Perceptions on Automated Interpreting

Results of a Large-Scale Study of End-Users, Requestors, and Providers of Interpreting Services and Technology

Study Conducted on Behalf of the Interpreting SAFE-AI Task Force

February 2024

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Contents

List of Tables

Overview

> *"AI is poised to change the way we work and communicate. Looking at ways we can harness the best of AI, while mitigating its substantial risks, requires all stakeholder groups involved in language and communication access, including end-users, to come together to create guidelines for safe, ethical, and responsible adoption of this new technology." [Ludmila Golovine, President and CEO of MasterWord Services]*

In May 2023, 11 recognized figures in the world of interpreting in the US identified the need for an organization to advocate for fair and ethical use of AI in interpreting. This original founding group recruited volunteers to organize and lead the effort. By August 2023, the Interpreting SAFE-AI Task Force was formed.

The Interpreting SAFE-AI Task Force was designed as a diverse group of industry stakeholders, with the mission to establish, disseminate, and promote guidelines for responsible AI adoption in the field, ensuring the technology's benefits are maximized while minimizing potential risks. The group strives to ensure that the evolution of AI in interpreting is guided by a comprehensive, inclusive, and ethically sound approach.

The Interpreting SAFE-AI Task Force commissioned independent market research company CSA Research to develop, run, and analyze a large-scale perception study of end-users, requestors, and providers of interpreting services and technology. The goal of the study was to capture current perceptions about spoken and signed AI for interpreting, with a focus on the US market.

The purpose of this research is not to defend the commercial interests of technology vendors or service providers, nor is it about safeguarding employment potential for language professionals. The mission is to identify what is best for end-users of interpreting services, with a nuanced view that varies by scenario.

> **Note:** *To simplify matters, we will use the term artificial intelligence (AI) even if the technology behind automated processes does not technically qualify as artificial intelligence. For example, by some definitions, rule-based or statistical machine translation (MT) is not AI-based, while neural MT is. We also do not take a position on whether the technologies called AI are actually intelligent or not. For study respondents*

less familiar with the technology available for interpreting, we refer to AI as automated interpreting to reduce confusion.

What This Report Covers

This report is divided into 16 chapters and an appendix:

- **Tips to Read This Report.** Some figures contain up to 100 datapoints. We provide an overview of how to read the graphics and how to examine respondent quotes.

- **Respondent Profile.** We provide detailed data on who participated in the study.

- **The Context for the Research.** This topic is rich with history and depth that extends beyond the questions in our survey. This section contextualizes the backdrop for the research.

- **Overview of Automated Solutions.** This chapter presents a high-level explanation of the technology used to automate speech-related outputs. It is targeted at those less familiar with the software types.

- **Experience Using Automated Solutions.** We present data on respondents' levels of experience with automated solutions.

- **Quality of Automated Solutions.** We examine the thoughts on quality of those who have either used or tested automated interpreting. We also cover perceptions about accuracy for simple versus complex conversations and the impact of access to a human for escalation.

- **Perceptions about Automated Interpreting.** This chapter details views on a series of statements we gave respondents to gauge their attitude toward automated solutions.

- **Advantages of Automated Solutions.** We share feedback on what respondents perceive as benefits.

- **Drawbacks to Automated Solutions.** We inventory the downside aspects and negative outcomes respondents fear when using AI.

- **Usage Scenarios – The End-User Perspective.** We start by examining respondents' trust levels for different sources of interpreting and then explore the suitability of AI solutions for six conversation types.

- **Usage Scenarios – The Requestor and Provider Perspectives.** Our analysis dives much deeper with requestors and providers through a total of 58 use case scenarios across 11 common interpreting areas: general, business, client service, conferences and tradeshows, diplomacy and international politics, education, emergency services, health care, law enforcement and legal, military and intelligence, and social services.

- **Decision Criteria for When to Use AI.** We analyze feedback on the importance of 11 criteria when determining whether to use automated solutions. We also share requestors' plans regarding their anticipated use of AI.

- **Procurement Teams' AI Plans.** We relay intentions for the next 12 months from procurement specialists who participated in this research.

- **What It Would Take to Increase Trust in AI.** We synthesize respondents' comments on features, functionality, and implementation approaches that would help increase buy-in.

- **Conclusions.** We summarize perspectives collected throughout the report.

- **Recommendations.** We conclude the report with recommendations for the Interpreting SAFE-AI Task Force as well as requestors, service providers, and technology vendors.

- **Use Case Appendix.** We provide 58 graphics with experience, location, and role details for each of the requestor and provider use cases.

   Note: *For a summary of the whole report, consult "Summary of 'Perceptions on Automated Interpreting'." © CSA Research.*

Why This Research Matters

This study represents a significant step towards an inclusive and comprehensive discourse on the role of AI in language services. It seeks to identify and understand diverse perspectives on AI's impact in human communication and language access from those who rely on spoken or signed language interpreters in health care, government, education, courts, and for access to other critical services. The findings are intended to help the Task Force assess the state of acceptance in the market and expectations from the various stakeholder groups.

> *"We are at a pivotal moment in the language technology domain where the chatter about the advancements in AI seems to be overwhelming. This survey is critical to defining a reasonable path to make real-time interpretation – both AI-powered and human – more reliable, dependable, and available in a safe, ethical, and effective way." [Lakshman Rathnam, CEO of Wordly]*

> *"The Interpreting SAFE-AI Perception Survey is a significant step towards a more accessible and fair judicial process where AI is integrated ethically and in a way that safely increases meaningful access to individuals with limited English proficiency." [David Svoboda, Access Coordinator for the Arizona Supreme Court, and a Federally Certified Court Interpreter]*

> *"This survey is an effort to explore assumptions and expectations about AI in human communication. We need to understand the full potential impact on language access of AI while ensuring we protect the most underserved individuals." [Mara Youdelman, Managing Director of Federal Advocacy, National Health Law Program's Washington, DC offices]*

Scope and Limitations

Ultimately, the Interpreting SAFE-AI Task Force seeks to establish guidelines for the responsible adoption of AI. Given the absence of previous research and the enormous breadth of the topic, we acknowledge four limitations in the scope of this research:

- **Interpreting-centric.** This preliminary study focuses on language interpretation. The Task Force is interested in later capturing similar perspectives regarding

transcription, captioning, and subtitling as these automated solutions rely on the same technology backbone.

- **Spoken language.** The original intent was to also capture perceptions about both signed and spoken languages. However, the end-user portion of the study ended up focusing on interpreting in general. An independent "Advisory Group on AI and Sign Language Interpreting" was formed to examine aspects specific to automated interpreting into sign languages and its effects in the Deaf community. This group published its results at https://safeaitf.org/deafsafeai/ as a supplement to this report.

- **US-focused.** The Task Force chose to primarily target respondents in the United States due to the group realizing it couldn't handle the scope of a larger-scale study. While we graph responses for in the US versus outside the US, we didn't capture the same depth of data for the latter geographies. Separate research will be necessary to capture viewpoints for other countries or regions.

- **More work to be done.** This report focuses on capturing current perceptions regarding the use of AI in interpreting. On their own, the findings of this report are not sufficient to develop guidelines. Further research will be required by use case scenario and industry to establish a strong framework – research that would involve in-depth interviews with consumers and technology vendors and hands-on experience with the systems. However, documenting the perceptions of the various constituencies is an important first stage of data collection that will enrich follow-on studies.

Information Sources

This report is based on surveys conducted in November 2023 to January 2024 with end-users, requestors, and providers of interpreting services and technology (Figure 1).

Figure 1: Survey Overview

Survey Overview

2 surveys
with one focusing on end-users and the other on requestors and providers of language services and technology

118 datapoints collected
drilling down into topics such as demographic details, experiences, perceptions, and use cases

10 languages
were available in the end-user survey for respondents to pick a comfortable language for them
(English, Arabic, Chinese (Simplified), French, Korean, Portuguese, Russian, Spanish, Tagalog, and Vietnamese)

9% of end-users
took the survey in a language other than English

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- **Surveys.** The study relied on two core surveys. The first was for end-users who utilize interpreting services (such as doctors and patients). The second asked customized questions of requestors – meaning the clients who buy the service – and providers, including language service providers (LSPs) and technology vendors.

- **Audiences.** The survey targeted 10 roles (Table 1). Each subset of respondents was presented with a different set of questions, customized to its profile. For demographic and background details on participants, see the Respondent Profile chapter.

Table 1: 10 Target Audiences

Surveys	Which Survey?
Service recipient (such as healthcare patient, trial witness, legal guardian, parent, refugee, conference attendee)	End-user survey
Frontline professional (such as doctor, lawyer, teacher, social worker, police officer, conference speaker, call center agent, soldier in the field)	
Purchaser of language services (such as department manager, procurement)	Requestor and provider survey
Language service requestor (such as scheduler, project manager, conference organizer)	
Language service provider (interpreting companies)	
Language professional (spoken or signed language interpreters)	
Interpreter trainer (such as translation or interpreting training programs)	
Professional associations representing language professionals	
Policy makers	
Language technology company	

Source: CSA Research

- **Translations.** For requestors and providers, we presented the survey in English. However, to meet the Task Force's commitment to embracing a wide array of voices and experiences from direct consumers of interpreting services, we translated the end-user survey into nine languages chosen by the Task Force founding members based on their relevance for the United States: Arabic, French, Korean, Portuguese, Russian, Simplified Chinese, Spanish, Tagalog, and Vietnamese.

- **Use case focus.** The Task Force realizes the importance of customizing guidelines for each sector – some audiences may embrace or reject AI more than others. In the end-user survey, we asked generic questions focused on conversation type. In the requestor and provider survey, we dove deeper into a series of 11 common areas where interpreting services are used. To reduce the survey burden for respondents who deal with a broad variety of interpreting scenarios, we limited them to a maximum of five domains beyond the general category.

> *Note:* *The 11 areas presented in the requestor and provider survey were (starting with general and then listing areas in alphabetical order): General, business, client service, conferences and tradeshows, diplomatic and international political settings, education, emergency services, health care, law enforcement and legal, military and intelligence, and social services.*

Note: *Use cases abound beyond those selected by the task force, ranging from personal conversations to travel and leisure, gaming, or international tournaments.*

- **Incentive.** Participants were offered the opportunity to receive a copy of this report as an incentive for responding to the survey. Respondents who provided their email address will also receive an invitation to attend a webinar during which we'll present the biggest takeaways.

Thank You

CSA Research wants to thank the people and organizations who donated time or resources to scope, fund, test, and translate the survey. Special thanks go to:

- **Financial donors.** Akorbi, AMN Healthcare, Boostlingo, Certified Languages International, Cesco Linguistic Services, Cross-Cultural Communications, Lango, LanguageLine Solutions, MasterWord Services, National Council on Interpreting in Health Care (NCIHC), Piedmont Global Language Solutions (PGLS), Sorenson Communications, The Language Group, Translation Station, Universal Language Services, and WP Rivers Associates all made financial contributions to fund the research effort. Their donations were essential to launch the caliber of the study that the Interpreting SAFE-AI Task Force required.

Note: *Donors did not influence or take part in the design of the survey. Employees of donor companies were not allowed to join the survey design or the survey analysis committees.*

> *"AI devoid of accountability and fraud prevention protocols could have detrimental effects to the safety of patients and consumers. We commend innovation and productivity, but firmly believe that AI can only be truly beneficial when accompanied by stringent guidelines. For these reasons, Akorbi is proud to*

endorse this study aimed at comprehending the profound impact of this technology on our future." [Claudia Mirza, CEO and Co-Founder of Akorbi]

"Utilizing AI in health care to facilitate greater language access points can significantly enhance patient engagement throughout the healthcare journey. By leveraging AI tools responsibly and safely, healthcare providers can forge a path toward personalized medicine, crafting treatment plans that cater to individual needs and demographics. This approach not only fosters a deeper level of patient involvement but also sets the stage for more inclusive and accessible healthcare experiences." [Jacobia Solomon, President, Language Services at AMN Healthcare]

"AI's swift evolution is reshaping many areas of the language industry, prompting questions among language agencies and language professionals about its impact. As a leading technology provider in language interpreting, Boostlingo felt it would be important to support this groundbreaking CSA Research perception survey. Focused on AI's influence on language interpreting, the survey aims to enlighten industry stakeholders, offering valuable insights that will provide a foundation to build best practices and safety guidelines that are currently missing." [Bryan Forrester, CEO of Boostlingo]

"CLI is committed to supporting this research, which is essential to shaping best practices and ensuring that AI is used responsibly to advance communication for non-English speakers. We're excited about the opportunities that AI presents to improve efficiencies and to enhance — rather than replace — the human connection in interpreting." [Kristin Quinlan, CEO of Certified Languages International]

"The investigation of AI interpreting use cases is crucial in fostering responsible and effective implementation of artificial intelligence. This research is critical to identify ethical considerations and limitations to the use of AI in interpreting to ensure appropriate language support. SAFE-AI is paving the way for AI interpreting to be used in a safe and responsible manner while identifying the areas in which human interpretation is still required." [Giovanna Carriero-Contreras, Founder of Cesco Linguistic Services]

"Cross-Cultural Communications (CCC) has been at the forefront of interpreter training and language access since 2001. The SAFE-AI Perceptions Survey Report is integral to understanding how interpreter training and language access should evolve to address the changing needs of all interpreters and stakeholders." [John Arroyave, Director at Cross-Cultural Communications, LLC]

"Lango decided to support the SAFE AI initiative, because we believe having industry-wide guidelines for responsible adoption of AI will be useful as we actively implement AI with our internal team, vendors and customers." [Josh Daneshforooz, CEO of Lango]

"The power of human communication lies in nuance that can never be fully replicated by machines. However, it's essential to foster an inclusive discussion on AI. The Interpreting SAFE-AI Survey and report ensure the voices of interpreters, those who rely on their services, and the clients we serve are heard." [Scott W. Klein, President and CEO of LanguageLine Solutions]

"It is important to keep in mind that English and European languages dominate generative AI (GenAI) training data, and that the majority of other languages remain vastly underrepresented, leaving almost 4.7 billion people behind, and creating openings for discrimination and biases, as well as highlighting disparities in digital access and literacy. This research is the critical first step towards responsible adoption of this new technology by our industry and broadening access to opportunities and crucial services across health care, education, and government for speakers of all languages." [Ludmila Golovine, President and CEO of MasterWord Services]

"Being unprepared for the deployment of AI is simply not an option. As a leading organization in health care interpreting, NCIHC is proud to be a part of the SAFE AI initiative. We are dedicated to working towards harnessing the full potential of AI while effectively managing any potential risks." [Carla Fogaren, President at the National Council on Interpreting in Health Care]

"PGLS is committed to advancing AI responsibly in the language access field. AI in interpreting is exciting and adds value. Nevertheless, it is an amplifier and

accelerator, not a replacement for Humans. Expert oversight will ensure the expansion and adoption occur without harm to LEP individuals, families, and the greater communities who benefit from the service. We support the Interpreting SAFE-AI Task Force's objectives to set best practices and establish, disseminate, and promote industry-wide guidelines to ensure the use of AI in language interpreting is safe while acknowledging its limitations." [Mohamed Hussein, President and CEO of Piedmont Global Language Solutions]

"At Sorenson, we embrace the transformative power of technology to advance communication. We are committed to ethical guidelines for the use and deployment of artificial intelligence. We believe AI has the potential to elevate accessibility and pioneer a new era in communication for the Deaf and Hard-of-Hearing." [Wayne Kennedy, Senior Director of Mergers, Integration, and Strategy at Sorenson Communications]

"As technology advances at ever increasing rates, it is important that industry leaders come together to ensure these technological advancements are used responsibly. The SAFE-AI Task Force consists of some of the brightest minds in our industry with the goal of preserving and enhancing this wonderful profession of language services. I am grateful to support this initiative." [Giovanni Donatelli, Managing Partner of The Language Group]

"In the critical sectors that we serve, such as medical and legal, exploring safe AI use in interpretation is imperative. We contributed because we will achieve better outcomes by pooling resources and collaborating on this very important research. We are grateful to those who are leading this effort." [Lindsey Cambardella, JD, Chief Executive Officer at Translation Station]

"Our partnership with the Interpreting SAFE-AI Task Force is important because it provides a platform to advocate for the creation of responsible regulation and safeguards, paving the way for a secure and ethical landscape that benefits our community and humanity. Together, we'll shape a linguistic future with the highest standard of safety and trust." [Elena Vasiliev, CEO of Universal Language Service, Inc.]

> *"This groundbreaking survey will inform not only the SAFE-AI Task Force, but lawmakers and regulators in the US and globally as they consider how to regulate AI in interpreting." [William P. Rivers, Ph.D., Principal at WP Rivers & Associates]*

- **The founding group.** The perception survey was the brainchild of the initial 11 members who set up the Task Force. They spent hundreds of hours to set the study in motion and rally key stakeholders – from varied backgrounds and with differing viewpoints – to conceive a study that could serve as the linchpin for further focused studies.

  Note: Founding group members include: Katharine Allen, Carla Fogaren, M. Cody Francisco, Ludmila Golovine, Winnie Heh, Eliana Lobo, Dr. Alan Melby, Natalya Mytareva, Hélène Pielmeier, Dr. Bill Rivers, and Barry Slaughter Olsen.

- **The Task Force.** The Task Force expanded beyond the original founding group to enable committees of volunteers to take over marketing the survey, recruiting respondents, and providing feedback on the process. These volunteers were crucial to reaching the level of responses achieved.

- **Organizations who spread the survey invitation.** There are too many great people, associations, and companies who responded to the call to promote the survey to list them all. When you read this report, know that you helped us reach representative samples, which are critical for delivering high-quality research.

Chapter 1
Tips to Read This Report

This report contains 137 graphics with a total of 9,400 datapoints. Some of these graphics are densely populated with data and labels, so this chapter provides a quick guide to help you understand and analyze what you are looking at (Figure 2). We also provide guidance on reviewing quotes in this report.

Figure 2: Sample Graphic

Elements of Graphics in This Report

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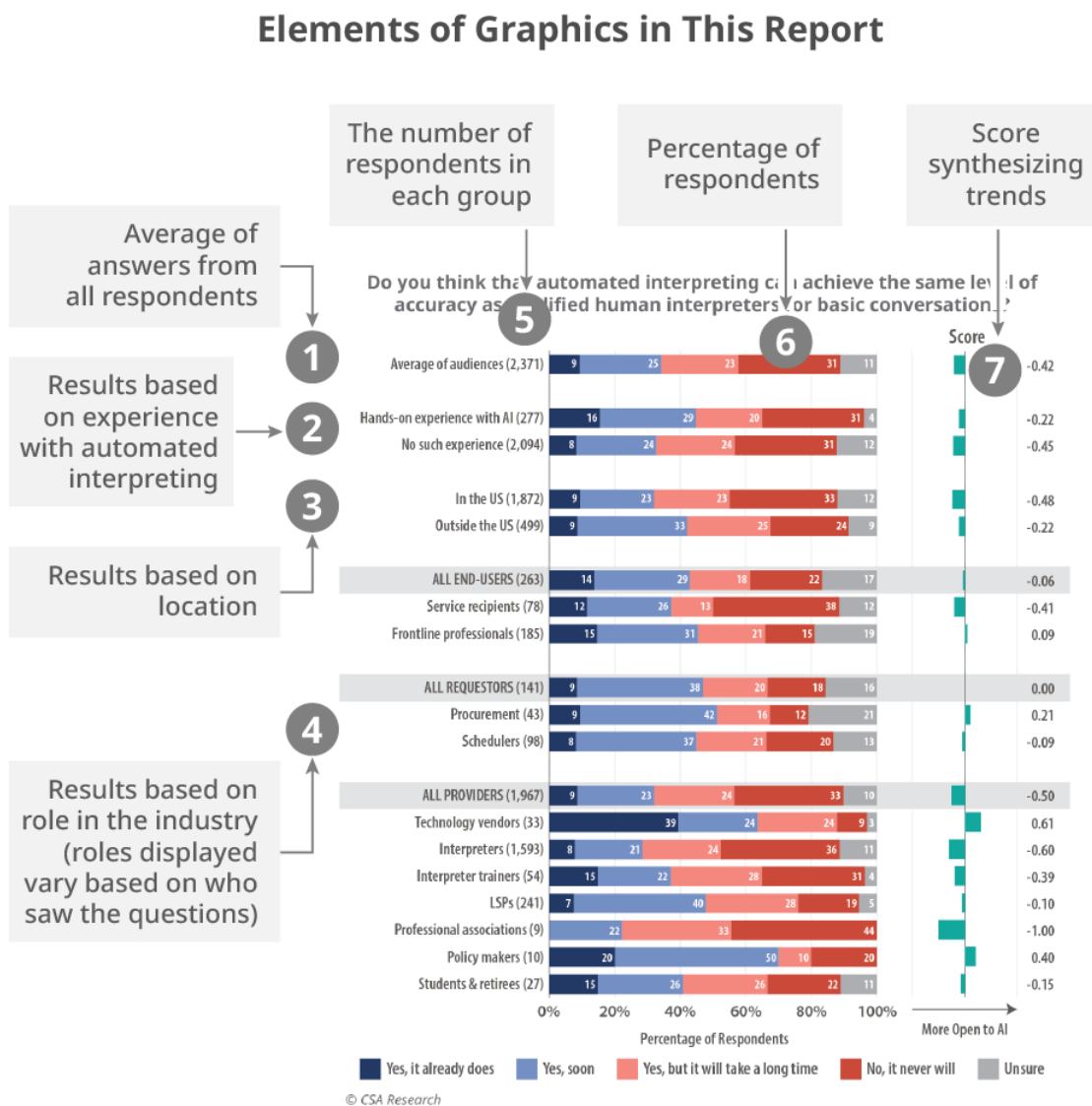
The Groups Who Are Represented

The bulk of the graphics in this report contain the following elements:

- **Average of audiences:** This represents the answers from all respondents to the study, no matter which profile.

- **Hands-on experience with AI:** We sorted responses into two groups – those who had used or tested automated spoken or signed solutions extensively or moderately versus those who barely or never touched them. This helps determine impressions based on first-hand experience versus those derived from hearsay and what appears in the media or industry forums.

- **Location:** As the Task Force focused its survey recruitment efforts on the United States, we contrast responses of those in the US from those outside the US.

- **Main role in the industry:** Graphs show only audiences who saw the question in their version of the survey. Each role was presented with different questions. Table 2 summarizes what each role represented.

Table 2: Roles Represented in the Graphics

Role	Examples
End-Users	
Service recipients	Healthcare patient, trial witness, refugee, legal guardian, parent, conference attendee
Frontline professionals	Physician, nurse, therapist, lawyer, teacher, social worker, police officer, conference speaker, call center agent, librarian, soldier in the field
Requestors	
Procurement	Department manager, procurement
Schedulers	Language service requestor, project manager, conference organizer
Providers	
Technology vendors	Language technology company
Interpreters	Spoken or signed language interpreter
Interpreter trainers	Educator of interpreters
LSPs	Language service provider, interpreting company
Professional associations	Association representing language professionals
Policy makers	Language policy maker
Students & retirees	Interpreting student, retired interpreter

Source: CSA Research

Sample Size

The number after each group represents the number of respondents in a particular group. CSA Research recommended 100 people minimum per group. However, there are counts much lower than that, even down to a single response per group. The Task Force chose to publish all data, no matter how small the group, to be as transparent as possible. Readers can determine for themselves the usefulness of each datapoint.

Caution: CSA Research recommends not basing decisions on response groups with low incidence rates because they are not representative samples. Follow-up studies are required to identify the real perception or trend in low-incidence groups.

Percentage of Respondents

To declutter busy graphics, we focused on the visual element of bar charts, which comes with some compromises:

- **We do not display percentage signs.** The axis name at the bottom of the graphic reminds you that values represent percentages of respondents.

- **We minimize the point size of percentages.** This helps the average reader who just wants to get a feel for answers without getting bogged down. Those who want to study a specific datapoint can open the electronic format of this report to easily zoom in.

  Note: Percentages may not add up to 100% due to rounding. Totals may range from 98% to 102%.

- **We do not list values lower than 3%.** Those small response rates make the graphics too hard to read. For any bar segment without a listed value, the value is either 1% or 2%.

Score

Because the bar charts don't easily tell the story, we calculated a score for each question which helps you better visualize how answers from each group compare.

February 2024
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Table 3 details how we computed each score. Higher scores indicate a more favorable attitude toward AI and lower scores a more conservative approach toward automated solutions.

> **Note:** *Because each question type has a different set of answer weights, direct comparison of scores is possible only within a question type. For example, a score of 0.53 for the "trust" questions may not be equal to a score of 0.53 for "thoughts on quality."*

Table 3: Score Calculation

Question Type	Answer Choices	Answer Weight	Relevant Figures
Used or tested AI	Yes, extensively	3	Figures 14-18
	Yes, somewhat	2	
	Yes, a little	1	
	No	0	
	Unsure	0	
Thoughts on quality	Excellent	2	Figures 21-25
	Good	1	
	Poor	-1	
	Unacceptable	-2	
	Unsure	0	
Human escalation option	No	-1	Figure 29
	Maybe	0	
	Yes, a little	1	
	Yes, a lot	2	
Ability to reach the same level of accuracy as humans	Yes, it already does	2	Figures 27-28
	Yes, soon	1	
	Yes, but it will take a long time	-1	
	No, it never will	-2	
	Unsure	0	
Agreements with statements in favor of or neutral about AI	Strongly agree	2	Figures 31, 32, 35, 37
	Agree	1	
	Disagree	-1	
	Strongly disagree	-2	
	Unsure	0	
Agreements with statements against AI	Strongly agree	-2	Figures 33, 34, 36, 38, 39
	Agree	-1	
	Disagree	1	
	Strongly disagree	2	
	Unsure	0	
Criteria to use AI	Major decision criterion	2	Figures 66-76
	Minor decision criterion	1	
	Not a criterion at all	-1	
	Unsure	0	
AI use cases	Totally suitable	2	Figures 48-53 and 80-137
	Mostly suitable	1	
	Occasionally suitable	-1	
	Never suitable	-2	
	Unsure	0	

Source: CSA Research

Respondent Quotes

In the free-text sections of the survey, we collected 3,400 comments amounting to more than 62,000 words – the equivalent of a novel. Throughout the report, you will find a vast number of quotes from respondents, marked with a grey bar on the left. We provide a broad variety of quotes to give a voice to respondents, some of whom wrote entire essays as free-text answers. Despite the seemingly long list, bear in mind these are just a representative selection of similar comments shared by survey takers. For example:

> *"I fear uninformed users will assume accuracy and not even request in-person services." [Scheduler in New York, moderate AI experience, finds results poor]*

We edited responses for spelling, grammar, emphasis, and profanity. We added the context of the question for incomplete sentences. We also truncated long citations and spelled out acronyms where necessary for comprehension.

To contextualize each quote, we display the primary role selected by the respondent, location (country or US state), degree of experience with AI, and perception of AI quality – when applicable. We remove the location identifier for association representatives, policy makers, and technology vendors to ensure their privacy due to the high level of visibility these individuals or products may have in the industry.

Note: All quotes from Georgia are from the US state, not the Eastern European country.

List of Acronyms

Table 4 includes a recap of the most commonly applied acronyms in this report.

Table 4: List of Acronyms Used in This Report

Acronym	Concept
AI	Artificial intelligence
ASL	American sign language
AST	Automated speech translation
CAI	Computer-aided interpreting
CART	Communication access real time translation
GenAI	Generative artificial intelligence
HIPAA	Health Insurance Portability and Accountability Act
IT	Information technology
LEP	Limited English proficiency
LLD	Language of limited diffusion
LOE	Language other than English
LOTE	Language other than English
LSP	Language service provider
MT	Machine translation
NLP	Natural language processing
OPI	Over-the-phone interpreting
PHI	Protected health information
QA	Quality assurance
RSI	Remote simultaneous interpreting
S2ST	Speech-to-speech translation
STT	Speech to text
TTS	Text to speech
VRI	Video remote interpreting
VRS	Video relay services

Source: CSA Research

Chapter 2
Respondent Profile

In this chapter, we detail who participated in the study (Figure 3) and how the Task Force contacted these individuals. Then we drill down into the profile of end-users, requestors, and providers.

> **Note:** *Table 2 summarizes the respondent profiles we targeted.*

The 2,543 respondents came from 82 countries. 79% live in one of 48 of the 50 US states (Alaska and Vermont were the only exceptions). The bulk of respondents (81%) were providers – 67% work as spoken and signed interpreters, followed by 10% employed at language service providers. The balance of provider responses came from more specialized roles – interpreter trainers (2%) and technology vendors (1%), with the remaining approximately 1% made up of representatives of interpreter associations, policy makers, students, and retirees. The respondent population included procurement specialists (2%), buy-side schedulers (4%), frontline professionals (8%), and service recipients (4%).

Figure 3: Profile of Respondents to the Perception Surveys

Profile of Respondents to the Perception Surveys

2,543 People participated in the survey

82 Countries represented

48 US States represented

Northern Europe **8**

Eastern Europe **23**

Western Europe **93**

Southern Europe **44**

North America **2,109**

Asia-Pacific **83**

Africa **40**

Latin America and the Caribbean **143**

79% of respondents were based in the US

Interpreters	**67%**	
Language service providers	**10%**	**81%** Providers
Interpreter trainers	**2%**	
Technology vendors	**1%**	
Others	**1%**	
Schedulers	**4%**	**6%** Requestors
Procurement	**2%**	
Frontline professionals	**8%**	**12%** End-users
Service recipients	**4%**	

11% of respondents have already tested or used AI either moderately or extensively

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Survey Recruitment

The Task Force executed a massive email campaign through its members, interpreter and LSP associations, and a wealth of stakeholders who saw value in the research. Social media delivered many posts – including videos – encouraging people to participate in the survey and to forward it to others. Grassroots efforts also included volunteers who reached out to end-users in person and provided devices and assistance to fill out the survey.

The goal was to target a minimum of 100 responses from each audience (end-users, language professionals, schedulers, technology vendors) and area of interest – e.g., 100 language professionals who work in health care, or 100 language professionals who deliver sign language, or 100 language professionals in Europe. You will see that response targets were not met for all groups. This stems from several core issues:

- **The grassroots nature of the project.** The recruitment relied on each Task Force member and each interpreter to promote the survey to their own networks. While interpreters answered en masse, insufficient numbers of providers took the time to forward compelling invitations to their clients about why the latter's voice and opinions mattered.

- **Lack of distribution channels to reach end-users.** The Task Force members felt most comfortable contacting providers of interpreting services. It proved challenging to develop target lists and volunteer power to advertise the survey to a larger audience. However, volunteers did reach out to hundreds of organizations to help promote the survey.

- **Feeling of inadequacy to respond to the study.** Many people who were invited likely felt they didn't know enough about automated solutions to contribute to the research. Automated interpreting is a hot topic for the language industry, but not yet necessarily for end-users or requestors, who may not even be aware of its existence.

- **Fear of retaliation.** We suspect that some end-users were nervous about providing feedback because they worried about the potential impact on the services they receive now or that they may receive in the future.

- **Technology disparity issues.** Access to technology to fill out the survey proved to be a challenge for service recipients. For example, the Task Force was not able to spread the survey to end-users at refugee centers or Limited English Proficiency (LEP) or Languages Other than English (LOE) residents who did not own a computer.

- **Inability to advertise the survey.** It was particularly difficult to reach end-users of interpreting services, especially at healthcare facilities. In many cases, Task Force volunteers were not authorized by institutions to send mailers or post pamphlets encouraging patients to have their voices heard.

- **The complexity of the surveys.** Of the requestors and providers who started the survey, 77% completed it. End-users had a fairly similar completion score (75%). Dropouts may be due to challenges with understanding or responding to questions or the lesser importance of the topic to respondents, meaning they didn't return to finish the survey if interrupted. While we strove to achieve an eighth grade reading level in the end-user questionnaire, the survey remained long and complex with many matrix questions.

  Note: Those using translated versions had to toggle a switch to see their language. Many seemed to have missed the instructions in their language for how to do that.

- **Limited buy-in from AI technology vendors.** Despite the survey not being for or against automated interpreting, few technology vendors chose to promote the survey to their users. This limited responses from individuals with hands-on AI experience – and likely curtailed more positive views in some areas. The concern seemed to have been tied to potential implications of the survey, in particular the fear of lost business driven by an assumption that unfavorable guidelines might result from the effort.

Profile of End-Users

We asked end-users of interpreting services a broad range of demographic questions (Figure 4). These are the people who rely on interpreting services to communicate. They include both service recipients (such as refugees, plaintiffs, patients, or meeting attendees) and frontline professionals (such as healthcare practitioners, lawyers, teachers, or concierge staff).

A few important notes:

- **Simplification of the survey.** Because the survey questionnaire was very complex, the designers made efforts to ease completing the end-user survey. We paraphrased the questions to conform to an eighth grade reading level – a standard practice when addressing a general population. The survey also presented simple usage scenarios and did not add the complexity of inquiring about non-interpreting technologies (captioning, transcription, and subtitling).

- **Low response counts.** 99 service recipients and 208 frontline professionals completed the survey. While we ideally would have liked many more, the analysis of responses shows that those participants contributed complete and detailed answers.

- **Profile.** 88% of end-users live in the US. We captured different age ranges. Education levels skewed high as there were more frontline professionals than service providers – doctors, lawyers, and similar professions all have at least four years of college. 72% of respondents used spoken language interpreting only. 8% relied on signed language. The remaining 20% used both spoken language and signed language interpreting. Three-quarters of end-users (74%) had either rudimentary or no language skills in the language they used interpreting services for. Nearly one-half (44%) depended on interpreting services every day or every week. More service recipients (17%) had experience with automated interpreting than frontline professionals (13%).

Figure 4: Profile of End-User Respondents

Profile of End-Users Who Responded

307
end-users participated in the survey

12%
live outside of the US

Participation by state
- 25 or more
- 10 to 24
- 5 to 9
- 1 to 4
- 0
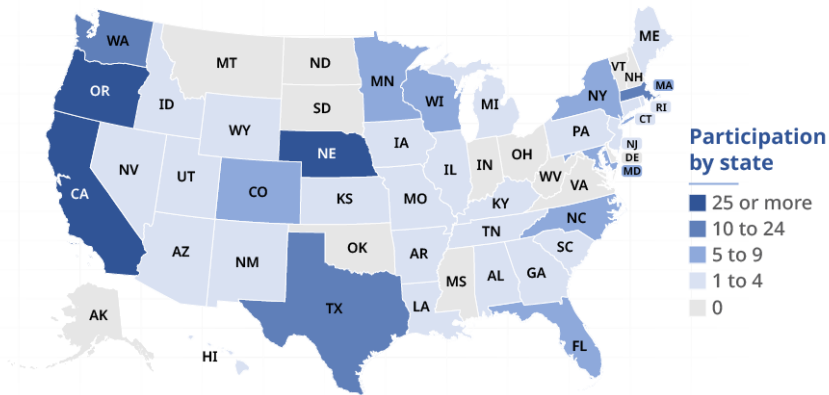
32%
of end-users were **service recipients** (health care patient, legal guardian, trial witness, refugee, conference attendee, etc.)

68%
of end-users were **frontline professionals** (health care practitioner, lawyer, teacher, social worker, police officer, conference speaker, call center agent, soldier in the field, etc.)

17%
of service recipients have some AI experience
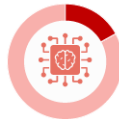
13%
of frontline professionals have some AI experience

Age Range
Less than 45 years old	50%
45 years old or more	50%

Education level
Less than 4 years of college	24%
4 years of college or more	76%

Sources of interpreting
Remote interpreter	67%
Face-to-face interpreter	58%
Bilingual non-professional	38%
Online automated app	23%
Organization-provided automated app	16%

Frequency of need
- 20% At least once a day
- 24% At least once a week
- 27% At least once a month
- 15% At least once a quarter
- 8% At least once a year
- 5% Less than once a year
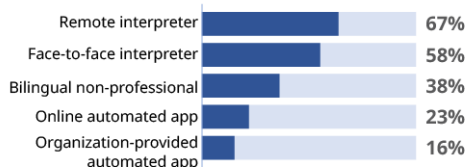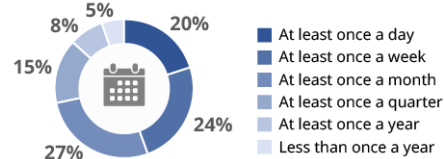
Type of interpreting used
- 72% Spoken language
- 8% Sign language
- 20% Both spoken and sign language
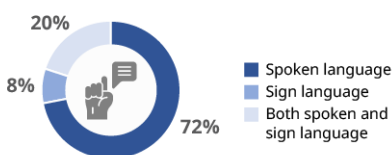
Knowledge of the language
- 33% None
- 41% Rudimentary
- 11% Intermediate
- 16% Excellent
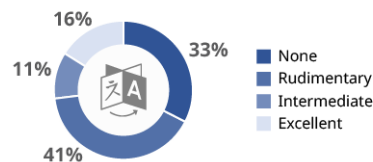
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Profile of Requestors

We wanted to include requestors in the study because they are the ones who typically decide on whether to use automated solutions. This group included both purchasers of language services (such as department managers, procurement) and language service requestors (such as schedulers, project managers, conference organizers) (Figure 5). These stakeholders were important in our analysis because they have the power to influence the adoption – or rejection – of a technology.

About three-quarters of requestors (70%) were schedulers who book interpreters for frontline professionals. Only 9% of respondents in this group had automated interpreting experience, with few respondents (8%) from outside the US. The three top services bought or procured by requestors were spoken language interpreting (91%), sign language interpreting (72%), and translation (67%).

Figure 5: Profile of Requestor Respondents

Profile of Requestors Who Responded

144 requestors participated in the survey

8% live outside of the US

Participation by state
- 15 or more
- 10 to 14
- 5 to 9
- 1 to 4
- 0
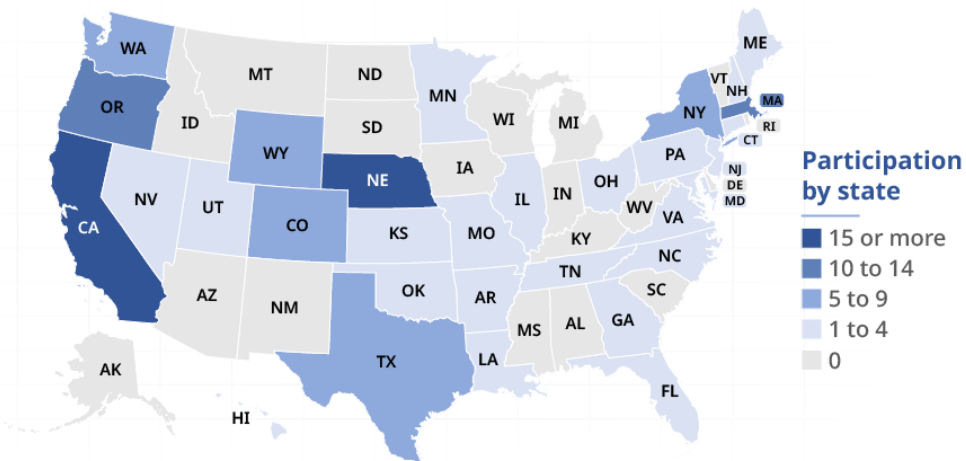
30% of end-users were **purchasers of language services** (department manager, procurement specialist, etc.)

70% of end-users were **language service requestors** (scheduler, project manager, conference organizer, etc.)

9% of frontline professionals have some AI experience

Services procured

Service	Percentage
Spoken language interpreting	91%
Sign language interpreting	72%
Translation	67%
Captioning	23%
Subtitling	23%
Transcription	16%
Other language services	5%
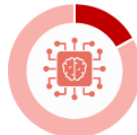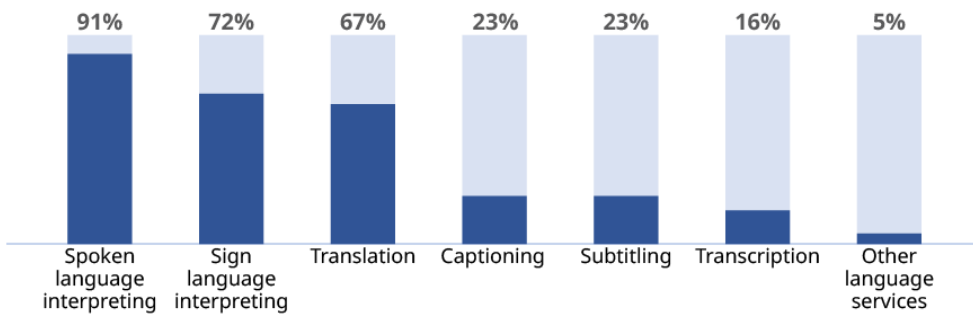
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Profile of Providers

The bulk of survey respondents (81%) were providers of language services or technology. This group included language professionals (spoken or signed language interpreters), language service providers (meaning interpreting companies), interpreter trainers, associations representing the interests of language professionals, policy makers, and language technology companies. About one-quarter of these providers (24%) lived outside the US (Figure 6).

Providers' level of experience with AI was low, and particularly so with interpreters – the bulk of survey respondents – as only 9% had machine interpreting experience. Those providers with more hands-on testing or use were naturally technology vendors.

> **Note:** *The high proportion of provider respondents skews the results of the analysis. In addition, the fact that many came from the healthcare field added another level of bias against automated solutions. Be mindful of this statistical weight when reviewing the results. A different composition in the respondent profile would have likely toned down some of the negative commentary.*

The top three services offered by providers were spoken language interpreting (85%), translation (41%), and sign language interpreting (19%). Respondents could list other language services beyond the ones we itemized. In addition to more details on written translation and localization services, responses included: Braille, Communication Access Real-Time translation (CART), cultural mediation, desktop publishing, dubbing, focus group facilitation, language access consulting, language training, minute-taking, project management, sight translation, support for people with disabilities, support for immigrants, transliteration, voiceover, and writing/editing services.

> **Note:** *We did not ask interpreters to specify if they perform in-person, remote, or both types of interpreting. We suspect a very large portion were primarily in-person interpreters. We also did not distinguish between consecutive and simultaneous interpreting – comments from respondents and use cases selected point to a much greater proportion of consecutive interpreters.*

Figure 6: Profile of Provider Respondents

Profile of Providers Who Responded

2,092
providers participated in the survey

24%
live outside of the US

Participation by state

- ■ 75 or more
- ■ 50 to 74
- ■ 25 to 49
- ■ 1 to 24
- ■ 0

Role

- 0.5%
- 0.5%
- 1%
- 2%
- 3%
- 12%
- 81%

- ■ Interpreters
- ■ LSPs
- ■ Interpreter trainers
- ■ Technology vendors
- ■ Students & retirees
- ■ Professional associations
- ■ Policy makers
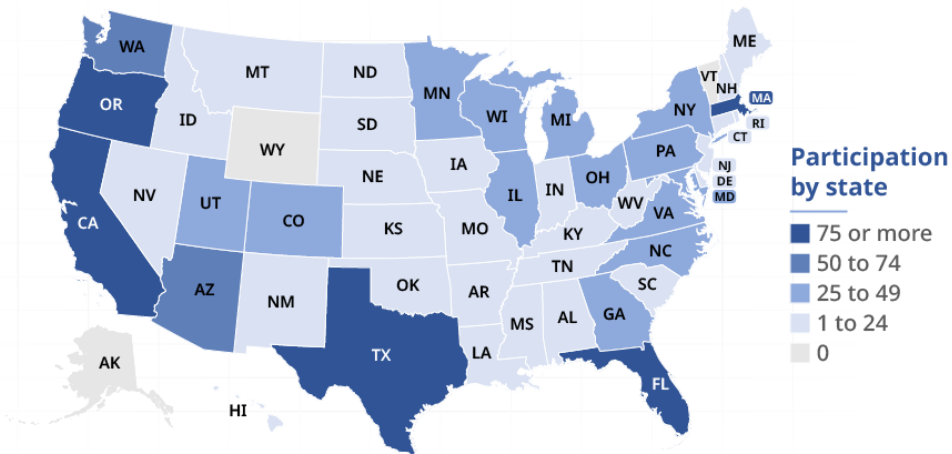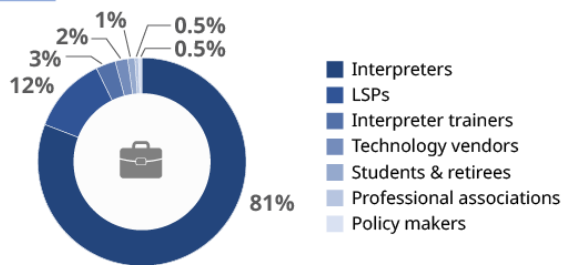
9% to 50%

That's the range of AI experience across these groups – the lowest number is for interpreters

Services provided

Spoken language interpreting	Translation	Sign language interpreting	Transcription	Subtitling	Other language services	Captioning
85%	41%	19%	14%	8%	6%	5%
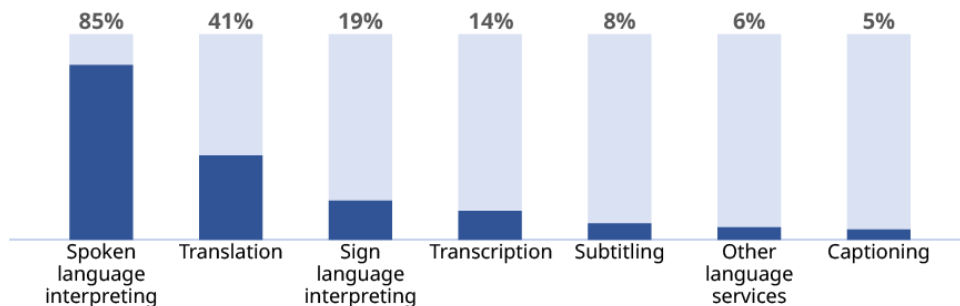
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A few important notes:

- **Multiple hat phenomenon.** For their primary role, few respondents stated that they were a professional association representative or an interpreter trainer. That is not to say that these entities did not participate, but these respondents likely chose interpreter as their primary role.

- **Policy makers.** Few policy makers work in the field of language access worldwide, so low answer counts were normal.

- **Professional associations.** 11 out of the 13 respondents who selected their main role to be part of an association that represents language professionals told us that they responded with their own opinions – not those of their associations. We still graphed their results as a separate group on each figure as their answers may indirectly influence the stance of their associations on AI.

- **Technology vendors.** We had difficulty engaging with companies that build AI interpreting systems. We believe it was tied to a fear of what might result from the study in terms of usage recommendations. The majority of technology vendors who participated were actually not interpreting AI vendors; they more closely fit the profile of interpreting companies with their own (human) interpreting delivery platform. Most just offer AI captioning, subtitling, or transcription.

  Note: We included technology vendors in the provider category because they provide technology. This was a small group of 34 companies – just 35% of them offer automated interpreting, and only one respondent's company offered automated sign language interpreting. Most of the vendors focused on captioning, transcription, and subtitling (Figure 7).

Figure 7: Automated Services Offered by Technology Vendors in the Study

Which of the following services does your platform offer?

Service	Percentage
AI captioning	53%
AI transcription	41%
AI subtitling	38%
AI interpreting	35%
AI sign language	6%
None of these	38%

Percentage of Respondents
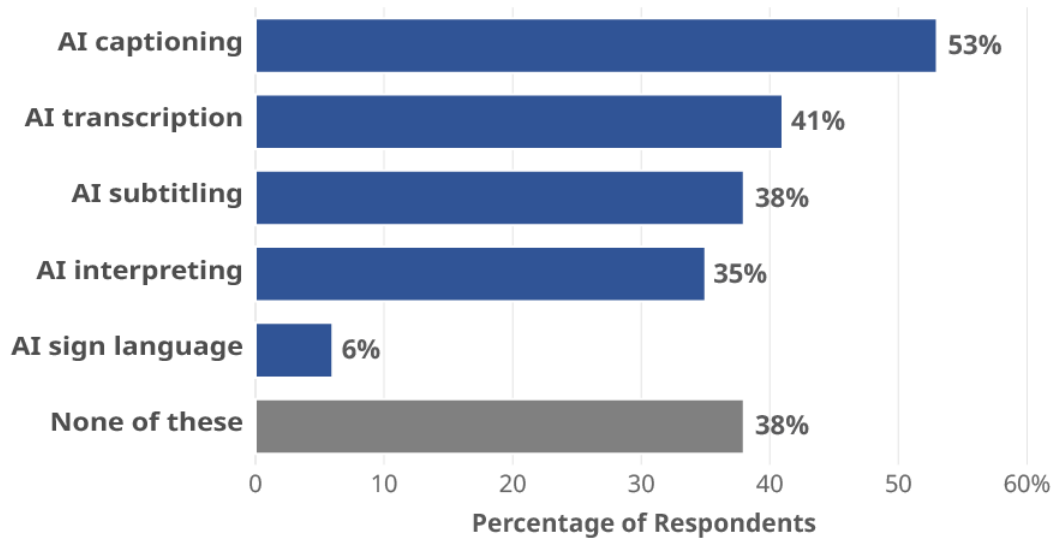
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N = 34 technology vendors

Settings Where Respondents Used or Provided Interpreting

> *"Certain demographics won't be able to wrap their heads around the concept of automated interpreting." [Individual in Oregon, not much AI experience, finds results poor]*

We asked survey takers in which situations they used or provided interpreting services of any sort – machine or human – the most in the past year. End-users could select all that were applicable. Requestors and buyers were limited to a maximum of five – and those five then dictated which use cases they saw questions for (see Usage Scenarios – The Requestor and Provider Perspective) (Figure 8).

- **Health care dominated responses.** On average, 69% of all respondents were either on the supply or client-side of medical encounters. For providers, that number jumped even higher to 76%. The greater representation of this high-risk sector significantly influences results throughout this report.

- **Business use cases were more common for end-users.** 61% of service recipients and frontline professionals used interpreting in a business or work context. Only 7% experienced it in conferences or trade shows, meaning that we failed to capture respondents from the most common deployments of automated interpreting to date. Some respondents may have selected "business use case" when they attend conferences for work.

- **"Other" settings included a broad range of answers.** The most common mentions beyond the categories provided were banking and finance, immigration and asylum services, insurance, live entertainment, market research, mental health, and religious and sporting events. Less common mentions included agriculture, broadcasting, family negotiations, journalism, palliative care, speech therapy, science, and transportation. More unusual ones included nuclear site inspections, trade union meetings, and wedding speeches. Interpreting simply permeates every facet of life.

  Note: Some respondents listed services instead of industries they focused on: community interpreting, computer-aided transcription services (CART), and video relay services (VRS), which all cross a variety of verticals.

Figure 8: Settings Where End-Users Benefited from Interpreting

In which of the following settings have you used or provided interpreting services the most in the past year?
Answers are for both human and automated services

Health care — 69%, 29%, 68%, 76%
Education — 41%, 18%, 22%, 46%
Social services — 40%, 10%, 27%, 46%
Business — 37%, 61%, 18%, 34%
Law enforcement and legal — 32%, 22%, 20%, 34%
Emergency services — 28%, 14%, 19%, 31%
Client service — 28%, 16%, 20%, 31%
Conferences and tradeshows — 22%, 7%, 12%, 25%
Diplomatic and international political settings — 7%, 3%, 3%, 8%
Other — 6%, 0%, 5%, 8%
Military and intelligence — 2%, 1%, 0%, 3%

Percentage of Respondents

Average of all respondents   Requestors
End-users   Providers

N = 2,027 (multiple responses allowed)

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Figure 9 contrasts answers based on AI experience. Some verticals (such as law enforcement and legal) had a greater disparity between those with and without experience. There's not enough data to indicate if this means that our sample just didn't have the same experiences or if it was because AI was less likely to be tested or deployed in those scenarios yet. We would say that it's likely a bit of both.

Figure 9: Settings Where End-Users Benefited from Interpreting by Experience with AI

In which of the following settings have you used or provided interpreting services the most in the past year?
– Results by Experience with AI
Answers are for both human and automated services

Setting	Hands-on experience with AI	No such experience
Business	55%	59%
Conferences and tradeshows	41%	33%
Diplomatic and international political settings	40%	29%
Client service	35%	35%
Health care	32%	23%
Education	29%	26%
Law enforcement and legal	29%	17%
Emergency services	25%	23%
Social services	9%	6%
Military and intelligence	5%	6%
Other	4%	2%

Percentage of Respondents

N = 2,027 (multiple responses allowed)

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We also contrasted results by geography (Figure 10). Some use cases (such as business, conferences, client service, and diplomacy) benefited from more answers from outside the United States. Again, we can't tell how much sample composition versus preferences by vertical influenced the results. Respondents from Canada and Europe, where public multilingualism is much more supported than in the United States, may have affected results.

Figure 10: Settings Where End-Users Benefited from Interpreting by Location

In which of the following settings have you used or provided interpreting services the most in the past year?
– Results by Location
Answers are for both human and automated services

Setting	In the US	Outside the US
Health care	72%	59%
Social services	41%	44%
Education	40%	43%
Business	33%	53%
Law enforcement and legal	31%	33%
Emergency services	29%	27%
Client service	26%	37%
Conferences and tradeshows	17%	42%
Other	7%	7%
Diplomatic and international political settings	4%	20%
Military and intelligence	2%	6%

N = 2,027 (multiple responses allowed)
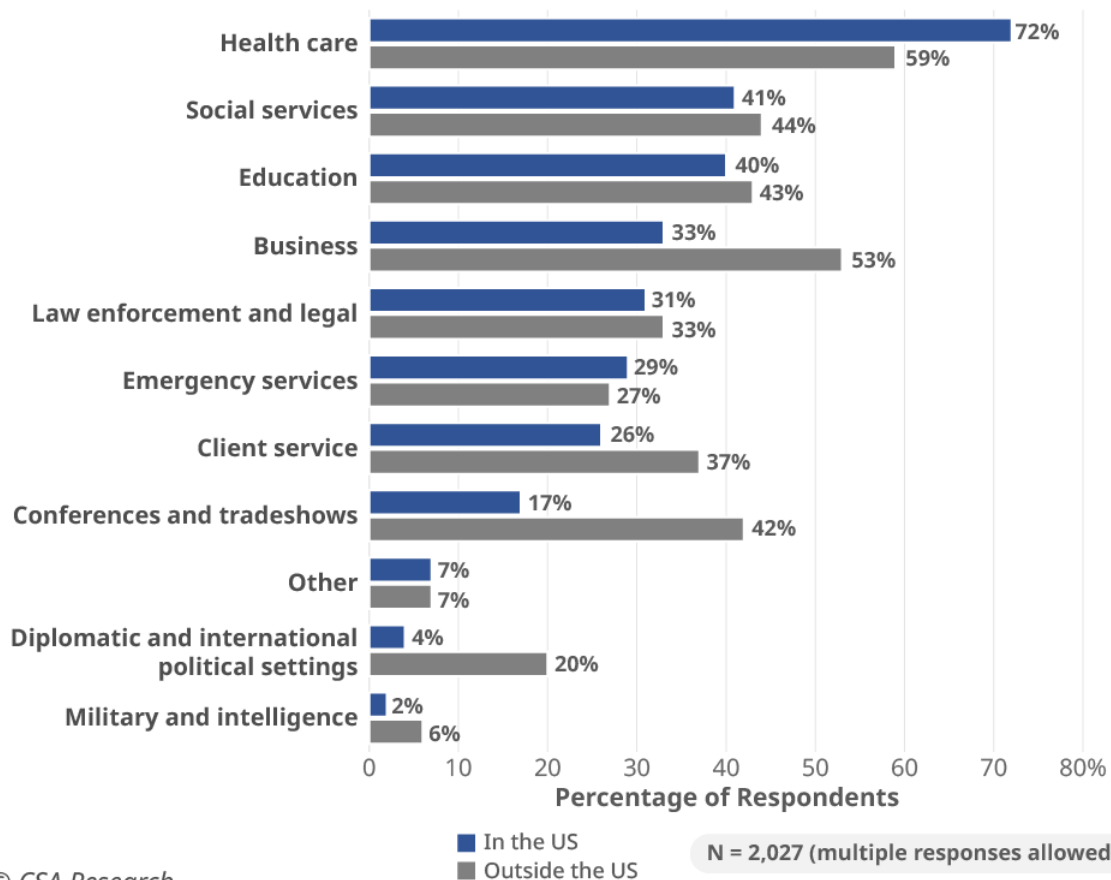
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Chapter 3
The Context for the Research

> *"Stop trying to replace people with machines. I will never trust a machine for my health, financial, or legal interpretation." [Service recipient in Missouri, no AI experience]*

It's important to understand why the impact of AI on interpretation is top of mind for the interpreting community. As you read through the report, aim to understand the "other" perspective. Some quotes or datapoints may shock you – but remember that to that respondent, it is their reality, their fear, or their hope. Don't be too quick to dismiss it. Try to understand why they may feel excited about AI possibilities or worried about its possible negative impact.

This research is not about proving either camp right – the AI enthusiasts or the AI detractors. It's about capturing a broad understanding of the current situation and reasoning people have around it.

Ultimately, it is not about whether AI can still be stopped – it can't. Regardless of their opinions or personal preferences, industry stakeholders need to reconcile their perspectives to collaborate on delineating instances where AI can be used safely or should not be used, no matter what. The premise is not "how can we replace humans?" but "where are humans most needed and where can a machine help by providing adequate language or communication access?"

Why Now?

> *"Advancements in AI allow tasks traditionally performed by humans to be automated. This is taking place in many industries aside from language services. However, cost pressure and the lack of recognition given to language professionals in some parts of the world have greatly accelerated the process in the translation industry in particular." [Interpreter in Singapore, no AI experience]*

Why did this research happen now and not before or at some future point?

Over the past two decades, the technology focus of the interpreting sector was on the deployment of remote or distance interpreting, i.e., over-the-phone or video remote interpreting (respectively OPI and VRI) and remote simultaneous interpreting (RSI) for events. Resistance from language professionals and recipients of the service slowed down adoption.

In 2020, the COVID-19 pandemic and its mass closures exposed many more end-users, requestors, and providers to distance interpreting, remote presentation, and remote attendance ("The Flattening of the Interpreting Talent Market" © CSA Research). Once such big changes to interpreting modalities were integrated by many, organizations and language professionals felt they were done for a while with technological advancement.

> *"There is a sense that automation will impact human interpretation later, and that written translation will be impacted sooner." [Scheduler in Texas, no AI experience]*

At the end of 2022, OpenAI's ChatGPT kickstarted the popularization of generative AI, along with many similar products. The general public became aware of the wealth of GenAI's language-related capabilities. Everyday consumers discovered machine interpreting – a form of artificial intelligence – which forms a cornerstone of automated interpreting solutions.

Prior to that, interpreters had not felt particularly threatened by artificial intelligence and machine translation. They thought immediacy of human communication – compared to the delay in translation processes – was too complex to be easily replaceable by machines. But all of a sudden, the media frenzy made them realize that strides in AI development had created new expectations among end-users, and they hadn't seen the threat coming.

