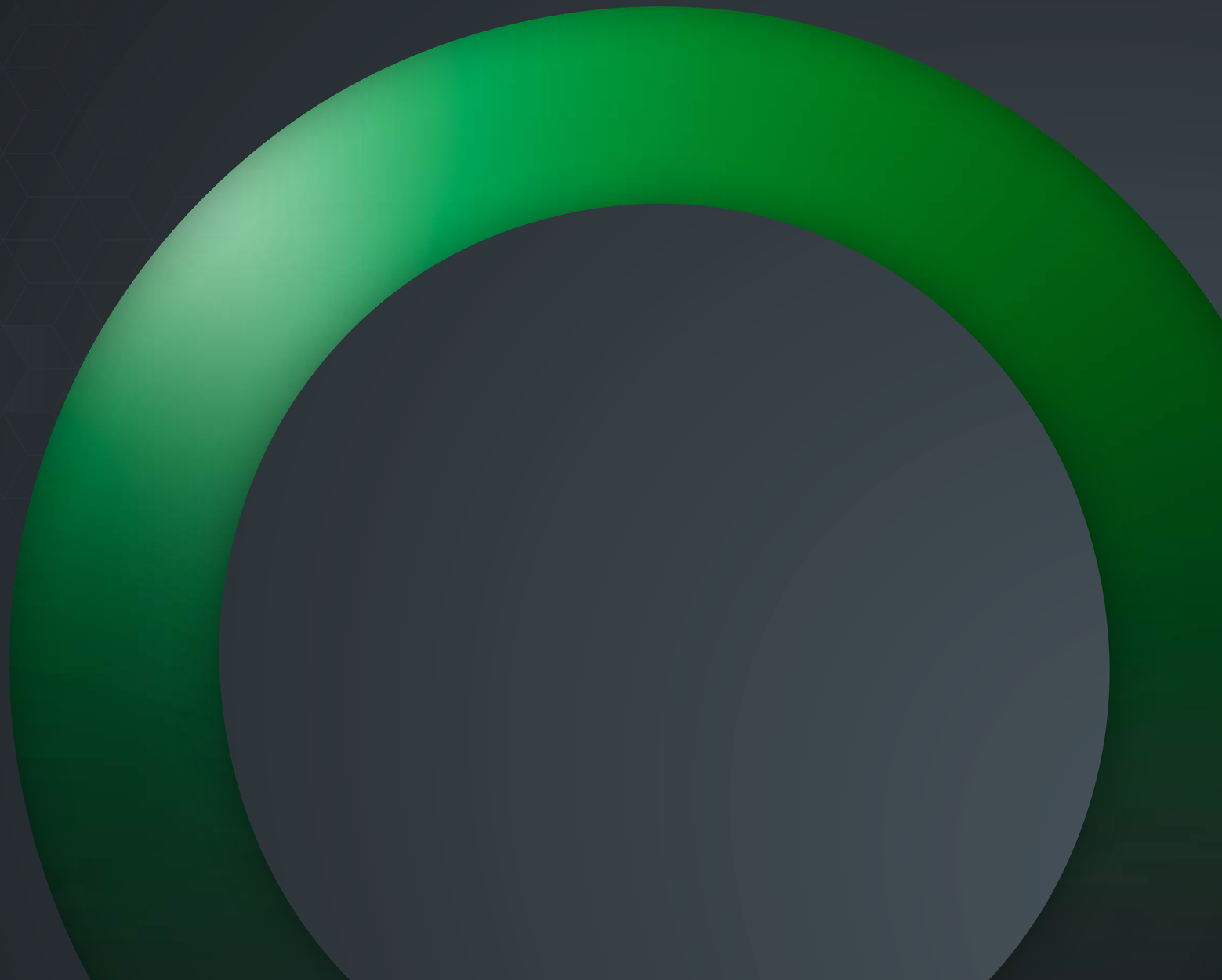
State of Observability Report

OBSERVE
& CITE Research



Contents

Background & Methodology

Objectives

Research explored the State of Observability, including:

- Adoption
- Business case for using observability
- Satisfaction with current tools

Methodology

On behalf of Observe, CITE Research conducted an online survey among 250 developers / IT professionals in January 2021.

Screening Criteria

Respondents were screened to:

- Be employed full-time
- Be in Software Development / IT
- Have a designated title

Executive Summary

OBSERVE

Organizations are making observability a priority, as it creates a noticeable improvement on customer satisfaction.

Observability is a priority.

52% say it is a high priority and 86% will be prioritizing it within the next year.

Nearly all hope to adopt new observability tools within the next 12 months.

Nine in ten organizations are considering adopting a new observability tool within the next year. This may be even more important with COVID, with 38% saying it has made it more difficult to observe their systems.

Most measure observability through CSAT...

87% claim that they have a way to measure the impact of observability, most often through customer satisfaction. 68% of those who measure observability say this is the way they do so.

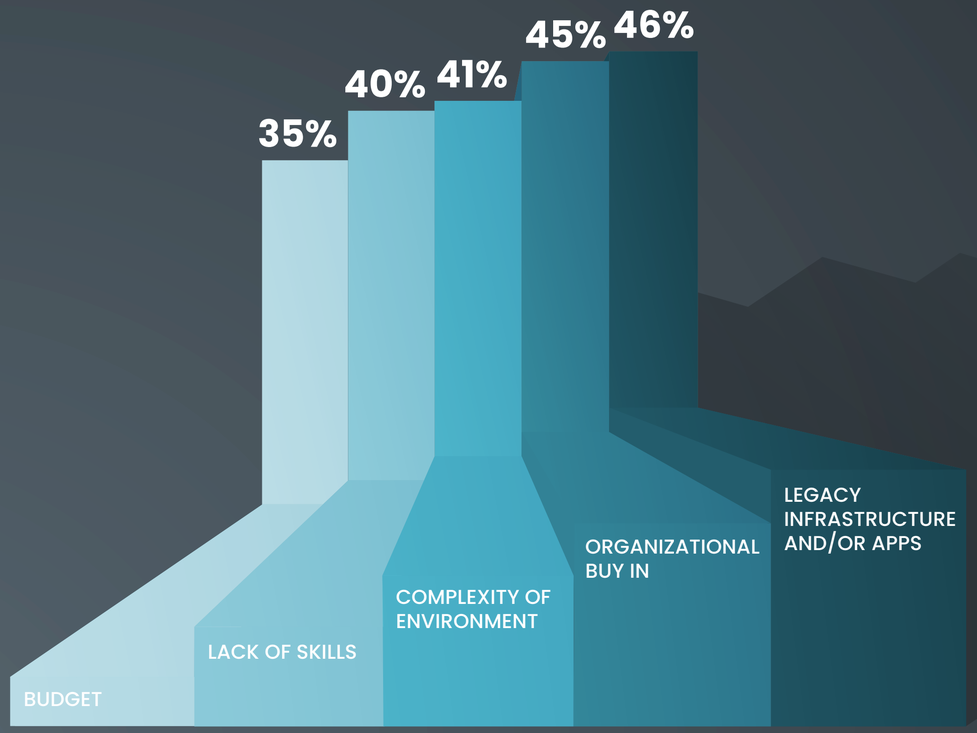
...And have seen noticeable improvements.

Since adopting observability, the majority (67%) have seen improved customer satisfaction.

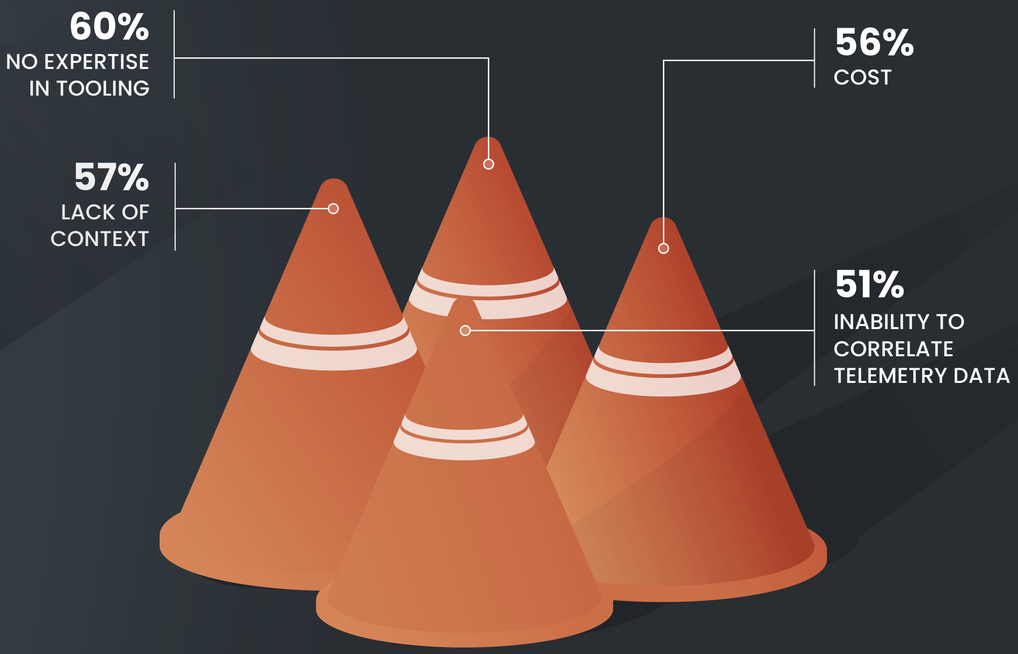
OBSERVE

Organizations face challenges with observability and monitoring tools.

