ALL RESPONDENTS

AGGREGATE DATA

All Respondents

To assist you in finding the results that matter most to you, we've broken down this whitepaper into fairly granular categories so you can jump straight to the section applicable to you (eg. by company size).

In this section we explore the results in the aggregate.

We were pleasantly surprised at the overall mobile test automation maturity levels indicated by respondents. With 42% already using automation and seeing tangible results, this maturity appears to be driven by a need to constantly innovate and release. 34.8% of respondents release apps *weekly*, and 16.5% release *daily*. While 33.9% can only support *monthly* releases, their goal is to reach weekly or daily frequency. Unfortunately, if you're still doing quarterly releases, you are far behind your peers.

Regardless of company size, all organizations agree that the biggest struggle to start test automation is evaluating and choosing the right tools. With new frameworks and products popping up overnight, organizations are in a constant state of analysis-paralysis. The second biggest automation pain is training/acquiring skilled automation engineers, highlighting the inherent complexity in developing test scripts.

Speed of Delivery is cited as the primary success metric of test automation, indicating a widespread need for agility and increased release frequency.

Automation does not come cheap and presents a paradox: Organizations want to release on a weekly or daily basis, yet it takes 1-3 days to initially code test cases, and then anywhere from 1 day to 2 weeks to update automation scripts with each release. This makes daily or weekly releases incredibly challenging. Despite this complexity, the ROI behind automation is compelling. Almost 40% of respondents spend between 30-49% of their entire QA budget on automation, and surprisingly, almost 20% spend 50-70% of their budget on automation. **The message is clear:** Automation isn't cheap or easy, but it is necessary for innovation and a modern release frequency. If you're spending less than 10% of your budget on test automation, you're significantly lagging behind your peers.

MOBILE STRATEGIES

Mobile Critical: Our business model is centered around a mobile app

Mobile Strategic: Mobile is an important channel for our company, but we would survive without it

Looking Into It: Mobile is an initiative we're looking to persue

No Plans: We don't have a mobile app or any plans to implement one

Mobile Strategies

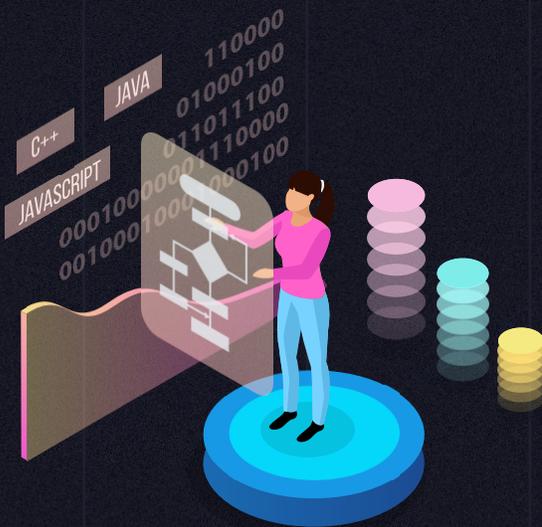|	
Mobile Critical	37.3%
Mobile Strategic	32.2%
Looking Into It	22.8%
No Plans	7.7%

SUMMARY

The majority of respondents indicated that mobile was an important component in their business model. 37.7% of respondents said that their business was centered around a mobile app.

Industry/App Categories

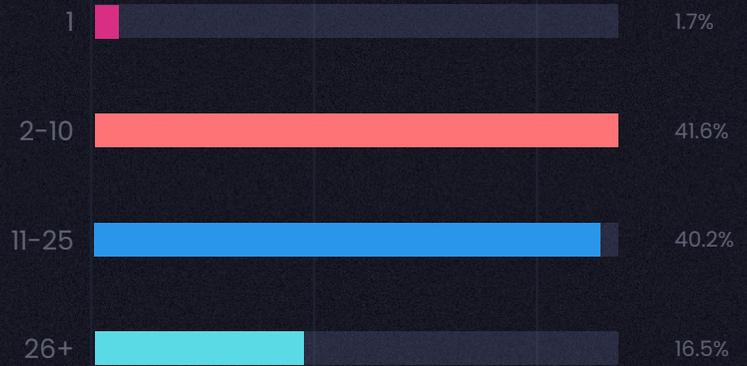|	
Entertainment	5.7%
Finance	5.7%
Business/Productivity	13.4%
Retail	6.8%
Travel & Hospitality	1.1%
Telecom	9.7%
Insurance	2.6%
Software	50.1%
Other	4.8%

SUMMARY

At 51%, the majority of responses collected in this survey were from software companies. The survey received the fewest responses from companies in the Travel and Hospitality vertical.