> *"This is the first time technological advances threaten 'white collar' roles. I think that frightens a lot of people." [LSP in Oregon, no AI experience]*

The Existential Angst

> *"Being a professional trilingual interpreter, I feel threatened in my core business." [Interpreter in Egypt, no AI experience]*

The popularization of AI discussions has led to a lot of unease for interpreting service providers about the future of their profession. Many feel that their livelihood is now at stake and that thousands of them will be left without a job. The following selection of quotes illustrates the depth of this angst:

> *"Interpreters do not earn a lot of money, not nearly enough to make the years of study to master a foreign language to a native level worthwhile and now you're trying AI to take away from us even the little money we make. Despicable."* *[Interpreter in South Carolina, no AI experience]*

> *"People no longer want to pay for human interpreters when they can use automated interpreting for free (i.e., they won't see the value-add in having a professional)."* *[LSP in Colorado, moderate AI experience, finds results poor]*

> *"Educated humans are losing their jobs."* *[Signed language interpreter in West Virginia, moderate AI experience, finds results poor]*

> *"AI will lead to poverty in large groups of humans that are replaced by machines."* *[LSP in Costa Rica, no AI experience]*

> *"AI is putting people out of jobs for the sake of reducing costs."* *[Interpreter in France, no AI experience]*

> *"We will lose our jobs and government/corporations don't care about us."* *[Interpreter in New Mexico, no AI experience]*

> *"By using AI in any way, the poorly paid click workers are even more exploited. Who really protects them? Who stops the digital colonization?"* *[Interpreter in Germany, not much AI experience, finds spoken and signed language results poor]*

> *"My biggest concern is interpreters who work outside of the US losing their jobs. There is no universal income in sight, and they will be left with no job."* *[LSP in Oregon, moderate AI experience, finds results good]*

"People who work in this field could be replaced, which can cause a negative impact on the economy and many companies dedicated to interpreter training could potentially close. It becomes more of a social problem. It will affect employment rates." [Interpreter in Colombia, no AI experience]

"Language professionals will be out of a profession sooner than you think." [Interpreter in Ireland, not much AI experience, finds results good]

"I'm not opposed to technology, but automation concerns me. We risk people's jobs and we'll be left with fewer people to do more work, because everyone believes automation can do it just as good, if not better. We already have an unemployment crisis. Taking away more jobs because a machine can do it quicker doesn't feel very humanitarian or forward-thinking." [LSP in California, no AI experience]

"I understand that we need to find viable solutions to the ever-growing need for accurate communication in so many arenas in this evolving world. The need is greater than the solution. We need to train more people to do this important job of interpretation and translation. Why have more unemployed people replaced by machines? Why not invest in humans? The problems needing interpretation are human, let humans handle it in a human way, please." [Interpreter in California, moderate AI experience, finds results unacceptable]

"The more automation we rely upon, the less humans have a reason for interpersonal connection. We need to think about the 'why' of technology and less about the 'how'." [Signed language interpreter in Washington, no AI experience]

The Desire to Keep Humans at the Center

"In high stakes situations people need and want people. At this point, the robot on the telephone still cannot understand a simple 'Yes' response. AI has a long way to go. People who do not appear over video conferencing for meetings are not ready for a robot to supposedly help them." [Interpreter in Arizona, no AI experience]

At the same time as language professionals struggle with their existential crisis, service recipients clamor for human interpreters:

> *"We want humans, not machines." [Service recipient in Oregon, no AI experience]*

> *"A machine will never be able to interpret like humans do." [Service recipient in Nebraska, moderate AI experience, unsure about quality of results]*

Interpreters shared similar feedback from their clients:

> *"I once was called in a hurry into a room because the person served was crying and saying she did not want to receive bad news from a machine." [Interpreter in Texas, no AI experience]*

> *"Patients don't like to speak with machines." [Interpreter in Oregon, no AI experience]*

> *"Many immigrant families are not comfortable with machine interpreting." [Interpreter in Michigan, no AI experience]*

> *"The company I work for advocates for in-person interpretation services. I highly doubt that we will switch to AI. Our customers and consumers ask for people to interpret. They decline to use tablet or remote interpretation." [LSP in North Carolina, no AI experience]*

Frontline professionals also express a preference for humans.

> *"Having staff in person, I feel, is safer and more effective." [Frontline professional in California, unsure whether they are experienced with AI]*

> *"I prefer in-person interpreters for better communication." [Frontline professional in Texas, no AI experience]*

> *"I have a hard time with this. I need actual humans to interpret." [Frontline professional in California, no AI experience]*

> *"Stop trying to cut costs by replacing humans with AI – especially in the medical field. It's frustrating to see that cost is even an option. Money should not dictate health care."* [Frontline professional in Oregon, no AI experience]

The Impact on Interpreting End-Users

> *"Expect the decrease in importance of meaningful language access – the attitude may become 'the machine will take care of it'."* [LSP in Michigan, moderate AI experience, finds results poor]

If all interpretation were to come in the form of AI – with no human involved – it would ripple down to significantly affect end-users in their ability to obtain meaningful access to language services while not being discriminated against.

Note: Meaningful language access in the US refers to the provision of adequate language assistance that ensures effective and accurate communication between a service provider and a client, particularly for those with Limited English Proficiency (LEP) or Language Other than English (LOE). The concept stems from Title VI of the Civil Rights Act of 1964, which defines legal obligations in this area ("Managing Translation of LEP Content" © CSA Research).

> *"Machine interpreters are in the 'good enough' category and not equal / meaningful access."* [Frontline professional in Massachusetts, moderate AI experience, finds results unacceptable]

> *"The rush to utilize AI reflects a mindset of the corporatization of life and of a focus on profits instead of meeting human needs and values. In the US, we've allowed health care to become an industry, while many covered entities have long ignored their legal responsibilities to provide meaningful language access."* [Scheduler in Washington, no AI experience]

Note: For information on how AI errors may lead to harm to human life, death, wrongful arrests, detention, or conviction of humans, see Negative Outcomes Feared by Respondents.

Language Access Would Suffer

> *"I do not believe appropriate, 'meaningful' language access can rely only – if at all – on AI. My fear is that language access standards will continue to deteriorate as AI becomes more prevalent and perhaps more cost-effective for institutions to implement. Hospital administrators tend to look much more at the bottom line than at the quality of services. If they can check the box safely in front of regulatory authorities, that's what they will do."* [Interpreter in Florida, no AI experience]

Respondents fear that AI will reduce access to human interpreting, which – no matter what – for now, remains a better option in most scenarios. End-users could be deprived of the optimum service for their specific needs – rights that have been hard-won through legislation mandating language and communication access.

> *"It's a violation of civil rights."* [Interpreter in California, no AI experience]

> *"I can't even imagine how services can be rendered by AI other than for pure cost and by disregarding the rights of the people who need the interpretation."* [Interpreter in North Carolina, no AI experience]

> *"I fear the worst part is that cheapskate unethical institutions will forge ahead with the AI model for convenience and cost (some ignorantly, some deliberately despite whatever ethical recommendations may circulate) and the consumers (who rarely to never complain) will be the victims in the end."* [Interpreter in Arizona, no AI experience]

> *"Replacing humans with AI is regression in interpreting support. AI cannot replace human interactions, nuance, and empathy."* [Frontline professional in Oregon, no AI experience]

> *"Machine translation is not able to handle complex thoughts. However, few non-regular users are aware of this, so now they start to refuse to hire interpreters when the situation calls for them. This has led to negative outcomes in patient*

> *care." [Scheduler in Washington, moderate AI experience, finds results unacceptable]*

> *"It is a mirage to say there are no costs. The costs are borne by the end-user." [Technology vendor, not much AI experience, finds results unacceptable]*

> *"AI, by definition, is not an interpreter. Using it for fun is one thing. Our life is not a game." [Service recipient in New York, extensive AI experience, finds signed language results unacceptable]*

End-users may assume that if an organization enables the use of AI, it does a good job, so requestors may determine that alternative services are no longer needed – or even available. And those without access to a connected device could lose access altogether.

> *"End-users may not understand when a human interpreter is necessary." [Scheduler in California, no AI experience]*

> *"Deaf people wouldn't necessarily be able to express if there were a crisis that needed a switch to a real interpreter. I understand the drive for solving this problem, but Deafness is a huge spectrum that includes people who don't know what their rights are or how to express their needs. There is so much potential for harm." [Signed language interpreter in Texas, moderate AI experience, finds spoken and signed language results unacceptable]*

This scenario links to the question of what would happen if service recipients were to ask for a human interpreter. They may be denied access to human interpreters or frontline professionals maybe not believe a mistranslation occurred.

> *"I fear retaliation for people seeking services/assistance." [Procurement professional in Colorado, no AI experience]*

> *"Those needing interpreting will not like AI and will be denied language assistance. Errors could cause harm." [Procurement professional in Wisconsin, not much AI experience, finds results poor]*

> *"It could lead to overuse by uneducated consumers, as already happens today. LOE (language other than English) clients do not always have recourse for seeking a remedy due to errors or unmet needs as a result of inappropriate or ungoverned AI use."* [Procurement professional in Pennsylvania, no AI experience]

> *"Even if multiple errors occur, people who are members of the majority language assume communication has occurred."* [Procurement professional in Colorado, not much AI experience, finds results poor]

> *"Professionals may prioritize the language translation as 'correct' (when they don't know the language) over the consumer's response that the interpreting product is incorrect. This happens to me often enough with human interpreters. If we cannot get humans to acknowledge these errors or the expertise of the highly credentialed consumers, how will such a scenario work with automated interpreting?"* [Frontline professional in District of Colombia, moderate AI experience, finds results poor]

Inadequate Language or Communication Access Leads to Discrimination

> *"What about legal responsibilities to provide meaningful language access? The buzz around AI is just like with any other technology, just another way to seek easy profit at the expense of genuine health equity and racial justice."* [Scheduler in Washington, no AI experience]

If language or communication access decreases or is reduced in quality, then discrimination is likely to occur. This claim was a recurring theme in free-text answers but was even more pronounced for the Deaf community.

Note: Language access refers to spoken language (as defined by Title VI in the US). Communication access is designed for people who are Deaf (as defined in under the Americans with Disabilities Act or Rehabilitation Act of 1973, Section 504).

Note: The price for entering digital nirvana for many groups would be giving up their languages because AI will never have enough data to work with them. This is clearly not possible – nor fair – when dealing with audiences who only know one language.

"AI-based language services might be more accurate when using majority languages, which threatens the use of minority languages and those minorities who are already discriminated against." [Signed language interpreter in Netherlands, no AI experience]

"The Hearing client may assume that the interpretation is going fine when it is not, and no one is there to guarantee quality. It will lead to further oppression of Deaf people and people in language minorities. AI would genuinely be horrible for people who need interpreting services." [Signed language interpreter in Texas, no AI experience]

"Consider the client's rights and needs with the use of AI. This technology can become a hinderance to those who are already experiencing socioeconomic disparities." [Signed language interpreter in Ohio, no AI experience]

"In having to deal with AI on a daily basis, it is frustrating in my own native language (English). I do not see how it can be any easier for LEP folks. This is why minority people tend to receive less medical care/treatment or legal services than those who speak the language. Even so, the level of education is also something to consider, no matter what language it is. Will AI be able to detect this? Will it know to use 'plain language' when necessary?" [Scheduler in Colorado, not much AI experience, finds results unacceptable]

"LEP individuals are already at a huge disadvantage on the Access to Justice plane. If they receive a summons in English and are unable to ascertain the need to act to avoid negative legal consequences, they are more vulnerable to have a default sentence against them. Due process demands human interpreters and translators to bridge that gap. AI will broaden the gap for LEP individuals in the courts." [Interpreter in Colorado, no AI experience]

"LEPs already face many barriers to access qualified interpretation. Reliance on automation could reinforce their perception of receiving subpar service relative to English speakers." [Interpreter in Indiana, no AI experience]

Note: *For more information on the possible negative impact of automated interpreting –*
such as the dehumanization of services, the risk of harm, and data security issues – see
the "Drawbacks of Automated Solutions" chapter.

The Role of AI

> *"AI is improving but it cannot replace people because it lacks essential points of*
> *understanding meaning and the ability to ask for clarification when in doubt."*
> *[Interpreter in Utah, moderate AI experience, finds results poor]*

The comments in this chapter are predominantly negative toward AI. For many
respondents, the root cause is not tied to use case relevance, but a judgment call on
whether AI can replace interpreters across the board. Interpreters' responses centered
on four views: 1) the parallel with unsatisfactory experiences using interactive voice
response systems; 2) the full replacement of humans; 3) an option when no human
interpreter is available; and 4) ways to enhance human interpreter performance.

An Unwelcome Step in the Evolution of Interactive Voice Response

> *"In most healthcare settings, a live person as an interpreter can make a huge*
> *difference. In some situations, even remote live interpreters are not a good*
> *option." [Scheduler in Oregon, not much AI experience, finds results poor]*

Many survey participants responded based on their experiences with interactive voice
response (IVR) systems used in customer service, which often leave users frustrated
and wanting to speak to human customer service representatives. Early-generation
speech systems usually lead to poor interactions. Nobody wants to be entangled in one
of these systems for anything important.

> *"I'm already fed up with poor service from automatic answering systems even*
> *though we are speaking the same language. I cannot imagine the scenario in*
> *another language." [Frontline professional in Florida, not much AI experience,*
> *finds results unacceptable]*

> *"I have experienced frustration with customer service in an English-only business environment that uses automated systems. I was sent going round the circle with no way out. This feeling of frustration can be so much more intense if it happens to one who needs help with language barriers."* [Interpreter in California, no AI experience]

Likewise, respondents correlated expected results with what they saw in the implementation of video remote interpreting (VRI), especially for signed language.

> *"VRI increased in places like hospitals. Instead of having a live sign language interpreter in the room, devices are used to video call an interpreter. While there are benefits to this setup (not having to wait for an interpreter to drive to the hospital, especially in an emergency situation, more hours of availability, wider pool of interpreters available due to being able to work from far away), it is much more difficult for the interpreter to do the job. There are also technological issues such as weak internet connections and staff not knowing how to use the devices. Similarly, while having spoken language interpreters on the phone can be more convenient than getting an interpreter in-person, there are many reasons why interpreting over the phone also can be more difficult. Using a machine that can't recognize and explain specific problems or solutions in the same way as a human could be really detrimental, especially in situations that are vitally important such as when they involve someone's health."* [Signed language interpreter in Arizona, no AI experience]

> *"There is already resistance to remote interpreters in the Deaf community. It has a high incidence of tech failure and a lack of understanding by consumers – both Hearing and Deaf – on the limitations of VRI. Cost alone is not a good enough reason to employ interpreting via computer or a substitute for an in-person interpreter."* [Signed language interpreter in Michigan, no AI experience]

> *"Deaf clients already do not like remote interpreting due to screen freezing, lack of clarity, the poor angle of the screen, etc. Having AI interpreting would really add more distrust."* [Interpreter in Colorado, no AI experience]

"Company executives and accountants are likely to be eager to get AI working for them at a low cost. Real-life LEP individuals are likely to be left feeling alienated, misunderstood, and underserved. Many of the LEPs I assist come from third-world countries and have very low levels of formal education. Sometimes they are elderly and suffering from cognitive difficulties. Sometimes they are nervous using even telephone technology. The fact that they know that in me they are communicating through a living, breathing human being to another living, breathing human being often provides them with a measure of comfort that no machine can provide. This is important for over-the-phone encounters. It is even more important for in-person encounters." [Interpreter in New Hampshire, no AI experience]

"The angle is wrong because AI is client-led. AI testing should be industry-led by LSPs, so that we can find ways to improve our workflow. Clients shouldn't have the tech. If they have the tech, they're also stealing from the LSP, and there's no doubt in my mind, the LSP is just another middleman they want to erase at the end of it all, so buyer beware." [Interpreter in the United Kingdom, no AI experience]

AI as Full Replacement of Interpreters

"AI needs to become basically human to replace a human." [Interpreter in Texas, no AI experience]

Many of the language professionals participating in this research took an all-or-nothing approach to the questions. They emphasized that AI is not capable of replacing humans. The following quotes illustrate this perspective. Participants made it clear that technology is not ready – yet or maybe even ever – to replace flesh and blood interpreters beyond limited scenarios.

"Automated interpreting is incapable of interpreting cultural differences. Our interpreters are professionals who don't just translate word for word. They also interpret emotion and complex social interactions. A computer could never do that because it isn't human." [Scheduler in New York, moderate AI experience, finds results poor]

> *"AI will never achieve the human and humane connection a real human interpreter can provide."* [Interpreter in South Carolina, no AI experience]

> *"AI can get close but can never replace a real interpreter. AI cannot pick up on body language, nuances, regionalism, emotional signs to name a few."* [Interpreter in New Hampshire, no AI experience]

AI as a Targeted Interpreting Substitute

> *"AI can never replace a human in critical situations and rare languages. Making this clear is critical to moving forward."* [LSP in Maryland, no AI experience]

These responses demonstrate that replacement by inadequate automated systems is a real fear for language professionals, individuals who are motivated by deep-rooted concern for the audiences they serve. However, the premise of this research is based not on replacement of humans by AI, but rather on identification of use cases where machines can handle the job adequately on their own. Data later in this report shows that AI actually performs well in some scenarios and for some languages and can help provide language and communication access in cases where some interpretation is better than none. See the Advantages of Automated Solutions and use case chapters later in this report for more information (Usage Scenarios – The End-User Perspective and Usage Scenarios – The Requestor and Provider Perspective).

AI as an Aid to Interpreters

> *"We may not be replaced by AI, but we may be replaced by someone who knows how to use it well."* [Frontline professional in Texas, moderate AI experience, finds results good]

An alternative usage scenario of AI centers around technology enhancing language professionals with "superpowers" that augment their ability with resources like terminology on demand. The technology that supports these deployments is called computer-aided interpreting (CAI) (Table 5). Solutions such as InterpretBank already exist, but they focus on simultaneous interpreting. Some video remote interpreting

providers have added elements of augmented interpreting in their VRI platform. However, in face-to-face consecutive interpreting, CAI deployment is not common.

Generative AI can be used to create content or even to support role play when training interpreters. CAI tools may use AI to mine reference documents for terminology to prepare ahead of a session and then display source and target content on screen when they come up in a conversation – making the recall of new terms easier. GenAI can also expedite term searches to prepare for an assignment.

Finally, CAI tools can help improve human accuracy when interpreters use speech recognition and automated term lookups to display numbers or names of people, companies, or products to their screen. This helps reduce the recollection burden. In summary, properly designed and implemented CAI technology offers the potential for interpreters to co-exist with AI instead of fighting it.

Table 5: How AI Can Assist Interpreters

Focus Area	What Respondents Mentioned It Can Do or Wished It Could Do
Training	• Practice content, role play, or support for interpreter training • Feedback on quality of interpreting • Memorization exercises to learn new terminology
Session preparation	• Summarization of reference documents • Automatic extraction of term candidates using reference documents • Concept lookup when preparing for an assignment
Audio support	• Recognition of a term the interpreter didn't catch • Reduction of background noise
Memory assistance	• Automatic terminology lookup based on speech-to-text transcription • Number recognition • Named entity recognition • Captioning (e.g., to support signed language interpreters)
Document preparation	• Note-taking • Summarization
Administrative tasks	• Scheduling • Billing

Source: CSA Research

"The focus of implementing AI should be on creating tools and technologies that support and empower interpreters, contributing to their professional growth and improving overall performance. The collaboration between human interpreters and AI can lead to more efficient and effective language services, benefiting both interpreters and the broader society. Striking a balance that preserves the role and expertise of human interpreters while leveraging AI as a valuable tool is crucial for achieving positive outcomes in the field of education. The advantages of AI we wish to see are related to the development of AI-driven tools that could assist interpreters in education rather than replacing them. As an example: AI-powered speech recognition can assist interpreters by transcribing spoken words into text, helping them to catch nuances and ensuring accuracy; AI-driven terminology and glossary tools can assist interpreters in creating and maintaining glossaries, and ensuring consistency and accuracy in specialized fields; tools powered by AI algorithms can provide feedback on language quality, helping interpreters identify areas for improvement and refine their skills; AI-powered tools can improve audio quality by reducing background noise, ensuring interpreters can better understand and convey spoken words; AI-driven summarization tools can help quickly analyze lengthy documents, assisting interpreters in preparing for assignments and adding to their glossaries." *[Association representative, moderate AI experience, finds results poor]*

"When I need to quickly understand the gist of a disease a patient has while in a waiting room or outside an exam room, I ask generative AI: 'List key points on X disease from Cleveland clinic's website only'." *[Interpreter in Oregon, no AI experience]*

"AI is a tool that can be used to improve existing processes, and one must simply embrace it as that, not as a replacement for something that isn't broken in the slightest." *[Interpreter in Mexico, no AI experience]*

"AI should be used to help support human interpreting. More human interpreting hours would be available if so many of them weren't wasted on tasks like scheduling and billing." *[Signed language interpreter in New York, not much AI experience, finds results poor]*

> *"Tools can help a human interpreter improve accuracy (numbers, proper names); although at the moment AI gets the names wrong as well. Also, with accented speech, I am not sure speech recognition is doing very well."* [Interpreter in the United Kingdom, not much AI experience, finds results poor]

> *"AI can serve as a good memory backup – and thus lead to fewer errors."* [Interpreter in India, no AI experience]

> *"AI might help manage long segments of information so that the interpreter can focus on the intonation and correct use of language."* [Interpreter in Costa Rica, no AI experience]

> *"For the hearing-impaired interpreter, AI helps in spelling out otherwise-hard-to-decipher words, names, lists."* [Interpreter in Illinois, no AI experience]

The Long-Term Impact: Questions of Survival and Degradation

> *"My understanding of using AI interpreting is not about 'can we?', but 'should we?', and 'when?' "* [Interpreter in Ireland, not much AI experience, finds results good]

A broad-scale implementation of machine interpreting scares respondents as they think about how it could shape the future of the profession, language, and society as a whole.

- **The impact on the profession.** Respondents fear that the value of the profession will diminish and its prestige will disappear. Conference interpreters are commonly deemed the superstars of the interpreting sector, so what happens to their status when they become replaceable by AI? Surviving professionals may be too costly for users – or else will have to work at discounted rates in a commoditized environment. And a less attractive profession is likely to lower the bar in terms of talent caliber and experience.

> *"AI will reduce language professionals to editors. And it will turn intercultural communication into a commodity."* [Interpreter in California, moderate AI experience, finds results unacceptable]

> *"AI will lead to an even higher commoditization of our services – widespread use of AI in interpreting services may lead to the profession being treated more as a standardized commodity, possibly diminishing the unique skills, expertise, and individualized aspects traditionally associated with human interpreters."* [Association representative, moderate AI experience, finds results poor]

> *"Reliance on AI may gradually erode human skills in interpreting, especially in nuanced interpretation."* [Interpreter in Illinois, no AI experience]

> *"The plummeting of the prestige of interpreting and foreign language knowledge will be an issue to contend with."* [Interpreter in Hungary, no AI experience]

> *"There will be less availability of affordable human interpreters if machines are used more frequently."* [LSP in North Carolina, no AI experience]

> *"The issue will be price pressure on practitioners."* [Individual in Washington, no AI experience]

> *"Expect to see the devaluation of human skill and the driving down of rates for specialized skills."* [Interpreter in the United Kingdom, no AI experience]

> *"We'll face lower quality but with costs close to zero, it will impact negatively what humans can charge."* [Procurement professional in France, extensive AI experience, finds results unacceptable]

> *"I foresee overall lower quality in interpretation due to less demand for professional interpreters."* [Interpreter in Turkey, not much AI experience, finds results unacceptable]

- **The impact on language.** As humans learn to change how they speak so AI better understands them, language as a whole risks losing some of its richness.

> *"Speakers are no longer true to themselves as they're forced to change the way they speak to accommodate the machine."* [Interpreter in California, moderate AI experience, finds results good]

"It will lead to a reduction in language richness. People will use a simpler language to accommodate machines." [LSP in Belgium, moderate AI experience, finds results good]

"Expect impoverishment of language communication, loss of nuance, emotion and vocabulary." [Interpreter in District of Colombia, no AI experience]

"Eventually, AI will kill most interpreting. It will get better while spoken language as practiced by most people will get worse. Currently globish is spoken instead of English by multitudes, with no shame." [Interpreter in Massachusetts, not much AI experience, finds results poor]

"There will be a flattening of cultural nuances. The rich and diverse aspects of cultures and languages will be simplified or reduced as a result of the AI dominant language/culture repertoire." [Association representative, moderate AI experience, finds results poor]

"AI harms language evolution. There will be less access to appropriate and accurate language models for children and those working to develop language skills. Machines do not have expertise/experiences to share in and about the field. With fewer human interpreters, there will be less relevant and impactful conversations in the community, leading to more misunderstanding and oppression of the Deaf/Hard-of-Hearing (and other) communities. There will be less value placed on the cultural significance of languages, which play a role no matter how simple the conversation. We risk the manipulation of information due to bias/nefarious reasons that a company could program into AI interpretations (as this already happens with humans on a tiny scale – for example, an interpreter with beliefs against abortion providing incorrect or lesser information to someone seeking medical services). There will be consequences that we cannot even dream up yet, much less predict." [Interpreter in Florida, not much AI experience, finds spoken and signed language results unacceptable]

"You would have to force users to speak in short, mechanical phrases with no jargon, no slang, no assumption of context, no life. The connection and understanding between the two sides, the two cultures, happens because of the

fumbling across the language barrier, not despite it. Even if you can get the technology up to the level where it can handle all intercultural exchanges – a very tall order indeed – the question users should ask themselves is this: Am I willing to sacrifice my natural communication style to conform to the limited parameters of some machine? What will I lose in terms of true intercultural connection if I automate away the interpreting process, and how can that cost be quantified? Forcing people to speak like machines so a machine can interpret them better, so they can save a few bucks, is a losing proposition." [Interpreter in California, moderate AI experience, finds results unacceptable]

"AI, if not used appropriately, could take away the flexibility, beauty, and 'soul' of language professions, which could cause repercussions on languages themselves." [Interpreter in Iowa, no AI experience]

"Our speech is a representation of our humanity. Why turn it over to an algorithm? It seems epically ridiculous." [Interpreter in Illinois, no AI experience]

- **The impact on society.** One respondent referenced George Orwell's dystopian novel "1984" and referenced the "double plus ungood" mindset, a reference to simplifying a language to reduce the range of thought in a population. Such comments epitomize what AI's most negative effects can be on a range of societal issues.

    "The 'double plus ungood' mindset is a road to irreversible deterioration of humankind." [Interpreter in California, no AI experience]

    "Think about the bigger picture: cultural shifts in communication, social and economic repercussions, and legalities pertaining to national security when dealing with health care and sensitive information disseminated across the globe." [Interpreter in Texas, no AI experience]

    "It's similar to the profession of journalism. Do you want everything just to be in little isolated pockets and to stop giving credentials to the honorable profession of journalism? As much as journalists are the neutral tellers of what is going on in the world, interpreters are the voices of our patients and providers. Just like you

> *give journalists equal freedom to talk about what they want, unfiltered, let interpreters interpret human emotions and feelings, in a nuanced, accurate, and clear fashion." [Interpreter in Massachusetts, no AI experience]*

Chapter 4
Overview of Automated Solutions

In this report, we assume you understand the basics of the differences between automation solutions for transcription, captioning, subtitling, interpreting, and signed language.

- **If any of these terms or technologies are new to you**, be sure to read this chapter before proceeding to the next ones. Note that we simplified the explanations for an audience with little or no experience with AI-powered solutions. Experts would add more nuance to some of the concepts, which we chose to exclude for the sake of the length of the report.

- **If you're already familiar or work with automated solutions**, skip ahead to the next chapter: Experiences using Automated Solutions.

Solutions Related to Spoken Language

When you apply artificial intelligence to spoken language, depending on how far you go in the process, you create different services – transcription, captioning, subtitling, interpretation, dubbing, or voiceover – that each rely on different AI components (Figure 11).

Figure 11: Simplified View of AI Outputs of Spoken Language Processing
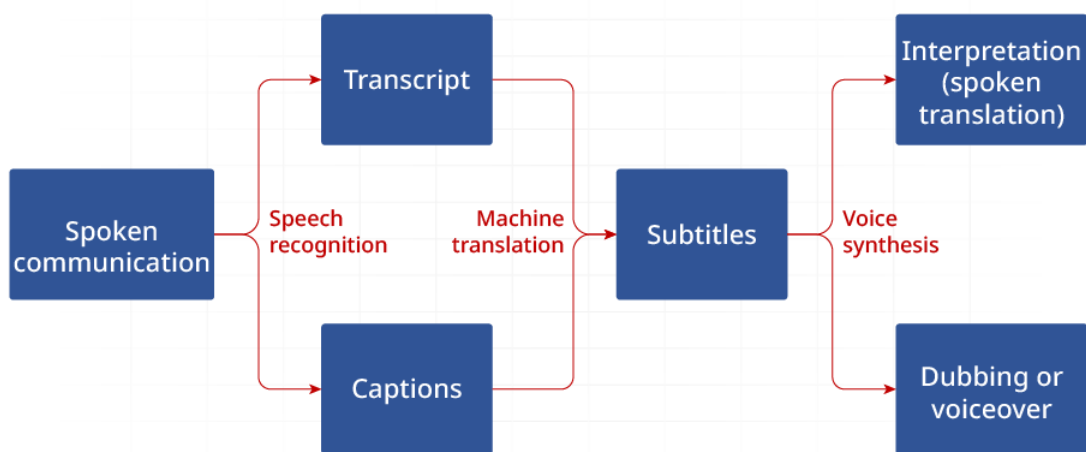
Note: *Note that the dubbing/voiceover scenario is out of the scope of this research. In this report, we focus only on real-time end-to-end automation for spoken language. But, solutions exist for automated dubbing or voice-over of pre-recorded content, for example, Revoiceit from Voiseed for gaming ("TechStack: Narration, Dubbing, and Voiceover," "TechStack: Automated Transcription Solutions," " TechStack: Captioning and Subtitling" © CSA Research).*

Automated Transcription

This technology is also referred to as automatic speech recognition (ASR), speech-to-text (STT), and voice recognition.

- **Transcription:** Conversion of speech to text. It may include non-speech elements such as time codes and speaker identification.

- **Purpose:** To create a written record of spoken content.

- **Primary beneficiaries:** Broadcasters use transcription to create raw archives to enable the search of audio and video file content. When posted online together with a media file, transcripts can significantly increase search engine optimization (SEO) for audiovisual content. Researchers and note-takers also use transcriptions to review or analyze conversations.

- **What's behind automation:** A wide range of components are assembled into the most advanced solutions: large datasets of spoken language; automated speech recognition software; algorithms, machine learning, and deep learning to improve accuracy and handle speech patterns and accents; natural language processing (NLP) to understand context; noise reduction and audio signal processing technology; and techniques to handle multi-speaker environments where speech may overlap.

- **Sample solutions:** Amazon Transcribe, Echo Labs, Fireflies.ai, Google Speech-to-Text, Microsoft Azure Speech, Nuance (Microsoft) Dragon, Otter.ai, Rev.com, Sembly, TranscribeMe, YouTube Transcript, Zoom ("TechStack: Automated Transcription Solutions" © CSA Research).

- **Common challenges:** AI struggles with accents, background noise, and terms not defined in its dictionaries. It also has limited language support. That is why it is better if you can train the speech recognition engine ahead of time with proper names, product names, and technical terms. It will also find some languages significantly more challenging than others, and many are not supported at all.

Automated Captioning

This technology is also referred to as automatic speech recognition (ASR), speech-to-text (STT), and voice recognition.

- **Captioning:** Same-language display of the transcript on a video screen. It may include non-speech elements such as descriptions of music, sounds, or speaker identification.

- **Purpose:** To provide greater content accessibility for those who speak the same language.

- **Primary beneficiaries:** It includes people who are Deaf, Late-Deafened, or Hard-of-Hearing; non-native speakers of a language so they can follow along; native speakers to better assimilate the content that is discussed; and viewers who watch videos without the sound on.

  Note: For many people who are Deaf, signed language is their first language and therefore much more important than any written words. For those Hard-of-Hearing, captions and transcripts are often their preferred mode of understanding.

  > *"Individuals who use American Sign Language (ASL) are not always proficient in reading English, so even if the automated captions are 100% correct, the client still can't understand them." [Signed language interpreter in Michigan, no AI experience]*

- **What's behind automation:** Essentially the same as transcription plus timing to fit captions to the video action.

- **Sample solutions:** Amazon Transcribe, ava, Boostlingo AI Pro, CaptionHub, Microsoft Azure Speech, SyncWords, Wordly.ai, YouTube Transcript, Zoom ("TechStack: Captioning and Subtitling" © CSA Research).

- **Common challenges:** Same as transcription, plus the additional challenge of timing the appearance of captions on the screen to the words being spoken. It may require content simplification to allow text to be compressed to a maximum of three lines

while conveying the meaning of the soundtrack. For some languages, such as German, content shortening is considered a requirement.

Automated Subtitling

* **Subtitling:** Displaying of captions in a different language on a video screen.

* **Purpose:** Provide greater language access.

* **Primary beneficiaries:** Foreign language speakers.

* **What's behind automation:** Large datasets of written language, large language models, machine translation engines.

* **Sample solutions:** Many providers who offer automated captioning also offer automated subtitling ("TechStack: Captioning and Subtitling" © CSA Research).

* **Common challenges:** Same as for captions, along with the added challenges of error compounding caused by speech recognition, the still emerging domain of script cleanup, and the known limitations of machine translation.

Note: You need a full sentence before you can translate a caption. In real-time subtitling, you don't have that luxury. The most advanced technology produces written translations in real-time and then automatically revises the text dynamically as the speaker progresses. Systems can implement a delay between this dynamic revision on screen so that readers are not confused by continually updating text.

Automated Interpreting

Also referred to as automated speech translation (AST), machine interpreting, speech-to-speech translation (S2ST), spoken translation, or text-to-speech (TTS).

- **Interpreting:** Rendering of a translation in spoken form.

- **Purpose:** Provide greater language access.

- **Primary beneficiaries:** Speakers of foreign languages. Especially helpful for those who are Blind or Visually Impaired, those otherwise occupied and unable to read (people driving cars, operating machinery, or multitasking while watching content on screen), and those who don't know how to read (such as young children).

- **What's behind automation:** Automated interpreting is the output resulting from an amalgam of four technologies: 1) speech recognition to convert the speech to text; 2) transcript cleanup and normalization to make the text machine-ready; 3) machine translation to translate the text into the desired language; and 4) speech synthesis to voice the translation. This last step relies on recorded speech units that serve as models generating complete utterances; parameters to modify the speech (such as gender, pitch, and speed); and voice definition (for example, cloned voices).

- **Sample solutions:** Table 6 summarizes sources of automated interpreting.

Table 6: Source of Automated Interpreting Solutions

Category	Description	Examples
Wearables	Earbuds, watches, and other wearables enabled with the ability to translate conversations in real time.	• Apple Watch with iTranslate Converse • Google Pixel Buds • ili Offline Speech Translator • Jarvisen Translator • mymanu • PocketTalk • Timekettle • Vasco Translator
Pocket translators found on app stores	These solutions appeal to tourists or people who deal with language access issues for basic conversations on a daily basis. While some of these apps have great download numbers, their usage and market share remain modest.	• DoTalk • SayHi • Speak & Translate from Apalon • Translate – Pocket Translator • TranslateMe • TripLingo • Voice Translator from AxismobInc
Generic tools	These tools have evolved past machine translation to provide speech-to-speech translation. They are often integrated to conference and video chats solutions.	• Galaxy AI Live Translate • Google Translator • Microsoft Translator • Skype Translator
Multilingual conferencing applications	Conferencing solutions now include AI options for the events industry.	• KUDO AI Speech Translator • Interprefy Aivia • OneMeta.ai • WaverlyLabs • Wordly.ai
Specialized tools	All-purpose tools sometimes offer specialized versions for specific verticals.	• ava • ILA from TranslateLive • iTranslate • MiraiTranslate • Orion Speech-to-Speech Translation • SoundHound

Source: CSA Research

- **Common challenges:** Automated interpreting is not the most common usage – to date – of automated solutions. Most people prefer to read subtitles in their language rather than listen to a synthetic voice render machine translation.

An Essential Step: Script Cleanup

You don't speak like you write, yet machine translation – the key technology to turn voice content multilingual – is trained on written text. So automated solutions require a preprocessing step to convert what is said into what was meant to be said, i.e., to clean up the raw transcript rendered by the speech recognition tool. This step transforms the raw transcript into text that is more similar to normal written text by adding punctuation and capitalization, expanding acronyms, and removing duplication. If you simply feed a raw script to machine translation, the results may not be acceptable.

> *Note: Speech-to-speech solutions that don't transition via the written word remain in experimental stages at this point. Refer to Translatotron for an example.*

Figure 12 depicts an example from Microsoft's TrueText technology. This example shows the removal of an unwanted duplication, the correction of an incorrect homonym, and the addition of punctuation and capitalization. The same type of cleanup applies to a variety of verbal tics such as um, euh, stutters, and more.

Figure 12: Sample Script Cleanup
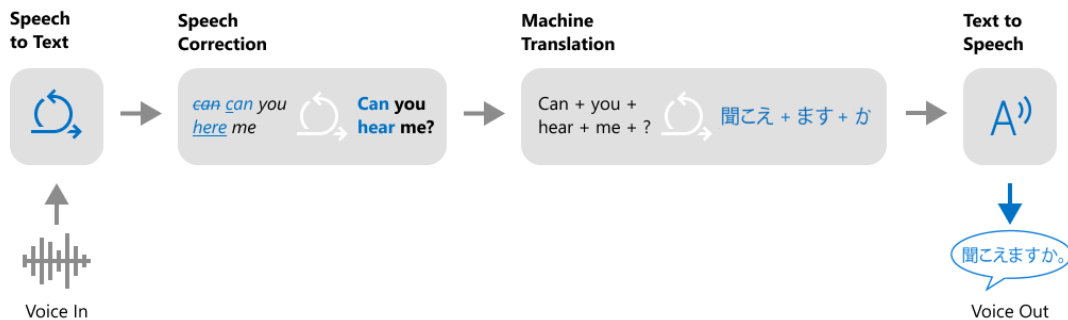
Source: TrueText from Microsoft

Solutions Related to Signed Language

The technologies that enable automated signed language interpreting are vastly different than the ones used for spoken languages and remain in their infancy.

Automated Text-to-Sign

Also referred to as signed or sign language.

- **Signed language:** Visual-manual language.

  Note: Every language – and even countries sharing the same tongue – has unique signed language for Deaf and Hard-of-Hearing people with varying gestures and motions. There are estimated to be between 200 and 300 signed languages worldwide. For example, American Sign Language (ASL) is very different from British Sign Language (BSL), while Quebec Sign Language (LSQ) is not the same as that more commonly used in France.

- **Purpose:** Translation of written or spoken language into signed language.

- **Primary beneficiaries:** People who are Deaf or Late-Deafened.

- **What's behind automation:** Speech-to-text conversion, natural language processing for contextual understanding; digital avatars that represent signed language interpreters; and advanced graphic rendering and animation techniques.

- **Sample solutions:** Hand Talk, Signapse, SignForDeaf.

- **Common challenges:** Currently only available for prepared or prerecorded content rather than for on-the-fly use. Much of the nuance that matters in signed languages cannot yet be modeled in AI systems.

  > *"I've only seen animations that produce very simple sign language sentences to this point." [Interpreter trainer in Georgia, moderate AI experience, finds results good]*

  > *"There is no way AI will be able to keep up with someone who is signing in real time and still be accurate. It would be such fast movement that the AI would only*

spit out gibberish." [Signed language interpreter in Washington, not much AI experience, finds spoken language results poor and signed language results unacceptable]

Automated Sign-to-Text

- **Translation from signed language:** Spoken or text translation of visual-manual language.

- **Purpose:** Translation of signed language.

- **Primary beneficiaries:** People who communicate with those who are Deaf or Late-Deafened.

- **What's behind automation:** The input comes from either: 1) Motion capture gloves equipped with sensors to capture the movement and position of hands and fingers and optional wearable sensors attached to arms and face to capture more nuance; or 2) camera-based systems that analyze and interpret signed language. This input is then processed against gesture recognition algorithms and convolutional neural networks (CNNs) for image and gesture recognition.

- **Sample solutions:** SignForDeaf, Slait.ai.

   "ASL or other signed language interpreting involves more variables than in spoken languages. The machine will have to receptively understand signs visually, instead of just needing clear audio. Colors, lighting, and background will all need to be ideal." [Signed language interpreter in Texas, no AI experience]

Chapter 5
Experience Using Automated Solutions

> *"Just like translation software has improved tremendously, automated interpreting could be very reliable considering some interpreters sometimes omit, change, and add information, or simply forget a term while interpreting."*
> *[Interpreter in Texas, moderate AI experience, finds results unacceptable]*

This study focuses on perceptions that respondents have of automated solutions today. However, perceptions do not all carry the same weight. If someone is really opposed to AI but has never experimented with a solution, their feedback is influenced by their belief system and is not based on the actual capabilities of the technology.

For readers of this report, it's important to contrast opinions based on personal values versus feedback from people with hands-on experience who have tested technology to determine its value for specific use cases. Decisions to use AI must balance both ethical use and actual software capabilities.

At this point in time, interpreting solutions – whether for spoken or signed language – are not the most common deployments of AI in language services. Over the prior six months, we have found more extensive instances of usage or testing in captioning (27% of respondents have used or tested either extensively or moderately in this area), subtitling (19%), and transcription (18%). In comparison, only 11% of participants claimed hands-on experience with automated interpreting and a mere 1% for signed language solutions (Figure 13).

> *Note: For written services, machine translation has much higher usage numbers than any of the interpreting services we investigated ("How Do LSPs Use MT?" © CSA Research and "How Do Freelancers Use MT?" © CSA Research). MT is much more pervasive, either augmenting human services or applied alone for use cases where MT is sufficient ("The Post-Localization Era" © CSA Research).*

Figures 14 through 18 provide more in-depth data cuts to refine the profile of those who have used – or not used – automated solutions in the previous six months.

Note: In the rest of this report, hands-on experience refers to individuals who selected either extensive or moderate usage or testing in the last six months with either spoken or signed language interpreting solutions.

Figure 13: Overview of Level of Experience with Automated Solutions

Have you tested or used the following AI-driven services?
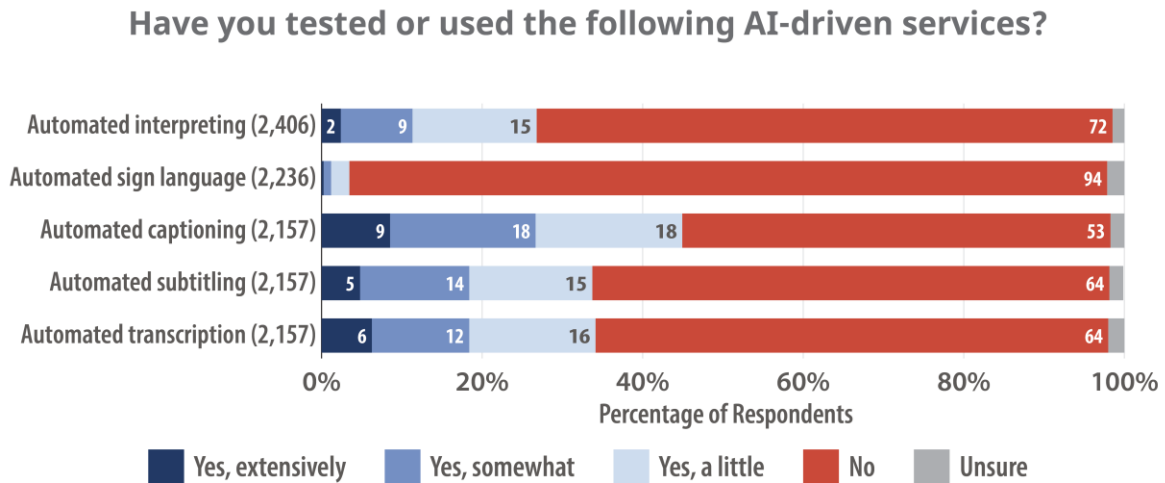
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Automated Spoken Language Interpreting

> *"I have never used it, so I would need to see it in action to be able to have a more accurate opinion about it." [Interpreter in Canada, no AI experience]*

Very few responses in this study are grounded in first-hand observation of full speech-to-speech roundtrip solutions. Just 2% of respondents had extensive personal experience in the previous six months, while 9% used such a solution moderately, likely indicating inconsistent use or a testing phase. Another 15% used it "just a little" – those are individuals likely exposed a handful of times or who downloaded an app but didn't use it much. Nearly three-quarters of respondents (72%) never tried automated interpreting. A scant 1% were unsure whether they had ever engaged with the technology – usually because they weren't able to identify the source of the interpretation received (Figure 14).

When we calculated a score to gauge results across audiences, those with the most experience were technology vendors. Few software providers in this study sold AI

interpreting products – their experimenting with solutions likely indicated either an interest in learning what their competitors or market disruptors were developing or a sign of their plans to develop such technology. Policy makers also had more hands-on experience than other industry roles, likely to get a sense of product capabilities before making usage recommendations. Interestingly, the next groups with the most experience were frontline professionals and service recipients, indicating an interest to see if automated solutions could meet their needs.

In contrast, those who experimented with automated spoken translation the least were professional interpreters who comprised the overwhelming majority of respondents in this study. Only 22 interpreters out of 1,632 (1%) had extensive experience with the technology.

> **Note:** Language professionals do not need automated interpreting tools for their main languages, which explains why so few have some experience. What is surprising is that so few interpreters were curious about the capabilities of the disruptive competition.

Figure 14: Level of Experience with Automated Interpreting

Have you tested or used automated interpreting?

Legend: Yes, extensively | Yes, somewhat | Yes, a little | No | Unsure

Category	Yes, extensively	Yes, somewhat	Yes, a little	No	Unsure	Score
Average of audiences (2,406)		9	15	72		0.41
Hands-on experience with AI (282)	21	76				2.17
No such experience (2,124)			17	81		0.17
In the US (1,896)		9	15	73		0.38
Outside the US (510)	5	10	18	66		0.52
ALL END-USERS (249)	4	13	24	56		0.64
Service recipients (62)	10	18	32	39		0.97
Frontline professionals (187)	3	12	21	62		0.53
ALL REQUESTORS (142)		8	20	69		0.40
Procurement (43)		7	26	63		0.47
Schedulers (99)		8	18	72		0.37
ALL PROVIDERS (2,015)		8	14	74		0.38
Technology vendors (33)	33	12	15	30	9	1.39
Interpreters (1,632)		8	14	76		0.33
Interpreter trainers (56)	4	9	20	68		0.48
LSPs (247)	4	10	15	69		0.47
Professional associations (10)		20	20	60		0.60
Policy makers (10)	10	40	20	30		1.30
Students & retirees (27)	4	15	4	78		0.44

Percentage of Respondents

More Open to AI

Yes, extensively   Yes, somewhat   Yes, a little   No   Unsure

© CSA Research

Automated Signed Language Interpreting

> *"Expectations for AI are higher than what machines can provide."* [Signed language interpreter in Arizona, no AI experience]

If hands-on experience is low for spoken languages, then it's even lower for signed language interpreting. Nearly all respondents (94%) had never used sign-to-text or text-to-sign technology. Only 8 respondents across the entire 2,236 respondent set had extensive experience with such tools in the last six months, and 1% had only moderate exposure. The answer is not surprising because signed language technology is not something people test if they don't have a need for it (Figure 15).

The scores we calculated by role indicate that extensive testing was usually only done at the service recipient and technology vendor levels and moderate testing with policy makers. This ensures that feedback is grounded in experience. The results of this study were overwhelmingly negative for text-to-sign and sign-to-text technology. The major reason for bad scores is the state of the software: It is nowhere close to what is possible on the spoken language front at this point. This is also likely why so few people have experimented with it to date – good word of mouth has yet to appear.

Figure 15: Level of Experience with Automated Signed Language

Have you tested or used automated sign language?

Category	Score
Average of audiences (2,236)	0.05
Hands-on experience with AI (251)	0.33
No such experience (1,985)	0.02
In the US (1,739)	0.04
Outside the US (497)	0.08
ALL END-USERS (79)	0.27
Service recipients (30)	0.67
Frontline professionals (49)	0.02
ALL REQUESTORS (142)	0.05
Procurement (43)	0.05
Schedulers (99)	0.05
ALL PROVIDERS (2,015)	0.04
Technology vendors (33)	0.33
Interpreters (1,632)	0.04
Interpreter trainers (56)	0.02
LSPs (247)	0.06
Professional associations (10)	0.00
Policy makers (10)	0.20
Students & retirees (27)	0.00

Legend: Yes, extensively | Yes, somewhat | Yes, a little | No | Unsure

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Automated Captioning

We did not include questions related to the remaining AI-driven services (captioning, subtitling, and transcription) for end-users.

Automated subtitling in the same language as the language spoken on screen received first-hand exposure the most. 9% used or tested it extensively, 18% moderately, and another 18% a little. About one-half (53%) never explored it. These higher-than-other numbers stem from the fact that captions are readily available in many video conferencing tools and social media platforms, even in Facebook and YouTube videos (Figure 16).

The biggest users and testers came from the ranks of technology vendors, policy makers, and interpreter trainers. The least experienced respondents were interpreters, but language professionals are the least likely to have a personal need for interpreting.

Figure 16: Level of Experience with Automated Captioning

Have you tested or used automated captioning?

	Yes, extensively	Yes, somewhat	Yes, a little	No	Unsure	Score
Average of audiences (2,157)	9	18	18	53		0.80
Hands-on experience with AI (237)	25	35	16	22		1.60
No such experience (1,920)	7	16	19	57		0.71
In the US (1,670)	8	17	17	57		0.75
Outside the US (487)	12	20	24	42		1.00
ALL REQUESTORS (142)	7	18	27	48		0.84
Procurement (43)	5	21	33	42		0.88
Schedulers (99)	8	16	25	51		0.82
ALL PROVIDERS (2,015)	9	18	18	54		0.80
Technology vendors (33)	48	24	9	15	3	2.03
Interpreters (1,632)	7	17	17	57		0.73
Interpreter trainers (56)	11	32	18	39		1.14
LSPs (247)	11	23	19	47		0.98
Professional associations (10)		50	20	30		1.20
Policy makers (10)	30	20	30	20		1.60
Students & retirees (27)	15	15	30	33	7	1.04

Percentage of Respondents — More Open to AI

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Automated Subtitling

Subtitling is relatively similar to captioning, except that the on-screen text is in a different language than the one being spoken by the presenter. 5% of respondents had tested or used automated subtitling in the previous six months, while 14% had done so moderately, and 15% just a little. Approximately two-thirds of respondents (64%) had no hands-on experience (Figure 17).

Technology vendors, policy makers, and representatives of professional associations had the most experience – they need to know how to respond to market entrants with solutions that promise to change the world of subtitling.

Figure 17: Level of Experience with Automated Subtitling

Have you tested or used automated subtitling?

	Yes, extensively	Yes, somewhat	Yes, a little	No	Unsure	Score
Average of audiences (2,157)	5	14	15	64		0.57
Hands-on experience with AI (237)	17	32	18	31		1.34
No such experience (1,920)	3	11	15	69		0.48
In the US (1,670)	4	13	14	68		0.51
Outside the US (487)	8	17	20	53		0.78
ALL REQUESTORS (142)	6	11	21	62		0.61
Procurement (43)	5	21	21	53		0.77
Schedulers (99)	7	6	21	66		0.55
ALL PROVIDERS (2,015)	5	14	15	65		0.57
Technology vendors (33)	33	21	21	21	3	1.64
Interpreters (1,632)	4	13	14	68		0.50
Interpreter trainers (56)	4	30	9	55		0.80
LSPs (247)	8	18	17	56		0.76
Professional associations (10)	10	30	20	40		1.10
Policy makers (10)	20	10	40	30		1.20
Students & retirees (27)	4	7	26	56	7	0.52

Percentage of Respondents — More Open to AI

Legend: Yes, extensively | Yes, somewhat | Yes, a little | No | Unsure

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Automated Transcription

The final service we asked about was transcription, the automated written record of a conversation. Transcripts are available in many videoconferencing solutions, which

explains why 6% of respondents had extensive experience, 12% moderate experience, and 16% minor experience over the last six months. Just under two-thirds of respondents (64%) had not tested or used such a solution (Figure 18).

Once again, technology vendors led the list of top investigators, followed by representatives of professional associations and policy makers.

Figure 18: Level of Experience with Automated Transcription

Have you tested or used automated transcription?

	Yes, extensively	Yes, somewhat	Yes, a little	No	Unsure	Score
Average of audiences (2,157)	6	12	16	64		0.59
Hands-on experience with AI (237)	23	30	14	30	3	1.43
No such experience (1,920)	4	10	16	68		0.49
In the US (1,670)	5	11	14	68		0.52
Outside the US (487)	10	16	22	49		0.84
ALL REQUESTORS (142)	6	14	15	63		0.63
Procurement (43)	7	16	21	56		0.74
Schedulers (99)	6	13	13	67		0.58
ALL PROVIDERS (2,015)	6	12	16	64		0.59
Technology vendors (33)	33	27	18	18	3	1.73
Interpreters (1,632)	5	10	16	67		0.50
Interpreter trainers (56)	7	23	14	54		0.82
LSPs (247)	13	16	16	54		0.87
Professional associations (10)	10	30	20	40		1.10
Policy makers (10)	30	30	20	20		1.70
Students & retirees (27)	4	19	26	48	4	0.74

Percentage of Respondents   More Open to AI

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Chapter 6
Quality of Automated Solutions

> *"The real problem with AI interpreting is that if the AI is the only one in the room who understands both languages, in many cases errors (sometimes serious ones) could slip through without anyone becoming aware of it." [Interpreter in Georgia, no AI experience]*

Now that we have established usage practice, the next step consists in gauging perceptions of quality. Only respondents who used or tested a specific automated technology were presented with a question related to quality.

Quality is a very subjective topic. The biggest hurdle for machine output is the comparison to human output and the assumption that human captioners, subtitlers, or interpreters consistently provide high quality, especially when not all practicing interpreters are qualified to do the job – think in particular about bilinguals without qualifications. For example, if an interpreter makes a mistake, it's assumed they did their best. If machine interpreting makes a mistake, it's assumed to be a technology limitation.

> *"Human to human communication is the gold standard." [Interpreter in Illinois, no AI experience]*

This naturally takes us to the common analogy of a drinking glass filled halfway. Those who see the glass as half empty see all the mistakes from machine outputs. Those that see the glass as half full focus on the potential of artificial intelligence. Machine output requires a bit of a leap of faith, but users are getting used to the blunders of Siri or Alexa, which conditions them to be more tolerant of mistakes. Exposure to it trains their brain to skip errors, ask questions differently, or enunciate better.

Technology vendors do not promise 100% quality. Is perfection required for AI to be useful? Can imperfections be glossed over when no harm is done? As you review the data in this chapter, account for your own perception of what you measure AI's output against.

Note: *Technology is improving by leaps and bounds every year. Perceptions are bound to evolve as the output of AI-based systems generates ever more accurate results.*

Elements That Affect Output Quality

> *"Capturing clear input remains a hidden challenge as nobody thinks about input audio quality." [LSP in Belgium, moderate AI experience, finds results good]*

AI output quality is not equal from one system to the next. Quality standards do not exist yet for technology vendors. A variety of technical and deployment factors contribute to differences. Here are some common elements that affect results:

- **Sound quality.** Factors like poor acoustics drastically influence output. Good audio means that each speaker has their own table microphone if it's an in-person session or a quality headset if they're engaging remotely. Sound quality varies greatly, depending on whether the system is used in a quiet environment, one with music in the background, or one with loud noises.

- **Clear speaking.** First, you want perfect enunciation and good grammar – which can vary from one speaker to the next, especially when you account for factors such as age, health, or fatigue level. Second, most applications don't deal well with people talking over each other – in those cases, you need a moderator to give the floor to people so they can only speak one at a time. Check whether systems capture a single audio track or are capable of processing each audio source independently. Since AI doesn't "speak up" to ask for meeting participants to take turns, you may face logistical issues to ensure no meaning is lost or distorted – for example when the AI attributes input from one speaker to another.

> *"Often, people talk over each other, and it is impossible for me to interpret everything at once. Even if it were possible, people cannot take in multiple interpretations at the same time. If AI could interrupt the discourse and tell people to speak one at a time, then it might gain some trust." [Signed language interpreter in Florida, no AI experience]*

> *"When multiple people are speaking at the same time, it may be difficult for the machine to accurately interpret all spoken utterances correctly. Machine*

> *interpreters are less able to read body language or use intuition if one party seems to not understand something. They experience more difficulty in acting as cultural brokers." [Frontline professional in Wisconsin, no AI experience]*

- **Custom training.** Has the system been trained with people, company, and product names? Has a glossary with your jargon been uploaded? Has the voice recognition engine been calibrated to your voice or to that of your typical end-users – such as children in school or pediatric healthcare settings or older adults in a nursing home setting? Training for a specific use case or meeting can reduce the items that typically trip up the AI and cause mistakes. It is just like machine translation: A trained engine performs better than a generic one.

- **Visual cues.** AI lacks the ability to derive input from facial expressions, gestures, intonation, and many more criteria that humans consider when interpreting. Automated speech translation is akin to telephone interpreting, which deprives the interpreter of such cues. AI just focuses on the words uttered or signs made – no more, no less. So, consider the significance of the visual context for the situation you are testing to help you decide if it is realistic to apply AI.

- **Algorithms to choose the right engine for the conversation.** For example, does the tool rely on a single machine translation provider or does it pick and choose a different one for each language? Is the solution savvy enough to start a meeting with one engine and switch to another one better suited to a more specialized content type as the conversation changes topic?

- **Development and testing process.** Does the system depend on off-the-shelf components and assume that they can deliver good enough quality? Or has specific testing been conducted to gauge fluency, accuracy, missing words, incorrect word order, or other mistakes? What is the level of experience and expertise of the individuals who review the output?

- **Data quality.** Engine training requires vast amounts of quality data. What was used to train the system originally? Is the engine continuously trained based on new sessions ("Bridging the Multilingual Training Data Divide" © CSA Research)?

Thoughts on Quality of Automated Solutions

> *"As a general rule, AI is better than most people want to admit in my view. Machines can be highly accurate and faster/better than humans for highly technical, scientific, and medical terminology. Where nuance is important, humans do better. But nobody wants to listen to a robot voice over a human – ever." [LSP in Belgium, moderate AI experience, finds results good]*

Let's start with the overall results. Captioning and transcription – just variants of the same technology backbone – showed impressive results with just over one-half of respondents (53% and 52%, respectively) who found the quality excellent or good. These enthusiastic results are not a good omen for professional captioners and transcriptionists.

Subtitling came in third place with 40% who were sufficiently pleased with the results, meaning that adding a machine translation component reduced the level of satisfaction. Spoken language interpreting fell slightly behind that at 36% – the difference was that the process adds voice synthesis, which many users find too robotic. Signed language interpreting appeared at the bottom of the quality scoreboard with just under one-third of its users (29%) perceiving quality to be satisfactory, indicating some real concerns with the output (Figure 19).