Top Challenges of Observability



Top Challenges with Monitoring Tools



Most tools/practices tested are used by two-thirds or less of organizations

TOOL / PRACTICE	USAGE
IT Service Management	98%
Internal SLOs	84%
DevOps	78%
Microservices	74%
Stream Process Software	68%

TOOL / PRACTICE	USAGE
Canary Deployments	65%
Serverless	65%
Metrics Monitoring	65%
APM	65%
Log Analytics	63%

TOOL / PRACTICE	USAGE
Real User Monitoring	62%
Synthetic Monitoring	57%
SRE	53%
Distributed Tracing	52%
Kubernetes	52%

Most organizations are working on initiatives to:

70%
ENABLE ENGINEERING TO INVESTIGATE INCIDENTS

72%
LOWER INFRASTRUCTURE SPEND

79%
IMPROVE SERVICE AVAILABILITY

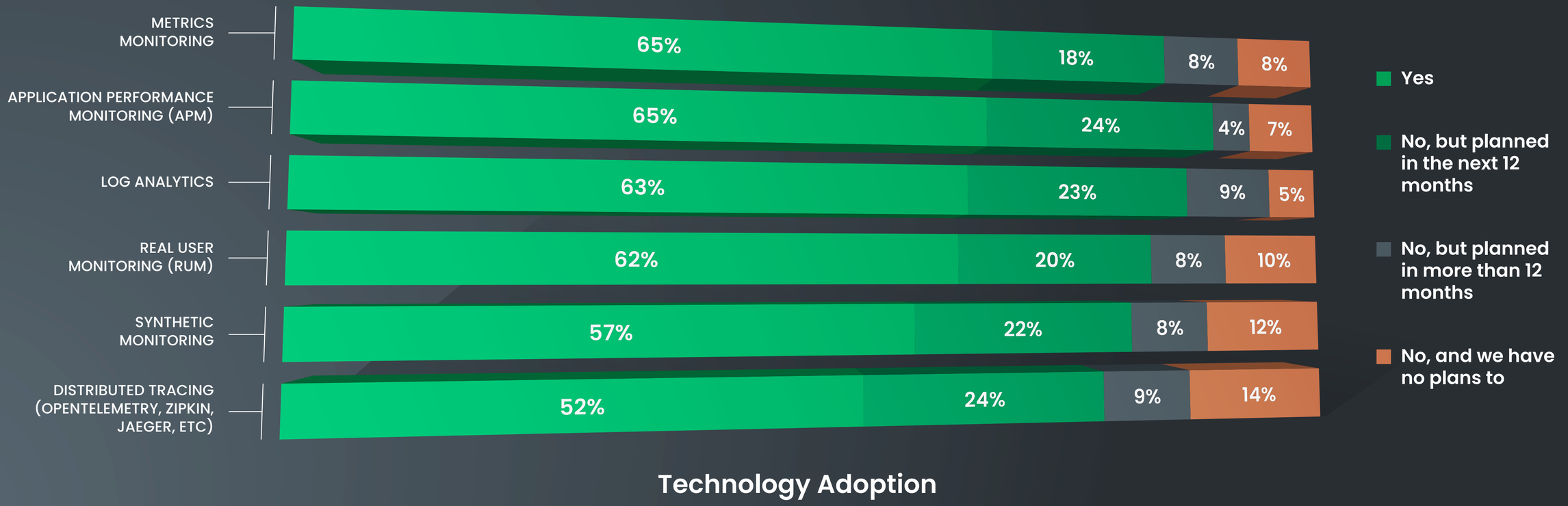
Detailed Findings

OBSERVE

Most claim to be using Metrics Monitoring and APM

Half (52%) or more have adopted all technologies tested, with Metrics Monitoring and APM being most common, and Distributed Tracing being least common.

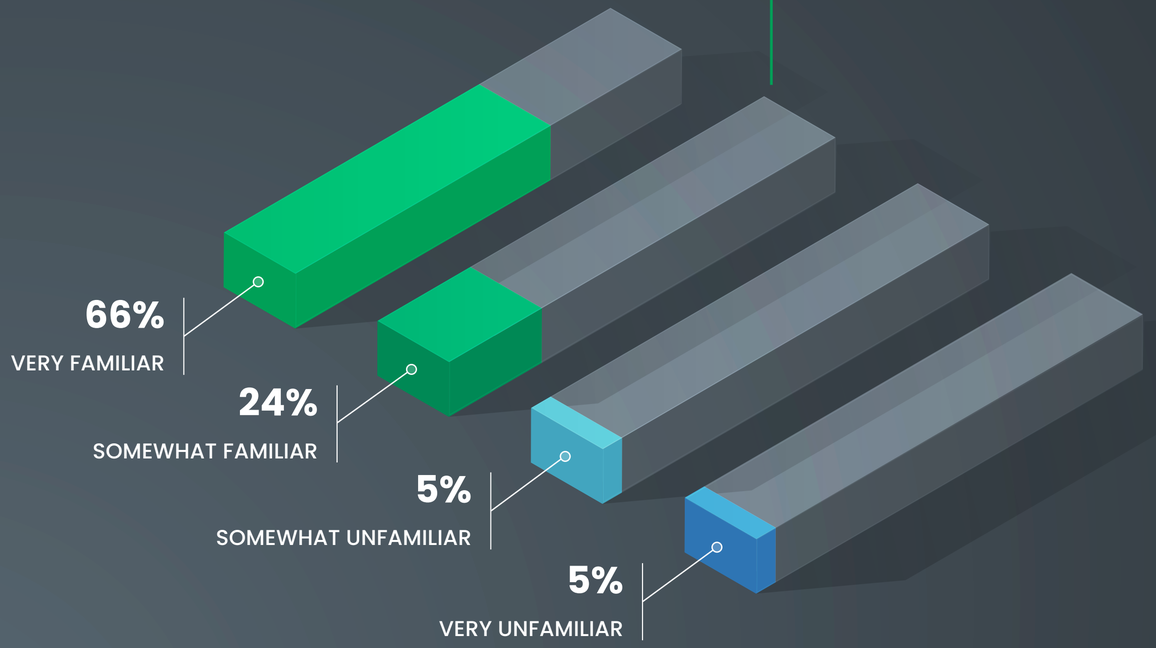
Those who are familiar with Observability and those who practice Observability are significantly more likely to say they currently use all these technologies.



Technology Adoption

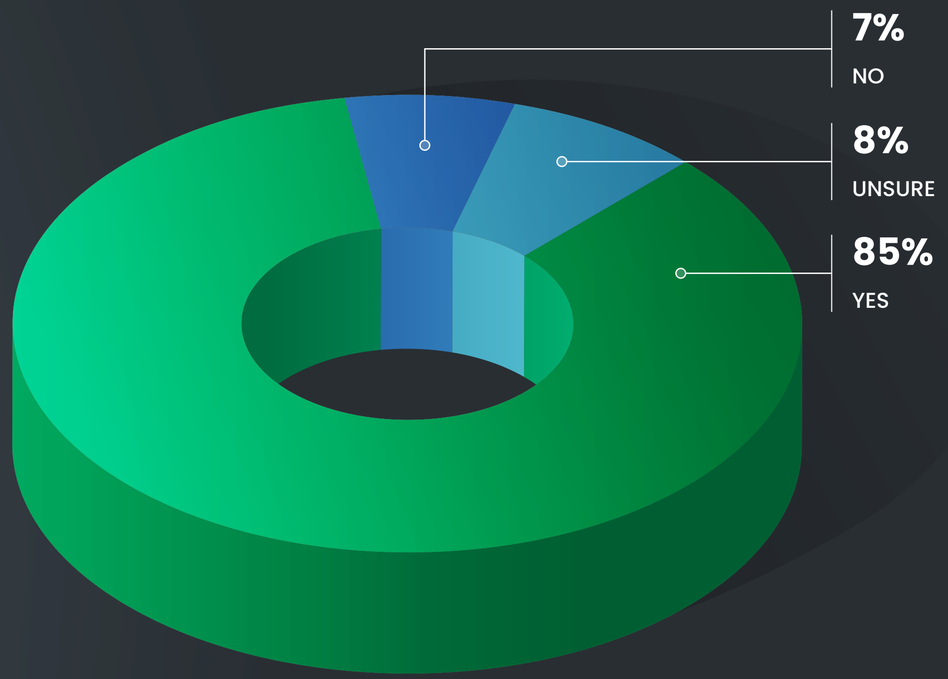
...And to be practicing observability.

