



The State of Salesforce DevOps Report

How the Leading Companies Operate Salesforce at Scale

2019 Annual Report



About this report

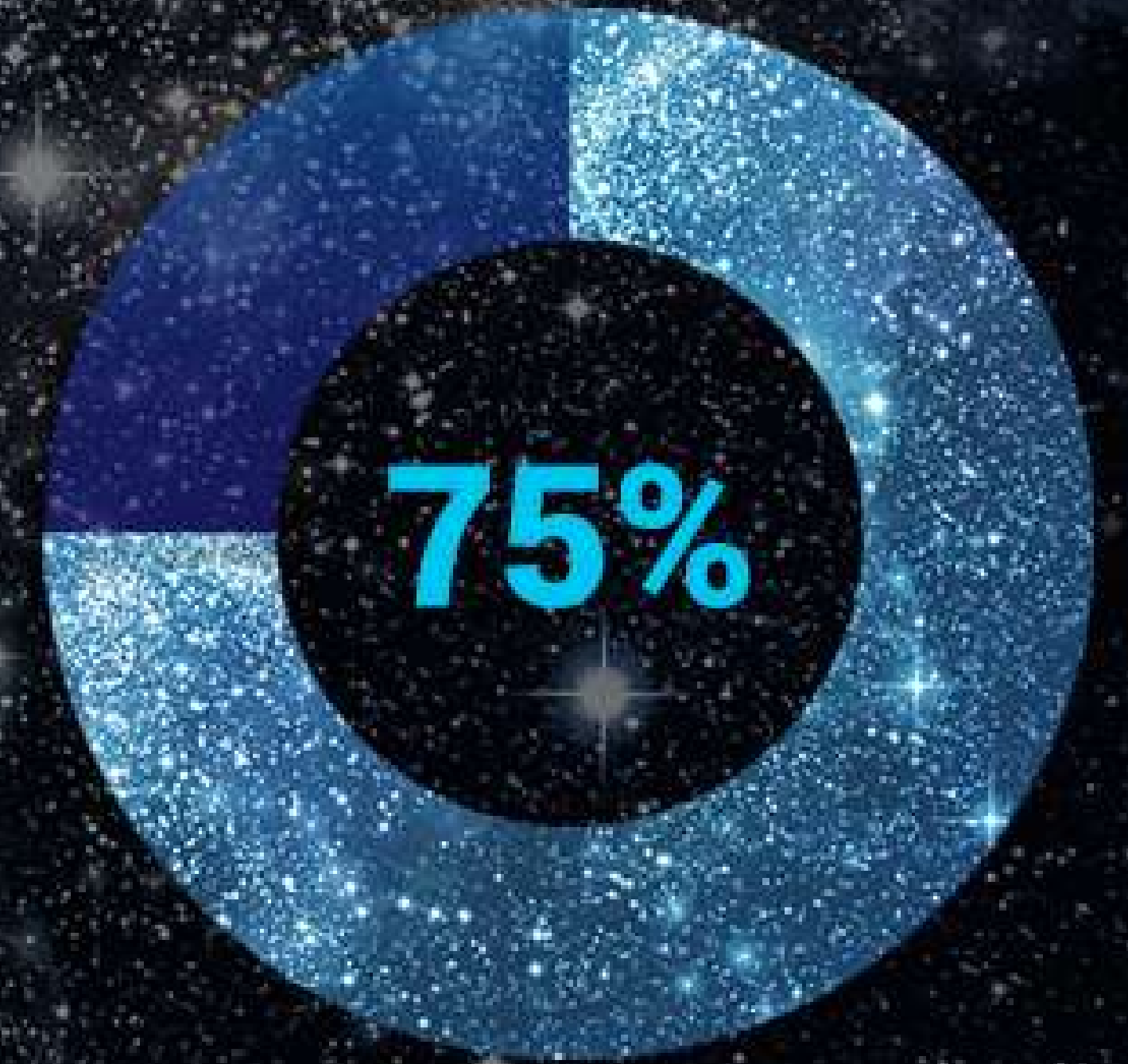
The first annual report on how the most sophisticated companies operate Salesforce at scale using DevOps best practices. Based on **thousands of data points** collected from over **300 global Salesforce customers** using DevOps to accelerate and improve the speed and quality of their implementations, this report was conducted by **Beagle Research, an independent research**

company founded in 2004, specialized in technology advisory, research and publishing. Thank you to the **Tableau** team whose Analytics we used to analyze the data. Their intuitive interface and powerful visualizations provided many of the important cross referenced insights in the report.





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**75% of CIOs say IT Departments
are experiencing the biggest
historical shift of their role**



Executive Summary

Every year, thousands of companies spend millions of dollars on Salesforce as the foundation of their digital transformation strategy. With such a large investment, you want to ensure you are getting the maximum return. Our research shows that in order to maximize your Salesforce investment, teams must align it with a DevOps strategy that will unify the entire team, optimize the delivery pipeline, and establish the highest levels of security and governance.

The Copado State of Salesforce DevOps Report is the first report of its kind focused solely on the emerging benchmarks and DevOps best practices within the Salesforce ecosystem. Our goal was to identify and understand the capabilities and practices that lead to excellence in innovation delivery and drive real business results among the leading Salesforce customers.

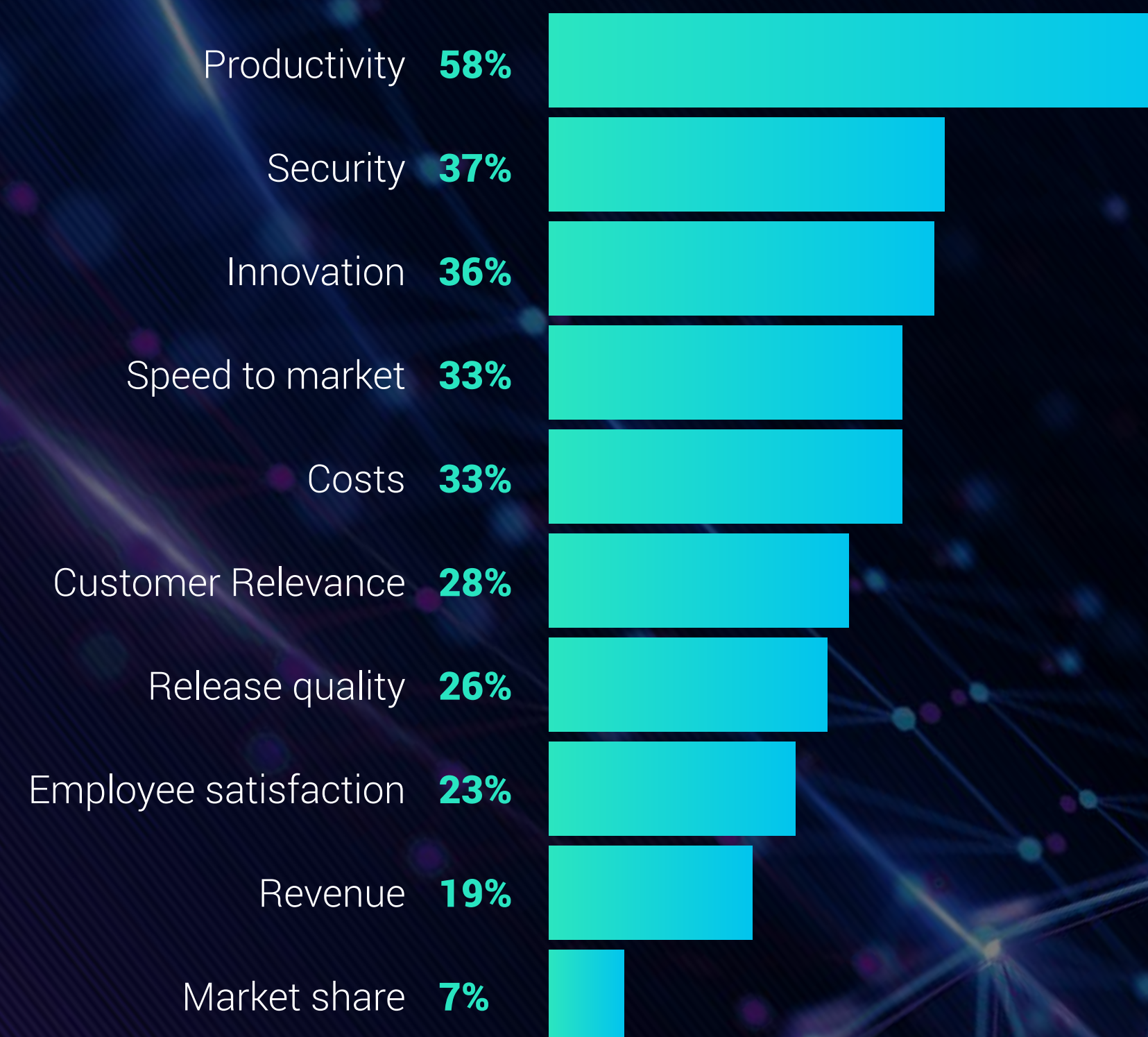
This research is inspired by the Accelerate State of DevOps Report. We would like to acknowledge and thank them for their inspiration and for 6 years of research and data-driven insights into the impact of DevOps. They've clarified how to measure the most effective and efficient ways to develop and delivery technology for the entire industry.

The survey was conducted by Beagle Research Group who demonstrated the deepest understanding of the Salesforce ecosystem and ensured a broad and deep data set of Salesforce customer executives.



Why Salesforce DevOps?

Which of these areas do you believe you could improve for your organization if your team was able to prioritize improvements to your Salesforce development and release process over the next 3-5 years?





We surveyed over 300 executives, managers, and members of Salesforce delivery teams to learn about their development lifecycles. Here's what we learned. Software Delivery Performance has been studied carefully over 6 years by the team at DevOps Research and Assessment. Guided by their insights, we analyzed performance among these Salesforce teams in terms of the dual goals of innovation velocity and quality. We were able to identify four performance profiles to further analyze the characteristics and causes of both high and low performance.

The research shows that the industry-standard Four Key Metrics of software delivery performance drive organizational performance in technology transformations. We also see a clear confirmation that it is possible to "optimize for stability without sacrificing speed".

At the end of this report, we have identified five distinct stages of the Salesforce DevOps evolution, and the critical practices at each stage that help you achieve success and progress to the next phase of your journey.

While no company starts their Salesforce DevOps journey in the same place, the methods and processes for improvement are becoming clear. Companies who pursue a three-layered strategy that balances the organization of the team, establishment of end to end CI/CD processes, all running on an integrated technology platform outperform the rest.



Salesforce DevOps Is Paying Off

\$5M

ROI

17% of Respondents

46x

more deployments

2555x

shorter lead times

8x

less change failures

96x

faster recovery times

1

Companies that combine the Salesforce platform with a disciplined DevOps strategy drive real business results.

The highest performing companies are building a DevOps strategy around Salesforce to maximize their returns, with over 17% reporting an ROI of over \$5M. One big surprise in the survey is the level of velocity and stability that teams using Salesforce experience compared to the broader IT industry. Even teams with relatively immature DevOps processes compared to the broader IT industry performed better on average through the power of the platform.

3

The size of your delivery team is the #1 factor affecting the throughput of innovation.

We see the size and complexity of the largest Salesforce implementation teams growing exponentially as multi-million dollar global implementations become more common. The organization and discipline of these heterogeneous teams is the key to maximizing performance of Salesforce projects.

2

The primary driver of DevOps is speed but velocity alone won't make you elite.

The study confirms that innovation speed is the #1 reason companies adopt DevOps. But top performers scored high in both velocity and quality. High innovation delivery performance has been shown to drive organizational performance.

4

The enterprise Salesforce delivery team has evolved over the last few years as the scale of Salesforce deployments has grown.

Teams are regularly comprised of very large numbers of admins and developers. Almost 50% of our respondents had more than 25 contributors, and many teams were managing 10 or more production orgs.

5

The Rise of Salesforce DevSecOps.

The security and regulatory risks facing Salesforce customers are more numerous and sophisticated today than ever before. Specific regions including EMEA and most industries such as Financial Services, Life Sciences, and even Consumer Goods face massive fines for the mishandling of customer data. We see a new level of collaboration between the IT development, operations, compliance and security teams running Salesforce.

7

Teams want to go faster.

Teams admire the progress in DevOps made outside of the Salesforce ecosystem. Teams with more than 10 contributors were four times more likely to agree that non-Salesforce teams have more mature practices for managing the development lifecycle.

6

Innovation Performance requires both CI and CD.

Higher performers were far more likely to integrate developers' changes on an ongoing basis. Practices such as version control are widespread, and Elite performers were five times more likely to automate all of their deployments.

8

Larger teams rely on commercial tools.

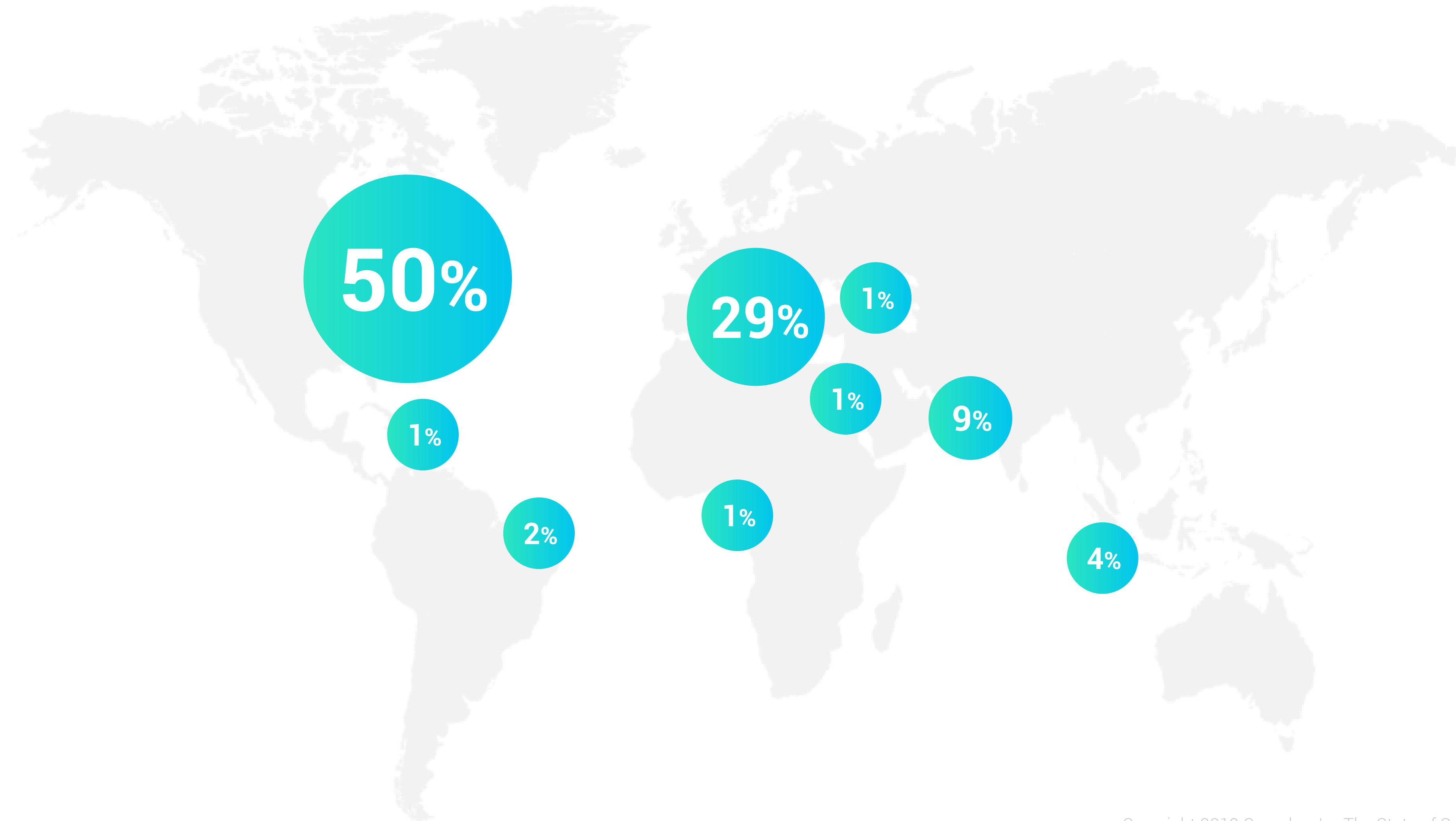
80% of larger teams used Salesforce-specific commercial tools to aid in their development lifecycle. While smaller teams relied on generic DevOps tools or tools built in-house, none of the larger teams of Elite performers did so.



Who took the survey?

DEMOGRAPHICS & FIRMOGRAPHICS

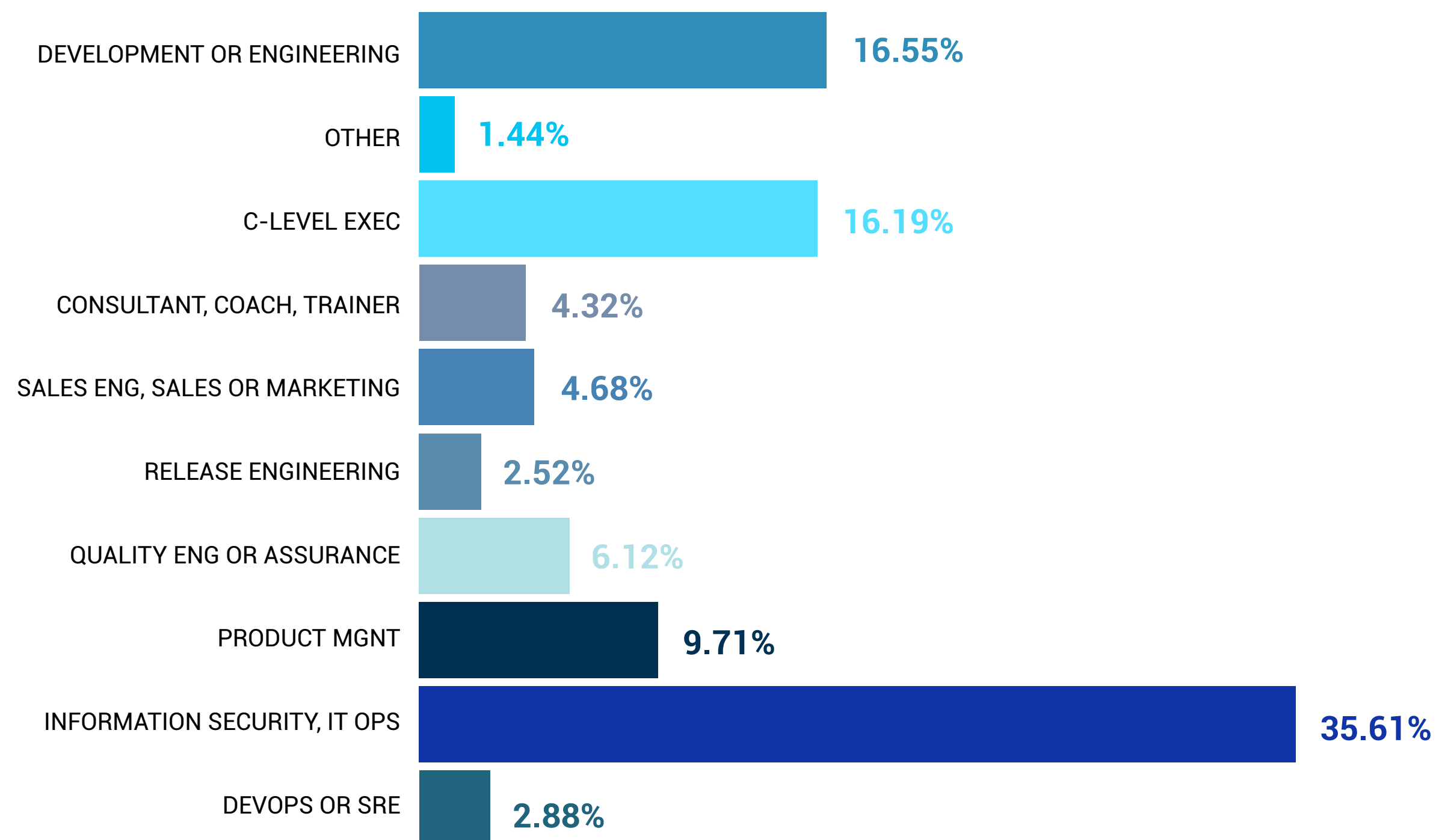
Participation across regions generally aligns with Salesforce growth with the majority in NA, then EMEA and Asia.



Role

DevOps is mostly being supported through IT operations. The survey drew deep participation from Operations and Security roles at 45%. The Second highest was SIs at 21.9%. The majority of respondents in the survey come from technical backgrounds often working for IT.