Figure 19: Overview of Perceptions of Automated Solutions Quality

**Question for those who tested or used the relevant AI-driven services:
What did you think about the quality?**

Automated interpreting (625): Excellent 4, Good 32, Poor 42, Unacceptable 14, Unsure 8
Automated sign language (77): Excellent 8, Good 21, Poor 25, Unacceptable 34, Unsure 13
Automated captioning (944): Excellent 4, Good 49, Poor 37, Unacceptable 6, Unsure 4
Automated subtitling (705): Good 38, Poor 42, Unacceptable 9, Unsure 10
Automated transcription (711): Excellent 6, Good 46, Poor 37, Unacceptable 6, Unsure 5

Percentage of Respondents

Excellent · Good · Poor · Unacceptable · Unsure

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Figures 21 through 25 provide more in-depth data cuts to narrow down the perceptions of quality by respondent profile. But before we cover those, let's contrast the experience with automated interpreting with perceptions about quality (Figure 20). Those who used the technology extensively to moderately are more likely to find the output good than those who only dabbled with it. Exposure to tools helps improve perceptions around capabilities, turning the half empty glass to one that's half full.

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Figure 20: The Impact of Experience on Quality Perceptions

The Impact of Experience on Quality Perceptions

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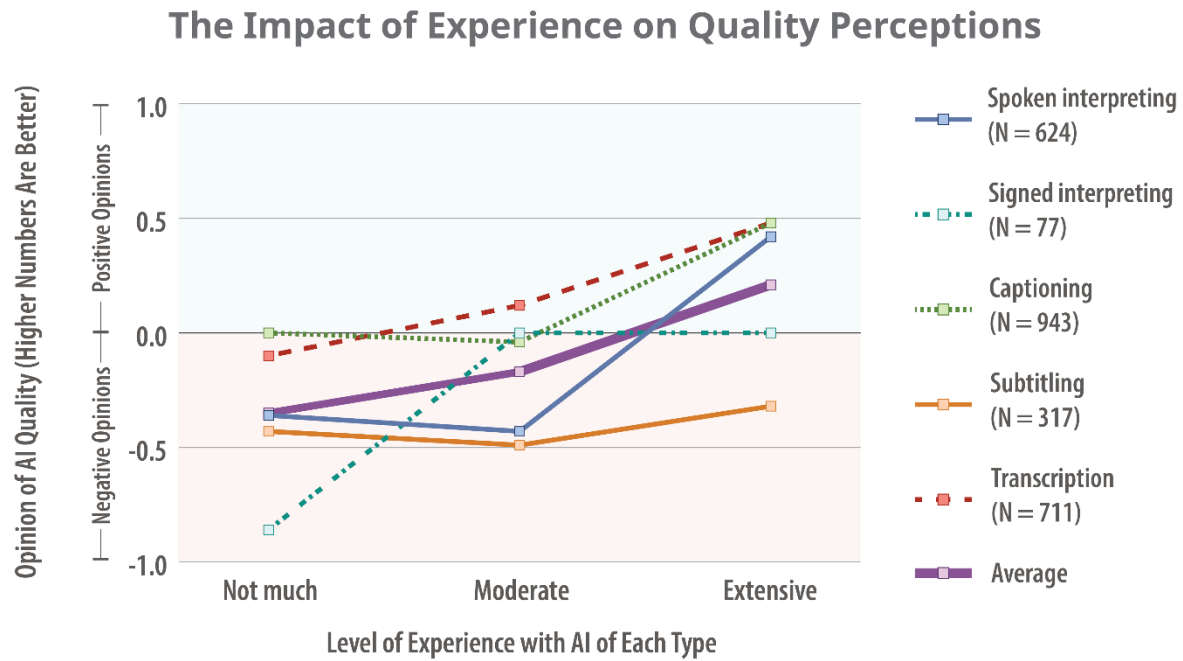
Automated Spoken Language Interpreting

When we examine automated speech translation results, 56% of responses were negative (42% fell in the "poor" category and 14% "unacceptable"). In contrast, 36% were positive (32% find results "good" and "4% "excellent"). This is where results based on level of experience become more interesting. Technology vendors – naturally the heaviest testers – tend to find the results better than the rest of the groups we analyzed, even despite the fact most respondents in this group were not from AI-focused companies. The most negative cohort was made up of three representatives of professional associations (Figure 21).

Figure 21: Perceptions of Automated Interpreting Quality

What do you think about the quality of automated interpreting?

Score

Category	Excellent	Good	Poor	Unacceptable	Unsure	Score
Average of audiences (625)	4	32	42	14	8	-0.31
Hands-on experience with AI (273)	6	34	39	15	5	-0.22
No such experience (352)		30	44	14	11	-0.38
In the US (465)	3	29	44	14	9	-0.36
Outside the US (160)	6	38	35	16	6	-0.17
ALL END-USERS (105)	7	42	28	12	11	0.03
Service recipients (38)	13	29	34	16	8	-0.11
Frontline professionals (67)	3	49	24	10	13	0.10
ALL REQUESTORS (41)		32	44	17	5	-0.41
Procurement (15)	7	33	40	13	7	-0.20
Schedulers (26)		31	46	19	4	-0.54
ALL PROVIDERS (479)	3	29	45	14	8	-0.38
Technology vendors (20)	5	70	15	5	5	0.55
Interpreters (356)	3	25	46	18	9	-0.50
Interpreter trainers (17)		41	53	6		-0.24
LSPs (70)		39	50	4	6	-0.17
Professional associations (3)			67		33	-0.67
Policy makers (7)	29	14	29	14	14	0.14
Students & retirees (6)	33	33	33			0.67

Percentage of Respondents

More Open to AI

■ Excellent　■ Good　■ Poor　■ Unacceptable　■ Unsure

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Automated Signed Language Interpreting

> *"Speech-to-text may reach 95% accuracy, but avatars have a very long way to go."*
> *[Signed language interpreter in Texas, not much AI experience, finds spoken*
> *language results poor and signed language results unacceptable]*

For signed language, the majority of answers (59%) fell in the negative group with 34% who find results "unacceptable" and 25% who find them "poor." This technology collected only 29% of positive answers – 21% thought quality is "good" and 8% "excellent." There was clearly little enthusiasm for the current state of technologies available for text-to-sign or sign-to-text. Much of the frustration comes from the fact that sign languages involve more than hand movement – they also rely on facial expressions and body movement (Figure 22).

> *"Facial expressions and gestures are not seen by an app or machine, and these*
> *are indicative of many feelings in several cultures." [Frontline professional in*
> *Pennsylvania]*

The very high scores in some groups were due to the fact that they represented the perspective of a single respondent and thus were not statistically significant. However, the Task Force requested that we present all data for reference. Note also that some groups received no responses at all.

Additional research is needed for text-to-sign solutions to gauge whether quality perceptions vary for live interpreting of unplanned content versus the use of avatars for pre-planned content such as notifications in a train station or airport.

Figure 22: Perceptions of Automated Sign Language Quality

What do you think about the quality of automated sign language?

Score

Category	Excellent	Good	Poor	Unacceptable	Unsure	Score
Average of audiences (77)	8	21	25	34	13	-0.56
Hands-on experience with AI (46)	13	22	17	35	13	-0.39
No such experience (31)		19	35	32	13	-0.81
In the US (54)	6	20	26	37	11	-0.69
Outside the US (23)	13	22	22	26	17	-0.26
ALL END-USERS (10)	20	20	10	40	10	-0.30
Service recipients (9)	11	22	11	44	11	-0.56
Frontline professionals (1)	100					2.00
ALL REQUESTORS (5)	20	20		40	20	0.20
Procurement (1)	100					2.00
Schedulers (4)		25	50		25	-0.25
ALL PROVIDERS (62)	5	21	26	35	13	-0.66
Technology vendors (6)	33		33	17	17	0.00
Interpreters (44)		20	30	41	7	-0.86
Interpreter trainers (1)		100				1.00
LSPs (10)		20	10	30	40	-0.50
Professional associations (0)						0.00
Policy makers (1)		100				1.00
Students & retirees (0)						0.00

Percentage of Respondents

More Open to AI

Legend: Excellent · Good · Poor · Unacceptable · Unsure

Automated Captioning

> *"I use AI for my captioning process. It does the typing; then I go through and clean it up. The errors are quite amusing most of the time. It is not an understandable document without hours of cleanup." [Signed language interpreter in Texas, moderate AI experience, finds spoken and signed language results poor]*

> **Note:** *End-users did not see survey questions about the quality of the remaining three AI-driven technologies (captioning, subtitling, and transcription).*

53% of respondents showed enthusiasm for the quality of automated captioning (49% perceive the quality to be "good" and 4% "excellent"). In contrast, 43% had negative perceptions (37% find results "poor" and 6% "unacceptable"). Technology vendors were the most impressed overall, followed by the student and retiree group. The more negative perspectives came from policy makers and those who had not used the technology much (Figure 23).

For a future study, it would be instructive to contrast quality perceptions for those who have a hearing impediment versus those who don't (for example, when listeners choose to use captions as a supplement to voice or to mute sound). Ideally, captioning systems should be able to equally satisfy the needs of both groups, and not just those who have an alternate way to access the content and are therefore more forgiving of mistakes.

> *"I'm a Deaf Medical Laboratory Professional working in a hospital lab. I use apps like Microsoft Teams and Google Meet, as well as Live Caption, to access information in real time. These apps can caption what is being said overhead and caption nearby conversations with 90-99% accuracy even in a noisy lab environment. It's great for accessing information. I can see how automated interpreting, such as Windows 11's Live Caption, could benefit certain people, especially late-deafened patients for information access." [Individual in Oklahoma, extensive AI experience, finds results excellent]*

Figure 23: Perceptions of Automated Captioning Quality

What do you think about the quality of automated captioning?
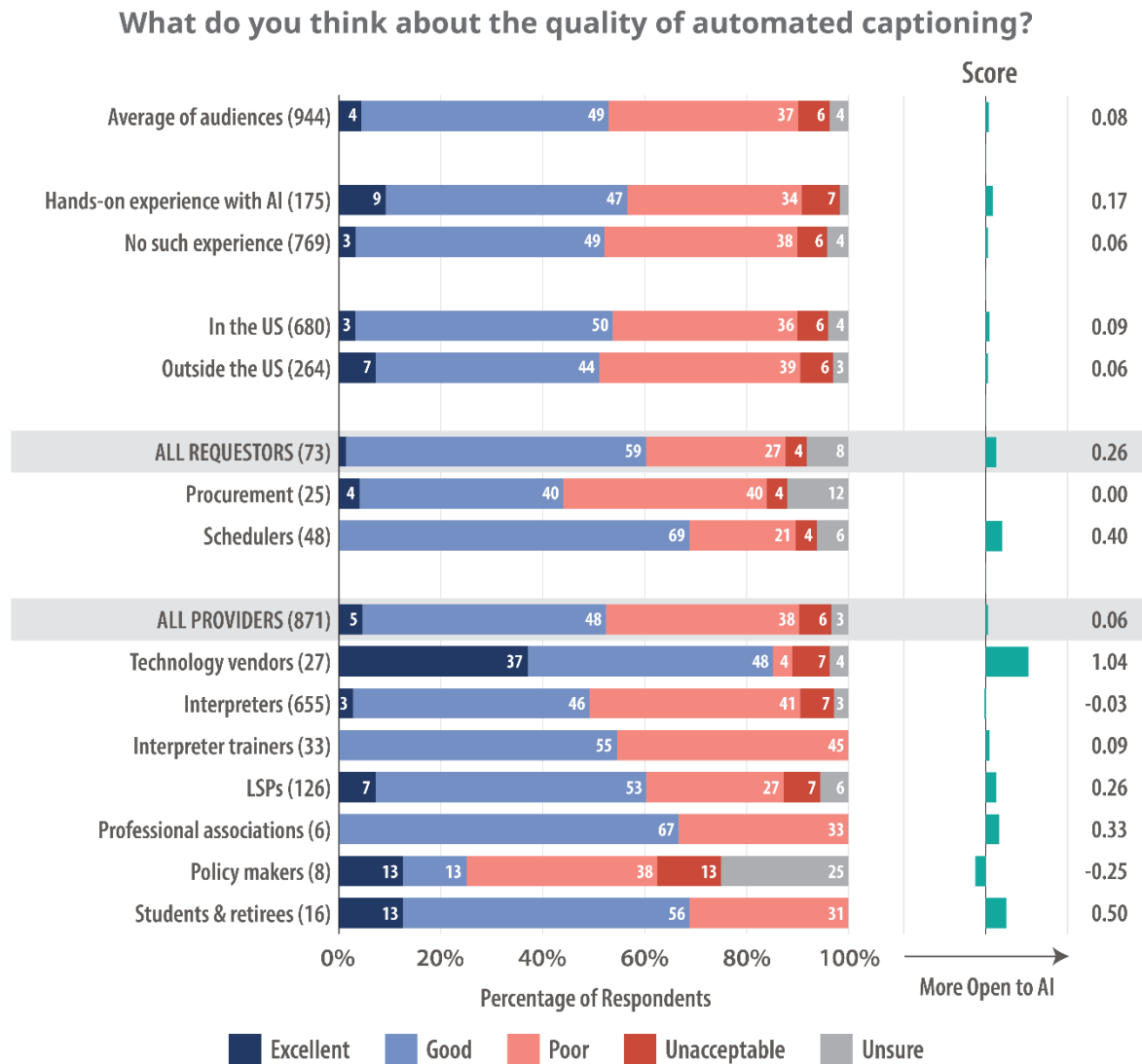
© CSA Research

Automated Subtitling

Captioning had 49% reporting results to be "good" versus 37% reporting them to be "poor." The balance of opinion flips when switching to subtitling with 42% perceiving quality to be "poor" versus 38% saying it's "good." Adding an MT component lowered quality perception due to the compounded mistakes from voice recognition and MT ("TechStack: Captioning and Subtitling" © CSA Research) (Figure 24).

Policy makers and those who barely used the technology were the most negative about the output, while technology vendors and those with hands-on practice were most likely to rave about it. As a reminder, most software providers did not come from AI ranks, but they were the most assiduous in testing solutions.

Figure 24: Perceptions of Automated Subtitling Quality

What do you think about the quality of automated subtitling?

Category	Score
Average of audiences (705)	-0.16
Hands-on experience with AI (159)	-0.19
No such experience (546)	-0.16
In the US (494)	-0.22
Outside the US (211)	-0.03
ALL REQUESTORS (54)	-0.11
Procurement (20)	-0.25
Schedulers (34)	-0.03
ALL PROVIDERS (651)	-0.17
Technology vendors (25)	0.80
Interpreters (479)	-0.28
Interpreter trainers (23)	-0.48
LSPs (101)	0.14
Professional associations (6)	0.00
Policy makers (7)	0.14
Students & retirees (10)	0.00

Legend: Excellent, Good, Poor, Unacceptable, Unsure

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Automated Transcription

Transcription aligns fairly closely with captioning. Nearly one-half of respondents (46%) experienced "good" results in contrast to the 37% who experienced "poor" transcripts. Again, we find that respondents with more experience are the most enthusiastic versus those with minimal exposure being the least enthused ("TechStack: Automated Transcription Solutions" © CSA Research) (Figure 25).

Figure 25: Perceptions of Quality for Automated Transcription

What do you think about the quality of automated transcription?

		Score
Average of audiences (711)	6 / 46 / 37 / 6 / 5	0.09
Hands-on experience with AI (155)	10 / 46 / 34 / 7 / 3	0.17
No such experience (556)	5 / 47 / 38 / 6 / 5	0.06
In the US (483)	5 / 45 / 38 / 7 / 6	0.02
Outside the US (228)	8 / 50 / 35 / 4	0.23
ALL REQUESTORS (51)	63 / 31 / 4	0.35
Procurement (19)	5 / 53 / 37 / 5	0.26
Schedulers (32)	69 / 28 / 3	0.41
ALL PROVIDERS (660)	6 / 45 / 38 / 7 / 5	0.07
Technology vendors (26)	27 / 46 / 15 / 4 / 8	0.77
Interpreters (475)	5 / 42 / 40 / 8 / 5	-0.04
Interpreter trainers (25)	64 / 36	0.28
LSPs (108)	6 / 56 / 30 / 4 / 5	0.31
Professional associations (5)	60 / 40	0.20
Policy makers (8)	13 / 38 / 38 / 13	0.25
Students & retirees (13)	23 / 15 / 62	0.00

Percentage of Respondents — More Open to AI →

Legend: ■ Excellent ■ Good ■ Poor ■ Unacceptable ■ Unsure

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Perceptions of Accuracy for Automated Interpreting

> *"Sometimes 'simple' conversations are the most complex, if there is a lot of shared previous knowledge and the parties are speaking in shorthand about a topic – or if the parties have low levels of education and use fewer words to express their ideas." [Technology vendor, moderate AI experience, finds results good]*

To analyze quality perceptions further, we asked respondents to contrast opinions on the amount of time it would take for automated interpreting to achieve the same level of accuracy as qualified human interpreters. They were allowed to answer the question even if they had no experience with the technology.

About one-third of respondents (34%) stated that human parity already exists or will soon for simple conversations. That number naturally dropped to 9% for complex conversations. It is revealing that 63% of respondents think that AI will never achieve the same level of accuracy as qualified human interpreters for complex conversations (Figure 26).

Of course, the survey data does not define what constitutes simple versus complex conversations, but data in later chapters on use cases will show where respondents perceive the easiest entry points for the technology.

Figure 26: Overview of Perceptions for Accuracy of Automated Solutions

Do you think that automated interpreting can achieve the same level of accuracy as qualified human interpreters?

	Yes, it already does	Yes, soon	Yes, but it will take a long time	No, it never will	Unsure
For simple conversations (2,371)	9	25	23	31	11
For complex conversations (2,326)		8	18	63	11

Percentage of Respondents
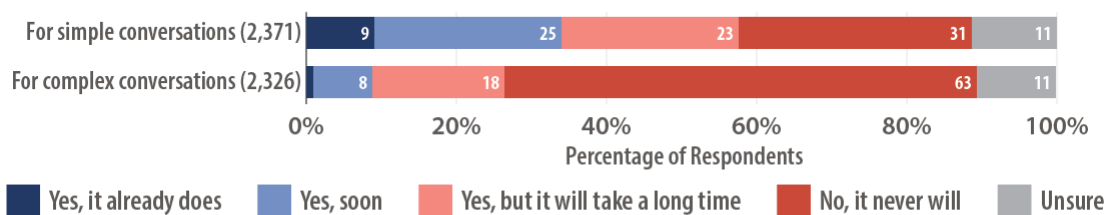
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For Simple Conversations

> *"For important conversations and field-specific language, AI doesn't cut it. Even for some colloquial conversations, AI is insufficient. However, reasonability is key: If the stakes are low, a small mistake is better than no interpreter. In high-stakes interpretation, human minds are still irreplaceable. Not because we know it all, but we know ethics limits and when to say: 'The interpreter needs to clarify a term'."* [Interpreter in Colorado, no AI experience]

AI still has a lot of work in front of it before it can provide consistently good results in all scenarios. However, AI already has demonstrated potential for interpreting simple conversations. While nearly one-third of respondents (31%) think that AI will never achieve the same level of quality as a human interpreter, one-quarter believe it will happen soon (25%) or it already does (9%) (Figure 27).

> *"Science fiction becomes science fact eventually, and like Star Trek, universal translators (computer-assisted interpretation) will be more widely accepted by our children's generation that is already used to things like AI-generated voiceovers from TikTok and YouTube videos. It will be unnatural for us, but it won't be for them."* [Interpreter in Florida, no AI experience]

Respondents with no AI experience were the least likely to come to terms with AI's readiness to perform, but the most experienced ones embraced its potential in greater numbers. As could be expected, technology vendors were in tune with AI's progress and capabilities. Policy makers, LSPs, and frontline professionals also all leaned toward a more positive view of AI. Representative of professional associations and interpreters were the least likely to believe in upcoming human parity.

Figure 27: Perception of Accuracy for Basic Conversations

Do you think that automated interpreting can achieve the same level of accuracy as qualified human interpreters for basic conversations?

	Score
Average of audiences (2,371)	-0.42
Hands-on experience with AI (277)	-0.22
No such experience (2,094)	-0.45
In the US (1,872)	-0.48
Outside the US (499)	-0.22
ALL END-USERS (263)	-0.06
Service recipients (78)	-0.41
Frontline professionals (185)	0.09
ALL REQUESTORS (141)	0.00
Procurement (43)	0.21
Schedulers (98)	-0.09
ALL PROVIDERS (1,967)	-0.50
Technology vendors (33)	0.61
Interpreters (1,593)	-0.60
Interpreter trainers (54)	-0.39
LSPs (241)	-0.10
Professional associations (9)	-1.00
Policy makers (10)	0.40
Students & retirees (27)	-0.15

Legend: ■ Yes, it already does ■ Yes, soon ■ Yes, but it will take a long time ■ No, it never will ■ Unsure

More Open to AI →

Percentage of Respondents

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> *"AI is fine for simple interpreting, like checking in people at the lab for a blood test, but not for in-depth health conversations." [Interpreter trainer in Washington, not much AI experience, finds results poor]*

> *"The only use I see for AI language services is for informal, unofficial purposes – for example, if I want to get the gist of a news article or broadcast in a language I do not know, and it is a matter of my own curiosity. Under no circumstances should AI translation or interpretation be used for official, professional purposes. There are far too many variables to make AI reliable for such purposes."*
> *[Interpreter in New Hampshire, no AI experience]*

For Complex Conversations

> *"Humans are incomparable for a complex setting or conversation."* *[Interpreter in Nebraska, no AI experience]*

At first sight, language professionals reign supreme when it comes to complex conversations. Fully 63% of respondents thought that human parity is not achievable in this area. Yet, analyzing results according to their level of experience tells a totally different story. For those with repeat hands-on experience with AI, 19% believed that automation already does or will soon match human capabilities. But for 64% of those who barely dabbled in or never handled the software, it was an unfathomable concept. Interpreters were the least likely to believe in AI's potential (Figure 28).

The data points to a disconnect between interpreters and the latest AI achievements. We saw earlier that they predominantly did not have a chance to (or chose not to) experiment with systems, which probably sustains their belief that the AI threat is not credible. Based on overall data showing that more experience using AI correlates with higher levels of confidence in its capabilities (Figure 20), we would argue that if interpreters had more extensive experience with AI, their perceptions would be more positive.

Finally, we might conjecture that some interpreters were playing the long game – they might have expressed more conservative views on artificial intelligence in the survey in an effort to influence the Task Force's analysis of results and help safeguard their jobs.

> **Note:** *Interpreting technology vendors that can incentivize interpreters to collaborate and test their products will gain a lot. Professionals with hands-on experience could help guide use cases and become advocates for setting the right conditions for safe use.*

Figure 28: Perception of Accuracy for Complex Conversations

Do you think that automated interpreting can achieve the same level of accuracy as qualified human interpreters for complex conversations?

		Score
Average of audiences (2,326)	8 / 18 / 63 / 11	-1.34
Hands-on experience with AI (274)	5 / 14 / 23 / 54 / 4	-1.06
No such experience (2,052)	7 / 17 / 64 / 11	-1.37
In the US (1,831)	8 / 16 / 65 / 10	-1.36
Outside the US (495)	8 / 22 / 57 / 11	-1.25
ALL END-USERS (218)	4 / 17 / 25 / 54	-1.08
Service recipients (68)	3 / 13 / 24 / 60	-1.25
Frontline professionals (150)	5 / 19 / 25 / 51	-1.00
ALL REQUESTORS (141)	12 / 22 / 51 / 13	-1.09
Procurement (43)	9 / 21 / 49 / 19	-1.05
Schedulers (98)	13 / 22 / 52 / 11	-1.11
ALL PROVIDERS (1,967)	7 / 16 / 65 / 11	-1.38
Technology vendors (33)	12 / 30 / 24 / 24 / 9	-0.18
Interpreters (1,593)	6 / 14 / 68 / 12	-1.44
Interpreter trainers (54)	7 / 13 / 67 / 11	-1.35
LSPs (241)	7 / 32 / 51 / 10	-1.27
Professional associations (9)	11 / 89	-1.89
Policy makers (10)	10 / 60 / 30	-1.10
Students & retirees (27)	4 / 26 / 11 / 44 / 15	-0.67

Percentage of Respondents   More Open to AI

■ Yes, it already does   ■ Yes, soon   ■ Yes, but it will take a long time   ■ No, it never will   ■ Unsure

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> *"Our professional interpreters often have to ask clarifying questions of myself or the client to ensure they have heard us correctly or to address idioms or colloquialisms. At other times, they or I am able to read body language and facial*

> *expressions to see that the client isn't completely understanding. It's difficult over the phone and I dread having to use a remote interpreter instead of an in-person one because of that. AI would be much worse for any conversation of depth."* [Frontline professional in Washington, not much AI experience, finds results good]

Comments from Respondents on Quality and Accuracy

> *"I don't see any advantages to AI at all. Accuracy is not guaranteed with AI."* [Procurement professional in Australia, no AI experience]

This section gathers noteworthy quality-related comments from respondents. Note that the majority of these commenters have either no or little experience with AI. This raises the issue of the influence of third-party hearsay from the media, professional associations, and public figures in the industry. Many service providers have a bias against AI even if they have not tried it yet. Their perspectives would be more enriching to the discourse if they had actually analyzed the output of AI-driven interpreting.

- **Errors in interpreting trigger distrust.** AI is not perfect, and that taints its capabilities in the minds of many.

  > *"Machine interpreting will never be accurate!"* [Frontline professional in Iowa, no AI experience]

  > *"AI delivers literal translation, which may or may not be a benefit."* [Frontline professional in Oregon, no AI experience]

  > *"We are a court system and I worry that the machine will not accurately translate the legalese and descriptions."* [Frontline professional in Nebraska, no AI experience

  > *"Accuracy is compromised with AI."* [Interpreter in Washington, no AI experience]

  > *"AI can't replace humans and it will make lots of errors."* [Interpreter in Minnesota, no AI experience]

> *"Meaning may sometimes be lost in language with AI." [Interpreter in Virginia, no AI experience]*

- **Non-standard language trips up systems.** As discussed earlier in this report, the machine translation component of automated interpreting is trained on written documents, yet people don't speak like they write. This is bound to create challenges for AI tools.

> *"Expect mistakes because of the nuances of slang culture." [Interpreter in Michigan, no AI experience]*

> *"AI is not accurate for colloquial and different Spanish." [Interpreter in Illinois, not much AI experience, finds results poor]*

> *"Different dialects, slang and contexts are going to take some time for machines learning to determine high-risk in medical field, especially in life-death situations." [Interpreter in Oregon, no AI experience]*

- **Respondents hope for consistency.** Consistent results across use cases and users may be an unrealistic expectation for AI systems. They may perform well in one field and poorly in the next. They may do better in some languages than others. And the quality of the audio will drastically impact output quality. All these factors make it important for the AI technology companies to inform about their product's potential, and requestors/procurers to understand each specific AI product's limitations. Note that while consistency may not meet expectations, analysis of AI outcomes should consider human issues that affect performance – such as tiredness or illness.

> *"An advantage of AI is consistency – you get the same level of quality every time." [LSP in Florida, not much AI experience, finds results good]*

> *"AI delivers constant quality levels." [Technology vendor, extensive AI experience, finds results good]*

- **Supervision is preferred.** The reality is that it is hard to have humans provide real-time feedback for live services when there is no opportunity to go back and correct errors. Having an interpreter present at all times to monitor the AI negates cost savings, so it makes no financial sense beyond testing scenarios – if a human is necessary all the time, why duplicate with AI? However, after-the-fact quality assurance (QA) by humans is possible for better engine training.

> *"I would expect to see the technology used by an actual human interpreter who is qualified in its use and can supervise results." [Interpreter in Canada, not much AI experience, finds results unacceptable]*

> *"AI might be used as a supplementation, but it needs quality control as it doesn't recognize shades of meaning and might not know when clarification is needed." [Interpreter in Utah, moderate AI experience, finds results poor]*

> *"The idea of using humans to 'check' the machine's work is frustrating, when the human could have done it better to start with, resulting in an inferior product for the client and inferior work satisfaction for the interpreter." [Interpreter in France, no AI experience]*

The Impact of Access to a Human for Escalation

> *"There have long been services that connect to a real human if AI can't handle the job." [LSP in California, not much AI experience, finds results good]*

We asked survey takers if they thought automated interpreting would be more useful if they could quickly access a person to help when there is a problem. For example, apps would include a button to request to talk to an interpreter – telephone, video, or even in-person – if either party felt there was a communication challenge. It's similar to the "press 0" to ask to talk to a customer service representative (CSR) in phone-based systems. Some technology providers have already implemented this escalation mechanism.

Consider this scenario: A caregiver may start by talking about the weather when seeking to engage with a nursing patient, but the latter then jumps into describing new

symptoms she's experiencing. This is a case where automated interpreting can be a good start but where the application must include the built-in ability to bring on a professional interpreter when the conversation reaches a critical point. Warnings could flash onto the screen to encourage users when to escalate to a human, based on trigger keywords (pain, problem, etc.). You could even envision that the interpreter is granted access to what was exchanged via machine interpreting ahead of jumping in – like a customer service rep who asks to review the case before they answer questions.

> *"The best use case would be to have an automated interpreting solution to instantly attend to an emergency while simultaneously working to locate and subsequently relay the call to a real person. Both could then report back to the requester independently, creating a feedback mechanism that benefits AI training and the accuracy of the human interpreter." [Interpreter in New York, no AI experience]*

Slightly more than one-half of respondents (53%) considered the ability to escalate to a human would increase the usefulness of automated interpreting by a lot (26%) or at least a little (27%) (Figure 29). Procurement teams were less likely to think that escalation to a human would improve usability by a lot – a possible sign that the idea of paying for both AI and human interpreting might defeat the purpose of implementing automation.

Figure 29: Effect of an Escalation Path on Usefulness

If an automated interpreting solution can quickly get a real person to help when there's a problem, do you think automated interpreting solutions are more useful?

Audience	Yes, a lot	Yes, a little	Maybe	No	Score
Average of audiences (1,967)	26	27	36	12	0.66
Hands-on experience with AI (232)	29	26	34	10	0.74
No such experience (1,735)	25	27	36	12	0.65
In the US (1,561)	25	26	37	12	0.64
Outside the US (406)	27	31	31	11	0.75
ALL END-USERS (238)	32	26	32	11	0.78
Service recipients (67)	21	21	39	19	0.43
Frontline professionals (171)	36	28	29	8	0.92
ALL REQUESTORS (125)	30	26	36	8	0.78
Procurement (40)	20	33	38	10	0.63
Schedulers (85)	34	24	35	7	0.85
ALL PROVIDERS (1,604)	24	27	36	12	0.64
Technology vendors (28)	46	7	43	4	0.96
Interpreters (1,293)	22	27	38	13	0.56
Interpreter trainers (49)	41	22	29	8	0.96
LSPs (195)	37	30	25	7	0.98
Professional associations (8)	13	50	38		0.75
Policy makers (9)		44	56		0.44
Students & retirees (22)	32	36	18	14	0.86

Percentage of Respondents

More Open to AI

Legend: ■ Yes, a lot ■ Yes, a little ■ Maybe ■ No

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The escalation approach brought up a lot of questions from respondents:

- **What if participants don't have equal rights to escalate?** While the logic may work in a videoconference between coworkers on a project, our question missed

the power difference in many interpreting scenarios. Could a plaintiff press the escalation button if the attorney disagreed? Would the plaintiff even be able to see the button? Who pays for the service in these situations?

- **What if end-users don't realize the situation requires escalation?** Today's AI cannot distinguish when it's guessing versus when it knows how to translate the meaning.

    > *"How would the problem be detected? Having humans act as a backup sounds like a great idea to me. My concern would be that even grave issues could go unnoticed." [Interpreter in Wisconsin, no AI experience]*

    > *"When talking about getting a real person to help when there is a problem with automated interpreting, who determines when the automation is not working effectively? I fear that monolingual users of this technology will not be aware of the potential errors, risk, and harm for individuals with limited English proficiency. Automated interpreting and translation should be a tool reserved for language professionals to provide a starting point, not as a solution to bridge linguistic and cultural gaps." [Interpreter in New York, no AI experience]*

- **What if people are too proud or in too much of a rush to escalate?** Escalation paths take time – even if it's just the connection time to a telephone interpreter and the time for the individual to comprehend what has transpired up until that point. It also costs extra. You can easily imagine scenarios where stakeholders won't want to go through the extra work and instead choose to make do with what they can glean from AI output.

    > *"I imagine a complacency in not 'upgrading' to human interpreters if AI is first used as a stopgap due to costs." [Interpreter in Utah, moderate AI experience, finds results poor]*

- **Would a machine-first option be satisfactory for end-users?** Voice-response trees are notoriously frustrating for users who just want to talk to someone. It can be especially so for people with accented speech. But the challenge for organizations is to decide when to offer a machine-first versus a human-first approach.

> *"We've been using AI for years for automated answering machines when calling businesses. It's supposed to increase usefulness and efficiency for callers and employees, but instead, a growing number of people continually complain about having to talk to a robot and would prefer to 'talk to a representative.' I think this will happen with AI in interpreting as well. It may work for simple situations, but I imagine people will quickly become frustrated and immediately go into 'talk to a representative' mode to access a real interpreter. Often, talking to or through a machine can aggravate the individual and escalate the situation, while talking to a human who understands our emotions and needs can be much more soothing."* [Signed language interpreter in Texas, no AI experience]

> *"If a human interpreter is suddenly thrown into the conversation, it will take time for the interpreter to understand what's been going on and be unpleasant for all parties involved."* [Interpreter in Canada, no AI experience]

> *"If you start with an AI interpreter, and only call in a human interpreter when there's an issue, you lose context and rapport and it may take longer to start the process over."* [Interpreter in New York, no AI experience]

- **What about arriving unprepared in a conversation with no time to prep?** Interpreters do not want to come into an interaction "cold" without the context of what was already said and the preparation that typically goes into preparing for assignments. However, for on-demand telephone and video remote interpreters, the situation would not be that different from what they are used to, while it would be a game-changer for on-site interpreters.

> *"Automated interpreting can improve human accuracy, but not the other way around. Putting a human on standby, who is not well versed/trained in the specific area of conversation will not help, in the event of a problem with AI either. Simply put, a person who will be on standby during automated interpretation must be well versed/trained in the area of interpretation in order for AI to be useful and effective, especially regarding accuracy."* [Interpreter in Arizona, no AI experience]

> *"When automated interpreting goes wrong, and the human needs to help, then it might as well be just human since the beginning. It's a strategic mistake and the associated risks need to be borne by the client who decides to take it up."*
> *[Interpreter in Singapore, moderate AI experience, finds results unacceptable]*

- **What's in it for interpreters?** Language professionals may not like to be relegated to a backup role, which many will perceive to be negative. However, they will benefit from AI handling basic conversations as it frees up more time to devote to meaningful interactions.

> *"No interpreter will ever accept such a job because it would basically mean that they are used as a type of robot or dictionary, which we are not. We either take a job and are able to prepare for it, or we don't take the job. It's ridiculous to assume an interpreter would be willing to act as a 'back-up' option in case the AI interpreter doesn't do a good enough job. You either hire me, or you don't. It's as simple as that. And if you hire me, and will therefore have to pay me, you might as well use me. No client is going to pay for both an AI option and a real interpreter."* *[Interpreter in Netherlands, no AI experience]*

- **Why use AI when you have alternatives?** Some respondents see no applicability for AI at all because systems are already in place for on-demand, lower-cost interpreting through telephone or video interpreting systems.

> *"With the availability of video remote interpreting, there is no reason to use AI."*
> *[Signed language LSP in Virginia, no AI experience]*

> *"The listed advantages are only justifiable if AI interpreting results in a quality product that's better than the alternative, i.e., communication with a human."*
> *[Interpreter in Texas, no AI experience]*

> *"Interpreting service must be available. So, there is no need to replace humans with a machine. It's insulting. People need their jobs. Greed should have a cap (zero would be ideal)."* *[Interpreter in Oregon, no AI experience]*

Chapter 7
Perceptions about Automated Interpreting

> *"I'm afraid that generative AI's advances and explosion in use across many industries has already far outstripped the pace of the establishment and implementation of any effective regulatory efforts. The horse left the stable long ago."* [Interpreter in New Mexico, not much AI experience, finds results excellent]

Part of the survey included a series of statements – some in favor of AI, some against, and some neutral – to gauge how respondents felt about various aspects of machine interpreting. Figure 30 provides a high-level view of their answers, while the rest of the chapter analyzes the responses and dives deeper by profile.

Figure 30: Overview of Perception Statements

Rate your level of agreement with the following statements about using automated interpreting

Statement	Strongly agree	Agree	Disagree	Strongly disagree	Unsure
"It's okay to use machines for routine and repetitive conversations that they handle correctly" (2,256)	7	42	25	18	9
"Having a machine interpret is better than having no interpreter" (2,256)	8	36	24	24	8
"It's not right to replace people with machines for interpreting" (2,256)	48	26	12	6	8
"Clients only want automation to reduce costs" (2,006)	35	33	14	6	13
"If I have to pay for the interpreter myself, I might choose a machine to interpret" (250)	9	30	22	22	18
"If someone else is paying, I might choose a person to interpret" (250)	46	30	10	5	10
"There are situations when I would prefer automated interpreting over a human" (250)	7	24	32	26	11
"Using a machine interpreter causes me more stress" (250)	25	26	18	7	24
"I want to know if a person or machine is doing the interpreting" (250)	56	33	2	3	6

Percentage of Respondents

Legend: Strongly agree · Agree · Disagree · Strongly disagree · Unsure

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Note: To make parsing the data in Figures 31 to 39 easier, we flipped labels and colors in some charts. Blue consistently represents more favorable opinions of AI and red more negative ones. So Figures 33, 34, 36, 38, and 39 present "disagree" numbers first and in blue.

Suitability for "Easy" Conversation

> *"AI interpreting can be useful for simple and straightforward conversations and would fulfill a much-needed conversation role. However, as the conversation becomes more complex, nuanced, and personal, I doubt AI is up to the task." [LSP in Tennessee, no AI experience]*

Respondents shared whether they thought it was okay to use AI for repetitive conversations that it handles correctly. Just as with the earlier question about accuracy in basic conversations, which showed 34% of respondents to be optimistic about the timeline to achieve adequate results (Figure 27), nearly one-half (49%) agreed or strongly agreed with the potential for automating routine and repetitive scenarios (Figure 31).

This double validation confirms that AI has earned the right to handle some of the most basic conversations. The trick, of course, is to define boundaries, especially as interactions may start as basic but often escalate to more complex. More elements will factor into the decision than simply machine capability (as will be seen in Drawbacks of Automated Solutions and Decision Criteria on When to Use AI).

Those most in favor of AI for these basic, routine, and repetitive conversations were policy makers, students, and retirees. Conversely, those who spent considerable time and money developing and honing their skills – representatives of professional associations and interpreters – were the most likely to disagree.

Figure 31: Automated Interpreting for Routine and Repetitive Conversations

"It's okay to use machines for routine and repetitive conversations that they handle correctly"

Audience	Strongly agree	Agree	Disagree	Strongly disagree	Unsure	Score
Average of audiences (2,256)	7	42	25	18	9	-0.04
Hands-on experience with AI (264)	16	47	19	16	3	0.29
No such experience (1,992)	6	41	25	18	10	-0.08
In the US (1,787)	7	40	25	19	10	-0.10
Outside the US (469)	9	49	23	13	6	0.18
ALL END-USERS (250)	13	43	21	12	12	0.25
Service recipients (71)	13	31	17	20	20	0.00
Frontline professionals (179)	13	48	22	8	8	0.35
ALL REQUESTORS (135)	7	47	21	13	11	0.13
Procurement (43)	12	33	23	19	14	-0.05
Schedulers (92)	4	54	21	11	10	0.21
ALL PROVIDERS (1,871)	6	41	25	19	8	-0.09
Technology vendors (30)	37	43	13	3	3	0.97
Interpreters (1,518)	5	39	27	21	9	-0.20
Interpreter trainers (52)		62	21	10	8	0.21
LSPs (227)	12	50	20	13	5	0.28
Professional associations (9)		33	44	11	11	-0.33
Policy makers (10)	40	50			10	1.30
Students & retirees (25)	28	56	4	8	4	0.92

Percentage of Respondents

More Open to AI

Legend: ■ Strongly agree   ■ Agree   ■ Disagree   ■ Strongly disagree   ■ Unsure

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Usability When There Is No Interpreter at All

> *"Sometimes, it's better to have something rather than nothing"* *[Interpreter in the United Kingdom, no AI experience]*

The next statement inquired whether it's better to have a machine interpret rather than having no interpretation at all. This is the whole premise behind the argument that AI increases language and communication access. We have a close to a tie with almost one-half of the respondents (44%) who think it's better to have automated interpretation than no interpretation and one-half of the respondents (48%) think they would rather have no interpretation than have automated interpretation (Figure 32).

> *Note: Consider a healthcare scenario. In the absence of an interpreter, when a patient is unable to speak or sign, healthcare professionals rely on other means of diagnosis and treatment than communication. They resort to deploying more clinical tests. The error-risk from machine interpreting may be greater than lack of interpreting and could lead to a wrong diagnosis, wrong treatment, and potential harm to human life.*

- **Fill rates for interpreting jobs.** It's not because an organization requests an interpreter that they systematically get one. Fill rates on big interpreting contracts don't typically reach 100%.

  > *Note: Using AI does not guarantee 100% fill rate. For example, OPI/VRI providers regularly provide services in 150 to 200 languages. If machine interpreting vendors choose to train only the most financially viable languages, automated interpretation's fulfillment rate will be inferior to current OPI/VRI services.*

- **Interpreter accessibility and availability.** There are scenarios where service recipients are just too remote for access to a human interpreter or to internet connections – for example, it is a well-documented problem in Alaska and the Australian Outback with Indigenous populations. And you don't have to go that far to encounter the very same problems in any location.

- **Low-proficiency situations.** Respondents who disagreed may not have considered situations that currently don't benefit from interpreting. Individuals with languages other than English or limited English proficiency (LOEs and LEPs) could cite dozens of daily encounter points with public institutions or companies. Others cited

situations in which they wished they could communicate with a person, but where an interpreter would never be provided.

What is really surprising in the results is that end-users are divided on this machine-versus-no interpreting scenario. Two-thirds of frontline professionals (66%) prefer a machine rather than nothing compared to just 40% of service recipients. This seems to indicate a preference for an easy process to access AI interpreting by frontline professionals who don't necessarily want to reschedule a meeting if they fail to schedule an interpreter. Likewise, schedulers who struggle to place jobs are slightly more open to AI as a solution than procurement teams that may assign more weight to potential risks.

> *"The problem is that most companies, schools, businesses etc. don't use interpretation services. They tell their clients to bring a family member, which I do not see as ethical because a family member may not always communicate everything the person needs to know." [Interpreter in Pennsylvania, no AI experience]*

Figure 32: Automated Interpreting vs. No Interpreting

"Having a machine interpret is better than having no interpreter"

	Score
Average of audiences (2,256)	-0.22
Hands-on experience with AI (264)	-0.07
No such experience (1,992)	-0.24
In the US (1,787)	-0.26
Outside the US (469)	-0.08
ALL END-USERS (250)	0.26
Service recipients (71)	-0.15
Frontline professionals (179)	0.43
ALL REQUESTORS (135)	-0.16
Procurement (43)	-0.37
Schedulers (92)	-0.05
ALL PROVIDERS (1,871)	-0.29
Technology vendors (30)	0.50
Interpreters (1,518)	-0.36
Interpreter trainers (52)	-0.13
LSPs (227)	-0.07
Professional associations (9)	-0.78
Policy makers (10)	0.00
Students & retirees (25)	0.76

Percentage of Respondents   More Open to AI

Strongly agree   Agree   Disagree   Strongly disagree   Unsure

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The Ethics of Replacing People with Machines

> *"It is unethical." [Service recipient in New York, extensive AI experience, finds signed language results unacceptable]*

The next statement that we had respondents rate epitomizes the contradiction of the results throughout this report. Many respondents claim that machines "can't" deliver when they haven't tested the systems. Their answers are often more about saying that machines "shouldn't" be tasked with handling interpreting. That is why nearly three in four respondents (74%) either agreed or strongly agreed that it's not right to replace people with machines for interpreting (Figure 33).

Technology vendors were the only ones with fewer qualms about using AI where it can deliver on requirements. The most outspoken anti-AI perspectives came from association representatives and interpreters. But service recipients weren't far behind. The latter were likely experiencing some guilt from accepting interpretation from a machine taking away work from humans.

> *"I strongly disagree with using AI to replace human interpreters for any reason." [Frontline professional in Oregon, no AI experience]*

Figure 33: The Ethics of Replacing Interpreters with Machines

"It's not right to replace people with machines for interpreting"

	Score
Average of audiences (2,256)	-0.97
Hands-on experience with AI (264)	-0.83
No such experience (1,992)	-0.99
In the US (1,787)	-0.99
Outside the US (469)	-0.90
ALL END-USERS (250)	-0.72
Service recipients (71)	-0.96
Frontline professionals (179)	-0.62
ALL REQUESTORS (135)	-0.77
Procurement (43)	-0.77
Schedulers (92)	-0.77
ALL PROVIDERS (1,871)	-1.02
Technology vendors (30)	0.30
Interpreters (1,518)	-1.10
Interpreter trainers (52)	-0.90
LSPs (227)	-0.71
Professional associations (9)	-1.22
Policy makers (10)	-0.50
Students & retirees (25)	-0.84

Legend: ■ Strongly disagree ■ Disagree ■ Agree ■ Strongly agree ■ Unsure

More Open to AI

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Cost Reduction's Role in Decisions

> *"AI is a way to cut costs at the expense of quality." [Interpreter in South Carolina, no AI experience]*

When you contrast the responses of the previous ethics question to the potential financial motives of organizations to push for AI, you arrive at the crux of the issue. Slightly more than two-thirds of respondents (68%) agreed or strongly agreed that requestors only wanted automation as a way to reduce costs (Figure 34).

The only respondents who really disagreed with that statement were people in procurement roles who generally view these issues more holistically based on all the elements that go into such decisions. Procurement teams try to fix problems for their companies with their primary motive being efficiency over cost. For example, a language professional may not see the cost of the administrative burden involved in scheduling interpreters or what happens when there is a "no show" – from either the service recipient or the interpreter. Does that mean the only answer to their problems is AI? No. But it's important to note that inadequate scheduling systems and lack of system integration can affect decisions regarding the role of human versus AI as well.

> *"I expect the only perceived advantage will be low cost – which will harm access." [Service recipient in Florida, no AI experience]*

> *"Clients want to omit an expensive line item from corporate pockets as they already refuse to pay their own employees what they are worth." [Interpreter in the United Kingdom, no AI experience]*

> *"I fear misunderstandings that lead to potential harm. Companies that are not fully informed about the importance of ASL interpreting services may opt for machine interpreters to save costs. It's a problem when the financial incentive supersedes the quality delivery of interpreters." [Service recipient in Maryland, not much AI experience, finds results poor]*

Figure 34: Automated Interpreting as a Cost Reduction Approach

"Clients only want automation to reduce costs"

Audience	Strongly disagree	Disagree	Agree	Strongly agree	Unsure	Score
Average of audiences (2,006)	6	14	33	35	13	-0.78
Hands-on experience with AI (220)	8	20	32	31	8	-0.59
No such experience (1,786)	6	13	33	36	13	-0.80
In the US (1,562)	6	13	32	35	13	-0.76
Outside the US (444)	4	14	36	36	10	-0.85
ALL REQUESTORS (135)	13	24	35	18	11	-0.21
Procurement (43)	26	19	33	14	9	0.09
Schedulers (92)	7	26	36	20	12	-0.36
ALL PROVIDERS (1,871)	5	13	32	37	13	-0.82
Technology vendors (30)	7	43	17	30	3	-0.20
Interpreters (1,518)	5	11	33	37	13	-0.86
Interpreter trainers (52)	6	13	35	37	10	-0.83
LSPs (227)	6	19	27	34	13	-0.63
Professional associations (9)		22	44	33		-0.89
Policy makers (10)	20	30	30	20		0.00
Students & retirees (25)	4	8	40	28	20	-0.80

Legend: Strongly disagree · Disagree · Agree · Strongly agree · Unsure

Percentage of Respondents — More Open to AI

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AI Acceptance When You Have to Pay for Interpreting

> *"Accuracy, availability, and cost are the wrong basis for the AI debate. Relationship and responsibility are the correct ones." [Interpreter in the United Kingdom, not much AI experience, finds results good]*

We asked end-users whether who pays for interpreting affects their thoughts on AI usage. 39% either agreed or strongly agreed that they might choose a machine if they were the ones paying for the interpreter themselves – yet 44% disagreed with this statement (Figure 35). We had not defined the scenario, so respondents likely went from personal low-impact considerations to high-risk encounters.

The cost factor leads to the proliferation of pocket translators for tourists and how they affect the price point that technology vendors can charge for solutions sold directly to consumers. This in turn drives AI developers to create products primarily for enterprises and government institutions. Current pricing models reflect return on investment (ROI) requirements for the costly development of AI apps. This also explains why some of the better AI products are not accessible to direct consumers.

Figure 35: Perception of Automated Interpreting If the Recipient Has to Pay

"If I have to pay for the interpreter myself, I might choose a machine to interpret"

	Strongly agree	Agree	Disagree	Strongly disagree	Unsure	Score
Average of audiences (250)	9	30	22	22	18	-0.17
Hands-on experience with AI (44)	18	34	25	16	7	0.14
No such experience (206)	7	29	21	23	20	-0.24
In the US (225)	9	30	22	21	18	-0.17
Outside the US (25)	12	28	24	24	12	-0.21
ALL END-USERS (250)	9	30	22	22	18	-0.17
Service recipients (71)	13	25	18	27	17	-0.21
Frontline professionals (179)	8	31	23	20	18	-0.16

Percentage of Respondents

More Open to AI
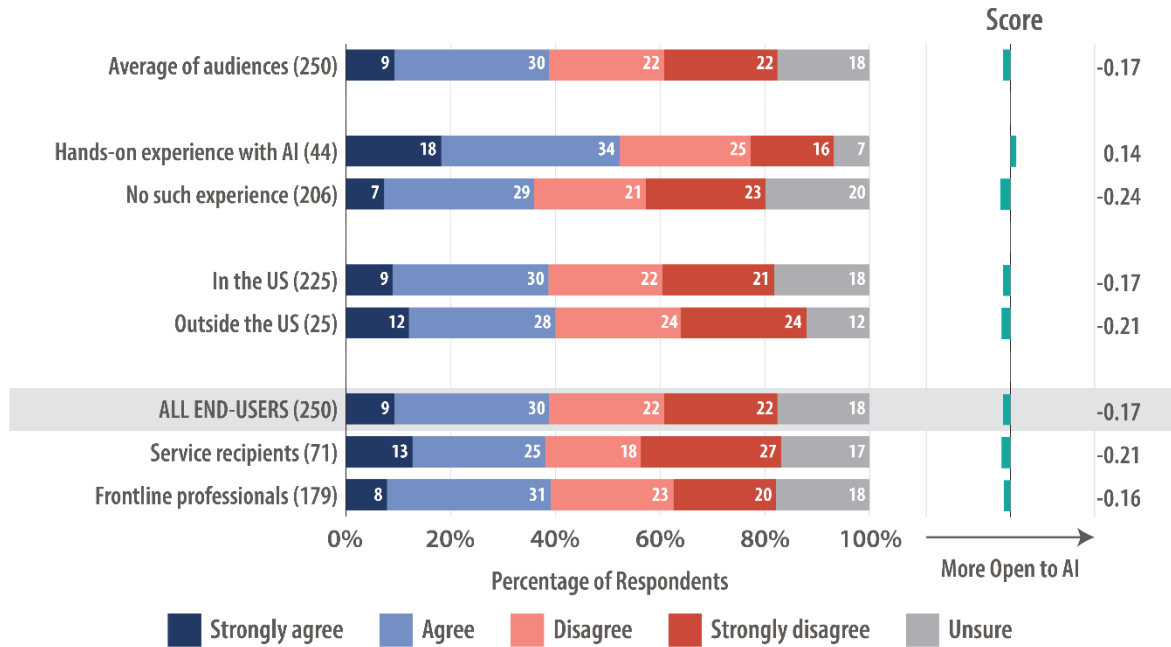
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Human Preference When You Don't Have to Pay

> *"I prefer a person 100% over an app." [Service recipient in California, no AI experience]*

The next statement we asked about is the opposite of the previous one, contrasting payment by someone else versus by end-users themselves. If someone else pays the bill, fully 76% of end-users favored human interpreters (Figure 36). This shift in payee is important to remember in the context of respondents who feel that organizations push AI as a cost-saving measure (Figure 34). Cost matters for requestors and users alike. After all, it is interpreting – and no one wants to have to pay for it.

Figure 36: Perception of Automated Interpreting If Someone Else Has to Pay

"If someone else is paying, I might choose a person to interpret"

	Strongly disagree	Disagree	Agree	Strongly agree	Unsure	Score
Average of audiences (250)	5	10	30	46	10	-1.02
Hands-on experience with AI (44)	9	20	25	39	7	-0.64
No such experience (206)	4	7	31	48	11	-1.11
In the US (225)	4	9	30	48	9	-1.09
Outside the US (25)	12	16	28	28	16	-0.46
ALL END-USERS (250)	5	10	30	46	10	-1.02
Service recipients (71)	4	13	23	52	8	-1.06
Frontline professionals (179)	5	8	32	44	11	-1.01

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AI as a Means to Achieve Privacy

> *"There is no need to filter speech because you interact with a machine."*
> *[Interpreter in Arizona, not much AI experience, finds results good]*

As we'll see in Drawbacks of Automated Solutions, AI comes with its fair share of concerns over data privacy. However, having a conversation away from the eyes and ears of a fellow human may have some advantages, especially in small communities where service recipients may personally know the interpreter. Using a machine can be more comfortable when dealing with matters of a highly personal nature, sensitive topics, or anything that requires increased privacy.

Interpreters are human, which means they come with their own set of values and reactions. Maybe they don't like one of the parties, are prejudiced against people of a certain group, or blame the service recipient for experiencing a serious situation. They may be having a bad day that causes them to be annoyed with a service recipient. In those contexts, the impersonality of AI may be an advantage – provided of course that the AI is free of biases itself and has been trained on diverse sets of data representative of the end-user populations.

We only posed this question to end-users. About one-third (31%) told us they would prefer automated interpreting over a human for certain matters, but 58% would still prefer a human interpreter (Figure 37).

Figure 37: Perception of Automated Interpreting for Confidentiality

"There are situations when I would prefer automated interpreting over a human"

Score

	Score
Average of audiences (250)	-0.46
Hands-on experience with AI (44)	-0.09
No such experience (206)	-0.53
In the US (225)	-0.48
Outside the US (25)	-0.25
ALL END-USERS (250)	-0.46
Service recipients (71)	-0.44
Frontline professionals (179)	-0.46

Percentage of Respondents

More Open to AI

■ Strongly agree   ■ Agree   ■ Disagree   ■ Strongly disagree   ■ Unsure
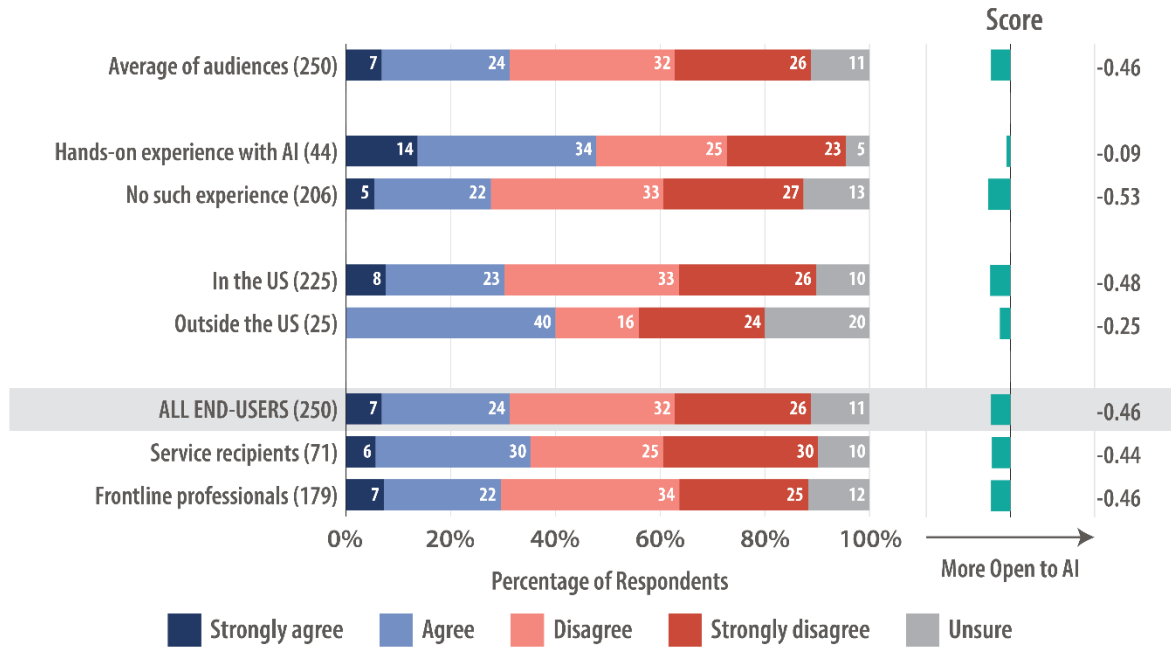
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Impact of Automated Solutions on Stress

> *"Miscommunication causes frustration and anxiety." [Signed language interpreter in Alabama, moderate AI experience, finds results poor]*

The stress factor of using an automated solution also enters into the discussion. One-half of respondents (51%) expected that using a machine interpreter would cause them more stress (Figure 38). AI-driven processes add a burden to participants to figure out if mistakes are being made and to speak up if they are. They are more likely to fear loss of vital information that could affect a ruling, a diagnosis, or next-step actions – each of which can have huge financial and human costs. And ultimately, it can contribute to the feeling of not being heard.

Human nature tends to try to prevent being exposed to stressful situations. Just as people may skip dentist visits because they are painful, they may also skip or delay important conversations if AI is scheduled for them. A big part of this could be tied to losing the advocate they were accustomed to having in the form of a flesh-and-blood interpreter who helped convey their thoughts, even when poorly formulated.

In addition, the robotic nature of AI output can be distracting, making it more difficult for listeners to comprehend what they're hearing and/or seeing, as well as what they need to do next.

> *"Clients don't feel comfortable with teleinterpreting or phone interpreting. It's going to be really hard for people from other cultures to understand. They will be impacted negatively by AI interpreting services." [Interpreter in Washington, no AI experience]*

> *"Patients feel worthless and that their dignity is lost if they do not have a person speak to them when diagnosed with serious illnesses by a machine. No humanity is captured. It's a traumatizing experience for patients." [Interpreter in California, moderate AI experience, finds results unacceptable]*

Figure 38: Impact of Automated Interpreting on Stress

"Using a machine interpreter causes me more stress"

	Strongly disagree	Disagree	Agree	Strongly agree	Unsure	Score
Average of audiences (250)	7	18	26	25	24	-0.43
Hands-on experience with AI (44)	20	20	18	27	14	-0.11
No such experience (206)	4	18	28	24	26	-0.50
In the US (225)	8	17	26	26	24	-0.46
Outside the US (25)	4	32	24	16	24	-0.17
ALL END-USERS (250)	7	18	26	25	24	-0.43
Service recipients (71)	6	15	27	37	15	-0.73
Frontline professionals (179)	8	20	26	20	27	-0.31

Percentage of Respondents

More Open to AI

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Disclosure of Who or What Interprets

> *"If AI is used in a session, that should be extremely clear to all parties involved. AI should never make itself out to be a human interpreter or translator."* [Interpreter in Indiana, no AI experience]

We closed the series of statements with a question for end-users on whether they wanted to know if a person or machine is doing the interpreting. The answer was an overwhelming yes for 89% of respondents (Figure 39).