Nearly all claim to be familiar with observability (90%) and to practice observability (85%).



Familiarity with the Term “Observability”

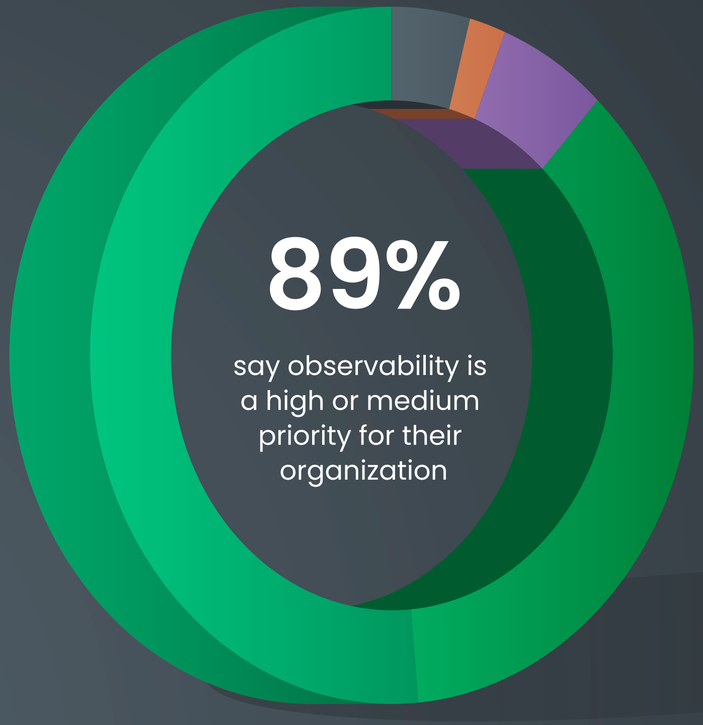
IT professionals are more likely than Software Developers to be familiar with and to practice observability.



Current Practice of Observability

Observability is a priority for most organizations within the next year...

Prioritization of Observability



52% HIGH PRIORITY

37% MEDIUM PRIORITY

6% LOW PRIORITY

2% NOT A PRIORITY

4% UNSURE

When to Prioritize Observability

61% WITHIN THE NEXT 6 MONTHS

25% WITHIN THE NEXT 6-12 MONTHS

8% IN A YEAR OR MORE FROM NOW

1% NEVER

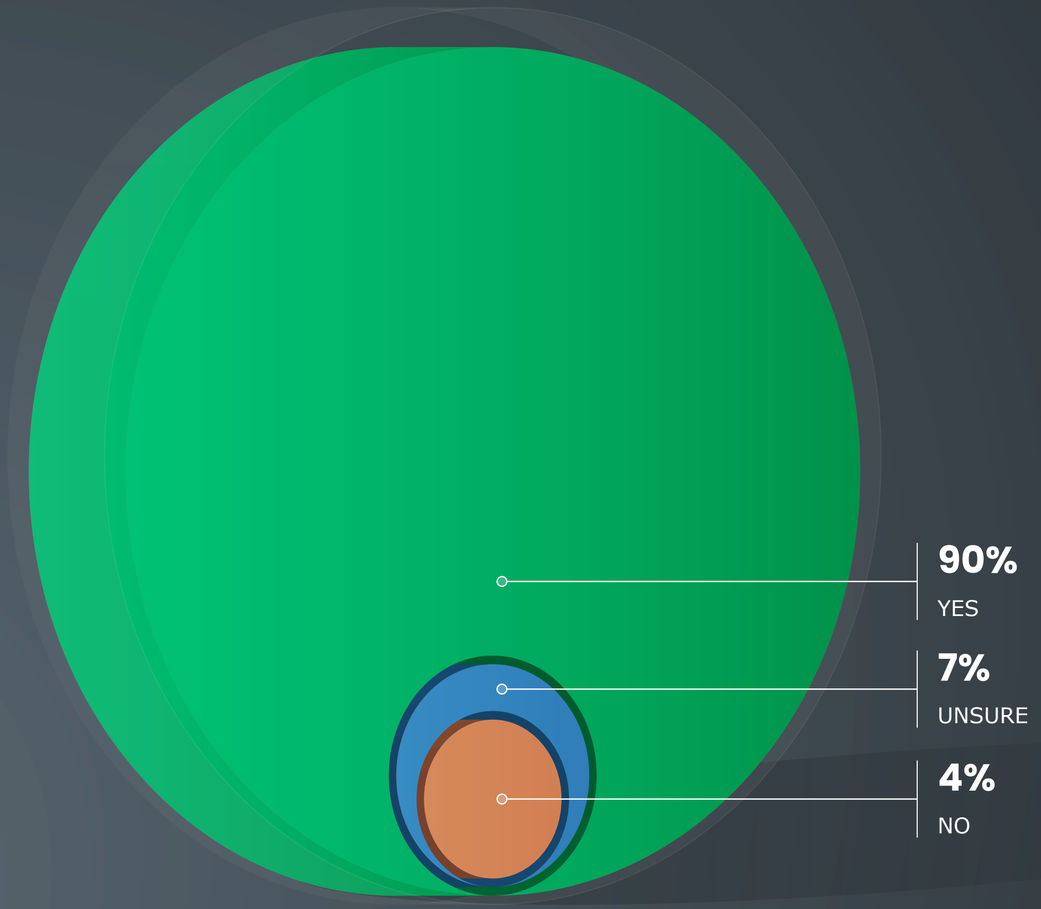
5% UNSURE

Organizations that are newer (less than 5 years tenure) are more likely to say this is a high priority (73% compared to only 50% of those who have been in business for 5 to less than 10 years and 43% of those who have been in business 10+ years).

OBSERVE

...With nearly all considering adopting new tools.

Prioritization of Observability



Nine in ten organizations plan to adopt a new observability tool within the next 12 months.

Those who are especially likely to say they will be doing so include:

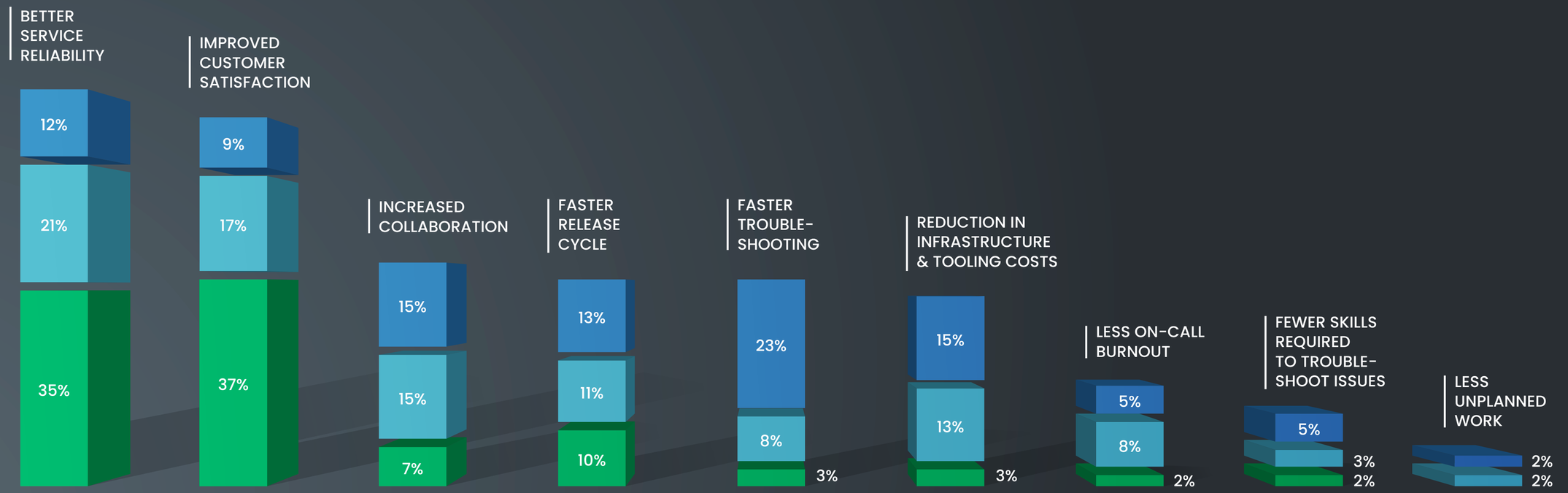
91%
ORGANIZATIONS THAT MEASURE OBSERVABILITY

98%
C-SUITE/PRESIDENT LEVEL RESPONDENTS

Service reliability and increased CSAT are top benefits of observability.