How many testers are on your team?

Team Size	Percentage
1	1.7%
2-10	41.6%
11-25	40.2%
26+	16.5%

SUMMARY

Most of the companies surveyed have test teams of 2-25 people. Only 1.7% of respondents had 1 tester, while 16.5% had teams of more than 26 people.

Annual Company Revenue

Revenue	Percentage
< $1M	4.8%
$1-10M	20.2%
$10-100M	37.9%
$101-1B	25.9%
$1B+	11.1%

SUMMARY

37.9% of companies surveyed had an annual revenue of $10-100M. Just 4.8% of respondents indicated an annual revenue of less than $1M.
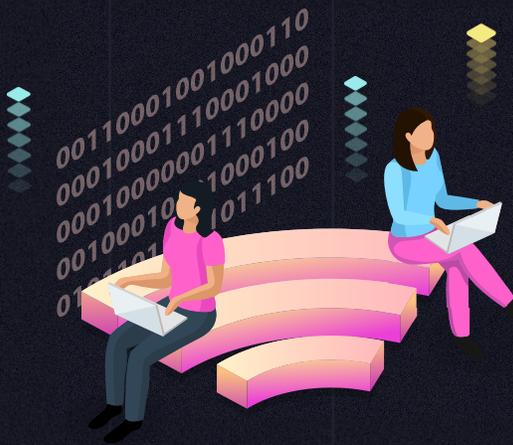
How often do you release app updates?

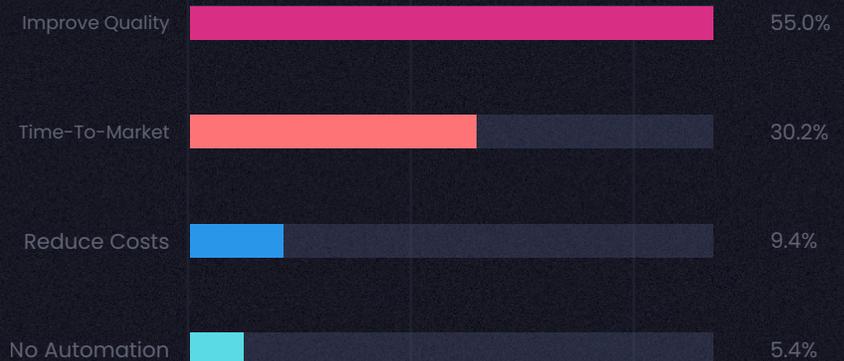|	
Daily	16.5%
Weekly	34.8%
Monthly	33.9%
Quarterly	13.1%
< Once Per Quarter	1.7%

SUMMARY

Respondents indicated a preference for semi-frequent updates, with most responses indicating app update releases on a weekly or monthly schedule.

What is the primary strategic driver for your organization pursuing a test automation strategy?

Improve Quality	55.0%
Time-To-Market	30.2%
Reduce Costs	9.4%
No Automation	5.4%

SUMMARY

The majority of respondents indicated that a desire to improve overall app quality was the primary strategic driver in choosing to persue test automation.

TEST AUTOMATION MATURITY

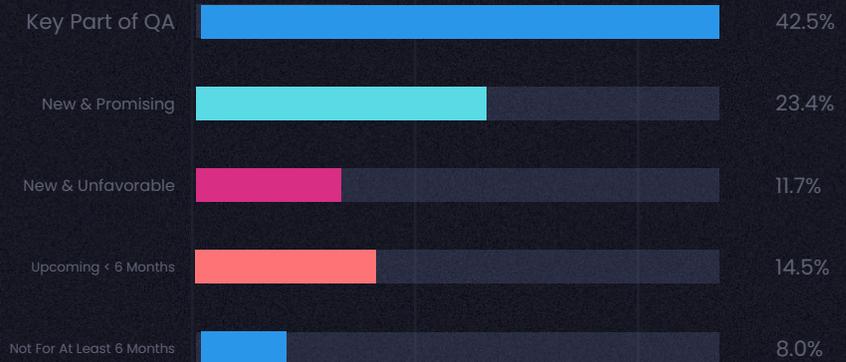**Key Part of QA:** Automation is a key part of our quality assurance process delivering tangible results

New and Promising: Our automation initiatives are relatively new and promising

New and Unfavorable: Our automation initiatives are relatively new and the results are not what we hoped for

Upcoming <6 months: Automation is an initiative we hope to start within the next 6 months

Not for at least 6 months: Automation will not happen within 6 months

Where would you rate your current test automation maturity?