Advances in voice flow can make the distinction between human and machine difficult when end-users don't have a visual reference. To reuse the analogy of phone systems, it has become frustrating for users to figure out if they are talking to a bot or a live agent. The same would likely apply to live voice translation bots.

> *"Everyone involved in any conversation with AI interpretation must be informed at the beginning, and instructed to stop the process to clarify, repeat, or explain at any point."* [Interpreter trainer in Washington, not much AI experience, finds results poor]

> *"The participants in a conversation facilitated by automated interpretation should be informed of that fact and should have the option to switch to a human interpreter at any point."* [LSP in Florida, not much AI experience, finds results good]

Figure 39: Disclosure of Source of Interpreting

"I want to know if a person or machine is doing the interpreting"
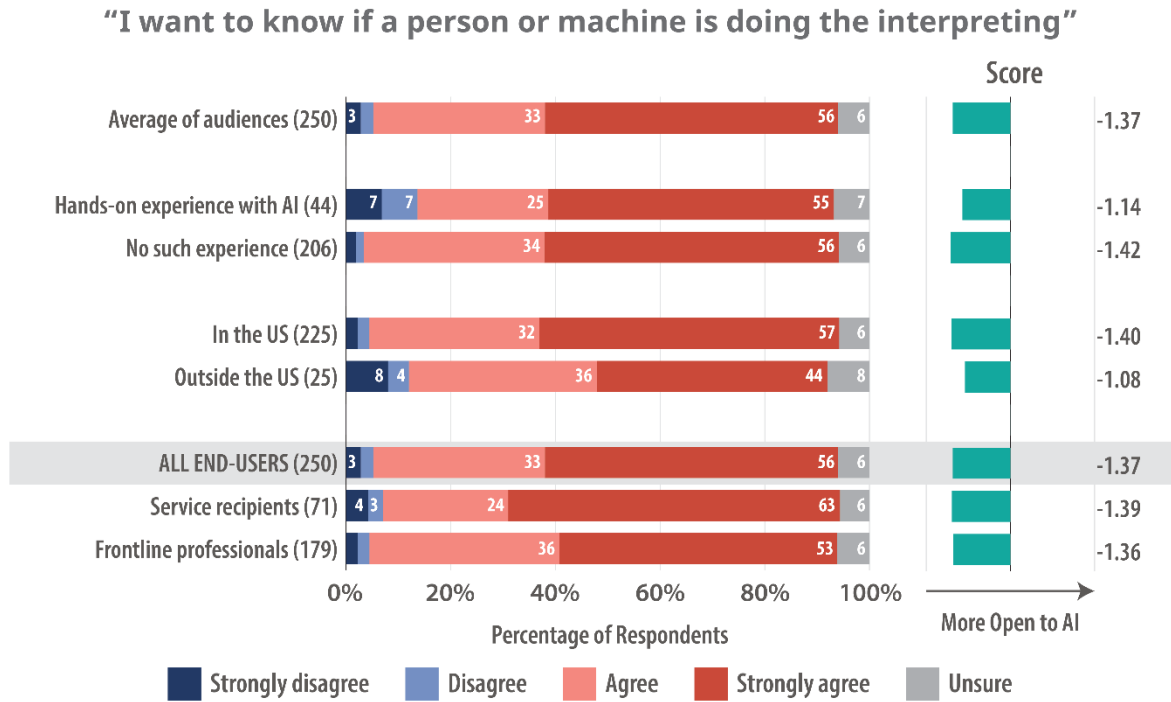
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Chapter 8
Advantages of Automated Solutions

> *"I'm not sure what the advantages might be. AI might be more helpful and appropriate for translation than for interpretation." [Interpreter in California, no AI experience]*

For a fair assessment of automated interpreting, we need to examine both pros and cons. This chapter collects perspectives on advantages, while the next one covers drawbacks, as reported by survey respondents. We provide both data and analysis for free-text answers.

24/7/365 Access Tops the List of Benefits

> *"Automation delivers service availability when interpreter options are limited or when interpreters are not available." [Interpreter in New York, no AI experience]*

Respondents could select multiple options from a list of common benefits. Requestors and providers of interpreting services saw more options than end-users did. Figure 40 presents overall results.

- **What respondents liked about AI.** The most frequent advantage chosen was round-the clock availability – that is, an automated interpreting solution available 24/7/365. 66% of participants overall selected this option, with end-users and requestors showing even higher percentages. The tie for second position (58%) was shared between no need to schedule an interpreter and low-cost.

  Note: Respondents assume if a service is provided by a machine, it will be more "available" than if provided by humans. But that isn't necessarily the case. For human-delivered services, availability depends on robust forecasting and scheduling. Failure to reach a human is not caused by the fact that it is a human service, but by lack of proper financial incentives – especially to staff for languages of limited diffusion. Similarly, if technology vendors are not incentivized to train the engines for LLDs, the service will not be available.

- **What respondents didn't like about human interpreters.** Beyond the ability to skip scheduling, some beneficial aspects of AI underscore issues – even if not significant – that affect end-users' and requestors' perception of human performance, and therefore influence their reactions to AI. Requestors had stronger-than average numbers for no tardiness (38%), higher fill rates (31%), and fewer professionalism issues (16%). End-users exhibited a stronger-than-others reaction regarding errors, with 14% believing AI would lead to fewer errors.

Figure 40: Overview of the Benefits of Using AI

What do you see – or expect to see – as the advantages of AI?

Round-the-clock availability
- 66%
- 73%
- 73%
- 65%

Low cost or no cost
- 58%
- 55%
- 60%
- 59%

On-demand availability with no need to schedule the conversation
- 58%
- 64%
- 69%
- 57%

Access in settings where interpreting services are normally not available
- 56%
- 59%
- 67%
- 55%

No tardiness issues*
- 29%
- 38%
- 32%

Help when I have intermediate language skills
- 23%
- 31%
- 27%
- 22%

Higher fill rate for assignments*
- 20%
- 31%
- 22%

Fewer professionalism issues*
- 12%
- 16%
- 14%

Fewer errors than human interpreters
- 7%
- 14%
- 4%
- 6%

Other
- 7%
- 9%
- 5%
- 7%

None of the above
- 9%
- 0%
- 6%
- 10%

Percentage of Respondents

Legend:
- ■ Average of all respondents
- ■ End-users
- ■ Requestors
- ■ Providers

N = 2,256 (multiple responses allowed)

* End-users did not see this option

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Users with AI experience showed a slightly greater proportion of respondents who viewed each category as a benefit (Figure 41).

Figure 41: Benefits of Using AI by Experience with AI

What do you see – or expect to see – as the advantages of AI? – Results by Experience with AI

Category	Hands-on experience with AI	No such experience
Round-the-clock availability	83%	66%
Low cost or no cost	74%	58%
On-demand availability with no need to schedule the conversation	72%	58%
Access in settings where interpreting services are normally not available	66%	56%
No tardiness issues*	34%	30%
Help when I have intermediate language skills	33%	23%
Higher fill rate for assignments*	29%	20%
Fewer professionalism issues*	21%	12%
Fewer errors than human interpreters	13%	6%
Other	9%	6%
None of the above	5%	9%

Percentage of Respondents

■ Hands-on experience with AI
■ No such experience

N = 2,256 (multiple responses allowed)
* End-users did not see this option

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Differences in responses from inside versus outside the United States were negligible, except for getting help when stakeholders felt they had relevant language skills, but they were not strong enough (Figure 42).

Figure 42: Benefits of Using AI by Location

What do you see – or expect to see – as the advantages of AI? – Results by Location

Round-the-clock availability: In the US 66%, Outside the US 68%
On-demand availability with no need to schedule the conversation: In the US 58%, Outside the US 60%
Low cost or no cost: In the US 57%, Outside the US 63%
Access in settings where interpreting services are normally not available: In the US 56%, Outside the US 56%
No tardiness issues*: In the US 30%, Outside the US 25%
Help when I have intermediate language skills: In the US 21%, Outside the US 32%
Higher fill rate for assignments*: In the US 20%, Outside the US 19%
Fewer professionalism issues*: In the US 12%, Outside the US 12%
Fewer errors than human interpreters: In the US 6%, Outside the US 7%
Other: In the US 7%, Outside the US 5%
None of the above: In the US 9%, Outside the US 9%

Percentage of Respondents

■ In the US
■ Outside the US

N = 2,256 (multiple responses allowed)
* End-users did not see this option

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Comments from Respondents

We provided a free-form field for participants to list additional benefits from using AI. This section synthesizes their answers around the following topics: 1) greater accessibility of language services; 2) perks that benefit businesses; 3) less bias and greater confidentiality; and 4) the potential for AI to be used as an interpreter tool.

Greater Accessibility of Language Services

> *"AI is a good thing in that it democratizes interpretation, but it will never replace humans in sensitive, complex situations where the consequences of errors can be serious." [Interpreter in France, no AI experience]*

Multiple respondents commented on opportunities for broader accessibility to information in other languages, especially when there is a shortage of interpreters.

- **More people can access information in their language.** Automation solutions will broaden the market by enabling interpreting when there isn't any available – such as 1) for the type of interaction that typically doesn't warrant interpreting services; 2) when there are budget constraints; and 3) when no interpreter can be found.

> *"AI offers increased access to content in other languages that would not otherwise be possible. That means increased global engagement for companies, associations, and users." [LSP in California, not much AI experience, finds results good]*

> *"AI enables wider accessibility to information/products in other languages" [LSP in Spain, not much AI experience, unsure about quality of results]*

> *"Automated solutions will allow non-governmental organizations (NGOs) with budget constraints to communicate better." [LSP in Spain, moderate AI experience, finds results good]*

> *"Automation reduces wait time and offers easy access for people with low incomes." [LSP in Mexico, no AI experience]*

> *"AI is widely available to members of the public who may not be able to/know how to hire language professionals." [Interpreter in Washington, no AI experience]*

> *"Automated interpreting provides access to justice and necessary services." [Interpreter in Nebraska, no AI experience]*

> *"It would be easier for patients to initiate care/advocate for themselves." [Interpreter in Rhode Island, not much AI experience, unsure about quality of results]*

- **Language and communication access for languages of limited diffusion (LLDs).** Interpreters for "mainstream" languages are usually easily available either in person or via telephone or video. However, that is not always the case for less common language combinations. Respondents hope AI can help fill the void.

  Note: AI models tend to be less developed for LLDs, which means this use case may be wishful thinking and may lead to more issues than in well-trained languages. Access to automated interpreting for these languages will be a long time coming due to a lack of quality training content even for MT and the fact they are not even recognized in app stores.

  > *"AI could help in emergencies with Indigenous languages because of limited staffing." [Frontline professional in Alabama, not much AI experience, finds results poor]*

  > *"We currently have much need for interpretation in less-commonly-spoken languages that are hard to find qualified interpreters for. Families also tend to have limited literacy skills in these languages. If AI begins to develop solutions to help provide language support for these families in an accurate and reliable way, that will meet a big need in our community." [Procurement professional in Minnesota, no AI experience]*

> *"If it exists for rare languages, then AI enables access when interpreting services are normally not available."* [Association representative, not much AI experience, unsure about quality of results]

> *"There are definitely situations where an automated interpreter is better than none. My hospital is struggling with providing Indigenous language interpretation, as well as Yiddish, due to the lack of human interpreters. If an automated interpreter were available in an easy-to-use format for patients who have urgent needs, that would be better than nothing. But the comfort, the trust, the human understanding provided by a human interpreter will also be the preference."* [Frontline professional in Japan, moderate AI experience, finds results good]

> *"I work in hospital settings in medical ethics where the stakes are extremely high, in a state where several endangered languages are spoken (e.g. Tiwa, Tewa, Keres). These languages are not well-documented and are not used by younger generations. Finding trained interpreters is extremely rare, often family or friends who are tribal members and fluent in the language is our only recourse. These people are not trained in medical terminology; there are also cultural issues (such as a need to avoid talking about death as an outcome). If machine interpreting could be developed in such a context (but how, given the absence of large language models for data scraping?), it would help because delicate settings are ripe for potential misunderstandings and decisions made with incorrect or incomplete information."* [Frontline professional in Washington, DC, moderate AI experience, finds results poor]

- **Stopgap measures to address interpreter shortage.** Even in more common languages, demand may be too high to accommodate all requests in a timely fashion with humans. Automation can also help address issues with distance – think remote rural areas – or at difficult times of day to staff.

  > *"AI provides scalability when current workers cannot satisfy the demand, under the understanding that quality will suffer."* [Interpreter in Mexico, moderate AI experience, finds results unacceptable]

> *"Qualified interpreter shortages have more to do with the financial pressures of the economy. If qualified interpreters were professionally compensated, there would not be shortages. AI has a place to support human qualified interpreters to reduce errors and improve efficiency. It should be aimed as a tool, not a substitute, for the interpreter."* [Interpreter in New Mexico, moderate AI experience, finds results poor]

> *"If there is a situation where a real person is not available, then the system is broken and needs to be addressed with solutions. Automated interpreting should never be plan B or C."* [Service recipient in Maryland, not much AI experience, finds results poor]

> *"If the real person is qualified and a good interpreter, then she is better than an automated machine. But if there is no qualified person available, then AI is a great replacement."* [Interpreter in Massachusetts, no AI experience]

- **Supplemental in-language touch points.** Accessibility can also come in the form of new ways to engage with end-users, increasing the responsiveness of organizations to their stakeholders who speak a different language.

> *"Chatbots can point patients to interpreter services."* [Interpreter in New York, no AI experience]

> *"AI could serve a concierge function to provide customers with desired information based on an index mapped to an evolving frequently asked question (FAQ) list."* [Scheduler in California, no AI experience]

> *"AI is helpful when there's an automatic voice message system."* [Service recipient in Canada, no AI experience]

> *"I'm looking forward to what AI can do for the Deaf community for routine communications (such as adding AI interpretation to websites, emailed announcements, etc.). But I don't believe it can ever replace two-way, dialogic interactions."* [Signed language interpreter in South Carolina, no AI experience]

Business Perks

> *"AI enables creative solutions to barriers to access." [LSP in Oregon, no AI experience]*

Another group of comments relate to the benefits that enable organizations to deliver automated solutions.

- **New option when no human is available.** Organizations like having alternatives when struggling to provide interpreting services.

  > *"It provides another layer of language access while waiting on a human interpreter." [Interpreter in Ohio, no AI experience]*

  > *"AI can assist for quick interpretation when a live interpreter is not available." [Interpreter in Florida, no AI experience]*

- **Optimized allocation of resources.** Respondents cited two scenarios: 1) freeing up interpreters to work on more complex sessions; and 2) gathering enough data on usage to justify an increase in resources.

  > *"If AI can handle simple conversations, we can help better allocate live interpreters." [Interpreter in California, no AI experience]*

  > *"AI can create a baseline to build a case for language access needs when no language strategy exists yet." [LSP in California, extensive AI experience, finds results good]*

- **Ease of use.** Organizations like AI's deployment convenience. Human services need to be scheduled in advance, which means it's not as easy to bring someone into a meeting once it has started. With AI, there is no need to wait for an interpreter to join a call or to arrive on site. Once you have the basic setup in place, you can also add captioning and subtitling at the last minute without having to book someone.

> *"I like the ease of on-and-off use like for a nurse at the bedside of a patient versus having to access interpreters over and over." [Interpreter in Massachusetts, no AI experience]*

- **The decreased impact of human challenges.** The dependency on humans to deliver the services can come with frustrations for their employers – illness, fatigue, emotions, interference – which create an appeal for automated solutions.

> *"AI eliminates some human-created obstacles." [Procurement professional in California, moderate AI experience, finds spoken and signed language results excellent]*

> *"AI is not affected by COVID, nor does it create unforeseen down time." [LSP in Maine, extensive AI experience, finds results good]*

> *"AI is not demanding of rights. It doesn't need breaks or pauses. It's devoid of emotions and therefore won't care about disrespect. It will not advocate for the person of limited English proficiency (LEP) and therefore will be less of a 'nuisance' to English speaking people." [Interpreter in Tennessee, no AI experience]*

> *"No fatigue for AI interpreters." [Individual in Oregon, not much AI experience, finds results poor]*

- **Lower logistics requirements and carbon footprint.** Organizations increasingly strive to optimize their operations. New green initiatives have also highlighted the environmental burden of interpreter travel.

> *"AI has a lower logistical impact (e.g., no flights or illnesses)." [LSP in Belgium, moderate AI experience, finds results good]*

> *"Less carbon footprint. There is no need for human interpreters to travel." [Interpreter in Arizona, no AI experience]*

> *"No waste of resources." [Interpreter in Arizona, no AI experience]*

Note: Solutions such as generative AI consume tremendous amounts of energy. Further studies should be conducted to verify the claim that AI reduces overall carbon footprint compared to existing interpreting solutions.

> *"AI has an extremely high consumption of energy to run data banks." [Interpreter in Texas, not much AI experience, finds results unacceptable]*

> *"Another point to consider is the environmental impact of processing this complex information by a computer and its CO_2 footprint versus the current status." [Interpreter in Costa Rica, no AI experience]*

Less Bias and Greater Confidentiality

> *"AI provides privacy in small minority language communities." [Frontline professional in District of Colombia, moderate AI experience, finds results poor]*

Another stream of respondents' comments focused on information privacy and bias. AI offers some rewards:

- **Unfiltered conversations.** End-users don't have to be careful about what they say. Of course, this is only good as long as it's not an opportunity for stakeholders to abuse the lack of witnesses to a conversation.

  > *"Patients do not feel judged while talking about intimate issues." [Interpreter in Minnesota, no AI experience]*

- **Reduced bias.** A known issue with generative AI is the bias created by training materials unrepresentative of all cultures and perspectives ("The Ethics of Generative AI" © CSA Research). Yet humans bring their own world view to sessions, too.

  > *"AI has less bias against me." [Service recipient in Minnesota, no AI experience]*

  > *"AI has less cultural bias. I can't depend on our interpreters for languages of lesser diffusion to not introduce bias in conversations about sexually transmitted infections (STIs) and sexually transmitted diseases (STDs), and gender/sexual*

> *orientation." [Frontline professional in Texas, not much AI experience, finds results good]*

> *"AI has no social or emotional bias." [Interpreter in Massachusetts, no AI experience]*

> *"AI has no issue with conflicting beliefs/situations and no issue with retaining information." [Interpreter in Maryland, not much AI experience, unsure about quality of results]*

- **Greater confidentiality.** Data privacy is another hot topic in AI with some systems leveraging conversation data for engine training. However, frontline users may experience a greater sense of confidentiality when fewer humans participate in their conversations.

> *"If it does not save the content, there is no privacy breach issue. Too many people know too many things. There should be laws prohibiting machines from storing interpretation content for any amount of time." [Interpreter in Texas, not much AI experience, finds results excellent]*

AI as an Interpreter Tool

> *"The best human interpreters in the future will be those who harness the power of AI-based tools to make their interpreting even better." [Interpreter in Maryland, not much AI experience, finds results poor]*

While the focus of this report is on interpreting done by machines, it is important to note that AI does not need to be just about replacing human interpreters. It can provide practice opportunities for interpreters. Professionals can leverage computer-aided interpreting (CAI) solutions to assist in their work. See AI as an Aid to Interpreters for more details.

Chapter 9
Drawbacks to Automated Solutions

> *"I think that AI for translation is rife with errors. Language nuances are complex, dialects are multitude, and AI is not ready to manage this yet. Visual languages are still being researched and the linguistics available are much less than for spoken languages."* [Procurement professional in Colorado, not much AI experience, finds results poor]

Respondents were prolific in their answers regarding drawbacks to AI. In parallel with the previous chapter, we start with data and then explore comments from free-text responses.

The Top Worry Is Big Mistakes

> *"A language is much more complex than just words. AI knows words only."* [Interpreter in Washington, moderate AI experience, finds results poor]

Respondents could select multiple options from a list of common drawbacks. Figure 43 presents overall results.

- **Big errors worry respondents the most.** We defined AI interpreting mistakes as situations where the main idea might be wrong, or a mistake could cause harm or a legal problem. That concerned 81% of respondents. When AI makes mistakes, the errors can be more severe than humans would make. But humans make mistakes, too, especially when delivering services in real time. In contrast, small mistakes (for example, some details are wrong, but the main idea is clear) worried 48% – but note how that number jumps to 57% for end-users.

- **The need for special technology concerned another 67%.** The implementation of telephone and video remote interpreting launched the introduction of dual-handset phones and carts to transport video devices. In a medical setting, that means someone has to find the cart – there may be a shortage in a department that hasn't procured enough units or when a cart has not been stored where required.

If automated solutions use the same hardware, it won't make the situation any easier for many frontline professionals.

- **Respondents also feared system or communication failure.** 59% thought there are more chances something will go wrong with automated solutions – and that means more work for whoever must troubleshoot and fix the issue.

- **56% are anxious about user acceptance of machines.** Overcoming this stigma requires training and experience. However, for some end-users (such as patients with multiple disabilities), machines may never be the right solution.

Figure 43: Overview of the Drawbacks of Using AI

What do you see – or expect to see – as the drawbacks or harms of AI?

Big mistakes
- 81%
- 67%
- 83%
- 83%

Needing special tech or having tech problems
- 67%
- 58%
- 67%
- 67%

More chance of something going wrong than with human interpreters
- 59%
- 53%
- 60%
- 60%

People not wanting to use machines to interpret
- 56%
- 51%
- 57%
- 57%

Small mistakes
- 48%
- 57%
- 46%
- 46%

No way to get a real person to interpret if the machine can't handle it
- 45%
- 47%
- 45%
- 45%

Other
- 17%
- 12%
- 17%
- 17%

None of the above
- 1%
- 0%
- 1%
- 1%

Percentage of Respondents

- Average of all respondents
- End-users
- Requestors
- Providers

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N = 2,256 (multiple responses allowed)

Figure 44 contrasts perspectives based on experience with AI. Results do not indicate great disparities in perspectives among the various constituencies.

Figure 44: Drawbacks of Using AI by Experience with AI

What do you see – or expect to see – as the drawbacks or harms of AI? – Results by Experience with AI
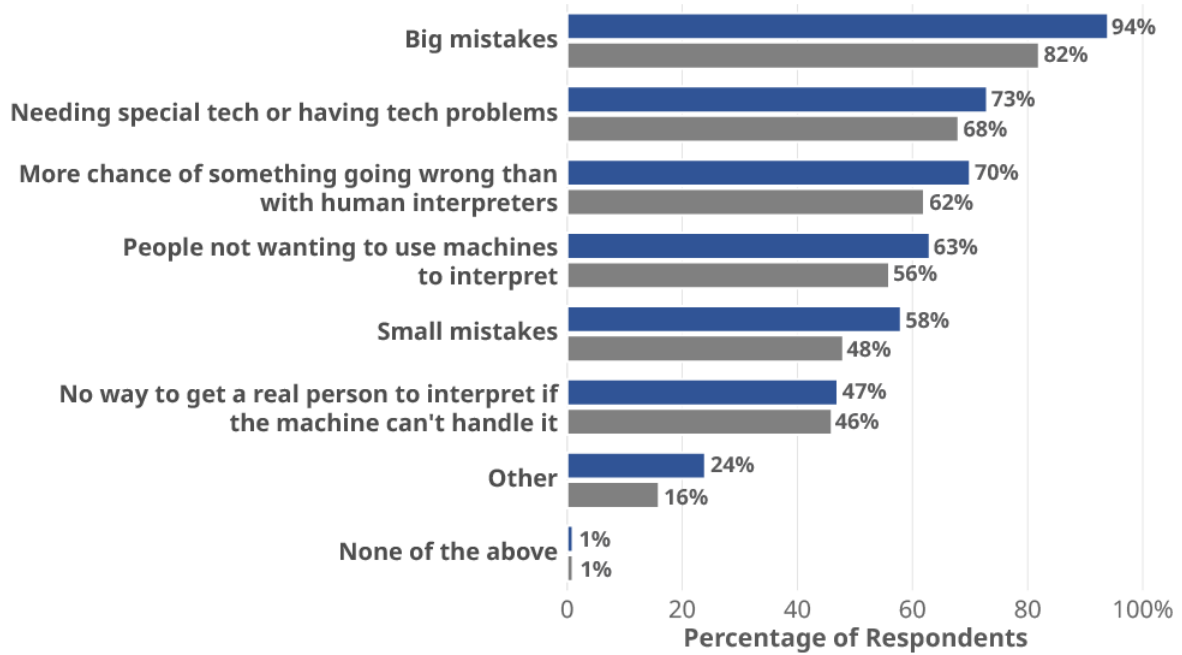
Category	Hands-on experience with AI	No such experience
Big mistakes	94%	82%
Needing special tech or having tech problems	73%	68%
More chance of something going wrong than with human interpreters	70%	62%
People not wanting to use machines to interpret	63%	56%
Small mistakes	58%	48%
No way to get a real person to interpret if the machine can't handle it	47%	46%
Other	24%	16%
None of the above	1%	1%

Percentage of Respondents

■ Hands-on experience with AI
■ No such experience

N = 2,256 (multiple responses allowed)

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And finally, Figure 45 presents data for responses in the US versus the rest of the world. Responses are consistent across the two groups here, too.

Figure 45: Drawbacks of Using AI by Location

**What do you see – or expect to see –
as the drawbacks or harms of AI? – Results by Location**

	In the US	Outside the US
Big mistakes	82%	80%
Needing special tech or having tech problems	67%	66%
More chance of something going wrong than with human interpreters	60%	57%
People not wanting to use machines to interpret	58%	46%
Small mistakes	48%	48%
No way to get a real person to interpret if the machine can't handle it	45%	43%
Other	17%	14%
None of the above	1%	2%

Percentage of Respondents

■ In the US
■ Outside the US

N = 2,256 (multiple responses allowed)

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Comments from Respondents

> *"We need to ask patients and their families the granular fine points of where the barriers to using AI exist. For some, it is paralinguistic, for others, it is cultural, for others, it is very low health literacy, or very low computer literacy, and for others it is issues of control, abuse, even being trafficked. Health providers don't know or are not trained to appreciate that healthcare interpreting is a practice akin to when nursing was the maid, or the social worker was the town busy body. Now we have registered nurses and social workers who can rise to the level of ancillary practitioners. I dream of a day when the academic track offered to healthcare interpreters all over the globe follows a similar track to these other ancillary providers, including research. We've done too good a job of making ourselves look invisible to the point of being objectified. The cost to the profession for this shortsightedness and lack of academic vision is here."* [Interpreter in New York, no AI experience]

Participants were able to list other disadvantages they perceived from using AI beyond the ones listed in the previous figure. This section synthesizes their answers around 11 focus areas: 1) obstacles resulting from context and culture; 2) challenges dealing with imperfect scenarios; 3) no substitute for human skills; 4) lack of trustworthiness due to errors; 5) process that doesn't deliver on needs; 6) lack of awareness of errors; 7) lack of credentials and accountability; 8) poor delivery of interpreting; 9) confidentiality and bias issues; 10) logistical challenges; and 11) increased cost.

Obstacles Resulting from Context and Culture

> *"Cultural and emotional contexts are not covered by machines but are essential to the work of an interpreter – that's why they are called 'interpreters.' They need to read the whole situation to choose the best terms to convey meaning."* [Interpreter in Brazil, moderate AI experience, finds results poor]

Respondents shared vast amount of comments about the importance of humans in dealing with subtleties and ambiguities – Table 7 summarizes their arguments. In short, they fear that because AI can't process nuance or read between the lines, service recipients have too much to lose when machines don't consider context and culture.

Table 7: Sample Elements That Require Nuance

Category	Examples Cited by Respondents
Linguistic context	• Subculture • Slang/slanguage • Dialect • Sociolect (e.g., Ebonics) • Mixed languages (e.g., Spanglish) • Regionalism • Colloquialism • Idiomatic expressions • Jargon • Microexpressions
Interaction context	• Setting/environment • "Politics" of the meeting • Intent • Visual cues (non-verbal language such as facial expressions and body language) • Hypertextualism (when you refer to previous conversations) • Implicit information • Smell of the environment
Emotional context	• Attitude/demeanor/mood/feelings (such as anxiety or hesitancy) • Tone of voice
Tone context	• Cynicism • Humor • Hyperbole • Innuendo • Joking • Sarcasm • Teasing
Cultural context	• Cultural differences (e.g., religious) • Cultural inferences/implicit information

Source: CSA Research

> *"The biggest concern I have with automated interpreting is that it conflates interpreting with translation. By this, I mean that it takes text in one language and produces a similar message in another. Interpreting incorporates numerous soft skills in addition to the message translation – humans are so much better at reading these cues than machines are (at least right now). If I am checking into a hotel and I use an automated interpreting program, the potential for harm is pretty small. If I am a medical ethicist in a hospital in a life or death setting, the*

interpreted product, which may be mostly accurate, may miss some of the nuances of the message conveyed that a human would pick up on, or may translate in a way that is culturally insensitive (that a human would have the soft skills to assess – e.g., 'city' person versus 'traditional' tribal member with a particular standing. Will content like matriarchal society and clan membership be something that a machine interpretation can take into account?)." [Frontline professional in District of Colombia, moderate AI experience, finds results poor]

"Dialect interpretation with AI is a failure." [Interpreter in Canada, moderate AI experience, finds results poor]

"In Spanish, many words are used differently in each country, and I don't know if the machine will pick up on exactly what I am saying. If I say: 'me picó un bicho' ('a bug bit me'), a Puerto Rican interpreter won't understand me – much less a machine." [Frontline professional in Nebraska, moderate AI experience, unsure about quality of results]

"AI cannot distinguish the fine subtleties of a nuanced intonation of speech. The words 'Yeah, right' can mean 1. 'Yes, you are right!' 2. (sarcastic) 'No way!' 3. 'Maybe, might be possible.' Each meaning is distinctly different." [Signed language interpreter in California, no AI experience]

"When a client in Maine says '180' in Portuguese, as a local interpreter I immediately know they are not referring to the number, but to a public health clinic in the area. I am not sure a machine will be able to detect such nuances." [Interpreter in Maine, no AI experience]

"Machines don't have the capability of capturing regionalisms or small details of the tone to use the correct terms, even if it requires a term that is non-transferable." [Interpreter in Texas, no AI experience]

"AI is not good enough in recovering from errors, whereas a human interpreter can immediately make corrections or clear up misunderstandings and wrongly used grammar by non-native speakers (this happens all the time), can understand and translate jokes, can interact with clients (body language, looks, etc. They all

> *play a role in providing comfort to a client, a role that AI cannot (yet) fulfill."*
> *[Interpreter in Netherlands, no AI experience]*

> *"Much of my job involves preventing misunderstandings through cultural*
> *competency and capturing subtle cues from patients and providers. A machine*
> *will not be able to pick up on these and may produce a more uncomfortable*
> *environment for the patient." [Interpreter in Georgia, no AI experience]*

> *"Sometimes, communication between the elderly and young nurses can be tricky*
> *because the nurses don't understand the background tradition and culture, so*
> *they don't understand why elderly patients say certain things. So, I need to step in*
> *and fill in the gaps in communication, which a machine would never be able to*
> *do." [Interpreter in Texas, no AI experience]*

> *"AI is a useful tool in many fields, but when it comes to interpretation, every single*
> *tool/app still lacks accuracy without the cultural awareness a professional in-*
> *person interpreter/OPI/VRI already has." [Service recipient in New York, not much*
> *AI experience, finds results good]*

> *"AI takes the humanity out of humanity. Its use will be no better than talking with*
> *a computer on the phone nowadays – pointless, and futile. It's only useful to*
> *obtain simple answers like yes and no, but little beyond that. If a genuine person*
> *is having difficulties communicating, AI could be good to catch what the person*
> *means but it could be devastating if AI gets it wrong and there is no conscience to*
> *catch the distress of miscommunication." [Interpreter in Iowa, no AI experience]*

Signed language is particularly challenging given the importance of subtle facial
expressions and body movements – and the fact that the meaning of signs can vary
greatly. Facial expressions reflect much of the grammar and speakers' attitude in signed
language. AI is not currently evolved enough to succeed in such a high-context
language, especially not in live interpreting scenarios.

> *"Language is not static. Machines can't work with context clues. Words are not*
> *what we interpret: Concepts are." [Signed language interpreter in Maryland,*
> *moderate signed language AI experience]*

"ASL is not only a language, but also a culture that varies by individual." [Signed language interpreter in Texas, no AI experience]

"For American sign language, most grammar is produced through facial expressions. The slightest twitch of the lip or eyebrow has significant meaning. Machines are not to the point where non-manual markers can be identified or produced." [Signed language interpreter in Indiana, not much signed language AI experience]

"A simple topic can easily turn into something complex. Facial grammar is equally as important as the hands, and a machine may miss this crucial input." [Signed language interpreter in Canada, no AI experience]

"Signed language will need more AI advancement to introduce a higher emotional intelligence in regard to facial expressions, which represent about 70% of the information communicated in this mode." [Signed language interpreter in Florida, not much AI experience, finds results poor]

"AI is too far from the accuracy needed for this work. It's too unreliable. How will it communicate eye gaze, head tilt, shoulder shifts, etc.? It won't be able to do everything we can, not for a long, long, long time." [Signed language interpreter in South Dakota, no AI experience]

Challenges Dealing with Imperfect Scenarios

"The way the healthcare providers and patients speak is very inaccurate. The interpreter has to apply a lot of common sense and knowledge to be able to fill in the gaps or understand what was said based on the context. That is one of the things that might affect the flow of communication if AI was to be used. Sometimes the patients and the providers mumble or speak very low." [Interpreter in Costa Rica, no AI experience]

The language people speak is not perfect. Neither are situations in which interpreting occurs. Respondents were terrific at providing examples of challenging situations that

AI would struggle with. The reason that humans remain the better choice is that they can provide language accommodations for unusual or unexpected situations by adapting what and how they interpret using their knowledge and common sense.

Table 8: Sample Imperfect Interpreting Scenarios

Category	Examples Cited by Respondents
Language imperfections	- Mispronunciations - Incorrect grammar - Poorly expressed thoughts - Half-expressed thoughts - Poor choice of vocabulary
Extra linguistic challenges	- Low or no literacy in the native language - Stakeholder(s) mixing languages - Language deprivation (such as for Deaf, DeafBlind, DeafDisabled, and Hard-of-Hearing children)
Speech challenges	- Strong accent - Speech impediments - Unusual cadence - Stroke patient - Children's talk - Low volume of speech
Cognitive impairments	- Low functioning - Not lucid or confused - Active psychotic episode - Older patient
Physical impairments	- Limb or hand difference (which matters for sign language) - Multi-disabilities (such as protactile users, meaning Low Vision/Blind and Deaf)
Trauma	Victims of crime or abuse
Situational barriers	- Noisy background - Multiple speakers/signers at the same time - High-stress environments - Small physical spaces - Unusual positions (such as when patient is unable to watch a screen) - Low computer literary

Source: CSA Research

> *"An invisible voice is not suitable for mentally challenged people."* [Interpreter in Pennsylvania, no AI experience]

"People with vision issues are often in denial of the extent of their vision impairment. A talented interpreter can help mitigate these transitional situations better." [Signed language interpreter in Ohio, not much AI experience, finds spoken and signed language results poor]

"Automated Interpreting won't be able to understand that the Deaf community is a cultural and linguistic minority. Within that community there are other considerations like low vision, deaf blindness, CHARGE syndrome, autism, mental health issues, addiction, isolation, and information deprivation." [Signed language interpreter in Ohio, no AI experience]

"When treating older patients who have cognitive impairments or hearing issues/confusion, it is helpful to have a real person who can warn me: 'She isn't getting that, she's repeating herself, she isn't answering the question that you asked'." [Frontline professional in Oregon, no AI experience]

"Even when a person has been exposed to a language from birth, they may be using three different modes of communication during one conversation. I don't trust that a computer could handle that kind of language variance without someone doing much more data input than is possible in the next 10 years." [Signed language interpreter in Illinois, no AI experience]

"Sometimes I don't know how to say something in Portuguese, so I type the words in Lingala or even in French, and the machine may not understand." [Frontline professional in Oregon, no AI experience]

"When AI is used properly, it makes things flow more efficiently. However, using it with the elderly, cognitively impaired, Hard-of-Hearing, critical illness, and end of life situations in a medical setting is not ideal. The providers need to be educated on the proper use and timing of such tools to be able to use them to provide the best and most appropriate communication possible for each patient." [Interpreter in Georgia, no AI experience]

"Technologists who seek to automate intercultural communication, be it in translation or interpreting, are missing the forest for the trees. Currently, if you tried to replace me with AI at any number of diplomatic or defense-related

meetings I interpret for, it would fail miserably. Human beings use jargon. They misspeak due to nervousness. They erroneously assume you know the context. They speak in thick accents. Over the course of the meeting, participants start to get a feel for the culture on the other side of the table. They warm up, they start making jokes, they refer to history and shared experiences. And all through this process, they are assisted by the bilingual and bicultural professional known as the interpreter. Could some AI program do my job? Sure, if all you want is mechanical translation of sterile phrases (but you would have to force the participants on each side to speak like machines). Automating away how people connect on a person-to-person level would be a travesty." [Interpreter in California, moderate AI experience, finds results unacceptable]

"AI interpreting would have to reach levels so far seen only in science fiction, such as Mr. Data in 'Star Trek: The Next Generation.' The enormous variety of variables in real-life circumstances is still beyond the ability of machines to recognize. Yesterday, for example, I interpreted for a client by phone. The client spoke extremely rapidly in both his native language and English. His English was heavily accented. He constantly switched between languages, often within the same sentence or phrase. He veered off into unrelated matters frequently, matters in which it was unclear who he was even talking about or what the people referred to had to do with the reason for his call to the government agency which he had called. If I, as a human with long experience in both languages, had extraordinary difficulty understanding him, it is hard to see how a machine could make even half the connections and inferences that I could." [Interpreter in New Hampshire, no AI experience]

No Substitute for Human Skills

"Patients already have negative notions of using video remote and over the phone interpreting because of how impersonal it is. With AI, you would take the whole human aspect away from the interpreting session, which can completely change the experience." [Procurement professional in Louisiana, no AI experience]

Human interpreters do more than translate words. Their presence alone adds warmth and a feeling that service recipients are heard and/or seen. Their delivery approach affects the message. This human connection is more pronounced for one-on-one sessions versus large group or remote interpreting scenarios.

Respondents fear that AI would dehumanize and depersonalize interpreting and leave end-users feeling lonely or even depressed. In a medical situation where you speak the same language as the professional doctor, surgeon, or specialist, there's already a communication barrier because they are thinking "mechanics" while you are thinking "my life." Adding a language barrier compounds the problem. Respondents emphasized the importance of the human touch as crucial to ensure service recipients trust the process and feel heard.

Recurrent words that appeared in comments included "intuitive perception," "compassion" and "empathy," "sensitivity" and "humanity," "connection" and "relationship," but also words like "gesture" and "emotions."

> *"Wrong use of certain words might lead to confusion, a lack of empathy in situations where human kindness is required." [Interpreter in Costa Rica, no AI experience]*

> *"Humans project empathy, love, kindness, compassion, understanding, etc. through their voices, which is something that AI cannot do." [Interpreter in California, no AI experience]*

> *"To use AI is to promote lack of connection. I want human interactions. We all want and need more human interactions, not less. Stop promoting machines." [Interpreter in New Mexico, no AI experience]*

> *"Automation will never replace a human when it comes to terminal conditions or the need for an empathetic gesture." [Service recipient in China, no AI experience]*

> *"Doctors are already looking at their computers instead of their patients. The human interaction is very important for well-being in the medical field." [Interpreter in California, no AI experience]*

It's also important to note that interpreters frequently fulfill other roles in addition to relaying meaning. Especially in on-site consecutive scenarios, they may act as a cultural broker/mediator, patient advocate, and supportive ally. Why do they do this? Because they can advocate on behalf of the end-user when biases are in place. Based on comments, such bias seems particularly pronounced against signed language users.

> **Note:** *An interpreter's job description does not necessarily spell out this role. They tend to naturally enhance interactions when they observe firsthand a disconnect that no one else in the organization notices or addresses.*

> *"You lose the cultural broker to assist in navigating patients through the healthcare maze." [LSP in Massachusetts, no AI experience]*

> *"Cultural mediation is completely lost. Human interaction is an essential part of the process. Without trust, a person often refuses to share openly, and this can have severe negative impacts." [Signed language interpreter in Illinois, no AI experience]*

> *"Human interpreters provide other benefits – building rapport and trust with the patient, identifying cultural misunderstandings, and supporting patient safety in a way a machine cannot. On-site interpreters also often help with wayfinding, guidance in navigating the healthcare system, reassurance to patients, and increasing access through relationships." [Interpreter trainer in Washington, no AI experience]*

> *"Interpreters often act as allies when discriminatory practices are taking place. AI would remove the humanity of the role to be a supportive ally when needed." [Signed language interpreter in Canada, not much AI experience, finds results poor]*

> *"The video-automated interpreter cannot advocate for the patient. In a hospital setting, the interpreter knows the system and how to process work within the system. They can anticipate issues when admitting, discharging, or through ensuring understanding based on a patient's body language and nuances that machines can't perceive." [Interpreter in Georgia), no AI experience]*

> *"AI has no way to interpret visual cues or apply cultural context, and no way to verify understanding or provide relevant information to a session when warranted. A machine will never be able to identify if someone is in a domestic violence situation or whether they need mental health services, both of which interpreters can and will do. There is no human element, so there is no quality monitoring."* [Interpreter in Indiana, no AI experience]

> *"AI means lack of advocacy on behalf of Deaf clients when the hearing person is talking to the computer and not the person."* [Signed language interpreter in Texas, no AI experience]

> *"AI would result in a lack of cultural mediation or sign choices based on regional dialects."* [Signed language interpreter in Texas, no AI experience]

> *"Many of these arguments have been used to justify video remote interpreting use in the community by businesses (faster service, more availability, etc.), but it has not gone so well. This is just a new iteration of the same philosophy."* [Signed language interpreter in Texas, no AI experience]

> *"AI would lead to an increased sense of hopelessness by people being marginalized or even disrespected because machines are not capable of doing what the human brain does when it comes to paralinguistic and cultural issues. As a result, patients would be labeled non-compliant, and doctors cold and uncaring. Trust is central to the practice of medicine."* [Interpreter in New York, no AI experience]

Lack of Trustworthiness Due to Errors

> *"There is no such thing as a small mistake in interpreting and translating."* [Procurement professional in Australia, no AI experience]

AI's errors aren't so much about grammar or syntax – the technology has come a long way. The fear of minor or major misinterpreting is what drives respondents' comments. They listed error types such as inaccuracy, information loss, miscommunication,

misinformation, and misunderstanding. What happens when AI misses the point? These concerns fall into the classic "lost in translation" category. Note that the next big section in this chapter deals with possible Negative Outcomes Feared by Respondents.

Frontline professionals shared significant concerns related to not understanding or not being understood:

> *"I worry about not correctly understanding the patient or interpreter." [Frontline professional in California, no AI experience]*

> *"I will not know what the patient has understood me to say. AI cannot easily correct misinformation or ask follow-up questions to confirm understanding." [Frontline professional in Oregon, no AI experience]*

> *"What if AI does not relay the correct information to the person?" [Frontline professional in Texas, no AI experience]*

> *"I worry that the translation is incorrect. I worry that the dialect may not be understood by a machine and that the information may not be relayed correctly." [Frontline professional in Massachusetts, not much AI experience, finds results poor]*

> *"As a registered nurse in an inpatient surgical setting, making sure the patient has clear information for consenting purposes is crucial. It is also incredibly important for the patient/family member to be educated on post-op care with a certified human interpreter, to make sure that all questions are answered and there is no nuance." [Frontline professional in Oregon, no AI experience]*
> *"Inaccurate translation is the biggest concern. I work in law. My clients regularly need to be able to understand me in complex and high-risk conversations. Machine translation is almost never appropriate for these interpretations due to the high risk caused by its potential inaccuracy." [Frontline professional in Arkansas, no AI experience]*

> *"AI will miss important nuances that are naturally understood by humans – body language, tone, implications – the exact nuances that help people understand the*

full complexity of any situation." [Frontline professional in Japan, moderate AI experience, finds results good]

"There could be major miscommunication due to small intricacies of cultural backgrounds, slang, figures of speech and individual differences that human languages and dialects are based on." [Frontline professional in Nevada, no AI experience]

"I'm concerned about misinterpretation and not recognizing misinformation for the patient/family – especially with languages I am not familiar with." [Frontline professional in Oregon, no AI experience]

"Mistakes are made but not discovered. Someone misunderstands or – worse – acts, based on an incorrect or imprecise translation. And the translation is only as good as the original input. If someone is sloppy with how they phrase something, how they use idioms or colloquialisms, how they make their own errors in their own language, all that is problematic input for a machine to interpret." [Frontline professional in Connecticut, moderate AI experience, finds results good]

"I have enough trouble with highly trained and very competent human interpreters – we are constantly checking with each other to make sure our words, ideas, and concepts are being understood in ways I cannot imagine a machine to improve on. Also, the hand movements and facial expressions that are essential parts of successful communication would be missing in machine interpretation." [Frontline professional in Washington, no AI experience]

Service recipients echo these feelings.

"AI can be confusing to understand." [Service recipient in California, no AI experience]

"AI may lead to many misunderstandings in communication. Will machines ever understand feelings? Will they deliver accurate sign language? I don't think so." [Service recipient in Oregon, no AI experience]

> *"Emotions, behavior, and tone would be missed."* [Service recipient in Canada, no AI experience]

> *"You can end up with inaccurate translation of legal proceedings."* [Service recipient in Canada]

> *"The machine can hallucinate and alter the interpretation."* [Service recipient in Texas, no AI experience]

Procurement teams are likewise concerned about the impact on quality – confirming that they do realize that AI does not deliver the same caliber interpretation as humans.

> *"AI cannot replace humans in interpreting ever, especially in health where much more than a=b is required. We are not even there yet with translation. We have seen many examples of AI failing miserably at translating words and concepts."* [Procurement professional in Australia, no AI experience]

> *"AI may provide incorrect information. It's unable to pick up cultural/body language nuances and to account for emotion in situations."* [Procurement professional in New York, not much AI experience, finds results poor]

> *"We'll have errors due to the same terms used differently in the same language based on origin."* [Procurement professional in Texas, no AI experience]

> *"You risk inaccuracies, misunderstandings, and the lack of incorporating non-verbal communication and cultural nuances."* [Procurement professional in Georgia, no AI experience]
> *"You can have misunderstandings with a lack of a way to repair them."* [Procurement professional in Colorado, not much AI experience, finds results poor]

Process That Doesn't Meet Requirements

> *"AI is unable to pose follow-up questions, clarify, or reinstruct for complex information. I wouldn't know if the patient understands what I have said."* [Frontline professional in Oregon, no AI experience]

So why does today's AI make more mistakes than humans? Because it can't ask questions – to understand a sign or a concept. In short, AI doesn't know what it doesn't know. On the other hand, human interpreters routinely interject in conversations to clarify the message if there's any indication of misunderstanding on either side.

> *"AI can be more useful in written translations because someone can always go back to check for errors and make corrections. But verbal interpretation is too risky in some areas. As an interpreter you have the ability to request clarification for specific words, phrases, etc. AI can only interpret verbatim."* [Interpreter in Nebraska, no AI experience]

> *"Two-way communication between interpreters and clients is often needed to clarify an expression. I am not sure if this is part of what AI can do or more likely, what the AI designers would program or be able to program into the system, e.g., interpreting emotions from words, from facial expressions, from slang, etc."* [Interpreter in California, no AI experience]

> *"AI might not be able to circle back and correct mistakes, making the interpretation even worse. It may also lack cultural awareness, which is one of the aspects of being an interpreter, not to mention hospitals with staff interpreters who have extra responsibilities like medical rounds that AI will not be able to fulfill."* [Interpreter in Utah, not much AI experience, finds results unacceptable]

The other process element that bothered users was their inability to validate what the AI understood and the ensuing translation.

> *Note: Solutions such as Converser for Healthcare from Spoken Translation have a back-translation functionality and cues for meaning to help a provider verify that the intent of the message was achieved.*

> *"I would not be able to clarify the point and it may translate something, but not the meaning I mean."* [Frontline professional in Oregon, not much AI experience, finds results good]

> *"The accuracy and complexity of terminology may make the target language unintelligible, with no way to check."* [Procurement professional in California, no AI experience]

> *"It can't attest to a witness' responses."* [Procurement professional in Nebraska, no AI experience]

> *"AI has no ability to determine comprehension and make adjustments. You're forced to assume that communication was 100% understood."* [Procurement professional in Wisconsin, no AI experience]

> *"We will face incorrect interpretation, misrepresentation of information, and the inability to clarify when questions are not understood."* [Service recipient in Michigan, no AI experience]

Lack of Awareness of Errors

> *"AI provides a false sense of security. It has no awareness of its error rate or lack of accuracy."* [Technology vendor, not much AI experience, finds results unacceptable]

With AI, participants may not realize a mistake occurred until it's too late. There is often no way of knowing that something was incorrect until end-users encounter an issue when acting on the information. AI can't self-assess whether a task is too complex.

> *"It's critical to keep a human involved at all times. We can be flawed, but we are just more trustworthy, as ironic as that sounds. Handing over everything and putting all your faith into AI interpreting feels like we are completely surrendering to machines. We are asking them to do a nuanced job that they may simply not capture and that could completely change a whole course of diagnoses, outcomes, patient revelations that are designed to better bridge the*

communication between patient and provider. It's a risky game that I would not play when it comes to humans communicating to understand each other, capturing information, and being the voice of the patient. "[Interpreter in Massachusetts, no AI experience]

Assignments are diverse and we interpreters can make serious errors, too, but we can correct them. We are able to intervene to ask for clarification depending on user reaction; we can adapt to communication very quickly when reading the room. We know we have an obligation to acknowledge errors or knowledge gaps. In legal/medical settings, we would certainly intervene to resolve issues."[Interpreter in the United Kingdom, not much AI experience, finds results poor]

"AI sounds authoritative when it 'hallucinates.' People will not know whether there are serious errors." [Interpreter in Massachusetts, no AI experience]

"The machine doesn't recognize when it can't understand, so a mistake may go unnoticed until much later. You would have to record all encounters, just in case, and that's a huge storage problem." [Interpreter in North Carolina, no AI experience]

"The predictive nature of AI means that a response will sound convincing whether or not it is correct. A customer who lacks contextual information may lack the ability to distinguish whether provided information is accurate or not." [Scheduler in California, no AI experience]

Note: Respondents mentioned that AI can't retract a translation. Automated captioning and subtitling systems come with a feature to correct text as the speaker reveals more of the sentence, to correct any basic misunderstandings once it has the full text. However, this is only helpful when the text is not already off the screen. Constantly changing captions can also be distracting.

The fact that neither party is aware an error occurred means that people believe all is well and that the parties successfully communicated. In an ideal scenario, you'd need an interpreter monitoring the session and correcting mistakes as they occur – but that level of quality assurance is unlikely except in testing scenarios.

Note: Compare this to self-driving cars when the human behind the steering wheel is legally required to monitor. It's a challenge for people not to start checking their phone or to stay awake when all is going well.

> *"The fact that AI can't recognize when it's made a mistake makes it a very dangerous interpreting tool. If there is no bilingual person present, there is no way to check accuracy." [Interpreter in Massachusetts, no AI experience]*

> *"Lack of awareness if/when mistakes do happen is problematic: How will users be alerted to this or know when AI can't handle the complexity? Non-language professionals don't understand how to simplify their language for human interpreters the majority of the time as it is." [Interpreter in Ohio, no AI experience]*

> *"Either you trust AI 100%, or you will need someone to check the whole time, and this is not possible because it will make no sense (if you have a clue about what interpreting requires and means)." [Interpreter in Italy, not much AI experience, finds results unacceptable]*

> *"AI should be heavily supervised when used in the Interpreting/translating fields." [Interpreter in Ohio, no AI experience]*

> *"AI needs to be partnered with certified human interpreters and translators whenever possible." [Scheduler in California, not much AI experience, unsure about quality of results]*

Some suggest adding a human to resolve suspected cases of miscommunication.

> *"A human interpreter should be added to correct miscommunication. But a full-fledged team is not needed anymore." [LSP in Maryland, no AI experience]*

But let's remember that end-users aren't necessarily satisfied with human interpretation if an unqualified or under-performing interpreter is used and may find AI to be more reliable:

> *"The same things happen with human interpreters. They don't say what I say. They make mistakes. They make decisions about how to filter my words without checking with me. They make mistakes because they don't understand the content. I don't worry as much about this with machine interpreters because they are machines and will not try to rush, judge, police my tone, etc."* [Service recipient in Minnesota, no AI experience]

Lack of Credentials and Accountability

> *"The issue of who takes responsibility is completely ignored at present."* [Interpreter in the United Kingdom, not much AI experience, finds results good]

Having a machine handle interpreting raises questions about how to certify its output. In certain sectors, you need to be certified to be able to interpret. Respondents questioned how AI could achieve this certification or licensing.

> *"Legal settings need certified interpreters, or they need to be sworn in."* [Procurement professional in Nebraska, no AI experience]

> *"AI can't have a national provider identifier (NPI) or sign HIPAA agreements (Health Insurance Portability and Accountability Act in the US)"* [Interpreter in Washington, no AI experience]

When mistakes happen, someone needs to be held accountable. Who will that be when it's an algorithm in the cloud performing the task?

> *"AI is not accountable for the mistakes it definitely will make."* [Interpreter in Minnesota, no AI experience]

> *"One family was unclear as to whether their child was to get medication 'once' (Spanish for 11) times each day or only one time (1). It's hard to know where the precipitating mistake lay – with a human programmer somewhere along the line, a prescriber, or a dispenser. It is foolish to underestimate the unlimited capacity of human beings to make mistakes; however, human interaction allows for trust,*

> *relationships, and questions unique to each situation, visit, and conversation."*
> *[Frontline professional in Alabama, not much AI experience, finds results poor]*

> *"Inaccuracy, harm to consumers, no accountability, no standards: sign language is visual and cannot be captured on a machine." [Service recipient in Rhode Island, not much AI experience, finds results unacceptable]*

> *"No accountability – if the machine translation is completely off and neither participant realizes it, no one will know until problems have already occurred. Furthermore, court/legal situations could result in offenders using translations as excuses that cannot be verified if conversations cannot be double-checked, yet recorded conversations could lead to confidentiality issues." [Service recipient in Texas, no AI experience]*

Poor Delivery of Interpreting

> *"You lose the inflection of the voice, facial expression, and the human connection." [Frontline professional in Washington, not much AI experience, finds results good]*

Even assuming that AI is error-free, rendering the interpreting remains problematic. Voice synthesis has improved but still lacks in tonality and emotion. Artificial voices are often perceived as "unnatural sounding" and are hard to listen to for extended periods of time – that's why machine subtitling is more common in practice than machine interpreting.

> *"Some studies show people retain less information conveyed by a synthetic voice compared to a human voice." [Interpreter in Brazil, no AI experience]*

> *"I wonder what a user can reasonably understand if the machine interpretation speaks fast, with no intonation and gets sentence segmentation wrong." [Interpreter in the United Kingdom, not much AI experience, finds results poor]*

The flow of conversation is also different when using AI.

> *"Accuracy, comprehension by consumers, and conversation flow during the interpreting session are essential and should be smooth. I doubt if AI can outperform humans."* [Interpreter in Minnesota, not much signed language AI experience]

> *"I do believe that our brains are machines that have evolved to, among other things, communicate with others. I also believe we can teach others to communicate with us in the same manner as we do, so it is not far-fetched to think machines might do the same someday. However, as humans, we have to clarify things at times or rephrase words to keep meaning intact. AI would have to identify these instances (example: word versus meaning) and adjust accordingly in order to deliver the most faithful message."* [Interpreter in Mexico, no AI experience]

Confidentiality and Bias

> *"At the moment, I don't trust AI so much because it is basically aggregating or copying from a lot of human creativity to train its models. The humans from which it learns are not being appropriately compensated for their creativity nor the years of education/effort it took them to achieve their level of expertise. I also worry about data sharing, data privacy, confidentiality and who would ultimately own the content interpreted and learned from by AI. [Interpreter in Iowa, no AI experience]*

In Advantages of Automated Solutions, we listed improved confidentiality and reduced bias as benefits of AI. But this issue is more complex, with AI exhibiting downsides related to the very same points.

Confidentiality is all about data storage, data privacy, and the potential implications of data breaches. Such topics are the same challenging issues that AI specialists in other sectors struggle to regulate.

> *"Using AI is breaching HIPAA privacy."* [Interpreter in Costa Rica, no AI experience]

"I believe the privacy concerns of having the patient's PHI (protected health information) recorded in audio form and transmitted for AI processing (and potential training) are major issues." [Interpreter in Georgia, no AI experience]

"Privacy concerns, data breaches, lapses in client confidentiality" [Signed language interpreter in Oregon, no AI experience]

"Privacy issues. A lot of data generated by machines is shared and stored." [Signed language interpreter in Netherlands, no AI experience]

"Because professional interpreters are bound by the codes of professional conduct, they are protecting the rights of the patient to have full communicative autonomy. Technology in the hands of providers (those who speak the predominant language) could mean the patient or consumer is at the mercy of the person who controls the technology." [LSP in Florida, moderate AI experience, finds spoken language results poor and signed language results unacceptable]

"AI is most inappropriate for information that is under non-disclosure agreement (NDA). Anything under NDA will also require wiping AI memories at risk of widespread leaks to competitor industries that develop AI. It needs to be contained in a vacuum for any proprietary industry, and if that's the case, how will it learn or improve?" [Interpreter in the United Kingdom, no AI experience]

"I do not want to be recorded at all." [Service recipient in Minnesota, no AI experience]

"AI interpreting presents a huge challenge to the individual's privacy when used in legal and healthcare settings. There is also great concern about data leaks and security. I don't see AI interpreting as a standalone solution, but rather as a tool that can serve language providers to gain access to feedback, analyze performance, and possibly relegate some tasks to automation that do not carry privacy violation risks." [Interpreter in Virginia, no AI experience]

"Privacy and record-keeping are major concerns with AI and automation. Current human interpretation does not keep any records and privacy is key. Corporations

and governments should never spy by maintaining unnecessary records of what people do. Unscrupulous people should not weaponize the info or abuse it." [Interpreter in Texas, not much AI experience, finds results excellent]

"What about the possibility of weaponizing AI interpreting? AI use and deployment comes with fuzzy legal and human rights which, as with other (even older) AI technology, is an ongoing challenge in a power-struggle arena that tends to sustain and reproduce the established privileges of the moment." [Interpreter in Nicaragua, no AI experience]

"I expect data breaches and HIPAA violations. Yet, it will be a lot less than current exposures due to gossip and social exchange among peers." [Procurement professional in California, moderate AI experience, finds spoken and signed language results excellent]

***Note:** These responses highlight real concerns, yet legal and technological solutions exist for these issues in other fields, and they are solvable with AI. Although it would be a mistake to assume that available solutions will meet requirements without verification, AI should not be outright dismissed based on them.*

Bias stems from the data selected for AI training. When non-American and non-European languages contribute less than 15% of these models' total available training data, how can that be representative of non-English speaking cultures ("Locales and Focused Large Language Models (FLLMs)" © CSA Research)?

