



2023 DataAwareTM Pulse Survey

Introduction

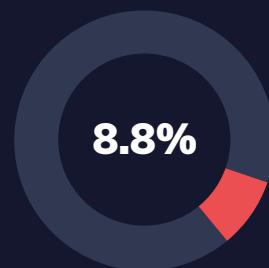
Ascend has operated one of the leading data industry benchmark surveys for four years running.

The survey surfaces the current sentiment around trends, best practices, and priorities of data teams.

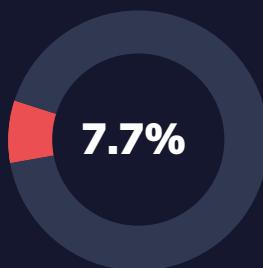
It's a great opportunity for practitioners, managers, and everyone else who relies on data within the organization to understand the current state of affairs.

Survey Demographics

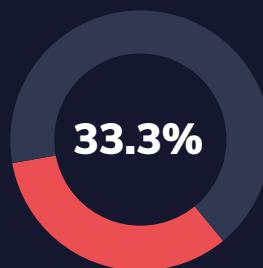
Individual
Contributor



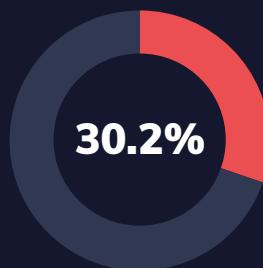
Team Lead



Manager



Director

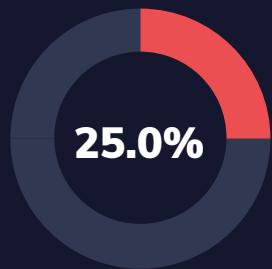


VP/Executive



Survey Respondents Job Level

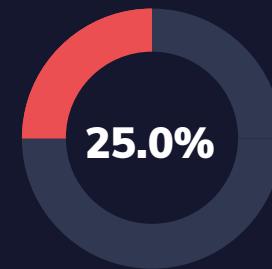
Data Analyst



Data Engineer



Enterprise Architect



Job Focus (Non-Exec Only)

Survey Firmographics

1-50



51-200



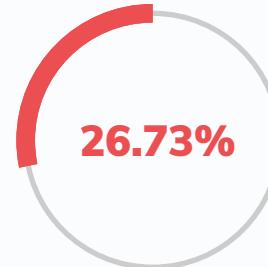
201-500



501-1000



More than 1000



Number of employees

Company Size

1.73%

Automotive

4.23%

Consumer Products

2.88%

Energy, Resources & Industrials

5.19%

Financial Services

3.46%

Government & Public Services

2.88%

Life Science & Healthcare

1.54%

Media and Telecommunications

4.04%

Retail, Wholesale and Distribution

68.08%

Technology (e.g., IT Hardware, Software and Services)

1.92%

Transportation, Hospitality and Services

4.04%

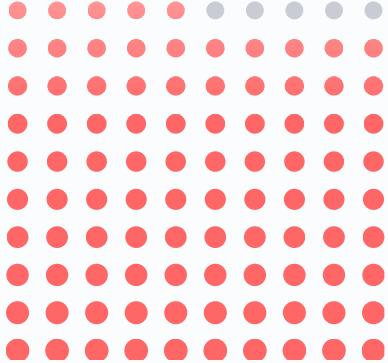
Other (key in)

Industry

Result 1

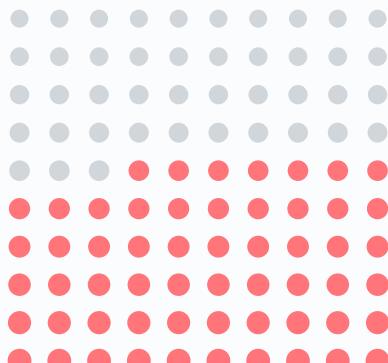
Data engineering teams are at capacity, forcing them to work smarter not harder using automation technologies.

Data teams are red-lining



95%

of data teams report being at or above their work capacity for the fourth year in a row.



57%

feel they are somewhat above or significantly over their capacity.





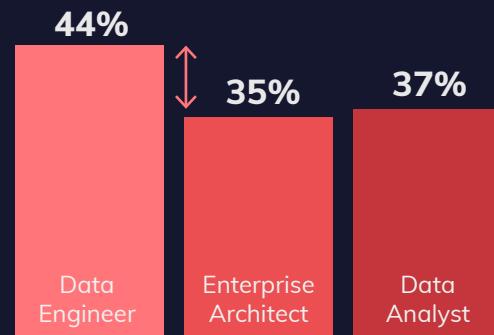
Data engineers bear the brunt of this workload

Data engineers are

• • ● **3x**

more likely to report being significantly overworked compared with colleagues in the data architecture and data analyst teams.

Data engineer hiring is not keeping up



The need for data is growing significantly faster than our team size.

Data engineers are **27%** more likely to report a severe gap between team growth and company demands.

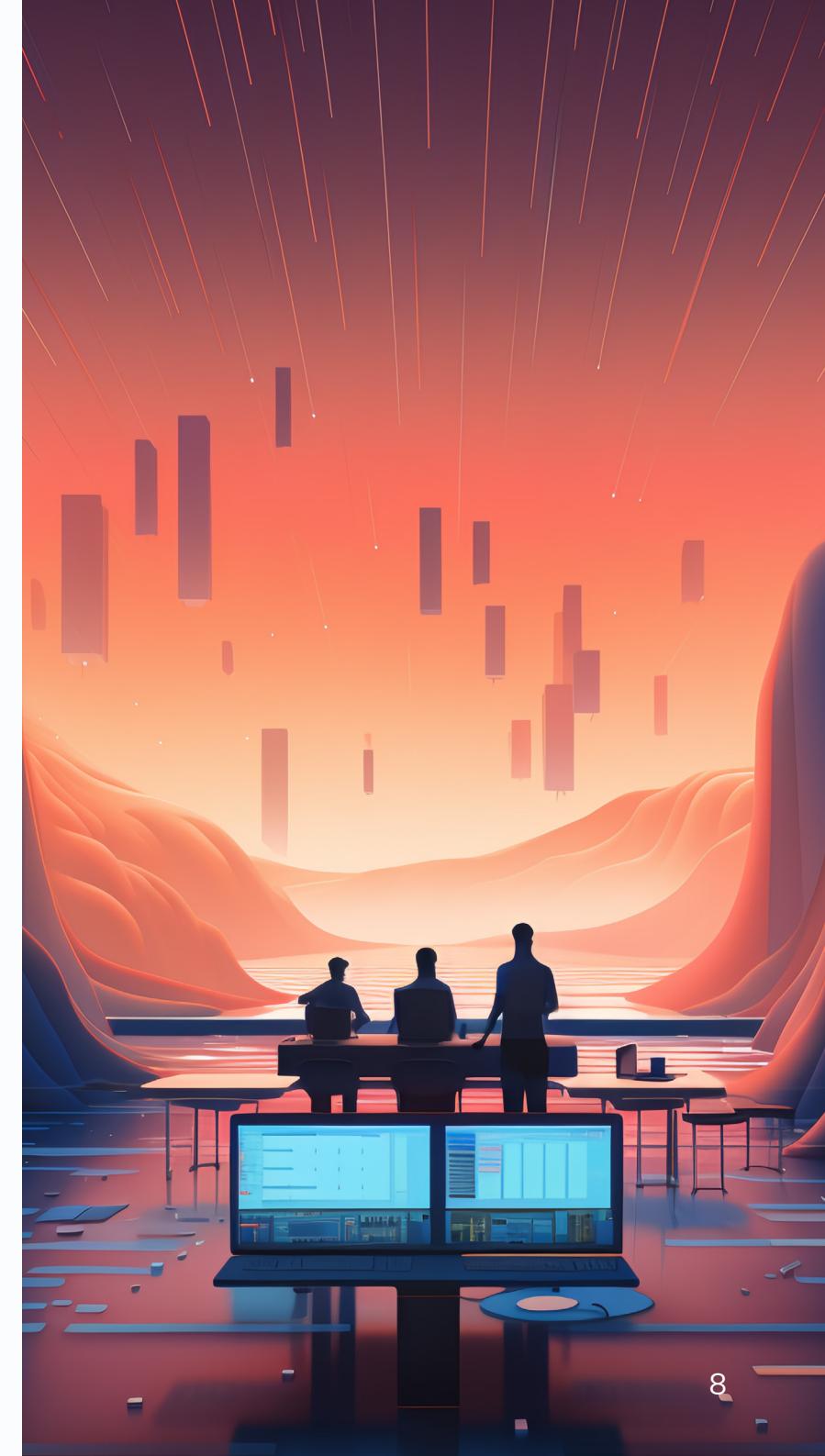
Busy-work is catching up

Respondents were **2X** as likely to report decreased productivity than previous years.



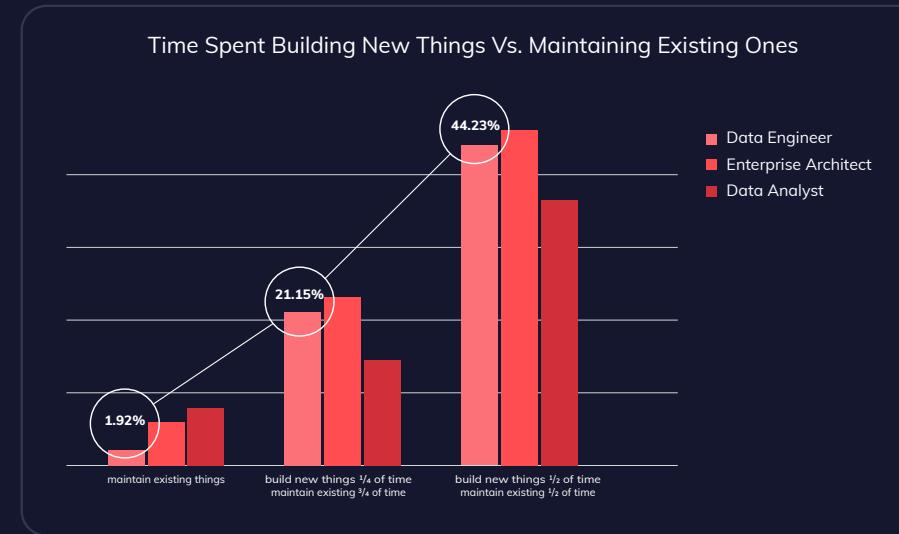
Data Engineers feel their productivity slipping the most

Data engineers were **2.2X** more likely to report decreased productivity over the past year.





