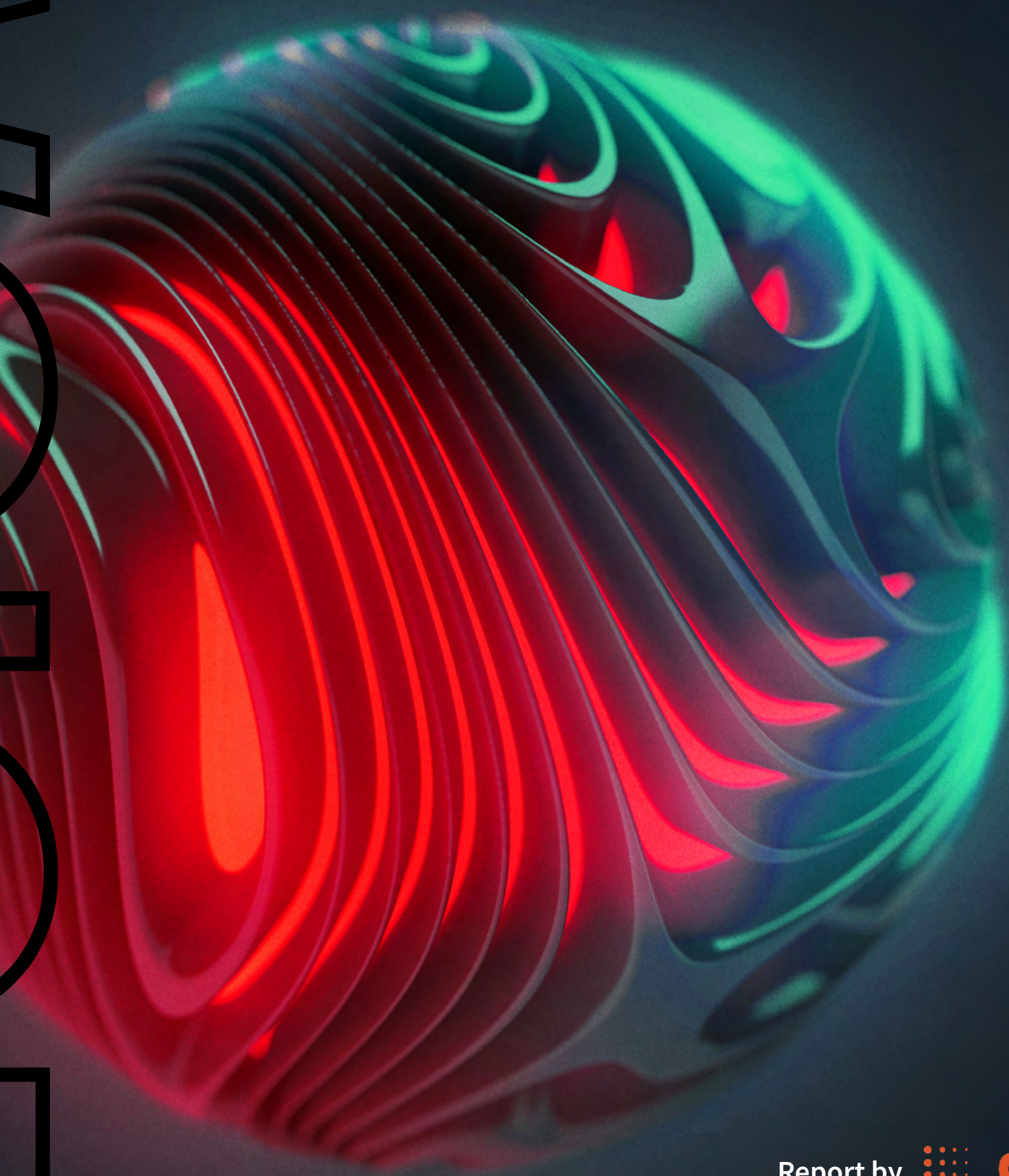


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# 2022 STATE OF VOICE TECHNOLOGY

Report by  **opusresearch**

Presented by  **DEEPRGRAM**

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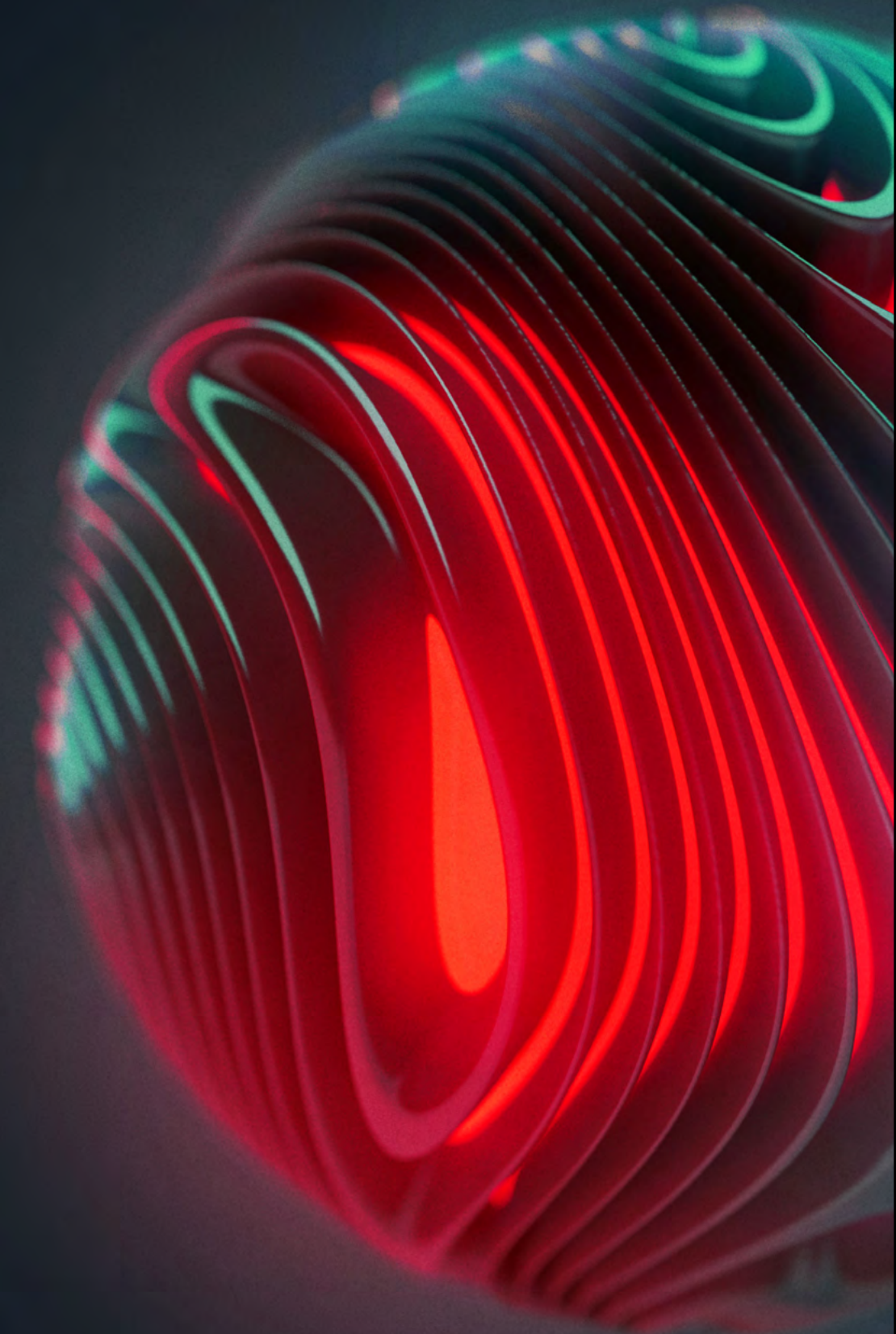
# Introduction

## The Motivation for and Impact of Voice Technology

In last year's inaugural State of ASR report, we got our first tantalizing peek into how companies large and small are using voice technologies built on ASR (Automatic Speech Recognition) to drive efficiencies and productivity through their organizations.