"AI will have biased behavior depending on the data and methods used for its training." [Association representative, moderate AI experience, finds results poor]

"You can have biased interpreting based on political, economic, religious, and social ideology, and especially corporate interests." [Interpreter in District of Colombia, no AI experience]

Logistical Challenges

> *"When technology is not available, there is no back-up plan. Technology fails all the time." [Interpreter in Nevada, no AI experience]*

To operate AI, you need power, a device, and a reliable internet connection (although offline services may be possible). These aren't always easy to access and represent the same challenges that video remote interpreting has faced for years. Thick walls and departments located deep in basements of large buildings are notorious for bad connections.

> *"Think about patients in surgery or limited-space scenarios where the interpreter has to be in a position where tech could not be, places with no access to WiFi or charging capabilities when device batteries run low." [Signed language interpreter in Michigan, no AI experience]*

> *"You must have a high-quality broadband connection. Low-quality connectivity always affects 'hearing' by AI and leads to very incorrect, if any, results." [Individual in Texas, no AI experience]*

> *"No one thinks about what happens when systems fail. Chaos ensues when cell phone or internet services go down. An example is the number of problems caused for thousands of people in all sectors when [a hospital's] services crashed recently. That's what happens when you depend on something that can be taken away in the blink of an eye." [Signed language interpreter in Canada, no AI experience]*

> *"As history shows, companies big and small try to be cheap with IT departments and their equipment. No matter the field, it is always human effort that fills in for poor web infrastructure or equipment. It will be the same for AI. Organizations will not hire the best-qualified people. Then everyone will become servants of the poor IT tech or programmer without being compensated fairly for fixing IT mishaps – instead of remaining fully focused on their patients or customers." [Interpreter in Texas, not much AI experience, finds results excellent]*

> *"You can always rephrase, ask more questions, etc. with a human interpreter. With a computer, you sometimes need a person to help as you become entangled in a phone tree, don't manage to talk to a human, or lose the internet in the middle of what you're doing, thus forcing you to access another app/AI to start over."* [Frontline professional in Oregon, no AI experience]

> *"AI interpreting will produce the same failures and challenges for Deaf clients as VRI does now. They are dependent on Hearing staff to 'set up and point' the camera in the right direction. Who will the clinic/hospital pay extra to come in to hold the camera above a Deaf patient who is laying down for treatment?"* [Signed language interpreter in Texas, no AI experience]

A technology-driven approach is more challenging for individuals who are uncomfortable with the interfaces and electronic devices required by AI interpreting.

> *"You can have user error from people not knowing how to use the technology."* [Interpreter in Massachusetts, no AI experience]

> *"I worry that AI would require a big device that would need to be rolled from the next room and require staff to figure out how it works."* [Frontline professional in Wisconsin, no AI experience]

The reliance on technology also raises the issues of backup and contingency plans.

> *"You lose low-tech infrastructure."* [Policy maker, no AI experience]

> *"If the power goes down, the AI also goes down."* [Signed language interpreter in Texas, no AI experience]

Increased Cost

> *"It takes too long to understand each word being said."* [Service recipient]

A drawback cited by several respondents was the contention that AI may be cheaper up front, but in the final analysis, may take more time to communicate, add more work,

and cost more. This is not negligible. For example, the appeal of AI for a physician may be that they don't have to wait for an interpreter to come on the line, and they can therefore see more patients. But if using AI slows down the pace of conversation compared to using a human interpreter, then a human might be more beneficial to help them stay on track with their appointment calendar – and the quality of care they provide.

> *"The non-spoken messages in a person's body language, intonation, or hesitancy would be lost, making sessions less accurate and causing more work down the line."* [Frontline professional in Oregon, no AI experience]

> *"If AI interpreting ends up requiring a real person to step in to help untangle a problem, then why even have it in the first place? In an emergency, time is of the essence. That delay in trying to back-track to find the source of the problem can have catastrophic results."* [Interpreter trainer in California, not much AI experience, finds results good]

> *"Clients want to use machines to replace interpreters or cut costs. However, language is not an exact science, and it requires cultural interpretation, tone, and human ears. Cost-cutting can end up being more expensive due to errors, misunderstandings, and legal issues."* [Interpreter in the United Kingdom, moderate AI experience, finds results unacceptable]

Negative Outcomes Feared by Respondents

> *"In every situation, using automated interpreting implicates endangerment to one's life, physical well-being, income, civil rights, right to due process, and right to accurate language access. These are unalienable rights in the US and many other countries. Automated interpreting is too dangerous for society."* [Interpreter in Texas, no AI experience]

The actual and presumed drawbacks of AI were of crucial importance to survey respondents because of "what if" scenarios. What if AI makes a mistake that ends up having a detrimental effect on one of the parties? Mistakes can be harmful, no matter

how small. In this section, we synthesize the negative outcomes that respondents fear or expect from using AI-driven services (Table 9).

Table 9: Risks of Negative Outcomes Documented in Free-Text Answers

Category	Examples That Respondents Cited
Access	• Reduction in care or services received • Discrimination
Cost	• Need to spend more due to AI mistake or misunderstanding
Decision	• Wrong decision about a case • Less ability to use professional's intuition when relying on AI
Direct physical harm	• Injury • Life-threatening impact • Death
Legal impact	• Harm to liberty • Wrongful arrest, detention, or conviction • Defamation • Lawsuits
Liability	• Criminal negligence • Loss of license to practice profession
Health care	• Erroneous diagnosis (medical error) • Incorrect medical procedure performed • Wrong organ or limb treated or removed
Outcome	• Loss of human touch that leads to better outcomes
Personal impact	• Loss or lack of benefits or services received • Unemployment • Disconnection from society • Loss of privacy (when data is shared or leaked)
Safety	• Misunderstanding of instructions (such as post-operative instructions, prescriptions) • Misunderstanding of next steps
Service	• Procuring wrong service for the task • Service interruptions (internet down, bad connections) • Poor user experience (frustrated, angry) • No continuity of care • Loss of repeat revenue • Bad reviews on social media

Source: CSA Research

Let's explore a few of those areas through relevant quotes from respondents:

- **Humans help achieve better outcomes.** The absence of mistakes does not equate to success for AI. Multiple respondents commented that outcomes of an interaction are better when the conversation happens with a human.

  Note: Follow-up studies are warranted to verify how much of this conclusion is primarily centered on sectors such as health care, asylum procedures, and social services. The study should compare in-person interpreting, remote interpreting, and machine interpreting.

  > *"Patient outcomes are better with in-person interpreters than with virtual interpreters on screens. People don't like to use VRI when they can access in-person interpreters. It would be even worse with AI interpreting due to its being depressing and lonely." [Interpreter in Rhode Island, no AI experience]*

  > *"Machines are cold and don't have the human touch that's so necessary during interpretation sessions. My patients are able to heal faster when they have people around them who care – and that includes interpreters. People with language barriers are already dealing with a lot of loneliness. Using a machine doesn't help that situation. My patients always tell me how much better they feel when they're able to speak with someone who speaks their language. A machine can't replace a human." [Frontline professional in California, no AI experience]*

  > *"There is a lack of education on what should be handled by machines versus humans. Machines cannot replace the human element needed for 'complex' conversations. What defines complex? It is the need for nuance, ambiguity, restraint, and physical, literal, energetic warmth emanating from a human being. We can learn to program syntax that imitates empathy expressions into our machine models. But we lose something precious with machines, compared to information that originates from a warm-bodied person with soft flesh who has a twinkle of kindness in their eyes. No doubt in my experience that this 'twinkle' helps human interpreters render whatever hard or sad or poignant message they are tasked to interpret, and helps their interlocutors receive the message more appropriately." [Procurement professional in Pennsylvania, no AI experience]*

Note: The heart-breaking quote below exemplifies a worst-case scenario of outcomes gone bad with a disconnection from society. It illustrates how decisions procurement teams make about technology can have real-life effects on people: people who are already at a disadvantage when communicating with others who don't speak the same language. Such a reaction can happen even if people have not experienced AI firsthand.

> *"I will probably want to stop talking to people because sign language avatars majorly suck. They can't understand me, and I can't understand them. They are awful!"* [Service recipient in Texas, no AI experience]

- **AI cannot prevent discrimination like humans can.** When interpreters assume an advocate role, they help bring awareness to issues such as culture, disability, or religion, which – if not handled properly – can result in discrimination.

> *"Until there is fluid awareness around the cultural importance of interpretation services and less widespread discrimination, we as a society are not ready to skip all the work that needs to be done to support successful AI interpreting."* [Interpreter in Florida, not much AI experience, finds spoken and signed language results unacceptable]

> *"On a few occasions, I witnessed gross malpractice and racial discrimination towards clients whose body language clearly showed indignation, shame, and humiliation (which needed to be reported to the ombudsperson at the locations where I was interpreting so that it wouldn't happen again). I am not sure having a machine interpret would prevent that from happening – and might even allow for more of these incidents since there would be no 'witness' present."* [Interpreter in Maine, no AI experience]

- **Humans can provide continuity of service and care.** For some follow-up types of interpreting, people can request the same interpreter. This can improve the efficiency and outcome of appointments, meetings, and events.

> *"AI can't provide continuity of care where the human interpreter is familiar with the patient, which is important in many medical situations."* [Service recipient in Missouri, no AI experience]

- **AI affects trust in the system and the institution.** Respondents emphasized the importance of interpreting in building trust with frontline providers – and they indicated that AI could cause an erosion of trust. This is not restricted to the healthcare field. Trust can be tainted by poor automated interpreting at a conference or when calling a customer representative assisted by AI.

  > *"AI will lead to further erosion of trust of providers of healthcare and social services." [Frontline professional in Texas, no AI experience]*

  > *"The level of trust in care providers will diminish." [Interpreter in California, no AI experience]*

- **AI interpreting may lead to making wrong decisions.** Beyond possible discomfort from working with automated services or occasional confusion with irrelevant translations, respondents are particularly concerned with one party ending up making a wrong decision or struggling to make a decision. They fear users would have a misplaced sense of trust in AI.

  > *"Poor interpretation may mean that my client will make a poor choice or not understand their options." [Frontline professional in Massachusetts, not much AI experience, finds results poor]*

  > *"The conversation may be understood the opposite way leading to the wrong decision." [Service recipient in New York, not much AI experience, finds results good]*

  > *"In the medical field, there are huge risks of misdiagnosis due to AI mistakes, which can lead to very harmful or even deadly misunderstandings." [LSP in Oregon, extensive AI experience, finds results poor]*

  > *"Missing the warmth of a human interpreter or their sensitive touch to 'soften' the words so they can land in a more empathetic way." [Individual in North Carolina, no AI experience]*

> *"I expect it to be more difficult to make a decision when needed, for example if clarification is needed."* [LSP in Peru, no AI experience]

- **Mistakes can lead to physical harm.** Respondents cited a variety of adverse health effects that might result from a misunderstanding or mistranslation. These comments came predominantly from respondents who are involved in health care as patients, buyers, or interpreters and explain many of the quotes throughout the report. For many, these risks outweigh the potential benefits of AI for healthcare interpreting.

> *"The possible risks for a missed interpretation are potentially life-threatening in medical situations. AI's use in that context is an ethical issue for a profession that begins with an oath to 'do no harm'."* [Interpreter in Oregon, no AI experience]

> *"Errors/misinterpretation could at best cause confusion and at worst change the meaning of what was said, which could have medical or legal ramifications."* [Procurement professional in Massachusetts, no AI experience]

> *"Introducing automated AI interpreting services in health care would be a detriment to patient safety and would increase staff and hospital liability."* [Frontline professional in Oregon, no AI experience]

> *"It scares me that we are trying to have robots without persons behind them doing a job that requires so much attention to detail to be completed. In health care, you can kill a person if interpretation is not done correctly. You can conduct the wrong procedure on the wrong organs or limbs. You can arrive at the wrong diagnosis for medical problems."* [Scheduler in Wisconsin, no AI experience]

> *"If in a standard operating procedure (SOP) in a hospital setting, 'non-urgent, routine' conversations are deemed suitable for machine interpreting, who's making that call? What happens when the non-urgent routine conversation turns into a crisis intervention? People could be harmed or killed."* [Frontline professional in Texas, no AI experience]

> *"An almost accurate, or almost complete translation can be just as harmful as a grossly inaccurate or incomplete interpretation." [Frontline professional in Oregon, no AI experience]*

> *"Healthcare interpreting practices came into place because real people died due not only to a lack of interpreting services but also to the low quality of the interpreting services then provided. If a machine can't demonstrate greater accuracy or intuition than a human, it has no business filling in for humans." [Interpreter in Louisiana, no AI experience]*

- **Mistakes can also cause financial and legal harm.** Not all harm is about negative healthcare outcomes, although negative healthcare outcomes can also lead to lawsuits or expensive financial impact for institutions.

  > *"AI is still prone to error. Without human supervision, it poses risks of damaging errors." [Procurement professional in California, no AI experience]*

  > *"There are huge risks (liability, misunderstandings, nuance) that many people who embrace automated interpreting for financial reasons don't seem to grasp." [Interpreter in Italy, no AI experience]*

  > *"Since the person being interpreted for doesn't speak the other language sufficiently, that person will never know if there is a problem until it's too late. Plus, people who want to reduce costs should think about the fact that it only takes one lawsuit to nullify all those cost savings." [Interpreter in California, no AI experience]*

  > *"If there is any consequence to the content of the conversation, such as the likelihood of a lawsuit for criminal negligence, the liability cannot be transferred to an algorithm. For content of no consequence, such as motivational speaking, who cares, go for it." [Interpreter in Washington, no AI experience]*

  > *"In judicial settings, you risk harm to life and property and denial of full and accurate access to a full trial and representation." [Interpreter in Texas, no AI experience]*

> *"AI is absolutely unacceptable. The slightest error could significantly affect the life, career, education, or health of an individual who is required by the American Disabilities Act (ADA) to have a highly certified interpreter with years of experience."* [Signed language interpreter in Texas, no AI experience]

- **Respondents fear having to bear the liability for AI's mistakes.** Physicians worry about losing their license over a negligence lawsuit related to a bad interpretation or translation. Other professions fear the same risk. Why should they be held liable if the error comes from a mistranslation by a machine?

  > *"The risk of litigation is very real with AI. If interpreters make an error, they can be taken to task. But if AI makes an error, who takes responsibility? How do you sue a machine? Do you sue the person who decided it was okay to use AI or do you sue whoever input the information (who knows when and where)?"* [Procurement professional in Australia, no AI experience]

  > *"Where is the accountability when someone is harmed, including providers who are always at risk of losing their license even when acting in good faith?"* [Frontline professional in Texas, no AI experience]

- **Increased costs can also plague end-users.** Wrong decisions can lead to extra appointments, repeated tests, and follow-up conversations. Even if the mistranslation was caught and did not cause injury, it affected someone's pocketbook down the line. The ones who will pay directly or indirectly are likely end-users – whether service recipients or frontline professionals.

  > *"For me, the big harm is that the patient might not get the care he/she needs and end up with higher medical expenses."* [Interpreter in Washington, moderate AI experience, finds results poor]

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Chapter 10
Usage Scenarios – The End-User Perspective

> *"I don't know if people are ready for AI yet." [Individual in California, no AI experience]*

Should automated interpreting be used only in cases when no human interpreter is available? When are machine outputs suitable?

We'll start our analysis with the end-user perspective, since the Task Force's primary function is to determine what is best for those who use or benefit from interpreting services. In this chapter, we review end-users' level of trust in interpreting based on its source and the suitability of AI for six types of conversations: low-risk versus high-risk, non-technical versus technical, and non-urgent versus urgent.

> *Note: For the requestor and buyer perspective, see Usage Scenarios – The Requestor and Provider Perspective.*

Trust by Source of Interpreting

> *"In a healthcare setting, trust with providers is a major consideration. Families/patients see face-to-face interactions as more caring, reliable, and culturally aware when it comes from someone who understands (meaning the interpreter)." [Frontline professional in Alabama, not much AI experience, finds results poor]*

To contextualize end-users' responses for use cases, we first wanted to gauge how much they trust interpreting from both human and AI sources. Figure 46 recaps the findings. The data makes the case for professional in-person interpreting – and in the worst case, for remote solutions. Yet many practitioners must advocate for these trustworthy sources on a daily basis.

- **In-person professional interpreters were by far the most trustworthy.** Over three-quarters of respondents (78%) fully trusted them. What should be a little more

worrisome for language professionals is that 15% only "somewhat" did, which means they experienced some issues that broke their trust. Another 2% didn't trust them at all.

Note: *Trust concerns can also stem from service recipients knowing the interpreter personally.*

- **Remote professionals came in second.** However, their 56% approval rating ("trust fully") is a significant drop compared to the 78% of their in-person counterparts. End-users did not have the same confidence in remote providers as they would if the same people were sitting in the same room with them. The medium – whether telephone or video – clearly removes important elements from interactions. However, when you add "fully and mostly", both groups are comparable in the end (91% and 93%, respectively).

  > *"We can't replace human interaction. I see AI more suitable for road and weather announcements, simple greetings and maybe as a guide to help people navigate a facility, a mall – something with Information that will never change. Medical interpreting is tricky. There is so much lost even when using video interpreting compared to on-site interpreters." [Scheduler in North Carolina, no AI experience]*

- **Non-professionals ranked third.** These friends, family members, or coworkers earned much lower trust from end-users (21%), indicating that it's a poor option for accuracy and consistency. This is confirmed by the massive 58% of respondents who "mostly" trusted these non-professionals, as they likely encountered issues that left them somewhat unsure or disgruntled. It's often a question of family members not relaying everything they should due to cultural constraints.

- **Machine interpreting came in last.** Respondents fully trusted software delivered by the organization providing services (10%) more than they did free or low-cost apps downloaded onto their own devices (5%). But when you add in those who "mostly" trusted these systems (31% and 37% respectively), they fared about the same in the end. Respondents were therefore about twice as likely to fully or mostly trust interpretation that comes from non-automated sources.

Note: The solid faith that some respondents have in machine interpreting tools may be premature. While automated speech translation has made great strides, even technology vendors who sell these solutions don't claim perfection. In addition, personal and sensitive information from a healthcare or legal conversation could be fed into a large language model – breaking confidentiality requirements.

> *"AI lacks trust and transparency when conveying intricate details." [Interpreter in Oregon, no AI experience]*

See What It Would take to Increase Trust in AI for details on what end-users, requestors, and providers believe needs to happen for trust in AI to increase.

Figure 46: Level of End-User Trust by Source of Interpreting

How much do you trust interpreting from the following sources?
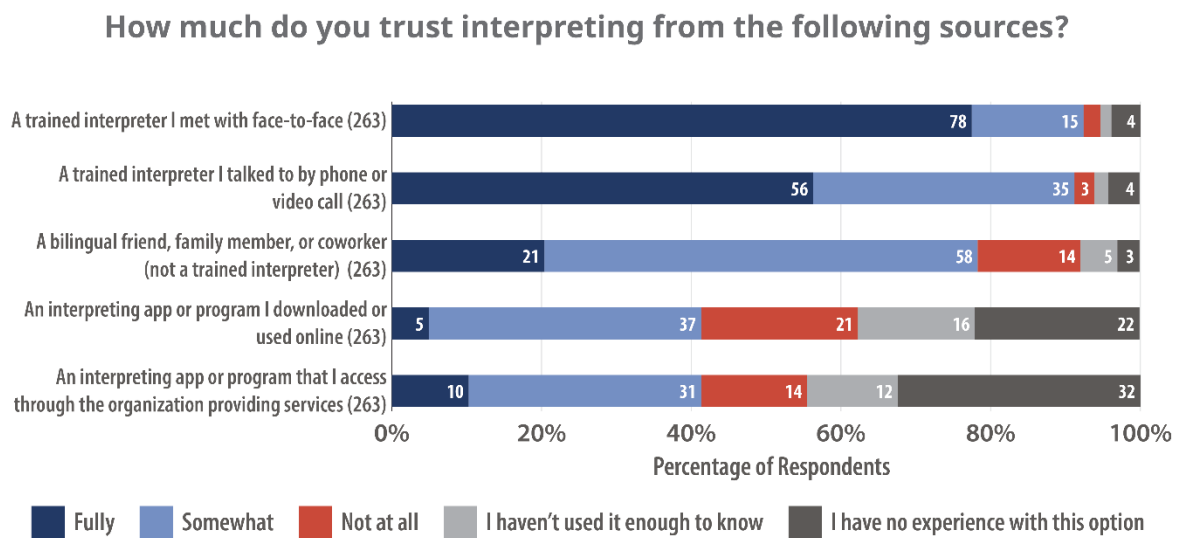
© CSA Research

Suitability of Automated Solutions by Conversation Type

> *"Who defines emergency? Who defines what is urgent or routine communication (like scheduling)? Unless those definitions are set by or with the end-users, we will misclassify what is 'easy' or not important because we have not lived the experience of being an LEP immigrant. Poor-quality translations are simply a waste of time and damage our reputation. It denotes linguicism. 'Good enough' is*

> *unethical when dealing with vulnerable and systemically oppressed groups."*
> *[Technology vendor, not much AI experience, finds results unacceptable]*

To reduce the survey burden on end-users, we inquired about only six specific conversation types (versus 58 presented to requestors and providers). Figure 47 shows an overview of the results. Respondents perceived low-risk, non-technical, and non-urgent sessions to be more suitable for automated interpreting than their counterparts (urgent, technical, and high-risk). The answer for urgency is a little surprising, in that end-users may prefer to have an interpreter on the phone line or VRI platform or in person than to deal with AI that they worry may not understand the emergency.

Figure 47: Overview of the Suitability of Automated Solutions by Conversation Type

How suitable is automated interpreting to provide language access for the following conversation types?

Conversation type	Totally suitable	Mostly suitable	Occasionally suitable	Never suitable	Unsure
Low-risk conversation (243)	28	26	29	11	6
Non-technical conversation (243)	18	27	30	15	9
Non-urgent conversation (243)	17	23	37	14	8
Urgent conversation (243)	9	17	26	38	9
Technical conversation (243)	5	15	26	44	10
High-risk conversation (243)	5	11	22	54	8
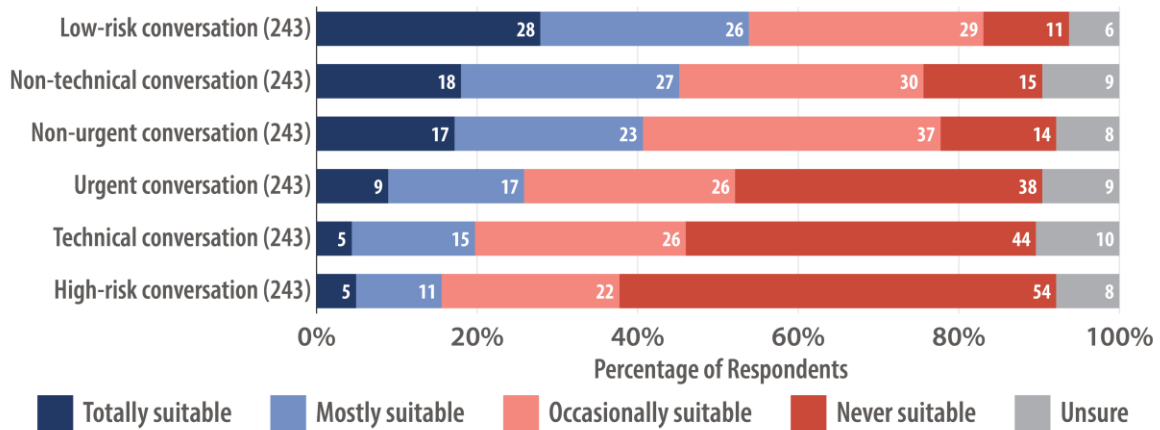
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Figures 48 through 53 show more details on these use cases.

Low-Risk Conversations

> *"Machines cannot replicate the humanity of the speaker the way interpreters do, with the cultural brokering necessary in some situations. For areas that are serious, impactful, or high stakes to the receiver, we need to consider the additional trauma it can cause. Very low-stakes items like confirming a cancellation are okay as long as we have accuracy in the machine translation/interpretation."* [Interpreter in California, moderate AI experience, finds results unacceptable]

> *"AI is okay when dealing with an automated phone system, when ordering food, when activating bank cards, or simple tasks that don't require connection to a live person."* [Service recipient in Canada, no AI experience]

We asked end-users how suitable they find machine solutions to provide language access for low-risk conversations. Over one-half of respondents (54%) found AI either mostly (26%) or totally (28%) suitable in such cases. Service recipients and frontline professionals shared approximately the same views on whether automation is "totally" suitable, but we observed significantly more frontline professionals willing to consider it as "mostly" capable of doing the job. This seems to indicate a disconnect between the boundaries of what end-users deem to be acceptable error rates (Figure 48).

Figure 48: Suitability of Automated Interpreting for Low-Risk Conversations

How suitable are machine solutions to provide language access for low-risk conversations?

	Totally suitable	Mostly suitable	Occasionally suitable	Never suitable	Unsure	Score
Average of audiences (243)	28	26	29	11	6	0.31
Hands-on experience with AI (42)	43	19	26	10		0.60
No such experience (201)	25	27	30	11	7	0.25
In the US (219)	27	26	29	11	6	0.30
Outside the US (24)	33	21	33	4	8	0.46
ALL END-USERS (243)	28	26	29	11	6	0.31
Service recipients (70)	27	16	30	17	10	0.06
Frontline professionals (173)	28	30	29	8	5	0.42

More Open to AI

Percentage of Respondents

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High-Risk Conversations

> *"High-stakes, high-risk, and confidential/classified matters should always have human-provided interpreting." [Interpreter in Maryland, not much AI experience, finds results poor]*

In contrast, high-risk conversation earned much lower acceptance scores – only 16% found AI mostly (11%) or totally (5%) suitable in those cases. The one noteworthy difference in perception came from those who have hands-on AI experience as they were nearly three times as likely to find AI adequate for the job (Figure 49).

Figure 49: Suitability of Automated Interpreting for High-Risk Conversations

How suitable are machine solutions to provide language access for high-risk conversations?

	Totally suitable	Mostly suitable	Occasionally suitable	Never suitable	Unsure	Score
Average of audiences (243)	5	11	22	54	8	-1.10
Hands-on experience with AI (42)	14	19	26	38		-0.55
No such experience (201)	3	9	21	58	9	-1.22
In the US (219)	5	11	23	54	8	-1.12
Outside the US (24)	8	13	17	54	8	-0.96
ALL END-USERS (243)	5	11	22	54	8	-1.10
Service recipients (70)	7	9	16	60	9	-1.13
Frontline professionals (173)	4	12	25	52	8	-1.09

Percentage of Respondents

More Open to AI

Legend: ■ Totally suitable ■ Mostly suitable ■ Occasionally suitable ■ Never suitable ■ Unsure

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Non-Technical Conversations

> *"It really depends on importance/risk. I would be more likely to use AI for an informational communication than a critical communication." [Frontline professional in Wisconsin, not much AI experience, finds results good]*

We also inquired about non-technical conversations. 45% of end-users found automated interpreting mostly or totally suitable (Figure 50). This data might be a bit over-enthusiastic and not capture the reality of everyday language, which is much more likely to have multiple terms for the same word in different languages. For example, words like "chicken" or "baby" have multiple possible translations in Spanish depending on the dialect.

Figure 50: Suitability of Automated Interpreting for Non-Technical Conversations

How suitable are machine solutions to provide language access for non-technical conversations?

	Totally suitable	Mostly suitable	Occasionally suitable	Never suitable	Unsure	Score
Average of audiences (243)	18	27	30	15	9	0.03
Hands-on experience with AI (42)	33	24	26	12	5	0.40
No such experience (201)	15	28	31	15	10	-0.04
In the US (219)	17	28	31	15	10	0.01
Outside the US (24)	29	21	29	13	8	0.25
ALL END-USERS (243)	18	27	30	15	9	0.03
Service recipients (70)	20	17	30	20	13	-0.13
Frontline professionals (173)	17	31	31	13	8	0.10

More Open to AI

© CSA Research

Technical Conversations

> *"For many complex situations, AI will never be a solution, but AI-assisted human interpreting could be." [Association representative, not much AI experience, unsure about quality of results]*

We asked the opposite question, meaning how suitable machine solutions are in providing language access for technical conversations. Here, the confidence in AI drops significantly. Only 20% perceived AI to be mostly or totally suitable (Figure 51).

It can be easier to train machines for technical language due to the lower incidence of possible synonyms within a domain as compared to everyday conversation. But that means that machine interpreting or translation engines require domain-specific training with terminology that will appear in sessions. If not, the AI depends on contextual guessing to produce plausible translations, which carries a greater chance of error and ensuant risk.

Figure 51: Suitability of Automated Interpreting for Technical Conversations

How suitable are machine solutions to provide language access for technical conversations?

Audience	Totally suitable	Mostly suitable	Occasionally suitable	Never suitable	Unsure	Score
Average of audiences (243)	5	15	26	44	10	-0.89
Hands-on experience with AI (42)	12	21	26	36	5	-0.52
No such experience (201)	3	14	26	45	11	-0.97
In the US (219)	4	15	25	46	11	-0.93
Outside the US (24)	8	17	42	25	8	-0.58
ALL END-USERS (243)	5	15	26	44	10	-0.89
Service recipients (70)	9	11	20	49	11	-0.89
Frontline professionals (173)	3	17	29	42	10	-0.90

Percentage of Respondents — More Open to AI

Legend: Totally suitable, Mostly suitable, Occasionally suitable, Never suitable, Unsure

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Non-Urgent Conversations

> *"I'm already intrigued and feel convinced that AI systems will continue to improve based on corpus input. But I would like to see evidence-based research to interrogate the quality, especially in high-stakes encounters." [Interpreter trainer in Texas, not much AI experience, finds results good]*

The next conversation angle we investigated was the suitability of AI for non-urgent conversations. This implies that the obstacle of calling or scheduling an interpreter is not a factor and that's it's not a big deal if the conversation takes a little longer due to more back-and-forth to resolve confusing points. 40% of end-users found AI mostly or totally suitable in that scenario, and the number jumps to 57% for those with hands-on experience (Figure 52).

Figure 52: Suitability of Automated Interpreting for Non-Urgent Conversations

How suitable are machine solutions to provide language access for non-urgent conversations?

	Totally suitable	Mostly suitable	Occasionally suitable	Never suitable	Unsure	Score
Average of audiences (243)	17	23	37	14	8	-0.08
Hands-on experience with AI (42)	33	24	24	12	7	0.43
No such experience (201)	14	23	40	15	8	-0.18
In the US (219)	17	25	37	15	7	-0.07
Outside the US (24)	21	13	42	13	13	-0.13
ALL END-USERS (243)	17	23	37	14	8	-0.08
Service recipients (70)	13	17	37	21	11	-0.37
Frontline professionals (173)	19	26	37	12	6	0.04

More Open to AI

© CSA Research

Urgent Conversations

> *"AI enables fast translations with no wait time." [Service recipient in China, not much AI experience, finds results unacceptable]*

The reverse of these non-urgent conversations is those that need to happen as quickly as possible. Here, the number of respondents who perceive automated interpreting to mostly or totally suit the situation dropped to 26%. Urgency likely indicates a crisis where a mistranslation can lead to wrong decisions that affect life, health, budgets, and more. When time is of the essence, end-users may perceive it to be wasteful to first try with AI and then have to repeat everything for an interpreter once one becomes available (Figure 53).

Ultimately, the cause of the urgency and elements collected in the interaction dictate whether the use of AI is possible. But even in a life-threatening scenario, AI could be helpful to tell someone in pain that the interpreter is just five minutes away and the doctors are ready to intervene the moment the interpreter gets there. In this scenario, AI should not be used to communicate treatment decisions or other critical information with the patient or those helping them.

Figure 53: Suitability of Automated Interpreting for Urgent Conversations

How suitable are machine solutions to provide language access for urgent conversations?

Legend:
- **Totally suitable**
- **Mostly suitable**
- **Occasionally suitable**
- **Never suitable**
- **Unsure**

Audience	Totally suitable	Mostly suitable	Occasionally suitable	Never suitable	Unsure	Score
Average of audiences (243)	9	17	26	38	9	-0.68
Hands-on experience with AI (42)	19	21	26	29	5	-0.24
No such experience (201)	7	16	26	40	10	-0.77
In the US (219)	8	16	27	40	9	-0.74
Outside the US (24)	17	25	17	25	17	-0.08
ALL END-USERS (243)	9	17	26	38	9	-0.68
Service recipients (70)	10	10	13	56	11	-0.94
Frontline professionals (173)	9	20	32	31	9	-0.57

More Open to AI →

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The Impact of Experience and Geography

We ran correlations to compare responses of the various groups participating in the survey. We observed two common patterns across the series of graphics just presented:

- **Those with hands-on AI experience are more likely to find AI suitable.** Table 10 contrasts the percentage who found automated interpreting mostly or totally suitable based on whether they have already used or tested AI. The biggest discrepancy was for high-risk conversations. Those who have had experience with AI were 2.8 times more likely than those who barely, if ever, dabbled with it to find AI suitable in that scenario. This implied a certain naivete about automation capabilities from those without experience.

Table 10: Impact of Experience on AI Suitability for End-Users

Use Case	Percentage That Finds Automated Interpreting Mostly or Totally Suitable		Experienced AI Users Are _ Times More Likely to Find AI Suitable
	Hands-On Experience with AI	No Such Experience	
High-risk conversation	33%	12%	2.8
Technical conversation	33%	17%	1.9
Urgent conversation	40%	23%	1.8
Non-urgent conversation	57%	37%	1.5
Non-technical conversation	57%	43%	1.3
Low-risk conversation	62%	52%	1.2

Source: CSA Research

- **Acceptance of an AI solution is slightly higher outside of the United States.** End-users outside the US were 1.2 times more likely to be willing to consider AI for urgent conversations than those in the US (Table 11). In countries where English is not the dominant language, it is possible that there are more situations that would benefit from interpreting and that therefore lead to more interest in leveraging AI – if and when it can help.

Table 11: Impact of Geography on AI Suitability for End-Users

Use Case	Percentage That Finds Automated Interpreting Mostly or Totally Suitable		Outside the US Is _ Times More Likely to Find AI Suitable
	In the US	Outside the US	
Urgent conversation	24%	42%	1.8
High-risk conversation	16%	21%	1.3
Technical conversation	19%	25%	1.3
Low-risk conversation	53%	54%	1.1
Non-technical conversation	45%	50%	1.1
Non-urgent conversation	42%	34%	0.8

Source: CSA Research

Chapter 11
Usage Scenarios – The Requestor and Provider Perspectives

> *"AI should never be used when the stakes are high for the recipient of services (such as in medical/legal settings)." [Interpreter in California, no AI experience]*

We went much deeper into our line of questioning to elicit requestor and provider viewpoints. Respondents could select up to five areas in which they had used or provided interpreting services in the prior 12 months. Figure 7 in Respondent Profile lists their selections. Requestors and providers all saw the general use case, but after that, they only viewed up to five use case areas that matched their domain selection.

In this chapter, we examine overall data for 58 use cases in 11 areas. To help digest this wealth of information, we analyze the top use cases, compare the impact of AI experience and geography on the results, and assess data from roles with polar opposite responses.

> *Note: Why these specific 58 use cases in 11 areas? The Task Force selected representative areas and usage examples to show a broad range of settings while managing the survey burden on respondents. The report is not meant to be all-inclusive for all possible scenarios. Follow-up studies will be required for additional deployments.*

Suitability of Automated Solutions by Use Case

> *"AI should make services available, accessible, affordable, and reliable. It should not replace people, take away jobs, increase unemployment, create unforeseen legal and ethical problems, or harm people in any way. It should be used only when human service providers are not available. It should be used only when all parties (doctors, patients, lawyers, and their clients, etc.) agree and give their consent. AI users and providers should be ready to provide culturally appropriate solutions to any problems that AI may cause." [Interpreter in Canada, no AI experience]*

We investigated 58 use cases across a total of 11 areas: 1) general; 2) business ; 3) client service; 4) conferences and tradeshows; 5) diplomacy and international politics; 6) education; 7) emergency services; 8) health care; 9) law enforcement and legal; 10) military and intelligence; and 11) social services. Summary graphics appear below. The Use Case Appendix provides a drill-down analysis for each use case, including data for hands-on experience with AI versus no such experience, respondents in the US versus outside the US, and a breakdown of responses by role.

> *Note: The data in the summary graphics in this chapter includes responses from all participants, of which the great majority were interpreters. This skewed results toward their perspective. The graphics in the Use Case Appendix provide a more nuanced view by role.*

General Use Cases

> *"We have to give AI some credit. AI is fine for logistics or number-related interpretations." [Interpreter in Peru, no AI experience]*

We asked all requestors and providers to provide an answer for three common scenarios that require interpreting: notifications, scheduling conversations, and meeting logistics. Nearly two-thirds of respondents (60%) thought automated interpreting to be mostly or totally suitable for notifications or announcements (such as to report an outage, an absence, or a cancellation). Scheduling sessions to select, notify, or remind for time, location, and required preparation fell just below that (57%). Logistics calls to explain how a session or conversation would take place reached 37% (Figure 54). All three use cases appeared in the top 5 of most suitable use cases, indicating a strong applicability of AI if usage scenarios were well-defined.

> *Note: Even if AI is seemingly suited to a use case, that does not mean all similar interactions will be served equally well. The negative portions of graphics (the "red bars") indicate that in no case are automated solutions one-and-done. Organizations that choose to deploy AI need to develop criteria to define the exact use cases, language(s), alternative interpreting options when AI isn't suitable, and escalation processes to engage humans when the scope of the planned interaction changes midstream.*

Figure 54: Overview of the Suitability of Automated Interpreting for General Use Cases

How suitable is automated interpreting to provide language access in the following general scenarios?

Scenario	Totally suitable	Mostly suitable	Occasionally suitable	Never suitable	Unsure
Notification or announcement to report an outage, absence, or cancellation (1,819)	30	30	23	10	7
Scheduling to select, notify, or remind of a time, place, and necessary preparation (1,819)	29	28	26	10	8
Logistics to explain how a session or conversation will take place (1,819)	15	22	30	23	10

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See General Use Cases in the Use Case Appendix for more details by level of AI experience, geography, and role.

Business Use Cases

> *"Automated interpreting can streamline processes for video relay services (VRS) that also include automated responses, such as phone trees, appointment reminders, school cancellations, etc."* [Signed language interpreter in Nevada, not much AI experience, finds results poor]

We supplied respondents with a handful of common training and meeting use case scenarios and inquired as to the applicability of AI interpreting. 18% found uses for the technology in employee training – indicating a preference for prudent use in narrow scenarios. Motivational and internal meetings came in next at 13%. These innovative use cases require more usage and experience to determine whether the quality will be adequate to increase suitability. Client and board meetings remained out of reach for automated interpreting for most respondents (Figure 55).

Note: This question covered only automated interpreting. In business scenarios, non-native speakers of the language used in the conversation can benefit greatly from automated captions and subtitling to understand, assimilate, and retain information.

Figure 55: Overview of the Suitability of Automated Interpreting in Business

How suitable is automated interpreting to provide language access in the following business scenarios?
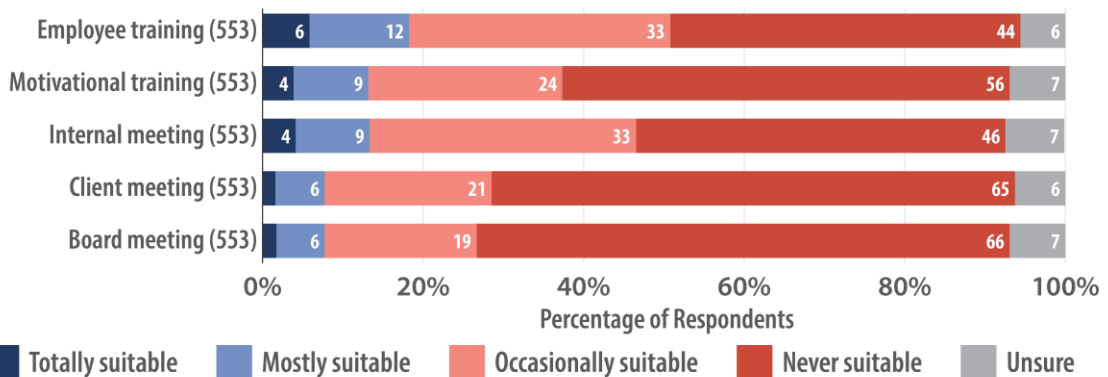
© CSA Research

See Business Use Cases in the Use Case Appendix for more details by level of AI experience, geography, and role.

Client Service Use Cases

> *"Automated interpreting can help only in limited ways, akin to the way an automated phone service can direct you … except when you have to dial zero for the operator."* [Interpreter in Oregon, no AI experience]

Moving on to contact centers and information desks, respondents were most inclined to use AI to check a balance (45% found automated interpreting mostly or totally suitable) and inquire about product or service details (29%). Communicating about benefits and rights fell much lower at 19% and troubleshooting a problem at 14% (Figure 56). The strong interest in AI for checking a balance is likely linked to the fact these sessions are often already handled by automation and are mostly one-way communication systems with limited answer choices and dual response input methods (touchpad and voice).

Figure 56: Overview of the Suitability of Automated Interpreting for Client Service

How suitable is automated interpreting to provide language access in the following client service scenarios?

Scenario	Totally suitable	Mostly suitable	Occasionally suitable	Never suitable	Unsure
Account balance inquiry (493)	20	25	27	20	6
Product or service detail inquiry (493)	8	21	33	32	6
Communication about benefits and rights (493)	6	13	26	50	5
Troubleshooting problems (493)	4	10	33	47	7

Percentage of Respondents

■ Totally suitable ■ Mostly suitable ■ Occasionally suitable ■ Never suitable ■ Unsure

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See Client Service Use Cases in the Use Case Appendix for more details by level of AI experience, geography, and role.

Conference and Tradeshow Use Cases

> *"People get frustrated when they try to use an automatic system performing any type of service. A large number of people don't like to listen at events – they are more ready to argue." [Interpreter in Texas, no AI experience]*

Events are one of the prime targets of automated interpreting providers. Our respondents showed some enthusiasm, but probably slightly less than what tech vendors are hoping for. About one-third of respondents (35%) found automated interpreting either mostly or totally suitable for the explanation of event logistics. This percentage is in line with the generic logistics use case we presented earlier in Figure 54 (the number was 37%). AI was also seen as a possible solution for 32% of respondents for product demonstrations. However, presentations, networking events, keynote speeches, and panels of speakers fared much lower (Figure 57).

***Note:** When automating interpretation for events, it's essential to know the audience profile, needs, and expectations in advance. Choose meetings with little or no background noise that have a single speaker or a well-moderated discussion. Reserve AI for speakers who enunciate well and use fully formed sentences. Favor meetings without a lot of proper names or technical terms. Finally, because of the potential for mistakes, start with lower-value content. For example, schedule a human interpreter for a keynote speech but test automated interpreting for novice-level presentations. Or, consider automated captioning and subtitling over its interpreting counterpart ("Multilingual Virtual Events" © CSA Research).*

> *"Suppose a person gives a presentation at a conference, sticks to the text 100%, had speakers' notes translated beforehand, and has no interaction with the audience. Then it might be very useful (and effective) to have an AI interpreter. But, as soon as you interact with an audience (Q&A, jokes, etc.), you'll need a human interpreter." [Interpreter in Netherlands, no AI experience]*

> *"The more interaction between human beings in a meeting/conference, the less suitable AI is. Automated interpreting can serve mostly one-way, 'linear' and preferably recurring events (e.g., presentations)." [LSP in Greece, not much AI experience, finds results poor]*

Figure 57: Overview of the Suitability of Automated Interpreting for Events

How suitable is automated interpreting to provide language access in the following scenarios tied to conferences and trade shows?
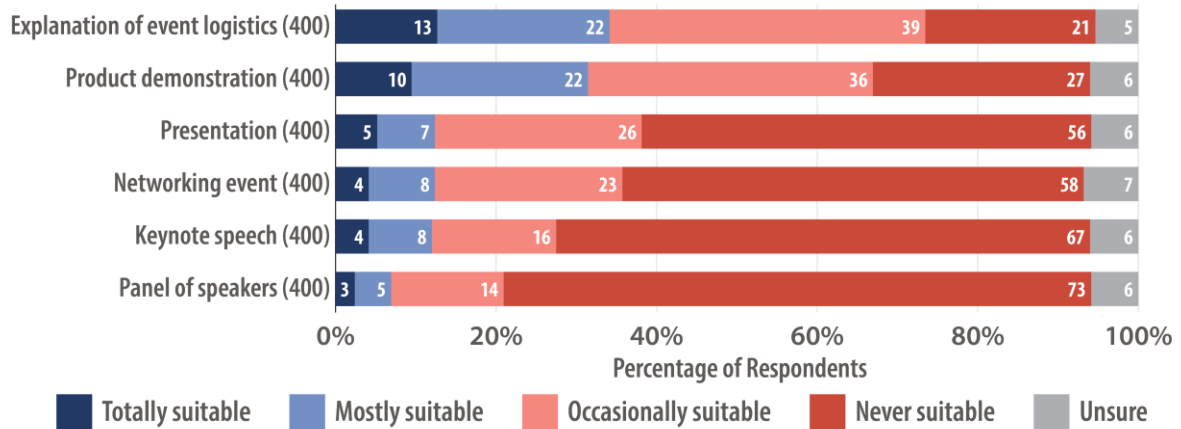
© CSA Research

See Conference and Tradeshow Use Cases in the Use Case Appendix for more details by level of AI experience, geography, and role.

Diplomacy and International Politics Use Cases

> *"For conferences at the high diplomatic level, everything is very confidential."*
> *[Interpreter in Nevada, no AI experience]*

On the diplomatic and international politics front, human interpreters remain the strongest option in respondents' eyes, whether for public address speeches, working group discussions, debates, or negotiations (Figure 58). This set of use cases didn't generate as much excitement about AI's capabilities. Note this question was seen by the second-lowest number of respondents – only 135 mentioned working in this field.

Figure 58: Overview of the Suitability of Automated Interpreting for Diplomacy and International Politics

How suitable is automated interpreting to provide language access in the following scenarios tied to diplomacy and international politics?
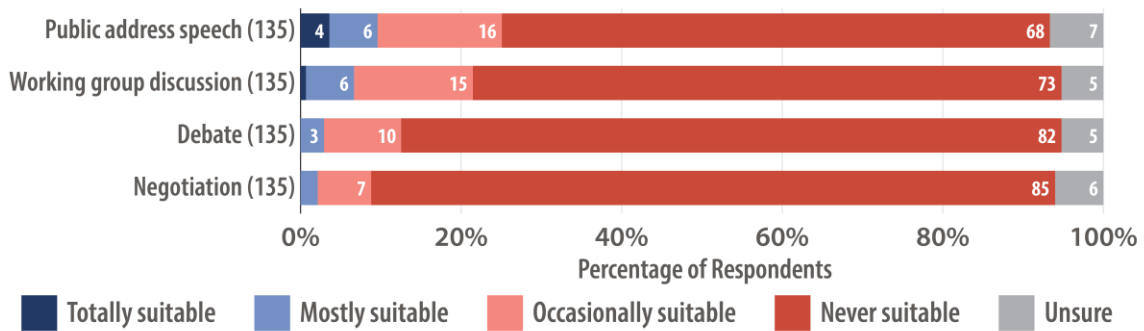
See Diplomacy and International Politics Use Cases in the Use Case Appendix for more details by level of AI experience, geography, and role.

Education Use Cases

> *"Interpreting in education is special because the interpreter sometimes has to act as an advocate. Too many times, educational acronyms or terms are used with no explanation, and parents tend to be too embarrassed to ask for clarification. A machine or automated interpreter can't notice the confusion on a parent's face or pick up on feelings of discomfort or misunderstandings, so it won't check with the receiver of the interpreting services to see if they need further clarification."*
> *[Interpreter in California, not much AI experience, finds results poor]*

This area saw the second-most respondents with 736 people who viewed the question. Their responses fell into two groups. For basic communications about a student absence or illness, AI may play a positive role for respectively 40% and 29% of respondents. But none of the other use cases broke the 10% mark – public board meetings, parent-teacher conferences, press conferences, or the determination of special education services or expulsion status (Figure 59).

Education is a high-stakes area for most families and educators. Failure to address issues promptly or adequately can hamper students' success and as a result, their chances later in life, thereby perpetuating a vicious cycle of being at a disadvantage.

Figure 59: Overview of the Suitability of Automated Interpreting in Education

How suitable is automated interpreting to provide language access in the following scenarios tied to education?
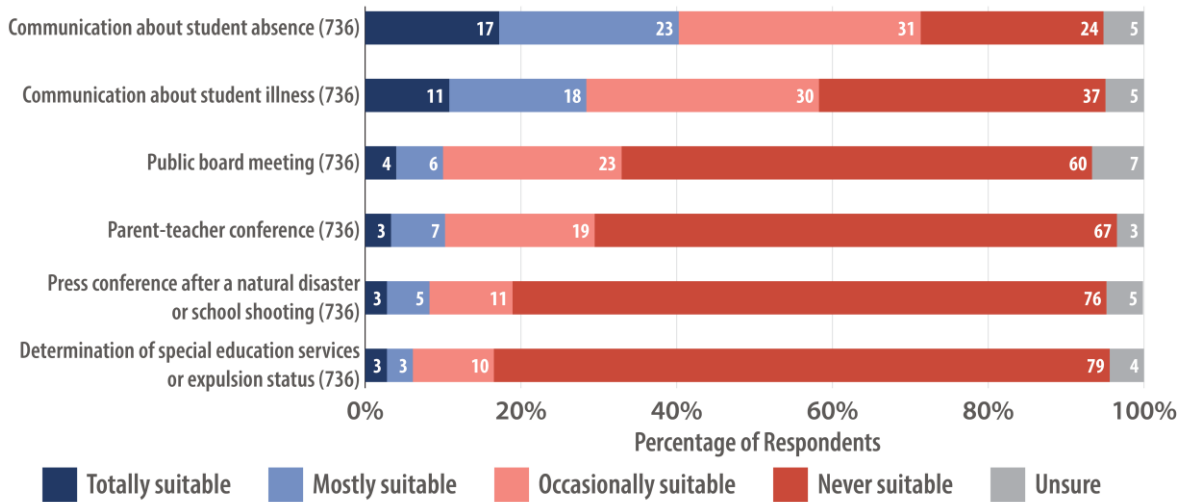
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See Education Use Cases in the Use Case Appendix for more details by level of AI experience, geography, and role.

Emergency Services Use Cases

> *"For an emergency, like hurricane warnings or fire, it can be better than nothing."*
> *[Interpreter in New York, no AI experience]*

A little over one-third of respondents (37%) found machine interpreting mostly or totally suitable to communicate a weather emergency. 31% agreed when calling 911 or an equivalent emergency service to report a road hazard. Machine interpreting was less favored when reporting a suspicious figure (17%) and even less when reporting a medical emergency (13%). Only 5% of respondents felt it could help when a first responder uses AI to communicate with a person in distress (Figure 60).

> *"AI could be handy in case of an emergency when no human is available to help."*
> *[Interpreter in Pennsylvania, no AI experience]*

> *"The best practice is to plan to have an in-person interpreter available for emergencies." [Signed language LSP in Oregon, no AI experience]*

Urgency, as we saw earlier in the end-users' responses, does not mean an easier entry point for AI tech vendors. Expediency doesn't necessarily win out over accuracy when quickly making the right decisions matters.

Figure 60: Overview of the Suitability of Automated Interpreting for Emergency Services

How suitable is automated interpreting to provide language access in the following scenarios tied to emergency services?

Scenario	Totally suitable	Mostly suitable	Occasionally suitable	Never suitable	Unsure
Notification of a weather emergency (504)	15	22	36	24	3
Report a road hazard (504)	10	21	33	32	4
Report a suspicious figure (504)	5	12	30	48	5
Report a medical emergency (504)	5	8	21	63	3
Field interaction with person in distress (504)	3		15	76	4

Percentage of Respondents

■ Totally suitable ■ Mostly suitable ■ Occasionally suitable ■ Never suitable ■ Unsure

© CSA Research

See Emergency Services Use Cases in the Use Case Appendix for more details by level of AI experience, geography, and role.

Healthcare Use Cases

> *"For complex interactions – for example, new prognoses, end-of-life care, transplant care, intensive care units, labor and delivery, cardiac procedures, obstetrics/gynecology, oncology, neurology, and neonatal intensive care units – it is necessary to have human interaction and not AI."* [Interpreter in Utah, no AI experience]

A great majority of survey participants worked in health care – as buyers or providers – leading to 1,252 respondents who saw the set of healthcare questions. One-third (33%) confirmed that automated interpreting would be mostly or totally suitable to handle patient registration or admission to a healthcare facility. Over one-quarter (27%) believed it could be helpful for nursing staff when they check patient vitals. The same percentage saw potential use for repeat appointments that are part of a series, such as dialysis or physical therapy sessions. 23% thought it could support financial aid discussions (Figure 61).

No other options earned many suitability points, thus affirming the many free-form comments. We list them here in decreasing order of suitability percentage: home health services, discussion of a new treatment plan or surgery, session with patients with cognitive differences, and delivery of bad news.

> *"Automated interpreting does not have a place in health care, but maybe in other professions."* [Scheduler in Colorado, no AI experience]

> *"In health care, dealing with critically ill people, I find it inappropriate."* [Interpreter in California, no AI experience]

> *"Hospitals should deliver in-person interpretation at all times while using automation as a backup for non-essential communication."* [Interpreter in Arizona, not much AI experience, finds results poor]

> *"AI cannot replace a real interpreter unless it is a simple case like a nurse going into the patient's room, greeting them, and taking vital signs. But when a patient has questions, AI cannot capture them if it doesn't understand their accent, or the*

> *patient cannot read and write in their own language." [Interpreter in California, no AI experience]*

Figure 61: Overview of the Suitability of Automated Interpreting for Health Care

How suitable is automated interpreting to provide language access in the following scenarios tied to health care?

Legend: Totally suitable | Mostly suitable | Occasionally suitable | Never suitable | Unsure

Scenario	Totally suitable	Mostly suitable	Occasionally suitable	Never suitable	Unsure
Patient registration/admission in a health care facility (1,252)	11	22	32	31	4
Checking of vitals (1,252)	9	18	33	36	4
Repeat appointment for physical therapy or dialysis (1,252)	7	20	37	32	4
Communication about billing or financial aid (1,252)	6	17	30	43	4
Home health services (1,252)	2	6	32	54	7
Discussion of a new treatment plan or surgery (1,252)			9	84	3
Session with patients with cognitive differences (1,252)			4	89	4
Delivery of bad news (1,252)			4	91	3

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See Health Care Use Cases in the Use Case Appendix for more details by level of AI experience, geography, and role.

Law Enforcement and Legal Use Cases

> *"Automated interpreting should never be used in any court or crime investigation."* [Interpreter in California, no AI experience]

Survey takers saw very little use for machine interpreting in police and legal work, regardless of the scenario presented – all high stakes because they can affect a person's wallet, freedom, and/or life. None of the options reached 10% of respondents who saw some type of use for it. Options included field interaction with the public at a crime or accident scene, communication with a lawyer, court hearings and depositions, law enforcement interrogation, and trials (Figure 62).

Figure 62: Overview of the Suitability of Automated Interpreting in Law Enforcement and Legal

How suitable is automated interpreting to provide language access in the following law enforcement and legal scenarios?

Scenario	Totally suitable	Mostly suitable	Occasionally suitable	Never suitable	Unsure
Field interaction with the public at a crime or accident scene (555)		5	21	68	5
Communication with a lawyer (555)	3		14	77	4
Court hearing or deposition (555)	3		9	83	4
Law enforcement interrogation (555)			10	82	4
Trial (555)			8	85	4

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See Law Enforcement and Legal Use Cases in the Use Case Appendix for more details by level of AI experience, geography, and role.

Military and Intelligence Use Cases

> *"There is a strong profit incentive for AI usage in finance and defense, so I think those industries will develop highly advanced AI solutions for their needs."*
> *[Interpreter in California, no AI experience]*

The military and intelligence sector was seen as the least viable use case area (Figure 63) across all of the areas we surveyed. However, very few participants had experience in the military and intelligence field – only about 40 respondents. So, we suggest that you view these results skeptically. This sector is actually a pioneer consumer of machine translation and automated interpreting services, so our survey likely did not reach the individuals who currently benefit from it.

Figure 63: Overview of the Suitability of Automated Interpreting for Military and Intelligence

How suitable is automated interpreting to provide language access in the following military and intelligence scenarios?

Scenario	Totally suitable	Mostly suitable	Occasionally suitable	Never suitable	Unsure
Intelligence gathering (41)		5	20	76	
Field interaction with the local population (41)		2	32	66	
Diplomatic engagement (41)		2	17	80	
Intelligence interrogation (41)		2	12	85	
Combat situation (44)			16	73	9
International training exercise (40)			40	60	
Medical triage in a field combat situation (44)			39	55	7

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See Military and Intelligence Use Cases in the Use Case Appendix for more details by level of AI experience, geography, and role.

Social Services Use Cases

> *"There will always be scenarios where a live interpreter will need to be present. Would you rather be told you have cancer by a machine or a human doctor? Would you rather have the information that your children are being taken away from you be relayed by a computer, or a real (professional) human being with feelings? Not to mention those who have experienced language deprivation or those with intellectual disabilities." [Signed language interpreter in Texas, no AI experience]*

Social services were the third most popular area amongst respondents with over 700 survey takers who saw the question. However, this sector also had very low suitability numbers in all scenarios we listed. When it comes to dealing with supplemental income eligibility, disability services, public housing discussions, addiction counseling, family mediations, or child removal procedures, human interpreters remain vital (Figure 64). Earlier, we saw many comments about the need for the human touch delivered through interpreting during the tough situations that affect people's lives at their core.

Figure 64: Overview of the Suitability of Automated Interpreting in Social Services

How suitable is automated interpreting to provide language access in the following scenarios tied to social services?

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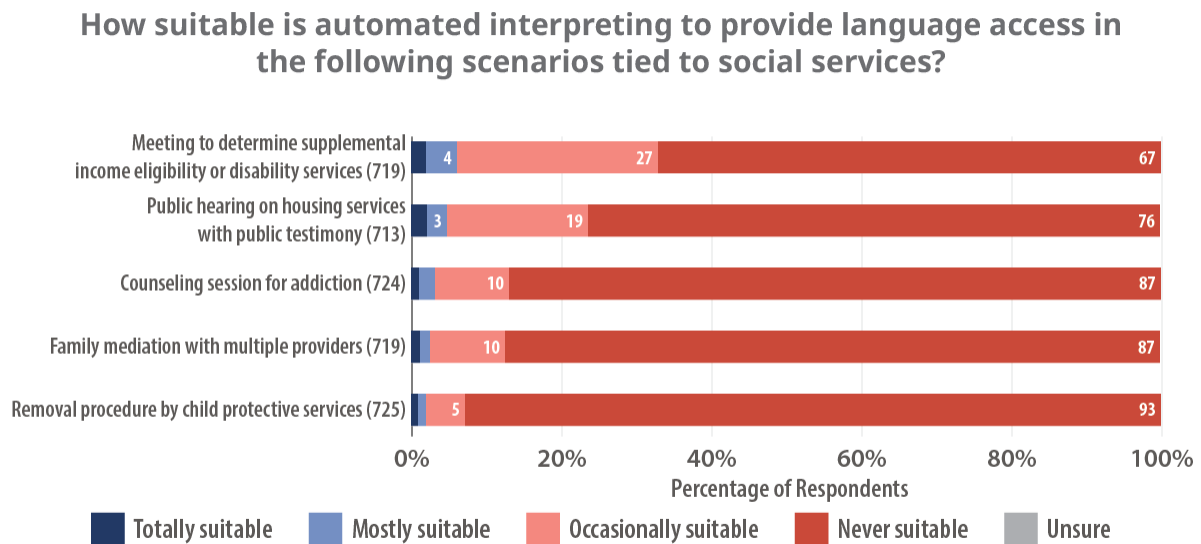
See Social Services Use Cases in the Use Case Appendix for more details by level of AI experience, geography, and role.