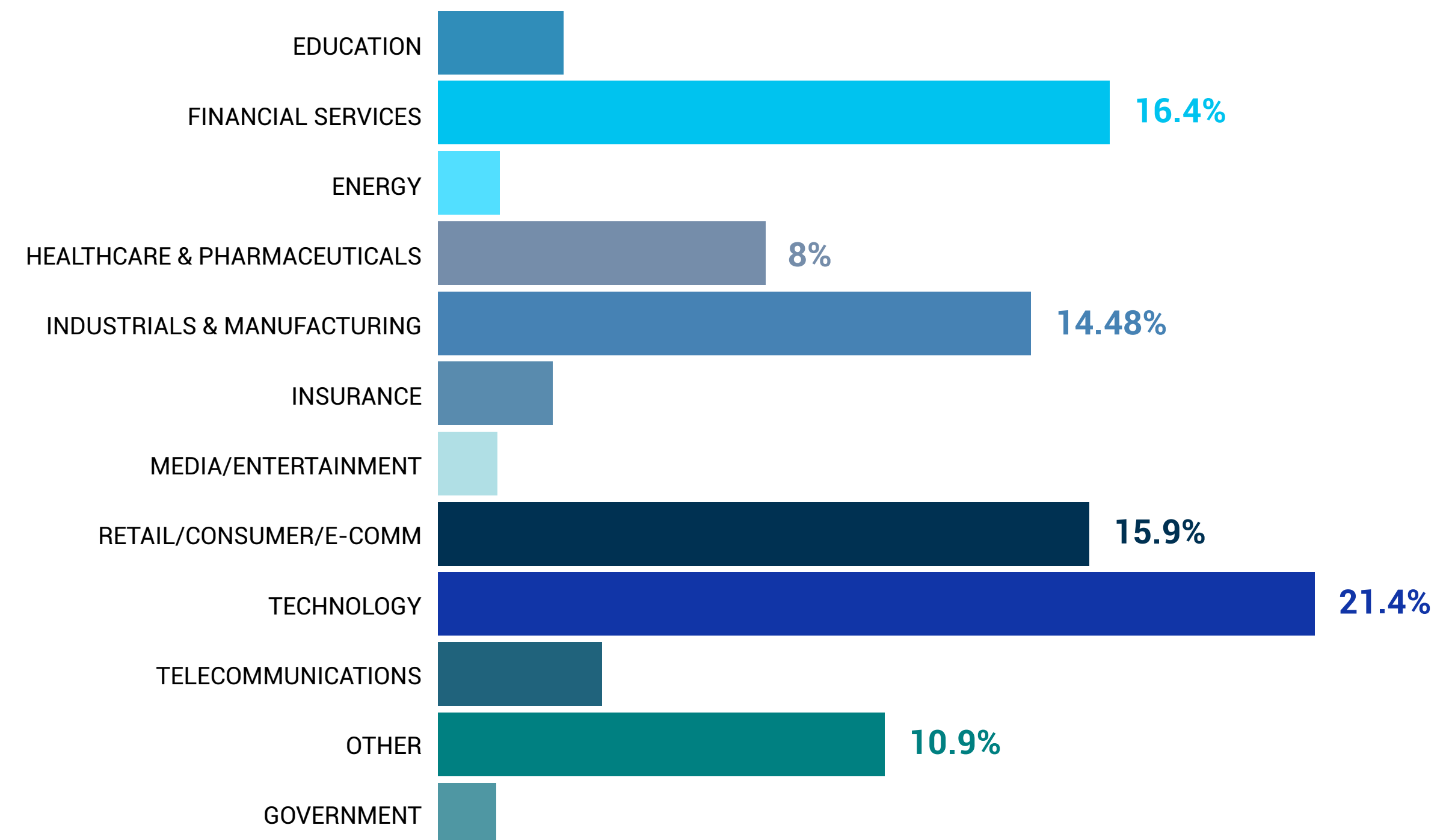
Which most closely describes your work role?



Industry

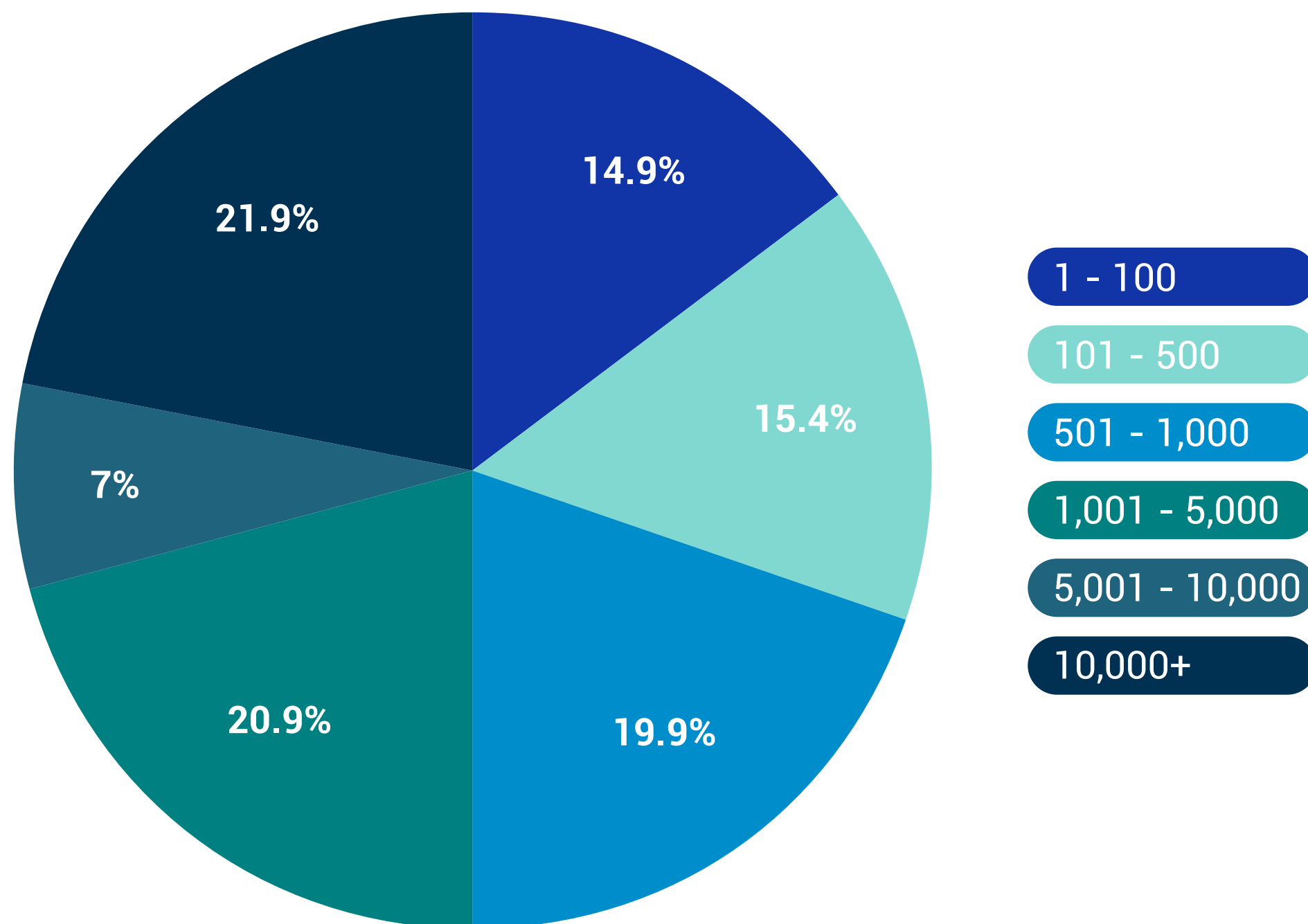
All major industries were represented in the survey with Technology 21.4% and Financial Services 16.4% leading the way as they have historically lead the transition to the Salesforce and the Cloud.

Which industry are you in?



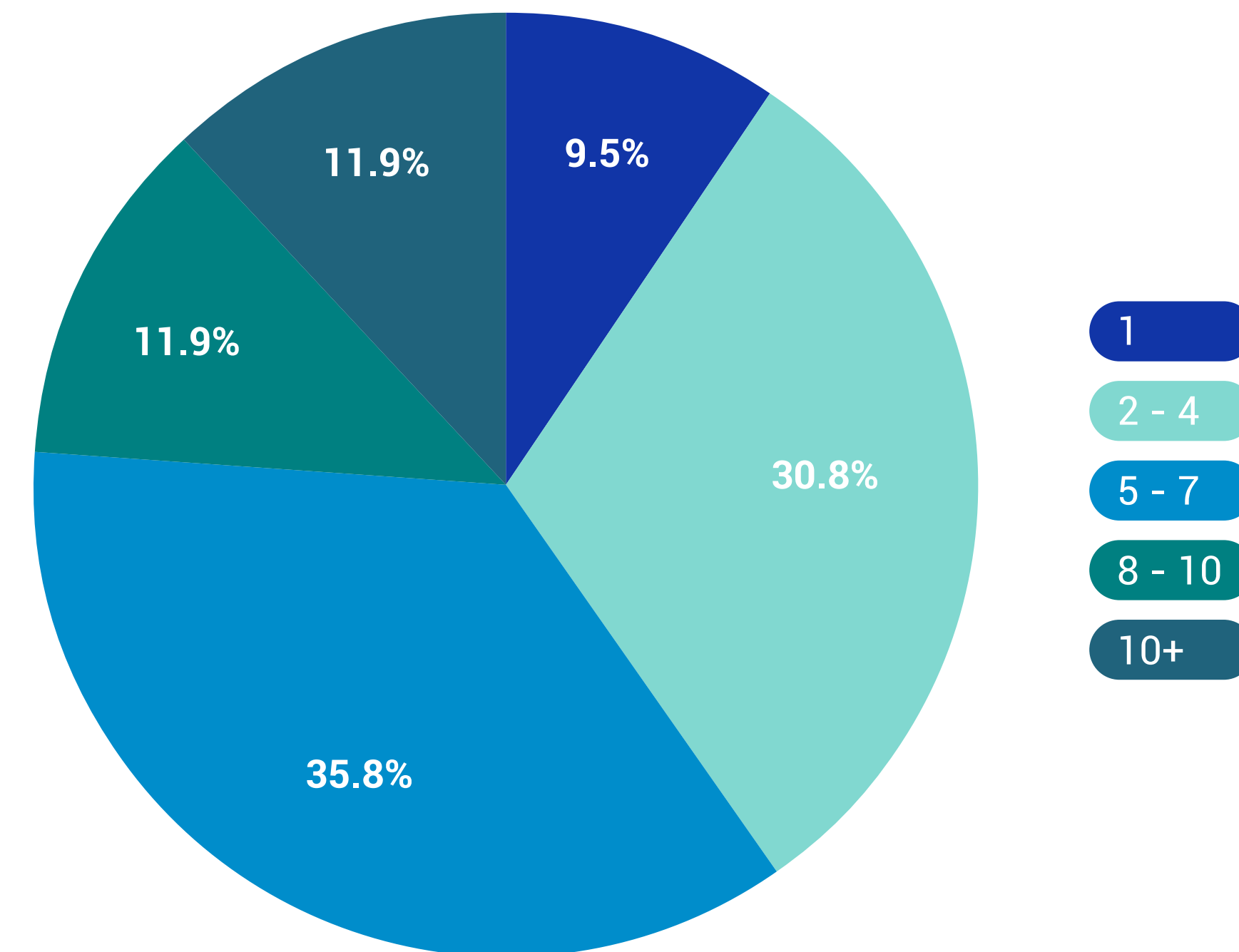
Company Size

The survey included companies of all sizes with an emphasis on enterprise companies with over 10,000 employees. Company size will prove a central theme contributing to overall platform performance.



Production orgs

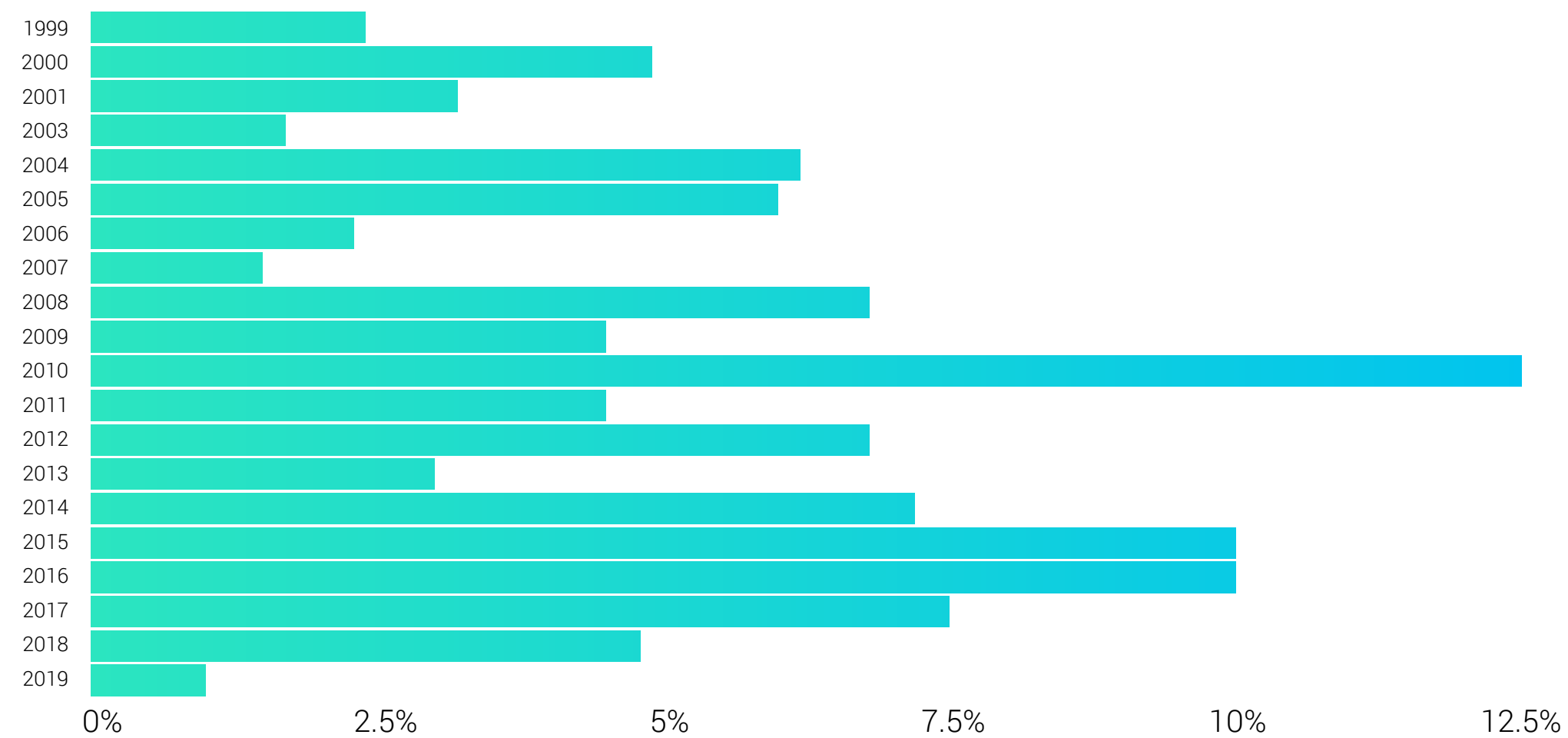
One surprise was the number and scale of different orgs companies are using to run their Salesforce implementations. Over 59% of customers surveyed were supporting more than 5 production orgs with over 11.9% supporting more than 10 production orgs. The ratio of Sandboxes and development orgs per production org are many to one and represent massive challenges in managing, deploying and synchronizing metadata and data across orgs.



Years on Salesforce

Every year of Salesforce's 20 year history is represented in the survey. It was interesting to see the number of years with Salesforce did not directly affect overall performance metrics.

Aproximately what year did your company first begin using Salesforce?



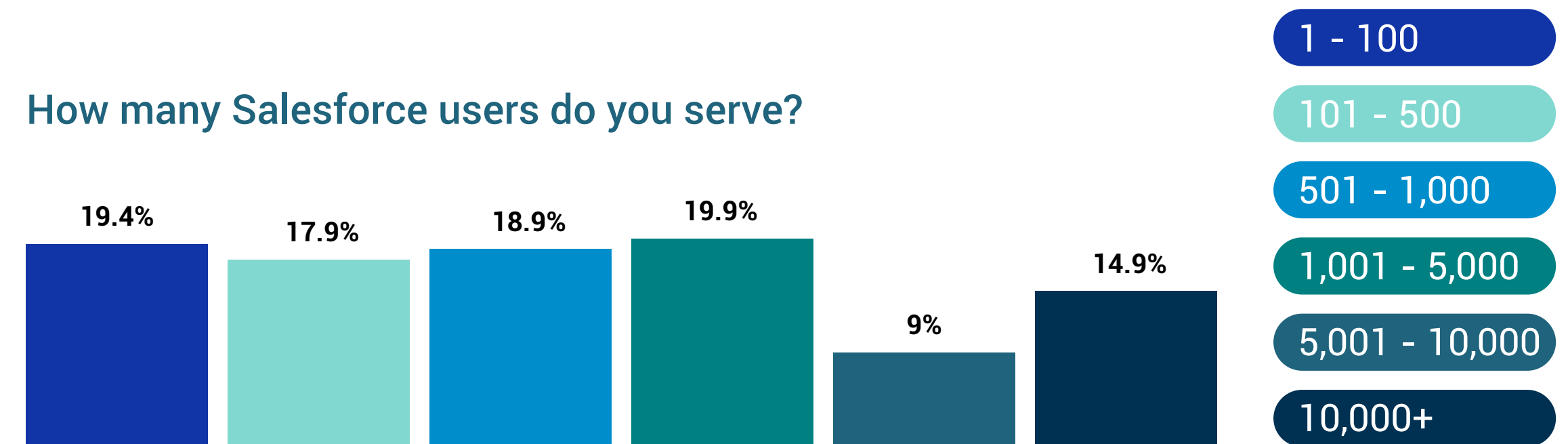
Business Units

The survey shows that many companies run different Salesforce orgs based on business units. Only 8% reported running Salesforce for a single business unit while over 40% supported Salesforce on behalf of 8 or more business units. Managing the needs of different Business Units creates additional strain on managing and deploying the Salesforce metadata.

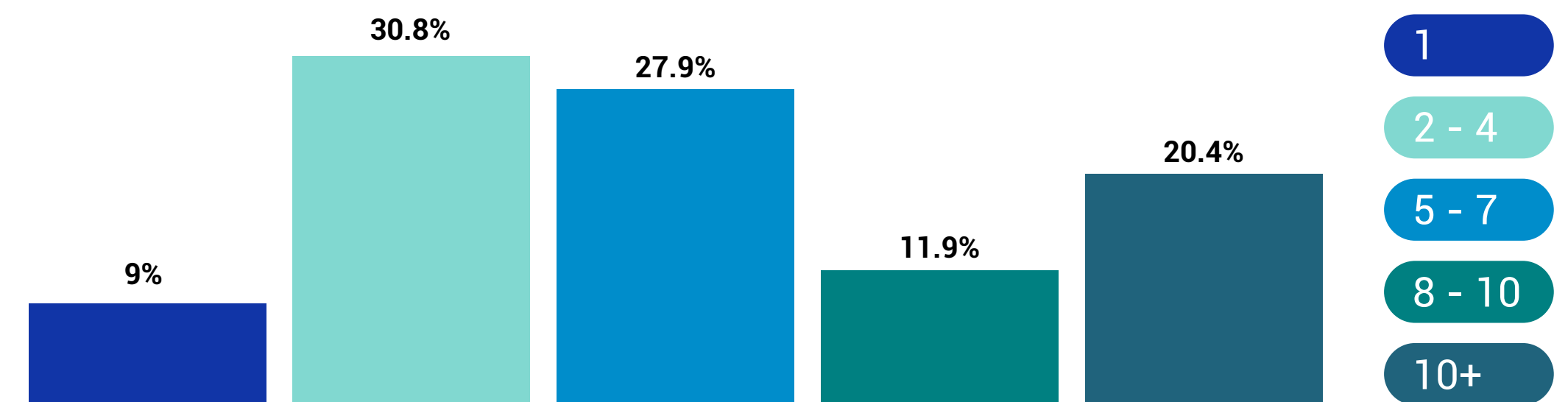
Salesforce Users

Salesforce implementations are far bigger now than ever before. The survey showed that over half of companies supported over 5,000 users and 22% support over 10,000 users.

How many Salesforce users do you serve?