Key Part of QA	42.5%
New & Promising	23.4%
New & Unfavorable	11.7%
Upcoming < 6 Months	14.5%
Not For At Least 6 Months	8.0%

SUMMARY

42.5% of respondents indicated that test automation was a key part of their quality assurance process.

Based on the overall quality assurance budget in your organization, what percentage is spent on test automation when factoring in employees, tools, and other resources?

< 10%	6.3%
10%-29%	34.8%
30%-49%	37.3%
50%-75%	18.2%
> 75%	3.4%

SUMMARY

Most respondents indicated that their companies allocate between 10 and 49% of their overall QA budget to test automation related expenditures.

PAIN POINTS

Training/Hiring: Training/ acquiring skilled automation engineers (scripting expertise)

Finding the right tools: Evaluating and choosing the right tools

Setting an Approach: Deciding what to automate

Reporting: Test reporting and metrics

Budget: Convincing the organization of the need to invest in automation

What is your biggest struggle/pain point with using or starting test automation today?

Training/Hiring	17.4%
Scaling Device Coverage	9.4%
Finding The Right Tools	25.9%
Setting An Approach	16.8%
Reporting & Metrics	16.0%
Budget	14.5%

SUMMARY

The survey respondents indicated that the largest barrier to entry for test automation is finding the right tools.
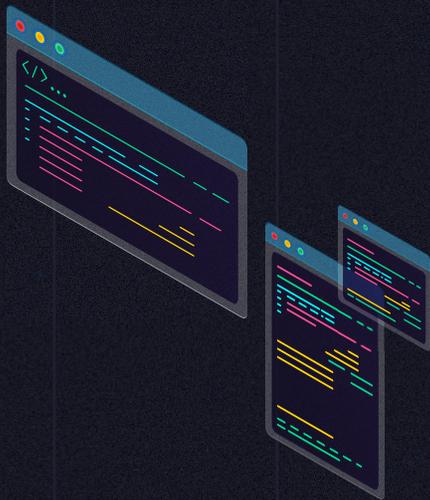
Test automation framework usage

Appium	15.4%
Selenium	21.4%
Espresso	14.0%
Robot Framework	20.8%
Cucumber	5.1%
EarlyGrey	8.3%
XCUI	10.8%
Other	4.3%

SUMMARY

Responses indicate that Selenium is the preferred automation framework.

What percentage of your test cases are automated?

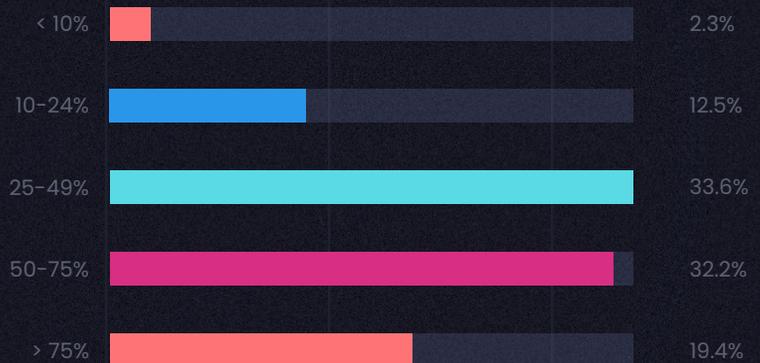|	
No Tests	3.7%
< 10%	12.0%
10-24%	27.4%
25-49%	32.8%
50-75%	20.8%
> 75%	3.4%

SUMMARY

96.3% of respondents indicated that they are performing some test automation. 32.8% of respondents specified that 25-49% of their test cases are automated.

What percentage of test cases would you like to have automated?