Summary of Top Use Cases

To analyze the preceding data further, we examined the sum of the "blue bars," meaning the percentage of respondents who selected "mostly" or "totally" suitable for a use case (Table 12).

- **Top use cases: basic interactions.** It was no surprise that the use cases garnering the most enthusiasm corresponded to the most basic interactions – notifications and announcements (which are typically one-way), scheduling, and basic inquiries that often occur via automated phone systems. These numbers are very strong – general notifications and scheduling were acceptable for between one-half and nearly two-thirds of respondents.

- **Second: simple interactions.** Next came more basic one-on-one or phone interactions that often followed a pattern and controlled terminology – patient registration at hospitals, product demonstrations at tradeshows, reporting road hazards, or communication about student illnesses. Around one-third of respondents perceived AI as viable in these situations.

- **Third: routine, predictable discussions.** Routine interactions with typically predictable discussion points – checking a patient's vitals, setting up a patient for a dialysis, and communicating about financial aid – came next. Percentage acceptance ranged from one-third to one-fifth of respondents.

Once percentages decline below 20%, respondents displayed much less certitude regarding AI's true potential, meaning that session specifics would highly influence applicability. At the very bottom of the list were military use cases, diplomatic negotiations, and child removal procedures for child protective services. Respondents saw either no or close to no applicability of the technology in these scenarios.

Table 12: Summary of Top Use Cases for Requestors and Providers

Top Use Cases for Requestors and Providers Who Find Automated Interpreting Mostly or Totally Suitable	
Notifications (general use case)	60%
Scheduling (general use case)	57%
Balance inquiry (client service use case)	45%
Communication about a student absence (education use case)	40%
Logistics handling (general use case)	37%
Notification of a weather emergency (emergency services use case)	37%
Explanation of event logistics (conference and tradeshow use case)	35%
Patient registration or admission to a healthcare facility (healthcare use case)	33%
Product demonstration (conference and tradeshow use case)	32%
Reporting of a road hazard (emergency services use case)	31%
Communication about a student illness (education use case)	29%
Product or service detail inquiry (client service use case)	29%
Checking of vitals (healthcare use case)	27%
Repeat appointment for physical therapy or dialysis (healthcare use case)	27%
Communication about billing or financial aid (healthcare use case)	23%
Communication about benefits and rights (client service use case)	19%
Employee training (business use case)	18%
Reporting of a suspicious figure (emergency services use case)	17%
Troubleshooting a problem (client service use case)	14%
Internal meeting (business use case)	13%
Motivational training (business use case)	13%
Reporting of a medical emergency (emergency services use case)	13%
Keynote speech (conference and tradeshow use case)	12%
Networking event (conference and tradeshow use case)	12%
Presentation (conference and tradeshow use case)	12%
Parent-teacher conference (education use case)	10%
Public address speech (diplomacy and international politics use case)	10%
Public board meeting (education use case)	10%
Board meeting (business use case)	8%
Client meeting (business use case)	8%
Home health services (healthcare use case)	8%
Panel of speakers (conference and tradeshow use case)	8%
Press conference after a natural disaster or school shooting (education use case)	8%
Field interaction with the public on a crime or accident scene (law enforcement use case)	7%

Top Use Cases for Requestors and Providers Who Find Automated Interpreting Mostly or Totally Suitable	
Working group discussion (diplomacy and international politics use case)	7%
Determination of special education services or expulsion status (education use case)	6%
Meeting to determine supplemental income eligibility or disability services (social services use case)	6%
Communication with a lawyer (law enforcement use case)	5%
Court hearing or deposition (law enforcement use case)	5%
Field interaction with a person in distress (emergency services use case)	5%
Intelligence gathering (military and intelligence use case)	5%
Public hearing on housing services with public testimony (social services use case)	5%
Law enforcement interrogation (law enforcement use case)	4%
Trial (law enforcement use case)	4%
Counseling session for addiction (social services use case)	3%
Debate (diplomacy and international politics use case)	3%
Delivery of bad news (healthcare use case)	3%
Discussion of a new treatment plan or surgery (healthcare use case)	3%
Session with patient with cognitive differences (healthcare use case)	3%
Combat situation (military and intelligence use case)	2%
Diplomatic engagement (military and intelligence use case)	2%
Family mediation with multiple providers (social services use case)	2%
Field interaction with the local population (military and intelligence use case)	2%
Intelligence interrogation (military and intelligence use case)	2%
Negotiation (diplomacy and international politics use case)	2%
Removal procedure by child protective services (social services use case)	2%
International training exercise (military and intelligence use case)	0%
Medical triage in a field combat situation (military and intelligence use case)	0%

Source: CSA Research

Impact of Experience with AI

> *"My ability to answer these questions is limited by my lack of experience with this technology. I don't have a good handle on its capabilities. Are they equivalent to the Google Translate versions of songs that are the butt of jokes on US late night TV or can they produce something like the ChatGPT sonnet that was read at an AI conference?" [Interpreter in Arizona, no AI experience]*

To further contrast these results, we compared the percentage of respondents who found automated interpreting either "mostly" or "totally" suitable based on their experience with artificial intelligence. We then calculated the ratio that compared the difference in perceptions (Table 13).

Note: We present the basic calculation results, which means it does not account for statistical significance. This means that observed differences or relationships in the data could be attributed to the sample composition.

- **The biggest disconnect.** Respondents with AI experience were 14.5 times more likely to find automated interpreting suitable for working group discussions in a diplomatic context than those who never or barely dabbled with AI. This points to novices being out of touch with what automation can deliver. We observe a similar gap of 6.8 for public address speeches.

- **The intermediate disconnect.** We found another 17 use cases where those with AI experience were 2 to 3 times more likely to find value in AI than those with no experience. The magnitude of these numbers will likely be a surprise for inexperienced users who probably believe AI is further behind than it actually is. These use cases touch on a lot of the work typically performed by on-site and conference interpreters, leading to frustration about potential revenue loss for providers.

- **The agreement zone.** The remaining use cases showed more alignment in perceptions between the two experienced-based groups. A value of 1 indicates perfect alignment.

Note: Respondent samples for some use cases were small and may not be statistically representative. Refer to the Use Case Appendix if you want to contextualize response counts for specific use cases.

Table 13: Impact of Experience on AI Suitability for Requestors and Providers

Use Case	Percentage That Finds Automated Interpreting Mostly or Totally Suitable		Experienced Users Are _ Times More Likely to Find AI Suitable
	Hands-On Experience with AI	No Such Experience	
Working group discussion (diplomacy and international politics use case)	29%	2%	14.5
Public address speech (diplomacy and international politics use case)	34%	5%	6.8
Public hearing on housing services with public testimony (social services use case)	14%	4%	3.5
Determination of special education services or expulsion status (education use case)	16%	5%	3.2
Panel of speakers (conference and tradeshow use case)	16%	5%	3.2
Public board meeting (education use case)	23%	8%	2.9
Internal meeting (business use case)	27%	10%	2.7
Counseling session for addiction (social services use case)	8%	3%	2.7
Trial (law enforcement use case)	8%	3%	2.7
Client meeting (business use case)	15%	6%	2.5
Meeting to determine supplemental income eligibility or disability services (social services use case)	13%	6%	2.2
Communication about benefits and rights (client service use case)	34%	16%	2.1
Parent-teacher conference (education use case)	19%	9%	2.1
Presentation (conference and tradeshow use case)	23%	11%	2.1
Board meeting (business use case)	14%	7%	2.0
Communication with a lawyer (law enforcement use case)	10%	5%	2.0
Court hearing or deposition (law enforcement use case)	8%	4%	2.0
Keynote speech (conference and tradeshow use case)	20%	10%	2.0
Law enforcement interrogation (law enforcement use case)	8%	4%	2.0
Motivational training (business use case)	21%	11%	1.9

Use Case	Percentage That Finds Automated Interpreting Mostly or Totally Suitable		Experienced Users Are _ Times More Likely to Find AI Suitable
	Hands-On Experience with AI	No Such Experience	
Press conference after a natural disaster or school shooting (education use case)	14%	8%	1.8
Employee training (business use case)	29%	17%	1.7
Troubleshooting a problem (client service use case)	22%	13%	1.7
Discussion of a new treatment plan or surgery (healthcare use case)	5%	3%	1.7
Family mediation with multiple providers (social services use case)	5%	3%	1.7
Field interaction with a person in distress (emergency services use case)	8%	5%	1.6
Removal procedure by child protective services (social services use case)	3%	2%	1.5
Product or service detail inquiry (client service use case)	39%	27%	1.4
Home health services (healthcare use case)	11%	8%	1.4
Networking event (conference and tradeshow use case)	16%	12%	1.3
Reporting of a medical emergency (emergency services use case)	16%	12%	1.3
Logistics handling (general use case)	44%	35%	1.3
Checking of vitals (healthcare use case)	30%	26%	1.2
Communication about a student illness (education use case)	32%	28%	1.1
Field interaction with the public on a crime or accident scene (law enforcement use case)	8%	7%	1.1
Balance inquiry (client service use case)	51%	45%	1.1
Repeat appointment for physical therapy or dialysis (healthcare use case)	30%	27%	1.1
Communication about a student absence (education use case)	44%	40%	1.1
Communication about billing or financial aid (healthcare use case)	24%	22%	1.1
Scheduling (general use case)	60%	56%	1.1
Notifications (general use case)	62%	60%	1.0

Use Case	Percentage That Finds Automated Interpreting Mostly or Totally Suitable		Experienced Users Are _ Times More Likely to Find AI Suitable
	Hands-On Experience with AI	No Such Experience	
Session with patient with cognitive differences (healthcare use case)	3%	3%	1.0
Patient registration or admission to a healthcare facility (healthcare use case)	31%	32%	1.0
Explanation of event logistics (conference and tradeshow use case)	33%	35%	0.9
Reporting of a suspicious figure (emergency services use case)	16%	17%	0.9
Reporting of a road hazard (emergency services use case)	30%	32%	0.9
Product demonstration (conference and tradeshow use case)	29%	32%	0.9
Notification of a weather emergency (emergency services use case)	32%	38%	0.8
Delivery of bad news (healthcare use case)	2%	3%	0.7
Intelligence gathering (military and intelligence use case)	0%	7%	0.0
Intelligence interrogation (military and intelligence use case)	0%	3%	0.0
Combat situation (military and intelligence use case)	9%	0%	*
Debate (diplomacy and international politics use case)	17%	0%	*
Diplomatic engagement (military and intelligence use case)	9%	0%	*
Field interaction with the local population (military and intelligence use case)	10%	0%	*
International training exercise (military and intelligence use case)	0%	0%	*
Medical triage in a field combat situation (military and intelligence use case)	0%	0%	*
Negotiation (diplomacy and international politics use case)	13%	0%	*
= Cannot be calculated (you can't divide a number by zero).			

Source: CSA Research

Impact of Geography

While the focus of the study was on the United States, we collected 545 responses from outside that country and analyzed results against the US sample. Once again, we compared the percentage of respondents who found automated interpreting either mostly or totally suitable. We then calculated the ratio that compared the difference in perceptions for inside versus outside of the US (Table 14). We do recommend caution because the smaller non-US sample, sourced from 81 countries, might not be representative of individual nations or their various constituencies and might be skewed by the inclusion of more early adopters.

> *Note:* *We present the basic calculation results, which means it does not account for statistical significance. This means that observed differences or relationships in the data could be attributed to the sample composition.*

- **The biggest difference.** We found that respondents outside the US are 7 times more likely to consider AI suitable for a child removal procedure by child protective services. However, in both cases, the percentages of people who find AI suitable is low, meaning it likely makes no difference in day-to-day decisions.

- **The average difference.** When we average the ratios for the 58 use cases, people outside the US are 1.6 times more likely to find AI suitable. Foreign respondents are more conservative in AI views in only 11 use cases versus 41 where they are more willing to embrace it. Many countries integrate multilingualism much more than in the US and may therefore value AI more highly in this area.

> *Note:* *Respondent samples for some use cases were small and may not be statistically representative. Refer to the* Use Case Appendix *if you want to contextualize response counts for specific use cases.*

Table 14: Impact of Geography on AI Suitability for Requestors and Providers

Use Case	Percentage That Finds Automated Interpreting Mostly or Totally Suitable		Outside the US Is _ Times More Likely to Find AI Suitable
	In the US	Outside the US	
Removal procedure by child protective services (social services use case)	1%	7%	7.0
Counseling session for addiction (social services use case)	2%	8%	4.0
Family mediation with multiple providers (social services use case)	2%	7%	3.5
Determination of special education services or expulsion status (education use case)	4%	13%	3.3
Board meeting (business use case)	5%	14%	2.8
Delivery of bad news (healthcare use case)	2%	5%	2.5
Session with patient with cognitive differences (healthcare use case)	2%	5%	2.5
Public address speech (diplomacy and international politics use case)	5%	12%	2.4
Presentation (conference and tradeshow use case)	8%	19%	2.4
Public board meeting (education use case)	8%	17%	2.1
Client meeting (business use case)	6%	12%	2.0
Debate (diplomacy and international politics use case)	2%	4%	2.0
Meeting to determine supplemental income eligibility or disability services (social services use case)	5%	10%	2.0
Panel of speakers (conference and tradeshow use case)	5%	10%	2.0
Press conference after a natural disaster or school shooting (education use case)	7%	14%	2.0
Keynote speech (conference and tradeshow use case)	9%	17%	1.9
Parent-teacher conference (education use case)	9%	16%	1.8
Troubleshooting a problem (client service use case)	11%	20%	1.8
Discussion of a new treatment plan or surgery (healthcare use case)	3%	5%	1.7

Use Case	Percentage That Finds Automated Interpreting Mostly or Totally Suitable		Outside the US Is _ Times More Likely to Find AI Suitable
	In the US	Outside the US	
Communication with a lawyer (law enforcement use case)	5%	8%	1.6
Home health services (healthcare use case)	7%	11%	1.6
Internal meeting (business use case)	11%	18%	1.6
Motivational training (business use case)	11%	18%	1.6
Law enforcement interrogation (law enforcement use case)	4%	6%	1.5
Negotiation (diplomacy and international politics use case)	2%	3%	1.5
Explanation of event logistics (conference and tradeshow use case)	28%	42%	1.5
Product demonstration (conference and tradeshow use case)	27%	39%	1.4
Public hearing on housing services with public testimony (social services use case)	5%	7%	1.4
Working group discussion (diplomacy and international politics use case)	5%	7%	1.4
Communication about benefits and rights (client service use case)	17%	23%	1.4
Trial (law enforcement use case)	3%	4%	1.3
Communication about a student illness (education use case)	27%	34%	1.3
Court hearing or deposition (law enforcement use case)	4%	5%	1.3
Employee training (business use case)	17%	22%	1.3
Field interaction with a person in distress (emergency services use case)	6%	7%	1.2
Field interaction with the public on a crime or accident scene (law enforcement use case)	6%	7%	1.2
Reporting of a medical emergency (emergency services use case)	13%	15%	1.2
Communication about billing or financial aid (healthcare use case)	22%	24%	1.1
Logistics handling (general use case)	36%	39%	1.1
Repeat appointment for physical therapy or dialysis (healthcare use case)	26%	28%	1.1

Use Case	Percentage That Finds Automated Interpreting Mostly or Totally Suitable		Outside the US Is _ Times More Likely to Find AI Suitable
	In the US	Outside the US	
Communication about a student absence (education use case)	40%	42%	1.1
Intelligence gathering (military and intelligence use case)	5%	5%	1.0
Networking event (conference and tradeshow use case)	12%	12%	1.0
Scheduling (general use case)	57%	56%	1.0
Balance inquiry (client service use case)	46%	45%	1.0
Notifications (general use case)	61%	56%	0.9
Patient registration or admission to a healthcare facility (healthcare use case)	33%	30%	0.9
Reporting of a road hazard (emergency services use case)	32%	29%	0.9
Product or service detail inquiry (client service use case)	30%	25%	0.8
Notification of a weather emergency (emergency services use case)	39%	31%	0.8
Reporting of a suspicious figure (emergency services use case)	18%	14%	0.8
Checking of vitals (healthcare use case)	28%	19%	0.7
Combat situation (military and intelligence use case)	4%	0%	0.0
Diplomatic engagement (military and intelligence use case)	5%	0%	0.0
Field interaction with the local population (military and intelligence use case)	5%	0%	0.0
Intelligence interrogation (military and intelligence use case)	5%	0%	0.0
International training exercise (military and intelligence use case)	0%	0%	*
Medical triage in a field combat situation (military and intelligence use case)	0%	0%	*
= Cannot be calculated (you can't divide a number by zero).			

Source: CSA Research

Analysis of Polar Opposites

The final step in our analysis consisted of identifying which roles favored AI to a greater or lesser degree. Table 15 lists the groups with the highest and lowest percentage of respondents who found automated interpreting mostly or totally suitable. We imposed a minimum of 10 responses per group to include it in our analysis.

Note: We present the basic calculation results, which means it does not account for statistical significance. This means that observed differences or relationships in the data could be attributed to the sample composition.

- **Tech vendors.** Even if they don't develop AI solutions, software providers had the top score in 22 areas, showing strong enthusiasm for technology's capabilities. But requestors were close behind by winning the top spot in 19 use cases. This is a bit more concerning as buyers who are overly optimistic can lead to out-of-touch decisions for end-users.

- **Interpreter trainers.** The least favorable to AI were the professionals who train interpreters, landing that rating in 24 categories. Interpreters scored as the least favorable for 17 categories. Educators emphasized the proper way of conducting tasks, so they were naturally less inclined to believe in new processes that challenge the paradigms they teach.

Table 15: Analysis of Polar Opposites

Use Case *Note: This analysis only considers groups with 10 or more answers*	Role and Percentage That Find Automated Interpreting Mostly or Totally Suitable		Highest Number Is _ Times More Likely to Find AI Suitable
	Highest Number	**Lowest Number**	
Panel of speakers (conference and tradeshow use case)	Tech vendors (60%)	Interpreters (3%)	20.0
Public board meeting (education use case)	Tech vendors (50%)	Trainers (4%)	12.5
Presentation (conference and tradeshow use case)	Tech vendors (74%)	Interpreters (7%)	10.6
Keynote speech (conference and tradeshow use case)	Tech vendors (73%)	Interpreters (7%)	10.4

Use Case *Note: This analysis only considers groups with 10 or more answers*	Role and Percentage That Find Automated Interpreting Mostly or Totally Suitable		Highest Number Is _ Times More Likely to Find AI Suitable
	Highest Number	Lowest Number	
Internal meeting (business use case)	Tech vendors (57%)	Interpreters (7%)	8.1
Press conference after a natural disaster or school shooting (education use case)	Tech vendors (31%)	Trainers (4%)	7.8
Employee training (business use case)	Tech vendors (69%)	Trainers (9%)	7.7
Motivational training (business use case)	Tech vendors (56%)	Trainers (9%)	6.2
Networking event (conference and tradeshow use case)	Tech vendors (54%)	Interpreters (10%)	5.4
Troubleshooting a problem (client service use case)	Tech vendors (43%)	LSPs (9%)	4.8
Communication about benefits and rights (client service use case)	Tech vendors (57%)	Schedulers (12%)	4.8
Product or service detail inquiry (client service use case)	Tech vendors (85%)	LSPs & schedulers (24%)	3.5
Product demonstration (conference and tradeshow use case)	Tech vendors (87%)	Interpreters (27%)	3.2
Communication about a student illness (education use case)	Tech vendors (63%)	Schedulers (20%)	3.2
Home health services (healthcare use case)	Schedulers (18%)	Interpreters (6%)	3.0
Public address speech (diplomacy and international politics use case)	LSPs (12%)	Interpreters (4%)	3.0
Field interaction with a person in distress (emergency services use case)	Schedulers (12%)	Interpreters (5%)	2.4
Intelligence gathering (military and intelligence use case)	LSPs (9%)	Interpreters (4%)	2.3
Reporting of a road hazard (emergency services use case)	Schedulers (56%)	Trainers (25%)	2.2
Notification of a weather emergency (emergency services use case)	Schedulers (55%)	Trainers (25%)	2.2
Reporting of a medical emergency (emergency services use case)	Trainers (25%)	Interpreters (12%)	2.1
Field interaction with the public on a crime or accident scene (law enforcement use case)	LSPs (10%)	Schedulers (5%)	2.0

Use Case *Note: This analysis only considers groups with 10 or more answers*	Role and Percentage That Find Automated Interpreting Mostly or Totally Suitable		Highest Number Is _ Times More Likely to Find AI Suitable
	Highest Number	**Lowest Number**	
Working group discussion (diplomacy and international politics use case)	LSPs (6%)	Interpreters (3%)	2.0
Explanation of event logistics (conference and tradeshow use case)	Tech vendors (60%)	Interpreters (31%)	1.9
Balance inquiry (client service use case)	Tech vendors (79%)	Schedulers (41%)	1.9
Communication about a student absence (education use case)	Tech vendors (62%)	Procurement & schedulers (33%)	1.9
Logistics handling (general use case)	Tech vendors (57%)	Schedulers & trainers (32%)	1.8
Checking of vitals (healthcare use case)	Schedulers (37%)	LSPs (21%)	1.8
Communication about billing or financial aid (healthcare use case)	Schedulers (27%)	Tech vendors (16%)	1.7
Repeat appointment for physical therapy or dialysis (healthcare use case)	Schedulers (37%)	Tech vendors (23%)	1.6
Scheduling (general use case)	Procurement (81%)	Interpreters (52%)	1.6
Notifications (general use case)	Procurement (86%)	Interpreters (56%)	1.5
Patient registration or admission to a healthcare facility (healthcare use case)	Trainers (44%)	Tech vendors (30%)	1.5
Reporting of a suspicious figure (emergency services use case)	Schedulers (22%)	LSPs & trainers (16%)	1.4
Board meeting (business use case)	Tech vendors (57%)	Trainers (0%)	*
Client meeting (business use case)	Tech vendors (47%)	Trainers (0%)	*
Combat situation (military and intelligence use case)	Interpreters (4%)	LSPs (0%)	*
Communication with a lawyer (law enforcement use case)	Schedulers (10%)	Trainers (0%)	*
Counseling session for addiction (social services use case)	LSPs (7%)	Procurement, schedulers, & trainers (0%)	*

Use Case *Note: This analysis only considers groups with 10 or more answers*	Role and Percentage That Find Automated Interpreting Mostly or Totally Suitable		Highest Number Is _ Times More Likely to Find AI Suitable
	Highest Number	Lowest Number	
Court hearing or deposition (law enforcement use case)	Schedulers (10%)	Trainers (0%)	*
Debate (diplomacy and international politics use case)	Interpreters (1%)	LSPs (0%)	*
Delivery of bad news (healthcare use case)	Procurement (4%)	Tech vendors & trainers (0%)	*
Determination of special education services or expulsion status (education use case)	Tech vendors (31%)	Trainers (0%)	*
Diplomatic engagement (military and intelligence use case)	Interpreters (4%)	LSPs (0%)	*
Discussion of a new treatment plan or surgery (healthcare use case)	Procurement (4%)	Tech vendors & trainers (0%)	*
Family mediation with multiple providers (social services use case)	LSPs & schedulers (5%)	Procurement & trainers (0%)	*
Field interaction with the local population (military and intelligence use case)	Interpreters (4%)	LSPs (0%)	*
Intelligence interrogation (military and intelligence use case)	Interpreters (4%)	LSPs (0%)	*
International training exercise (military and intelligence use case)	n/a	Interpreters & LSPs (0%)	*
Law enforcement interrogation (law enforcement use case)	Schedulers (10%)	Trainers (0%)	*
Medical triage in a field combat situation (military and intelligence use case)	n/a	Interpreters & LSPs (0%)	*
Meeting to determine supplemental income eligibility or disability services (social services use case)	LSPs (16%)	Procurement, schedulers, & trainers (0%)	*
Negotiation (diplomacy and international politics use case)	Interpreters (1%)	LSPs (0%)	*
Parent-teacher conference (education use case)	Tech vendors (38%)	Trainers (0%)	*
Public hearing on housing services with public testimony (social services use case)	LSPs (12%)	Procurement & trainers (0%)	*

Use Case *Note: This analysis only considers groups with 10 or more answers*	Role and Percentage That Find Automated Interpreting Mostly or Totally Suitable		Highest Number Is _ Times More Likely to Find AI Suitable
	Highest Number	Lowest Number	
Removal procedure by child protective services (social services use case)	Schedulers (5%)	Procurement & trainers (0%)	*
Session with patient with cognitive differences (healthcare use case)	Schedulers (6%)	Tech vendors & trainers (0%)	*
Trial (law enforcement use case)	Schedulers (10%)	Trainers (0%)	*
* = Cannot be calculated (you can't divide a number by zero).			

Source: CSA Research

Chapter 12
Decision Criteria for When to Use AI

> *"A big consideration would be who gets to make the decision about whether to involve a human interpreter. Who has the power in these situations and where are the checks and balances?" [LSP in Florida, no AI experience]*

The next part of our analysis identified criteria to adopt when determining whether to use automated interpreting. This chapter shares data on 11 elements for which respondents rated whether the criteria should play a major, minor, or no role at all. Participants were instructed to respond as if they were decision-makers. We simplified the survey for end-users by deleting two technical options.

Figure 65 provides an overview of the results, with the level of accuracy required leading the list, followed by the risk of possible harm, and the complexity of the language.

> *"I'm optimistic that automated interpreting (AI) will increase the coverage of language access and augment the performance of professional interpreters. However, I'm wary that, when AI is used inappropriately, quality, and meaningful access will suffer and become a way for buyers to cut corners." [Interpreter in Texas, moderate AI experience, finds results good]*

Figure 65: Overview of Feedback on Decision Criteria

How important are the following elements as a criteria on whether to use automated interpreting?
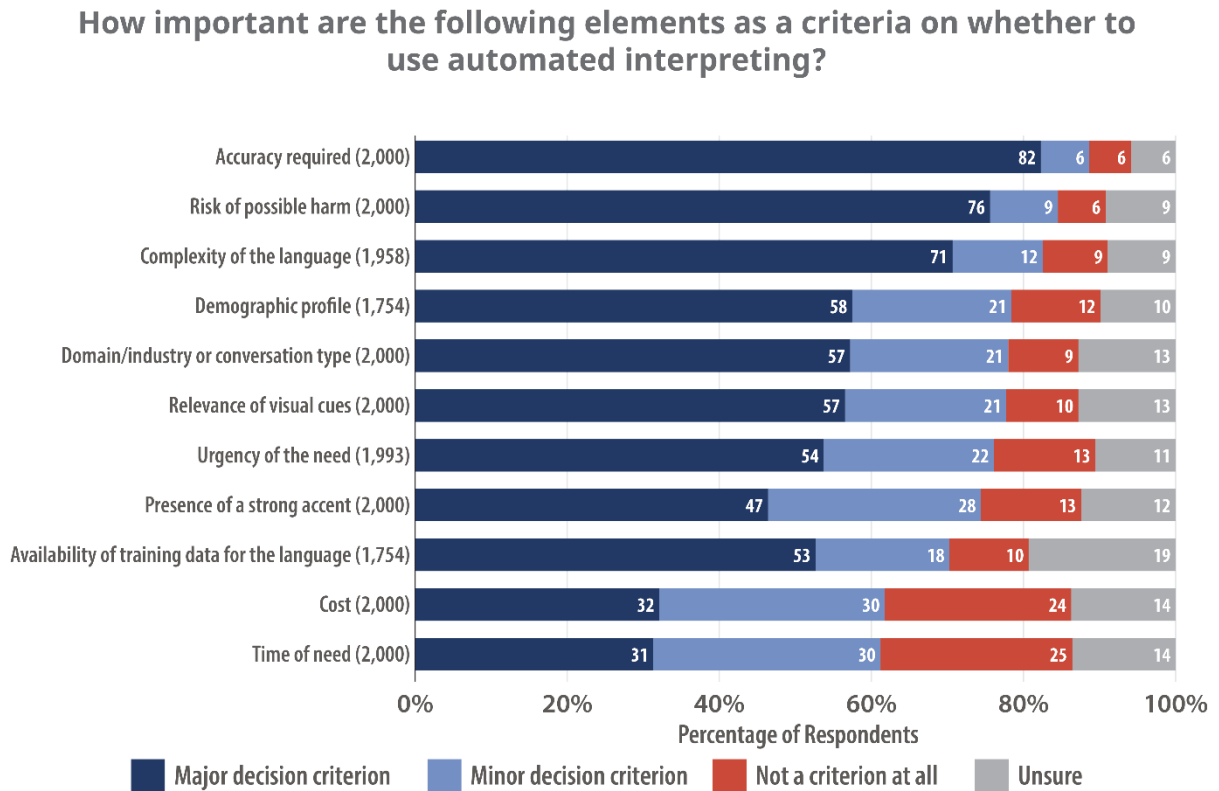
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To contextualize the following analysis one criterion at a time, Table 16 averages the number of selections each role made. Representatives of professional associations were most likely to mark nearly every criterion as a major one, trying to cover all their bases. In contrast, procurement teams and technology vendors differentiated priorities and relegated more to the category of minor criteria.

Table 16: Average Number of Criteria Selected by Each Role

Average Number of Criteria Selected by Each Role				
Role	Major Criteria	Minor Criteria	Not a Criteria	Unsure
Professional associations	7.9	1.8	0.8	0.6
Interpreter trainers	6.8	2.2	1.3	0.7
Interpreters	6.3	2.0	1.4	1.4
LSPs	6.1	2.6	1.3	1.1
Policy makers	5.4	3.6	1.2	0.8
Procurement	4.9	2.9	1.1	1.3
Technology vendors	4.9	3.8	0.9	0.9
Frontline professionals*	4.7	2.5	0.9	0.8
Service recipients*	4.5	1.6	1.6	1.3
= These groups only rated 9 criteria while others rated 11.				

Source: CSA Research

Accuracy Required

> *"I think the potential for machine interpreting is enormous, but any program should be extensively tested and vetted to ensure accuracy." [Frontline professional in Wisconsin, no AI experience]*

The top criterion across respondents was the degree of accuracy required from the session. Fully 82% of respondents strongly believed it was a major decision element. Responses were quite consistent across audiences except in one important case – service recipients were less concerned about accuracy than other roles. Noteworthy also was procurement, which ranked accuracy even higher than providers – although their definition of accuracy is likely to be slightly different (Figure 66).

Language professionals may feel that most conversations should achieve perfect accuracy, but the reality is different. End-users don't always require or expect top-notch results. Personal conversations that don't currently benefit from a human interpreter may be acceptable with machine interpreting. These are situations where it's easy enough to go back and forth if there's a misunderstanding or to have a good laugh at a mistranslation when the stakes are not high.

> *Note: Perfection is also less important when the service recipient uses automation for support due to existing but imperfect skills in the language being spoken in the session. However, that is more applicable to automated captioning and subtitling as listeners are not as likely to listen to both source and target languages simultaneously. Expect this criterion to generate different results if you were to do a study on automated captioning and subtitling.*

Figure 66: The Importance of the Accuracy Required

How important is the accuracy required as a criterion on whether to use automated interpreting?

Score

		Score
Average of audiences (2,000)	82 / 6 / 6 / 6	1.65
Hands-on experience with AI (239)	84 / 8 / 6	1.69
No such experience (1,761)	82 / 6 / 5 / 6	1.65
In the US (1,566)	83 / 6 / 5 / 6	1.67
Outside the US (434)	79 / 8 / 7 / 6	1.59
ALL END-USERS (246)	78 / 7 / 7 / 7	1.57
Service recipients (71)	69 / 7 / 13 / 11	1.32
Frontline professionals (175)	82 / 7 / 5 / 6	1.67
ALL REQUESTORS (42)	86 / 7 / 5	1.74
Procurement (42)	86 / 7 / 5	1.74
Schedulers (0)		0.00
ALL PROVIDERS (1,712)	83 / 6 / 5 / 6	1.66
Technology vendors (28)	79 / 18 / 4	1.75
Interpreters (1,400)	82 / 6 / 6 / 6	1.65
Interpreter trainers (51)	90 / 4 / 4	1.80
LSPs (214)	82 / 9 / 4 / 5	1.70
Professional associations (9)	100	2.00
Policy makers (10)	100	2.00
Students & retirees (0)		0.00

0%   20%   40%   60%   80%   100%

Percentage of Respondents   Importance

■ Major decision criterion   ■ Minor decision criterion   ■ Not a criterion at all   ■ Unsure

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Risk of Possible Harm

> *"The risk of harm is incredibly high and there is a serious issue with diversity and inclusion."* [Service recipient in New York, extensive AI experience, finds signed language results unacceptable]

The second most important criterion was tied to the possibility someone suffers negative outcomes from a mistranslation: Will someone be hurt? Will they lose their freedom? Will someone lose money? Will a malpractice suit ensue? Gauging the risk of harm was a major decision element for 76% of respondents. Policy makers, representatives of professional associations, and interpreter trainers gave that criterion even more importance. At the same time, service recipients and technology vendors were less concerned about harm (Figure 67).

> *Note: Tech providers' answers may be low because they have use-at-your-own-risk terms of service that protects them against consequences for errors.*

Figure 67: The Importance of the Risk of Possible Harm

How important is the risk of possible harm as a criterion on whether to use automated interpreting?

	Percentage of Respondents	Score
Average of audiences (2,000)	76 / 9 / 6 / 9	1.54
Hands-on experience with AI (239)	75 / 12 / 8 / 5	1.54
No such experience (1,761)	76 / 8 / 6 / 10	1.54
In the US (1,566)	78 / 8 / 6 / 9	1.57
Outside the US (434)	69 / 13 / 7 / 11	1.44
ALL END-USERS (246)	67 / 15 / 9 / 9	1.41
Service recipients (71)	59 / 13 / 15 / 13	1.15
Frontline professionals (175)	70 / 16 / 6 / 8	1.51
ALL REQUESTORS (42)	74 / 14 / 10	1.60
Procurement (42)	74 / 14 / 10	1.60
Schedulers (0)		0.00
ALL PROVIDERS (1,712)	77 / 8 / 6 / 9	1.56
Technology vendors (28)	57 / 21 / 7 / 14	1.29
Interpreters (1,400)	77 / 8 / 6 / 9	1.56
Interpreter trainers (51)	86 / 6 / 6	1.76
LSPs (214)	76 / 9 / 5 / 10	1.56
Professional associations (9)	89 / 11	1.78
Policy makers (10)	90 / 10	1.70
Students & retirees (0)		0.00

Legend: ■ Major decision criterion ■ Minor decision criterion ■ Not a criterion at all ■ Unsure

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Language Complexity

> *"There are big quality differences depending on the language pair. Users are not aware of that."* [Interpreter in Canada, no AI experience]

At 71%, language complexity was the third most selected major criterion. But results were all over the board when viewed by respondent roles. Requestors and technology vendors ignored the issue, while policy makers took an all-in approach (Figure 68).

Note: Examine the list of languages offered by automated interpreting systems. Specialized technology vendors don't claim the capability to interpret from any language to any other. They typically release new language combinations only as they pass their own minimum quality thresholds.

> *"Automated interpretation is very difficult between Asian and European languages as they are very different from one another."* [Interpreter in California, moderate AI experience, finds results good]

Figure 68: The Importance of Language Complexity

How important is the complexity of the language as a criterion on whether to use automated interpreting?

	Major decision criterion	Minor decision criterion	Not a criterion at all	Unsure	Score
Average of audiences (1,958)	71	12	9	9	1.45
Hands-on experience with AI (232)	67	17	11	5	1.40
No such experience (1,726)	71	11	8	9	1.45
In the US (1,531)	72	12	8	9	1.47
Outside the US (427)	68	12	10	10	1.38
ALL END-USERS (246)	55	26	11	9	1.26
Service recipients (71)	48	20	17	15	0.99
Frontline professionals (175)	58	28	8	6	1.37
ALL REQUESTORS (15)		47	13	40	0.33
Procurement (15)		47	13	40	0.33
Schedulers (0)					0.00
ALL PROVIDERS (1,697)	74	9	8	9	1.48
Technology vendors (13)		46	31	23	0.15
Interpreters (1,400)	74	9	8	9	1.49
Interpreter trainers (51)	82	10	4	4	1.71
LSPs (214)	73	11	10	6	1.47
Professional associations (9)	100				2.00
Policy makers (10)	50	20	10	20	1.10
Students & retirees (0)					0.00

Percentage of Respondents / Importance

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Demographic Profile of Services Recipient

> *"Older demographics are not confident or comfortable with machines and will be most affected."* [Interpreter in California, no AI experience]

The demographic profile of the recipient of services – such as age or cognitive difference – stood out as a major criterion for 58% of respondents. Note that end-users did not see this option. Professional associations felt the strongest about this criterion, while policy makers attributed it the least importance – which is surprising because their answer was 100% for the previous criteria (the complexity of the language) (Figure 69).

> *Note: As documented in Drawbacks of Automated Solutions, AI in its current state is simply not suited for certain audiences. The profile of the service recipient should not affect whether an organization adds AI interpreting to its language or communication access toolbelt. However, the service recipient profile and the situation specifics must be systematically assessed before deciding to use deploy it in an interaction.*

Figure 69: The Importance of the Recipients' Demographic Profile

How important is the demographic profile of the recipient of services (age, cognitive difference, etc.) as a criterion on whether to use automated interpreting?

	Major decision criterion	Minor decision criterion	Not a criterion at all	Unsure	Score
Average of audiences (1,754)	58	21	12	10	1.24
Hands-on experience with AI (197)	61	24	10	5	1.37
No such experience (1,557)	57	20	12	11	1.23
In the US (1,345)	59	20	12	10	1.26
Outside the US (409)	54	24	12	11	1.19
ALL REQUESTORS (42)	48	33	10	10	1.19
Procurement (42)	48	33	10	10	1.19
Schedulers (0)					0.00
ALL PROVIDERS (1,712)	58	21	12	10	1.24
Technology vendors (28)	50	32	7	11	1.25
Interpreters (1,400)	59	19	12	10	1.25
Interpreter trainers (51)	57	27	12	4	1.29
LSPs (214)	52	27	14	8	1.17
Professional associations (9)	78	22			1.78
Policy makers (10)	40	30	20	10	0.90
Students & retirees (0)					0.00

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Domain, Industry, or Conversation Type

> *"The complexity of the conversation is important."* [Frontline professional in Oregon, no AI experience]

Over one-half of respondents (57%) cited domain or industry (such as health care versus hospitality) and the conversation type (such as critical versus routine) as major criteria (Figure 70). Based on the wide range of complexity in conversations, we would have expected this percentage to be higher. It is instructive to separate out those who didn't rank this criterion as a major one – namely policy makers, procurement teams, and technology vendors. As these constituents play an essential role in the dissemination of AI, it becomes more challenging for end-users if the nature of the session is not considered in decisions to use AI – it may work well for simple conversations, but the majority of conversations are not simple.

Figure 70: The Importance of Domain or Conversation Type

How important is the domain/industry or conversation type as a criterion on whether to use automated interpreting?

	Major decision criterion	Minor decision criterion	Not a criterion at all	Unsure	Score
Average of audiences (2,000)	57	21	9	13	1.26
Hands-on experience with AI (239)	61	23	12	5	1.33
No such experience (1,761)	57	21	9	14	1.25
In the US (1,566)	56	21	10	13	1.24
Outside the US (434)	61	20	8	11	1.35
ALL END-USERS (246)	46	28	12	14	1.09
Service recipients (71)	55	15	17	13	1.08
Frontline professionals (175)	43	33	10	14	1.09
ALL REQUESTORS (42)	43	33	10	14	1.10
Procurement (42)	43	33	10	14	1.10
Schedulers (0)					0.00
ALL PROVIDERS (1,712)	59	20	9	13	1.29
Technology vendors (28)	46	43	4	7	1.32
Interpreters (1,400)	59	19	9	14	1.27
Interpreter trainers (51)	63	22	10	6	1.37
LSPs (214)	63	20	9	9	1.36
Professional associations (9)	89	11			1.89
Policy makers (10)	40	50		10	1.30
Students & retirees (0)					0.00

Percentage of Respondents   Importance

■ Major decision criterion   ■ Minor decision criterion   ■ Not a criterion at all   ■ Unsure

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Relevance of Visual Cues

> *"With AI, there's a problem with the lack of detection of the LEP's non-verbal cues, which also form part of the interpretation process." [Scheduler in Colorado, not much AI experience, finds results unacceptable]*

Visual context as a decision criterion emerged as very important for 57% of respondents. Due to the survey's focus on spoken-language interpreting, we were unable to contrast responses from people who dealt with spoken versus signed language interpreting. However, given the many comments from ASL users and interpreters throughout the responses, we suspect there would be a significant difference in perception compared to spoken language (Figure 71).

> *"I fear inaccurate interpretation due to visual cues not being available." [LSP in Georgia, no AI experience]*

> *"Good human interpreters derive feedback from non-verbal cues to increase accuracy while machines will miss them." [Interpreter in Utah, not much AI experience, unsure about quality of results]*

Figure 71: The Importance of the Relevance of Visual Cues

How important is the relevance of visual cues as a criterion on whether to use automated interpreting?

	Score
Average of audiences (2,000)	1.25
Hands-on experience with AI (239)	1.25
No such experience (1,761)	1.25
In the US (1,566)	1.27
Outside the US (434)	1.18
ALL END-USERS (246)	0.99
Service recipients (71)	0.90
Frontline professionals (175)	1.02
ALL REQUESTORS (42)	1.10
Procurement (42)	1.10
Schedulers (0)	0.00
ALL PROVIDERS (1,712)	1.29
Technology vendors (28)	0.96
Interpreters (1,400)	1.29
Interpreter trainers (51)	1.35
LSPs (214)	1.28
Professional associations (9)	1.78
Policy makers (10)	1.10
Students & retirees (0)	0.00

Legend: ■ Major decision criterion ■ Minor decision criterion ■ Not a criterion at all ■ Unsure

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Urgency of the Need

> *"Are other options available? Is an in-person, phone, or video interpreter available?"* [Frontline professional in Wisconsin, no AI experience]

The urgency of the need was a major criterion for 54% of respondents. Frontline professionals were the most eager in that regard because waiting for an interpreter may seem irresponsible when time is of the essence (Figure 72).

Automated solutions eliminate the need to schedule a professional or to wait for an on-demand remote interpreter to connect. It also makes real-time information transfer possible when every second matters. But for many, urgency isn't important enough to save a few seconds or minutes if a human alternative is available reasonably quickly.

> **Note:** *It is possible that respondents may have equated urgency to importance or sensitivity of the topic in their response. Caution is advised when drawing conclusions from this data.*

Figure 72: The Importance of the Urgency of the Need

How important is the urgency of the need as a criterion on whether to use automated interpreting?

	Major decision criterion	Minor decision criterion	Not a criterion at all	Unsure	Score
Average of audiences (1,993)	54	22	13	11	1.17
Hands-on experience with AI (239)	53	29	11	7	1.23
No such experience (1,754)	54	21	14	11	1.16
In the US (1,559)	55	22	13	11	1.18
Outside the US (434)	51	24	14	10	1.13
ALL END-USERS (246)	65	19	8	8	1.41
Service recipients (71)	58	11	17	14	1.10
Frontline professionals (175)	68	22	4	6	1.54
ALL REQUESTORS (36)	44	33	22		1.00
Procurement (36)	44	33	22		1.00
Schedulers (0)					0.00
ALL PROVIDERS (1,711)	52	23	14	11	1.14
Technology vendors (27)	59	33	7		1.44
Interpreters (1,400)	52	21	15	12	1.11
Interpreter trainers (51)	55	29	10	6	1.29
LSPs (214)	53	25	11	11	1.19
Professional associations (9)	44	44		11	1.33
Policy makers (10)	40	60			1.40
Students & retirees (0)					0.00

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Availability of Training Data

> *"Some rare languages may be hard to interpret as they are not documented widely and deeply enough."* [LSP in Kenya, no AI experience]

Only 53% of respondents listed the availability of training data as a major criterion – with technology vendors rating it as only 39% – a bit of a surprise (Figure 73). This is a case where, in theory, you'd want to see 100%. If you can't train the engine with sufficient data, then the interpreting results will be poor. That is why automated interpreting is available in limited languages – and why languages of lower diffusion (LLDs) are not suited for machine interpreting.

This low score for the training data criterion is likely tied to the fact that many respondents expressed hope for AI to support Indigenous languages and other LLDs – when the reality is that AI can't do this well yet. Many respondents lack the technical knowledge of "how the automated interpreting magic happens" – a scary reality when many are the decision-makers.

> *Note: OpenAI (the maker of ChatGPT) trains its large language model on a Common Crawl of the digital commons (that is, communally owned resources such as wikis and open-source materials) and public-facing websites of all stripes. CSA Research analyzed the language of this training data. Nearly one-half of it is in English. Overall, non-American and non-European languages contribute less than 15% of the total of these models' total training data – which leads to bias ("Locales and Focused Large Language Models (FLLMs)" © CSA Research).*

> > *"Not all languages will be available via machine translation. Zomi is one such example."* [Technology vendor, not much AI experience, finds results poor]

> > *"The AI engine is likely to have biases toward Spanish used in Spain or Mexico instead of Caribbean Spanish or the Spanish spoken by people who grew up speaking Indigenous languages and learned Spanish as a second language. AI is biased and inaccurate for subcultures."* [Interpreter in Rhode Island, no AI experience]

Training data also extends past spoken language training:

"Interpreting is always about decision-making. You make tons of decisions in just a couple of minutes. Some are tied to ethics, values, or even your gut feeling – things that are not concrete 'data.' I am really curious how we will teach machines to mimic these decision-making processes." [Interpreter in Turkey, no AI experience]

"Automated interpreting is probably one of the best cases for large language models, but due to the uniform statistical nature of the models, it will have a non-linear risk profile as the scenarios diverge from the norm. AI is great for something that is already discussed hundreds of times per day, but less appropriate for once-in-a-lifetime events that are not publicly disclosed." [Technology vendor, no AI experience]

Interpreters also wondered whether language professionals are involved in training engines:

"Any machine is only as good as its programming. Who exactly will be programming these AI interpreting platforms? Will real interpreter input be used?" [Interpreter in Louisiana, no AI experience]

"Are interpreters consulted to improve the technology pertaining to interpretation services?" [Interpreter in Qatar, no AI experience]

Figure 73: The Importance of the Availability of Training Data

How important is the availability of training data for the language as a criterion on whether to use automated interpreting?

Category	Major decision criterion	Minor decision criterion	Not a criterion at all	Unsure	Score
Average of audiences (1,754)	53	18	10	19	1.13
Hands-on experience with AI (197)	54	21	13	12	1.17
No such experience (1,557)	52	17	10	20	1.12
In the US (1,345)	54	17	10	19	1.14
Outside the US (409)	49	20	11	21	1.07
ALL REQUESTORS (42)	48	21	7	24	1.10
Procurement (42)	48	21	7	24	1.10
Schedulers (0)					0.00
ALL PROVIDERS (1,712)	53	18	10	19	1.13
Technology vendors (28)	39	39	11	11	1.07
Interpreters (1,400)	53	17	10	20	1.12
Interpreter trainers (51)	67	14	8	12	1.39
LSPs (214)	51	21	11	16	1.13
Professional associations (9)	67	11	11	11	1.33
Policy makers (10)	50	20	20	10	1.00
Students & retirees (0)					0.00

Percentage of Respondents — Importance

■ Major decision criterion ■ Minor decision criterion ■ Not a criterion at all ■ Unsure

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Presence of a Strong Accent

> *"AI might not understand the accent of the other party." [Frontline professional in Hawaii, not much AI experience, finds results good]*

Whether one of the speakers in a session has a strong accent was a major criterion for just under one-half of respondents (47%) (Figure 74).

Note: Accents are not necessarily a deal breaker for AI. Clear enunciation is more important than accent. Plus, engines can be trained to better respond to a specific accent – assuming there is enough data to train the engine.

Figure 74: The Importance of the Presence of a Strong Accent

How important is the presence of a strong accent as a criterion on whether to use automated interpreting?

	Major decision criterion	Minor decision criterion	Not a criterion at all	Unsure	Score
Average of audiences (2,000)	47	28	13	12	1.08
Hands-on experience with AI (239)	51	30	14	5	1.18
No such experience (1,761)	46	28	13	13	1.06
In the US (1,566)	46	28	14	12	1.06
Outside the US (434)	48	29	11	12	1.14
ALL END-USERS (246)	36	34	17	13	0.88
Service recipients (71)	39	25	23	13	0.82
Frontline professionals (175)	34	37	15	13	0.90
ALL REQUESTORS (42)	38	36	17	10	0.95
Procurement (42)	38	36	17	10	0.95
Schedulers (0)					0.00
ALL PROVIDERS (1,712)	48	27	12	12	1.11
Technology vendors (28)	43	43	4	11	1.25
Interpreters (1,400)	49	26	12	13	1.12
Interpreter trainers (51)	47	25	16	12	1.04
LSPs (214)	42	34	14	10	1.05
Professional associations (9)	89	11			1.89
Policy makers (10)	20	60	10	10	0.90
Students & retirees (0)					0.00

Percentage of Respondents — Importance

Legend:
- Major decision criterion
- Minor decision criterion
- Not a criterion at all
- Unsure

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Cost

> *"Cost is certainly a big driving force to use the automated services – especially while global growth continues to be weak – but only after the service has a data security framework in place."* [Procurement professional in Massachusetts, not much AI experience, finds results good]

The financial aspect ranked as the second least important with only 32% who believed it to be a major criterion. Only technology vendors and interpreter trainers gave it more weight. Procurement teams did not consider it to be so important (Figure 75).

> *Note: The data from procurement teams may surprise some providers. Procurement managers may factor in criteria in their decision equation that don't relate to providers themselves. As a result, cost may not be a major criterion overall, but it could still be the top one when selecting a vendor.*

Language professionals' comments tell a story of fear that decisions are driven by cost, and that the savings aren't worth the negative outcomes that will ensue:

> *"Stop focusing on money, 'really cool technology,' and inventing for the sake of inventing."* [Signed language interpreter in Washington, no AI experience]

> *"In an age when hacking seems to be a common occurrence, AI places LEPs at risk when organizations try to save a buck."* [Interpreter in Georgia, no AI experience]

> *"Make sure that profit/cutting costs is not the main reason for implementing AI, as it has the ability to negatively affect thousands, if not millions, of people around the world."* [LSP in Florida, no AI experience]

Automated solutions cost considerably less than human-delivered services when dealing with non-essential interactions such as personal conversations. However, despite the many interpreters who said that automated interpreting should be made available for free and the 58% in Figure 40 who thought the benefit of automated interpretation is "low cost or no cost", it can be pricey to develop, maintain, and run. Large-scale implementations driven specifically by generative AI can be expensive to operate.

> *"There is the assumption that machine-generated interpretation will be free, but it's premature to make this assumption. We are at the stage where machine interpretation is still in the prototyping stage. We don't know whether it is going to be free or less expensive than human interpretation." [Interpreter trainer in California, not much AI experience, finds results good]*

Note: *Think about the cost of a mistake. If the decision affects $2,000 of benefits per month, then it's a big deal for at least one of the parties; therefore, you should engage a human interpreter. If you need help finding an item at the grocery store, AI is fine because, at worst, you lose the value of the item and it's simply an inconvenience.*

Figure 75: The Importance of Cost

How important is cost as a criterion on whether to use automated interpreting?

	Major decision criterion	Minor decision criterion	Not a criterion at all	Unsure	Score
Average of audiences (2,000)	32	30	24	14	0.70
Hands-on experience with AI (239)	35	31	27	8	0.74
No such experience (1,761)	32	29	24	15	0.69
In the US (1,566)	30	30	25	15	0.65
Outside the US (434)	39	29	21	11	0.87
ALL END-USERS (246)	32	31	24	13	0.70
Service recipients (71)	38	18	27	17	0.68
Frontline professionals (175)	29	36	23	12	0.71
ALL REQUESTORS (42)	29	50	10	12	0.98
Procurement (42)	29	50	10	12	0.98
Schedulers (0)					0.00
ALL PROVIDERS (1,712)	32	29	25	14	0.69
Technology vendors (28)	46	39	11	4	1.21
Interpreters (1,400)	31	27	27	15	0.63
Interpreter trainers (51)	45	24	22	10	0.92
LSPs (214)	36	38	16	10	0.93
Professional associations (9)	22	56	11	11	0.89
Policy makers (10)	30	40	30		0.70
Students & retirees (0)					0.00

Percentage of Respondents   Importance

■ Major decision criterion   ■ Minor decision criterion   ■ Not a criterion at all   ■ Unsure

Time of Need

> *"It could be valuable (if proven accurate) during emergency situations for languages of lower diffusion when [OPI/VRI vendor] has longer wait times."* [Interpreter in Georgia, no AI experience]

The least sensitive factor among our respondents was the time of the requirement – that is, is interpreting needed at nights or on weekends? Under one-third of respondents (31%) considered it to be an important criterion, indicating that respondents didn't see this as an obvious solution to staffing interpreters at odd hours (Figure 76).

Figure 76: The Importance of Time of Need

How important is the time of need (nights, weekends, or holidays) as a criterion on whether to use automated interpreting?

Score

Category	Major decision criterion	Minor decision criterion	Not a criterion at all	Unsure	Score
Average of audiences (2,000)	31	30	25	14	0.67
Hands-on experience with AI (239)	36	32	24	8	0.79
No such experience (1,761)	31	30	25	14	0.66
In the US (1,566)	32	29	25	14	0.68
Outside the US (434)	30	32	26	12	0.65
ALL END-USERS (246)	45	31	14	10	1.07
Service recipients (71)	44	21	20	15	0.89
Frontline professionals (175)	46	35	11	8	1.15
ALL REQUESTORS (42)	36	29	17	19	0.83
Procurement (42)	36	29	17	19	0.83
Schedulers (0)					0.00
ALL PROVIDERS (1,712)	29	30	27	14	0.61
Technology vendors (28)	43	43	11	4	1.18
Interpreters (1,400)	29	29	27	15	0.60
Interpreter trainers (51)	27	33	33	6	0.55
LSPs (214)	29	29	27	14	0.61
Professional associations (9)	22	22	56		0.11
Policy makers (10)	30	60	10		1.10
Students & retirees (0)					0.00

Percentage of Respondents   Importance

■ Major decision criterion   ■ Minor decision criterion   ■ Not a criterion at all   ■ Unsure

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Chapter 13
Procurement Team's AI Plans

> *"During the 'introductory' period when the automated service has flaws in quality, we will need governance that helps determine when not to use automated service." [Procurement professional in Massachusetts, not much AI experience, finds results good]*

Back in early 2020, we found that automated interpreting was akin to a sci-fi concept for most requestors, with most companies unaware or uninterested ("Interpreting in the COVID-19 Business Climate" © CSA Research). They were not ready to think about language or communication access in general or about solutions other than human-delivered services.

However, as the COVID-19 pandemic introduced more firms to virtual meeting platforms and videoconferencing products, they stumbled upon built-in features to automatically translate speech. This brought awareness to some capabilities and gave organizations solutions to address a need not easily met by other interpreting modalities or that were too costly to deliver the basic quality they required.

What do recent developments mean in terms of implementations for 2024?

Plans for the Following 12 Months

> *"In-person services have been stretched too thin. Low wages, high turnover, and lack of quality controls and training have negatively impacted the services. AI can be more reliable and produce fewer mistakes. It's also possible improvements are beyond measure." [Procurement professional in California, moderate AI experience, finds spoken and signed language results excellent]*

We restricted a question about future plans to implement automated solutions to procurement specialists, a group of 40 respondents (Figure 77). The bulk of answers indicated no plans to use automated captioning, transcription, interpreting, subtitling,

or sign language. However, we explored those who have already gone ahead with implementing these services or are planning to do so.

- **Already implemented:** Captioning and transcription were in the lead. 18% of respondents had automated solutions in place for captioning and 13% for transcription – the two monolingual services tracked in this study. Only 5% of respondents (equivalent to just 2 respondents) had solutions in place for interpreting and subtitling. None reported any AI for sign language.

- **Planning implementation:** Little change was on the radar. Those who were ready to implement automated captioning and subtitling had already done so and implementation plans were negligible for other services.

- **Plans to test:** All but sign language were to see some testing. In 2024, 25% of procurement teams planned to test automated transcription and 23% automated captioning – again, the two monolingual services. They also planned to experiment with automated subtitling and interpreting. Studies like this one likely prompted some procurement teams to think it's time to investigate what the buzz is all about.

- **Plans to decrease usage:** What's interesting in this dataset is that more procurement teams planned to reduce their use of automated subtitling than those who planned to continue using it. Output is likely not up to expectations, which is problematic for automated interpreting technology vendors as they mostly just add voice synthesis to subtitles. We also noticed some reductions for AI use in captioning and transcription.

  Note; *Even if results are not acceptable today, they might be much improved in three-, six-, or twelve-months' time. Plan on repeat testing to revalidate results.*

Figure 77: Procurement's Plans Regarding Automated Interpreting

What is your plan for the following items for the next year?
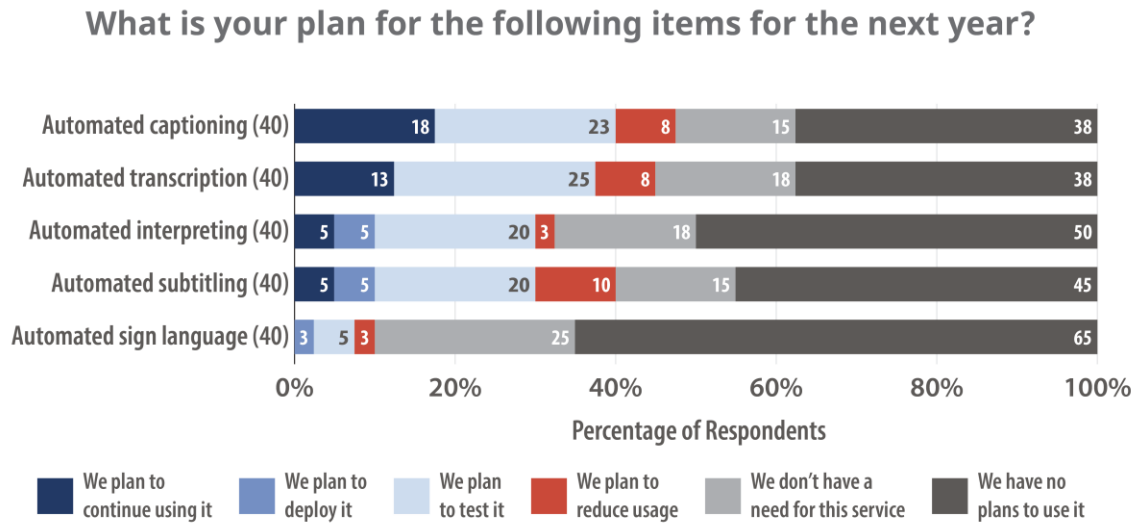
© CSA Research

Successful Implementations Will Come with Training

> *"The main danger is misinformed users, like with the case of users thinking that Google Translate is a tool that can completely replace a human translator. We, as a profession, should be persistent in educating about limitations of AI for the next 20 to 30 years." [Association representative, not much AI experience, unsure about quality of results]*

For those procurement teams seeking to implement automation, it is essential to develop a detailed roll-out plan with in-depth training for teams that use an interpreting app. See the Recommendations for Requestors.