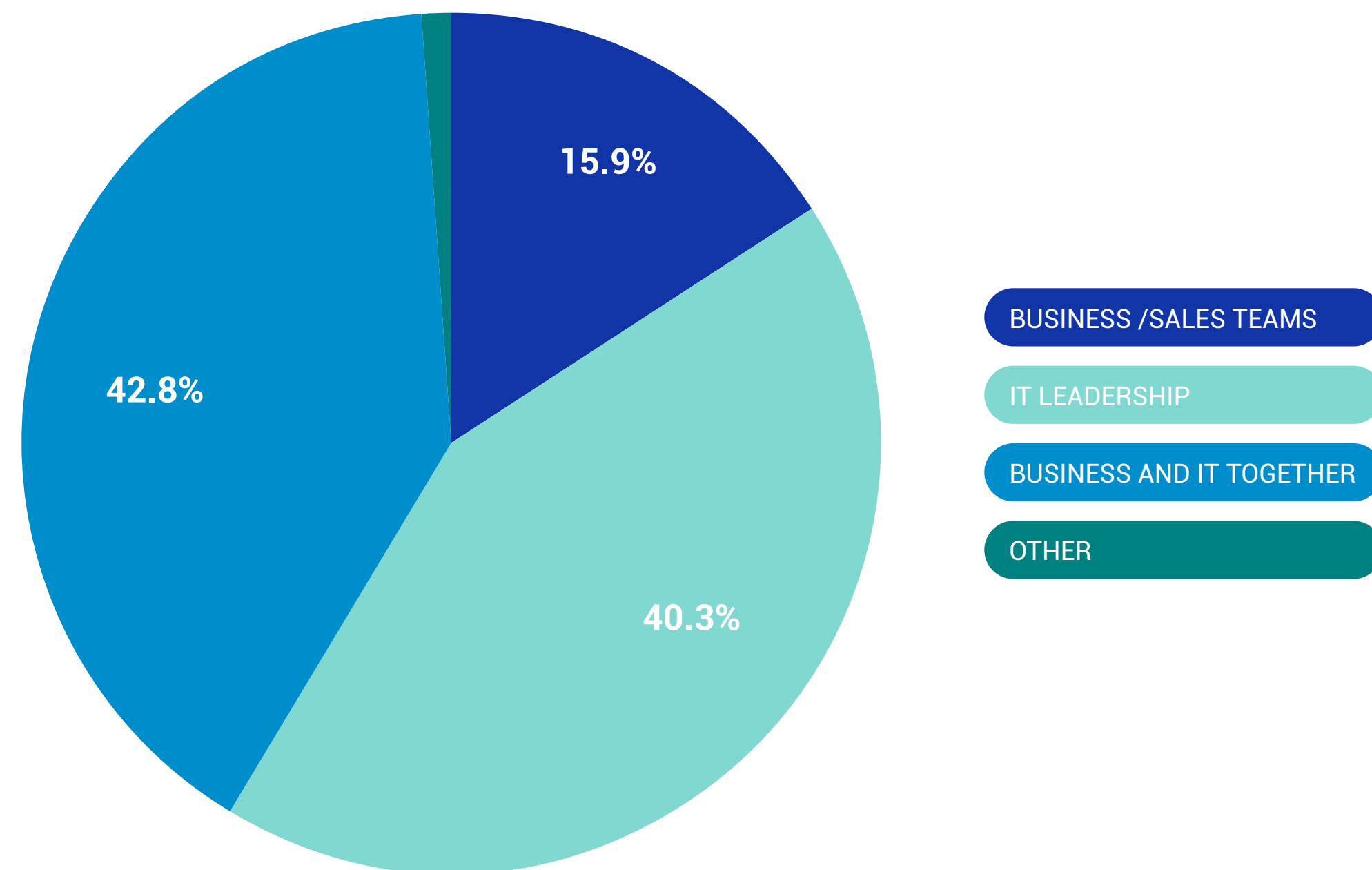
How many business units use Salesforce?



Business or IT Leadership

Salesforce is perhaps the technology platform most commonly shared between the business and IT. We see a clear evolution away from the days when the business ran Salesforce on their own to a hybrid model with IT driving much of the DevOps best practices.

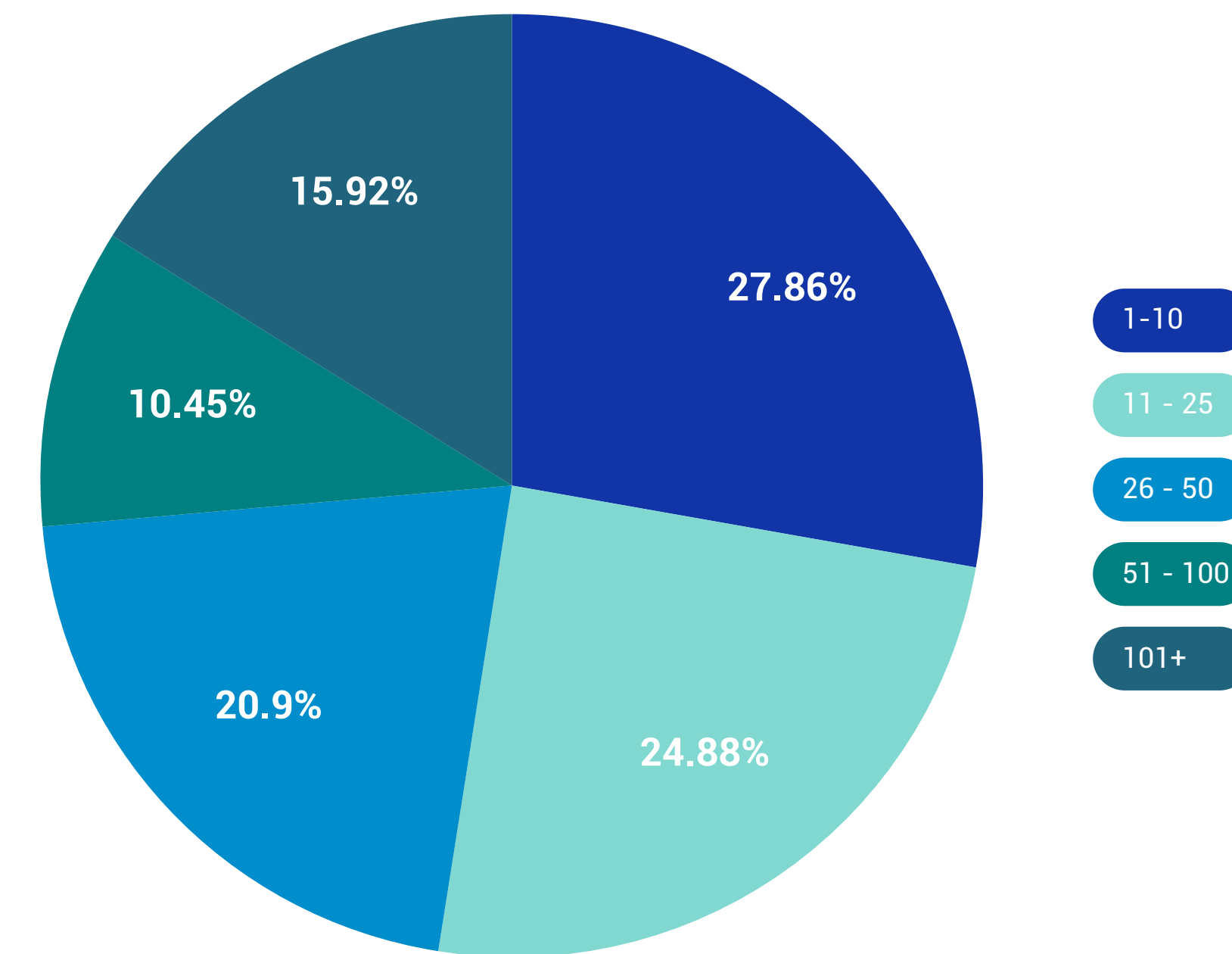
Which team is in charge of your Salesforce implementation?



Size of the Delivery Team

Salesforce teams are large and growing. Almost 75% of the teams we surveyed had more than 10 contributors, and 16% had more than 100 contributors. Larger teams require more sophisticated methods for collaborating.

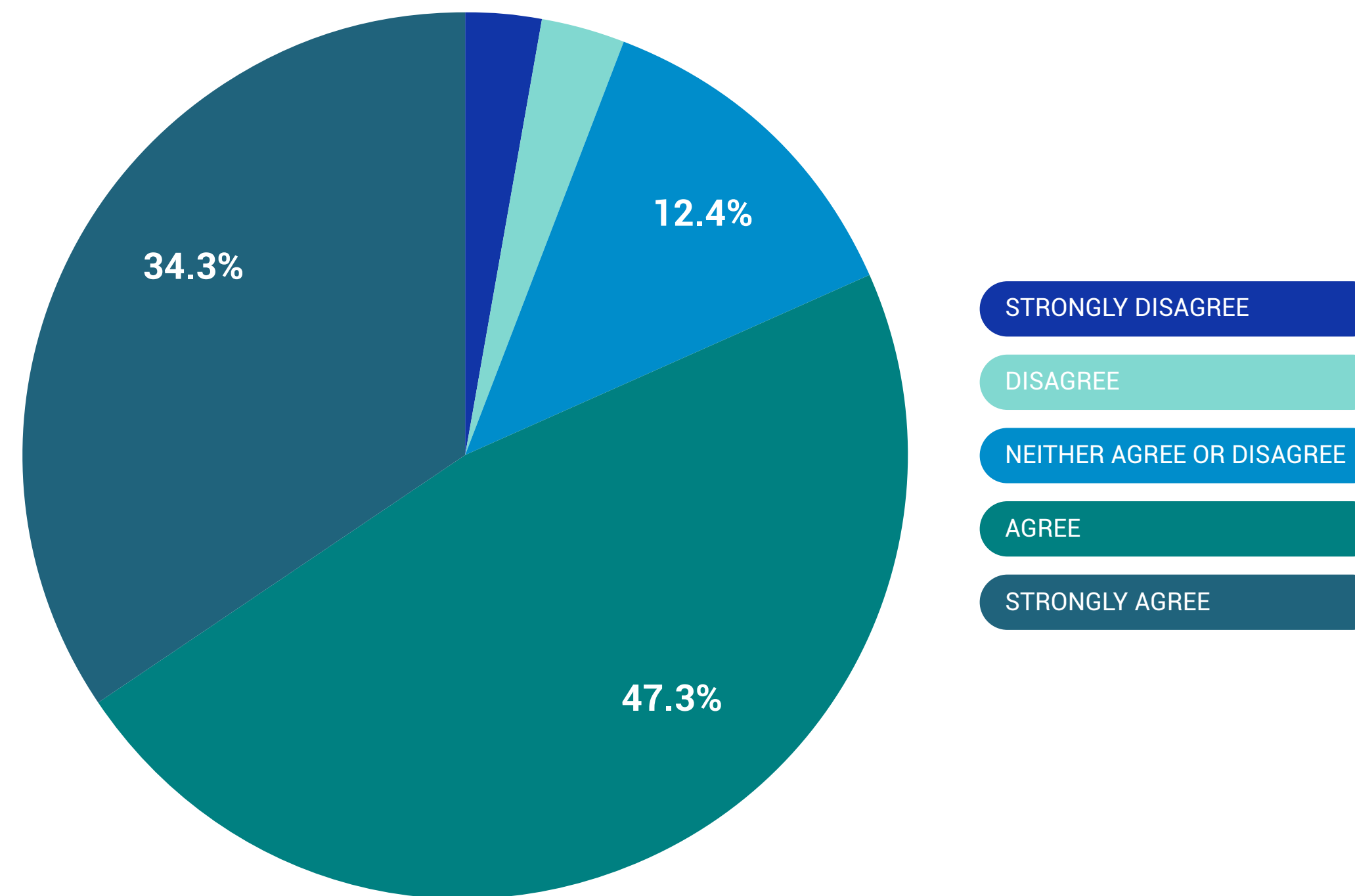
How many people are currently involved in customizing your Salesforce org (including admins, developers, etc)? Please include consultants, employees, contractors, etc.



Expectations of SIs

As Salesforce implementations grow, they require additional expertise in operations and development. Naturally the largest customers turn to System Integrators to help them build out their customizations and tailor the platform to their business. We see many customers use multiple SIs. Customers were overwhelmingly expected System Integrators and Consultants to come prepared with DevOps COEs and best practices.

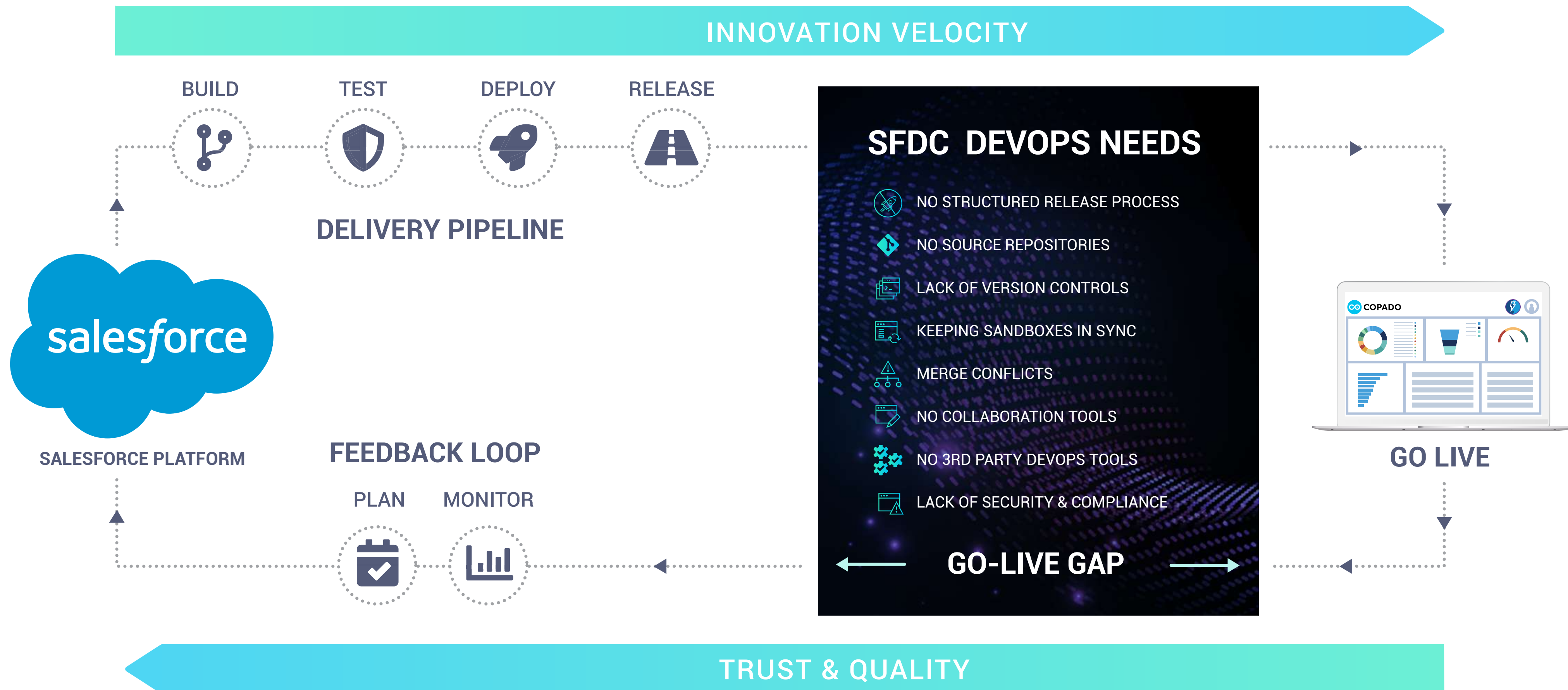
We expect our consultants and SI to come prepared with DevOps Best Practices





How do you compare?

Innovation delivery performance





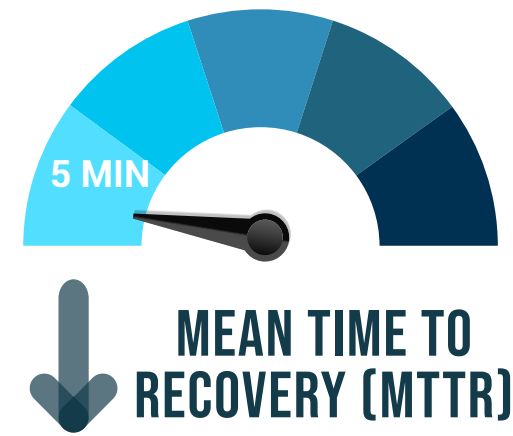
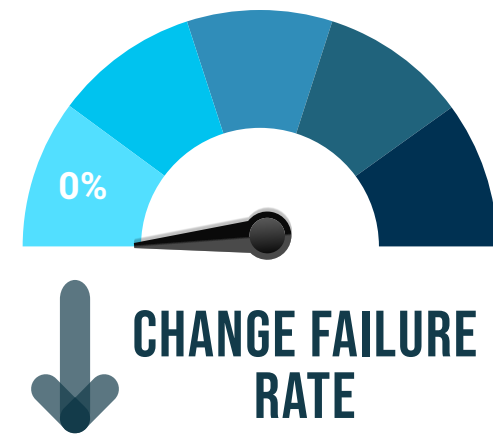
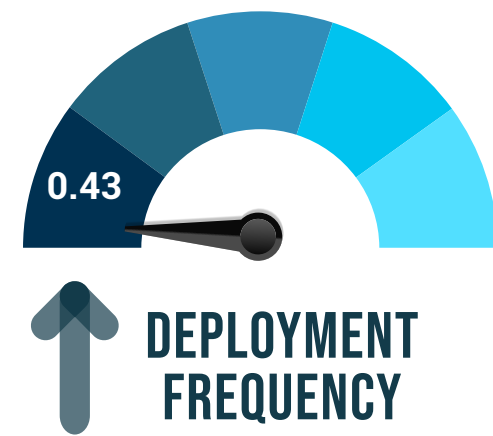
How do we compare?



PLATFORM DELIVERY PERFORMANCE

INNOVATION VELOCITY

RELIABILITY & TRUST



WHAT

Time from code committed to production

How often you release to production

How long it takes to recover from failures in production

Percentage of releases requiring rollback and/or fixes

WHY

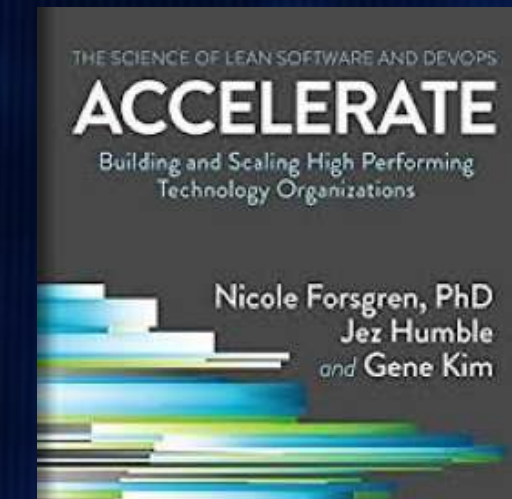
Shorter is better
Faster feedback cycles
Adjust quickly to the market