< 10%	2.3%
10-24%	12.5%
25-49%	33.6%
50-75%	32.2%
> 75%	19.4%

SUMMARY

Most respondents clearly see the value of test automation, with a noteworthy 19.4% seeking to automate more than 75% of their test cases. Comparing this graph with the one above shows a clear trend toward desired increases in test automation.

PRIMARY USES

Mostly Regression: Mostly regression testing but some new feature testing too

Mostly New: Mostly new feature testing but some regression testing too

Equal Mix: Equal mix of regression and new feature testing

What are you using test automation primarily for?

Regression Only	12.0%
New Feature Only	14.5%
Mostly Regression	19.1%
Mostly New	20.8%
Equal Mix	33.6%

SUMMARY

Most respondents are using test automation to verify the functionality of an equal mix in new and existing app features.

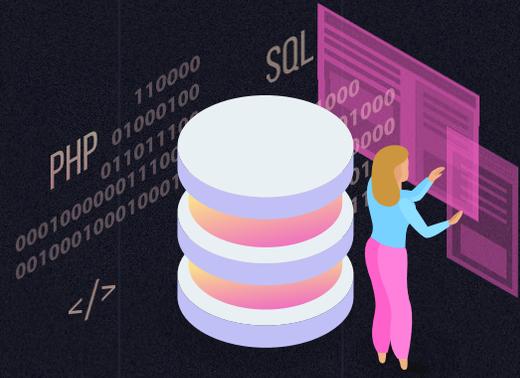## Which CI/CD tools does your organization use?

Jenkins	19.7%
CircleCI	19.7%
TeamCity	10.8%
Bamboo	18.2%
Gitlab	28.8%
Other	2.8%

SUMMARY

Gitlab was listed as the preferred CI/CD tool amongst respondents with 28.8% indicating its use. At 19.7% Jenkins and CircleCI tied for second most frequently used.
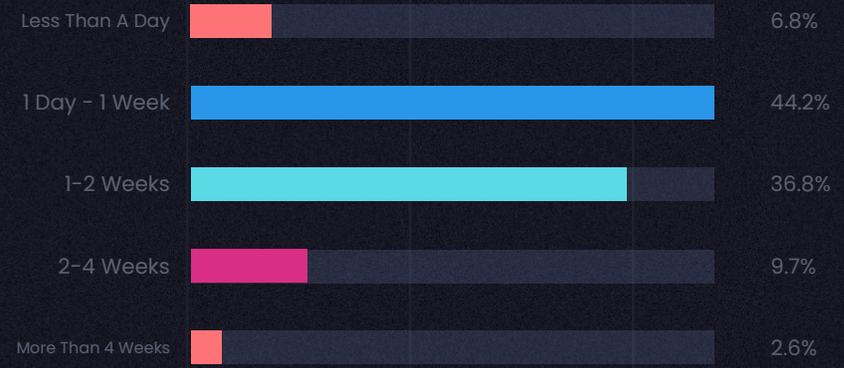
GitLab

Which of the following metrics best indicates successful test automation implementation?

% Of Automated Cases	21.9%
Speed Of Delivery	27.9%
Number Of Bugs Found	25.9%
Human Hours Saved	24.2%

SUMMARY

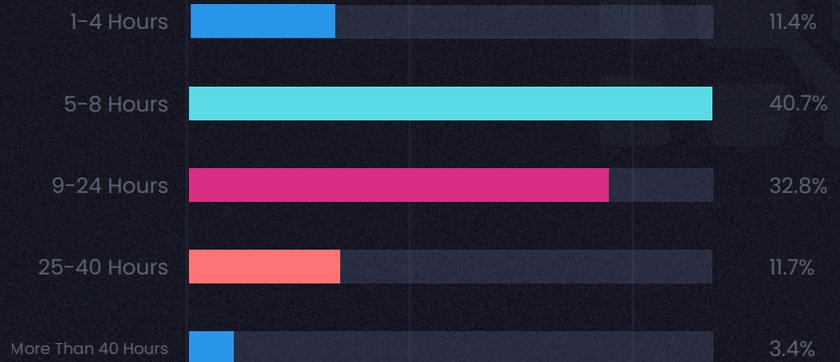Respondents indicated a preference for quantifying test automation success by measuring delivery speed.