This year, we wanted to expand beyond just ASR to the entire speech technology industry, and dig deeper into the motivations for the use of speech technology—thus the revised title—and understand more about what the future holds for voice, as well as the most impactful uses of speech and voice technology that companies are seeing today. We were especially keen to find out what respondents are thinking about going into the next twelve months.

Before we take a look at all of the details about how things shaped up this year, let's take a look at some of the high-level key findings that came out of this year's survey.



# Key Findings

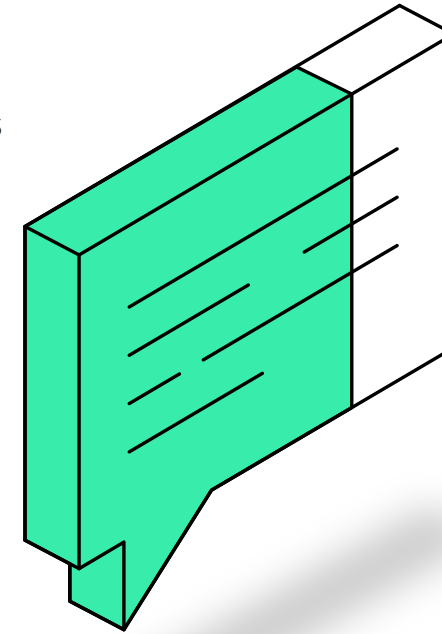
## CX Motivates Use of Voice Technology

The biggest overall finding is that improving customer experience (CX) is the main motivation for using voice technology. Companies want to be able to listen to their customers in order to create a better customer journey from sales, operations, support, and post-sale feedback. As more and more companies are differentiating on CX, **first-hand speech collection and analysis are crucial** to this goal. Post-interaction surveys or sales/agent notes may be biased or only provide a partial insight.

Companies are realizing that truly understanding the voice of the customer (VOC) can only be done by listening to the verbal interactions of the customer with your company. That's likely why respondents indicated that the two most impactful use cases for voice tech were customer analytics (73%) and conversational AI (54%).

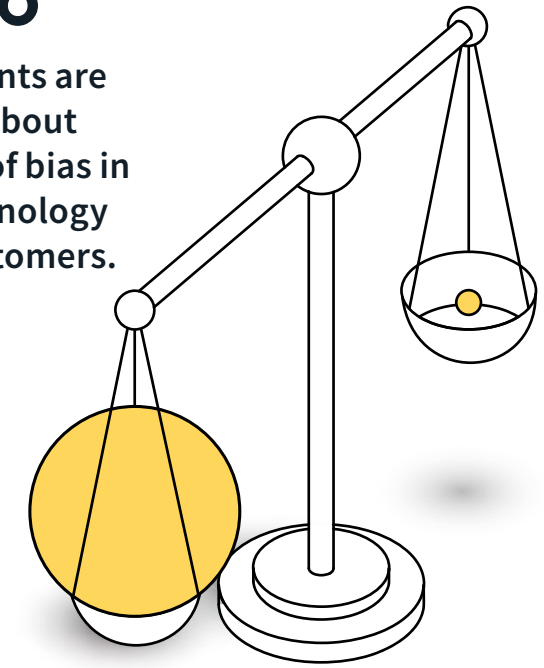
Over  
**76%**

of respondents are currently using speech technology.



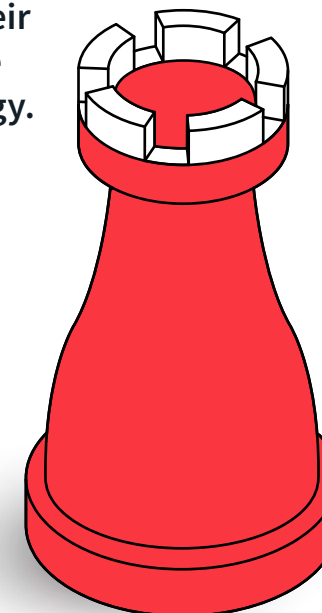
**92%**

of respondents are concerned about the impact of bias in speech technology on their customers.



**99%**

view voice-enabled experiences as a critical part of their company's future enterprise strategy.



Let's dive in and take a look at some of the detailed results. We've divided the rest of the report into three sections. The first explores the current voice landscape: how people are using voice today, including what they're using it for and the benefits that they're seeing. Then, we explore one major area of concern for users of voice tech—bias. Finally, we discuss where respondents see things going in the future, and how important they anticipate voice technology being for the future of their enterprise.

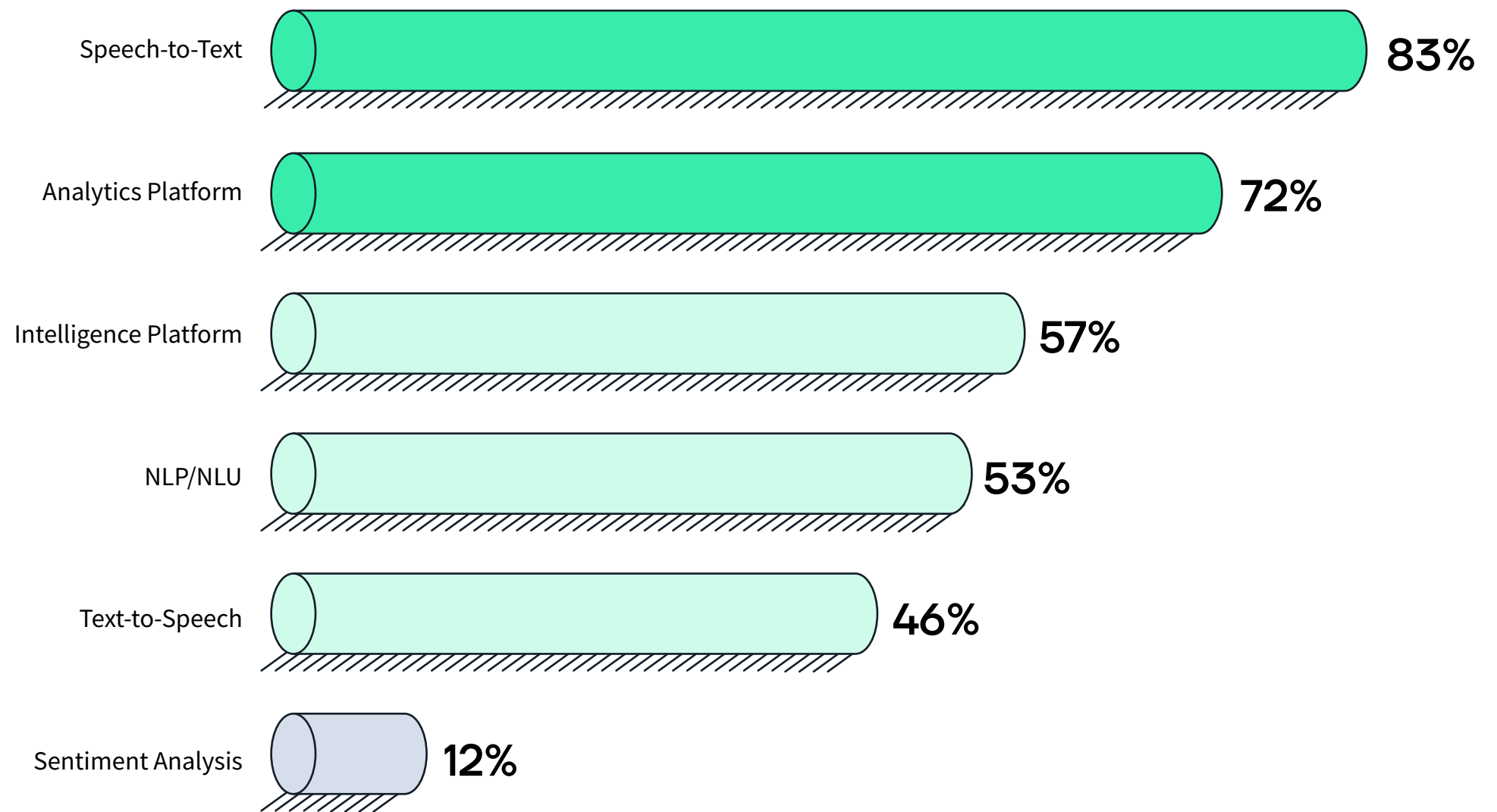
# 01. The Current Voice Landscape

Our primary motivation in updating this yearly report is to understand both how things are now, as well as how they're changing. In this section, we explore how voice technologies are being used by organizations today.