More is better
Small batch size
More market agility

Shorter is better
Decrease customer exposure
Decrease down time

Less is better
Early detection is critical
Automation is important

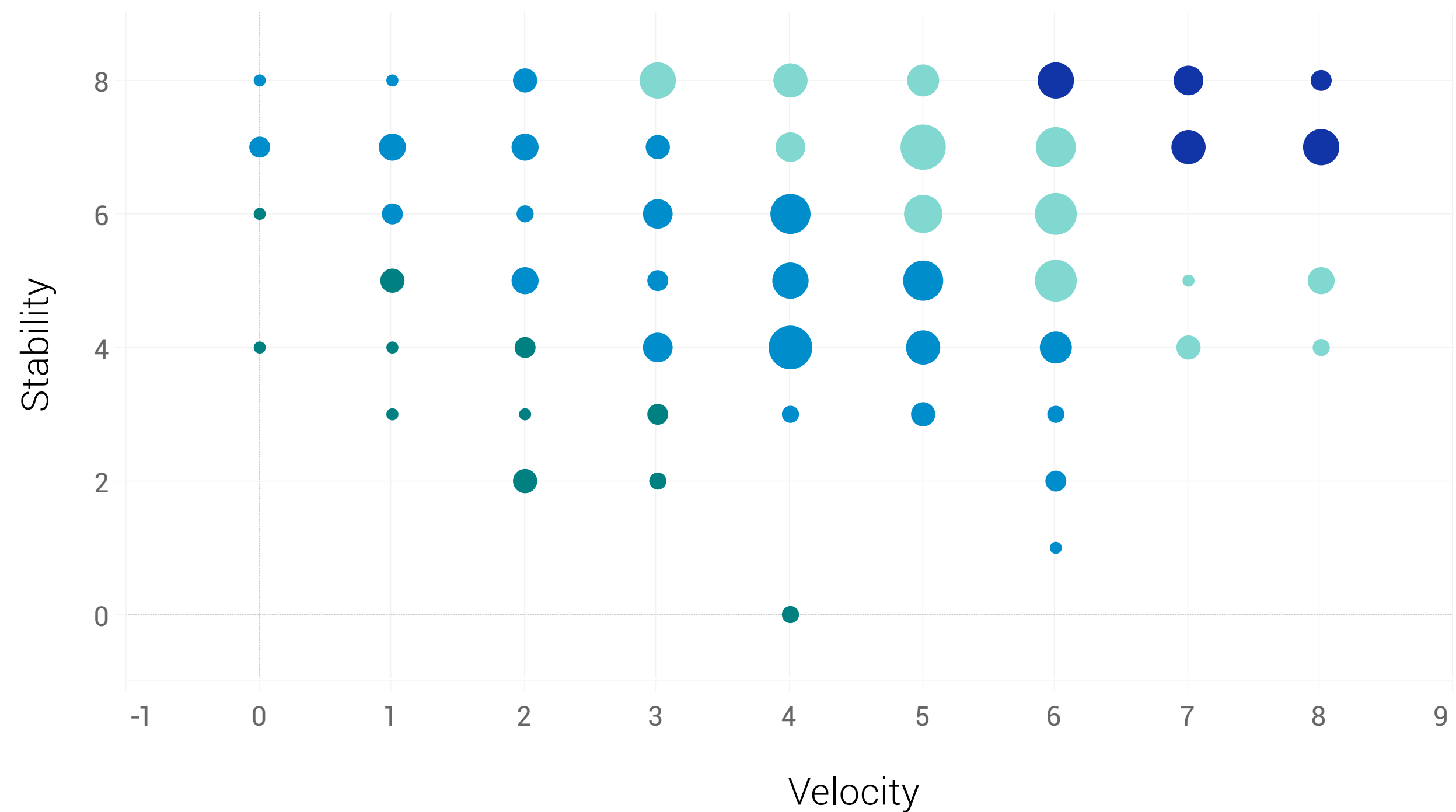
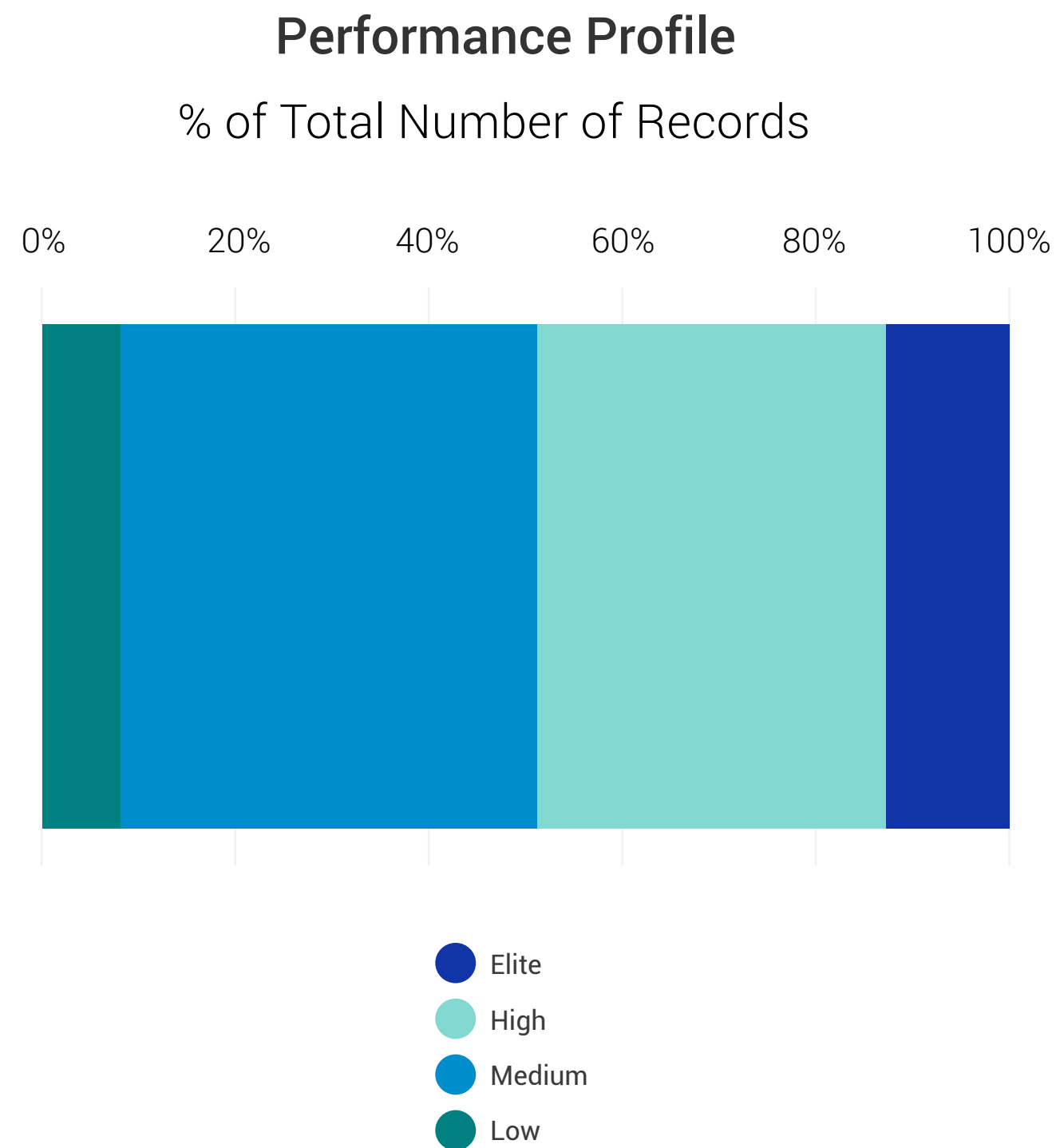
The Four Measures of Salesforce



The research shows that the industry-standard Four Key Metrics of software delivery performance and operations apply to the development and operation of Salesforce just as they do for other industries. This finally provides us an industry standard way to evaluate how a company is performing on Salesforce compared to their peers.

It is clear the four key metrics drive positive organizational performance and business outcomes in Salesforce transformations. We see a clear confirmation that it is possible to “optimize for stability without sacrificing speed”.

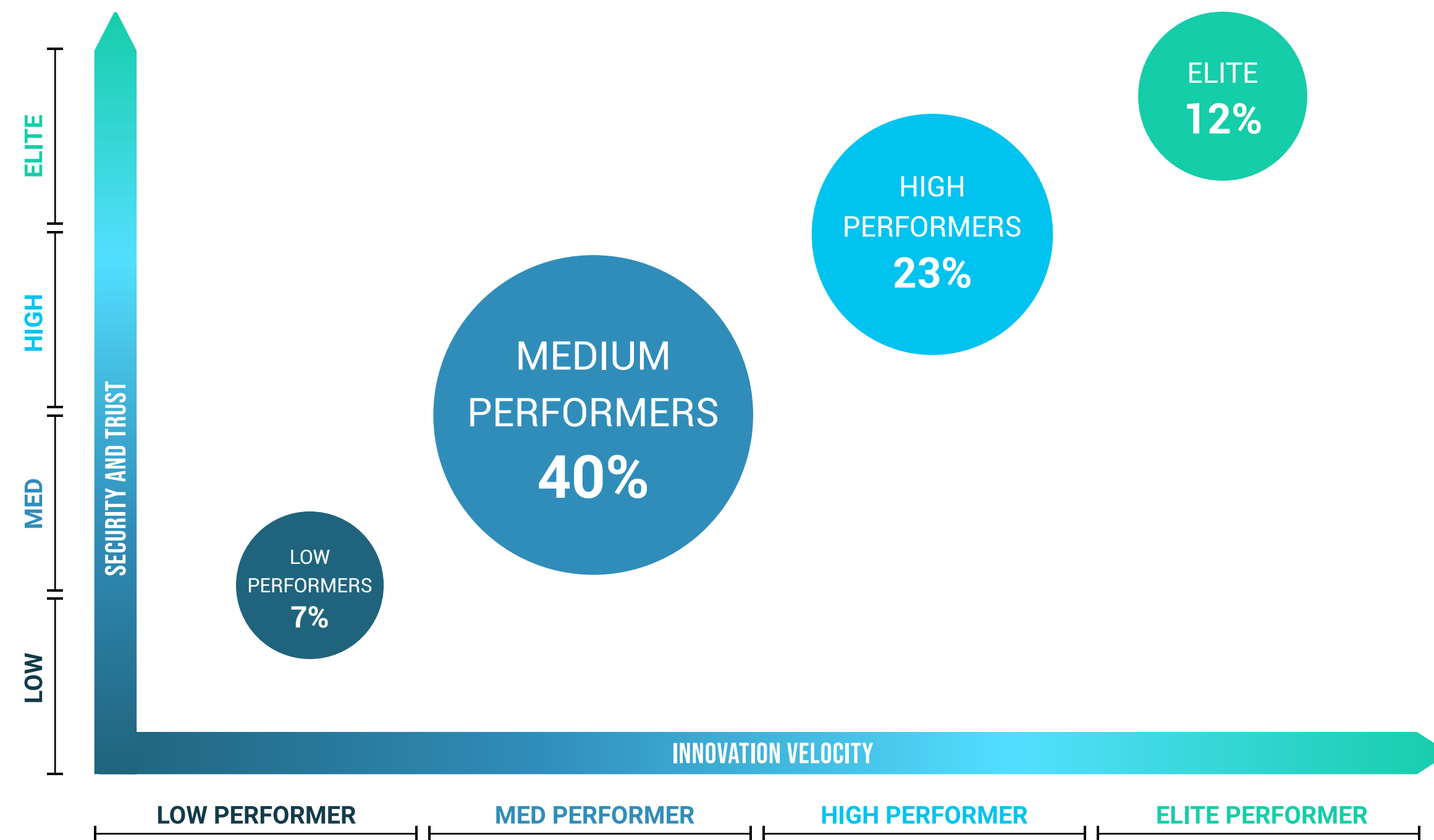
The Four Performance Profiles



Median performance by Profile

Performance profile	Lead Time (Minutes)	Deployments / Year	Change fail %	Time to restore (Hours)
Low	153,300	32	63%	96
Medium	10,080	209	38%	96
High	1,440	209	8%	12
Elite	60	1,460	8%	1

The Best Companies Balance Speed and Quality on the Salesforce



Salesforce innovation performance

	Elite	High	Medium	Low
Release frequency	On-demand	Less than a day	Between a day and a week	More than a week
Development Lead Time	Less than a day	Between a day and a week	Between a week and a month	More than a month
Change Failures	0-15%	16% - 40%	41% - 75%	76% - 100%
Restore Time	Less than one hour	Less than a day	Between a day and a week	More than a week

State of DevOps 2019 Report

Overall Industry Benchmarks

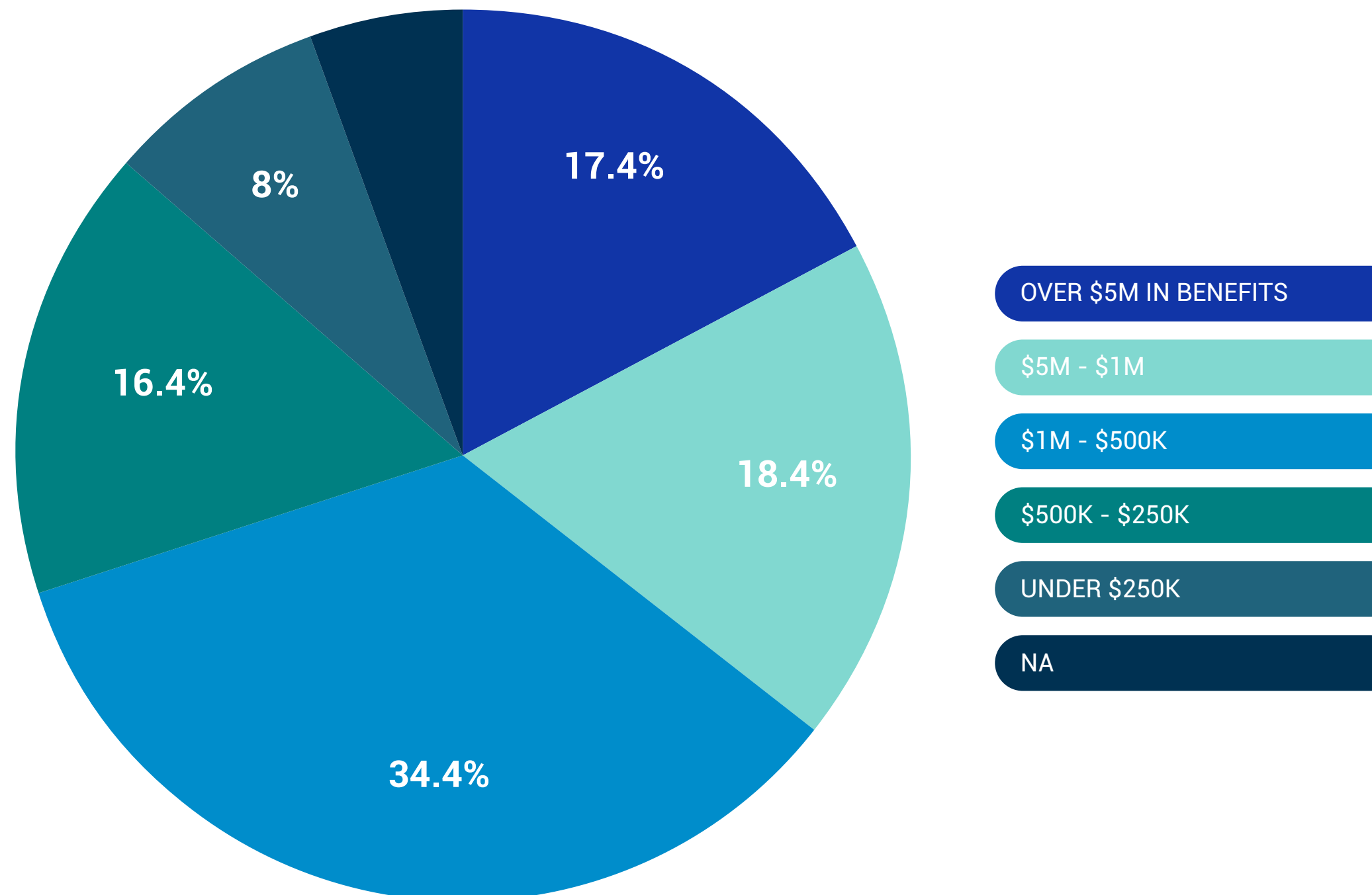
Aspect of Software Delivery Performance*	Elite	High	Medium	Low
Deployment frequency For the primary application or service you work on, how often does your organization deploy code to production or release it to end users?	On-demand (multiple deploys per day)	Between once per day and once per week	Between once per week and once per month	Between once per month and once every six months
Lead time for changes For the primary application or service you work on, what is your lead time for changes (i.e., how long does it take to go from code committed to code successfully running in production)?	Less than a day	Between one day and one week	Between one week and one month	Between one month and six months
Time to restore service For the primary application or service you work on, how long does it generally take to restore service when a service incident or a defect that impacts users occurs (e.g., unplanned outage or service impairment)?	Less than one hour	Less than one day ^a	Less than one day ^a	Between one week and one month
Change failure rate For the primary application or service you work on, what percentage of changes to production or released to users result in degraded service (e.g., lead to service impairment or service outage) and subsequently require remediation (e.g., require a hotfix, rollback, fix forward, patch)?	0-15% ^{b,c}	0-15% ^{b,d}	0-15% ^{c,d}	46-60%

ROI Benefits from Salesforce DevOps

DevOps ROI Impact

The most striking results of the survey was the clear business impact of DevOps when combined with the Salesforce Platform. The faster a business can adjust to changing market conditions, the more competitive it can be. This competitiveness underlines the new differentiators in the modern digital economy.

What business impacts have you seen from your Salesforce DevOps strategy?





How you can improve

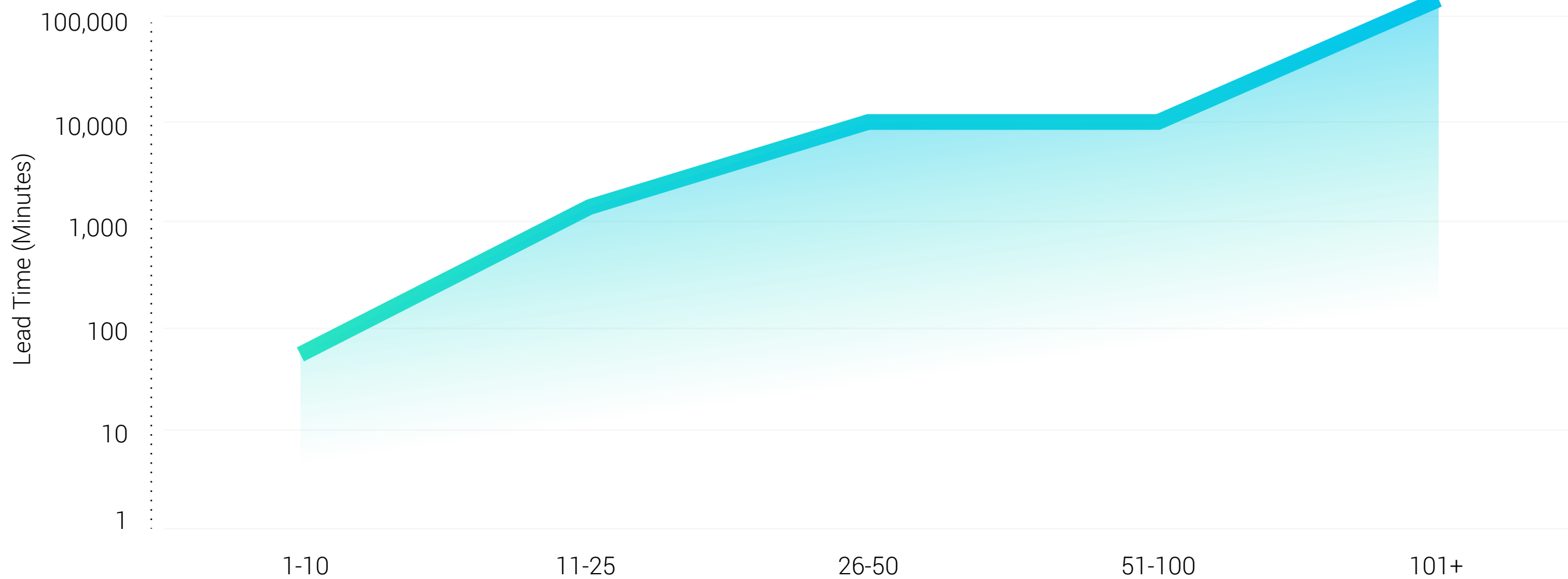
THE TOP FACTORS THAT AFFECT DELIVERY PERFORMANCE

What Factors Affect Performance? – Company Size and Scale

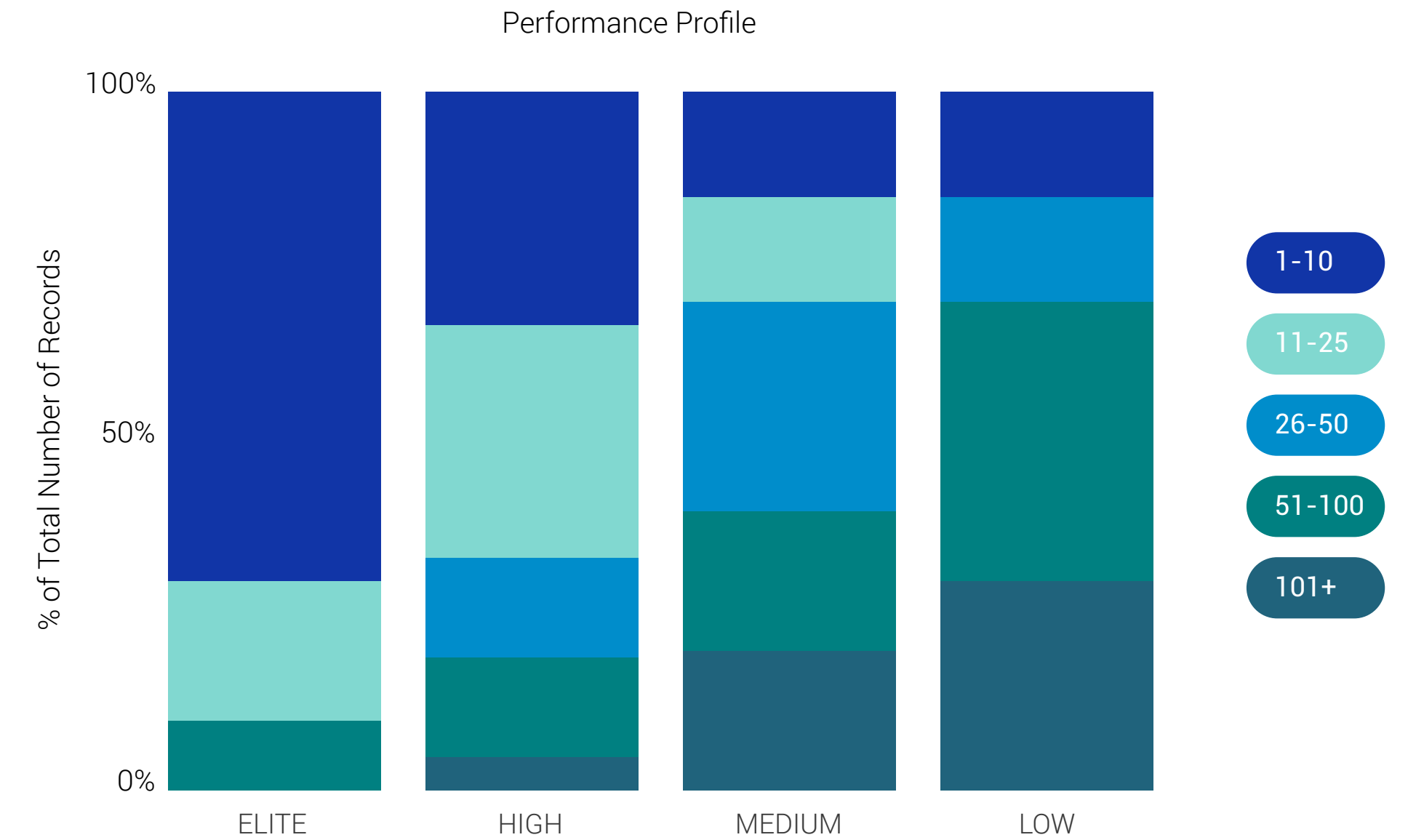
We very quickly noticed that size (especially when measured against the number of delivery team members), negatively impacted performance. The **Accelerate 2019 State of DevOps Report** also noticed a decline in performance for organizations over 5,000 employees.