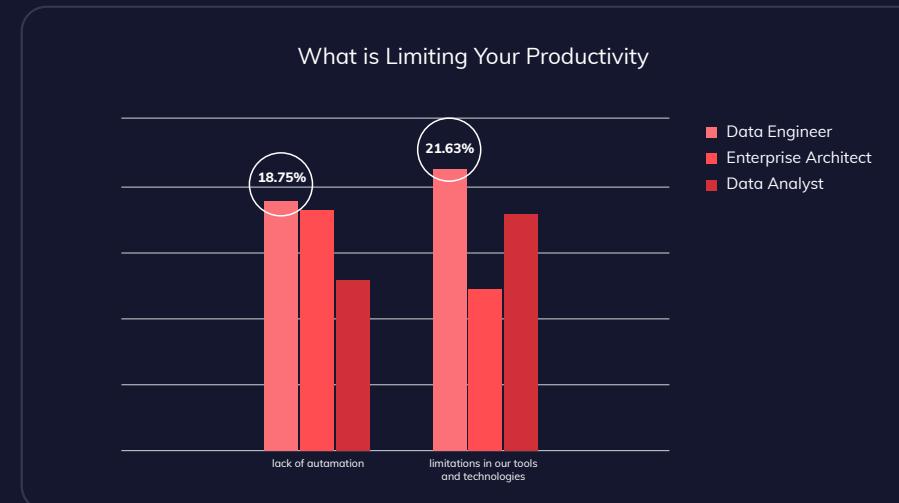
Data engineers spend too much time on maintenance



The majority of data engineers spend

50% or more of their time just maintaining existing programs.

Our tools are letting them down



Data engineers point to limitations in tools and lack of automation as the two biggest hindrances to their productivity.

Data teams need to get out of maintenance mode



of data teams are stuck in reactive mode, with the number of errors fixed ranking as the highest impact measure for the group.

Data engineers are most impacted by this trend



of data engineers report “number of errors fixed” as the most common metric used to measure their success.



“

Sean's Take



It's been a tough year for data teams... Many were planning to hire their way out of the crunch back in mid-2022 and have been thrown for a loop.

As they grappled with how to do more with less this year, we can see that initial productivity gains from last year are starting to erode as workloads shift to maintenance.

But don't give up hope yet. There are still ways for teams to take control of their workloads through increasing levels of **automation!**

Sean Knapp

Founder & CEO, Ascend.io

Result 2

Early pioneers in automation are seeing success, but many need help to get there.

Data teams are squarely focused on automating their work

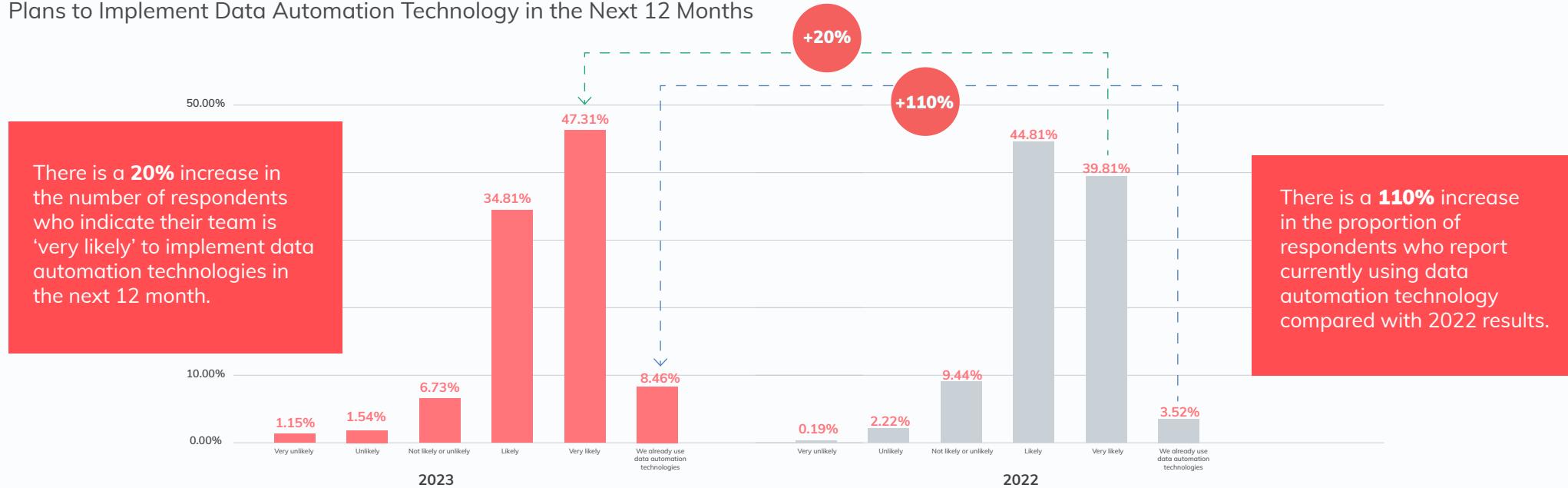


88%

of those surveyed said they are likely, very likely or have already implemented data automation technologies.

Automation adoption accelerates, but needs platform-level support

Plans to Implement Data Automation Technology in the Next 12 Months



However, of the **40%** who indicated they were very likely to implement automation last year, only ~ **5%** of them managed to do so... indicating that the desire might not match the resourcing or skillsets of their team without the right supporting platforms.

“ Sean’s Take



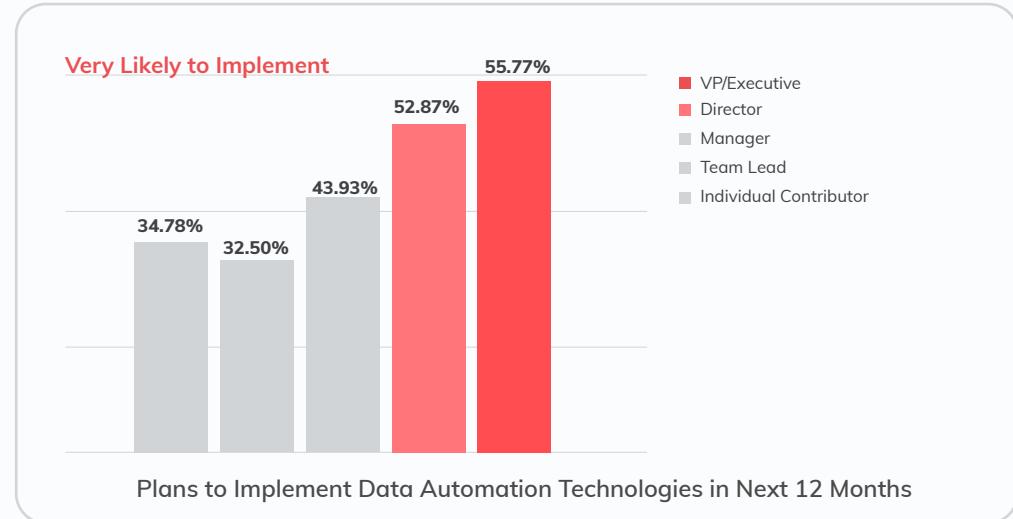
Sean Knapp
Founder & CEO, Ascend.io

It's rare in the technology world to see something that so many people **want** yet so few people have today. That's where we **have** been with data automation for two years running.

It's great to see automation adoption growing! For those who are in the remaining **82%** who want it but don't have it yet:

1. Start by defining what exactly it is you want to automate to help **narrow your scope**.
2. Look for **solutions that give you lots of metadata**, which is the fuel for automation.
3. If what you want to automate is the orchestration and maintenance of data pipelines, come **check out Ascend!**

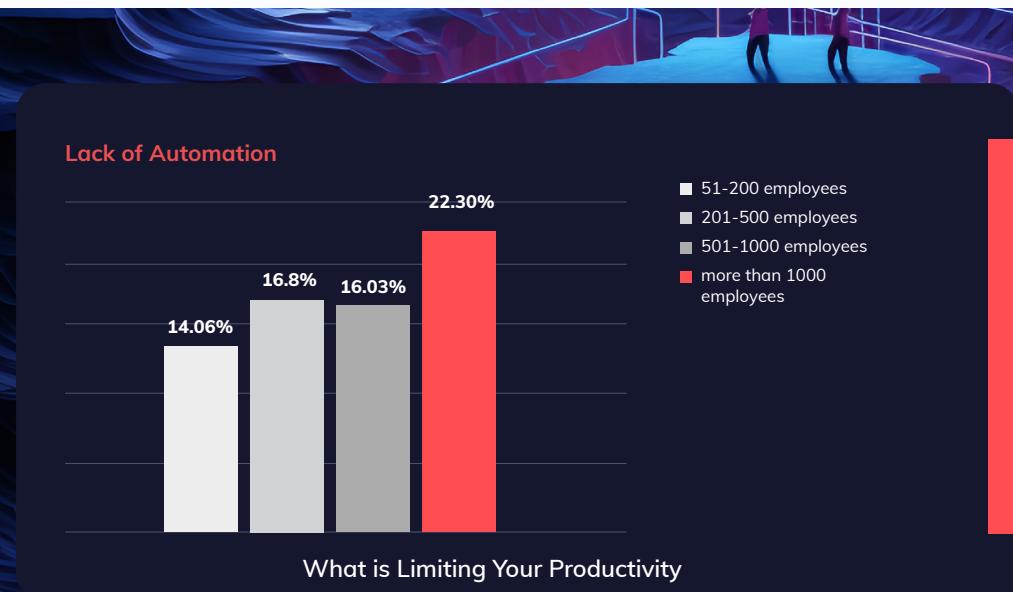
Automation is a top-down imperative



Data team executives were

74%

more likely to indicate strong plans to invest in automation.



The largest companies and teams are up to

1.3x

more likely to feel the pain from lack of automation.

Data engineers and architects see the potential for automation



Data Engineer



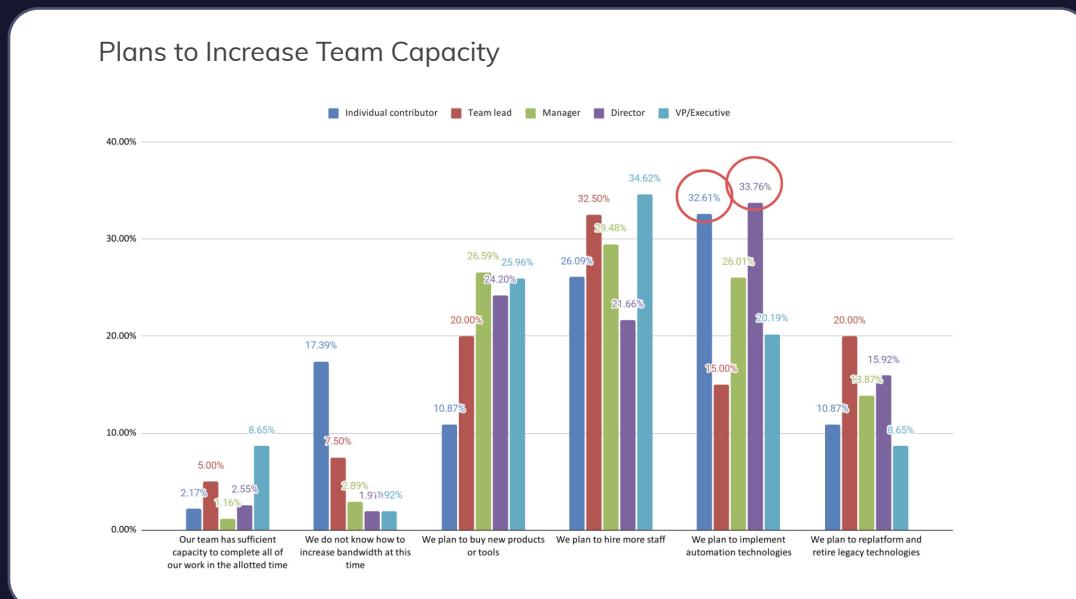
Enterprise Architect



Data Analyst

Data engineers and architects are **twice** as likely to focus on automation to improve team capacity compared with data analysts.