## Current Uses of Voice Tech

Voice technologies are being used for a variety of use cases across industries and departments, but the main uses of the technology are relatively consistent regardless of department or vertical. Speech-to-text and analytics platforms are by far the most common use cases, while BI platforms, NLP/NLU, and text-to-speech are present but not as common as the top two. Sentiment analysis is lagging behind, which isn't terribly surprising given that sentiment analysis based purely on text can be problematic, and true natural language understanding is still in its infancy.

### What use cases and applications do you implement speech technology solutions for?



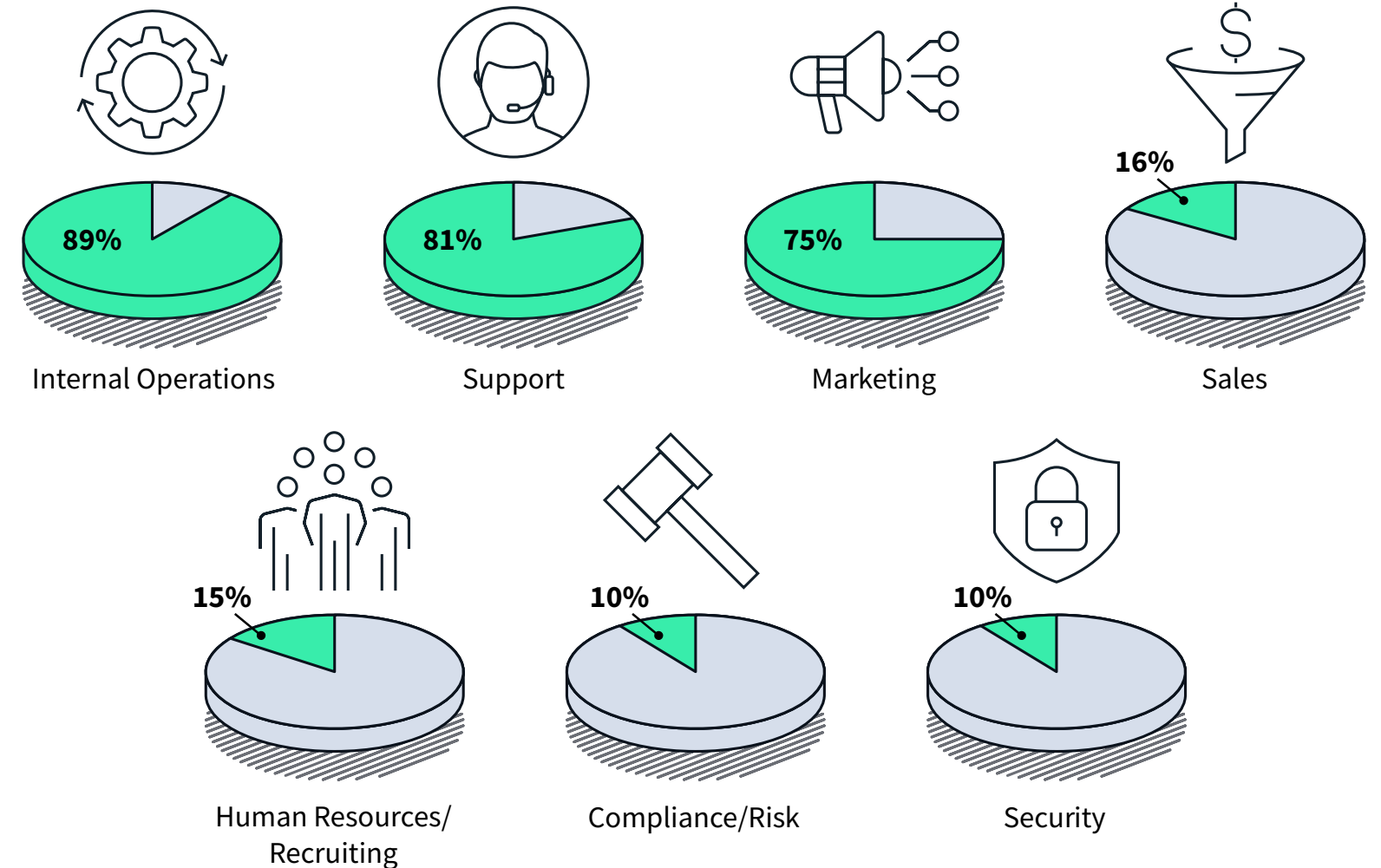
# Who's Using Voice Technology?

There's a clear differentiation in what areas of their business people are using voice tech. Internal operations (89%), support (81%), and marketing (75%) are clear front-runners, while sales (16%), human resources & recruiting (15%), compliance & risk management (10%), and security (10%) lag behind.

But that doesn't mean there aren't viable and valuable voice tech use cases in these departments, such as automatically recommending content to sales team members on the fly while talking to clients, helping transcribe candidate interviews, or improving compliance and risk management. It seems that some departments are underutilizing the possibilities of voice tech, providing even more areas of potential growth in the future.

The most surprising result to us was the high result for marketing use, which we didn't see in last year's survey. This may mean that voice technology is being used for more market research, voice promotions based on customer responses, or recommendations for add-on sales content.