- Size of the delivery team
- Size of the Salesforce User Base
- Number of Production Orgs
- Number of Employees
- Number of Business Units

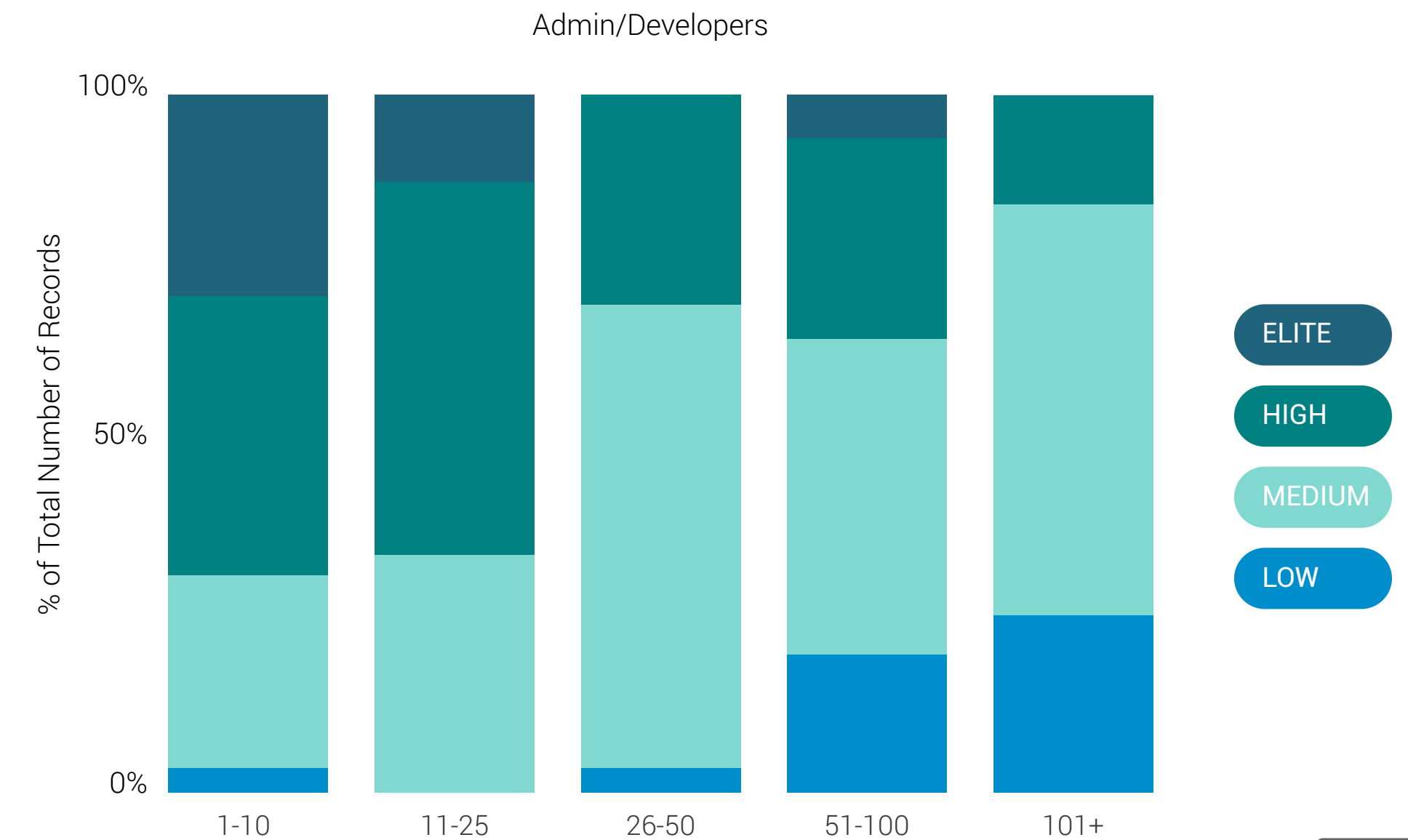
Median Lead by # Contributors
Admin/Developers



Contributors by Performance



Performance by # Contributors

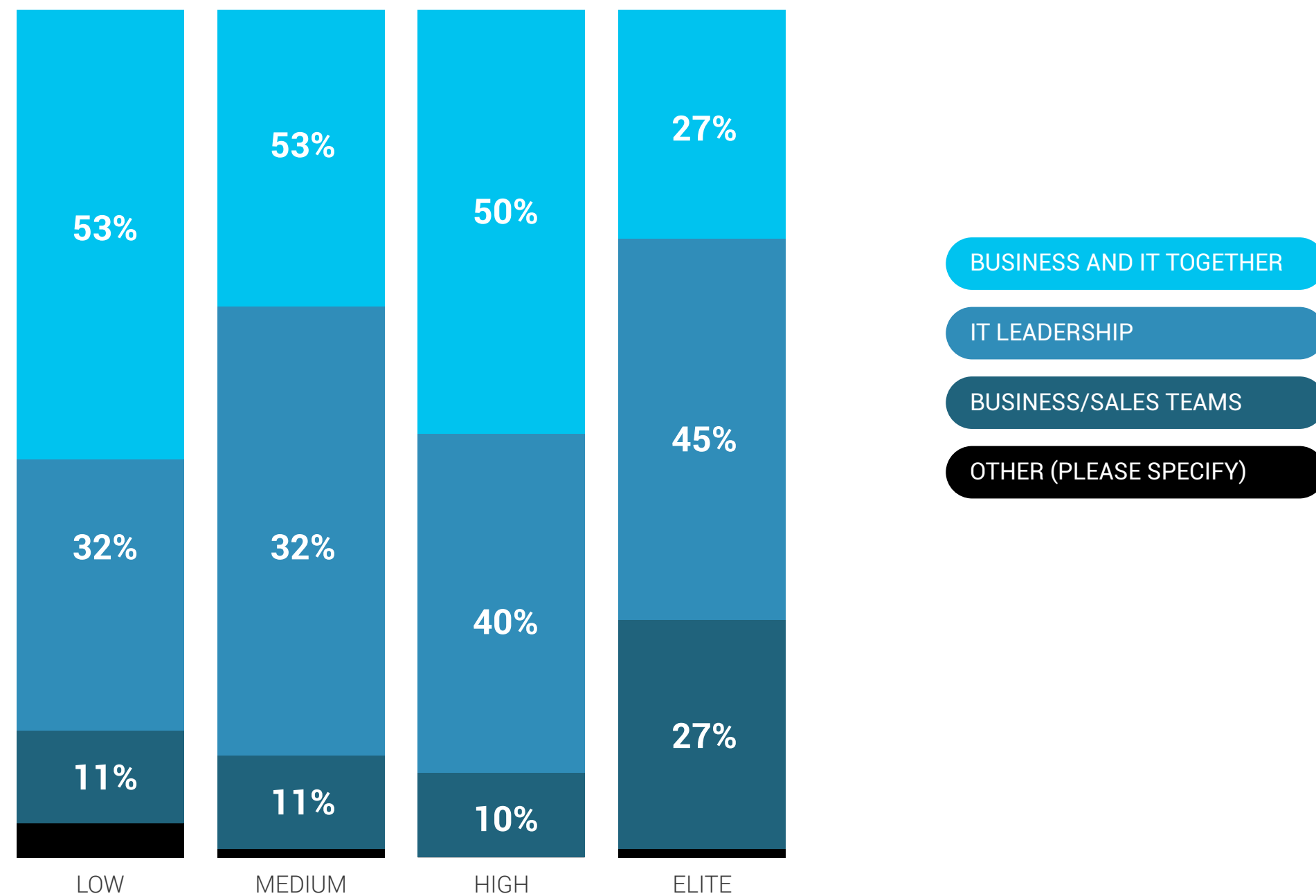


What Factors Affect Performance? – Team Organization

There were a large number of “elite performing” teams of 10 people or less. Salesforce as a platform is extremely stable and easy to customize, so it’s not surprising that small teams can thrive on this platform. But we were particularly interested in what factors enable larger teams of 10+ contributors to thrive. The remainder of this analysis focuses on these larger teams and their characteristics.

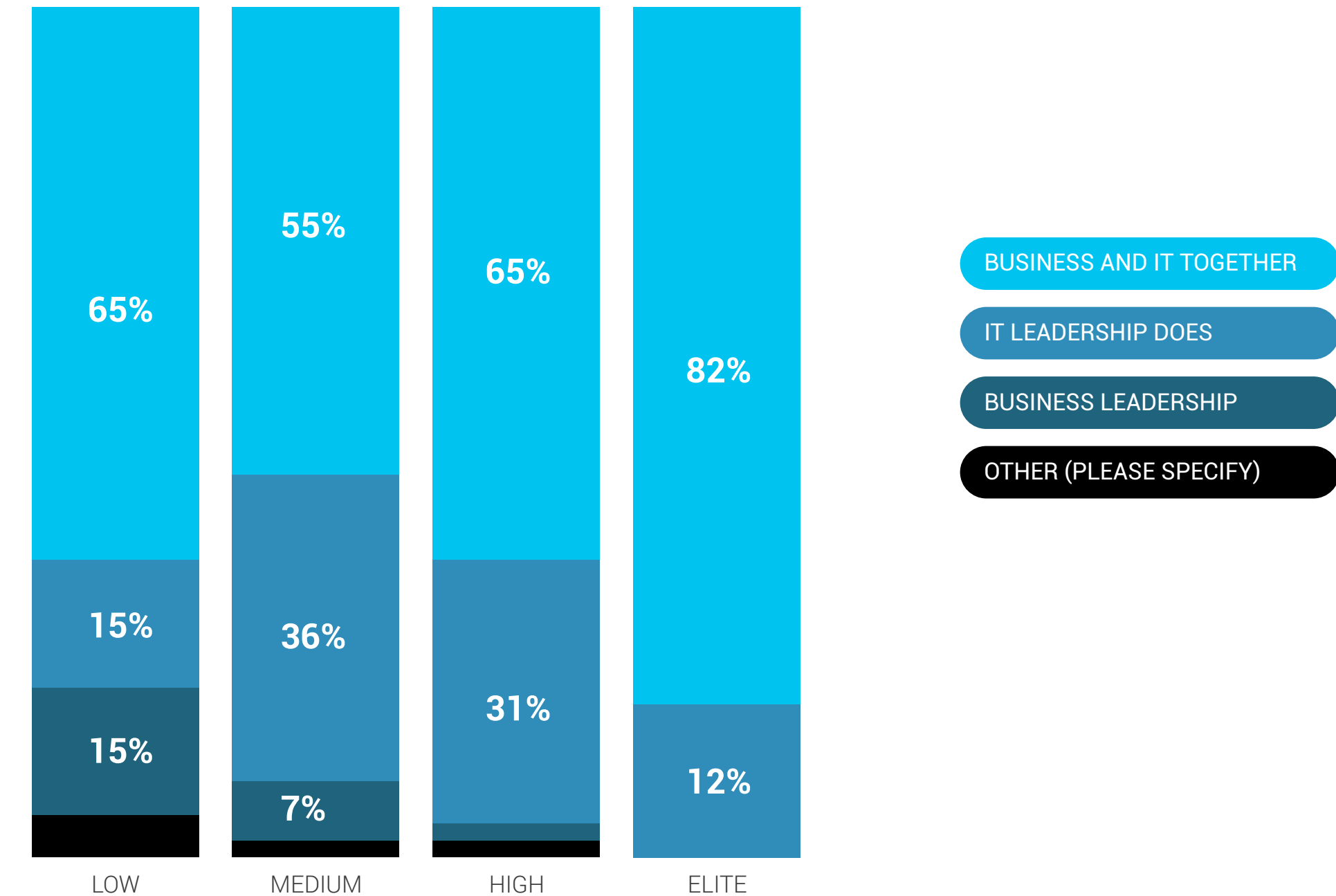
Who’s responsible for Salesforce (Teams of 10+)

Salesforce's ease of customization means that it can be directly managed by business teams. This is in contrast to most IT systems, which need to be managed by IT specialists. Elite performing teams of 10+ were 145% more likely to have Business teams in charge of their Salesforce implementation.



Leadership understanding (Teams of 10+)

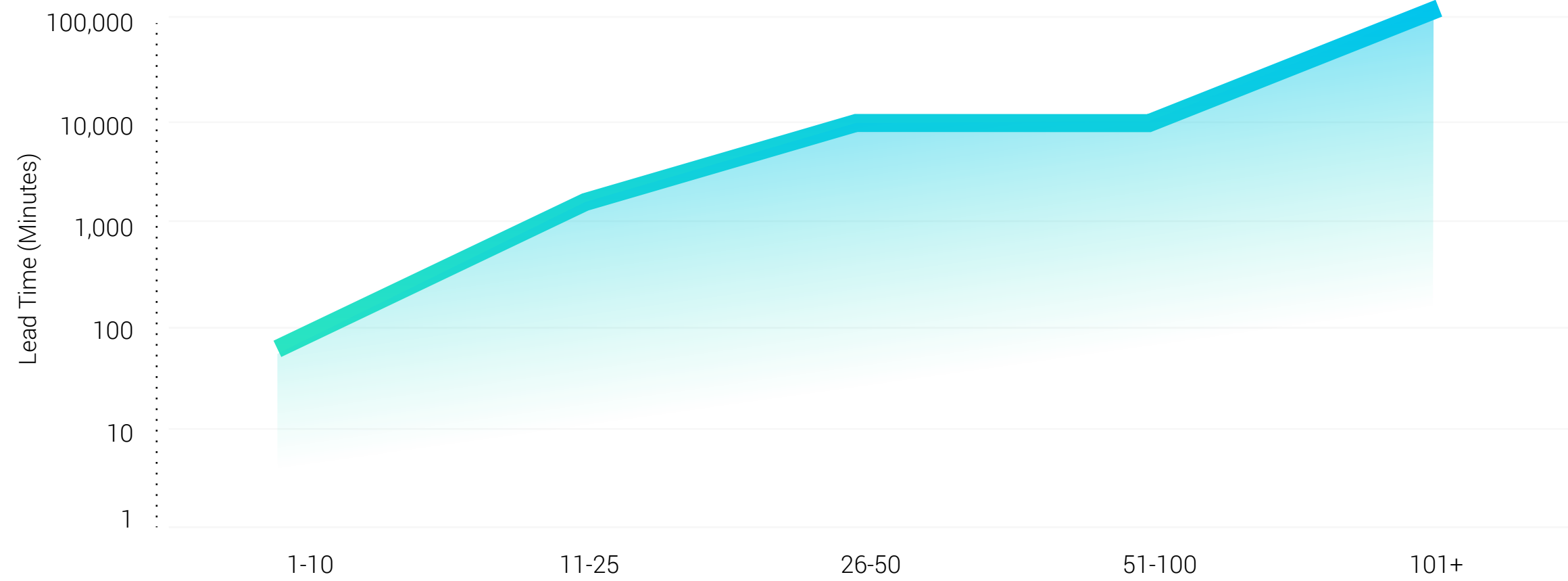
Teams generally felt that their leadership understood their Salesforce DevOps strategy. Elite performing teams were 28% more likely than low performing teams to say that both Business and IT leadership understood their DevOps strategy.



What Factors Affect Performance? – Development Lead Time Roadblock

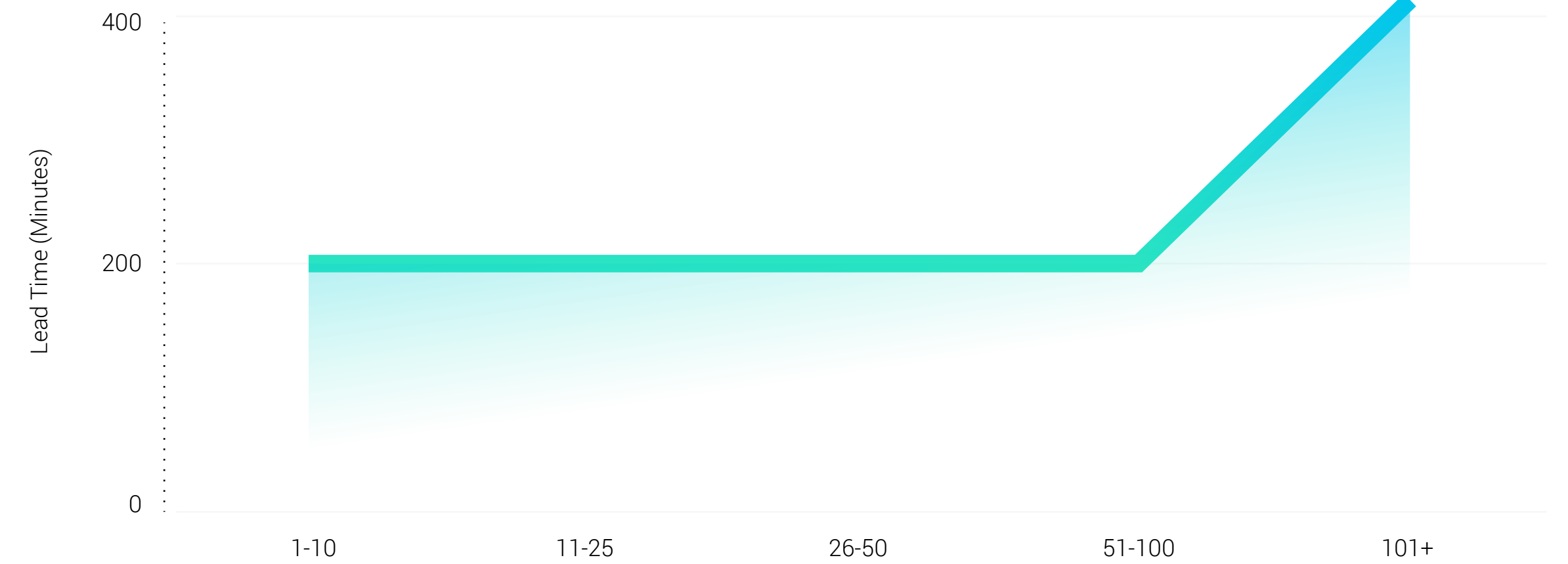
Median Lead by # Contributors

Admin/Developers



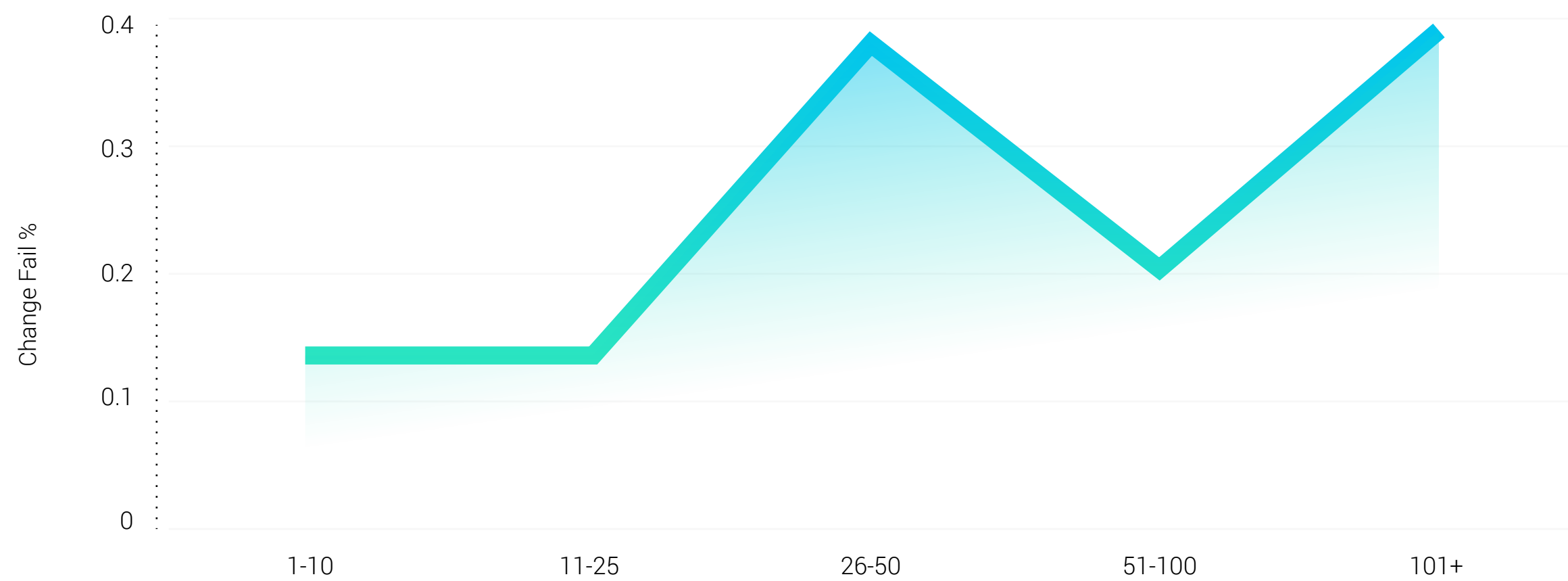
Median Deployment Frequency by # Contributors