Teams are asking for automation to meet business demands



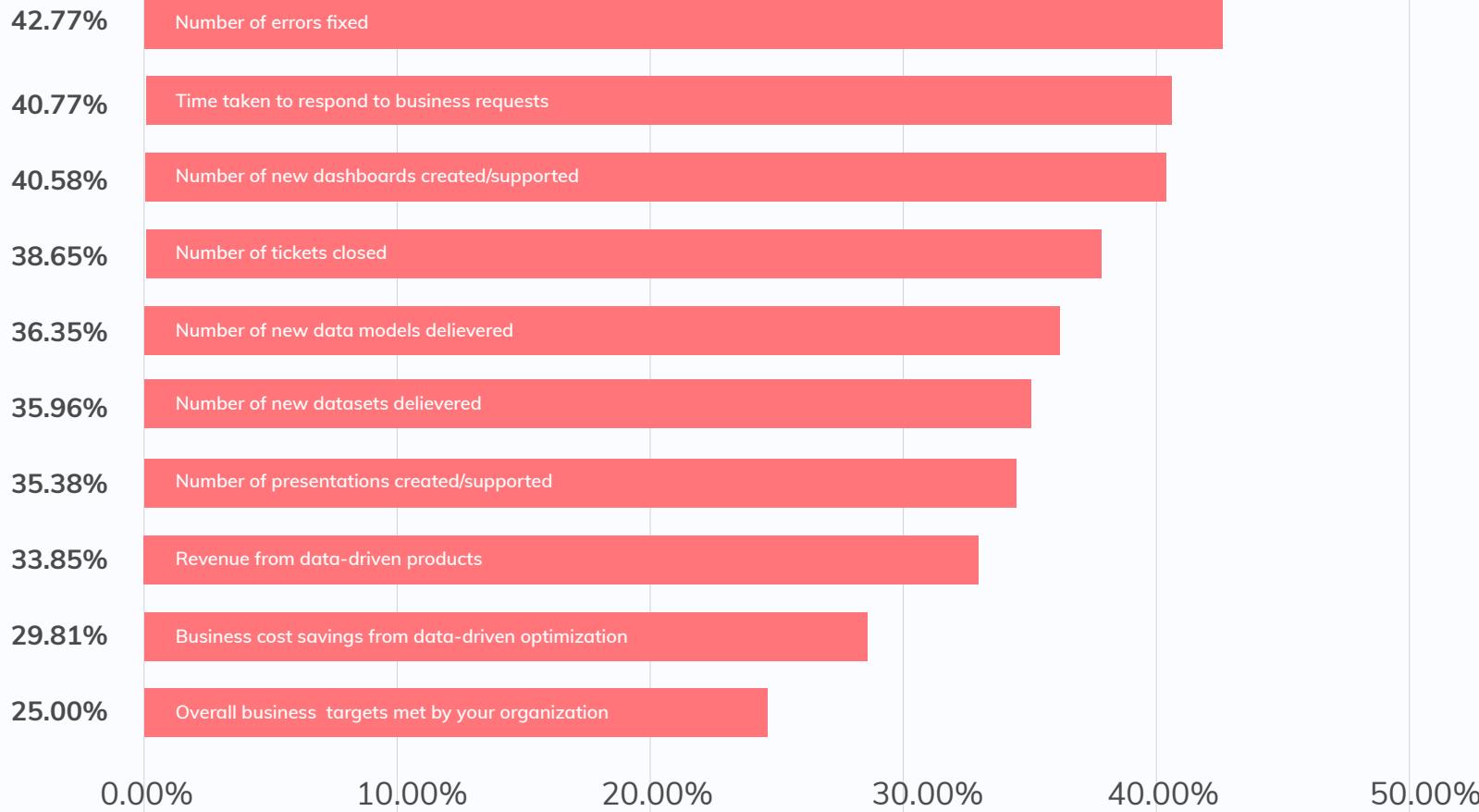
Individual contributors and directors agree: **implementing automation technologies** is a **top priority** to increase team capacity.

Result 3

Top KPIs of Data
Programs Revealed -
Does your team agree?