## What departments are implementing speech technology?

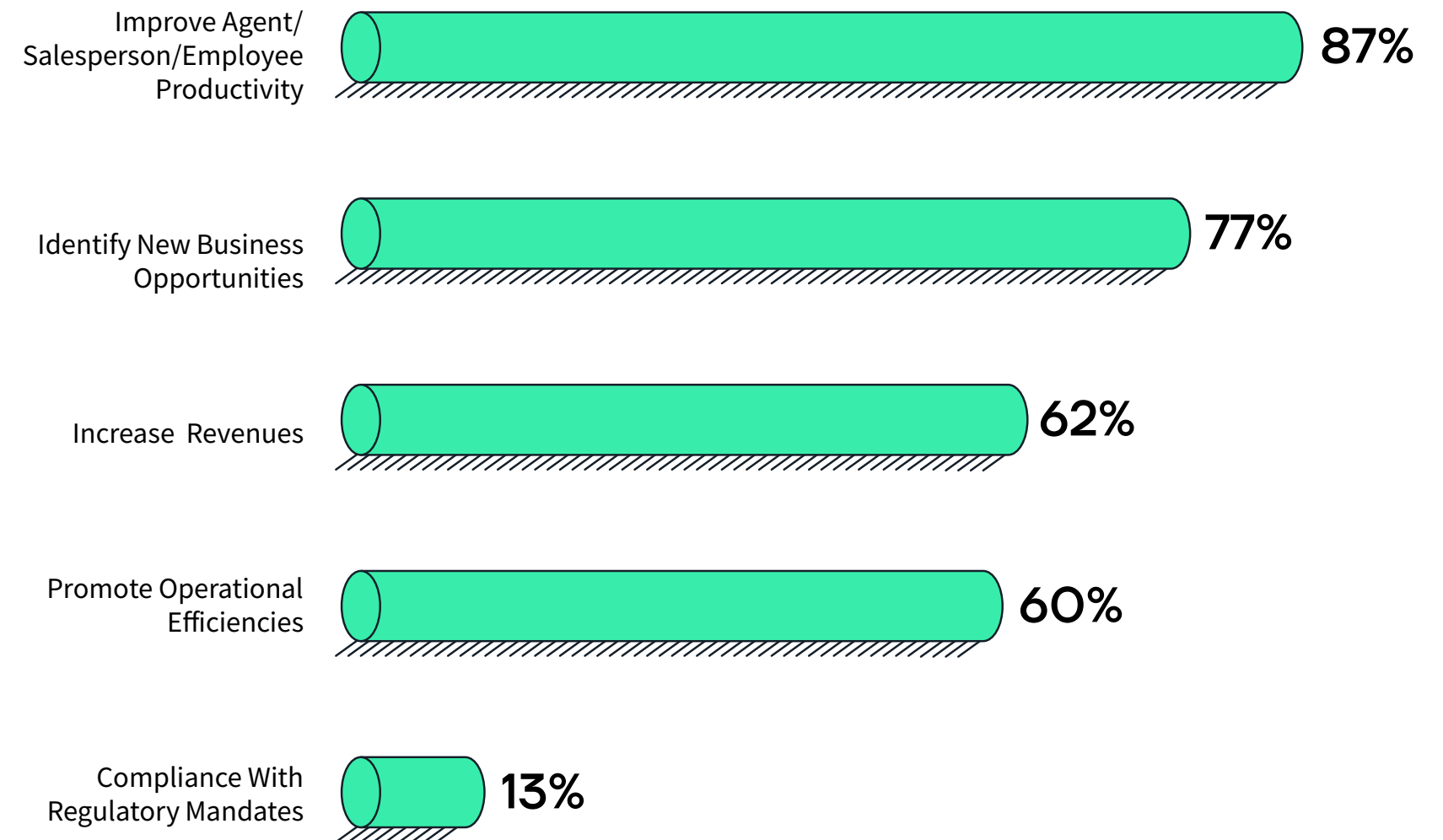


# Motivations for Adopting Voice Technology

While there's a clear differentiation between which departments are using voice tech and which aren't, the reasons that organizations have decided to adopt it are more consistent. Improving productivity (87%) and identifying new business opportunities (77%) are at the top of most people's lists, with increasing revenues (62%) and promoting efficiencies (60%) not far behind.

As we saw above with which departments are using voice tech, compliance is lagging behind other motivations. The result is especially surprising given that, in last year's report, compliance was one of the top two or three use cases across all industries. This could be the result of companies implementing more voice technology for growth versus cost savings—or could simply be due to having more marketers represented in this year's sample.

## Why have you chosen to implement a voice-enabled solution in your organization?



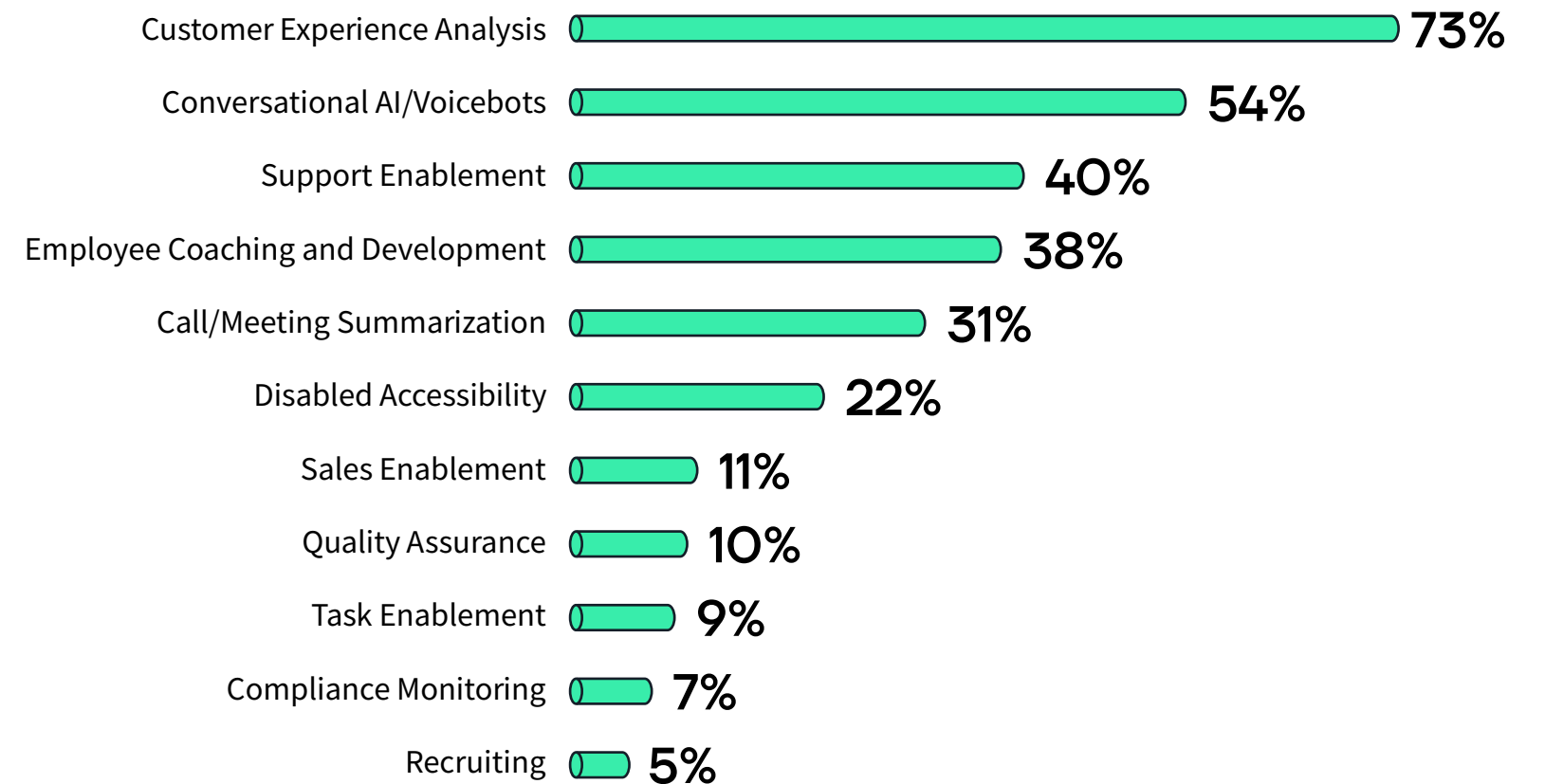
# Where Voice Technology Provides Bang for Buck

This year, we wanted to get more data on outcomes that companies are seeing from the use of speech technologies. Given the implementations of voice technology mentioned above, are companies seeing impactful outcomes? Customer experience analytics is by far the most impactful (73%), but conversational AI and voicebots aren't far behind (54%).

Other uses—including support enablement (40%), employee coaching & development (38%), call/meeting summarization (31%), and disabled accessibility (22%)—are seen as impactful by a minority of respondents, demonstrating how valuable those use cases can be, even if they aren't yet widespread.

The rest of the use cases—sales enablement (11%), quality assurance (10%), task enablement (9%), compliance monitoring (7%), and recruiting (5%)—are only seen as impactful by a small fraction of respondents. Here, too, we see room for growth; this list was derived based on use cases that we have seen be impactful for organizations, so this last group of use cases represents a strong opportunity for business to drive more revenue creation and cost savings with speech technology.