Admin/Developers



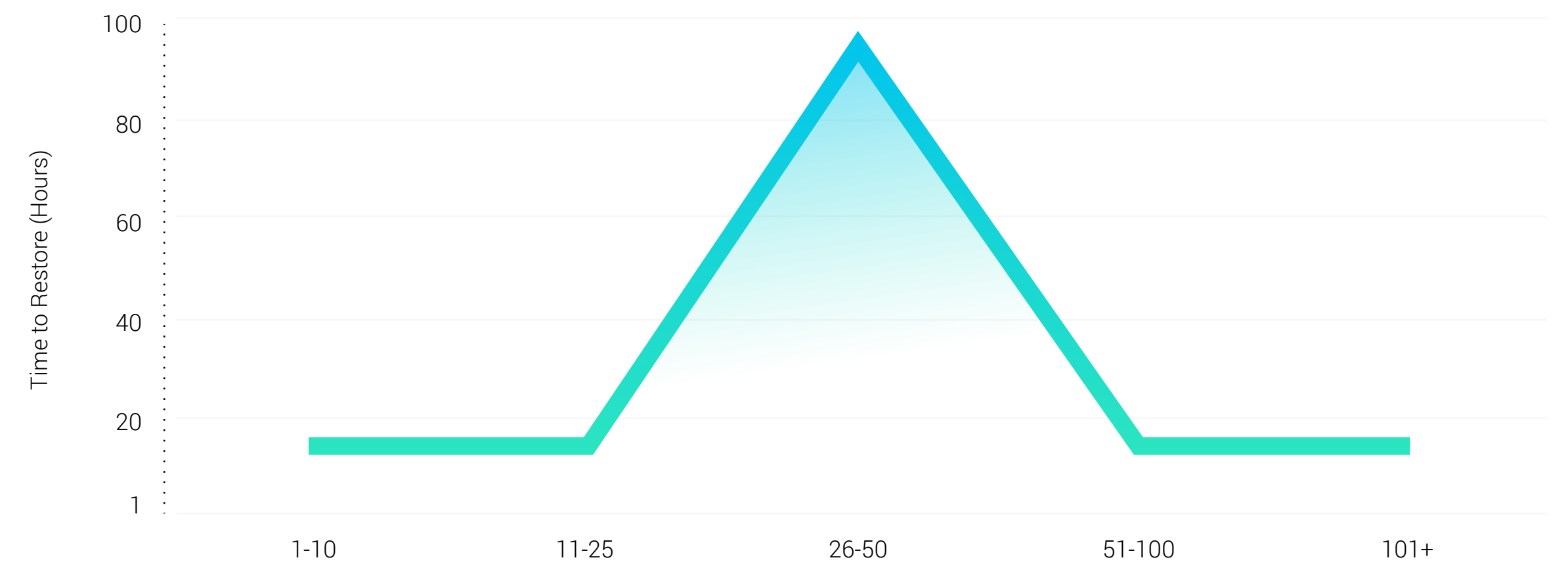
Median Change Fail by # Contributors

Admin/Developers



Median Time to Recover by # Contributors

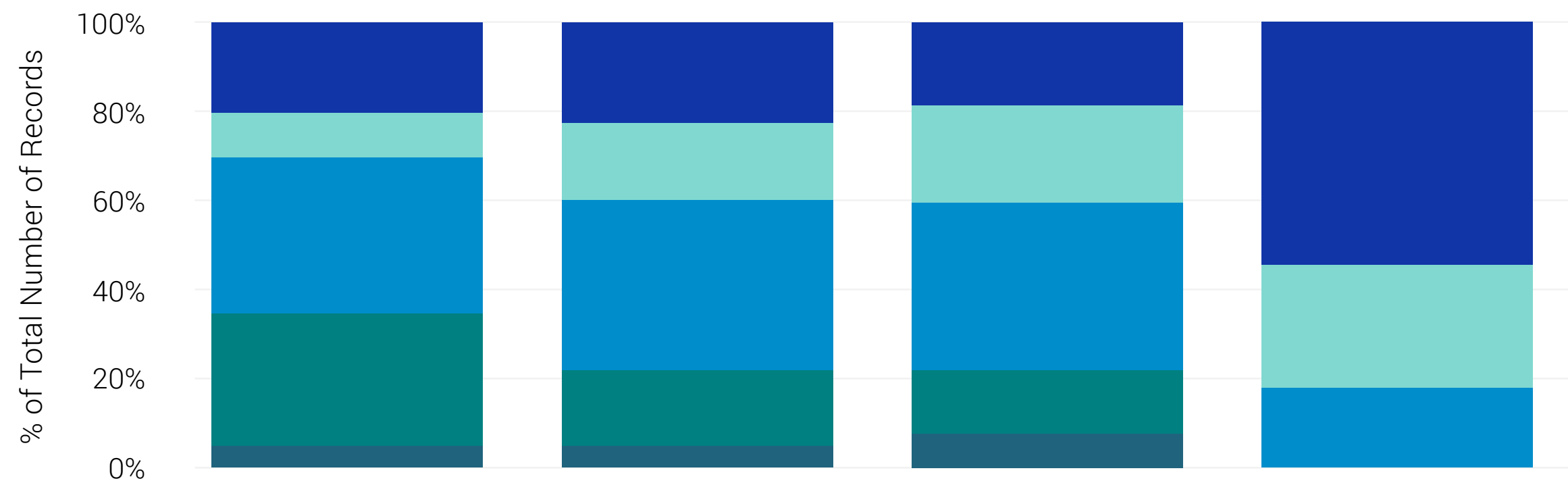
Admin/Developers



What Factors Affect Performance? The Effect of Continuous Integration

Integration Frequency (Teams of 10+)

Performance Profile

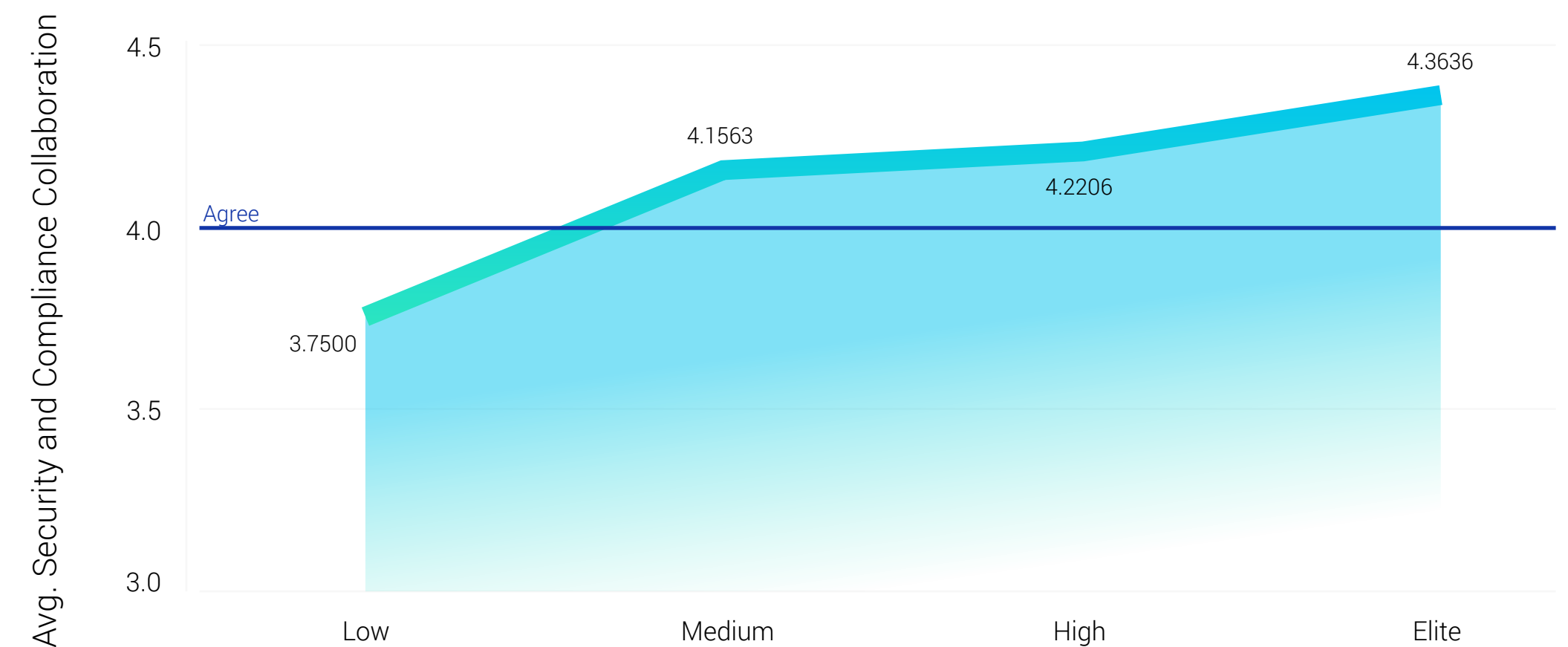


- On demand (multiple deployments per day)
- Between once per hour and once per day
- Between once per day and once per week
- Between once per week and once per month
- Less than once per month

Integrating developers' code changes daily is a hallmark of continuous integration. Integrating smaller changes more frequently reduces the complexity of merges, and allows teams to refactor and keep their codebase more maintainable. Elite performers were 173% more likely to integrate changes between developers at least daily.

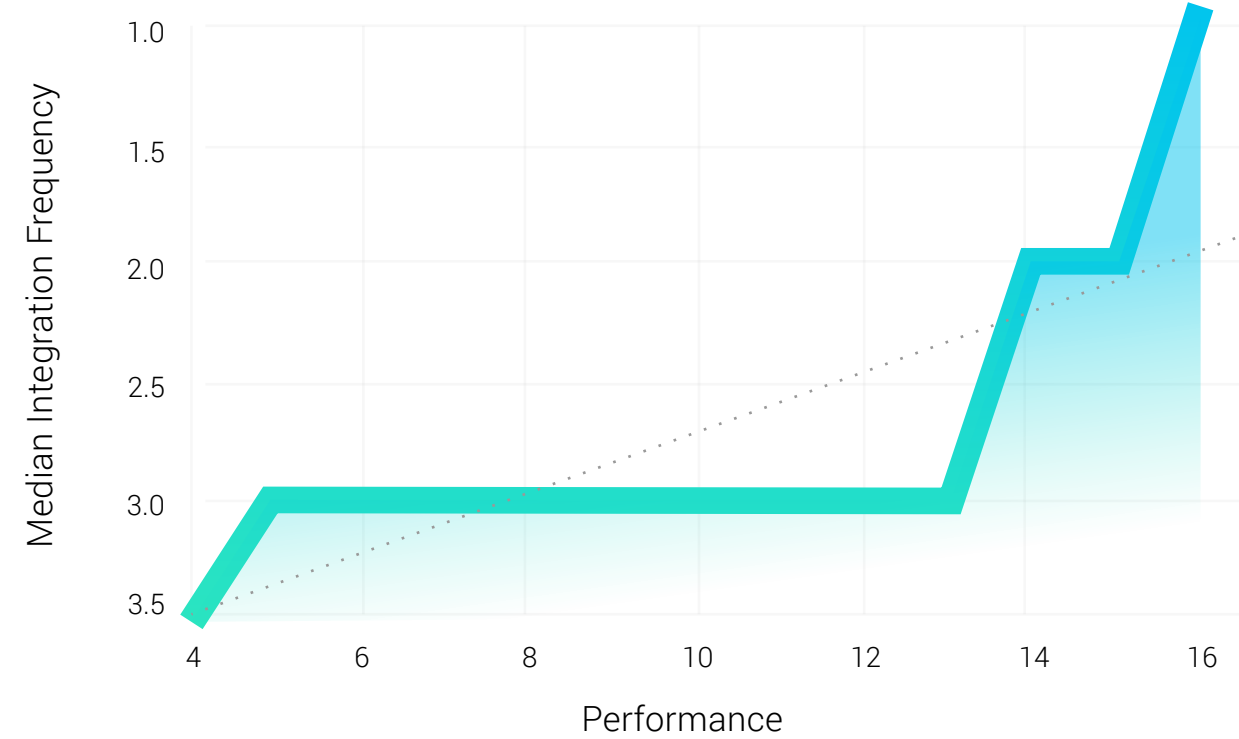
Collaboration with Security (Teams of 10+)

Performance Profile

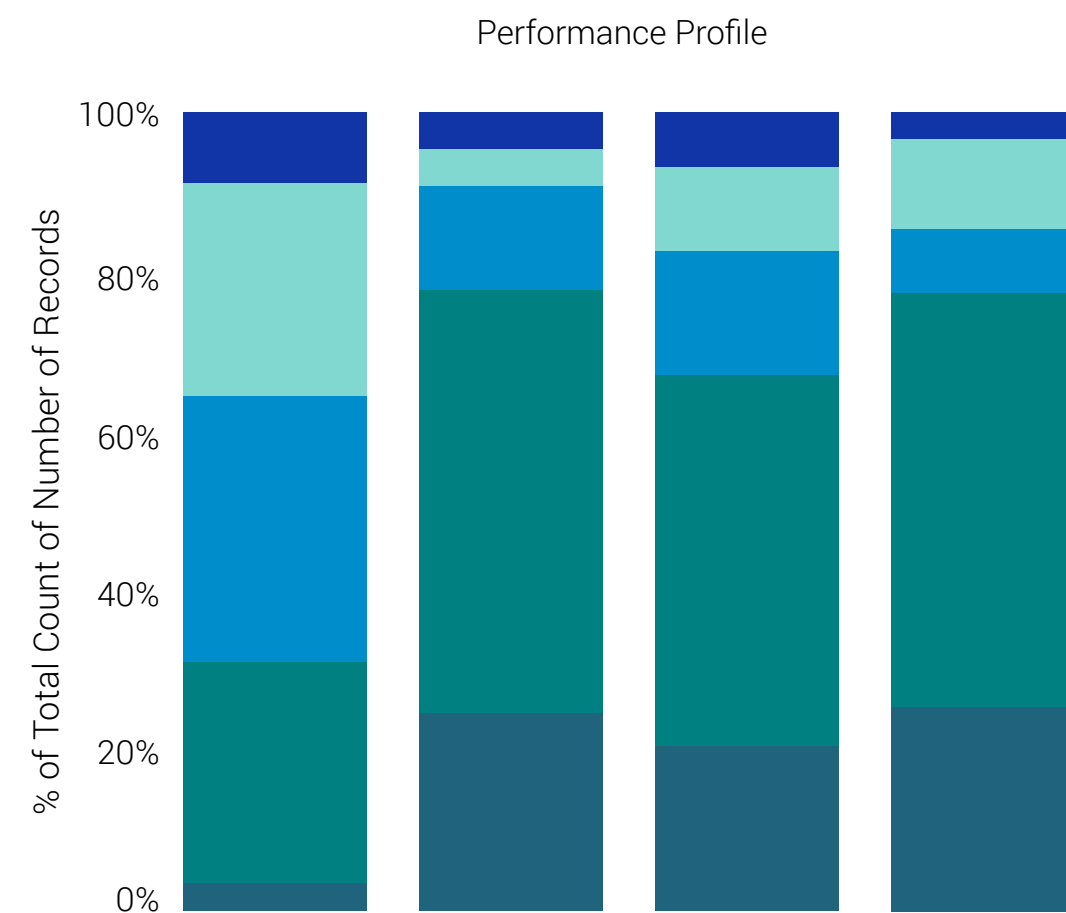


What Factors Affect Performance? The Journey to Continuous Delivery

CI Drives Performance

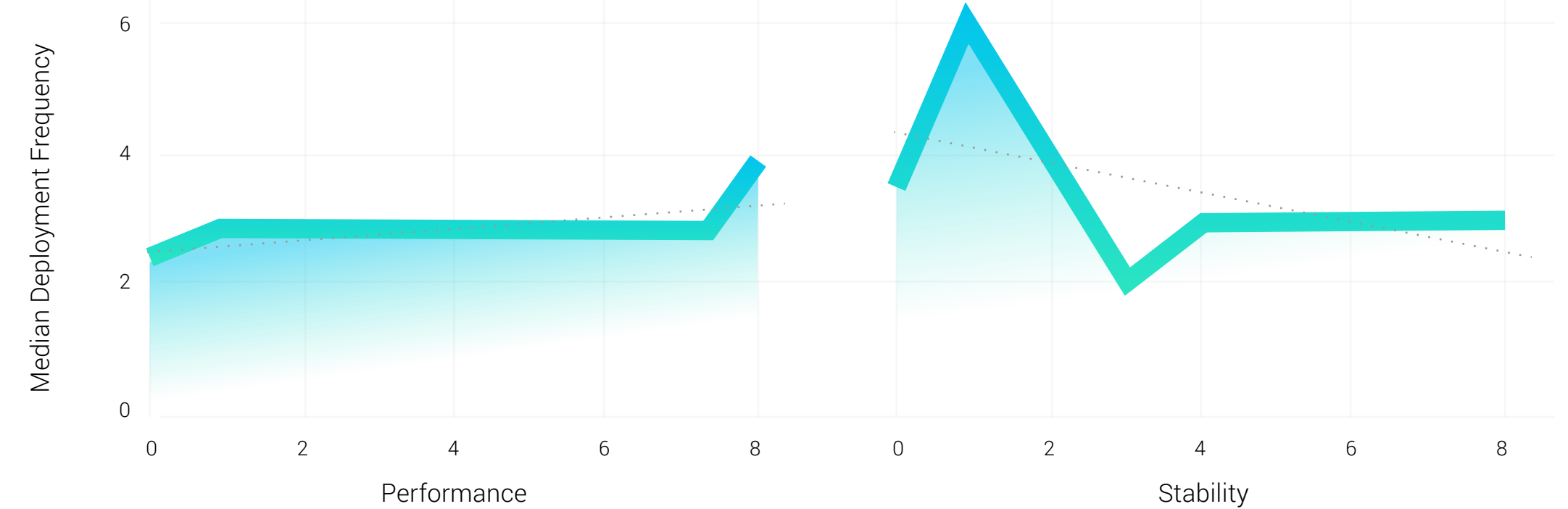


Version Control is Widespread



Use of version control is widespread but version control alone does not correlate with performance. Version control should be understood as a basic foundation for more advanced practices.

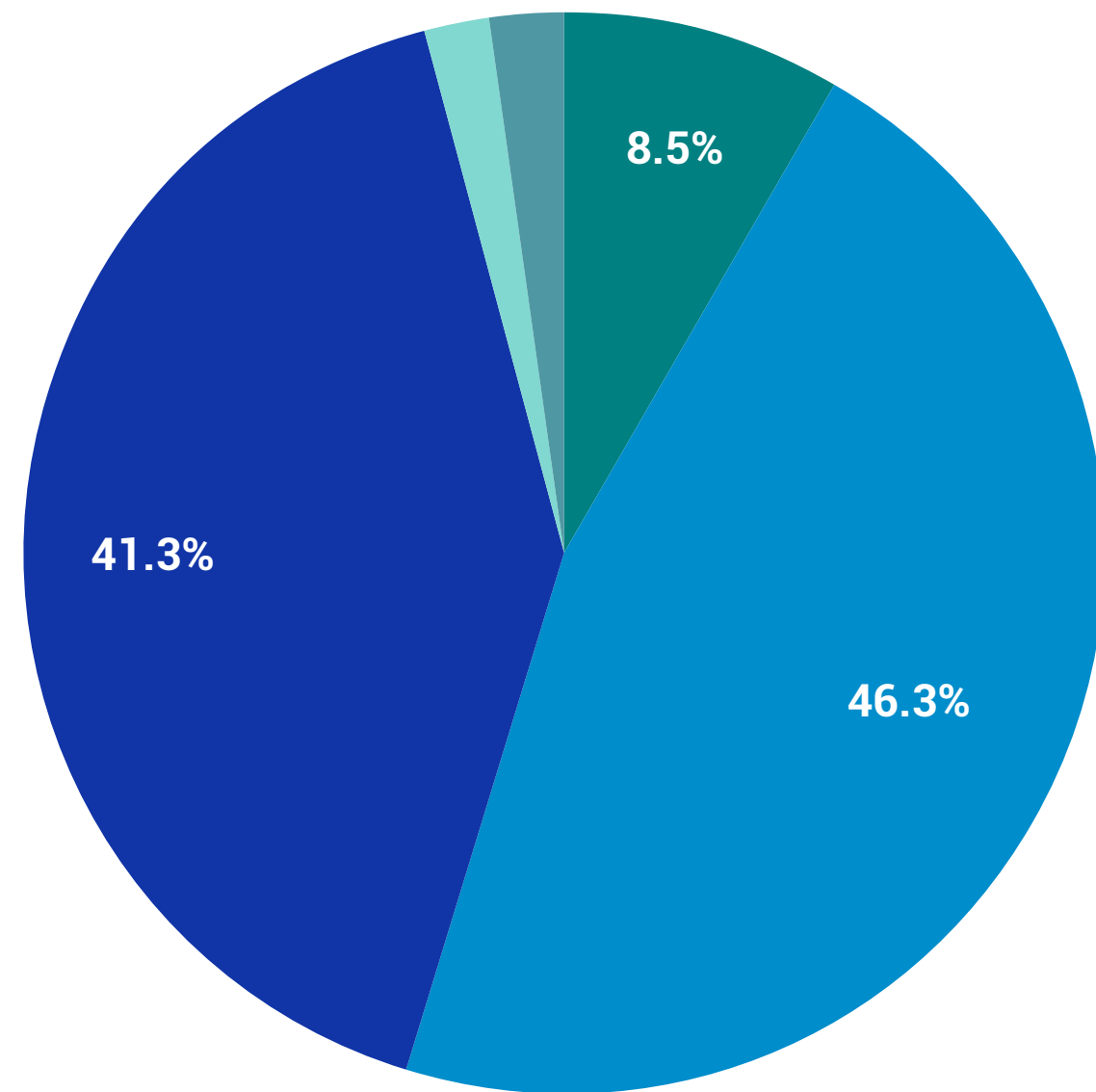
Deployment Method



Increasingly sophisticated deployment methods are positively correlated with release velocity. Concerningly, they are negatively correlated with stability. This means that as teams are speeding up, they are inducing more failures. The State of DevOps Report also observed a 'J' curve effect wherein teams experienced initial setbacks as they began to move faster. Increasing stability should be a key goal for teams as they begin to move faster.

