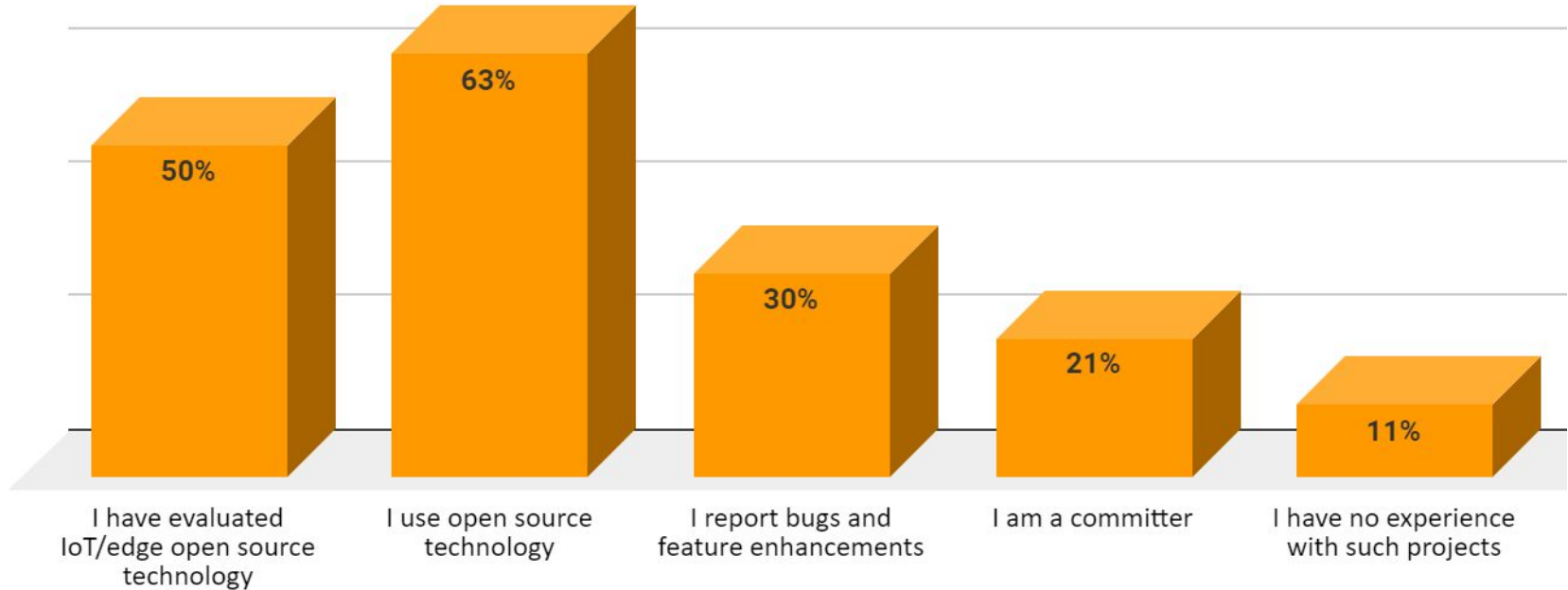
In Which Region Are You Located?



Experience Developing IoT/Edge Solutions



Open Source IoT/Edge Project Participation



Thanks to Our Survey Partners

Thank you for sharing the survey with your communities!



Thank You!

To receive exclusive access to detailed industry research findings,
[join the Eclipse IoT Working Group.](#)



Learn More:

iot.eclipse.org

sparkplug.eclipse.org



Connect With Us:

[@EclipseIoT](https://twitter.com/EclipseIoT)

[@SparkplugWG](https://twitter.com/SparkplugWG)