## What do you feel are the most impactful uses for speech technology?

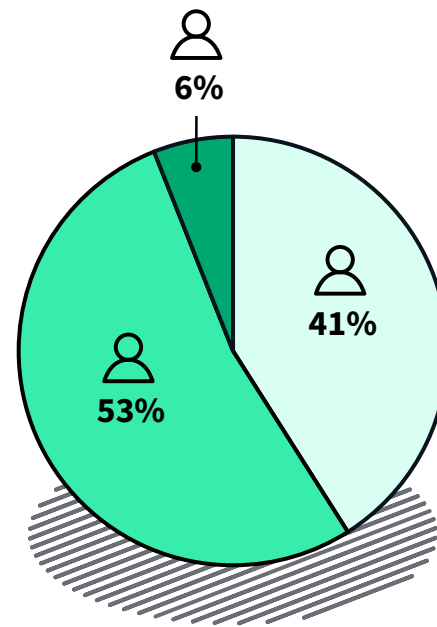




# Return on Investment

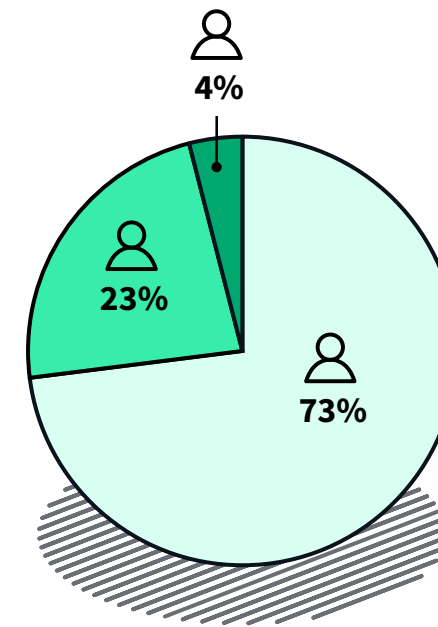
In addition to asking about impact, we also asked respondents to choose what percentage return they saw from their speech technology investments. The biggest return was from increasing productivity with a majority of respondents (71%) saying that they experienced a 26-50% increase in productivity from speech technology. The second biggest impact was increasing revenue, with 53% of respondents saying they experienced a 26-50% increase and 41% seeing a 1-25% increase. Although voice technology has been used for cost savings, the results show that the majority of respondents (73%) say they only saw 1-25% cost savings.

**Revenue Increase**



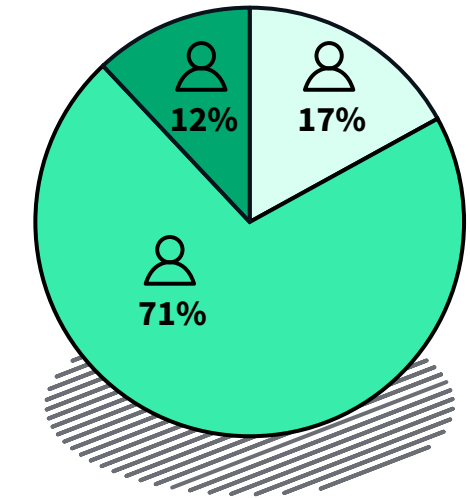
- 1-25% REVENUE
- 26-50% REVENUE
- 51-75% REVENUE

**Cost Savings**



- 1-25% SAVINGS
- 26-50% SAVINGS
- 51-75% SAVINGS

**Productivity Increase**



- 1-25% PRODUCTIVITY
- 26-50% PRODUCTIVITY
- 51-75% PRODUCTIVITY

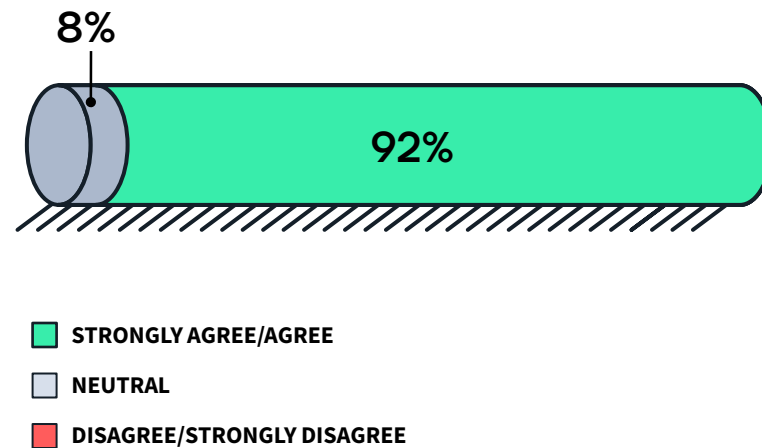
Overall, the numbers show there is real potential for voice technology in increasing productivity and revenue if used effectively, but that not everyone is doing so currently. As companies look at various projects and where to implement voice tech, these ROI numbers—paired with the impact results on the previous page—provide useful insight for decision makers.

# 02. Bias in Speech Technology

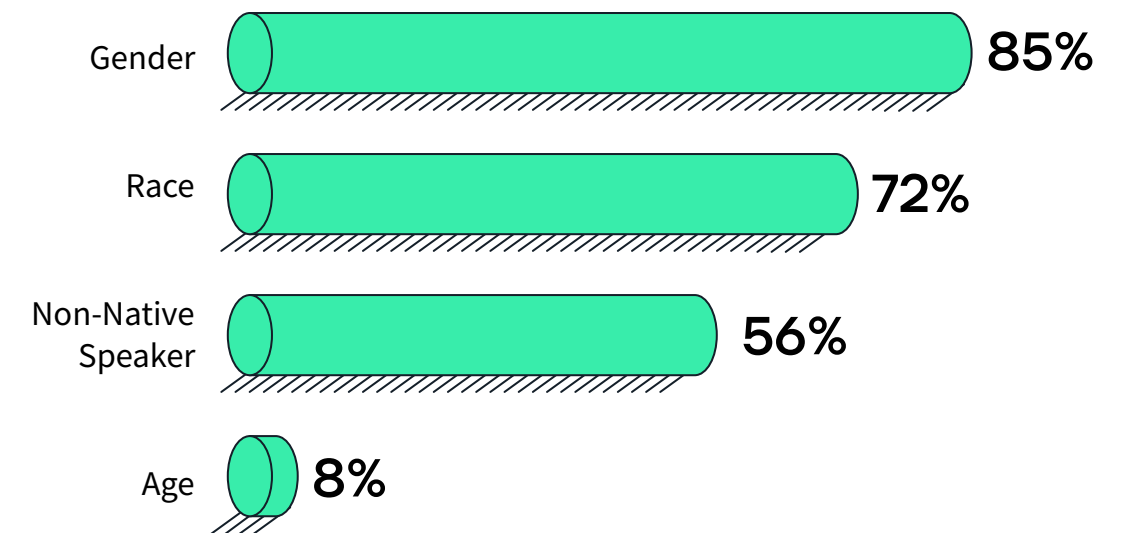
Bias in the domains of machine learning and artificial intelligence is a common point of discussion today, and for good reason—several high-profile cases of AI systems perpetuating systemic bias have been in the news of late. The characteristics of how we speak say a lot about who we are and how we identify, which makes voice tech bias a real concern.

It's clear that companies are aware of the potential impact that biased speech models could have on their customers, with 92% of respondents saying they agree or strongly agree that bias in speech technology has an impact on their customers. The biggest areas of concern in speech technology bias were gender, race, and non-native accents, with age being far less of a concern.

**How strongly do you agree with the statement that “Speech technology bias has an important impact on my customers”?**



**What kind of bias concerns you?**



When implementing speech technology, we need to be mindful and observant of the ways that our implementations could disenfranchise some target customers and lower revenues. Asking speech technology providers how they are combating bias in their solutions is a good place to start, as well as testing solutions with a diverse customer base.