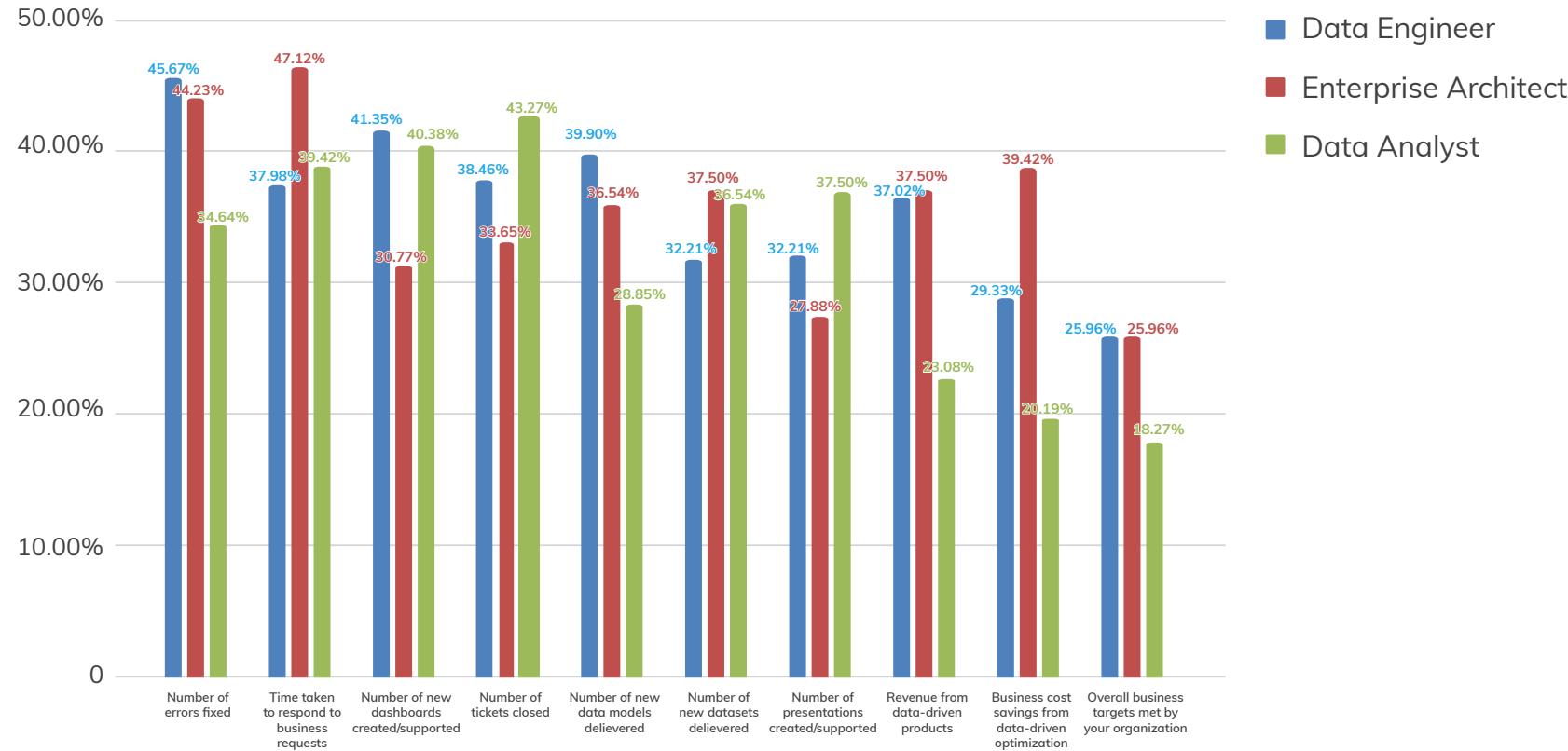
Overall KPIs of a data team ranked

What are the key Impact Measures of Your Role



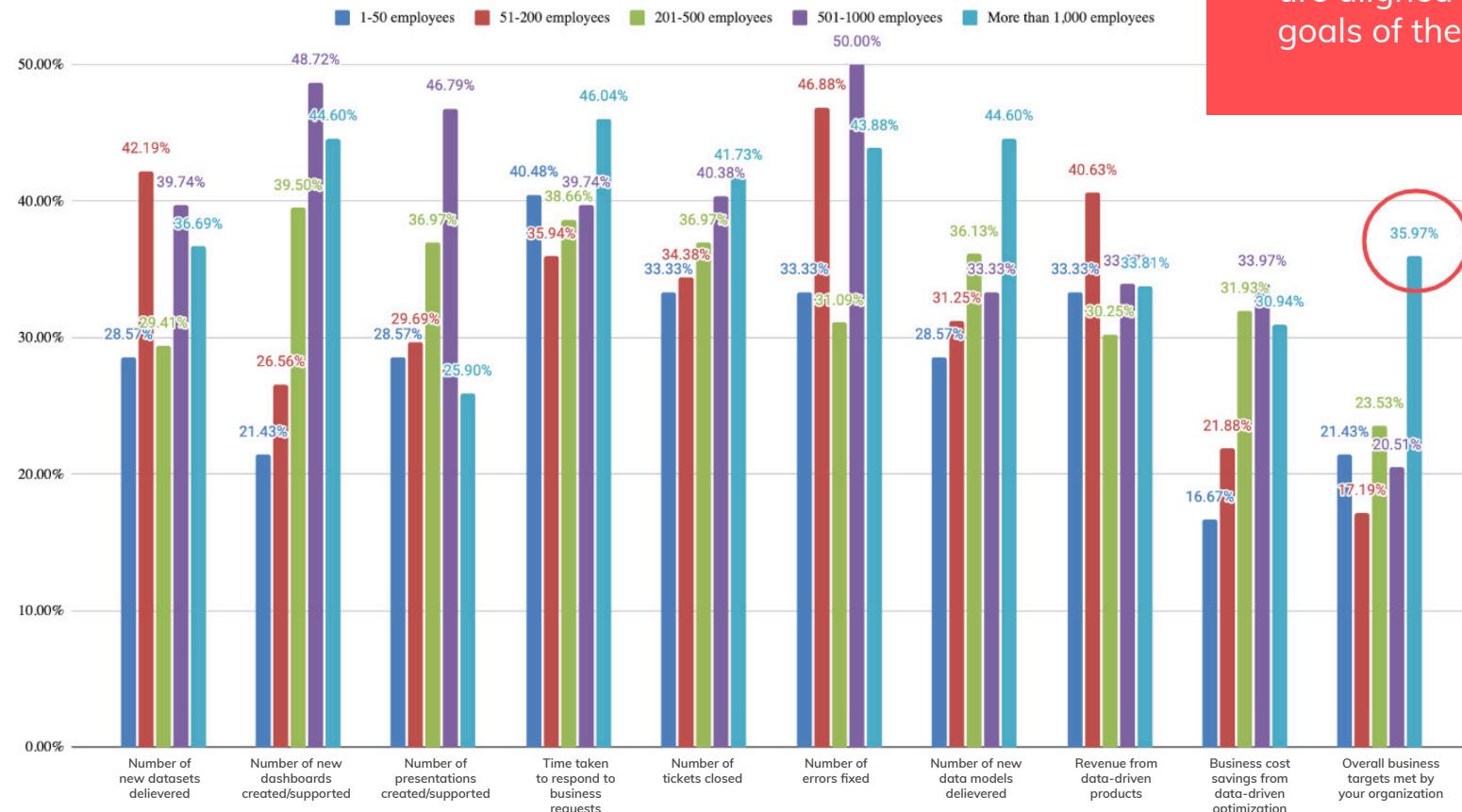
KPIs breakout by specific roles

What are the key Impact Measures of Your Role



Overall KPIs of a data team ranked

What are the key Impact Measures of Your Role

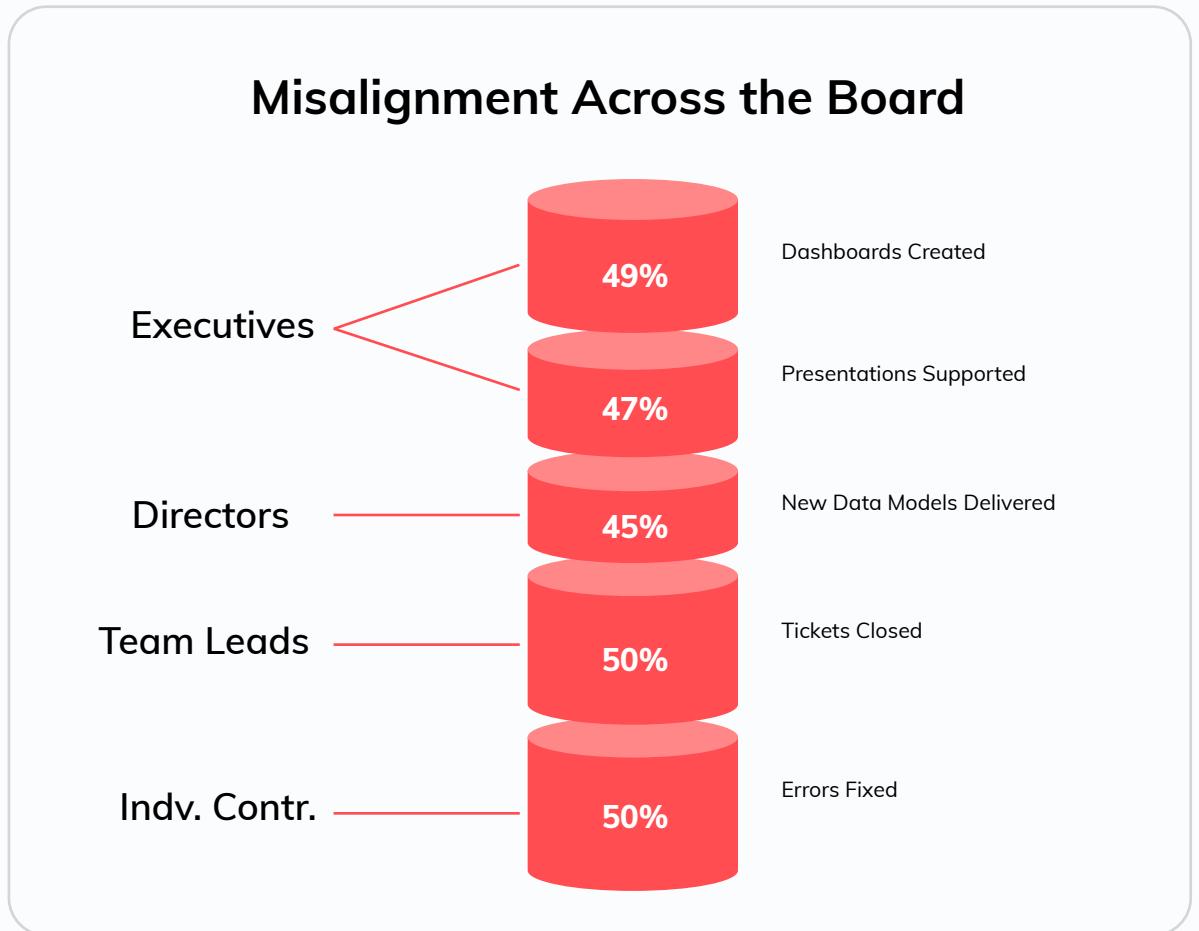


Data teams in the largest organizations are up to **110%** more likely to feel their KPIs are aligned with the overall goals of the business.

Result 4

Executives, meet your teams. You two have some things to discuss...

Alignment of KPIs leaves much to be desired



Executives were 3x more likely to rank presentations created, and 1.5x more likely to cite number of new dashboards created as their top impact measures compared with individual contributors, who rank errors fixed and tickets closed.



“ Sean’s Take



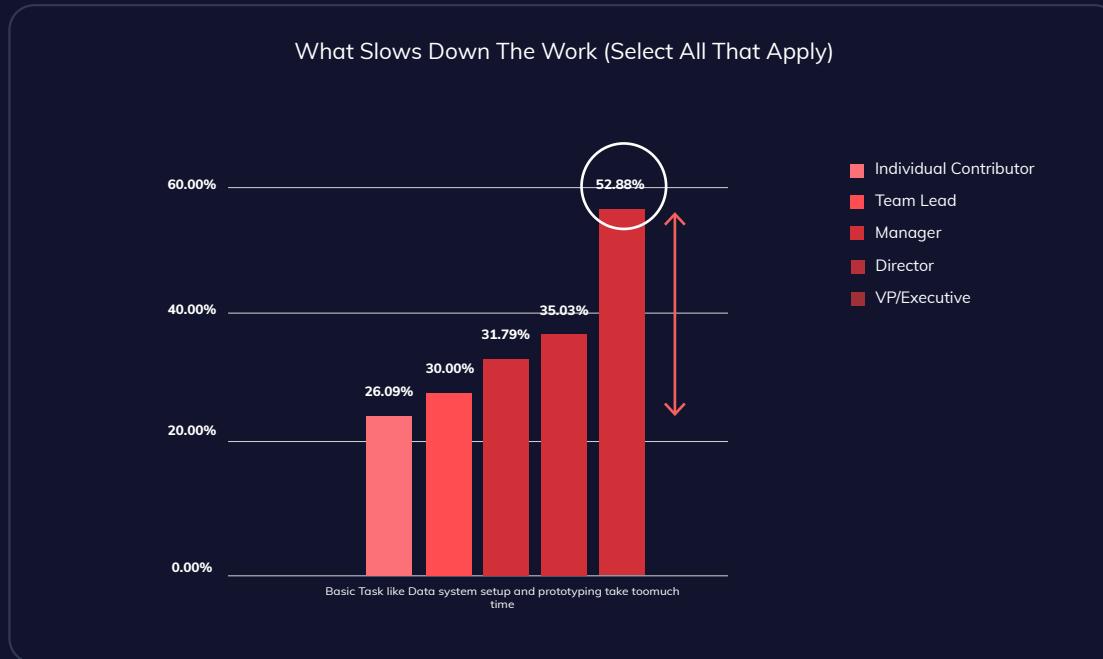
Managers and directors are the connective tissue between the doers in the engine room and the planners in the C-Suite. This gap in alignment speaks to the need for them to do more to bridge between both worlds.

They need to help executives understand why these things are hard, and where they can invest to help it go faster.

They need to help their team understand the connection between errors & tickets and the overall objectives of the business.

Sean Knapp
Founder & CEO, Ascend.io

Executives see basic data tasks as being too slow



Executives are twice as likely to perceive basic tasks with data as taking too long.

Leaders spend 5 more hours/week gathering data



VPs/Executives



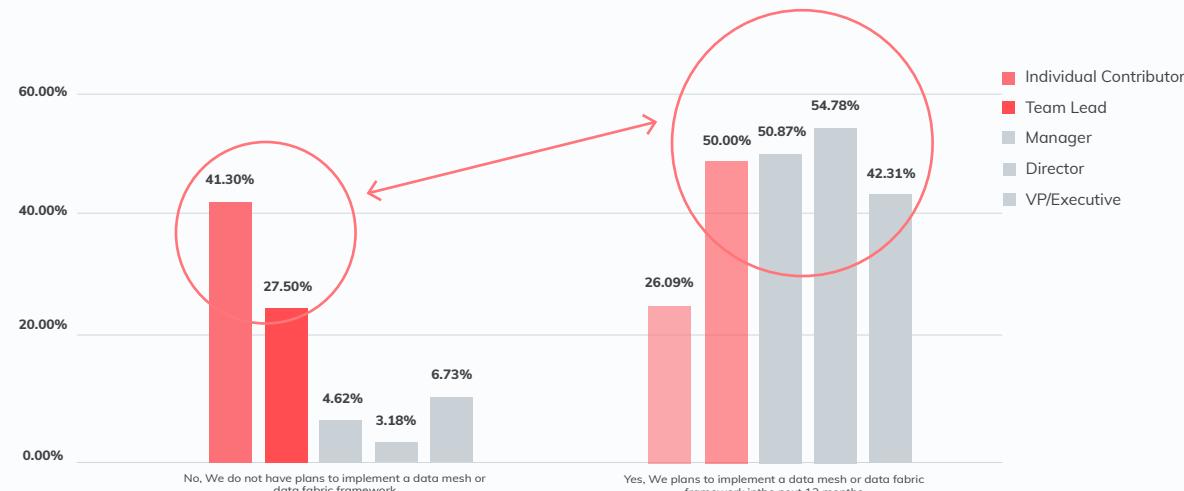
Individual Contributors

Per week spent trying to get access to data to do my job (on average).