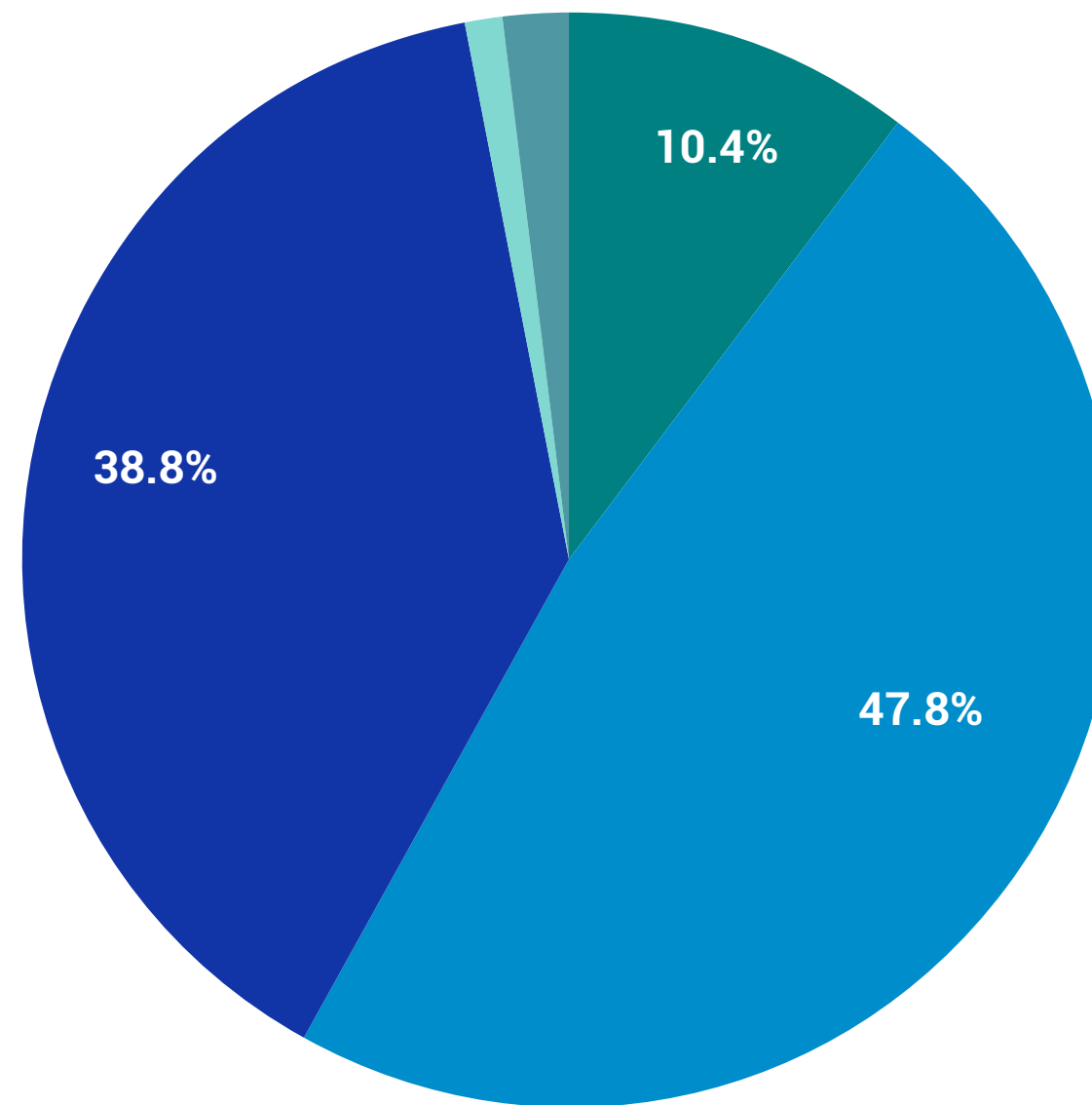
Salesforce DevSecOps Emerges

Our team works closely with security and compliance teams while developing and deploying new capabilities on Salesforce.



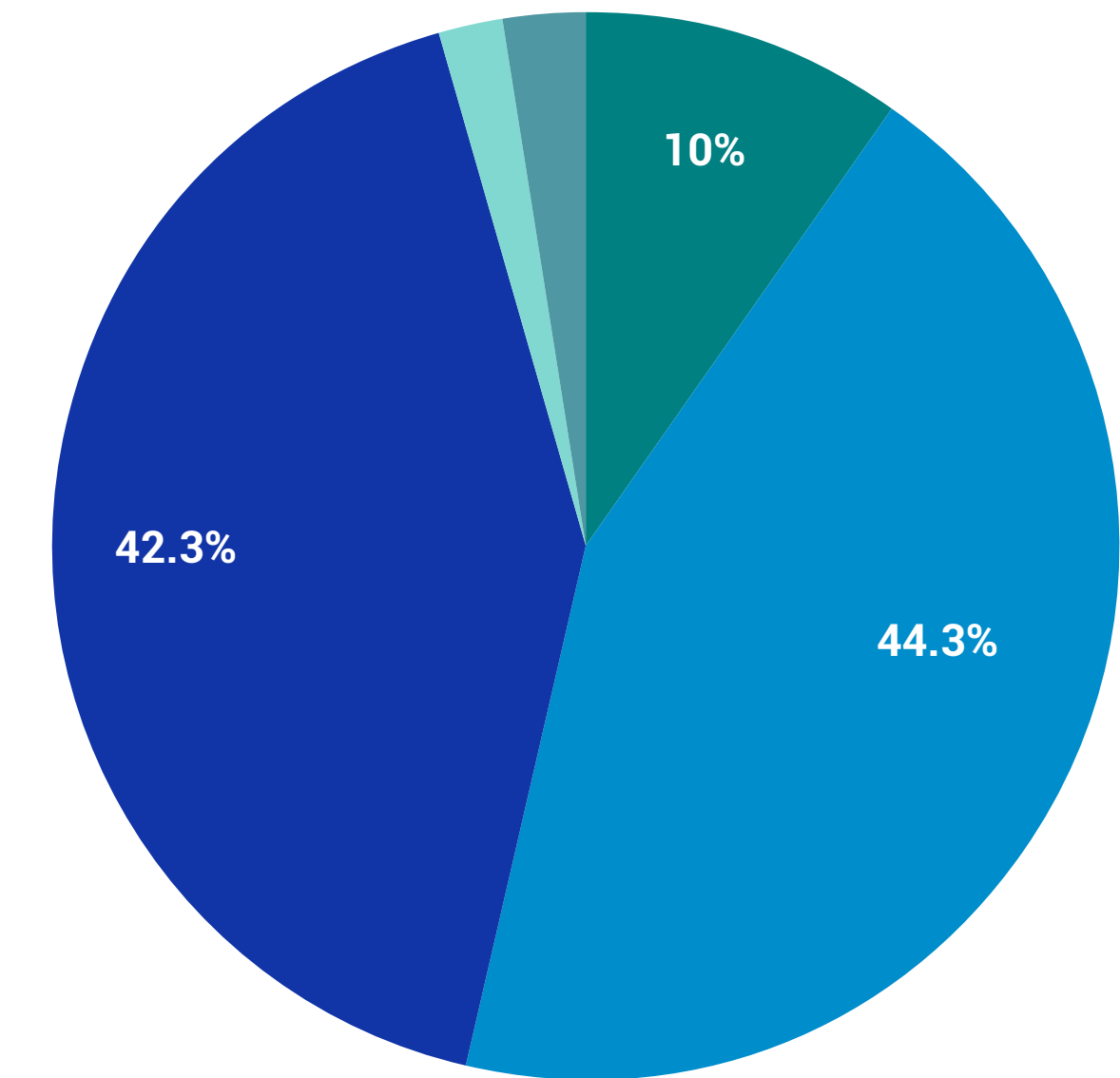
- STRONGLY DISAGREE
- DISAGREE
- NEITHER AGREE OR NOR DISAGREE
- AGREE
- STRONGLY AGREE

When the automated tests pass, I am confident the software is releasable.



- STRONGLY DISAGREE
- DISAGREE
- NEITHER AGREE OR NOR DISAGREE
- AGREE
- STRONGLY AGREE

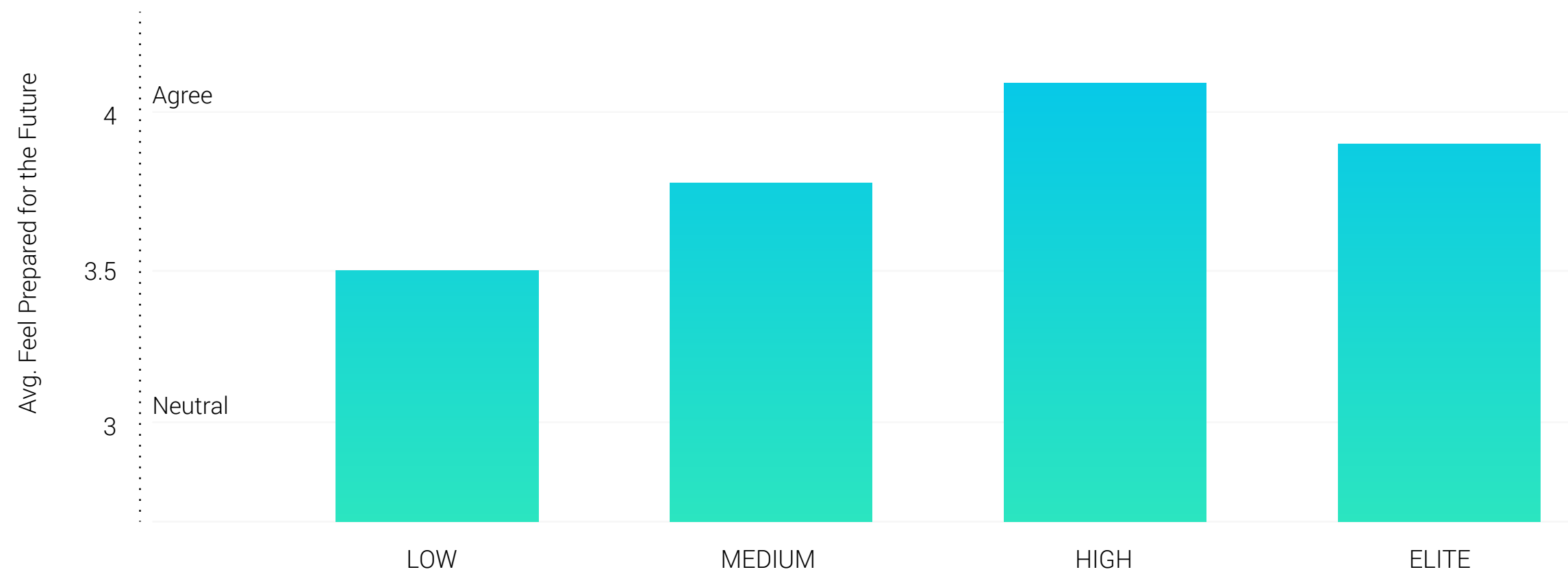
We are making the appropriate investments in the security and compliance of our Salesforce deployments.



- STRONGLY DISAGREE
- DISAGREE
- NEITHER AGREE OR NOR DISAGREE
- AGREE
- STRONGLY AGREE

Feel Prepared for the Future?

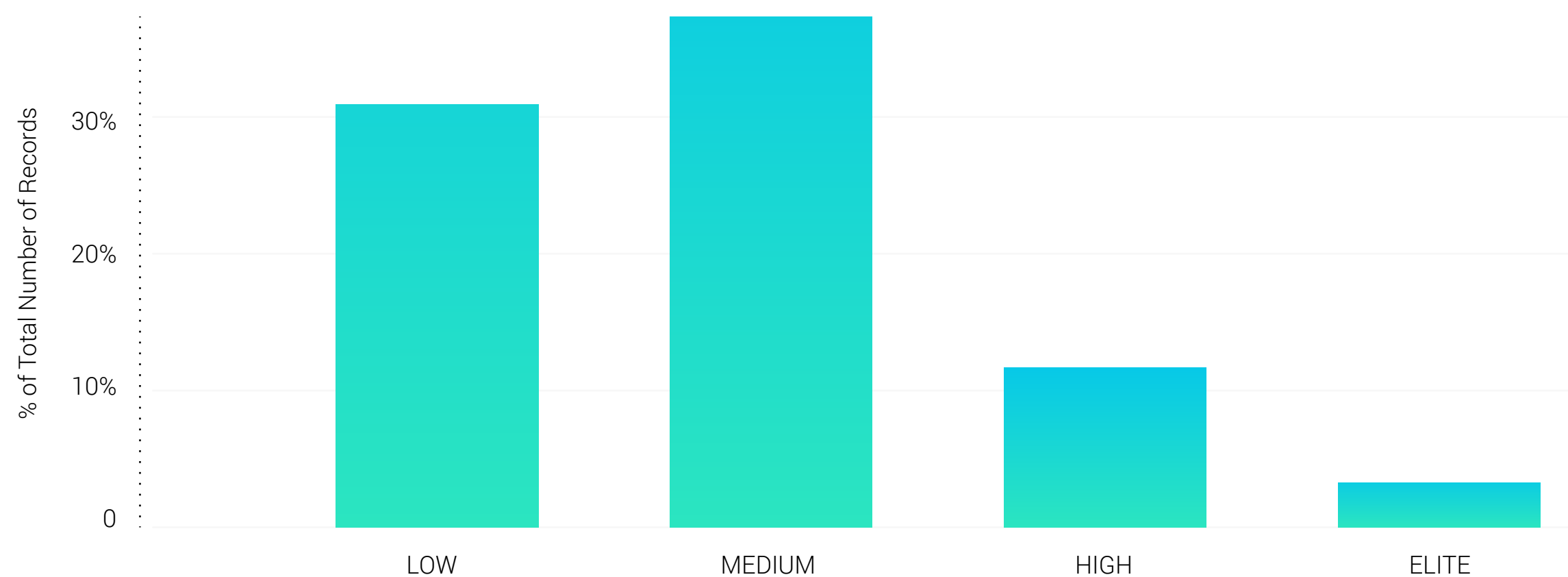
Performance Profile



Higher performers are more likely to feel prepared for future years of digital disruption

Want to Go Faster

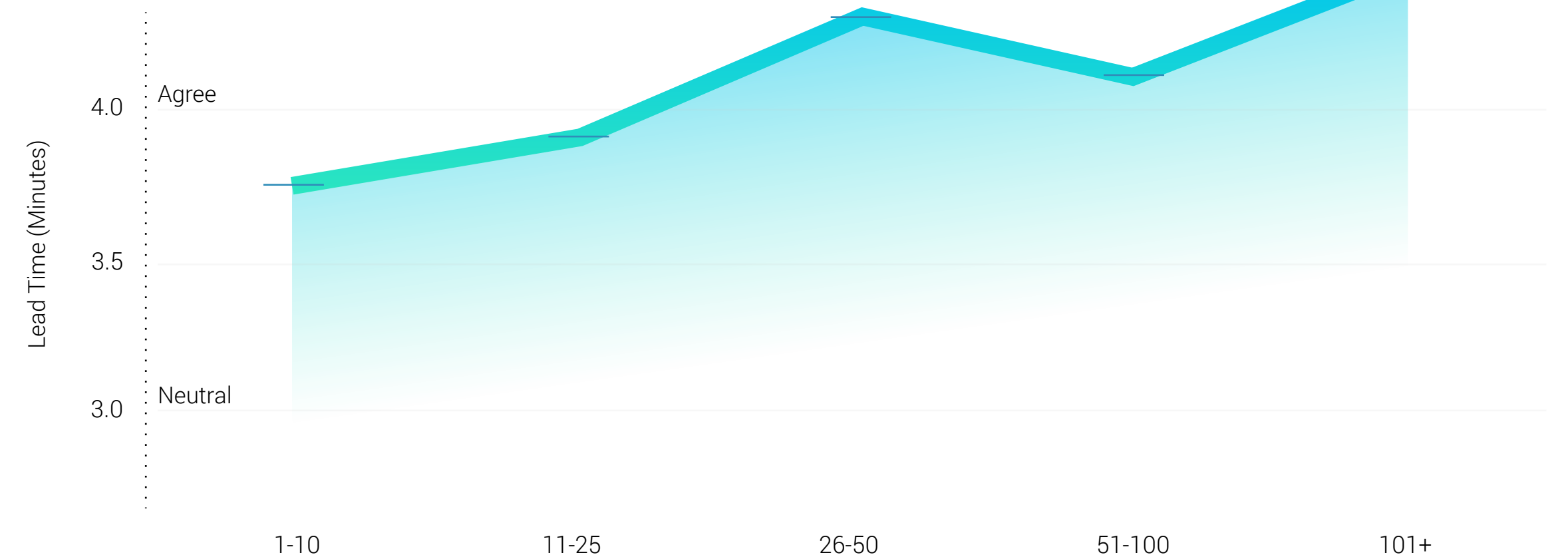
Performance Profile



Roughly 30% of Medium and Low performers feel they should be deploying more frequently than they are today

Are You Making Adequate Investment in Security?

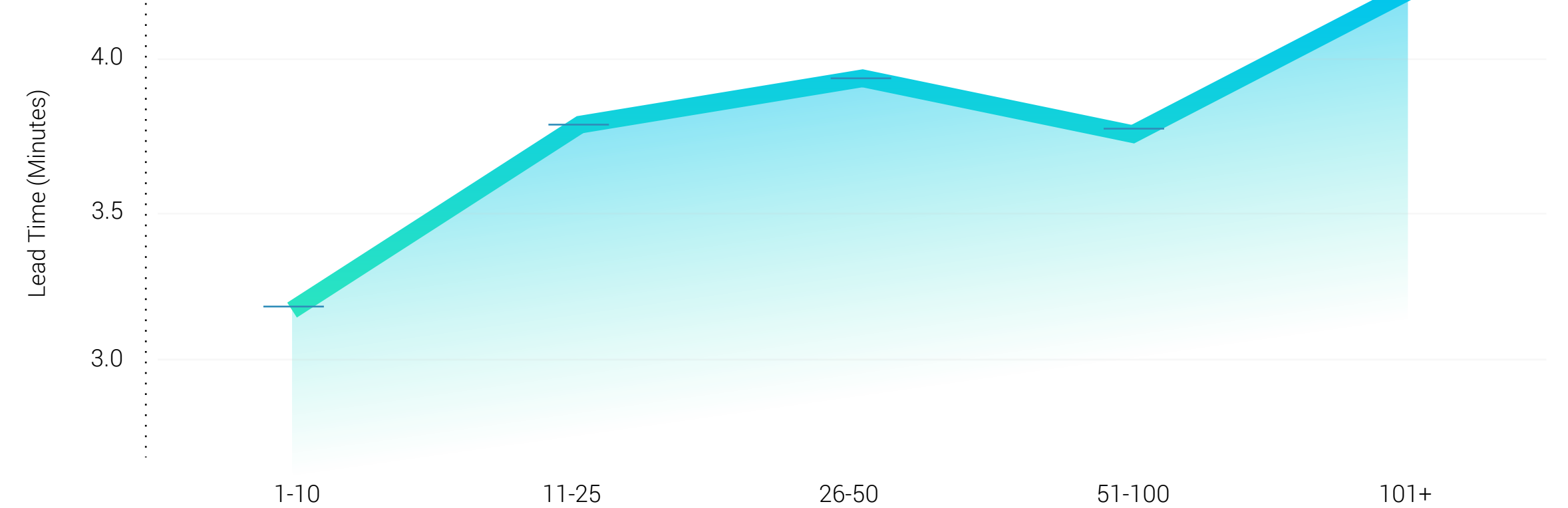
Admin/Developers



Larger teams are more likely to feel that they are making the appropriate investments in the security compliance of our Salesforce deployments. Unfortunately that seems to be coming at the expense of long lead times. Significantly, it does not seem to be reducing the incidence of failures!