> *"Medical practices and clinics need to be trained to know when AI is okay and when it's not. They also need to know the importance of speaking clearly and simply to increase their chances of obtaining an accurate interpretation. They need to see examples of wrongly interpreted information, so they take it seriously. Monolinguistic people often undervalue interpreter services because they don't understand the value to the people/culture represented." [Interpreter in North Carolina, no AI experience]*

> *"It will be critical for those of us in the LSP industry to educate our customers on the responsible use of automated interpreting. It's like giving out clean needles to drug users – folks are going to use automated interpretation and machine translation anyway, so we just have to teach them what the risks are and how to do it safely." [LSP in Colorado, moderate AI experience, finds results poor]*

Chapter 14
What It Would Take to Increase Trust in AI

> *"The technology should go through rigorous testing to ensure reliability, similar to aircraft or medical device/pharma products, before use in life-critical environments."* [LSP in California, no AI experience]

As we have clearly seen throughout this report, acceptance of automated speech translation has a long way to go. That's why we asked participants what they needed the technology to do for them to increase their trust. This chapter synthesizes the answers into four categories of requirements: 1) accuracy; 2) additional technical features; 3) implementation; and 4) integration with humans.

Note: We included representative answers from all viewpoints – whether the requirement was realistic or not. Some responses were wishful thinking and would not be realistic to implement (such as an interpreter present to monitor every single AI session). However, technology vendors should not automatically dismiss outlandish requirements. Instead, they should identify the root cause of the concern and what they could or should do differently to prevent the need for unrealistic requirements.

Note: Many respondents also commented that nothing can be done to improve their trust because they disagree with AI out of principle.

Accuracy Requirements

> *"To instill trust in AI interpreting, thorough testing with accuracy scoring and peer-reviewed research are essential. This research should meticulously document the extent of errors, ensuring that the accuracy of the original message is consistently preserved and appropriately conveyed. Furthermore, there should be dedicated research to identify the additional 'training' required for AI to enhance accuracy and minimize the influence of language and cultural bias." [Association representative, moderate AI experience, finds results poor]*

The most frequently cited requirement – stated hundreds of times – was accuracy (Table 17). Respondents expect perfection because they feel that's what human interpreters deliver – which of course is an overstatement for even the best of interpreters.

> *"I would never use automated interpreting until all automated interpreters exceed the proficiency and skill of the best in-person interpreters and data privacy is guaranteed to be secure." [Service recipient in Texas, not much AI experience, finds results poor]*

> *"99% accuracy 100% of the time during testing, including difficult and complex conversations." [Procurement professional in New York, not much AI experience, finds results poor]*

> *"I want AI that has extremely high proficiency and cultural adaptiveness. Some interpreters lack this now." [Procurement professional in Virginia, not much AI experience, unsure about quality of results]*

Comments about accuracy were about more than the generic concept – rather, it's about fit-for-situation. The system must be able to perform accurately regardless of the scenario tossed at it. All the elements we listed in Table 7 and Table 8 in Drawbacks of Automated Solutions reappeared in answers to this set of questions, so we didn't duplicate them in this section. That doesn't mean they are not important – quite the contrary.

Respondents also want proof of accuracy. They crave in-depth studies that demonstrate the performance and the positive impact for end-users. For many, such proof of capabilities can only come with many years of data collection. However, for providers, how can they demonstrate their track record over time if they aren't allowed to deploy solutions in the first place? Testing scenarios can only accomplish so much.

> *"A very long track record of impartiality, faithful message rendering (spirit, register, accuracy, cultures), specificity where every participant can ask for clarification and receive it, where all parties come away satisfied that they've understood and been understood. This may take decades – if it happens at all."* *[Signed language interpreter in Tennessee, no AI experience]*

> *"We need data gathered from many users, indicating error rates, misinformed meanings generated, etc. Grounded, disaggregated analyses by age, gender, ethnicity, and language would be important to scrutinize."* *[Interpreter in Texas, no AI experience]*

> *"It requires data from long-term studies of the results showing a high percentage of positive outcomes for both the end-user and the provider."* *[Interpreter in New Mexico, not much AI experience, finds results excellent]*

> *"I would need to see studies indicating two things of equal importance: that the LEP client/patient (not the provider of the service) is equally or more comfortable with automated interpretation, and that the interpretation provided by the automated system is equally or more accurate as judged by seasoned interpreters of that specialty."* *[Interpreter in Georgia, no AI experience]*

> *"We need a qualitative study that compares and contrasts the service provision between qualified human interpreters and automated interpreting. Let patients, clients, and professionals see the difference."* *[Signed language interpreter in Canada, no AI experience]*

Part of achieving great quality is having processes in place to manage quality. Respondents shared ideas of what they envision quality control to be.

> *"There is a need to conduct user acceptance testing, change management, and ongoing quality control." [Scheduler in California, no AI experience]*

Table 17: Accuracy Expectations That Would Increase Trust in AI

Category	Examples Cited by Respondents
Accuracy	• Human parity (examples cited: zero errors, 99% to 100% accuracy, error-free for 24 months, flawless service) • Ability to handle the variety of difficult scenarios listed in Table 7 and Table 8 (context, culture, facial expressions, strong accent, cognitive differences, etc.)
Demonstrable record	• History of [5 years, 10 years, 20 years, 50 years, a few generations] • Time for the technology to mature • Comprehensive study with accuracy data by language, domain, conversation type, and demographic characteristic of service recipients • Case studies with data proving positive outcomes for both service recipient and provider • User satisfaction rates and good references from active users
Quality control	• Procedures for quality control • In-place accuracy check through human supervision / human in the loop • Trial period with human supervision • Frequent auditing by interpreters through occasional drop-in into automated sessions • Ability to review output on-demand

Source: CSA Research

Feature and Technology Requirements

> *"We've run bakeoffs between several well-known technology providers. The ones we work with take feedback well and provide updates on implementation of feedback on a regular basis."* [LSP in California, extensive AI experience, finds results good]

The next group of suggestions related to functionality and features that respondents expected technology vendors to implement when they design their software (Table 18).

- **Core system.** Data privacy and security is a must – users want tight controls plus ownership of their own data. Respondents also cited a variety of approaches and inputs they want to see happen in model training in order to produce more inclusive large language models. Some participants shared installation requirements – especially those who needed to use systems in the absence of internet access.

> *"I'd like to see transparency about which materials AI was trained on, including information about input format and its characteristics (e.g., for audio input: accents, gender, age), knowledge sources (e.g., which dictionaries, parallel texts), volume of sources (e.g., 100,000 or 100), parity between languages offered (e.g., what are differences in training for English and Spanish versus Kurdish, Mixteco, Nepali, and Pashto). However, if the above information provided by an AI vendor confirms limitations, then AI would not be suitable for more scenarios."* [Association representative, not much AI experience, unsure about quality of results]

> *"Automated interpreting has improved with speech-to-text for word-only (i.e., verbal) based information, but it's still very limited in recognizing the meaning of intonation and other types of non-verbal information. Technology still needs to evolve more to automate sign language-based information, which utilizes a greater percentage of non-verbal information, such as non-manual information on the face, shoulders, and pacing."* [Interpreter trainer in Georgia, moderate AI experience, finds results good]

> *"Technology is not always reliable, particularly in rural areas."* [Scheduler in Colorado, not much AI experience, finds results unacceptable]

> *"A lot of our local healthcare facilities do not have sufficient technological resources to offer automated interpreting. Therefore, for us, AI needs to progress substantially before we would be able to trust and use it."* [LSP in South Africa, not much AI experience, finds results poor]

> *"Have a screen that shows in my language what is being relayed to the patient in their language. The screen can also read what is being said by the patient while the machine is verbally translating. Both parties being able to hear and see what is being said on all counts would help with trust and ensuring accuracy."* [Frontline professional in Oregon, no AI experience]

- **Accuracy management.** In the previous section, we discussed accuracy in general. Here, we list specific features respondents want to see included in the platform to improve outcomes. First, they expect systems to be able to acknowledge when they didn't hear well enough or when they aren't confident enough in the output so end-users can repeat or rephrase, core aspects of what CSA Research has termed "responsible machine translation" when applied to written text ("Responsive Machine Translation" © CSA Research). They even want systems to be able to learn on the spot from feedback or explanations provided by respondents. They also expect built-in escalation and grievance mechanisms that can lead to immediate mediation or assistance from a professional interpreter.

> *"We use interpreting in a municipal court setting. I'm not always sure if AI correctly understands what I say and will translate it appropriately. Is it trustworthy? It would be nice to be able to say something, then have the AI verify what you're trying to communicate, and then translate it over to the other language."* [Frontline professional in Kansas, not much AI experience, unsure about quality of results]

- **User experience.** On one end of the spectrum, some respondents want a more robotic voice so it's clear it's AI work, while at the other extreme, some want humanoid robots that look and sound human. Either way, they want disclosure that the interpretation is done by a machine. In terms of delivery experience, they also want easy-to-use systems that don't require multiple clicks or wait times.

> *"I expect full blown intelligence – human level – of AI. In short, artificial intelligence with cognitive, semantic, syntactic abilities of a human college graduate with street smarts."* [Interpreter in Pennsylvania, no AI experience]

> *"Maybe if the AI looks like a human or an android, people could relate to it a little better because of its look."* [Interpreter in Georgia, no AI experience]

Table 18: Feature and Technology Expectations That Would Increase Trust in AI

Category	Examples Cited by Respondents
System Core	
Data privacy and security	• 100% privacy/anonymity • Enclosed securely in a specific area/facility/institution • Ownership of new training content by facility, not by technology vendor
Model training	• Ability to learn new information on the spot • Collection from diverse population, including users who are BIPOC, LGBTQIA+, multi-disability • Incorporation of ethics standards from interpreter associations (CCHI, CHIA, IMIA, etc.) • Training on languages of lower diffusion • Ongoing updates
Customization	• Engines trained for the need of departments • Capacity to improve performance based on client-specific data
Infrastructure	• Explanation of hardware needed • Ability to run without the internet
Software	• Low latency (including when no internet access) • Ability to handle environmental noise / optimize for different acoustic scenarios • Stronger accuracy of automated speech recognition • Better ability to read body movement and facial expressions (for sign language)
Client service	• Strong and fast customer support • App localization
Accuracy Management	
Clarifications	• Automatically ask participants to repeat when the system "didn't hear well" or when the screen was frozen (for sign language) • Automatically escalate to a human when the estimated quality confidence score is low • Ability for system to suggest multiple word options when a word has different meanings
Escalation mechanism	• Choice to talk to a human • Be able to redirect to a human being if needed or asked

	• Retaining a pipeline of people ready to serve for as a backup
Learning mindset	• Ability to detect its own limitations (uncertainties) or errors • Ability to correct itself based on on-the-spot feedback
Issue resolution	• Grievance mechanism to report complaints • Live mediation • Ability to change the output based on feedback (but also retain original version)
User Experience	
Delivery	• Less boring voice: improvements in the delivery (intonation, inflection, and warmth) • Right tone and cadence • Ability to make voice sound more robotic in order not to mislead users into thinking it's a human
Disclosure	• Disclaimer the interpreting is done via AI
Human feel	• AI singularity • Be more human like • Having a soul • Android look to better relate to it
Usability	• Ease of use (such as menus to access the service) • Not having to repeat oneself multiple times

Source: CSA Research

Implementation Requirements

> *"I expect to see the refinement of models, external parties (government) 'certify' training models, and government audits to verify organizations follow privacy regulations."* [Technology vendor, moderate AI experience, finds results poor]

An entire category of suggestions to increase trust focus on how AI systems are implemented, not just by the technology vendors but by the market as a whole, particularly in the context of government regulations (Table 19).

- **External validation.** Respondents expect not only compliance with existing regulations but also with future mandates that clearly outline when and how to use automated interpreting. To achieve this, they want independent third parties to test, certify, and audit results.

> *"We need clear guidelines on ethical use, procedures for quality control and involvement of trained human professionals, evaluation of feedback from end-users, and a grievance mechanism to report complaints"* [Interpreter trainer in Texas, not much AI experience, finds results poor]

> *"Laws should protect us from dangerous scenarios using this technology because we do not fully understand how it reasons. Laws should protect us from too few people making vast decisions that will massively change an infinite number of scenarios and infinite number of possibilities."* [Interpreter in Missouri, moderate AI experience, finds results unacceptable]

- **Resolution of ethical issues.** These are the toughest to resolve. What guarantees are technology vendors willing to make? Who will be liable when an issue occurs? How much transparency should there be about the training data, error rates, and overall limitations? Respondents also fear wrongdoing from parties deliberately changing output, so they expect independence from corporate and political interests.

> *"From a facility's perspective (e.g., hospital): I want to see info about the hardware specifications and cost needed to run the AI solution successfully, about training medical providers to use the tool correctly, guarantee of privacy, guarantee that*

> *the AI solution that is further trained on the facility's sources (interactions) belongs to the facility and not to the vendor. I expect control of the AI solution belongs to the corporate purchaser, yet the initial development should meet some nationally/centrally defined parameters developed with the help of qualified professional interpreters." [Association representative, not much AI experience, unsure about quality of results]*

- **Financial element.** Respondents overall felt that machine interpreting should be given to the world for free as a service to humanity. But let's remember that the great majority of respondents were language professionals, some of whom clearly stated that if users can see the (poor) results of machine interpretation, it will allow them to charge higher rates for their own services. Comments also included wanting to receive financial compensation from interpreting sessions that are used to train engines. In addition, we observed a desire for financial penalties for end-users who leverage AI outside of government-approved use cases.

  > *"Penalties for misuse: If AI was illegal to use in certain scenarios, such as patient encounters (initial intakes, education, discharge instructions), school interactions (parent meetings, individualized education plans, juvenile treatment programs), law enforcement contact (routine traffic stops, jail booking process), you could track illegal use via IP address, then follow through and apply a penalty to motivate good behavior. [Interpreter in Arizona, no AI experience]*

- **Roll-out plan.** The last element is more of a desire for a broad understanding of the implementation plans of automated solutions in the market – not at a tech vendor level, but at an industry level. Clear maps would provide reassurance to those who fear that AI discussions mean that organizations are considering automated options for high-risk sessions. They also want to observe and benefit from what others have already achieved to learn from it.

  > *"A nearby city recently implemented an AI service center, and a startup with an AI CEO was in the news today, so I'll be watching how well things got with these trailblazing efforts as we are developing our own employee trainings for AI use."* [Scheduler in California, no AI experience]

Table 19: Human-Related Expectations That Would Increase Trust in AI

Category	Examples Cited by Respondents
External Validation	
Regulations	• State and federal guidance on when and how to use AI • Compliance with regulations such as HIPAA and Family Educational Rights and Privacy Act (FERPA) • Regulation of corporations behind AI with clear sanctions for misuse and abuse • Regulations about personal information being destroyed after sessions
Third-party certification or validation	• Privacy checks through government audits • Training models certified by a third party • Third-party validation of accuracy (comparing human versus machine) • Controlled, randomized, double-blind studies • Alpha and beta testing with a long testing and validation process, similar to certification exams • AI passes interpreting certification exam on the first try • Analysis against control groups • Review of bias, racism, and discrimination • Regularly tested and vetted by a third party
Resolution of Ethical Issues	
Accountability	• Someone to take liability • Information on how the malpractice insurance industry will address the issue
Guarantees	• Assurance of minimal risks • Assurance it will not say things that could harm the client • Proof of bicultural awareness • Proof of ability to read body language
Impartiality	• Independence from corporate and political interests
Transparency	• Transparency on source of training data • Acknowledgement of limitations • Transparency on weak points (such as error examples) to be able to focus review efforts • Transparency on confidentiality limitations • Disclaimer of error rates by language and service recipient demographic characteristics
Financial Element	
Cost	• Return on investment analysis of cost to run (including training on correct use) • Totally free • Low cost versus other interpreting options • Affordability for those without access to technology or internet
Financial incentives/penalties	• Royalties for contributing to training engines • Penalties for use in unsuitable scenarios

Implementation Plan	
Roll-out plan	• Introduction through low-impact and low-stakes situations • See it used socially first • Make limitations abundantly clear • Policies about appropriate use

Source: CSA Research

Integrating the Human Element

> *"If I use AI for about 10 times and I notice that it is accurate, I would continue using it. "[Interpreter in Australia, no AI experience]*

The final group of comments about building trust dealt with individuals. In this study, only 11% of respondents had a chance to experiment with automated options (Figure 2). What they want are free trials, training on how to use it, and demos not just on preplanned content but in life-like scenarios. They want to form their own opinions about AI. It's important for many that solutions are accepted by the interpreter and end-user community before talking about mass usage. Multiple respondents also commented on a desire to be included in tech vendor and LSP development plans – they wish to help train, test, and set guidelines (Table 20).

> *"It would require audience openness to the use of AI and their readiness to do active listening/interpretation on their own (as opposed to this job being done by interpreters, often unsuccessfully)." [Technology vendor, extensive AI experience, finds results good]*

> *"Trust would come if the AI had complete mastery of an Indigenous language, such as Diné, with the approval of the tribe leaders." [Interpreter in Arizona, no AI experience]*

> *"I'd want to prove it's correct by taking a trial run with someone close by who actually speaks the language I need translated. That way, I can be surer that it hears me and is communicating what I really said, rather than just making stuff up." [Frontline professional in Kansas, not much AI experience, unsure about quality of results]*

Table 20: Examples That Would Increase Trust in AI

Category	Examples Cited by Respondents
Acceptance	• Support from the interpreter community • Consensus to use from the Deaf community • Approval by tribal leaders (for Indigenous languages) • Demand for automated solutions from service recipients
Experience	• Demos with tough unprepared content • Hands-on experience (through free trial periods)
Involvement	• Language professionals and end-users involved in training, implementation, and guideline development • Human expert vetting • Input from end-users
Training	• Understanding of how language models work • Training of staff who will use it

Source: CSA Research

Chapter 15
Conclusions

> *"If there are better, higher-quality, quicker, and cheaper outcomes with an AI, we would be foolish to not embrace it and to just be pedantic because we are human, and it is a machine."* [Interpreter in Nebraska, no AI experience]

This chapter synthesizes takeaways from this report. However, for the full details, revisit different chapters.

The Respondent Profile Led to an Emphasis on Negative Points

> *"I would like to know if developers of such technology have ever given any thought to how it would affect human workers, after being directly affected and displaced by automated translation. I would strongly discourage anyone from considering interpreting and translation as a career in the future because of this sort of technology."* [Interpreter in Georgia, no AI experience]

Two-thirds of respondents (67%) were interpreters (Figure 2) and more than three-quarters of interpreters (77%) worked in health care (Figure 7). This means that the results of this study are highly representative of the perceptions of interpreters – particularly those working in the medical field. This is a high-risk sector where mistakes are not as forgiven as in other domains. As a result, language professionals had an intense negative reaction to the thought of using AI.

The problem with this huge number of responses from interpreters working in high-risk areas is that this view does not represent the market as a whole. The number of end-users was too low to capture enough nuances on when service recipients and frontline professionals find some benefits – especially as 43% of frontline professionals also worked in the medical field themselves (Figure 7).

The other challenge with the sample of respondents that we reached is that only 11% had extensive to moderate experience with AI (Figure 2). This means that the vast majority of survey takers judged automated interpreting's capabilities without

experiencing for themselves the caliber of the output from the latest technologies. In many cases, those who had hands-on experience had more positive answers than those who didn't. Average results in the figures tend to represent the mindset of respondents while hands-on experience results provide a more realistic perspective of technology capabilities.

> **Note:** *Follow-up usability studies should target end-users in different settings and capture more responses from people who have had exposure to the technology, even providing access to the automated solutions as part of the study.*

The Technology Is Not Perfect

> *"AI still has a long way to go before it can be used widely." [Interpreter in Georgia, no AI experience]*

While no technology vendors have claimed perfection in their systems, that characteristic is what many of our respondents expect from AI interpreting. As a result, current outputs fall short of expectations. Yet, these expectations may not be in line with the goals of technology vendors who primarily focus on low-impact language and communication access where the alternative to automated interpreting is no interpreting when it is not economically or practically viable to supply human interpreting.

Respondents tended to conflate the question of automated solutions with a black-and-white situation – either all human or all automated interpreting, failing to see the shades of grey in between. And since the technology doesn't meet their ideal of quality, many wanted nothing to do with AI. However, those who could see shades of grey tended to lean toward the opinion that in high-risk situations, automated interpreting should not even be a consideration and that AI should instead be used to help interpreters working in these complex scenarios. But, in some low-risk encounters, automation could play a role.

> *"At this point in time, high-stakes situations require a human interpreter. However, AI tools can help that person do a better job." [Interpreter in Colorado, no AI experience]*

> *"I can't see relying on machines completely." [Interpreter in Indiana, not much AI experience, finds results poor]*

Another crucial element of the state of technology is not to confuse signed language and spoken language deployments. The current automated options for ASL pale in comparison to what is available in spoken Spanish or French. At best, text-to-sign technology is ready for some pre-planned one-way communication scenarios, such as announcements or website explanations.

> *"To replace an entire industry with AI technology in its infancy is jumping on a bandwagon. AI software needs to first include a sign dictionary that captures scenarios with ASL, PSE (pidgin signed English), and MCE (manually coded English) as well as sign variations based on region, race / ethnicity, gender, age, and foreign sign languages." [Signed language interpreter in Nevada, not much AI experience, finds results poor]*

> *"For one-way communications from English to ASL, integrating AI is totally possible. Example: Content that is prepared ahead of time and the AI translation has been reviewed and verified to be accurate. However, utilizing AI for ASL to English could never be suitable because there is too much variance in signing styles from Deaf consumers." [Signed language interpreter in South Carolina, no AI experience]*

The Challenge Is to Define Suitable Scenarios

> *"I want language providers to have the power to decide whether to use it as a supplement in their work instead of corporations forcing its use to try to save a few dollars without caring for how accurate it is or respecting people's right to have access to a human interpreter." [Interpreter in Canada, no AI experience]*

Once we get past respondents who out of principle have no interest in seeing AI deployed, we begin to see a consensus that AI can be suitable for low-risk, simple conversations. The big issues are outlining the defining characteristics of such interactions and tracking these characteristics ahead of the session to decide which interpreting method to apply. AI is not suited in its current form for most use cases in

high-risk environments like health care and legal – yet those are some of the biggest language and communication access spend areas.

Figure 78 and Figure 79 show a word cloud of common descriptors that respondents used to refer to scenarios where AI could be suitable versus those where it should not be used.

Figure 78: Respondents' Perspective: Interactions Where Automated Interpreting May Be Suitable

Respondents' Perspectives: Interactions Where Automated Interpreting May Be Suitable

General purpose Initial contacts Notifications
Tax information **One-way communication**
Repetitive information Ordering at a restaurant
Travel Grocery store checkout **Non-critical** Billing
Reminders **Non-essential** Logistics Basic direction
Black and white scenarios City hall access
Train station announcement Airport announcement **Routine**
Hotel check in **Simple** Fun situations Municipal meetings
Couldn't find human Public events **Low consequence**
Training videos Simple questions about a business
General info not under NDA

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Figure 79: Respondents' Perspective: Interactions Where Automated Interpreting Is Not Suitable

Respondents' Perspectives: Interactions Where Automated Interpreting Is Not Suitable

Uncertainty · Bad news · Two-way communication · Social service · Distress · Legal · Intellectual disturbance · Affects finances · Medical · High nuance · Hospice · Fear · Psychiatry · Duress · Anxiety · Mental health · Affects health · Life and death situation · Court · Emotional disturbance · Socially complicated situation · Therapy · Oncology · Pain · Affects liberty · Health care · Market research · Terminal condition · Traumatic situation

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> *"Medical staff tried to use AI when they needed urgent service but had no success since the patient's speech was unintelligible. But in another case – when the patient was inside the CT scan machine and no human can be present, the machine gave clear instructions during the procedure in the patient's native language."* [Interpreter in Oregon, no AI experience]

> *"Automated interpreting would remain inappropriate in all situations where people experience duress, distress, anxiety, uncertainty, fear, pain, confusion, emotional or intellectual disturbance. There is a need to listen, convey the appropriate message, and allow for challenges only a fellow human being could understand and transfer."* [Interpreter in Australia, no AI experience]

In terms of implementation, the challenge is also that even the simplest interaction at the onset can quickly escalate to a more complex one: Mechanisms need to be in place to bring a human professional into the equation quickly. End-users must be able to trigger an escalation process without negative repercussions to their case. And

interpreters must arrive ready for the session with context information and terminology at the ready.

Even within a use case definition, not all interactions will be served equally well by AI. The negative portions of graphics (the "red bars") indicate far too many situations even without a use case where AI is not deemed suitable. Organizations that choose to deploy AI for a use case need to plan criteria defining the exact situation where AI can be used, alternative interpreting options when AI isn't suitable, escalation methods to a human when the scope of the planned interaction changes midstream, and language combinations where AI use is allowed.

> *Note: A use case definition should not just be a domain or a conversation type. Many factors come into play and if any one of them triggers a flag, then recourse to humans will always be preferred.*

> > *"As the technology seems to be evolving rapidly, it has to be approached with care, and each encounter will have to be evaluated accordingly." [Interpreter in California, no AI experience]*

CSA Research recommends that standards, associations, and government bodies developing guidelines work directly with technology vendors to identify and document reasonable use cases. At times, technology vendors have been painted as the enemy, yet they have themselves conducted studies on their own products and can provide guidelines on when they would not recommend using them.

> *Note: The challenge with guidelines is also that they assume all technology platforms achieve the same level of accuracy, security, privacy, bandwidth, and usability – which is clearly not the case. Beyond just guidelines, what is necessary sooner rather than later are performance standards for technology vendors, so those who abide by the best practices are not put in the same bucket as those who don't.*

> > *"I am not afraid of automation that can increase efficiency, patient autonomy, and speed to services. However, I am deeply concerned at its overuse and misuse due to the lack of understanding about what effective communication really entails. [LSP in Florida, moderate AI experience, finds spoken language results poor and signed language results unacceptable]*

> *"AI is just the new hype to scramble up some investor money in Silicon Valley. It's been around for ages, but now someone managed to sell it in some new areas, and suddenly boom – Everybody thinks that God is in the machine. A bit like a cult really. It is amazing when it comes to analyzing big chunks of data very quickly, but that is just what it does. It is useless at actually making informed deductions based on actual knowledge. It's all a matter of pushing enough information of a certain kind, in order to make the baseline either good or corrupt. I see no way that a machine will ever know the difference without human interaction and the bias that follows on that."* [Interpreter in Sweden, no AI experience]

Prioritize Guidelines Definition

> *"I worry about AI being applied everywhere without regard to outcome for the people involved in the interaction."* [Signed language interpreter in New York, no AI experience]

In the absence of government guidelines, organizations using interpreting services and technologies can make their own implementation decisions – good or bad. Respondents across the range of roles fear that commercial, government, and non-profit organizations will make the wrong call because they view the technology only as a cost-cutting technology. And as a result, end-users would pay the price through health issues, negative financial impact, or loss of freedom.

It is essential to put guidelines in place. The question is how fast. On the one hand, some respondents fear that things are moving too quickly, and that lack of data makes it premature to establish guidelines. On the other hand, since some organizations are already working with AI, it is urgent to put safeguards in place so that vulnerable populations are not negatively affected by decisions.

> *"We are moving too fast with the use of AI."* [Interpreter in Illinois, not much AI experience, unsure about quality of results]

> *"There are problems with human interpreters that are massive, but there will also be problems with large language models and AI interpreters. The reality is that we*

> *can democratize access, outcomes, and opportunities with this technology. We can put safeguards. But moving too slowly because of risks is a risk in and of itself because in the meantime people get left behind, experience longer wait times, worse outcomes, and lack access to justice. This isn't to be taken lightly. We need to protect those who exist now, and not try to perfect for whomever may exist at a later time in history."* [Interpreter in Nebraska, no AI experience]

What must happen falls more between the two – frameworks for testing and implementation should be put in place immediately, but criteria for what makes an interaction suitable for AI should be revisited every few months, especially as technology output improves fast.

> *"A machine cannot equal the ability of a human being. Safeguards, laws, and testing need to be put in place before considering the use of AI."* [Interpreter in Virginia, no AI experience]

> *"AI can be a great tool, however a lot more research and regulations are needed before AI is implemented on a wider scale. Even then, a lot of interpretations must remain human to human for ethics, confidentiality, and quality."* [Interpreter in Florida, not much AI experience, unsure about quality of results for both spoken and signed language]

> *"I feel that the speed with which AI is incorporated into our health care and other areas will, unfortunately, be highly influenced by big corporations going after another money grab. There will be unintended consequences because regulation never seems to catch up to technology. We see it all the time. And what about hackers? It's a constant fight. AI is fascinating tech, but it's not the holy grail."* [Signed language interpreter in Tennessee, no AI experience]

> *"It is imperative that trained interpreters are involved in quality assurance and safeguard development of the AI used to generate interpretations in any field or scenario."* [Interpreter in Texas, not much AI experience, unsure about quality of results]

Address the Role of Interpreters

> *"American Sign Language interpreting moved away from the conduit model of interpreting decades ago and to return to it seems a disservice to the Deaf community."* [Signed language interpreter in Texas, no AI experience]

The traditional view of interpreting revolved around the concept of linguistic conduit, whereby interpreters act as neutral parties who convey messages from one language to another without adding, omitting, or altering the content. This is what automated interpreting also strives to accomplish.

However, the interpreters' role has evolved over time to be more than translators of spoken or signed words. In this "active" model, the interpreter:

- **Plays a more involved role in the communication process.** This can include clarifying meanings, ensuring cultural appropriateness, and sometimes even mediating the conversation.

- **Takes responsibility to ensure successful communication.** The interpreter works to verify that the message is understood correctly by both parties, potentially adapting language, tone, or cultural references to fit the context.

This approach recognizes the interpreter as an active participant in the communication process, acknowledging that their presence and decisions can influence the outcome of the interaction. AI is nowhere close to capable of reaching this level of proficiency.

Expecting that not too long from now automated spoken language interpreting will achieve the same skills as necessary for conduit interpreting for some languages in unambiguous, culturally neutral situations is realistic. However, the market has adopted and is accustomed to active interpreting. Organizations and end-users have to flesh out their needs and preferences. And if they chose automated interpreting, how will organizations address the elements that are lost when you lose the active interpreter participation?

> *"How can I continue to be of service as a healthcare interpreter?"* [Interpreter in California, no AI experience]

Resolve Existing Issues with Human Interpreters

> *"Machine interpreters will be a huge leap for the medical field. As it is now, in-person interpreters are great but hard to get access to, and phone interpreters lack accuracy. Many healthcare providers and patients choose not to use an interpreter because of past bad experiences. If machine interpreters are accurate and readily available, I believe it will improve the quality of care for low English proficiency patients in the U.S. significantly."* [Frontline professional in Wisconsin, no AI experience]

With the large number of negative comments on automated interpreting, it may feel like the technology is not ready for most use cases and maybe even that it has no use. But for some, it's a refreshing alternative when they were not satisfied with the existing options, especially when they deal with unqualified interpreters. This is an area where procurers, language services companies, and interpreters may not see or be aware that not everyone is happy with their services or with the effort involved in securing accurate human interpretation. This points to unresolved qualification, ethics, and scheduling issues that language professionals should focus on addressing.

The Existential Crisis

> *"If automated interpreting is not taking jobs away, I have no problem with it."* [Interpreter in Kenya, no AI experience]

We started the report by describing the context for the research, and the existential angst from fear of losing jobs was a primary driver for the study. A lot of the negative perspectives from respondents in this report aren't tied to technology capability – especially as so few tested it – but to how interpreters continue to make a living if the cost of conduit interpreting in their language becomes null or negligible.

Interpreter training programs should help rethink the role of interpreters and help them reskill for changing responsibilities – and show how AI can be used to augment human interpreting.

Don't Lose Sight of the Potential

> *"AI is a reality, and we have to learn how to adapt and use it for its benefits"*
> *[Interpreter in Nebraska, no AI experience]*

We'll wrap this section with some more positive quotes from respondents to remind readers about the potential of automated interpreting.

> *"As days pass and technology improves, people will increasingly use AI."*
> *[Interpreter in Rwanda, no AI experience]*

> *"It's an exciting area of development in language interpretations and move toward easily enabled multilingual communication. Carry on." [Frontline professional in Oregon, no AI experience]*

> *"I want to be part of the AI change." [Interpreter in Arkansas, no AI experience]*

Chapter 16
Recommendations

Perceptions on Automated Interpreting

> *"Like most new technologies, AI will be misused in the beginning until consumers learn when and how to use it."* [Interpreter in California, no AI experience]

AI is bringing great changes to many facets of the language industry, from transcription and machine translation to synthetic voice and auto-generated images. Although human interpreting may be preferable, the reality is that it is not always available when people need it. Automated technologies can make a real difference in helping individuals participate fully in society and take advantage of opportunities that they might not otherwise have access to.

Based on our analysis of 2,543 responses to a large-scale study on automated interpreting, CSA Research formulated the following recommendations for the Interpreting SAFE-AI Task Force, requestors, service providers, and technology vendors.

For The Interpreting SAFE-AI Task Force

- **Don't let the stakeholder group's perspective skew the analysis.** The mission of the Task Force is not to decide "whether" to use AI but provide guidance on "when" and "how" to use it. For example, interpreters who fear for their job may not be the best judges of what is best for end-users. Various stakeholder groups will be affected in their own way – each valid and essential to include in the next-step analysis.

- **Continue the research with deeper scenario-based analysis.** Establishing guidelines will require examining accuracy and risks as well as technological capabilities. Follow-up studies must capture the end-user perspective. This does not have to be through a survey. It can be through focus groups or by rating of interpreting examples from different sources. Failure to capture end-user perspectives will lead to linguicism – discrimination based on language.

> *"Focus groups with the primary users of this technology (the Deaf and Hard-of-Hearing community for example) need to happen. Those focus groups must have a diverse population from diverse areas and cultural backgrounds for the data to be beneficial."* [Signed language interpreter in Canada, not much signed language AI experience]

- **Conduct follow-up research on exclusion areas.** Signed language will benefit from a separate study, as will AI transcription, AI captioning, and AI subtitling processes.

- **Account for lack of end-user feedback.** Absence of data is telling in its own way. The fact that few end-users participated in the current research is not just a recruitment issue. Lack of knowledge or interest in the topic means that the language industry must guide the decision-making process when it comes to guidelines while finding ways to uncover and integrate more end-user feedback.

- **Replicate the same study at periodic intervals.** Technology is evolving fast, and perceptions will evolve as more stakeholders gain experience. Areas where AI currently presents more risks than benefits will change, thereby requiring a regular update of recommendations. Asking the same set of questions one or two years after this original study will enable a point of comparison to assess evolution in acceptance.

- **Investigate which conversations meet what criteria.** Table 7 and Table 8 listed some of the elements that can negatively affect the quality of the interpretation, while "Decision Criteria on When to Use AI" relays criteria to consider. Analyze actual conversations to determine what percentage of time they are at an AI-optimal level versus the percentage of time they veer into more challenging territory.

- **Compare results by system and language.** Different AI tools deliver different levels of quality. Even within one tool, different language combinations – or topics – will trigger different quality scores.

- **Educate the market.** Provide training and guidance to the language access ecosystem on "how the automated interpreting magic happens" to contribute to better ability for informed decisions.

For Requestors

- **Assess use cases wisely.** Don't buy into all hype without understanding the consequences. In many cases, recipients of interpreting services are vulnerable audiences that will lack the ability to advocate for better services. This survey confirms the difficulty of reaching them to document their opinions, often due to the fear that doing so will affect them negatively. However, you have to do what is right by them, even if they can't or won't voice their perspectives.

> *"Very often for the Limited English Proficient (LEP) an interpreter is their ears and mouth in an extremely vulnerable moment. To replace that human connection with their human interpreter is unjust, knowing that cultural nuances, visual cues, and knowledge of different regional accents and mannerisms cannot be translated and rendered accurately by a machine. Reliance on machines to save a buck or two is unjust and borderline illegal according to Title IX of the Civil Rights Act."* [Interpreter in Georgia, no AI experience]

- **Delineate acceptable use case scenarios.** Automated interpreting is not an all or nothing scenario. The data indicates valid use cases exist. Assess what those are for your organization versus those that should never be handled by automation and those in the middle that depend on specific scenarios.

- **Start with conferencing platforms.** Inquire about built-in capabilities or available integrations. Test specialized tools, which can offer a great way to add multilingual capability to meetings to boost comprehension when participants possess only an imperfect knowledge of the presentation language.

- **Remove the stigma.** Most organizations frown upon the idea of using machines yet already experience them in everyday conversations. For example, when you call a bank or utility company, you probably start with a bot that triages the request and escalates the conversation to a human call agent only when it reaches the limits of its capabilities. There is no longer a need for a human to confirm your credit card balance. Likewise, there is no need for a human interpreter when a nurse checks a patient's temperature or if an airline attendant processes a basic flight rebooking.

- **Plan for escalation.** Many of the risks from automated interpreting can be mitigated if you create a clear path to bring in human interpreters when needed. Design this capability from the beginning and monitor how people use it. Avoid people getting stuck with inadequate machine services and no way to access help.

- **Brainstorm new use cases.** As with machine translation, which does not replace human translation, the alternative to machine interpreting is seldom human interpreting but rather no interpreting. It is thus useful to fill gaps in language and communication access that would otherwise be unmet. Accordingly, don't try to insert automated solutions into scenarios where you already use language services for now – you are likely to be disappointed by machine interpreting's performance. Instead, inspect where you don't offer language and communication access and where automation could help triage requests, provide support in understanding, or deliver basic answers.

- **Collect and analyze requirements.** What type of session needs interpreting: live, on-demand, pre-recorded? How frequently? In which languages? Do you expect conduit or active interpreting? Do you have budget limitations? Do you understand the demographics of the end-users?

- **Learn how to select and vet a solution.** Business options are limited today, but due diligence is still required to assess system capabilities. Accuracy and use case applicability vary greatly across solutions. Engage tech-savvy staff to review specifications and validate AI vendor claims, along with people with the right experience in target languages and subject domains to test accuracy for scenarios that replicate your use cases.

- **Pay attention to the terms.** Confirm that prospective tools abide by data privacy standards. Ideally, they should store no more than a few seconds of a conversation and enable offline interpreting to ensure that data isn't used to enhance engine performance.

- **Focus on suitable use cases.** Don't waste resources on applying automated interpreting to areas that it simply can't handle. For example, many people hope for relief through automation to better support with languages of limited diffusion. However, the lack of appropriate training data makes it one of the worst use cases

for the foreseeable future. Instead, focus on one-way communications and templated basic conversations.

For LSPs and Interpreters

- **Add extra value.** AI can only provide value equivalent to interpreting words. Make your clients aware of how frequently you do more than "just" interpret words. Your cultural advisor skills will be what sets you apart from AI output.

- **Gain first-hand experience with the tools.** Only 9% of interpreters extensively or moderately tested AI interpreting. Know your competition. You are no longer just competing against bilingual non-professionals and remote interpreters. You need first-hand experience to ground your differentiation in facts. And when testing tools, put your own bias aside. Don't look at it from the fear of losing your job but for what it can do for the constituencies you serve. Many responses in the survey showed angst without concrete knowledge of the tools.

- **Experiment with AI to augment your interpreting.** AI does not need to just be about replacing human interpreters. It has the capabilities of giving extra input to professionals when using in a computer-aided interpreting (CAI) solution. It can help mine reference documents for terminology to prepare ahead of a session and display source and targets on screen when they are brought up in the conversation – making the recall of new terms easier. It is also helpful to display on screen numbers or people, company, or product names to reduce the recollection burden.

- **Work with technology vendors to reduce the cognitive load.** CAI solutions add yet another stream of information for interpreters' brains already busy capturing what was said, understanding it in the context of the session and the visual cues available, and rendering it in a different language. Collaboration between tech vendors and interpreters is essential to ensure CAI tools help and don't overload interpreters.

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For Technology Providers

- **Build CAI tools.** Integrate them to your telephone, video remote, and remote simultaneous platforms (OPI, VRI, and RSI, respectively). For escalation scenarios, produce a list of important terms already used in the conversation and present suggested translations to the interpreter who's coming cold into the conversation.

- **Improve accuracy, privacy, recognition of limits, etc.** It's okay to shoot for "conduit-level" accuracy first – but deliver on that well. Carefully examine the findings in the What It Would Take to Increase Trust in AI chapter as it provides many great pointers on what to work on next. Make sure you also focus on refining tools' "hearing" capabilities and testing them in real-world situations, such as those with background noise, low bandwidth, or poor lighting. Today, AI only deals well with good audio and well-built and well-enunciated sentences. A human will deal with imperfect audio or pronunciation better than artificial intelligence.

- **Consider offering different modes.** AI has a single mode. Humans can condense, correct, or simplify information on the fly because they understand what matters and can help the presenter get their message across. Create settings to address common issues – such as setting the AI machine to produce the target language at the eighth grade reading level regardless of the register of the source language to aid understanding.

- **Provide testing opportunities.** Too many people have never even experienced some of the more advanced products on the market. Exposure to the technology increases buy-in and reduces the stigma that technology vendors face when selling an automation solution.

- **Invest in and support controlled testing.** Engage third-party testing organizations to conduct independent side-by-side comparisons between human and machine interpretation outputs and between AI interpreting systems.

- **Share your testing data and be transparent.** The market is eager to see the performance of your systems by scenario or language or whatever else you track. Lack of data leads to mistrust. Be open about how you test your systems rather than just presenting numbers: Customers are naturally wary of uncontextualized

numbers and too-good-to-be-true claims. Exposing how you arrive at results can help allay suspicion.

- **State your goals publicly.** Many respondents fear that AI vendors are out there to replace humans. Help educate industry stakeholders on the targets you pursue and suitable use cases. Failure to spell this out will mean they think you're going after everything. The industry wants technology vendors to act responsibly.

- **Offer escalation paths.** When you call your bank or utility company, you usually start with an automated system. However, when you reach the limits of what the system can deliver, you can ask to talk to an operator. Likewise, when machine interpreting fails, enable easy escalation mechanisms so a professional can address miscommunication issues.

> *"I'm hungry for these conversations! It would be cool to see links to other organizations or groups who are thinking about how to use AI in language services." [Policy maker, no AI experience]*

Use Case Appendix

Be careful when reading graphics in this section. Because respondents could only pick five areas, the number of respondents is quite low for some (such as the military use cases) or by role (in particular policy makers and associations). Always pay attention to the number in parenthesis next to the audience to ensure you don't put undue emphasis on results that come from sometimes even a single individual.

- General Use Cases

- Business Use Cases

- Client Service Use Cases

- Conference and Tradeshow Use Cases

- Diplomacy and International Politics Use Cases

- Education Use Cases

- Emergency Services Use Cases

- Healthcare Use Cases

- Law Enforcement and Legal Use Cases

- Military and Intelligence Use Cases

- Social Services Use Cases

General Use Cases

Notifications

Figure 80: Suitability of Automated Interpreting for Notifications

How suitable is automated interpreting to provide language access for notifications or announcements (to report an outage, absence, or cancellation)?

	Totally suitable	Mostly suitable	Occasionally suitable	Never suitable	Unsure	Score
Average of audiences (1,819)	30	30	23	10	7	0.47
Hands-on experience with AI (202)	36	26	21	13	3	0.50
No such experience (1,617)	29	31	23	10	7	0.46
In the US (1,411)	30	31	22	10	7	0.50
Outside the US (408)	28	29	25	12	8	0.37
ALL REQUESTORS (131)	37	39	11	5	8	0.90
Procurement (41)	49	37	5		7	1.24
Schedulers (90)	31	40	14	7	8	0.74
ALL PROVIDERS (1,688)	29	30	24	11	7	0.43
Technology vendors (28)	50	32	7	4	7	1.18
Interpreters (1,359)	27	29	25	12	6	0.34
Interpreter trainers (51)	31	29	24	6	10	0.57
LSPs (208)	42	31	16	5	6	0.88
Professional associations (8)	13	25	25	38		-0.50
Policy makers (10)	20	50	10		20	0.80
Students & retirees (24)	42	25	13	4	17	0.88

Percentage of Respondents   More Open to AI

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Scheduling

Figure 81: Suitability of Automated Interpreting for Scheduling

How suitable is automated interpreting to provide language access when scheduling (to select, notify, or remind of a time, place, and necessary preparation)?

Audience	Totally suitable	Mostly suitable	Occasionally suitable	Never suitable	Unsure	Score
Average of audiences (1,819)	29	28	26	10	8	0.40
Hands-on experience with AI (202)	33	27	25	11	3	0.45
No such experience (1,617)	28	28	26	10	8	0.39
In the US (1,411)	29	28	26	10	7	0.40
Outside the US (408)	28	28	26	9	10	0.39
ALL REQUESTORS (131)	36	32	20	4	8	0.76
Procurement (41)	54	27	10		7	1.20
Schedulers (90)	28	34	24	4	9	0.57
ALL PROVIDERS (1,688)	28	27	26	10	8	0.37
Technology vendors (28)	43	36	11	4	7	1.04
Interpreters (1,359)	26	26	29	12	8	0.25
Interpreter trainers (51)	25	33	27	6	8	0.45
LSPs (208)	42	32	15	5	6	0.92
Professional associations (8)	13	38	38	13		0.00
Policy makers (10)	30	50			20	1.10
Students & retirees (24)	46	21	21	4	8	0.83

Percentage of Respondents — More Open to AI

Legend: ■ Totally suitable ■ Mostly suitable ■ Occasionally suitable ■ Never suitable ■ Unsure

Logistics Handling

Figure 82: Suitability of Automated Interpreting for Logistics Handling

How suitable is automated interpreting to provide language access for logistics (to explain how a session or conversation will take place)?

	Totally suitable	Mostly suitable	Occasionally suitable	Never suitable	Unsure	Score
Average of audiences (1,819)	15	22	30	23	10	-0.25
Hands-on experience with AI (202)	18	26	25	27	4	-0.16
No such experience (1,617)	14	21	31	22	11	-0.26
In the US (1,411)	14	22	30	24	10	-0.28
Outside the US (408)	17	22	33	18	10	-0.13
ALL REQUESTORS (131)	17	22	30	19	12	-0.12
Procurement (41)	24	29	20	15	12	0.29
Schedulers (90)	13	19	34	21	12	-0.31
ALL PROVIDERS (1,688)	15	22	30	23	10	-0.26
Technology vendors (28)	18	39	21	11	11	0.32
Interpreters (1,359)	13	21	31	25	10	-0.33
Interpreter trainers (51)	10	22	41	18	10	-0.35
LSPs (208)	21	26	27	15	11	0.09
Professional associations (8)	13	13	38	38		-0.75
Policy makers (10)	40	10	20	10	20	0.50
Students & retirees (24)	29	25	25	8	13	0.42

Percentage of Respondents

More Open to AI

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Business Use Cases

Employee Training

Figure 83: Suitability of Automated Interpreting for Employee Training

How suitable is automated interpreting to provide language access for employee training?

	Score
Average of audiences (553)	-0.95
Hands-on experience with AI (83)	-0.64
No such experience (470)	-1.01
In the US (353)	-1.02
Outside the US (200)	-0.85
ALL REQUESTORS (22)	-0.45
Procurement (6)	0.33
Schedulers (16)	-0.75
ALL PROVIDERS (531)	-0.98
Technology vendors (23)	0.61
Interpreters (412)	-1.17
Interpreter trainers (11)	-1.45
LSPs (76)	-0.38
Professional associations (1)	-1.00
Policy makers (2)	0.50
Students & retirees (6)	-0.67

Percentage of Respondents

More Open to AI

Legend: Totally suitable · Mostly suitable · Occasionally suitable · Never suitable · Unsure

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Motivational Training

Figure 84: Suitability of Automated Interpreting for Motivational Training

How suitable is automated interpreting to provide language access for motivational training?

	Score
Average of audiences (553)	-1.18
Hands-on experience with AI (83)	-0.99
No such experience (470)	-1.22
In the US (353)	-1.22
Outside the US (200)	-1.13
ALL REQUESTORS (22)	-1.00
Procurement (6)	-0.67
Schedulers (16)	-1.13
ALL PROVIDERS (531)	-1.19
Technology vendors (23)	0.17
Interpreters (412)	-1.31
Interpreter trainers (11)	-1.18
LSPs (76)	-1.00
Professional associations (1)	-2.00
Policy makers (2)	0.00
Students & retirees (6)	-0.83

Percentage of Respondents

More Open to AI

Legend: ■ Totally suitable ■ Mostly suitable ■ Occasionally suitable ■ Never suitable ■ Unsure

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Internal Meetings

Figure 85: Suitability of Automated Interpreting for Internal Meetings

How suitable is automated interpreting to provide language access for internal meetings?

Category	Totally suitable	Mostly suitable	Occasionally suitable	Never suitable	Unsure	Score
Average of audiences (553)	4	9	33	46	7	-1.08
Hands-on experience with AI (83)	8	19	31	40		-0.75
No such experience (470)	3	7	34	47	9	-1.13
In the US (353)	3	8	29	51	9	-1.17
Outside the US (200)	5	12	41	37	6	-0.92
ALL REQUESTORS (22)	14	14	41	23	9	-0.45
Procurement (6)	17	33	33	17		0.00
Schedulers (16)	13	6	44	25	13	-0.63
ALL PROVIDERS (531)	4	9	33	47	7	-1.10
Technology vendors (23)	22	35	22	17	4	0.22
Interpreters (412)		5	33	52	7	-1.28
Interpreter trainers (11)		9	45	36	9	-1.09
LSPs (76)	4	21	37	30	8	-0.68
Professional associations (1)		100				1.00
Policy makers (2)	50		50			0.50
Students & retirees (6)	17	17		33	33	-0.17

Percentage of Respondents

More Open to AI

Legend: ■ Totally suitable ■ Mostly suitable ■ Occasionally suitable ■ Never suitable ■ Unsure

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Client Meetings

Figure 86: Suitability of Automated Interpreting for Client Meetings

How suitable is automated interpreting to provide language access for client meetings?

Audience	Totally suitable	Mostly suitable	Occasionally suitable	Never suitable	Unsure	Score
Average of audiences (553)		6	21	65	6	-1.42
Hands-on experience with AI (83)	4	11	31	52		-1.17
No such experience (470)		5	19	68	7	-1.46
In the US (353)		4	19	68	7	-1.48
Outside the US (200)		10	24	61	5	-1.32
ALL REQUESTORS (22)		9	27	55	9	-1.27
Procurement (6)		17	67	17		-0.83
Schedulers (16)		6	13	69	13	-1.44
ALL PROVIDERS (531)		6	21	66	6	-1.43
Technology vendors (23)	4	43	26	22	4	-0.17
Interpreters (412)		3	19	70	6	-1.54
Interpreter trainers (11)			27	73		-1.73
LSPs (76)		13	28	54	5	-1.22
Professional associations (1)				100		-2.00
Policy makers (2)		50	50			0.00
Students & retirees (6)	17			67	17	-1.00

Percentage of Respondents

More Open to AI

Legend: Totally suitable · Mostly suitable · Occasionally suitable · Never suitable · Unsure

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Board Meetings

Figure 87: Suitability of Automated Interpreting for Board Meetings

How suitable is automated interpreting to provide language access for board meetings?

	Score
Average of audiences (553)	-1.42
Hands-on experience with AI (83)	-1.25
No such experience (470)	-1.45
In the US (353)	-1.49
Outside the US (200)	-1.31
ALL REQUESTORS (22)	-1.09
Procurement (6)	-0.33
Schedulers (16)	-1.38
ALL PROVIDERS (531)	-1.44
Technology vendors (23)	0.00
Interpreters (412)	-1.54
Interpreter trainers (11)	-1.91
LSPs (76)	-1.28
Professional associations (1)	-2.00
Policy makers (2)	-1.00
Students & retirees (6)	-1.00

Legend: ■ Totally suitable ■ Mostly suitable ■ Occasionally suitable ■ Never suitable ■ Unsure

More Open to AI

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Client Service Use Cases

Balance Inquiries

Figure 88: Suitability of Automated Interpreting for Balance Inquiries

How suitable is automated interpreting to provide language access for account balance inquiries?

	Totally suitable	Mostly suitable	Occasionally suitable	Never suitable	Unsure	Score
Average of audiences (493)	20	25	27	20	6	-0.02
Hands-on experience with AI (65)	28	23	34	14		0.17
No such experience (428)	19	26	26	21	7	-0.04
In the US (353)	22	24	28	18	8	0.04
Outside the US (140)	17	28	26	26	4	-0.15
ALL REQUESTORS (23)	13	30	39	13	4	-0.09
Procurement (6)	50		17	17	17	0.50
Schedulers (17)		41	47	12		-0.29
ALL PROVIDERS (470)	21	25	27	21	7	-0.01
Technology vendors (14)	43	36	7	7	7	1.00
Interpreters (378)	20	25	27	22	6	-0.08
Interpreter trainers (8)	25	38	38			0.50
LSPs (67)	21	24	28	16	10	0.04
Professional associations (0)						0.00
Policy makers (0)						0.00
Students & retirees (3)	67			33		0.67

Percentage of Respondents   More Open to AI

- Totally suitable
- Mostly suitable
- Occasionally suitable
- Never suitable
- Unsure

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Product or Service Detail Inquiries

Figure 89: Suitability of Automated Interpreting for Product or Service Detail Inquiries

How suitable is automated interpreting to provide language access for product or service detail inquiries?
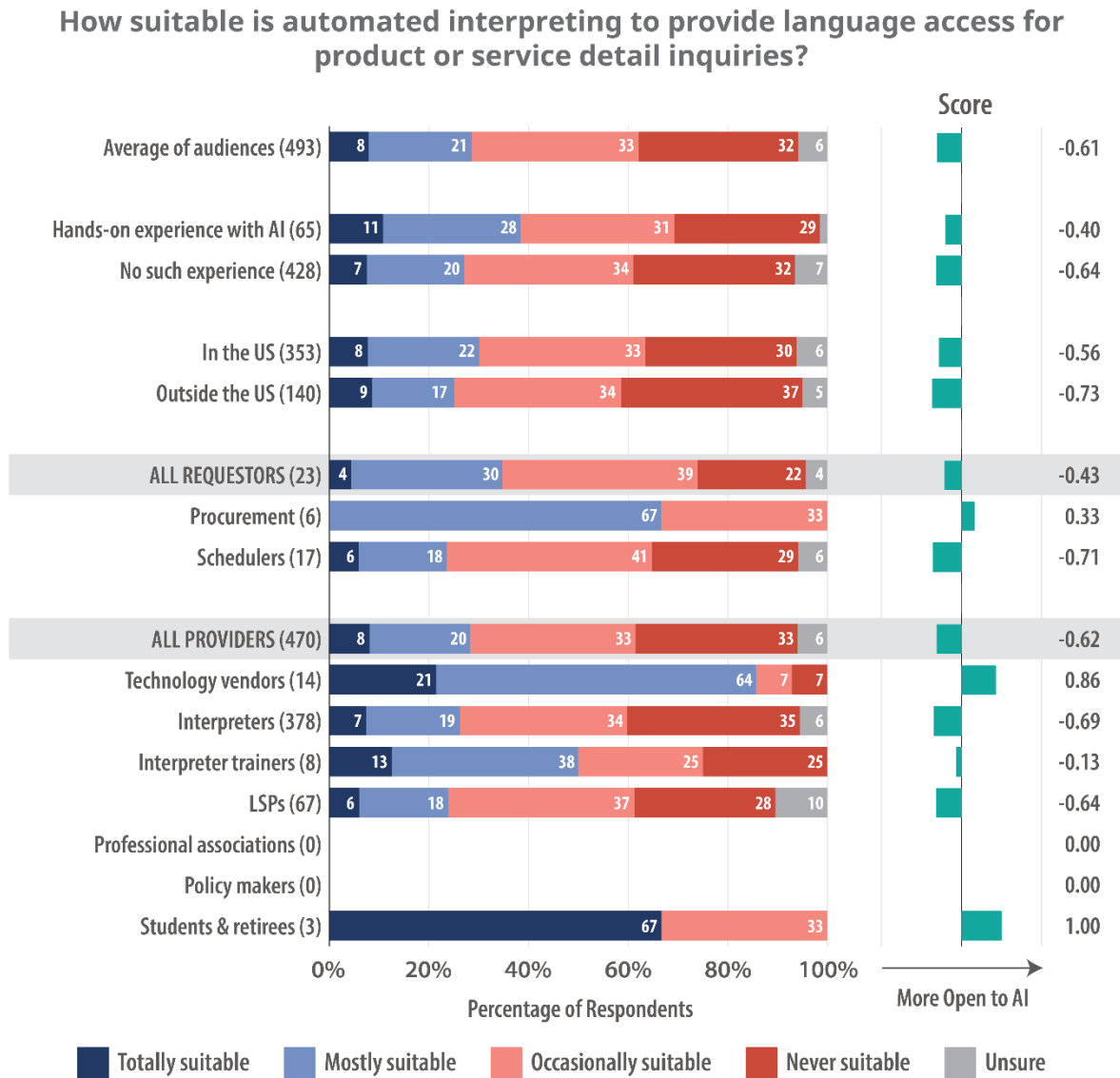
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Communications about Benefits and Rights

Figure 90: Suitability of Automated Interpreting to Communicate about Benefits and Rights

How suitable is automated interpreting to provide language access for communications about benefits and rights?

		Score
Average of audiences (493)	6 / 13 / 26 / 50 / 5	-1.01
Hands-on experience with AI (65)	11 / 23 / 26 / 37 / 3	-0.55
No such experience (428)	5 / 11 / 26 / 52 / 6	-1.08
In the US (353)	6 / 11 / 27 / 50 / 6	-1.05
Outside the US (140)	6 / 17 / 24 / 50 / 3	-0.95
ALL REQUESTORS (23)	17 / 30 / 52	-1.17
Procurement (6)	33 / 50 / 17	-0.50
Schedulers (17)	12 / 24 / 65	-1.41
ALL PROVIDERS (470)	6 / 13 / 26 / 50 / 6	-1.01
Technology vendors (14)	36 / 21 / 21 / 14 / 7	0.43
Interpreters (378)	5 / 12 / 25 / 53 / 5	-1.07
Interpreter trainers (8)	13 / 25 / 63	-1.38
LSPs (67)	4 / 12 / 34 / 40 / 9	-0.94
Professional associations (0)		0.00
Policy makers (0)		0.00
Students & retirees (3)	33 / 33 / 33	0.33

Percentage of Respondents — More Open to AI

Legend: ■ Totally suitable ■ Mostly suitable ■ Occasionally suitable ■ Never suitable ■ Unsure

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Troubleshooting Problems

Figure 91: Suitability of Automated Interpreting for Troubleshooting a Problem

How suitable is automated interpreting to provide language access for troubleshooting problems?