This indicates they feel the impact of inefficient, manual data pipelines the most in their organization.

Disagreement over major initiatives is present

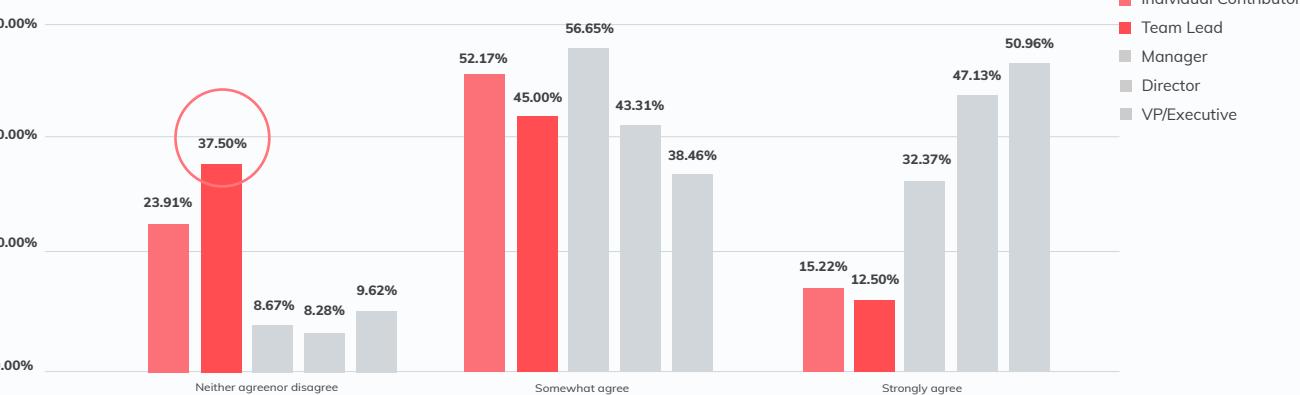
Plan to Implement Data Mesh or Fabric



Individual contributors are **5x** more likely to deny having any plans to implement data mesh/fabric compared with executives, who predominantly report plans to implement one within the next 12 months.

Alignment on strategy shows sign of strain as well

Data Mesh/Fabric Will Enhance Our Data Use



Team leads are **2.8x** more likely to report being skeptical of the benefits of data mesh than their executives.

Tug of war over data stack sizes



Individual contributors twice as likely as their executives to favor removing tools from their data stack.

Team leads want to consolidate on platforms.

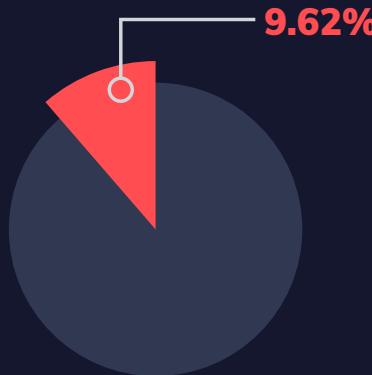
Executives favor adding more tools!

Result 5

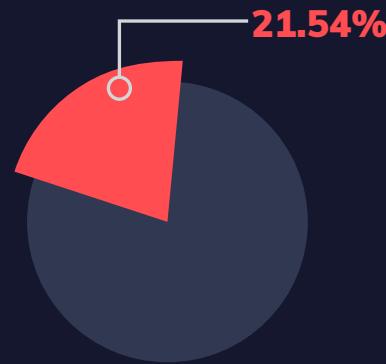
Data Mesh:
It's here!

Data Mesh/Fabric architectures are here to stay

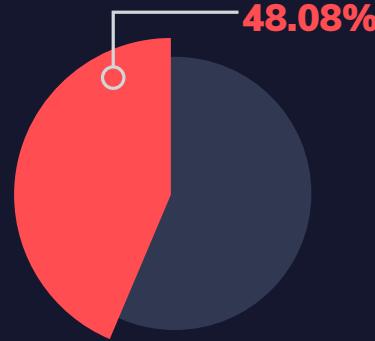
Plans to Implement Data Mesh or Fabric



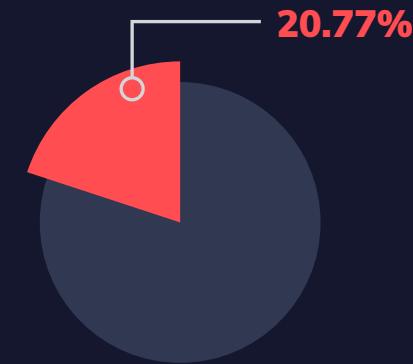
No, we do not have the plans to implement a data mesh or data fabric framework



Yes, we plan to implement a data mesh or data fabric framework in the next 24 months



Yes, we plan to implement a data mesh or data fabric framework in the next 12 months



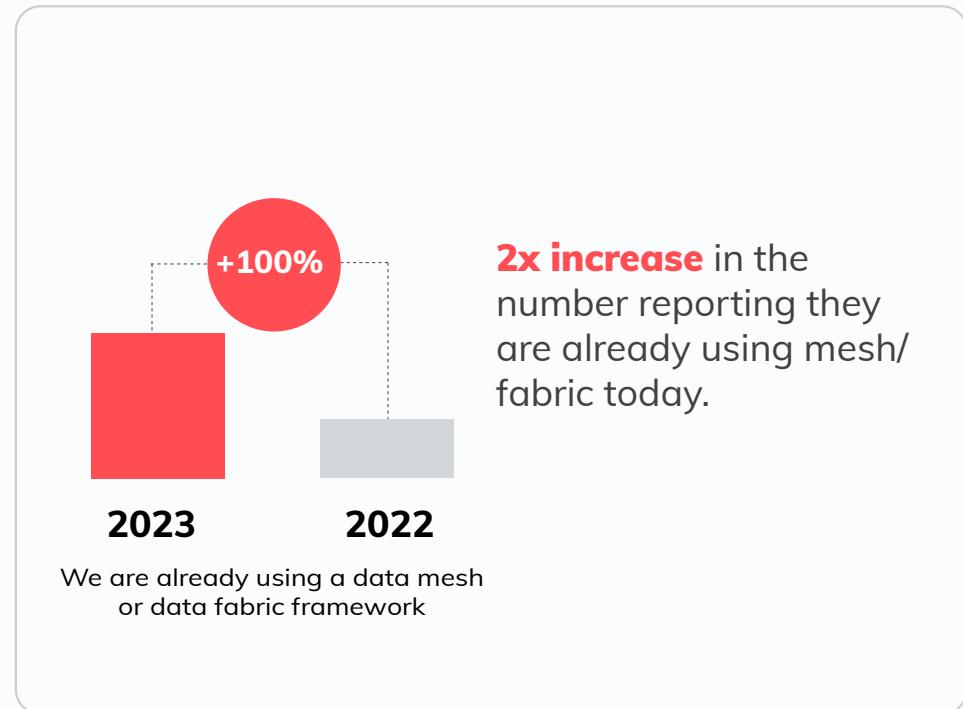
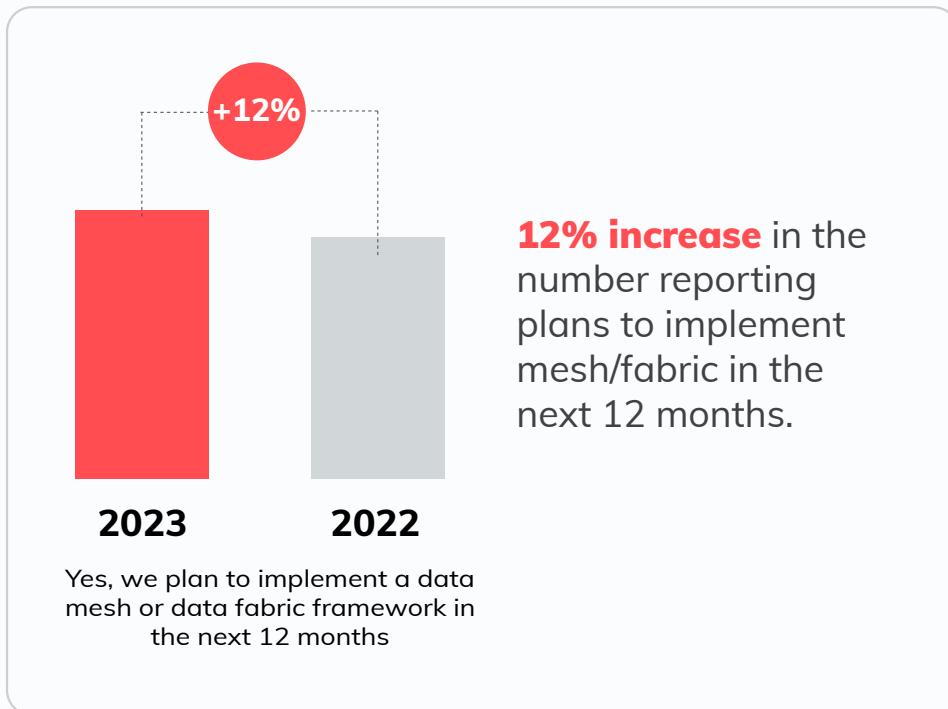
We are already using a data mesh or data fabric framework



69% of respondents already use or plan to implement a data mesh architecture in the next 12 months.

Huge momentum in implementations during 2022

Plans to Implement Data Mesh or Fabric



Result 6

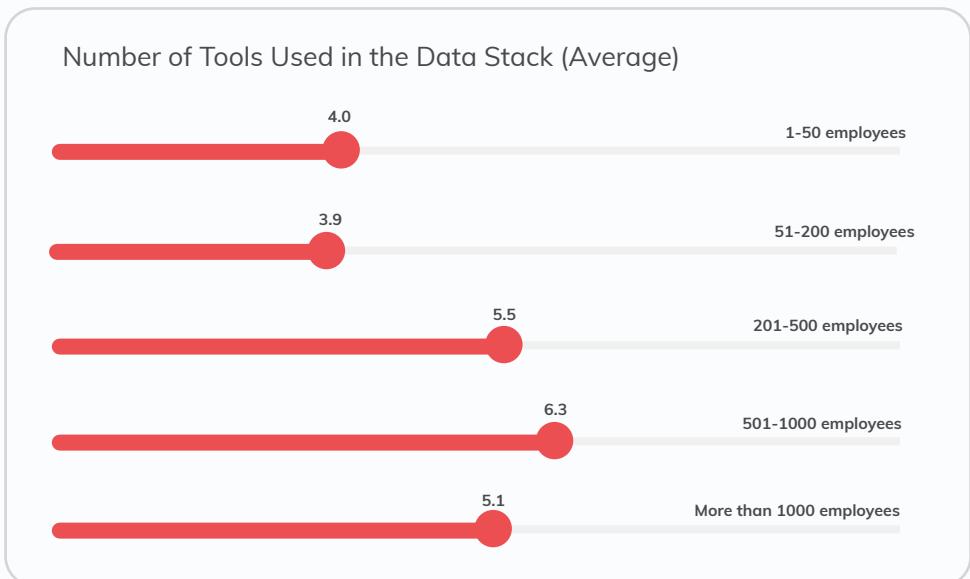
Tool sprawl in the data stack continues to grow, hindering efforts to drive automation.