If you have automation testing in place, how long does it take to update automation scripts for a new app release?

Less Than A Day	6.8%
1 Day - 1 Week	44.2%
1-2 Weeks	36.8%
2-4 Weeks	9.7%
More Than 4 Weeks	2.6%

SUMMARY

Most respondents indicated that they are able to update automation scripts within 1 Day - 1 Week.

On average, how long does it take to code a test case using the framework of your choice?
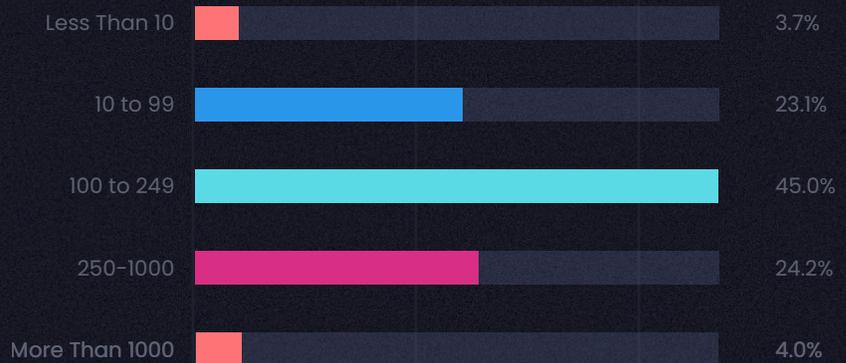
1-4 Hours	11.4%
5-8 Hours	40.7%
9-24 Hours	32.8%
25-40 Hours	11.7%
More Than 40 Hours	3.4%

SUMMARY

Survey respondents indicated that their test cases are typically coded within a 5-8 hour span.

Approximately how many manual test cases are you executing with each app release?

Less Than 10	3.7%
10 to 99	23.1%
100 to 249	45.0%
250-1000	24.2%
More Than 1000	4.0%

SUMMARY

There's plenty of room for automation. 45% of respondents indicated that test teams perform 100-249 manual test cases with each app release.

Approximately how long does it take to manually test your app before every release?

Less Than A Day	4.6%
1-2 Days	20.8%
3-5 Days	40.7%
6-10 Days	26.5%
More Than 10 Days	7.4%

SUMMARY

Manual testing is time consuming. 40.7% of respondents indicated an average manual testing time period of 3-5 days with every release.

NEGATIVE SURPRISES

Code Complexity: The coding complexity of developing test scripts

Repair/Release: The need to continually fix test scripts with every release

Repair/Devices: The need to continually fix test scripts to work across more devices

Stability: Having a stable test environment with predictable data

Hype vs. Reality: Vendor products not living up to their claims or hype

What was the biggest negative surprise you encountered as part of your test automation implementation?

Code Complexity	23.1%
Repair/Release	21.4%
Repair/Devices	20.5%
Stability	23.9%
Hype Vs. Reality	11.1%

SUMMARY

Stability issues are rampant in the test automation implementations used by most respondents. The second largest gripe with impleneting a test automation strategy is code complexity for test scripts.
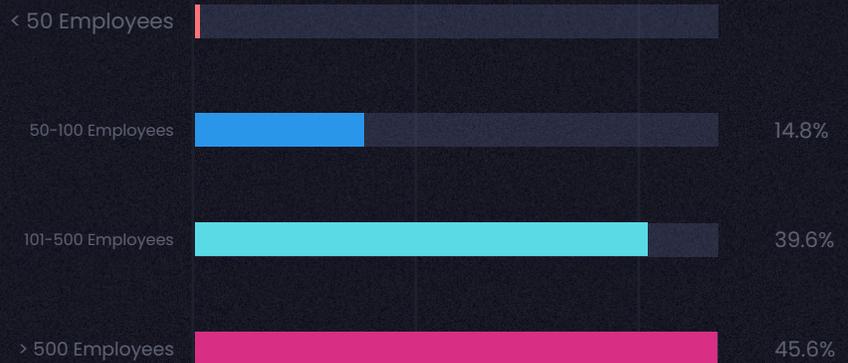
Which of these best describes your occupation?

Occupation	%
Software Testing Professional	86.6%
Mobile Developers	18.0%
Project Manager	
Product Manager	
Data Analyst	
Financial Analyst	
None Of The Above	

SUMMARY

The overwhelming majority of respondents indicated that their role in their organization is as a software testing professional.