Respondents see better service reliability and improved customer satisfaction as especially salient benefits of observability.

Those who measure observability are especially likely to give improved customer satisfaction a top ranking. Conversely, those who do not measure observability are more likely to give increased collaboration a top 2 ranking, putting it only behind better service reliability.



Top Benefits of Observability

First Second Third

Legacy infrastructure and organizational buy-in are barriers to observability.

Challenges of Observability

46%
LEGACY INFRASTRUCTURE AND/OR APPLICATIONS

41%
COMPLEXITY OF ENVIRONMENT

35%
LACK OF SKILLS

16%
NO CLEAR BUSINESS CASE OR RETURN ON INVESTMENT

15%
NO CLEAR MANDATE

45%
ORGANIZATIONAL BUY IN

40%
BUDGET

17%
MANUAL INSTRUMENTATION OF CODE

16%
MEAN TIME TO RESOLUTION

Legacy infrastructures and organizational buy-in emerge as the top challenges to observability, followed closely by complexity and budget.

Interestingly, C-suite/President level (56%) and Manager respondents (54%) are more likely to be faced with organization buy-in as a challenge.

Meanwhile, VP/Director level are more likely to complain of lack of skills (43%).

Those with smaller revenues of less than $100M are more likely to complain of lack of skills (41%) compared to their larger counterparts ($28% of $100.M+).

Most feel they can measure observability, most commonly through CSAT...

Nearly all organizations (87%) have a way to measure observability.

Of those, two-thirds say they use CSAT to do so.

Software Developers are more likely than IT professionals to say they use mean time to acknowledge to measure observability.

5%
ISSUES RESOLVED WITHOUT AN ENGINEER

22%
MEAN TIME TO FAILURE

22%
INFRASTRUCTURE & TOOLING COSTS

24%
EMPLOYEE ATTRITION

29%
DEPLOYMENT FREQUENCY

68%
CUSTOMER SATISFACTION

35%
SERVICE AVAILABILITY

34%
MEAN TIME TO RESOLUTION

31%
MEAN TIME TO RESPOND

30%
MEAN TIME TO ACKNOWLEDGE

Measurements of Observability

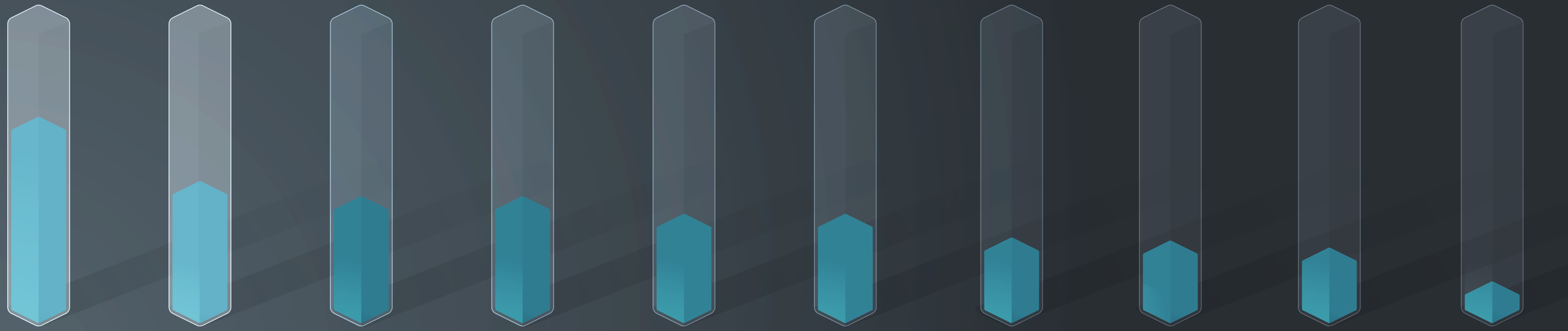
...and have seen measurable improvements in this important area.

Two in three organizations have seen an improvement in CSAT since adopting observability.

Four in ten have also seen a better mean time to respond.

Manager-level respondents are especially likely to report an improvement here.

Areas of Improvement from Adoption of Observability



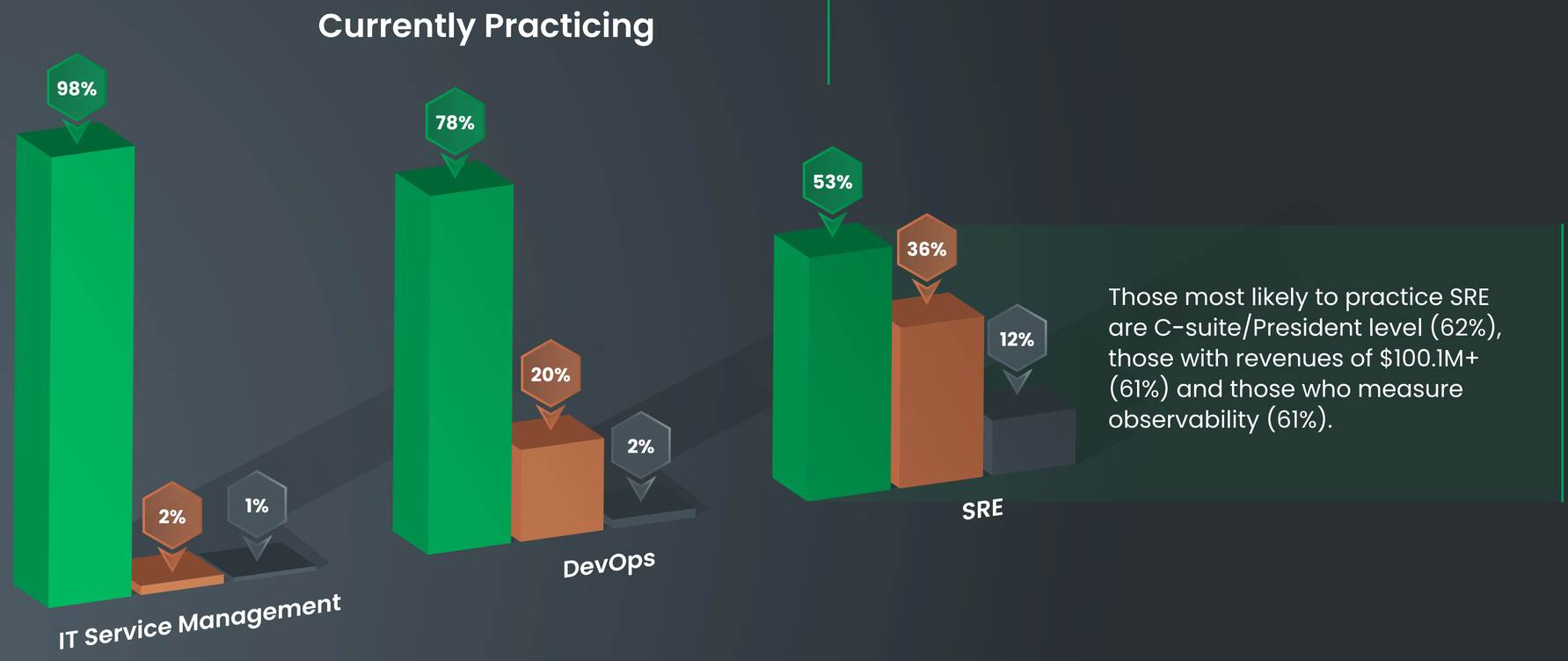
67%	43%	38%	38%	32%	32%	24%	23%	21%	9%
CUSTOMER SATISFACTION	MEAN TIME TO RESPOND	SERVICE AVAILABILITY	MEAN TIME TO RESOLUTION	DEPLOYMENT FREQUENCY	MEAN TIME TO ACKNOWLEDGE	MEAN TIME TO FAILURE	EMPLOYEE ATTRITION	INFRASTRUCTURE & TOOLING COSTS	ISSUES RESOLVED WITHOUT ENGINEER

OBSERVE

Practice of SRE has room to grow.

The vast majority of organizations (98%) are practicing IT Service Management. Moreover, 78% are practicing DevOps.

However, only half are practicing SRE.