The Modern Data Stack is big

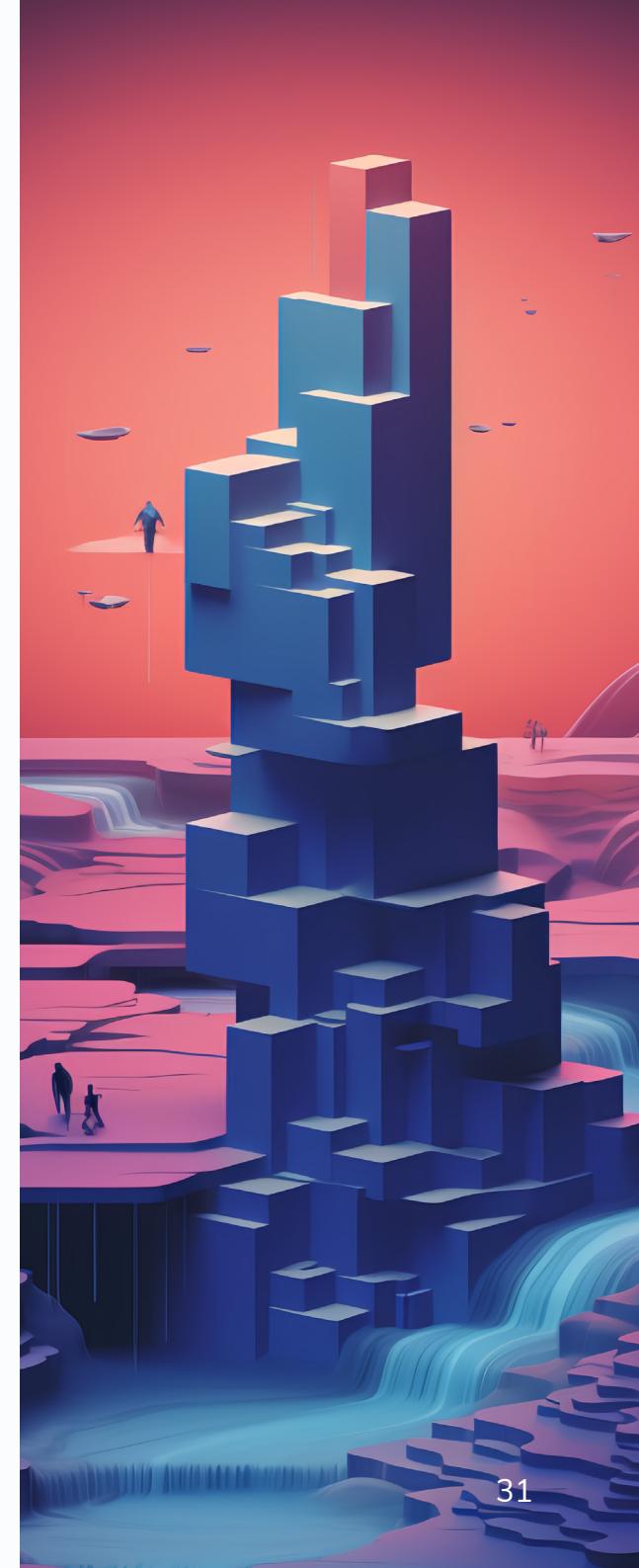


Used in the data stack
(on average)

Larger organizations are more tool heavy

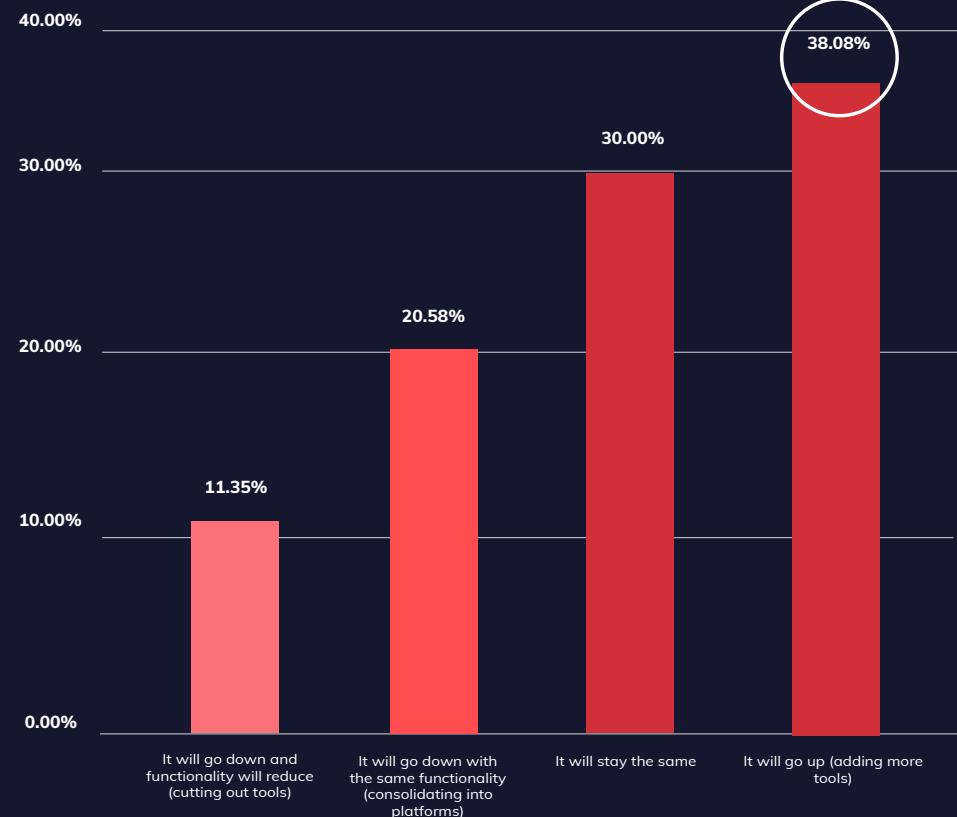


Large companies report using an average of 2 more data tools in their stack (6) than small and midsize companies (4).



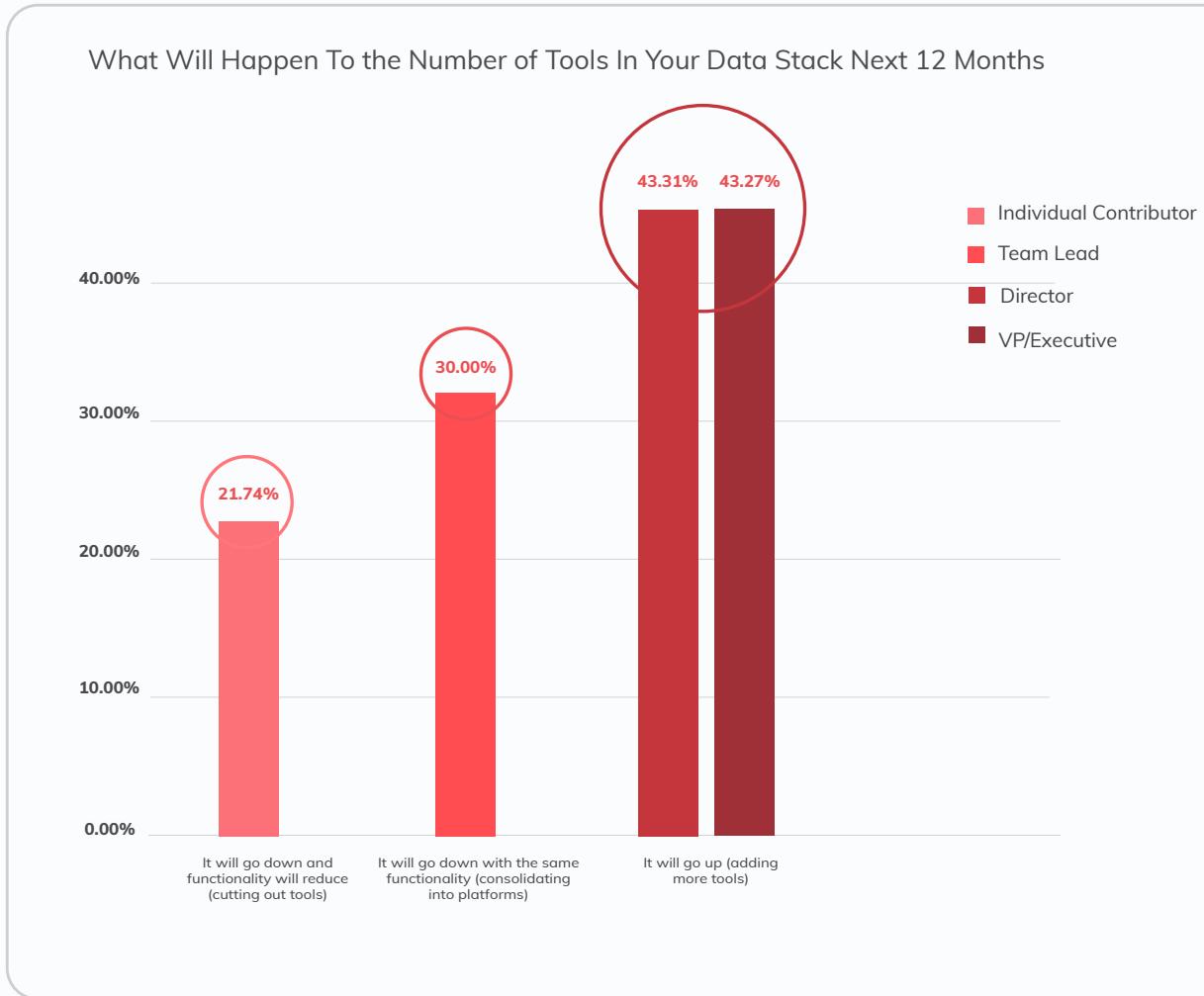
Q21: What Will Happen To The # of Tools in 12 Mos

What Will Happen To the Number of Tools In Your Data Stack Next 12 Months



68%
of respondents believe their data stack will stay the same size or increase in the number of components over the next 12 months.

Three groups, three different tool strategies



Individual contributors are up to

2.1x

more likely to favor cutting tools out of their data stack at the expense of functionality.

Team leads favor consolidating to platforms while retaining all functions.