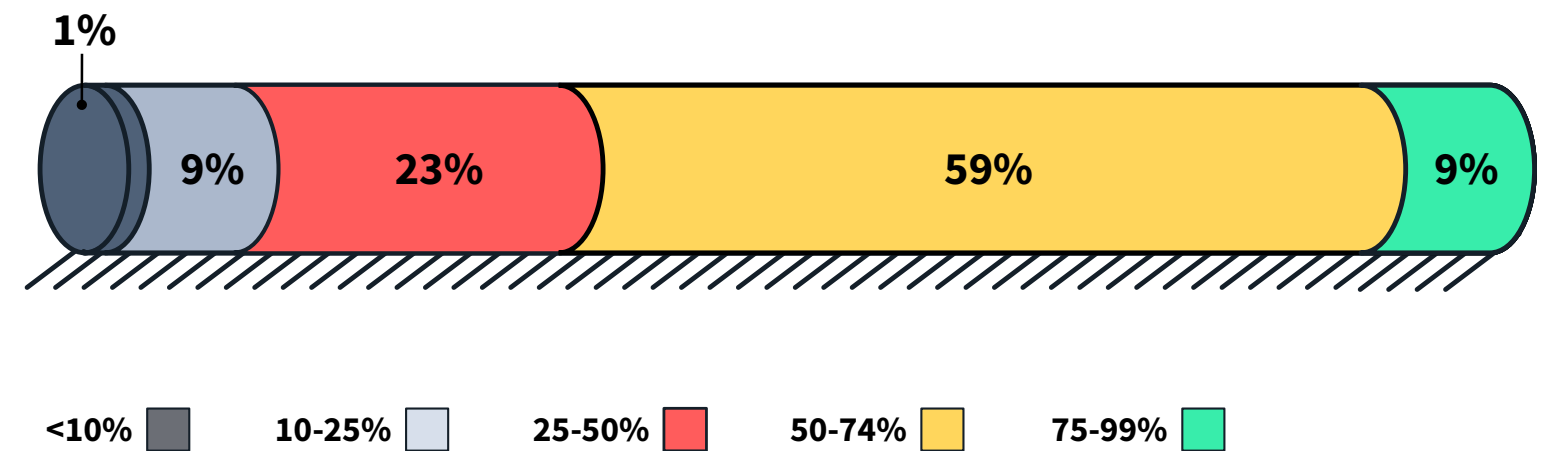
# 03. Looking Ahead

So what are users of voice tech expecting to see in the coming years? In short: significant growth in both how effectively companies are using the voice technology that they have, as well as how important they think speech tech is going to be for their future strategies.

## Room for Improvement

One area that was of particular note from respondents was how little of their audio they believe is currently being properly utilized. 59% of respondents think they're using 50-75% of their audio correctly, while only 9% thought they were using 75-99%. And companies are often able to use even more data than they expect, so it's possible that these figures are underestimated.

**What percentage of your audio is being properly utilized?**



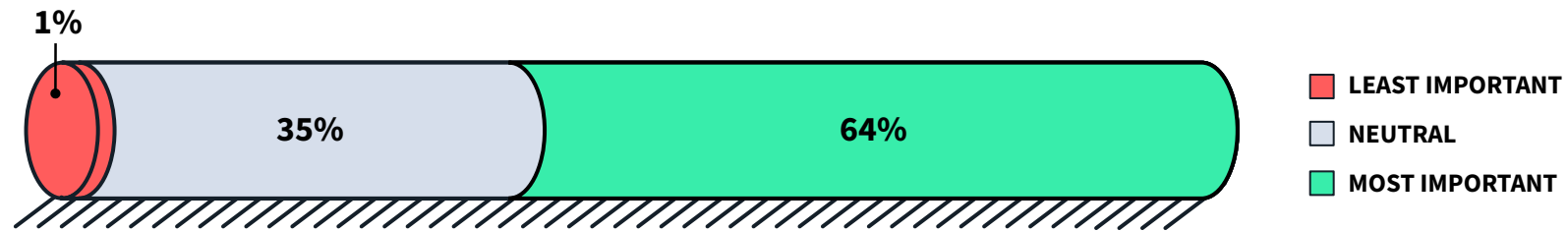
# Voice Tech Critical for the Future

Another interesting finding is just how important respondents think the future of voice technology is going to be for their enterprise. 64% of respondents expect speech tech to be one of the most important aspects of their future enterprise strategy. It's worth noting that the 64% number is quite a bit lower than last year, which was 85%. We think that difference is coming out of people not feeling as pressured by COVID to hustle as much as they were last year.<sup>1</sup> Additionally, only 1% of respondents said that voice tech wasn't important for the future, compared to 0% last year.

Taken together, we can say that although this year some respondents aren't feeling quite as gung-ho about voice adoption, there are still very few people who think that voice-enabled experiences won't be important for the future of their enterprises.

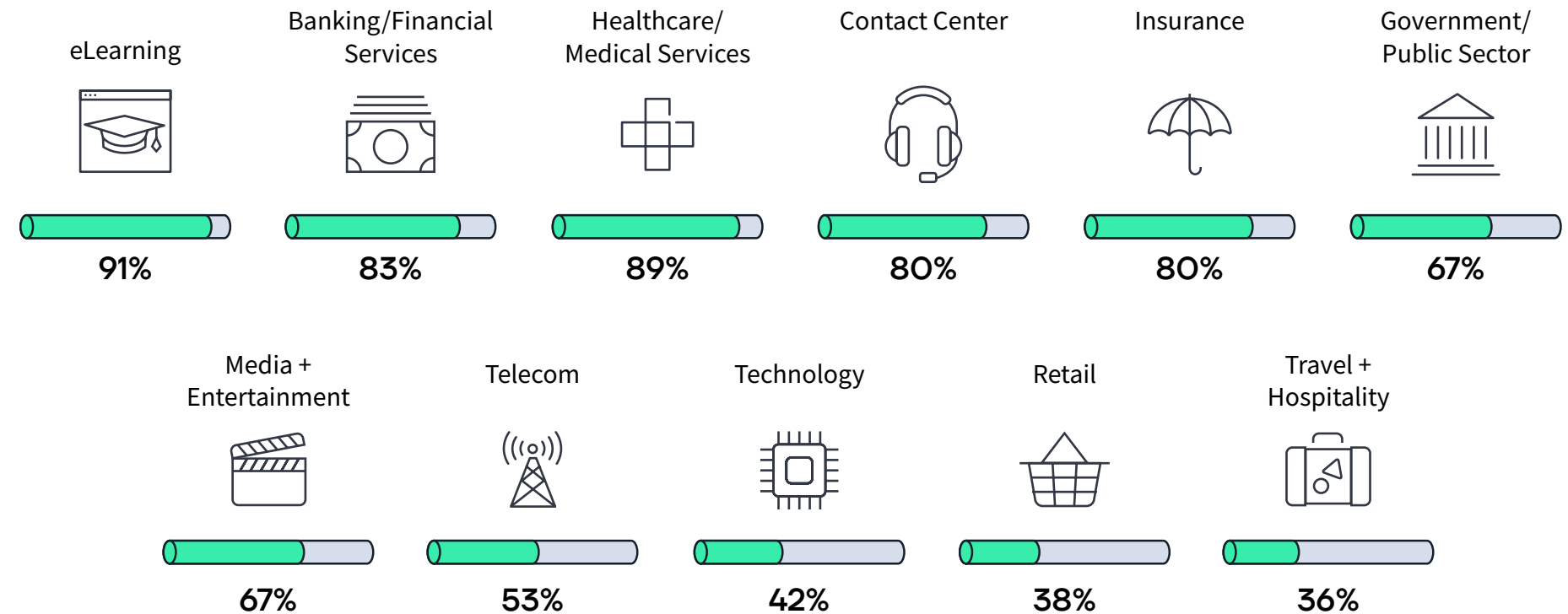
<sup>1</sup> All of the data for this report was gathered before the development of the Omicron variant, which might well have changed people's responses.