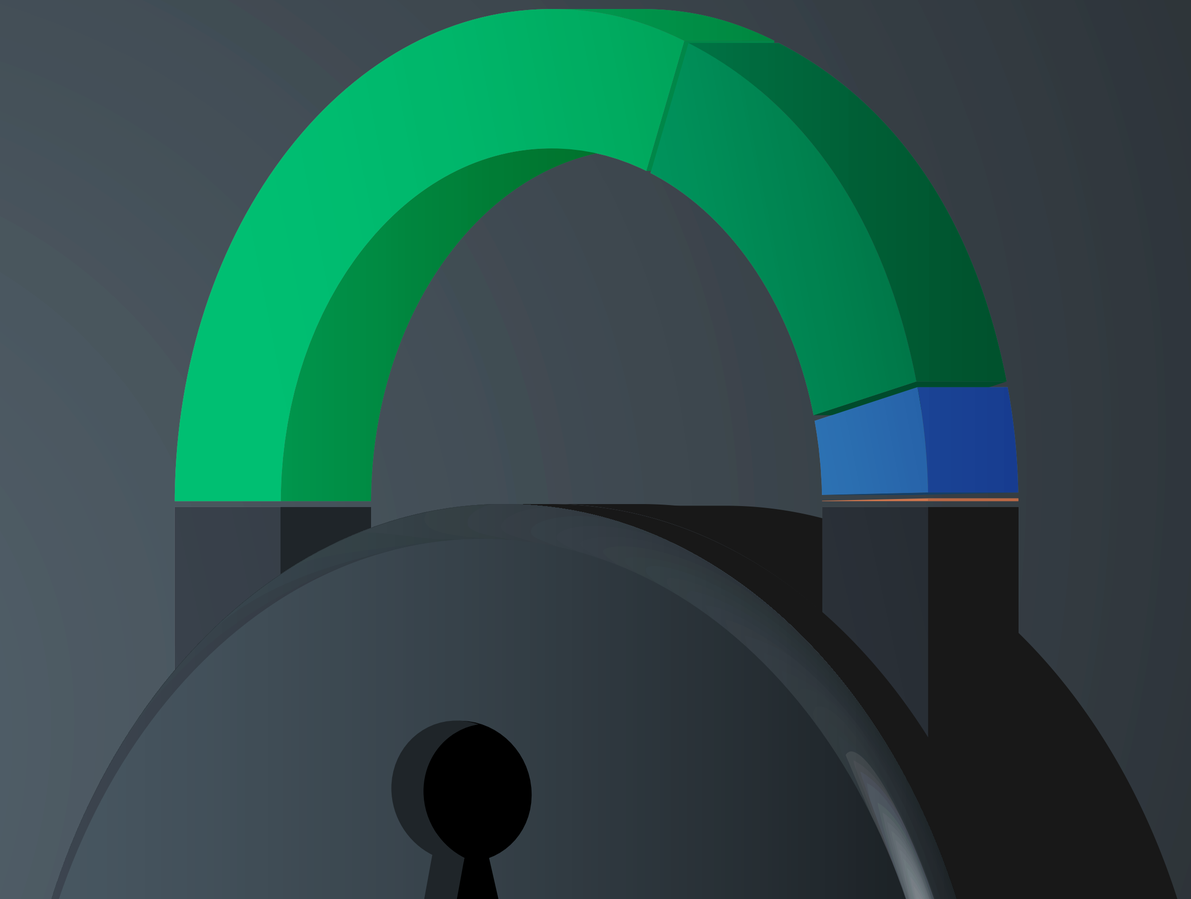


Those most likely to practice SRE are C-suite/President level (62%), those with revenues of $100.1M+ (61%) and those who measure observability (61%).

Two Thirds of DevOps Have Purchased a Security Monitoring Tool.

Two-thirds (62%) of DevOps teams have purchased a security monitoring tool, with another three in ten considering the purchase of a security monitoring tool (31%).

Those who currently measure observability are more likely to have purchased (70%) while those who do not are more likely to be considering purchase (64%).



Purchase of Security Monitoring Tool

62%
YES, PURCHASED

31%
YES, CONSIDERED PURCHASING

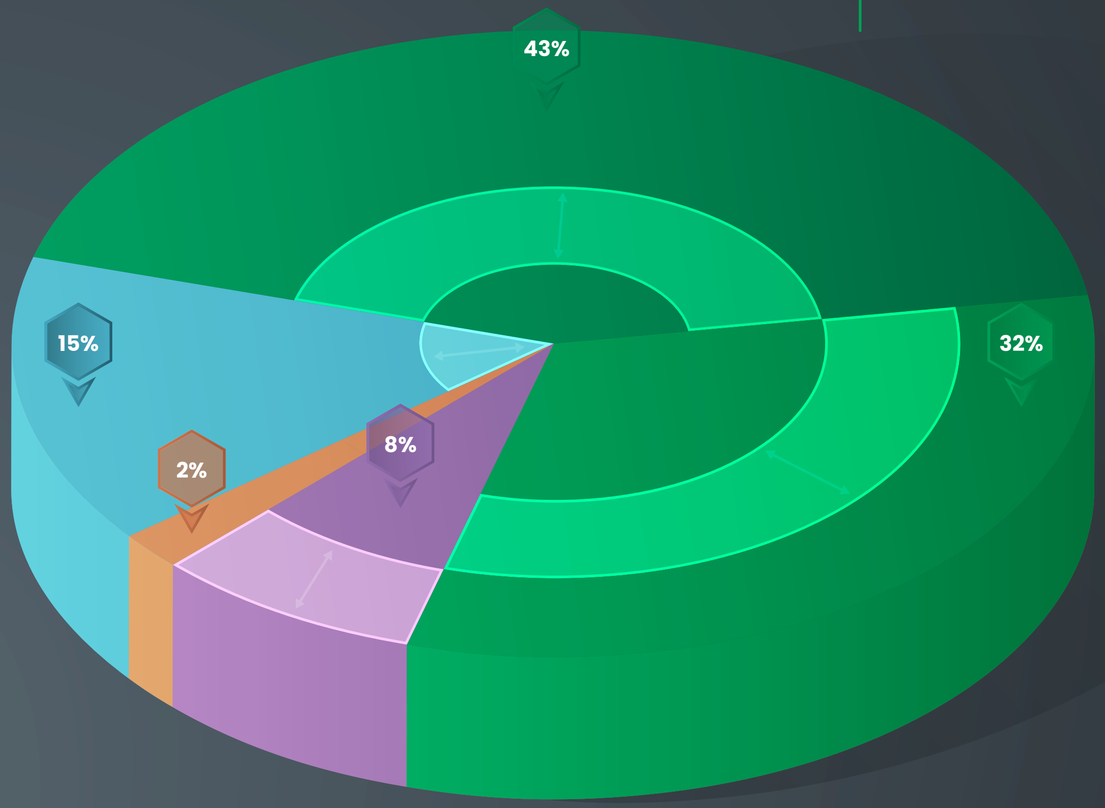
7%
MY GROUP IS NOT RESPONSIBLE FOR SECURITY MONITORING

1%
HAVE NOT PURCHASED NOR CONSIDERED PURCHASING

Most organizations emit 26-75% of their logs with a structure.

Three-quarters of respondents estimate somewhere between 26-75% of their logs are emitted with a structure.

Those with an engineering team of 100+ are more likely than smaller engineering teams to say they emit 76-100% of logs with a structure, but still only a minority does so at 14%.