Executives are up to

16%

more likely to favor adding more tools to the stack.

“ Sean’s Take



Sean Knapp
Founder & CEO, Ascend.io

Clearly there's a need for some conversations to be had in these teams!

It's understandable for individuals who are already overwhelmed and hindered by the shortcomings of their current tools to want to throw them overboard.

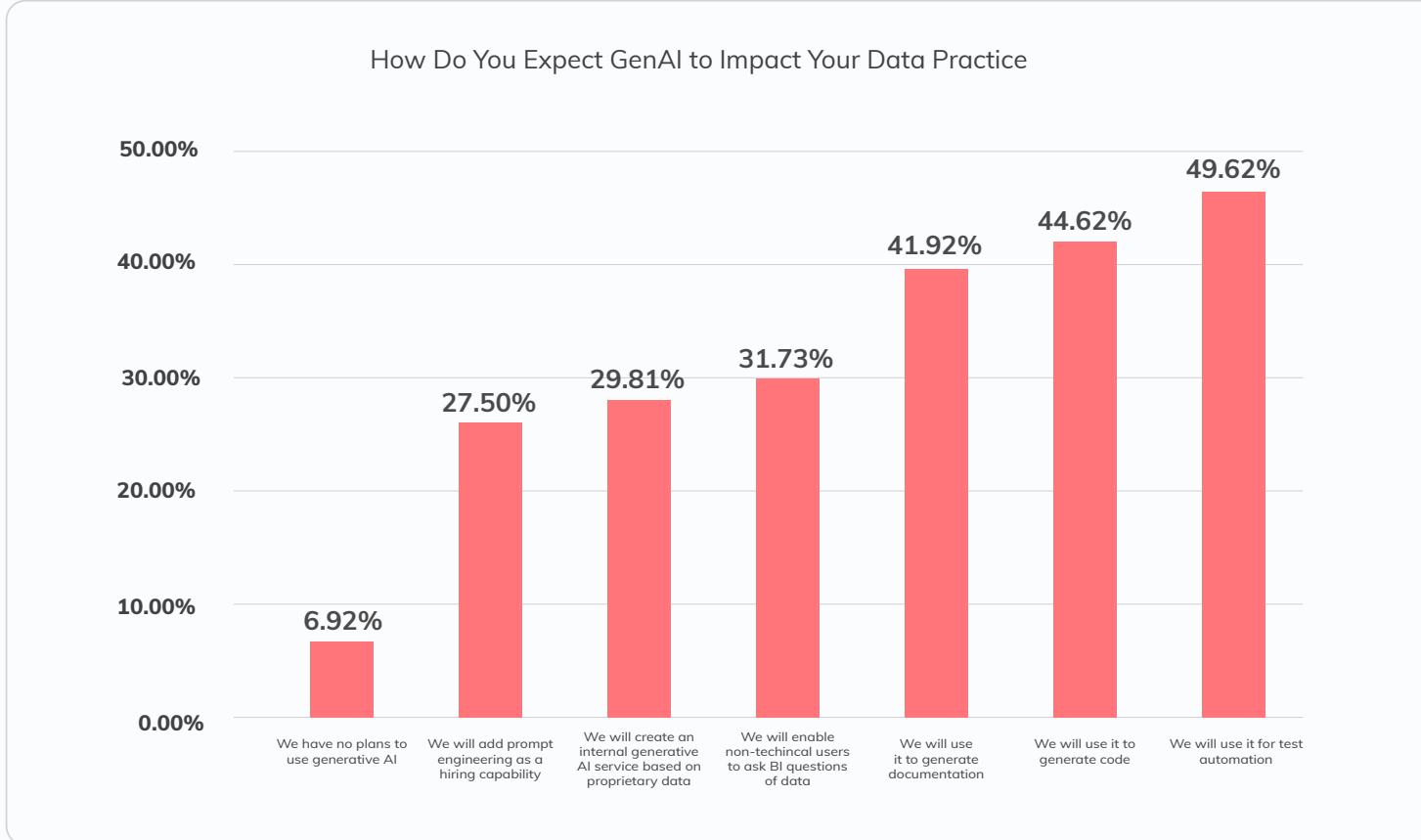
The onus will be on team leads to temper that desire by **steering towards integrated platforms** that can still maintain the right levels of functionality and **add in a bit of automation**.

It's also feasible to think that executives are looking towards the future and thinking about **new challenges like GenAI and ML Ops** and planning for new tool purchases in those areas.

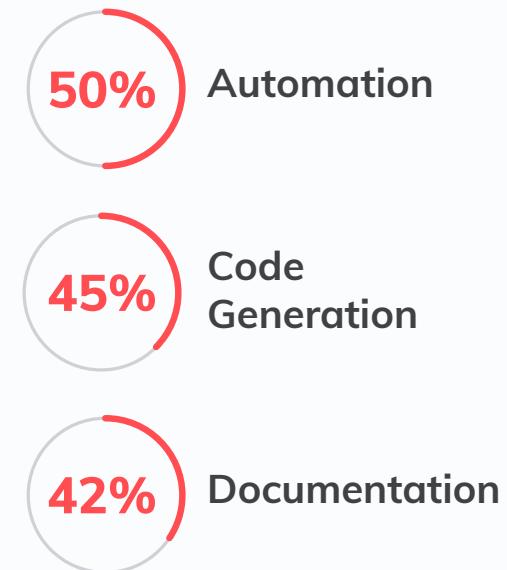
Result 7

Generative AI Use in
Data Teams.

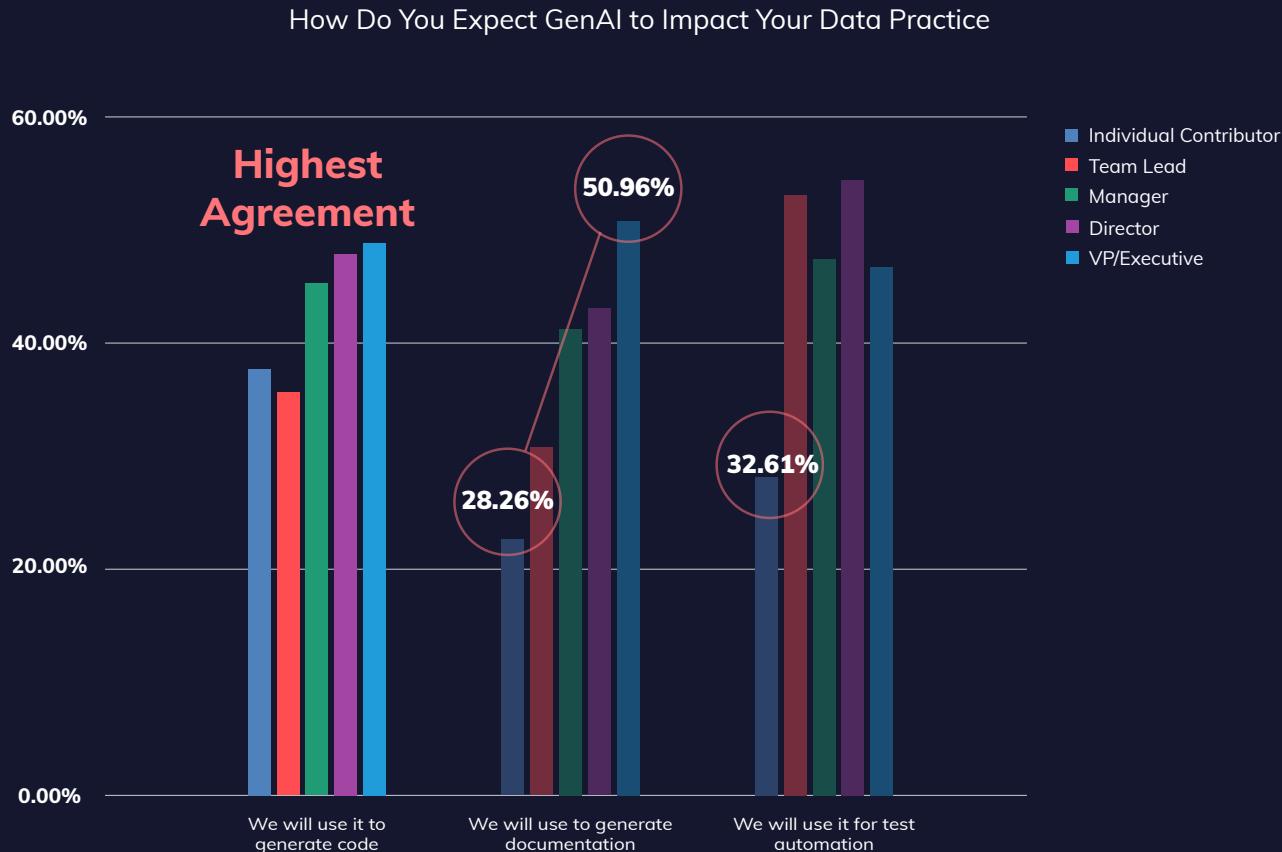
The data team sees high potential for Generative AI



Top Use Cases for GenAI increase test



Highest agreement on using it to generate code



Data team executives are **80%** more confident in using Generative AI to create documentation than individual contributors.

Individual contributors are **66%** less confident in plans to use Generative AI for data testing.

The data team sees high potential for Generative AI to improve data pipeline reliability

How Do You Expect GenAI to Impact Your Data Practice

Data Engineer

53.85%

Enterprise Architect

49.04%

Data Analyst

42.31%

We will use it for test automation

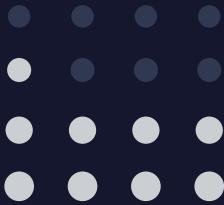
54%

Data engineers are the most optimistic about the use of Generative AI for creating test automation.

The race is on to create custom LLMs

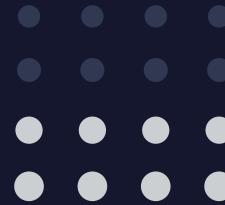
We will create an internal generative AI service based on proprietary data

23.81%



1-50 employees

20.31%



51-200 employees

22.69%



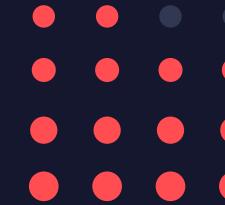
201-500 employees

34.62%



501-1000 employees

36.69%



More than 1000 employees

Smaller teams can leverage data pipeline automation technologies to help them catch up.