## How important do you think voice-enabled experiences are to the future of your company's enterprise strategy?



"Voice-enabled experiences" includes automated, self-service, and live agent assistance for customer-facing situations.

The spread among verticals in this case is pronounced. The verticals that attach the highest importance to customer support rank in the following order: contact center (91%), healthcare & medical (89%), and insurance (80%). More transactional verticals, like retail (38%) and travel & hospitality (36%), appear farther down the curve.

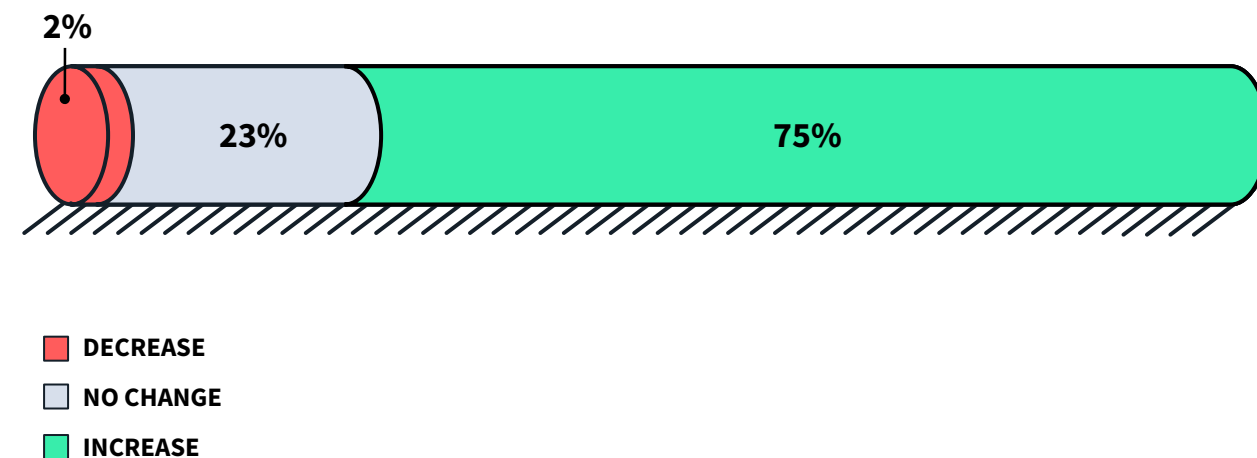


# Spending Outpaces Perceived Future Impact

Interestingly, regardless of where respondents ranked the importance of voice-enabled experiences for their future, a majority are increasing their spending on it, with 75% of respondents planning to increase their voice tech budgets in the next year. It seems that even some companies who said they were neutral on how important voice tech was going to be for their enterprise are still planning on investing in it. 75% is a slightly higher number than what we saw last year (73%), despite the decrease in views about future importance.

Taken together, the responses on this page and the previous one underscore just how much value and productivity are already being enhanced by the voice tech that's currently in place, given how many people consider it to be important for their future enterprise strategy, shown by both their direct responses and their increased spending on voice tech.

**Over the next 12 months do you expect to increase, decrease or keep your speech technology budget the same?**

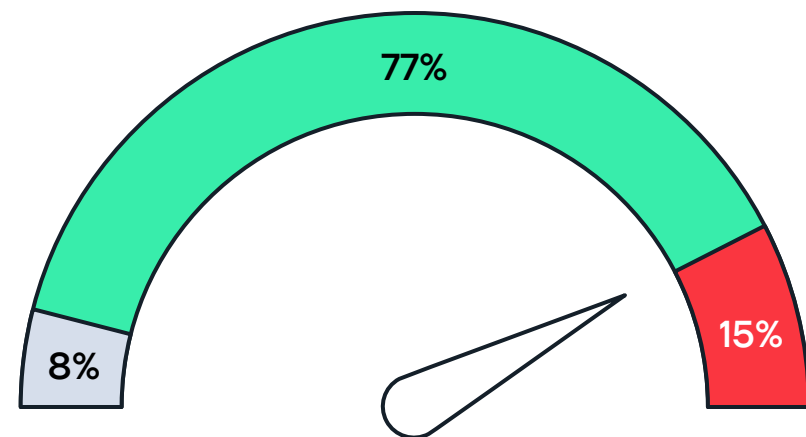


# When Will We See Widespread Adoption?

Motivated by improving customer experience, 15% think adoption of voice tech is happening now, and 77% think that mass implementation will occur within the next five years. Only 8% of respondents think this won't happen for at least five years.

## When will we see widespread use of voice-enabled experiences in business?

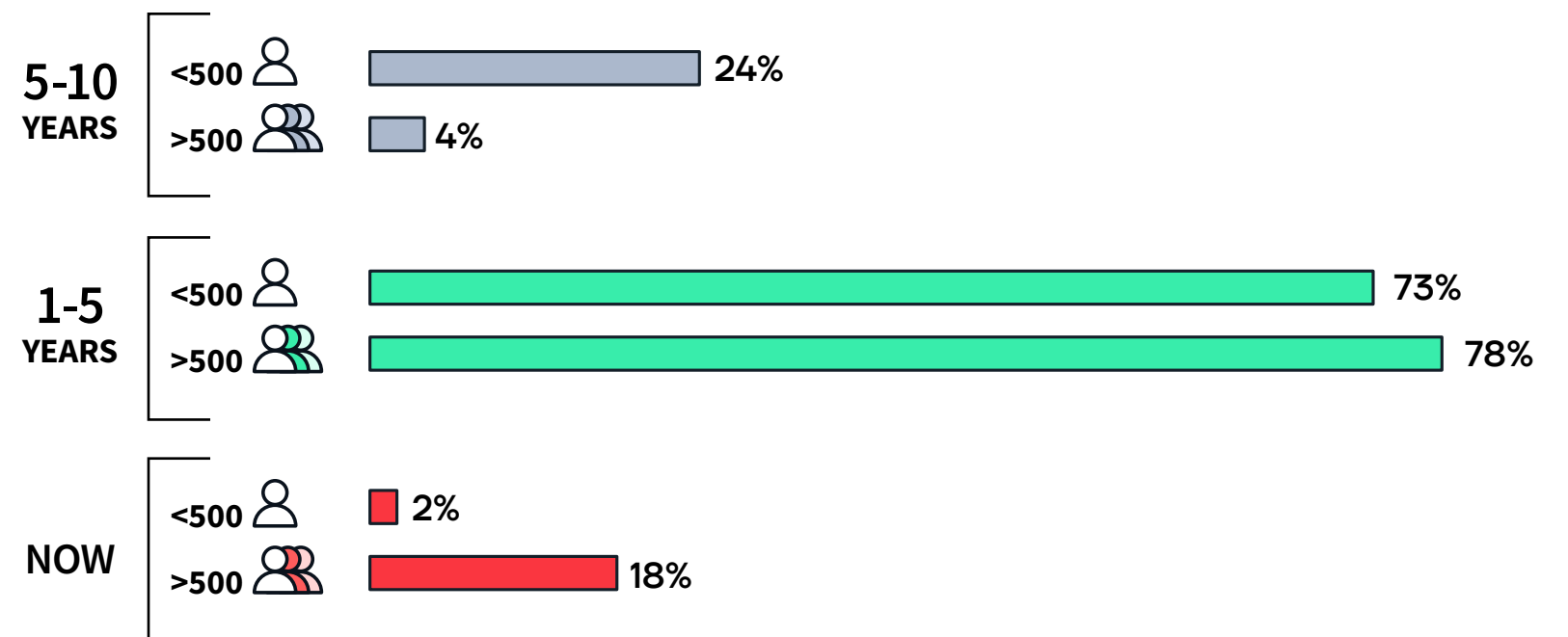
- 5-10 YEARS
- 1-5 YEARS
- NOW



Interestingly, smaller companies (those with less than 500 employees) were less likely to think that voice-enabled experiences are coming soon, with only 2% of respondents indicating that there is widespread use now, and 24% saying they don't expect it to happen within five years. Companies with more than 500 employees, however, show the opposite trend, with 18% indicating that widespread use of voice is happening now, and only 4% thinking it's more than five years away. It seems that larger companies might know something that smaller companies don't.