Do Non-Salesforce Teams Perform Better?

Admin/Developers



Larger teams are more likely to feel that their processes are less mature than those of non-Salesforce teams.

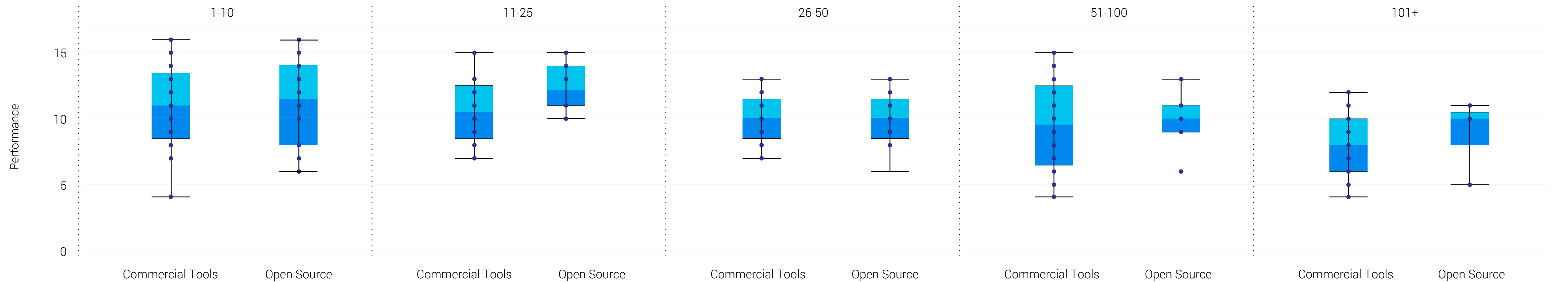
What Tools Should You Use?

Choice of Tools by Size
Admin/Developers



As teams grow, the number who only use open source solutions drops from 32% to only 9%. Similarly, the number who use a commercial solution increases from 55% to more than 90%. More than 80% of teams of 10+ contributors use commercial tools.

Performance for Open Source Users
Admin/Developers/Choice of Tools



Users of both open source and commercial tools struggle at larger sizes



Future strategy

Thinking about your future Salesforce Devops Strategy, it's best to consider:

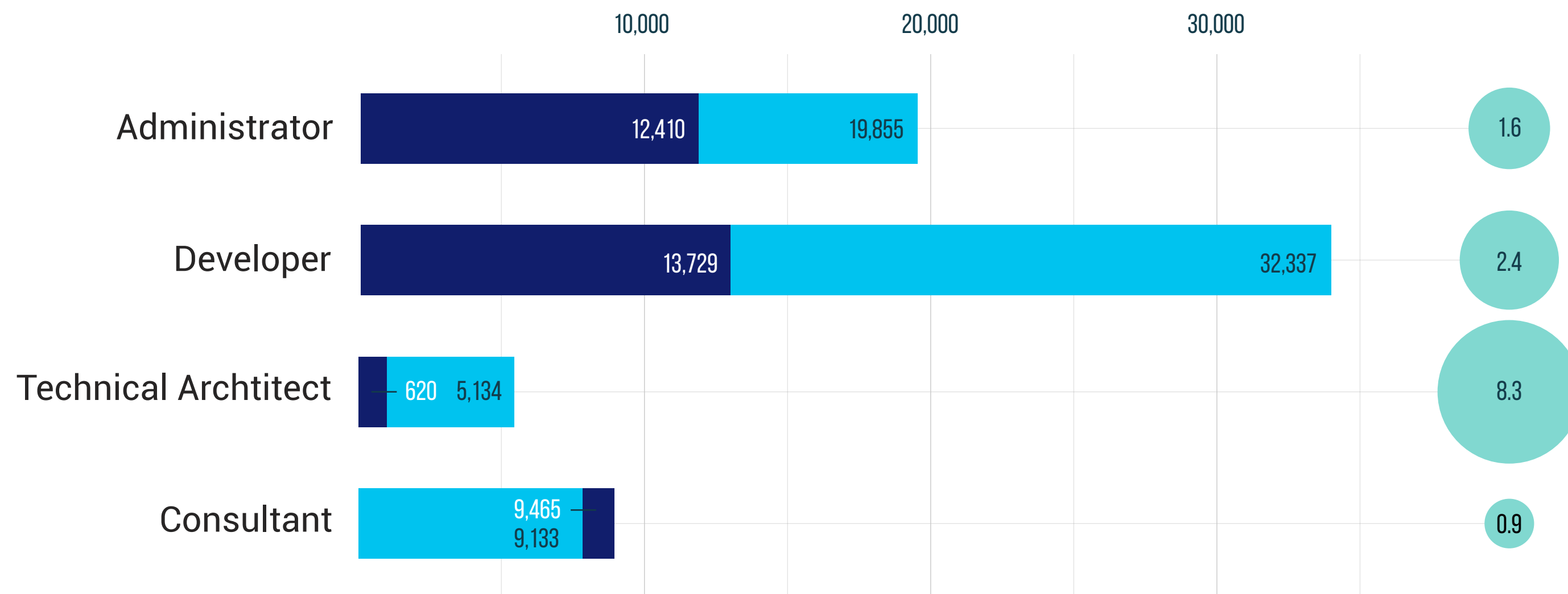
- ✔ Be mindful of the size and makeup of your delivery team
- ✔ Build a DevSecOps COE
- ✔ Strive for Daily Releases especially as your team gets bigger
- ✔ Adopt a Commercial DevOps Platform designed for the Salesforce Platform
- ✔ Implement Continuous Integration Across All Dev, Security, and Admin Teams
- ✔ Design and automate your Continuous Delivery Processes



Closing The Salesforce Skills Gap: DevOps Is the Fastest Growing Role in the Salesforce Ecosystem

The demand for SFDC roles is higher than any other role

Total for Established Markets



*2018 10K

DevOps Is a Teamsport

Teamwork. Transparency. Trust.

Companies are at a crux. The demand for Salesforce skilled jobs is higher than ever, and the supply cannot keep up. This results in a skills gap. How does one solve for this without hiring more and more talent? The answer is simple: DevOps.

DevOps improves team productivity and collaboration. This, in turn, amplifies the skills and talent that you already have at your disposal, resulting in a single, focused delivery team. DevOps enables teamwork, transparency and trust, which ultimately yields to a better return on your investment and a quicker path to innovation.

The 3 "Ts" of DevOps: Teamwork, Transparency and Trust. These three work in conjunction to streamline your release process, and help address the Salesforce skill gap. Copado provides solutions for each of the three DevOps "Ts":

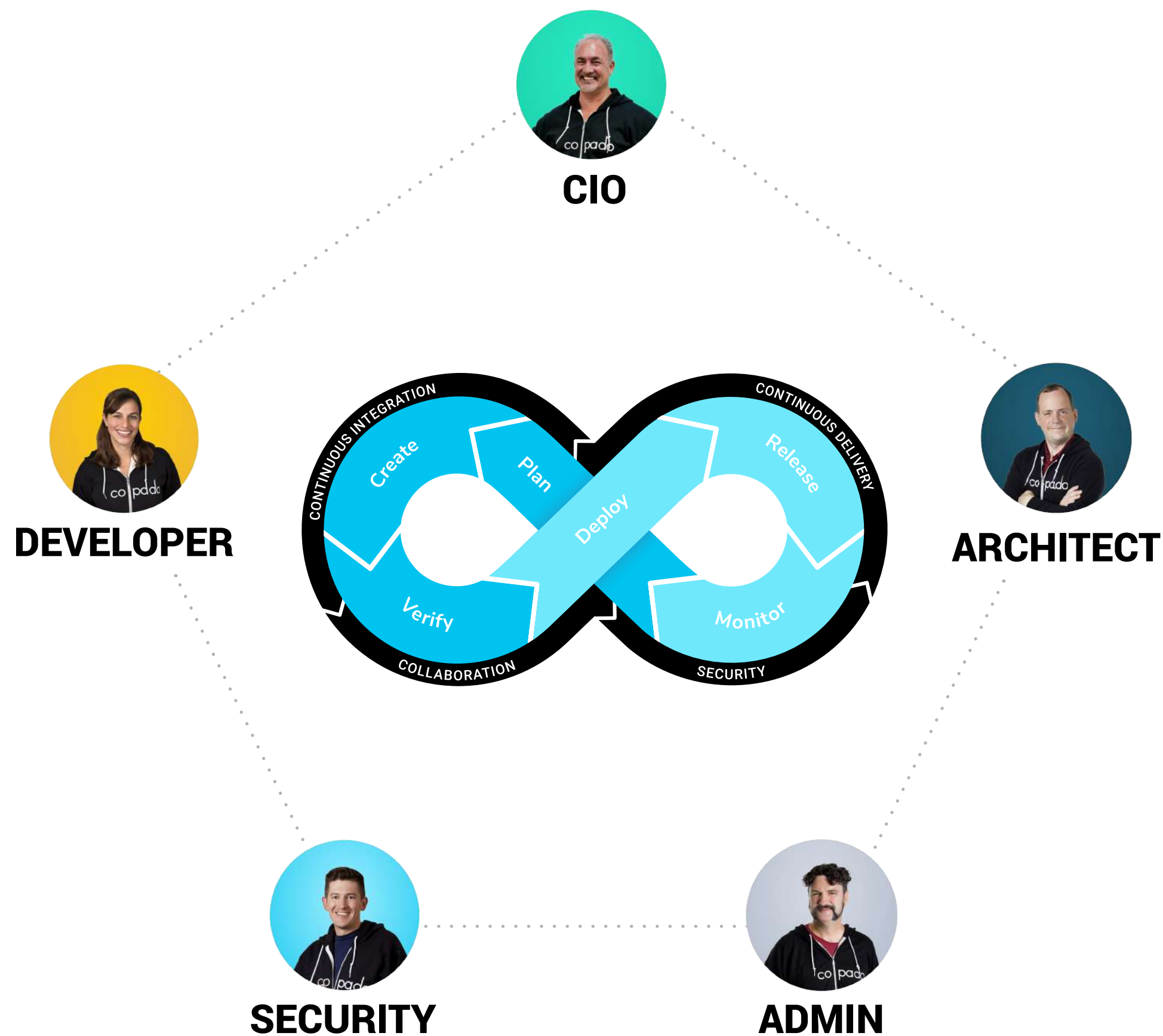
Teamwork: Teams communicate and create team centric workflows across the entire DevOps chain in order to increase collaboration.

Transparency: Copado provides complete visibility across all departments, shared goals and shared data with one common source of truth.

Trust: Protect your data and innovation with industrial-strength security to increase the trust your customers and partners place on your business.



Copado Drives Performance By Unifying the Delivery Team With the #1 Native DevOps Platform for Salesforce



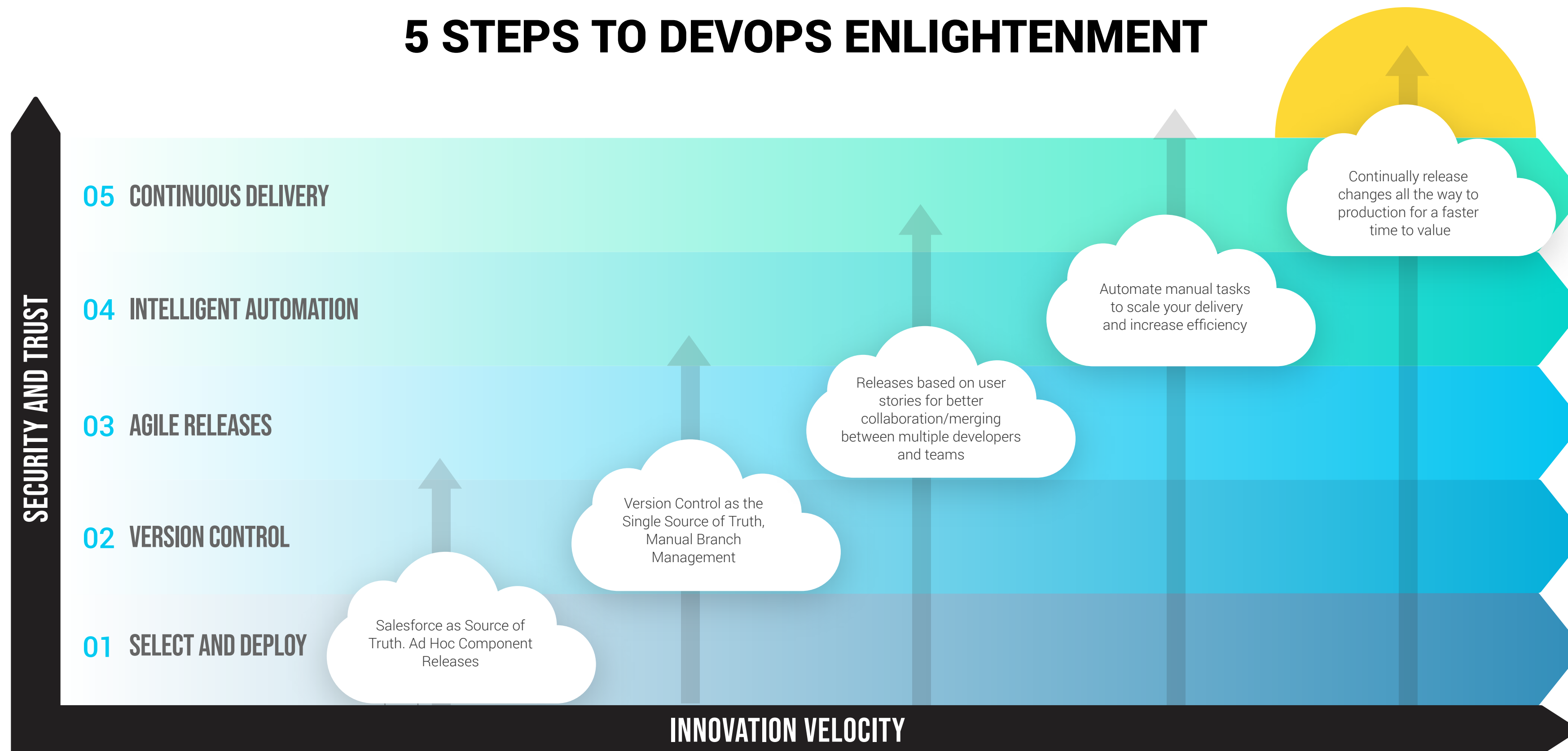
Are you ready for tomorrow?

WHAT DOES THE FUTURE OF SALESFORCE DEVOPS LOOK LIKE?



Operational experience is driven by 5 levels of automation

5 STEPS TO DEVOPS ENLIGHTENMENT





32,000,000
Metadata Managed

Salesforce DevOps Suite Summer '19



Trusted by Top Customers

ENTERPRISE TRUST

100%

Salesforce Native



DEVOPS LEADER

#1

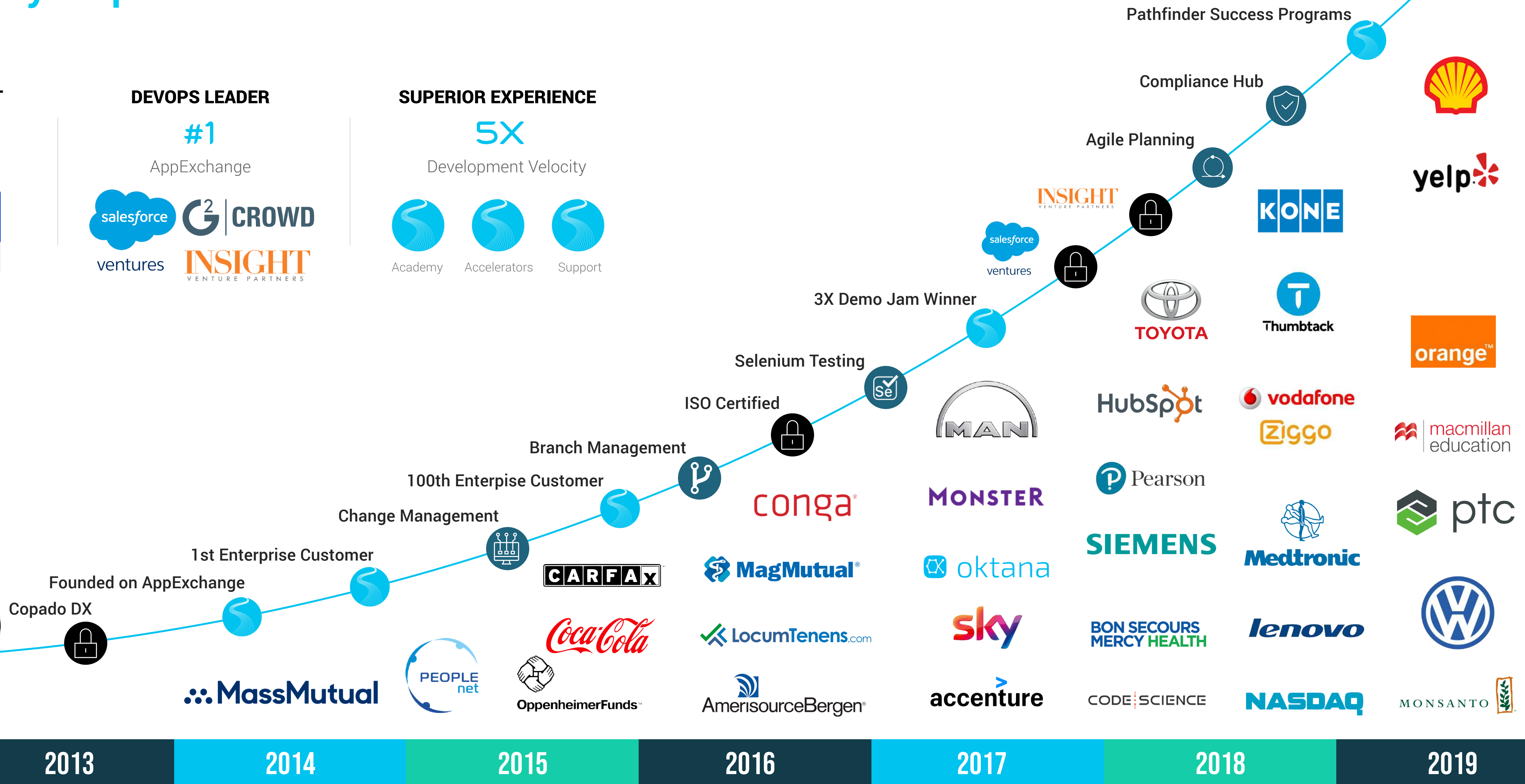
AppExchange



SUPERIOR EXPERIENCE

5X

Development Velocity



2013

2014

2015

2016

2017

2018

2019

Copado provides a full end-to-end devops solution

SALESFORCE DEVOPS 360

Innovation Performance Metrics
 CI/CD Dashboards and Rpts
 Real Time Monitoring and Alerts
 Team Benchmarking

COMPLETE CI/CD PROCESSES

AGILE PLANNING

Metadata Tracking
 Agile Planning

CREATE

Metadata Tracking
 Environments Mgt
 Static Code Analysis

Continuous Integration

VERIFY

Selenium Recorder
 Apex Tests
 Metadata Validation
 Manual Test Scripts
 Pull Requests

DEPLOY

Pipelines
 Deployment
 Rollbacks
 Data Management
 Env Branches

RELEASE

Permissioner
 Permission Sets
 Release Dashboard

Continuous Delivery



SFDC NATIVE EXPERIENCE

Lightning UX
 Native Dashboards
 Einstein Analytics
 Salesforce Mobile
 Salesforce Flow
 Chatter Collaboration
 Workflows and Alerts
 Dev/Test Environments

100% SALESFORCE NATIVE INTEGRATION

DevOps Orchestration	Alerts & Notifications
Proxy Agent	Dashboard and Reports
Merge Engines	Salesforce APIs
Security / Auth (OAuth 2.0 support)	Prod Environments
Process Builder	Profiles
Webhooks	Permission sets
Job Scheduling	Page Layouts
Global Find & Replace	Roles
	Metadata XML

Updated Continuously

PREBUILT INTEGRATION

Agile Planning
 IDEs
 CI/CD
 Monitoring
 Testing
 AI/Analytics
 Security/Compliance

SECURITY & COMPLIANCE

100% Salesforce Security Rules
 All major certifications: ISO, SOC, HIPAA, GDPR, Truste.
 Secure API-based architecture
 Encrypted credentials
 oAuth Support / SSO-enabled
 Secure access to repository
 On-premise or cloud repositories
 User access controls
 Compliance hub
 Configurable compliance rules
 Exception reporting with Alerts
 Data Backup & Recovery
 Business Continuity
 Disaster Recovery

#1 Across Native Salesforce DevOps Platforms

G2 Crowd named Copado a **Leader in Continuous Integration**
and ranked **#1 in Customer Satisfaction**