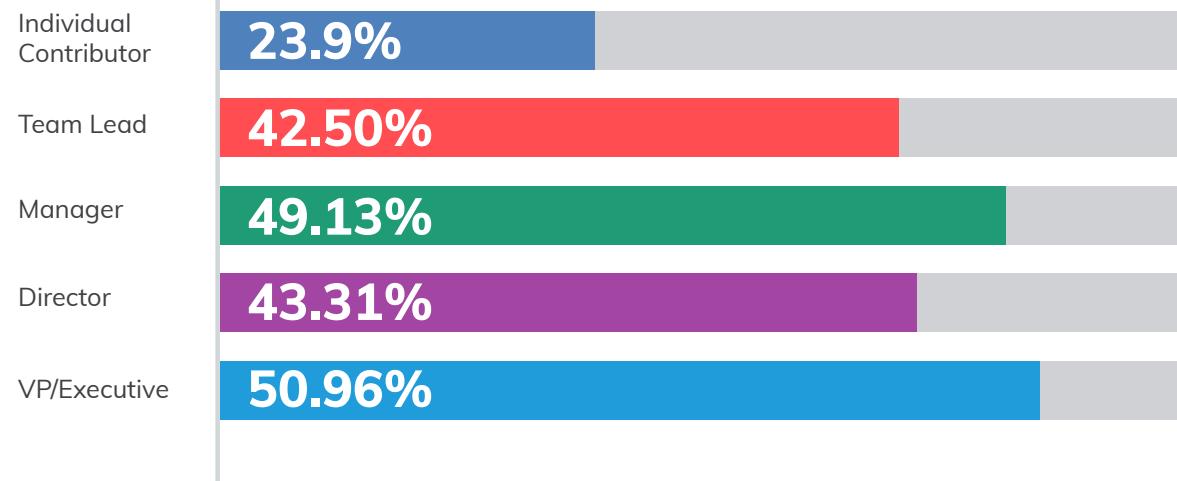
Larger companies (<500 employees) are up to

80%

more likely to have plans to create a proprietary generative AI service based on internal data.

Individuals expect less business impact from generative AI

How Do You Expect GenAI to Impact Your Role in Next 12 Months



It will increase
my impact on
the business

Individual contributors are
200%
less likely to report
believing Generative AI
can increase their impact
on the business.

“ Sean’s Take



Sean Knapp
Founder & CEO, Ascend.io

There's a lot to unpack here. We expect this sentiment to rapidly evolve in the coming months as people get more familiar with the technology.

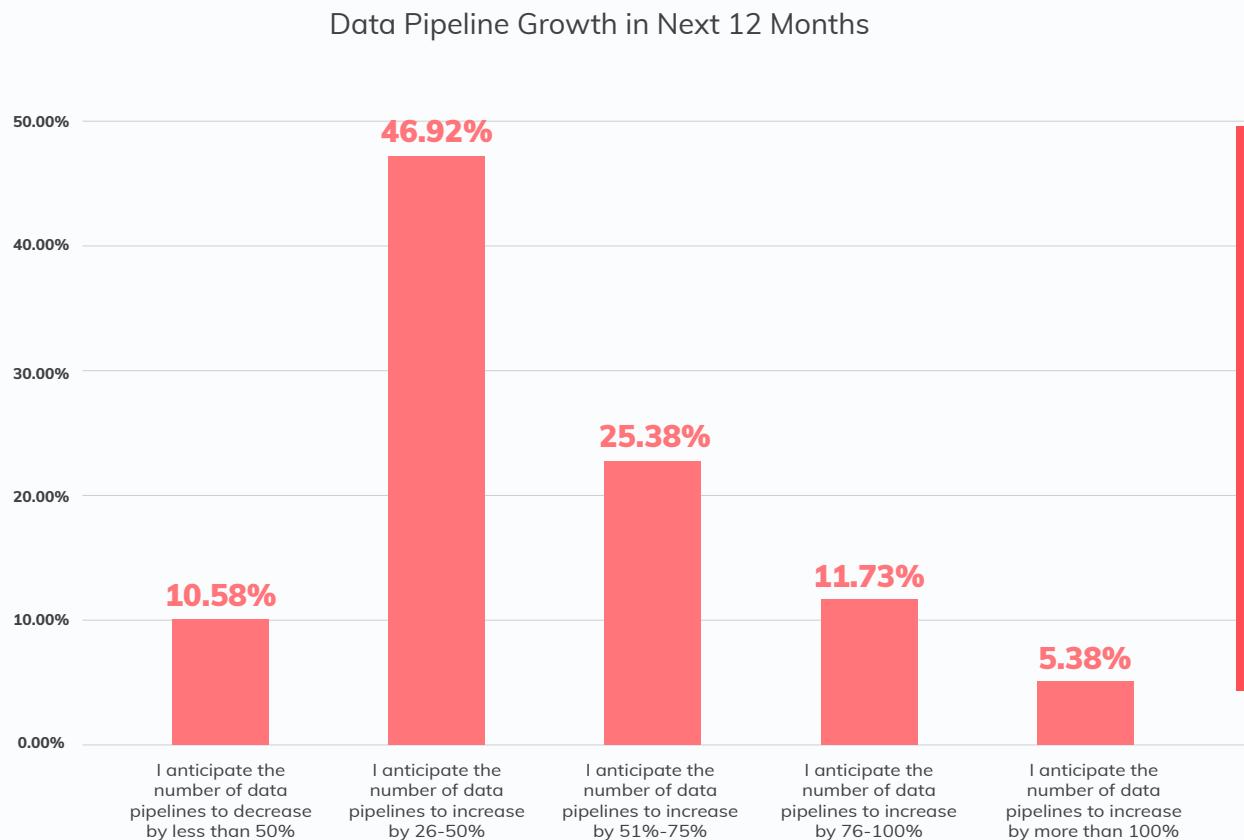
On one hand, we can see how those who are the closest to these **new ML models** and understand the most about how they work to be the most skeptical of their success. **Individual contributors and team leads** are usually the best technical minds on the team, and we see **lower scores** from them almost across the board in this section.

It's also important for **executives** to do more to **inspire their teams** with the potential of this new technology. When deployed in a consistent manner with the right enablement, it can provide an **individual** with more **autonomy and job satisfaction** in their role. We've certainly seen this in many different roles here at Ascend.

Result 8

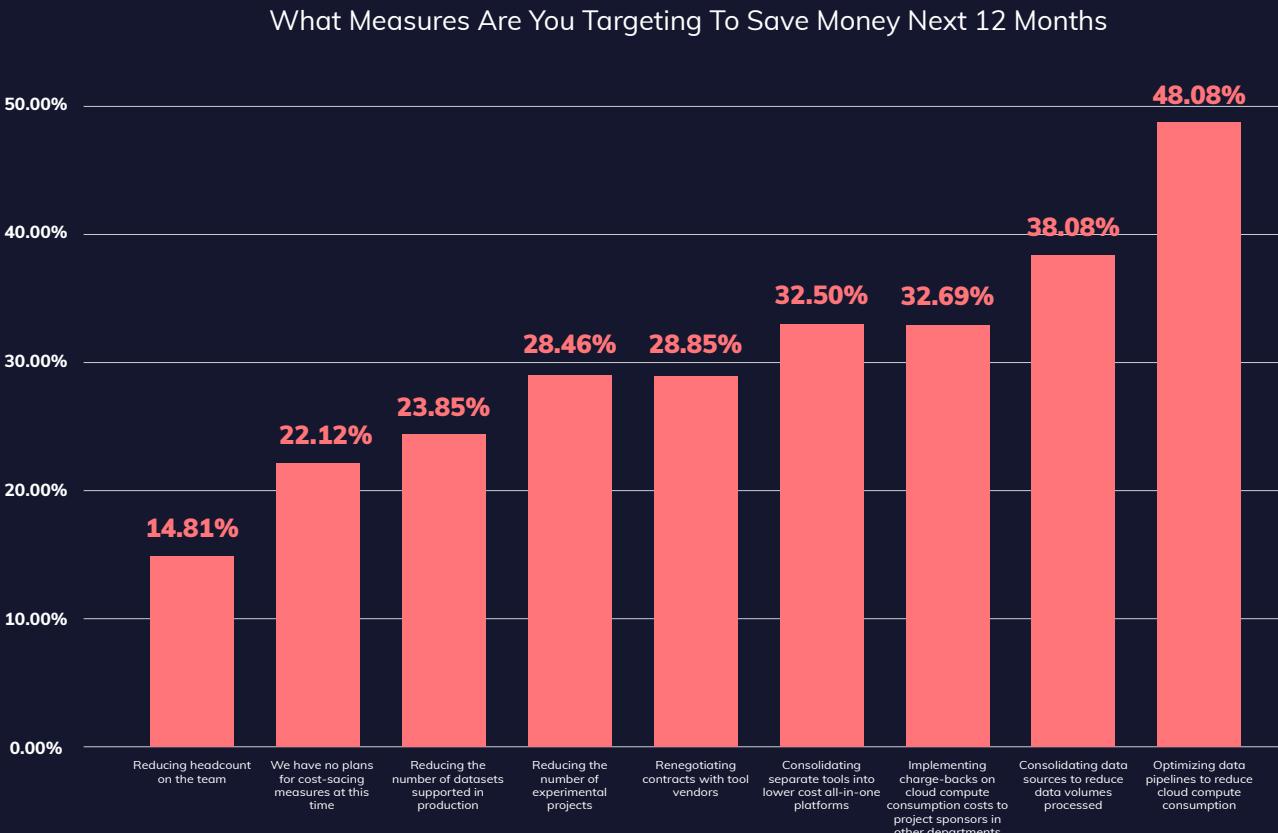
As Data Grows in the Cloud, so do Expenses.

Data pipelines will continue to grow



89%
of respondents expect
the number of data
pipelines to grow over
the next 12 months.

Cost Saving Measure Next 12 Months



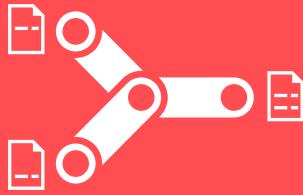
48%

Optimizing data pipelines to reduce cloud computing costs is the favorite money saving tactic.

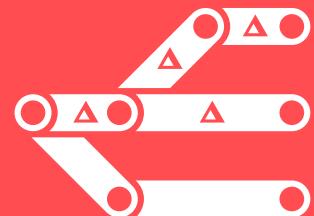
38%

Followed by consolidating data sources to reduce data volumes.

This growth is driving a variety of cost saving strategies



Data team executives are up to
1.9x
more likely to feel their teams can
consolidate data sources.



The rest of the technical team
favors pipeline optimizations to
drive down costs.

“ Sean’s Take



Teams will need to help guide their leaders here. It's easy to see data volumes as the problem when costs appear directly correlated with size. But simply removing data sources from analytics is usually counter-productive.

Instead, teams should look to get **greater cost visibility** into their data pipelines to help them find low-hanging fruit for optimization. Modern data clouds will tell you how much individual queries cost, but **good pipeline platforms** will show you so much more. Armed with this information, you can approach your leader with a program that will drive the highest immediate impact without jeopardizing business results.

Sean Knapp
Founder & CEO, Ascend.io