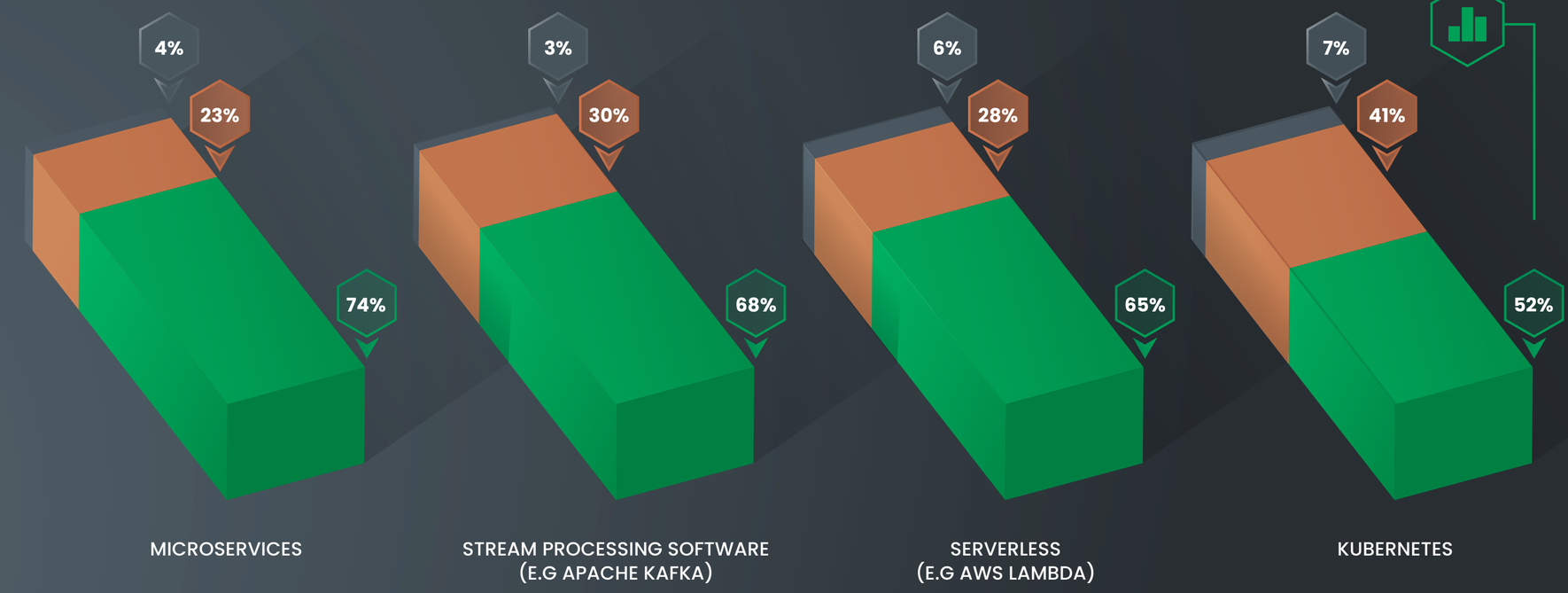
Percentage of Logs Emitted with a Structure

- 76-100%
- 51-75%
- 26-50%
- 1-25%
- 0%

Microservices are in production for three-quarters of organizations.

Three-quarters of organizations have microservices running in production, with nearly as many running stream processing software and serverless.

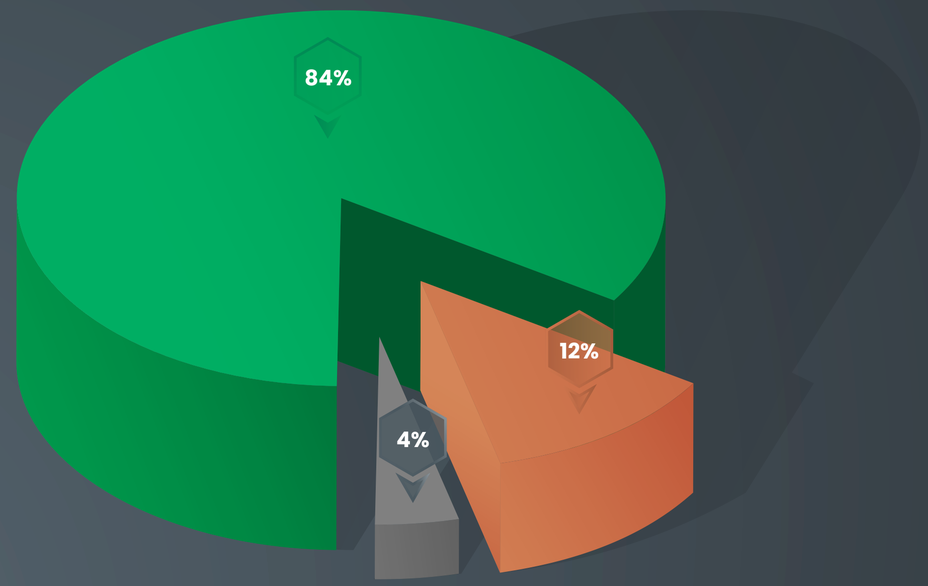
Running in Production



Kubernetes is less common at 52%.

Setting SLOs is the norm, with canary deployments being less common

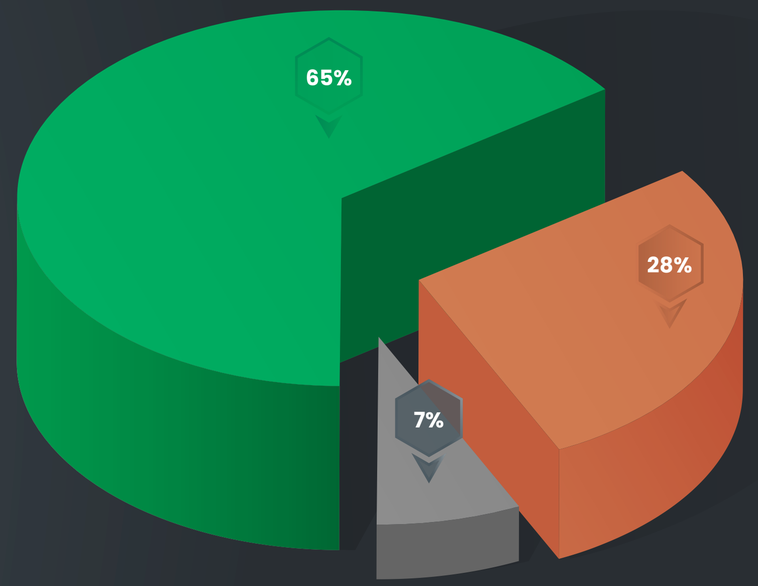
84% of organizations set SLOs internally. Those with larger engineering teams of over 100 are more likely to set these (91%).



Set SLOs Internally

Yes No Unsure

Utilization of canary deployments is less common, with two-thirds doing so. Again, those with larger engineering teams are more likely to do so (77%), as well as organizations less than 10 years old (74% of those less than 5 years old and 76% of those 5 to less than 10 years old).



Utilize Canary Deployments

Yes No Unsure

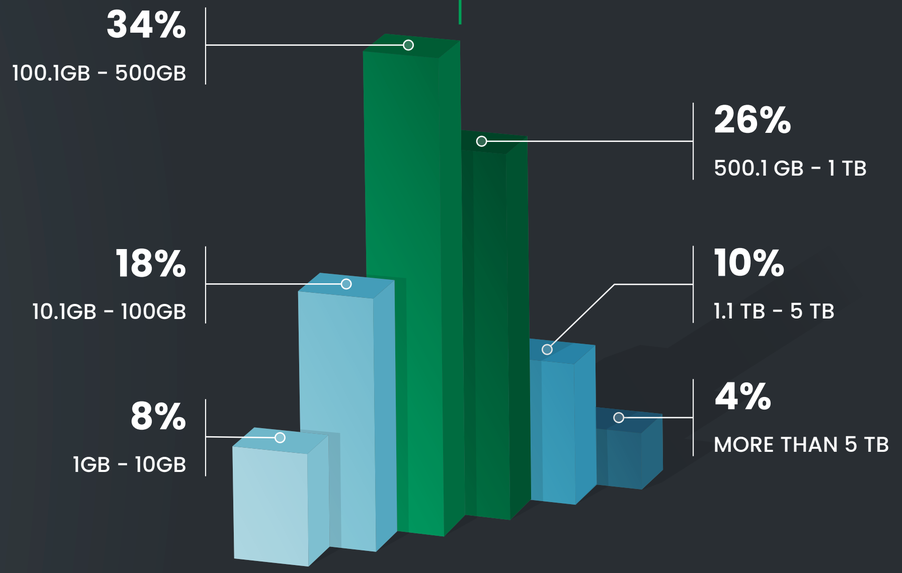
Maintaining tags to correlate data takes up time...

Most respondents are spending over 6 hours (71%) a month adding or maintaining tags per month.

- **5%** LESS THAN 1 HOUR
- **24%** 1-5 HOURS
- **44%** 6-10 HOURS
- **18%** 11-20 HOURS
- **8%** MORE THAN 20 HOURS

Time Spent Adding or Maintaining Tags Per Month

Organizations are ingesting between 100.1GBs to 1TBs (60%) into their observability tools a day.



Data Ingesting into Observability Tools Per Day

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...as well as investigating issues.

With most organizations facing between 6-20 incidents a month (57%) and taking up to a few days to investigate each issue (94%) indicates organizations spend significant time on incident management.