Audience	Totally suitable	Mostly suitable	Occasionally suitable	Never suitable	Unsure	Score
Average of audiences (493)	4	10	33	47	7	-1.08
Hands-on experience with AI (65)	5	17	37	40		-0.91
No such experience (428)	4	9	32	48	8	-1.11
In the US (353)	4	7	30	50	8	-1.15
Outside the US (140)	4	16	39	38	4	-0.91
ALL REQUESTORS (23)	9	13	30	48		-0.96
Procurement (6)	17		50	33		-0.83
Schedulers (17)	6	18	24	53		-1.00
ALL PROVIDERS (470)	4	10	33	47	7	-1.09
Technology vendors (14)		7	36	36	14	7	-0.14
Interpreters (378)	4	9	30	50	7	-1.15
Interpreter trainers (8)		13	50	38		-1.13
LSPs (67)	3	6	43	36	12	-1.03
Professional associations (0)						0.00
Policy makers (0)						0.00
Students & retirees (3)	33	33	33			0.67

Percentage of Respondents

More Open to AI

Legend: ■ Totally suitable ■ Mostly suitable ■ Occasionally suitable ■ Never suitable ■ Unsure

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Conference and Tradeshow Use Cases

Explanations of Event Logistics

Figure 92: Suitability of Automated Interpreting to Explain Event Logistics

How suitable is automated interpreting to provide language access for the explanation of event logistics?

Product Demonstrations

Figure 93: Suitability of Automated Interpreting for Product Demonstrations

How suitable is automated interpreting to provide language access for product demonstrations?

	Totally suitable	Mostly suitable	Occasionally suitable	Never suitable	Unsure	Score
Average of audiences (400)	10	22	36	27	6	-0.49
Hands-on experience with AI (67)	10	19	30	36	4	-0.61
No such experience (333)	9	23	37	25	6	-0.46
In the US (239)	10	17	39	27	7	-0.57
Outside the US (161)	9	30	30	27	5	-0.36
ALL REQUESTORS (14)	7	14	29	29	21	-0.57
Procurement (6)	17		17	50	17	-0.83
Schedulers (8)		25	38	13	25	-0.38
ALL PROVIDERS (386)	10	22	36	27	5	-0.48
Technology vendors (15)	40	47	7	7		1.07
Interpreters (301)	8	19	39	30	6	-0.64
Interpreter trainers (9)	11	22	67			-0.22
LSPs (57)	9	37	25	25	5	-0.19
Professional associations (0)						0.00
Policy makers (1)			100			-1.00
Students & retirees (3)	67				33	1.33

Percentage of Respondents

More Open to AI

Legend: ■ Totally suitable ■ Mostly suitable ■ Occasionally suitable ■ Never suitable ■ Unsure

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Presentations

Figure 94: Suitability of Automated Interpreting for Presentations

How suitable is automated interpreting to provide language access for presentations?

Category	Totally suitable	Mostly suitable	Occasionally suitable	Never suitable	Unsure	Score
Average of audiences (400)	5	7	26	56	6	-1.20
Hands-on experience with AI (67)	13	10	27	46	3	-0.82
No such experience (333)	4	7	26	58	6	-1.28
In the US (239)	4	4	24	62	6	-1.36
Outside the US (161)	7	12	29	47	5	-0.97
ALL REQUESTORS (14)	7	7	14	64	7	-1.21
Procurement (6)	17			67	17	-1.00
Schedulers (8)		13	25	63		-1.38
ALL PROVIDERS (386)	5	7	26	56	6	-1.20
Technology vendors (15)	47	27	20	7		0.87
Interpreters (301)		5	25	62	6	-1.40
Interpreter trainers (9)		22		78		-1.33
LSPs (57)	9	14	37	37	4	-0.79
Professional associations (0)						0.00
Policy makers (1)			100			-1.00
Students & retirees (3)	67				33	1.33

Percentage of Respondents

More Open to AI

Legend: ■ Totally suitable ■ Mostly suitable ■ Occasionally suitable ■ Never suitable ■ Unsure

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Networking Events

Figure 95: Suitability of Automated Interpreting for Networking Events

How suitable is automated interpreting to provide language access for networking events?

Score

	Score
Average of audiences (400)	-1.22
Hands-on experience with AI (67)	-1.10
No such experience (333)	-1.24
In the US (239)	-1.17
Outside the US (161)	-1.28
ALL REQUESTORS (14)	-0.93
Procurement (6)	-1.50
Schedulers (8)	-0.50
ALL PROVIDERS (386)	-1.23
Technology vendors (15)	0.07
Interpreters (301)	-1.33
Interpreter trainers (9)	-1.33
LSPs (57)	-1.09
Professional associations (0)	0.00
Policy makers (1)	-2.00
Students & retirees (3)	0.33

Percentage of Respondents

More Open to AI

Legend: ■ Totally suitable ■ Mostly suitable ■ Occasionally suitable ■ Never suitable ■ Unsure

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Keynote Speeches

Figure 96: Suitability of Automated Interpreting for Keynote Speeches

How suitable is automated interpreting to provide language access for keynote speeches?

	Totally suitable	Mostly suitable	Occasionally suitable	Never suitable	Unsure	Score
Average of audiences (400)	4	8	16	67	6	-1.32
Hands-on experience with AI (67)	13	7	25	51	3	-0.93
No such experience (333)		8	14	70	7	-1.40
In the US (239)	3	6	16	69	6	-1.42
Outside the US (161)		6	11	15	63	6	-1.17
ALL REQUESTORS (14)	7	7	7	64	14	-1.14
Procurement (6)	17			67	17	-1.00
Schedulers (8)		13	13	63	13	-1.25
ALL PROVIDERS (386)	4	8	16	67	6	-1.33
Technology vendors (15)	40	33	13	13		0.73
Interpreters (301)		5	14	73	6	-1.52
Interpreter trainers (9)		11	33	56		-1.33
LSPs (57)	5	14	25	51	5	-1.02
Professional associations (0)						0.00
Policy makers (1)			100			-1.00
Students & retirees (3)	67				33	1.33

Percentage of Respondents

More Open to AI

Legend: ■ Totally suitable ■ Mostly suitable ■ Occasionally suitable ■ Never suitable ■ Unsure

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Speaker Panels

Figure 97: Suitability of Automated Interpreting for Speaker Panels

How suitable is automated interpreting to provide language access for panels of speakers?

	Score
Average of audiences (400)	-1.51
Hands-on experience with AI (67)	-1.18
No such experience (333)	-1.58
In the US (239)	-1.58
Outside the US (161)	-1.41
ALL REQUESTORS (14)	-1.21
Procurement (6)	-1.33
Schedulers (8)	-1.13
ALL PROVIDERS (386)	-1.52
Technology vendors (15)	0.13
Interpreters (301)	-1.67
Interpreter trainers (9)	-1.33
LSPs (57)	-1.33
Professional associations (0)	0.00
Policy makers (1)	-1.00
Students & retirees (3)	0.67

Percentage of Respondents — More Open to AI

Legend: Totally suitable · Mostly suitable · Occasionally suitable · Never suitable · Unsure

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Diplomacy and International Politics Use Cases

Public Address Speeches

Figure 98: Suitability of Automated Interpreting for Public Address Speeches

How suitable is automated interpreting to provide language access for public address speeches?

Category	Totally suitable	Mostly suitable	Occasionally suitable	Never suitable	Unsure	Score
Average of audiences (135)	4	6	16	68	7	-1.39
Hands-on experience with AI (24)	17	17	17	50		-0.67
No such experience (111)	4		15	72	8	-1.54
In the US (56)		5	14	73	7	-1.55
Outside the US (79)	6	6	16	65	6	-1.27
ALL REQUESTORS (4)			50	25	25	-1.00
Procurement (1)			100			-1.00
Schedulers (3)			33	33	33	-1.00
ALL PROVIDERS (131)	4	6	15	69	6	-1.40
Technology vendors (7)	57	43				1.57
Interpreters (104)		4	13	77	7	-1.63
Interpreter trainers (3)			33	67		-1.67
LSPs (16)	6	6	25	56	6	-1.19
Professional associations (1)			100			-1.00
Policy makers (0)						0.00
Students & retirees (0)						0.00

Percentage of Respondents

More Open to AI

■ Totally suitable ■ Mostly suitable ■ Occasionally suitable ■ Never suitable ■ Unsure

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Working Group Discussions

Figure 99: Suitability of Automated Interpreting for Working Group Discussions

How suitable is automated interpreting to provide language access for working group discussions?
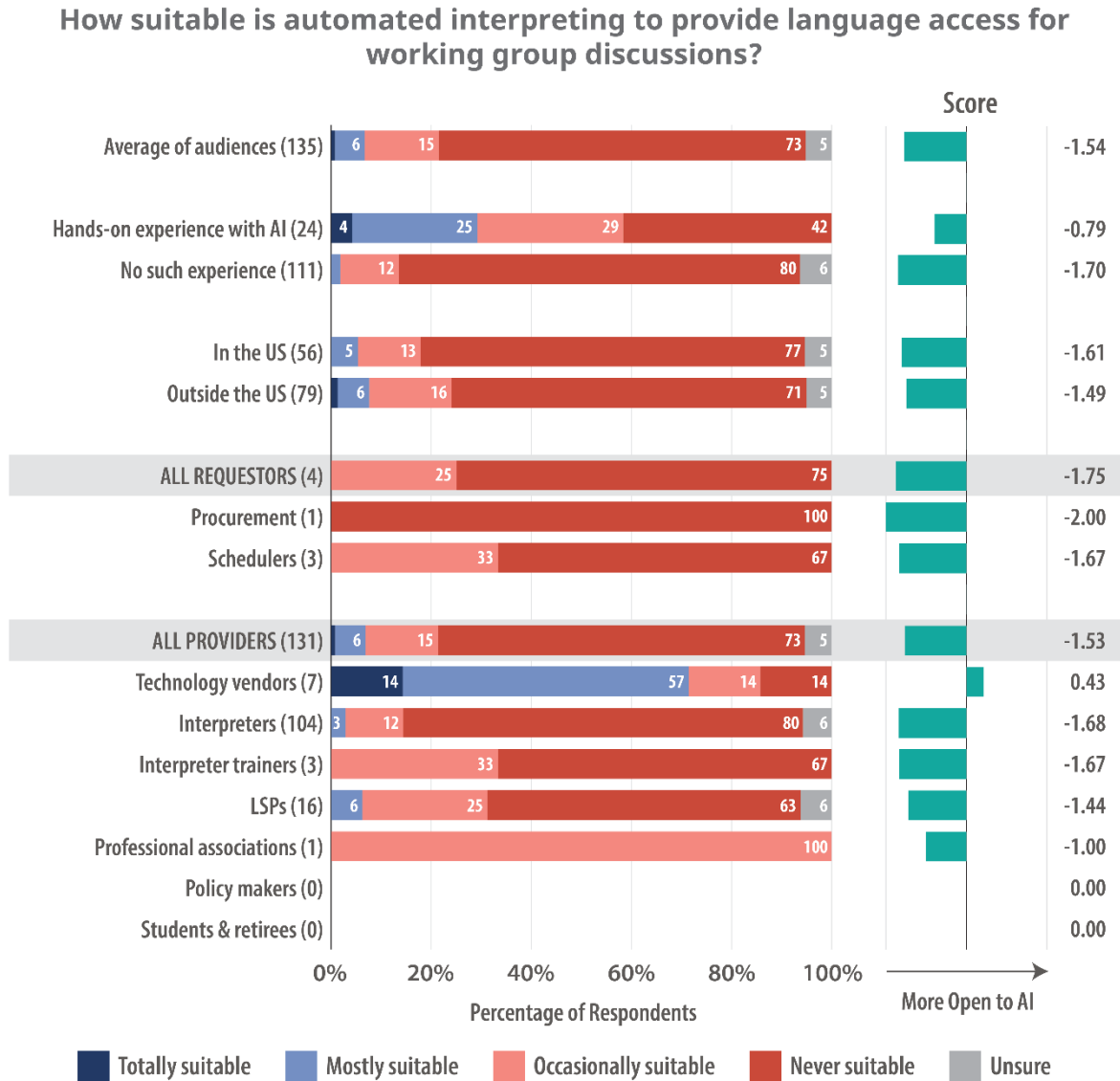
Political Debates

Figure 100: Suitability of Automated Interpreting for Debates

How suitable is automated interpreting to provide language access for debates?

	Score
Average of audiences (135)	-1.71
Hands-on experience with AI (24)	-1.33
No such experience (111)	-1.79
In the US (56)	-1.79
Outside the US (79)	-1.66
ALL REQUESTORS (4)	-1.75
Procurement (1)	-2.00
Schedulers (3)	-1.67
ALL PROVIDERS (131)	-1.71
Technology vendors (7)	-0.29
Interpreters (104)	-1.79
Interpreter trainers (3)	-1.67
LSPs (16)	-1.88
Professional associations (1)	-1.00
Policy makers (0)	0.00
Students & retirees (0)	0.00

Percentage of Respondents   More Open to AI

■ Totally suitable   ■ Mostly suitable   ■ Occasionally suitable   ■ Never suitable   ■ Unsure

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Political Negotiations

Figure 101: Suitability of Automated Interpreting for Negotiations

How suitable is automated interpreting to provide language access for negotiations?

	Score
Average of audiences (135)	-1.75
Hands-on experience with AI (24)	-1.42
No such experience (111)	-1.82
In the US (56)	-1.80
Outside the US (79)	-1.71
ALL REQUESTORS (4)	-1.50
Procurement (1)	-2.00
Schedulers (3)	-1.33
ALL PROVIDERS (131)	-1.76
Technology vendors (7)	-0.57
Interpreters (104)	-1.83
Interpreter trainers (3)	-1.67
LSPs (16)	-1.88
Professional associations (1)	-1.00
Policy makers (0)	0.00
Students & retirees (0)	0.00

Percentage of Respondents · More Open to AI

Legend: Totally suitable · Mostly suitable · Occasionally suitable · Never suitable · Unsure

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Education Use Cases

Communications about Student Absences

Figure 102: Suitability of Automated Interpreting to Communicate a Student Absence

How suitable is automated interpreting to provide language access for communications about student absences?

Audience	Totally suitable	Mostly suitable	Occasionally suitable	Never suitable	Unsure	Score
Average of audiences (736)	17	23	31	24	5	-0.20
Hands-on experience with AI (102)	20	24	32	23		-0.15
No such experience (634)	17	23	31	24	6	-0.21
In the US (574)	17	23	31	24	5	-0.22
Outside the US (162)	19	23	30	23	5	-0.14
ALL REQUESTORS (27)	22	11	26	30	11	-0.30
Procurement (12)	33	17	25		25	0.00
Schedulers (15)	13	20	33	33		-0.53
ALL PROVIDERS (709)	17	24	31	23	5	-0.20
Technology vendors (16)	31	31	19	13	6	0.50
Interpreters (569)	17	22	32	25	5	-0.26
Interpreter trainers (23)	17	35	22	26		-0.04
LSPs (93)	16	29	32	16	6	-0.03
Professional associations (1)		100				1.00
Policy makers (2)		50	50			0.00
Students & retirees (5)	20	40	40			0.40

Percentage of Respondents → More Open to AI

Legend: ■ Totally suitable ■ Mostly suitable ■ Occasionally suitable ■ Never suitable ■ Unsure

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Communications about Student Illnesses

Figure 103: Suitability of Automated Interpreting to Communicate a Student Illness

How suitable is automated interpreting to provide language access when communicating about student illness?

Audience	Totally suitable	Mostly suitable	Occasionally suitable	Never suitable	Unsure	Score
Average of audiences (736)	11	18	30	37	5	-0.64
Hands-on experience with AI (102)	15	17	32	34		-0.55
No such experience (634)	10	18	29	37	5	-0.65
In the US (574)	9	18	31	37	5	-0.69
Outside the US (162)	17	17	25	36	5	-0.46
ALL REQUESTORS (27)	19	7	26	37	11	-0.56
Procurement (12)	33		8	42	17	-0.25
Schedulers (15)	7	13	40	33	7	-0.80
ALL PROVIDERS (709)	11	18	30	37	5	-0.64
Technology vendors (16)	25	38	19	13	6	0.44
Interpreters (569)	10	17	30	39	4	-0.71
Interpreter trainers (23)	13	26	22	39		-0.48
LSPs (93)	14	16	34	28	8	-0.46
Professional associations (1)			100			-1.00
Policy makers (2)		50		50		0.00
Students & retirees (5)		40	40	20		-0.40

Percentage of Respondents

More Open to AI

Legend: Totally suitable · Mostly suitable · Occasionally suitable · Never suitable · Unsure

Public Board Meetings

Figure 104: Suitability of Automated Interpreting for Public School Board Meetings

How suitable is automated interpreting to provide language access for public board meetings?

Audience	Totally suitable	Mostly suitable	Occasionally suitable	Never suitable	Unsure	Score
Average of audiences (736)	4	6	23	60	7	-1.29
Hands-on experience with AI (102)	11	12	17	58	3	-0.99
No such experience (634)	3	5	24	61	7	-1.34
In the US (574)	3	5	23	62	7	-1.36
Outside the US (162)	8	9	23	54	6	-1.06
ALL REQUESTORS (27)	11	4	22	52	11	-1.00
Procurement (12)	25		8	50	17	-0.58
Schedulers (15)	7		33	53	7	-1.33
ALL PROVIDERS (709)	4	6	23	61	6	-1.31
Technology vendors (16)	31	19	13	31	6	0.06
Interpreters (569)	3	6	22	63	7	-1.38
Interpreter trainers (23)	4		48	48		-1.35
LSPs (93)	5	8	26	54	8	-1.15
Professional associations (1)				100		-2.00
Policy makers (2)		50	50			0.00
Students & retirees (5)	20		20	40	20	-0.60

Legend: **Totally suitable** · **Mostly suitable** · **Occasionally suitable** · **Never suitable** · **Unsure**

Percentage of Respondents — *More Open to AI*

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Parent-Teacher Conferences

Figure 105: Suitability of Automated Interpreting to Communicate at Parent-Teacher Conferences

How suitable is automated interpreting to provide language access for parent-teacher conferences?

Audience	Totally suitable	Mostly suitable	Occasionally suitable	Never suitable	Unsure	Score
Average of audiences (736)	3	7	19	67	3	-1.40
Hands-on experience with AI (102)	9	10	18	61	3	-1.12
No such experience (634)	3	6	19	68	3	-1.44
In the US (574)	3	6	18	70	3	-1.47
Outside the US (162)	6	10	22	58	5	-1.14
ALL REQUESTORS (27)	4	11	30	52	4	-1.15
Procurement (12)	8	17	17	50	8	-0.83
Schedulers (15)		7	40	53		-1.40
ALL PROVIDERS (709)	3	7	19	68	3	-1.41
Technology vendors (16)	13	25	19	44		-0.56
Interpreters (569)	3	6	17	71	3	-1.47
Interpreter trainers (23)			17	83		-1.83
LSPs (93)	5	10	27	52	6	-1.10
Professional associations (1)			100			-1.00
Policy makers (2)			50		50	-0.50
Students & retirees (5)	20		20	60		-1.00

Percentage of Respondents → More Open to AI

Legend: ■ Totally suitable ■ Mostly suitable ■ Occasionally suitable ■ Never suitable ■ Unsure

Press Conferences after a Natural Disaster or School Shooting

Figure 106: Suitability of Automated Interpreting for High-Visibility PR for Schools

How suitable is automated interpreting to provide language access for press conferences after a natural disaster or school shooting?

	Score
Average of audiences (736)	-1.52
Hands-on experience with AI (102)	-1.35
No such experience (634)	-1.55
In the US (574)	-1.57
Outside the US (162)	-1.35
ALL REQUESTORS (27)	-1.26
Procurement (12)	-0.92
Schedulers (15)	-1.53
ALL PROVIDERS (709)	-1.53
Technology vendors (16)	-0.94
Interpreters (569)	-1.56
Interpreter trainers (23)	-1.61
LSPs (93)	-1.43
Professional associations (1)	-2.00
Policy makers (2)	-2.00
Students & retirees (5)	-0.80

Legend: ■ Totally suitable ■ Mostly suitable ■ Occasionally suitable ■ Never suitable ■ Unsure

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Determination of Special Education Services or Expulsion Status

Figure 107: Suitability of Automated Interpreting for High-Stakes Education Scenarios

How suitable is automated interpreting to provide language access for determinations of special education services or expulsion status?

	Score
Average of audiences (736)	-1.59
Hands-on experience with AI (102)	-1.25
No such experience (634)	-1.65
In the US (574)	-1.68
Outside the US (162)	-1.29
ALL REQUESTORS (27)	-1.52
Procurement (12)	-1.25
Schedulers (15)	-1.73
ALL PROVIDERS (709)	-1.60
Technology vendors (16)	-0.81
Interpreters (569)	-1.64
Interpreter trainers (23)	-1.87
LSPs (93)	-1.45
Professional associations (1)	-2.00
Policy makers (2)	-0.50
Students & retirees (5)	-1.00

Legend: ■ Totally suitable ■ Mostly suitable ■ Occasionally suitable ■ Never suitable ■ Unsure

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Emergency Services Use Cases

Notifications of Weather Emergencies

Figure 108: Suitability of Automated Interpreting to Notify of a Weather Emergency

How suitable is automated interpreting to provide language access to notify of a weather emergency?

Reporting of Road Hazards

Figure 109: Suitability of Automated Interpreting to Report a Road Hazard

How suitable is automated interpreting to provide language access to report a road hazard?

	Totally suitable	Mostly suitable	Occasionally suitable	Never suitable	Unsure	Score
Average of audiences (504)	10	21	33	32	4	-0.56
Hands-on experience with AI (63)	11	19	35	33		-0.60
No such experience (441)	10	22	33	32	4	-0.56
In the US (399)	10	22	33	31	4	-0.53
Outside the US (105)	8	21	32	35	4	-0.67
ALL REQUESTORS (23)	17	39	22	17	4	0.17
Procurement (5)	20	40	20		20	0.40
Schedulers (18)	17	39	28	17		0.11
ALL PROVIDERS (481)	9	21	34	33	4	-0.60
Technology vendors (5)		20	80			-0.60
Interpreters (399)	9	21	34	33	3	-0.60
Interpreter trainers (12)	17	8	33	42		-0.75
LSPs (64)	9	20	30	33	8	-0.56
Professional associations (0)						0.00
Policy makers (1)			100			-1.00
Students & retirees (0)						0.00

Percentage of Respondents

More Open to AI

Legend: Totally suitable · Mostly suitable · Occasionally suitable · Never suitable · Unsure

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Reporting of Suspicious Figures

Figure 110: Suitability of Automated Interpreting to Report a Suspicious Figure

How suitable is automated interpreting to provide language access to report a suspicious figure?
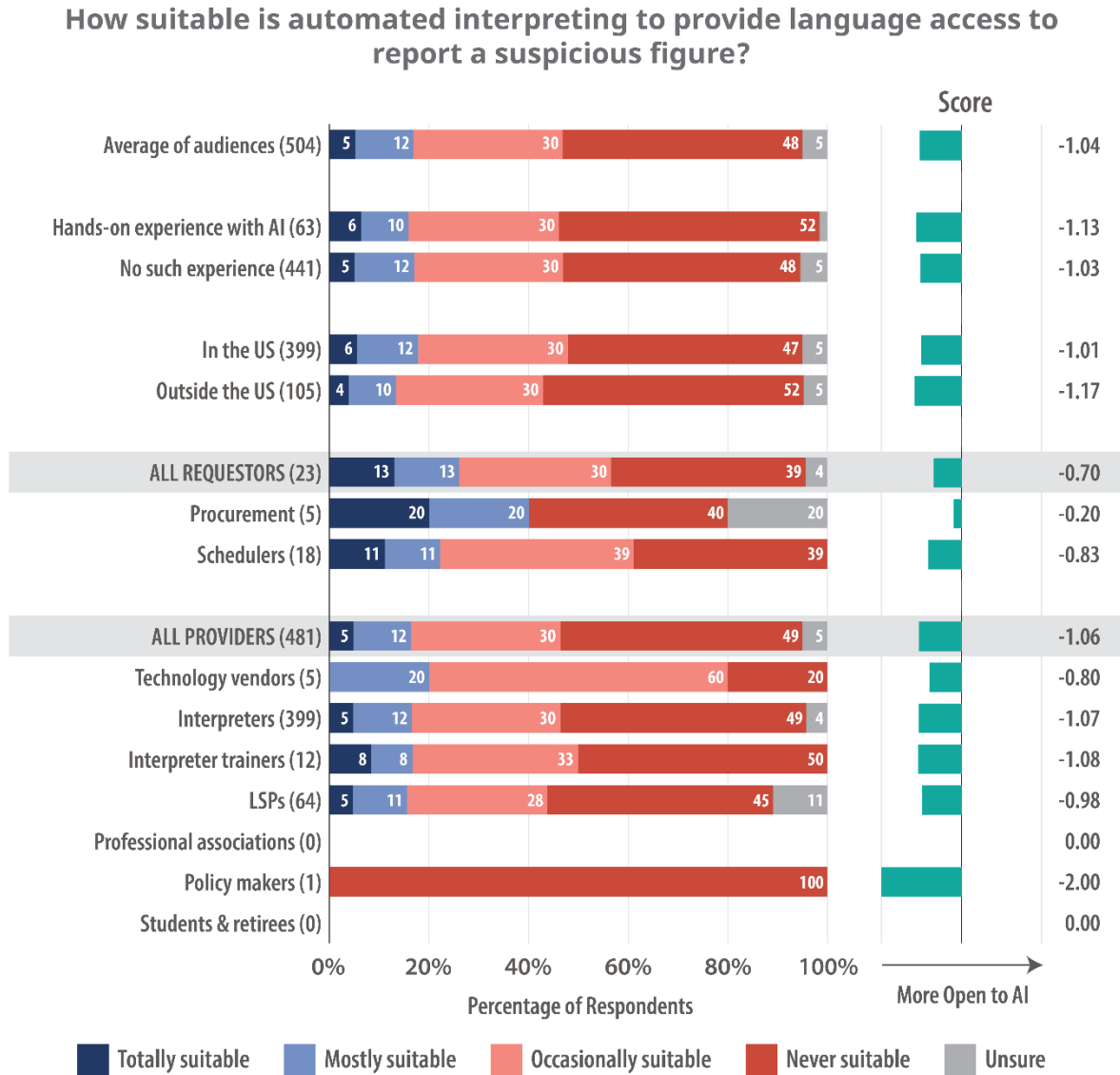
Reporting of Medical Emergencies

Figure 111: Suitability of Automated Interpreting to Report a Medical Emergency

How suitable is automated interpreting to provide language access to report a medical emergency?

	Totally suitable	Mostly suitable	Occasionally suitable	Never suitable	Unsure	Score
Average of audiences (504)	5	8	21	63	3	-1.30
Hands-on experience with AI (63)	8	8	21	62		-1.21
No such experience (441)	4	8	21	63	3	-1.31
In the US (399)	5	8	22	63	3	-1.31
Outside the US (105)	6	9	20	63	3	-1.26
ALL REQUESTORS (23)	13	13	17	52	4	-0.83
Procurement (5)	20	20		40	20	-0.20
Schedulers (18)	11	11	22	56		-1.00
ALL PROVIDERS (481)	4	8	21	64	3	-1.32
Technology vendors (5)			40	60		-1.60
Interpreters (399)	4	8	21	65		-1.35
Interpreter trainers (12)	17	8	17	58		-0.92
LSPs (64)	3	11	22	58	6	-1.20
Professional associations (0)						0.00
Policy makers (1)				100		-2.00
Students & retirees (0)						0.00

Percentage of Respondents

More Open to AI

Legend: ■ Totally suitable ■ Mostly suitable ■ Occasionally suitable ■ Never suitable ■ Unsure

© CSA Research

Field Interactions with a Person in Distress

Figure 112: Suitability of Automated Interpreting for a Field Interaction with a Person in Distress

How suitable is automated interpreting to provide language access for a field interaction with a person in distress?

Audience	Totally	Mostly	Occasionally	Never	Unsure	Score
Average of audiences (504)		3	15	76	4	-1.59
Hands-on experience with AI (63)	5	3	19	70	3	-1.46
No such experience (441)		3	15	77	4	-1.61
In the US (399)	3	3	16	75	4	-1.59
Outside the US (105)		5	11	77	5	-1.57
ALL REQUESTORS (23)	9	4	26	57	4	-1.17
Procurement (5)	20		20	40	20	-0.60
Schedulers (18)	6	6	28	61		-1.33
ALL PROVIDERS (481)		3	15	77	4	-1.61
Technology vendors (5)			20	80		-1.80
Interpreters (399)		3	14	78	3	-1.63
Interpreter trainers (12)		8	25	67		-1.42
LSPs (64)		5	14	72	8	-1.50
Professional associations (0)						0.00
Policy makers (1)				100		-2.00
Students & retirees (0)						0.00

Percentage of Respondents — More Open to AI

Legend: Totally suitable | Mostly suitable | Occasionally suitable | Never suitable | Unsure

© CSA Research

Healthcare Use Cases

Patient Registration or Admission to a Healthcare Facility

Figure 113: Suitability of Automated Interpreting for Patient Admission

How suitable is automated interpreting to provide language access for patient registration or admission to a healthcare facility?

	Totally suitable	Mostly suitable	Occasionally suitable	Never suitable	Unsure	Score
Average of audiences (1,252)	11	22	32	31	4	-0.52
Hands-on experience with AI (136)	13	18	33	35		-0.60
No such experience (1,116)	10	22	32	31	4	-0.52
In the US (1,034)	11	22	32	31	4	-0.52
Outside the US (218)	11	19	33	32	5	-0.57
ALL REQUESTORS (82)	12	28	37	20	4	-0.23
Procurement (27)	19	22	33	22	4	-0.19
Schedulers (55)	9	31	38	18	4	-0.25
ALL PROVIDERS (1,170)	11	21	32	32	4	-0.55
Technology vendors (13)	15	15	31	31	8	-0.46
Interpreters (969)	10	21	32	34	4	-0.58
Interpreter trainers (32)	16	28	31	25		-0.22
LSPs (143)	12	22	37	25	4	-0.41
Professional associations (5)		20	20	60		-1.20
Policy makers (2)			100			-1.00
Students & retirees (6)	50		17		33	0.67

Percentage of Respondents   More Open to AI

Legend: ■ Totally suitable ■ Mostly suitable ■ Occasionally suitable ■ Never suitable ■ Unsure

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Checking of Vitals

Figure 114: Suitability of Automated Interpreting When Checking Vitals

How suitable is automated interpreting to provide language access when checking vitals?

	Totally suitable	Mostly suitable	Occasionally suitable	Never suitable	Unsure
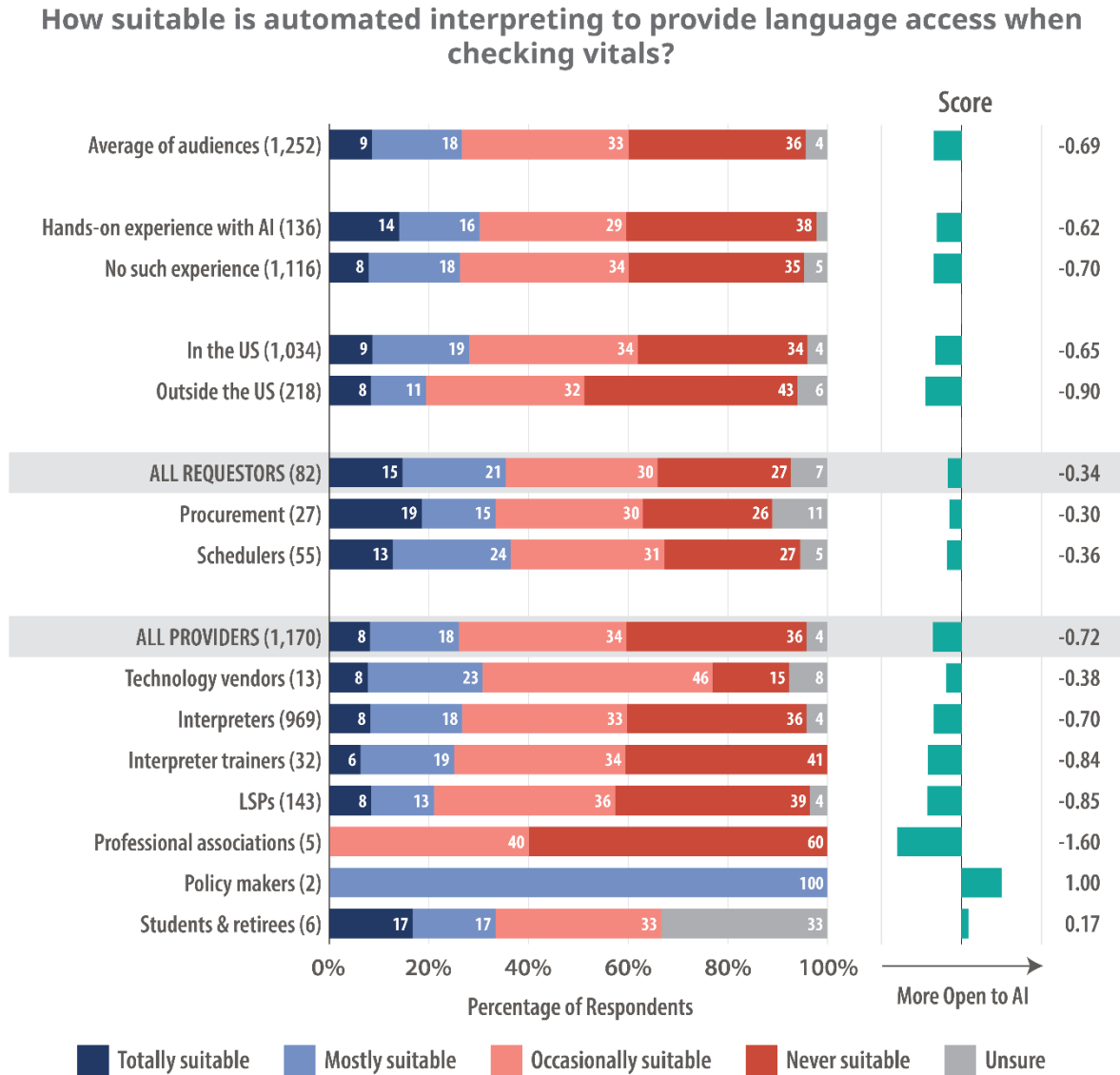
Repeat Appointments for Physical Therapy or Dialysis

Figure 115: Suitability of Automated Interpreting for Repeat Routine Appointments

How suitable is automated interpreting to provide language access for repeat appointments for physical therapy or dialysis?

Audience	Totally suitable	Mostly suitable	Occasionally suitable	Never suitable	Unsure	Score
Average of audiences (1,252)	7	20	37	32	4	-0.68
Hands-on experience with AI (136)	10	20	32	38		-0.68
No such experience (1,116)	7	20	37	32	5	-0.68
In the US (1,034)	6	20	37	33	4	-0.70
Outside the US (218)	10	18	35	32	5	-0.61
ALL REQUESTORS (82)	15	20	37	23	6	-0.34
Procurement (27)	19	11	37	22	11	-0.33
Schedulers (55)	13	24	36	24	4	-0.35
ALL PROVIDERS (1,170)	6	20	37	33	4	-0.71
Technology vendors (13)		23	38	31	8	-0.77
Interpreters (969)	6	20	37	33	4	-0.72
Interpreter trainers (32)	3	25	41	31		-0.72
LSPs (143)	10	18	34	33	6	-0.62
Professional associations (5)			40	60		-1.60
Policy makers (2)			100			-1.00
Students & retirees (6)	17	17	50		17	0.00

Percentage of Respondents → More Open to AI

Legend: ■ Totally suitable ■ Mostly suitable ■ Occasionally suitable ■ Never suitable ■ Unsure

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Communications about Billing or Financial Aid

Figure 116: Suitability of Automated Interpreting for Financial Discussions

How suitable is automated interpreting to provide language access for communications about billing or financial aid?

Audience	Totally suitable	Mostly suitable	Occasionally suitable	Never suitable	Unsure	Score
Average of audiences (1,252)	6	17	30	43	4	-0.88
Hands-on experience with AI (136)	9	15	29	44	3	-0.84
No such experience (1,116)	5	17	31	43	4	-0.89
In the US (1,034)	5	17	31	43	4	-0.89
Outside the US (218)	8	16	27	44	5	-0.84
ALL REQUESTORS (82)	10	17	33	34	6	-0.65
Procurement (27)	15	11	26	33	15	-0.52
Schedulers (55)	7	20	36	35		-0.71
ALL PROVIDERS (1,170)	5	17	30	44	4	-0.90
Technology vendors (13)	8	8	54	23	8	-0.77
Interpreters (969)	5	17	29	45	4	-0.93
Interpreter trainers (32)	3	16	25	56		-1.16
LSPs (143)	8	17	37	34	4	-0.71
Professional associations (5)		20	20	60		-1.20
Policy makers (2)		50		50		0.00
Students & retirees (6)	17	33	17	17	17	0.17

Percentage of Respondents

More Open to AI

■ Totally suitable ■ Mostly suitable ■ Occasionally suitable ■ Never suitable ■ Unsure

© CSA Research

Home Health Services

Figure 117: Suitability of Automated Interpreting for Home Health Services

How suitable is automated interpreting to provide language access for home health services?

Legend:
- Totally suitable (dark navy)
- Mostly suitable (blue)
- Occasionally suitable (light pink)
- Never suitable (dark red)
- Unsure (grey)

Audience	Totally suitable	Mostly suitable	Occasionally suitable	Never suitable	Unsure	Score
Average of audiences (1,252)		6	32	54	7	-1.29
Hands-on experience with AI (136)	6	5	33	52	4	-1.21
No such experience (1,116)		6	32	54	7	-1.30
In the US (1,034)		5	32	54	7	-1.30
Outside the US (218)		8	31	52	6	-1.22
ALL REQUESTORS (82)	4	12	34	41	9	-0.98
Procurement (27)	7	4	33	41	15	-0.96
Schedulers (55)		16	35	42	5	-0.98
ALL PROVIDERS (1,170)		5	32	54	6	-1.31
Technology vendors (13)		8	46	38	8	-1.15
Interpreters (969)		4	32	56	6	-1.35
Interpreter trainers (32)		9	34	56		-1.38
LSPs (143)	4	9	30	48	8	-1.09
Professional associations (5)			40	60		-1.60
Policy makers (2)		50	50			0.00
Students & retirees (6)	17		17	33	33	-0.50

Percentage of Respondents

More Open to AI →

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Discussion of a New Treatment Plan or Surgery

Figure 118: Suitability of Automated Interpreting for New Treatment Plan or Surgery

How suitable is automated interpreting to provide language access to discuss a new treatment plan or surgery?

Score

Category	Totally suitable	Mostly suitable	Occasionally suitable	Never suitable	Unsure	Score
Average of audiences (1,252)			9	84	3	-1.73
Hands-on experience with AI (136)		3	11	82		-1.66
No such experience (1,116)			9	85	3	-1.74
In the US (1,034)			9	86	3	-1.75
Outside the US (218)		3	11	79	6	-1.63
ALL REQUESTORS (82)			9	87		-1.78
Procurement (27)		4	11	81	4	-1.67
Schedulers (55)			7	89		-1.84
ALL PROVIDERS (1,170)			9	84	3	-1.73
Technology vendors (13)			23	69	8	-1.62
Interpreters (969)			8	85	3	-1.74
Interpreter trainers (32)			6	94		-1.94
LSPs (143)			13	78	6	-1.63
Professional associations (5)				100		-2.00
Policy makers (2)				100		-2.00
Students & retirees (6)	17		17	33	33	-0.50

Percentage of Respondents

More Open to AI

Legend: Totally suitable · Mostly suitable · Occasionally suitable · Never suitable · Unsure

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Sessions with Patient with Cognitive Differences

Figure 119: Suitability of Automated Interpreting for Sessions with Patients with Cognitive Differences

How suitable is automated interpreting to provide language access for sessions with patients with cognitive differences?

Audience	Score
Average of audiences (1,252)	-1.78
Hands-on experience with AI (136)	-1.79
No such experience (1,116)	-1.78
In the US (1,034)	-1.80
Outside the US (218)	-1.69
ALL REQUESTORS (82)	-1.68
Procurement (27)	-1.63
Schedulers (55)	-1.71
ALL PROVIDERS (1,170)	-1.79
Technology vendors (13)	-1.62
Interpreters (969)	-1.80
Interpreter trainers (32)	-2.00
LSPs (143)	-1.69
Professional associations (5)	-1.80
Policy makers (2)	-2.00
Students & retirees (6)	-1.50

Legend: Totally suitable | Mostly suitable | Occasionally suitable | Never suitable | Unsure

More Open to AI

Delivery of Bad News

Figure 120: Suitability of Automated Interpreting for the Delivery of Bad News

How suitable is automated interpreting to provide language access when delivering bad news?

Category	Score
Average of audiences (1,252)	-1.82
Hands-on experience with AI (136)	-1.84
No such experience (1,116)	-1.81
In the US (1,034)	-1.84
Outside the US (218)	-1.71
ALL REQUESTORS (82)	-1.83
Procurement (27)	-1.63
Schedulers (55)	-1.93
ALL PROVIDERS (1,170)	-1.82
Technology vendors (13)	-1.77
Interpreters (969)	-1.83
Interpreter trainers (32)	-1.97
LSPs (143)	-1.72
Professional associations (5)	-1.80
Policy makers (2)	-2.00
Students & retirees (6)	-1.50

Legend: Totally suitable | Mostly suitable | Occasionally suitable | Never suitable | Unsure

More Open to AI

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Law Enforcement and Legal Use Cases

Field Interactions with the Public for a Crime or Accident Scene

Figure 121: Suitability of Automated Interpreting for Urgent Field Interaction

How suitable is automated interpreting to provide language access for field interactions with the public at a crime or accident scene?

Audience	Score
Average of audiences (555)	-1.48
Hands-on experience with AI (66)	-1.39
No such experience (489)	-1.49
In the US (425)	-1.48
Outside the US (130)	-1.45
ALL REQUESTORS (24)	-1.13
Procurement (4)	0.25
Schedulers (20)	-1.40
ALL PROVIDERS (531)	-1.49
Technology vendors (4)	-1.25
Interpreters (420)	-1.54
Interpreter trainers (15)	-1.53
LSPs (88)	-1.27
Professional associations (1)	-1.00
Policy makers (2)	-1.00
Students & retirees (1)	-2.00

Percentage of Respondents

More Open to AI

Legend: Totally suitable · Mostly suitable · Occasionally suitable · Never suitable · Unsure

Communications with a Lawyer

Figure 122: Suitability of Automated Interpreting to Communicate with a Lawyer

How suitable is automated interpreting to provide language access for communications with a lawyer?

Court Hearings or Depositions

Figure 123: Suitability of Automated Interpreting for Court Hearings or Depositions

How suitable is automated interpreting to provide language access for court hearings or depositions?

Category	Totally suitable	Mostly suitable	Occasionally suitable	Never suitable	Unsure	Score
Average of audiences (555)	3		9	83	4	-1.67
Hands-on experience with AI (66)		8	11	79	3	-1.53
No such experience (489)			9	83	4	-1.69
In the US (425)			8	85	4	-1.70
Outside the US (130)	3		15	75	5	-1.58
ALL REQUESTORS (24)	13		8	75	4	-1.33
Procurement (4)	25			50	25	-0.50
Schedulers (20)	10		10	80		-1.50
ALL PROVIDERS (531)			9	83	4	-1.69
Technology vendors (4)				50	50	-1.00
Interpreters (420)			8	86	3	-1.74
Interpreter trainers (15)			7	87	7	-1.80
LSPs (88)	3	3	15	70	8	-1.45
Professional associations (1)			100			-1.00
Policy makers (2)				100		-2.00
Students & retirees (1)			100			-1.00

Percentage of Respondents   More Open to AI

Legend: ■ Totally suitable ■ Mostly suitable ■ Occasionally suitable ■ Never suitable ■ Unsure

© CSA Research

Law Enforcement Interrogations

Figure 124: Suitability of Automated Interpreting for Law Enforcement Interrogations

How suitable is automated interpreting to provide language access for law enforcement interrogations?

Audience	Score
Average of audiences (555)	-1.67
Hands-on experience with AI (66)	-1.53
No such experience (489)	-1.69
In the US (425)	-1.72
Outside the US (130)	-1.51
ALL REQUESTORS (24)	-1.33
Procurement (4)	-0.50
Schedulers (20)	-1.50
ALL PROVIDERS (531)	-1.68
Technology vendors (4)	-1.00
Interpreters (420)	-1.72
Interpreter trainers (15)	-1.93
LSPs (88)	-1.48
Professional associations (1)	-1.00
Policy makers (2)	-2.00
Students & retirees (1)	-2.00

Totally suitable   Mostly suitable   Occasionally suitable   Never suitable   Unsure

Trials

Figure 125: Suitability of Automated Interpreting for Trials

How suitable is automated interpreting to provide language access for trials?

Audience	Score
Average of audiences (555)	-1.71
Hands-on experience with AI (66)	-1.59
No such experience (489)	-1.73
In the US (425)	-1.73
Outside the US (130)	-1.65
ALL REQUESTORS (24)	-1.42
Procurement (4)	-0.50
Schedulers (20)	-1.60
ALL PROVIDERS (531)	-1.73
Technology vendors (4)	-1.25
Interpreters (420)	-1.78
Interpreter trainers (15)	-1.80
LSPs (88)	-1.51
Professional associations (1)	-1.00
Policy makers (2)	-2.00
Students & retirees (1)	-1.00

Legend: Totally suitable · Mostly suitable · Occasionally suitable · Never suitable · Unsure

© CSA Research

Military and Intelligence Use Cases

Intelligence Gathering

Figure 126: Suitability of Automated Interpreting for Intelligence Gathering

How suitable is automated interpreting to provide language access for intelligence gathering?

Audience	Score
Average of audiences (41)	-1.66
Hands-on experience with AI (11)	-1.82
No such experience (30)	-1.60
In the US (21)	-1.76
Outside the US (20)	-1.55
ALL PROVIDERS (41)	-1.66
Technology vendors (1)	-2.00
Interpreters (26)	-1.81
Interpreter trainers (2)	-1.50
LSPs (11)	-1.36
Professional associations (1)	-1.00
Policy makers (0)	0.00
Students & retirees (0)	0.00

Legend: Totally suitable · Mostly suitable · Occasionally suitable · Never suitable · Unsure

© CSA Research

Field Interactions with Local Populations

Figure 127: Suitability of Automated Interpreting for Field Interactions with Local Populations

How suitable is automated interpreting to provide language access for field interactions with the local population?

	Score
Average of audiences (41)	-1.61
Hands-on experience with AI (10)	-1.40
No such experience (31)	-1.68
In the US (22)	-1.68
Outside the US (19)	-1.53
ALL PROVIDERS (41)	-1.61
Technology vendors (1)	-2.00
Interpreters (26)	-1.69
Interpreter trainers (2)	-1.50
LSPs (11)	-1.45
Professional associations (1)	-1.00
Policy makers (0)	0.00
Students & retirees (0)	0.00

Totally suitable   Mostly suitable   Occasionally suitable   Never suitable   Unsure

© CSA Research

Diplomatic Engagements

Figure 128: Suitability of Automated Interpreting for Diplomatic Engagements

How suitable is automated interpreting to provide language access for diplomatic engagements?

Audience	Score
Average of audiences (41)	-1.76
Hands-on experience with AI (11)	-1.64
No such experience (30)	-1.80
In the US (21)	-1.76
Outside the US (20)	-1.75
ALL PROVIDERS (41)	-1.76
Technology vendors (1)	-2.00
Interpreters (26)	-1.77
Interpreter trainers (2)	-1.50
LSPs (11)	-1.82
Professional associations (1)	-1.00
Policy makers (0)	0.00
Students & retirees (0)	0.00

Legend: Totally suitable · Mostly suitable · Occasionally suitable · Never suitable · Unsure

© CSA Research

Intelligence Interrogations

Figure 129: Suitability of Automated Interpreting for Intelligence Interrogations

How suitable is automated interpreting to provide language access for military interrogation?

Audience	Score
Average of audiences (41)	-1.80
Hands-on experience with AI (11)	-2.00
No such experience (30)	-1.73
In the US (21)	-1.81
Outside the US (20)	-1.80
ALL PROVIDERS (41)	-1.80
Technology vendors (1)	-2.00
Interpreters (25)	-1.80
Interpreter trainers (2)	-1.50
LSPs (12)	-1.83
Professional associations (1)	-2.00
Policy makers (0)	0.00
Students & retirees (0)	0.00

Legend: Totally suitable ■ Mostly suitable ■ Occasionally suitable ■ Never suitable ■ Unsure ■

© CSA Research

Combat Situations

Figure 130: Suitability of Automated Interpreting for Combat Situations

How suitable is automated interpreting to provide language access for combat situations?

Audience	Totally suitable	Mostly suitable	Occasionally suitable	Never suitable	Unsure	Score
Average of audiences (44)			16	73	9	-1.59
Hands-on experience with AI (11)		9	9	73	9	-1.45
No such experience (33)			18	73	9	-1.64
In the US (24)		4	8	75	13	-1.54
Outside the US (20)			25	70	5	-1.65
ALL PROVIDERS (44)			16	73	9	-1.59
Technology vendors (1)				100		-2.00
Interpreters (26)		4	15	77	4	-1.65
Interpreter trainers (2)			50	50		-1.50
LSPs (14)			7	71	21	-1.50
Professional associations (1)			100			-1.00
Policy makers (0)						0.00
Students & retirees (0)						0.00

Percentage of Respondents — More Open to AI

Legend: ■ Totally suitable ■ Mostly suitable ■ Occasionally suitable ■ Never suitable ■ Unsure

© CSA Research

International Training Exercises

Figure 131: Suitability of Automated Interpreting for International Training Exercises

How suitable is automated interpreting to provide language access for international training exercices?

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Medical Triage in Field Combat Situations

Figure 132: Suitability of Automated Interpreting for Medical Triage in Field Combat Situations

How suitable is automated interpreting to provide language access for medical triage in field combat situations?

Audience	Occasionally suitable	Never suitable	Unsure	Score
Average of audiences (44)	39	55	7	-1.48
Hands-on experience with AI (11)	45	45	9	-1.36
No such experience (33)	36	58	6	-1.52
In the US (24)	33	58	8	-1.50
Outside the US (20)	45	50	5	-1.45
ALL PROVIDERS (44)	39	55	7	-1.48
Technology vendors (1)		100		-2.00
Interpreters (26)	42	58		-1.58
Interpreter trainers (2)	100			-1.00
LSPs (14)	21	57	21	-1.36
Professional associations (1)	100			-1.00
Policy makers (0)				0.00
Students & retirees (0)				0.00

Legend: ■ Totally suitable ■ Mostly suitable ■ Occasionally suitable ■ Never suitable ■ Unsure

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Social Services Use Cases

Meetings to Determine Supplemental Income Eligibility or Disability Services

Figure 133: Suitability of Automated Interpreting for High-Impact Decision Meetings

How suitable is automated interpreting to provide language access for meeetings to determine supplemental income eligibility or disability services?

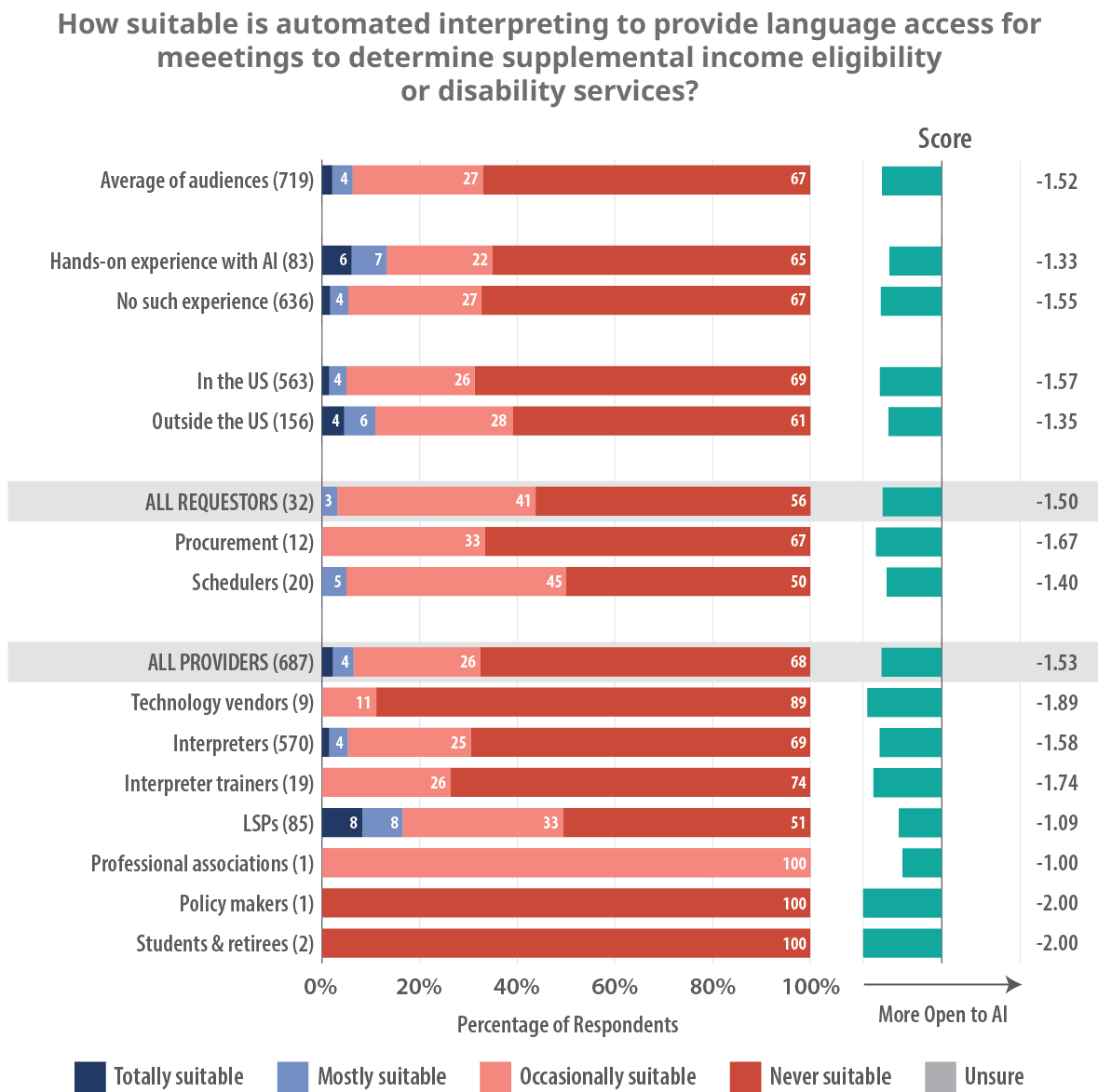| Audience	Totally suitable	Mostly suitable	Occasionally suitable	Never suitable	Score
Average of audiences (719)	4		27	67	-1.52
Hands-on experience with AI (83)	6	7	22	65	-1.33
No such experience (636)	4		27	67	-1.55
In the US (563)	4		26	69	-1.57
Outside the US (156)	4	6	28	61	-1.35
ALL REQUESTORS (32)	3		41	56	-1.50
Procurement (12)			33	67	-1.67
Schedulers (20)		5	45	50	-1.40
ALL PROVIDERS (687)	4		26	68	-1.53
Technology vendors (9)			11	89	-1.89
Interpreters (570)	4		25	69	-1.58
Interpreter trainers (19)			26	74	-1.74
LSPs (85)	8	8	33	51	-1.09
Professional associations (1)			100		-1.00
Policy makers (1)				100	-2.00
Students & retirees (2)				100	-2.00

Percentage of Respondents — More Open to AI

Legend: ■ Totally suitable ■ Mostly suitable ■ Occasionally suitable ■ Never suitable ■ Unsure

© CSA Research

Public Hearings on Housing Services with Public Testimony

Figure 134: Suitability of Automated Interpreting for a Public Housing Hearing

How suitable is automated interpreting to provide language access for public hearings on housing services including public testimony?

Category	Totally suitable	Mostly suitable	Occasionally suitable	Never suitable	Score
Average of audiences (713)	3		19	76	-1.64
Hands-on experience with AI (83)	10	4	20	66	-1.30
No such experience (630)	3		19	78	-1.69
In the US (558)	3		18	77	-1.67
Outside the US (155)	4	3	20	73	-1.56
ALL REQUESTORS (32)	3		22	75	-1.69
Procurement (12)			8	92	-1.92
Schedulers (20)	5		30	65	-1.55
ALL PROVIDERS (681)	3		19	76	-1.64
Technology vendors (10)	10		40	50	-1.20
Interpreters (562)			16	80	-1.70
Interpreter trainers (19)			32	68	-1.68
LSPs (86)	6	6	29	59	-1.30
Professional associations (1)			100		-1.00
Policy makers (1)				100	-2.00
Students & retirees (2)				100	-2.00

Percentage of Respondents

More Open to AI

Legend: Totally suitable · Mostly suitable · Occasionally suitable · Never suitable · Unsure

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Counseling Sessions for Addiction

Figure 135: Suitability of Automated Interpreting for Counseling Sessions for Addiction

How suitable is automated interpreting to provide language access for counseling sessions for addiction?

Audience	Score
Average of audiences (724)	-1.79
Hands-on experience with AI (82)	-1.60
No such experience (642)	-1.82
In the US (565)	-1.84
Outside the US (159)	-1.62
ALL REQUESTORS (32)	-1.88
Procurement (12)	-1.92
Schedulers (20)	-1.85
ALL PROVIDERS (692)	-1.79
Technology vendors (9)	-1.89
Interpreters (572)	-1.81
Interpreter trainers (19)	-1.89
LSPs (88)	-1.63
Professional associations (1)	-2.00
Policy makers (1)	-2.00
Students & retirees (2)	-1.50

Percentage of Respondents — More Open to AI

Legend: Totally suitable | Mostly suitable | Occasionally suitable | Never suitable | Unsure

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Family Mediations with Multiple Providers

Figure 136: Suitability of Automated Interpreting for Family Mediations with Multiple Providers

How suitable is automated interpreting to provide language access for family mediations with multiple providers?

Removal Procedures by Child Protective Services

Figure 137: Suitability of Automated Interpreting for Child Removal Procedures

How suitable is automated interpreting to provide language access for removal procedures by child protective services?

Audience	Score
Average of audiences (725)	-1.88
Hands-on experience with AI (82)	-1.77
No such experience (643)	-1.89
In the US (565)	-1.93
Outside the US (160)	-1.70
ALL REQUESTORS (32)	-1.88
Procurement (12)	-1.92
Schedulers (20)	-1.85
ALL PROVIDERS (693)	-1.88
Technology vendors (9)	-2.00
Interpreters (574)	-1.89
Interpreter trainers (18)	-2.00
LSPs (88)	-1.78
Professional associations (1)	-1.00
Policy makers (1)	-2.00
Students & retirees (2)	-2.00

Percentage of Respondents

More Open to AI

■ Totally suitable ■ Mostly suitable ■ Occasionally suitable ■ Never suitable ■ Unsure

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