Company Size
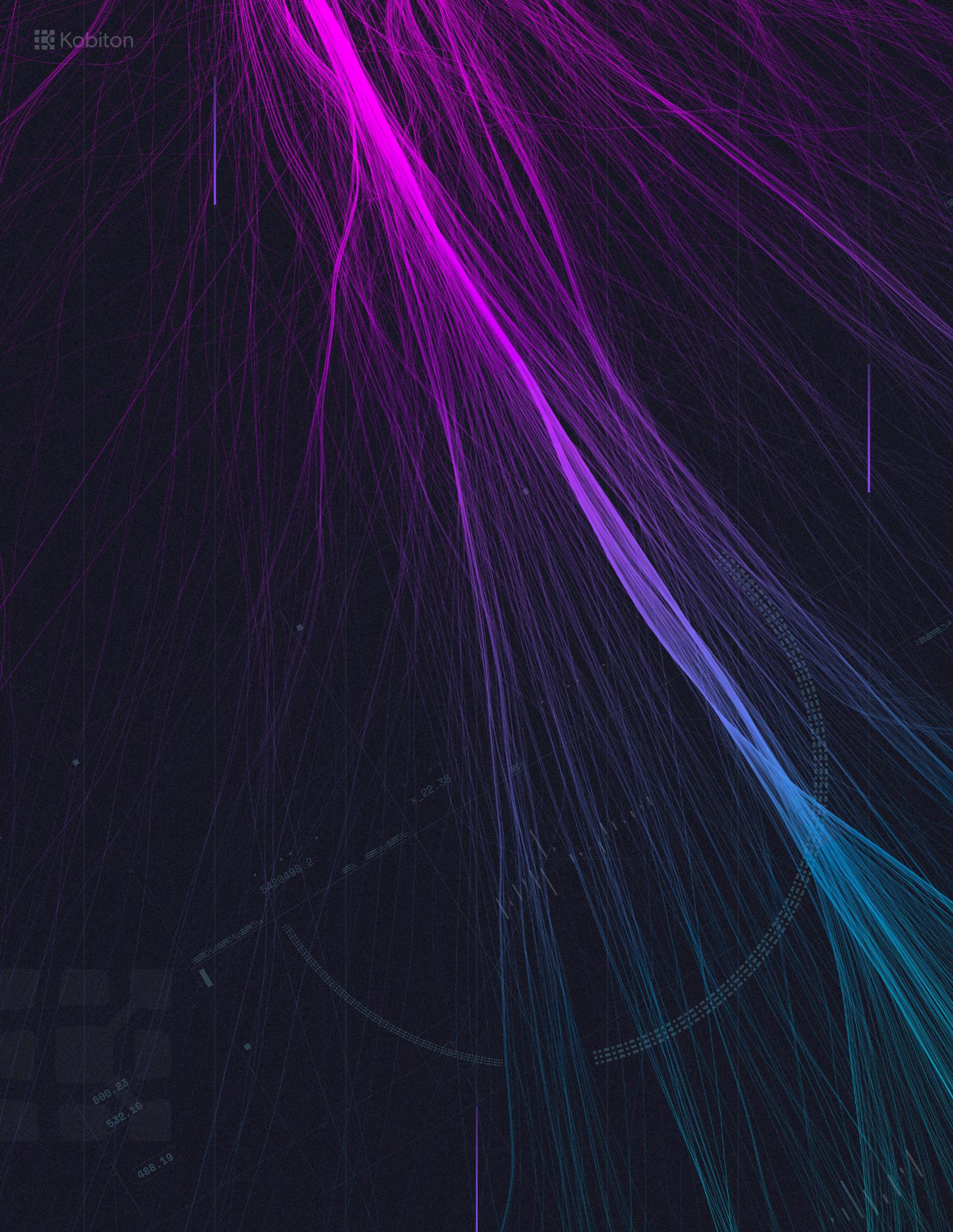
Size	%
< 50 Employees	
50-100 Employees	14.8%
101-500 Employees	39.6%
> 500 Employees	45.6%

SUMMARY

45.6% of survey respondents indicated that the company they worked for had more than 500 employees.