5%
31+

6%
21 - 30

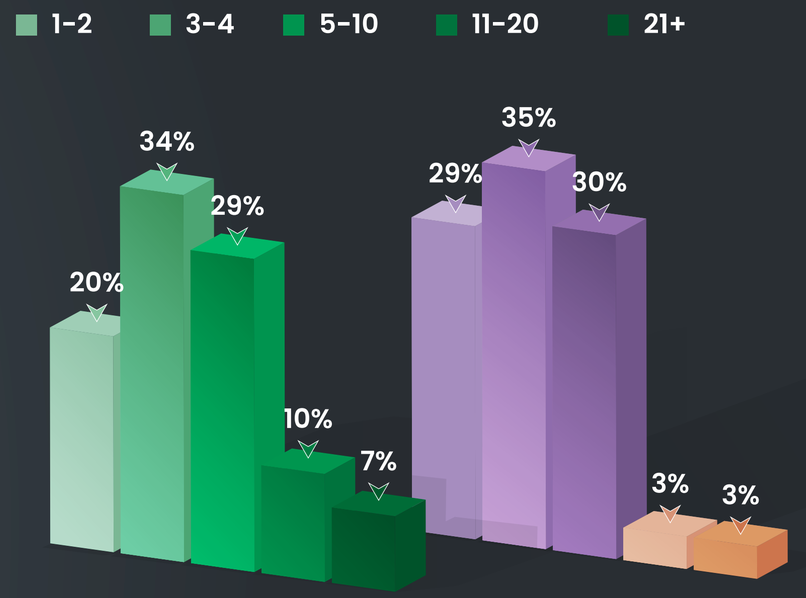
24%
11 - 20

33%
6 - 10

30%
1 - 5

Number of Incidents per Month

Number of Tools to Investigate Issues



Length of Time to Investigate Issues

- A few hours or less
- A day
- A few days
- A week
- More than a week

A lack of expertise, lack of context, and costs are issues with monitoring tools

Challenges with Monitoring Tools

60%
NEED FOR EXPERTISE IN TOOLING

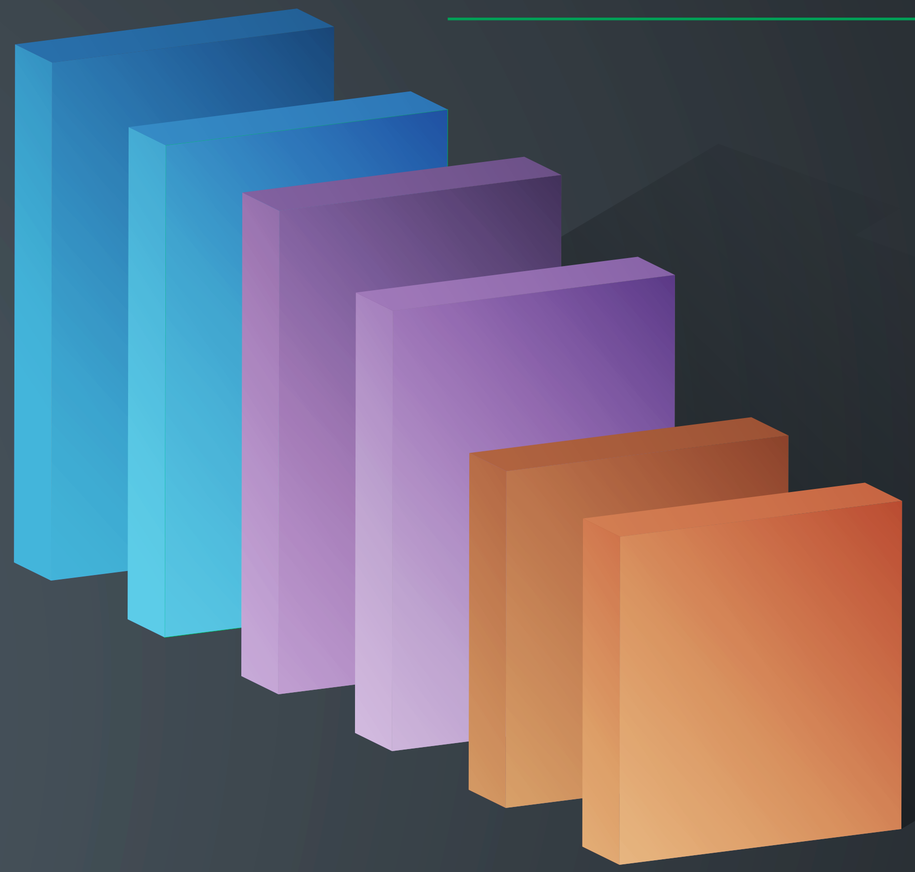
57%
LACK OF CONTEXT

56%
COST

51%
INABILITY TO CORRELATE TELEMETRY DATA

39%
LACK OF INTER-DEPARTMENTAL COORDINATION

38%
TOOL COMPLEXITY

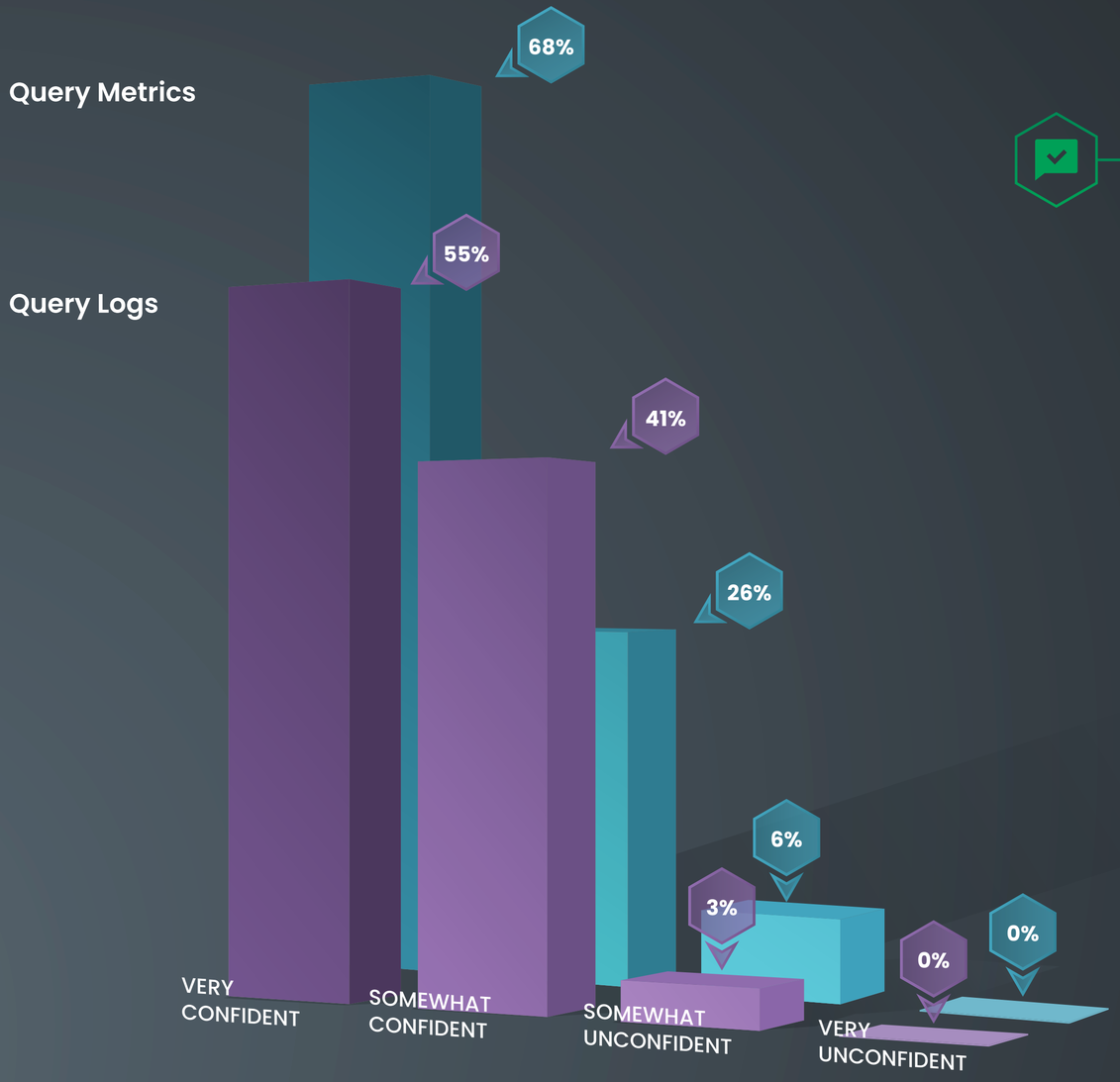


Monitoring tools have room for improvement, with approximately six in ten saying the need for expertise and a lack of context are challenges with their existing tools.

Moreover, more than half complain about cost and/or the inability to correlate telemetry data.

Cost is especially likely to be a challenge for newer organizations that are less than 5 years old (66%).

There is confidence in querying both logs and metrics.



Respondents are confident in both their ability to query logs (96% very/somewhat confident) and metrics (94% very/somewhat confident).