## When will we see widespread use of voice-enabled experiences in business?

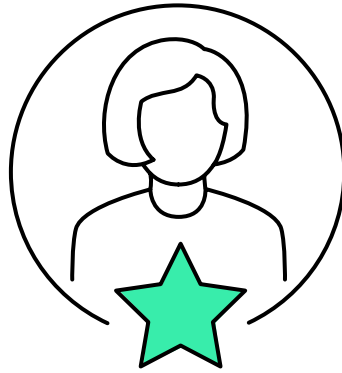
### BY COMPANY SIZE



# Key Takeaways

## #1

**Customer experience** is the number one reason to use voice technology.

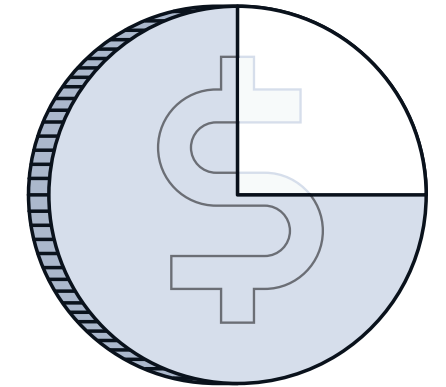


## ROI

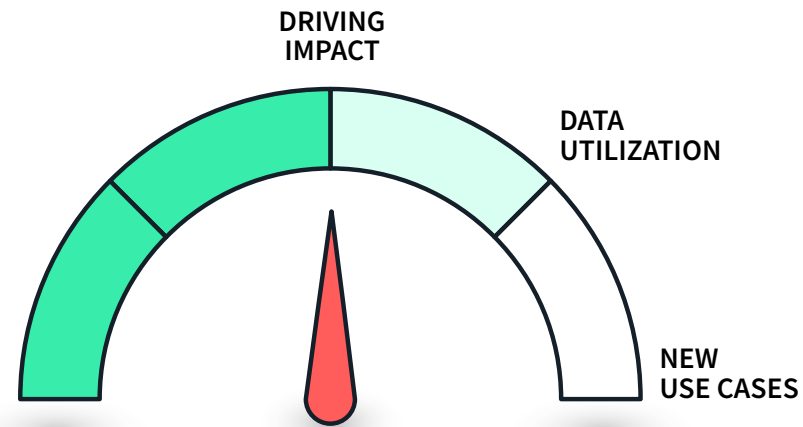
**Productivity gains and revenue increases** are the biggest ROI for voice technology.

## 75%

of respondents expect **to increase spending on speech technology solutions** in the next 12 months.



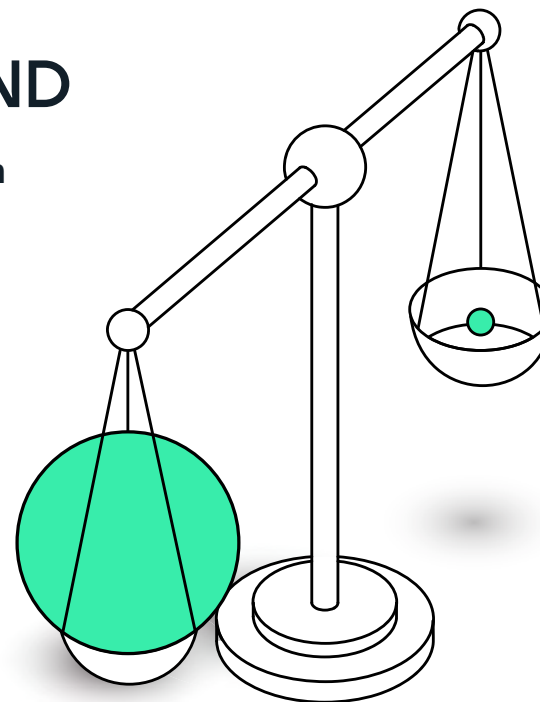
ROOM TO GROW



Voice technology is clearly driving impact for organizations, but there's **room to grow**, both in terms of **utilization of current data** and **exploring new use cases**.

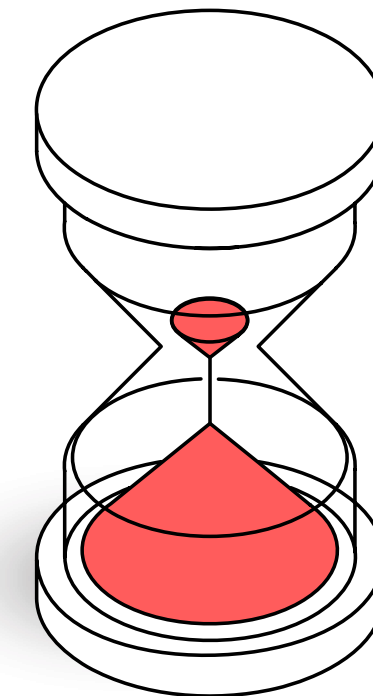
## TOP OF MIND

Bias in ASR is a concern for organizations, especially as it relates to **gender, race, and non-native accents**.



## 92%

of respondents thought that widespread use of voice-enabled experiences is **less than five years away**.



# Conclusion

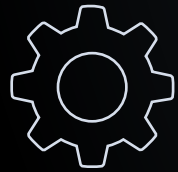
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So there you have it—the state of voice technology for businesses and enterprises at the start of 2022. Although improving customer experience is the current frontrunner for use cases, there’s plenty of potential for growth in other use cases and industries. And there are other tools, like sentiment analysis, that can be incorporated to further improve customer analytics. With spending increasing and a voice-enabled future on the horizon, it’s time to get serious about how you’re using voice technology.





# About the Report



## Methodology

Opus Research recently fielded a survey of 400 decision-makers seeking to identify, evaluate and quantify emerging trends for speech recognition technologies and related resources. The specific areas of interest are “speech-to-text” (STT) conversion, which captures and analyzes transcriptions of spoken words (Conversational Intelligence) which employs speech analytics or customized grammars to support understanding or recognition of the meaning or intents of your company’s employees or customers. The 400 respondents represented eight vertical industries (Banking / Financial Services, Contact Center, Government / Public Sector, Healthcare / Medical Services, Insurance, Retail, Telecom, Travel & Hospitality, Media & Entertainment) with decision-making roles across varied business units.



## About Opus Research

Opus Research is a diversified advisory and analysis firm providing critical insight on software and services that supports digital transformation. They are focused on the merging of intelligent assistance, NLU, machine learning, conversational AI, conversational intelligence, intelligent authentication, service automation and digital commerce. To learn more visit [OpusResearch.net](https://OpusResearch.net).



## About Deepgram

Better voice experiences start with better speech-to-text. Deepgram is the first and only end-to-end, AI speech recognition platform that delivers insanely fast, actually usable transcriptions, with practically zero lag. That means your voice applications can be both scalable and more human. We take the heavy lifting out of noisy, multi-speaker, hard-to-understand audio transcription, so you can focus on what you do best. To learn more visit [deepgram.com](https://deepgram.com), [create a free account](#) or [Contact us](#) to get started.