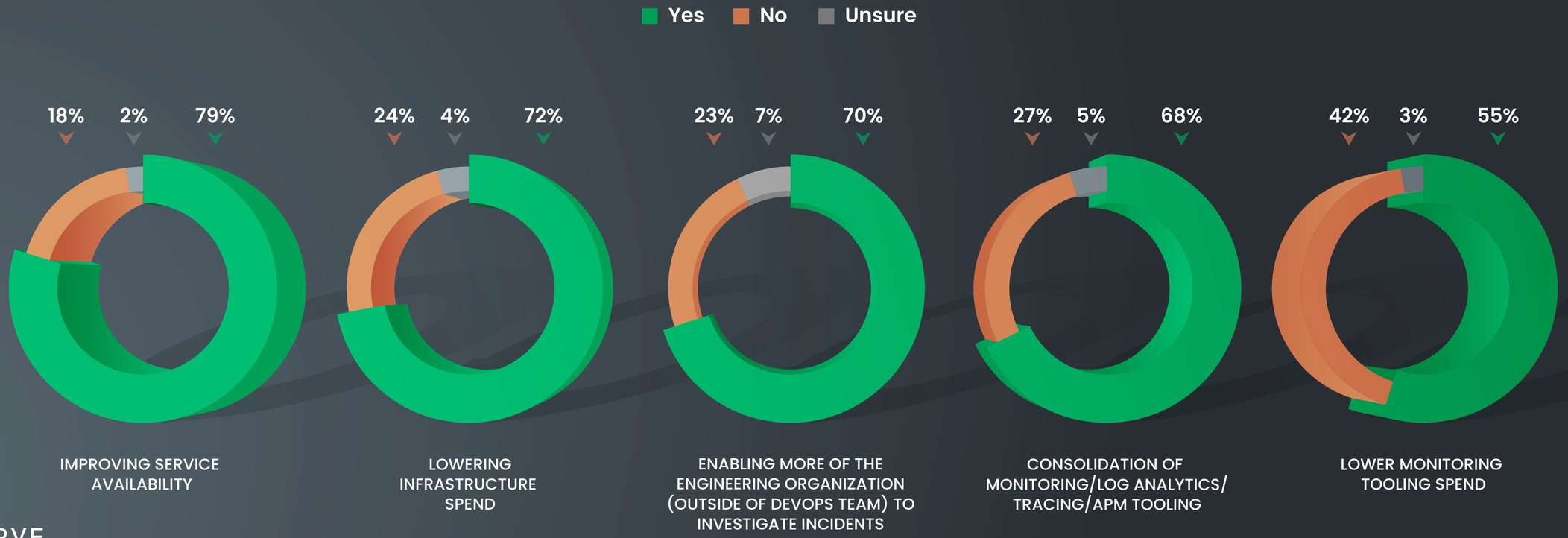
Those who practice observability are especially likely to feel confident in their ability to query metrics (97% vs. 81% of those who do not practice observability).

Improving service availability is an initiative for most.

Organizations are working on various initiatives, with the majority looking to improve service availability, lowering infrastructure spend and enabling more of their organization to investigate incidents.

Organizations with $100.1M+ in revenue are more likely to be enabling teams outside of engineering to investigate incidents (78%) and consolidating monitoring/log analytics/tracing APM tools (75%).

Impact on Ability to Observe Systems



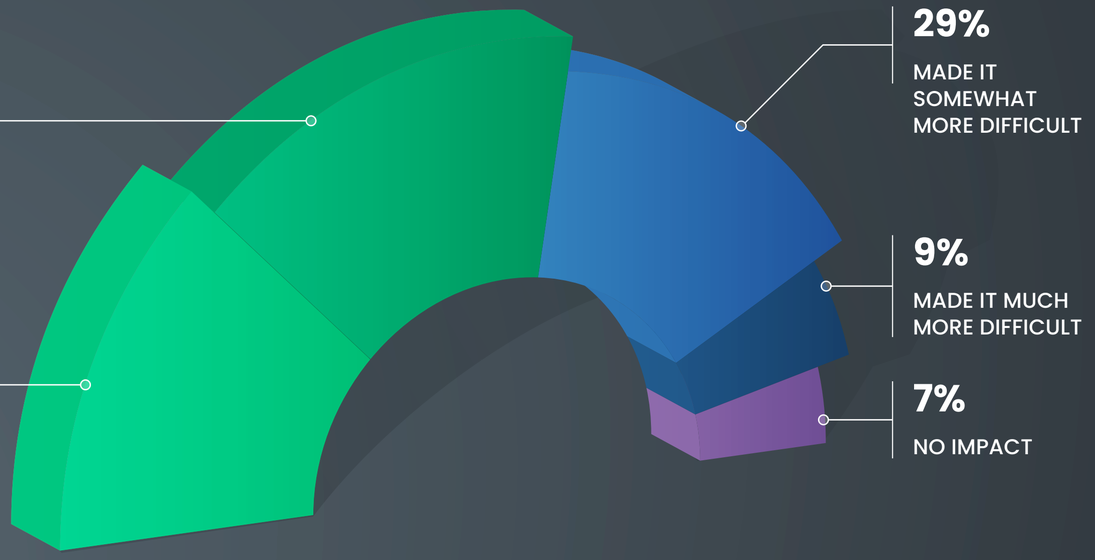
The impact of COVID on observability has widely varied.

Respondents are split on the impact of COVID on the ability to observe systems, with 55% saying it has made it easier, 38% saying it has made it harder and 7% saying it has had no impact.

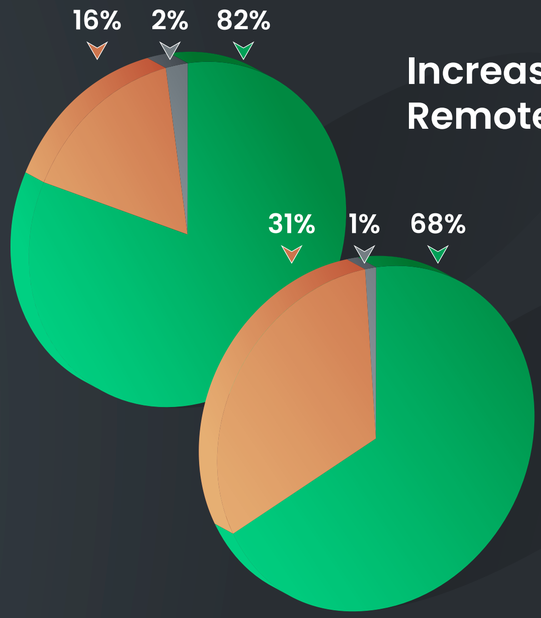
Two-thirds, however, say it has made collaboration more difficult with the increase in remote work.

Notably, those who practice observability are significantly more likely to say it has made things easier (61% vs. 25%).

Impact on Ability to Observe Systems



Increase in Remote Workers



Difficulty Collaborating due to Increased Remote Work

Yes No Unsure

OBSERVE

Demographics & Firmographics

GENDER

Male	75%
Female	25%
Prefer to Self-Identify	0%

AGE

18-25	4%
26-35	30%
46-55	47%
56 or Older	14%

TITLE

Manager, Site Reliability Engineering	4%
Director of Observability	6%
Monitoring Engineer	1%
DevOps Engineer	4%
Manager, Operations	29%
CTO	23%
Infrastructure Engineer	2%
Architect	1%
Director of DevOps	29%

DEPARTMENT

IT	94%
Software Development	6%

REGION

Northeast	29%
Midwest	13%
South	38%
West	20%

JOB LEVEL

Chief Executive Officer	17%
Chief Information Officer	6%
Chief Technology Officer	17%
President	2%
Vice President	7%
Director	38%
Manager / Team Lead	12%
Other C-Level	1%

INDUSTRY

Airlines	1%
Automobiles	1%
Banks	4%
Beverages	1%
Biotechnology	1%
Broadcasting, Cable & Satellite	1%
Capital Markets	1%
Communications Equipment	1%
Construction	3%
Consumer Finance	1%
Education	4%
Electric Utilities	2%
Electronics Equipment & Instruments	2%
Food Products	1%
Health Care Providers & Services	1%
IT Services	47%
Insurance	1%
Internet Software & Services	2%
Machinery	2%
Multiline Retail	1%
Real Estate Investment Trusts (REITs)	1%
Software	6%
Specialty Retail	1%
Technology Hardware, Storage & Peripherals	6%
Telecommunications	2%
Other (Please Specify)	4%

ORGANIZATION LONGEVITY

Less than 1 Year	0%
1 - 3 Years	6%
3 - 5 Years	19%
5 - 10 Years	28%
10 Years or More	47%
Unsure	0%

ENGINEERING TEAM SIZE

1 - 10 Employees	4%
11 - 20 Employees	7%
21 - 50 Employees	14%
51 - 100 Employees	25%
100+ Employees	49%
Unsure	0%