

AUSIT Position Statement

on the use of machine translation (MT), machine interpreting (MI) and artificial intelligence (AI) in translation and interpreting

The purpose of this document is to provide Australian translators and interpreters, and users of Australian translating and interpreting (T&I) services, with AUSIT's position on the use of Machine Translation (MT), Machine Interpreting (MI) and Artificial Intelligence (AI) in the provision of T&I services.

The availability and use of different technologies, and of AI in particular, are increasing in both translation and interpreting, as they are in many professions. The government agency in Australia responsible for the credentialling of T&I practitioners, the National Accreditation Authority for Translators and Interpreters Australia (NAATI), released a *Position Statement on the Use of AI for Translation and Interpreting Purposes* in March 2025 (NAATI, 2025).

This position statement from AUSIT acknowledges the contents and guidelines contained in the NAATI position statement, particularly in relation to the sections on 'Benefits of AI', 'Risks associated with the unsupervised use of AI' and 'Role of the human practitioner' (NAATI, 2025) and builds on these to provide an augmented guide for both translator and interpreter practitioners, as well as for stakeholders in and users of T&I services. Further, this position statement acknowledges and builds on two guideline documents released by the International Federation of Translators (FIT): their *Position Paper on the Use of AI in Interpreting* (FIT, 2024) and their *Position Paper on Machine Translation in the Age of AI* (FIT, 2025).

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November 2025

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Executive summary

There are now AI tools in existence that offer automatic translation (text-to-text), automatic translation and transcription using speech recognition technology (speech-to-text, including captions) and automatic spoken language interpreting (speech-to-speech).

For sign language interpreting, while there are a number of prototypes of ‘sign language gloves’ for sign-to-speech/text language transfer, they remain underdeveloped; and the AI tools available for automatic sign language interpreting are currently restricted to one direction, speech-to-sign, with none yet developed for Auslan.

These tools have the capacity to provide instant translation and interpreting solutions that appear to obviate the need for human translators and interpreters. However, accuracy as well as quality of linguistic expression vary according to language, text type or genre of speech.

Most language data drawn on by AI tools relates to texts written in standard language and ‘harvested’ from publicly available sources. AI tools currently perform better for translation than for interpreting. The lower amount of spoken (as opposed to written) language data available for harvesting means that machine interpreting tools cannot deal easily with dialects, or with speech that is colloquial, elliptic, fast paced, low volume or unclear.

Features such as tone, emphasis, facial expression and body language are not replicated at all in machine interpreting, and cultural or setting-specific features may be overlooked completely.

While generative AI tools draw on ever-expanding corpora of language data, algorithmic bias towards major world languages means that most of the 350+ languages used in Australia – including Indigenous languages, transposed ‘migrant’ languages and Auslan – are not yet served well by AI language tools. In relation to sign languages, the process of token tagging to provide language corpora data is different from that for spoken languages, due to the fact that a sign cannot always be unequivocally identified as a single token – for example, the Auslan sign for ‘want’ could be coded as ‘want’, but also as ‘desire’, ‘require’, ‘covet’ or other synonyms. Non-manual signals that also carry meaning – for example, facial expressions to show emotions – may also be excluded from corpora if the harvesting tools used are not able to identify them.

AI has the potential to change how services are provided and used. The Australian Government has developed principles on the use of AI in settings or contexts involving human beings as service users. Of these principles, those relevant to T&I services are:

- ‘human-centredness – autonomy of individuals’
- ‘transparency and explainability’
- ‘accountability’.

Where providers of T&I services choose to utilise AI tools in their process, they are obliged to inform clients or end users that they are doing so, so users can exercise their autonomy in deciding whether they agree to this or prefer human-generated T&I.

Similarly, providers should inform translators and revisers if AI tools have been used to generate an initial translation, so the translators and revisers can exercise their autonomy in deciding whether they agree to work on AI-generated content.

Human translators and interpreters are accountable for their work and liable for any errors or shortcomings. The level of accountability and liability of AI tools needs to be conveyed to clients and end users of T&I services.

Where the level of accountability and liability is unclear, or there is apparently none, the level of risk is such that most government agencies in Australia consider unacceptable. Current guidelines from both federal and state/territory-level authorities warn of this, and advocate the use of professional translators and interpreters.

I. Key terms and definitions

(i) Translation

Computer assisted translation (CAT) tools are software programs that facilitate the human translation process through the use of segmentation, translation memories, terminology management processes and quality assurance checks.

CAT tools have been used by translators since the 1990s. CAT tools typically feature customised interfaces which display the source and target text side by side. Matching segments are then available for the translator, so they can review each suggestion and either use them or write new translations from scratch.

CAT tools do not automatically create translations without human intervention. However, machine translation and artificial intelligence can be integrated within many CAT tools, providing translation suggestions or examples of text phrasing for the human translator to review or edit. Common CAT tools used by translators in Australia include MemoQ, SmartCat, SDL Trados, XTM, Wordfast and Memsources.

The term **machine translation** (MT) refers to computer programs that automatically translate text or speech from one language into another. Over time MT systems have used many different processes, including rule-based, statistical, neural and adaptive methods. MT is fast, can process large volumes of text in a short space of time, and does not require human intervention during the process of interlingual transfer.

However, output is variable, and requires post-editing to ensure accuracy, fluency, consistency, alignment to brief and so on. Free online MT services used in internet browsers are usually different from the paid commercial services used by professional practitioners. Major differences between ad hoc and professional MT include quality of raw output, confidentiality clauses (e.g., access to and further use of client-owned data), and the ability to integrate the MT within a CAT tool.

Common MT brands used by translators include Google, DeepL, Baidu and Microsoft Translator, with some MT tools supporting more language pairs than others. The underlying technology of the latest machine translation paradigm – neural machine translation (NMT) – is AI, as it involves the use of neural networks and deep learning algorithms that go beyond word and phrase patterning.

Using NMT technologies, entire texts are encoded and decoded in a way that can result in more contextually accurate translations.

The term **artificial intelligence** (AI) refers to computer systems having the ability to perform tasks that mimic human cognitive functions, such as solving problems, making decisions and ‘learning’ facts.

In the context of translation, AI refers to tools that are trained on vast amounts of text data, and use deep learning models to find patterns and data sequences within multiple text corpora. Generative AI, which became popular in 2022, can create new language translations (similar to MT), adapt existing translations for different target audiences, or rephrase text in the same language. Although not specifically designed for T&I, generative AI can produce both written and spoken translations in the same way that other AI-based tools can – that is, via user-led instructions or prompts.

Common AI-based tools used by translators include ChatGPT, Google Gemini, Claude, Poe and LLaMa.

Sub-fields of AI relevant to translation and interpreting are natural language processing and large language models.

The term **natural language processing** (NLP) refers to computers understanding, interpreting and generating human language, and therefore involves analyses of sentences and texts that relate to their structure (parsing) and meaning (semantic analysis). Examples of NLP applications relevant to interpreting are speech recognition tools, chatbots and voice assistants.

NLP does not perform well at contextual understanding, ambiguity or language diversity. Output is variable to poor for any language other than the world’s 10 most widely used languages; and where data quality is subject to bias, output is skewed.

Large language models (LLMs) build on NLP, and have greater adaptability and fluency than NLP-only models. LLMs are a subset of generative AI that focuses specifically on language. Designed for NLP tasks such as text generation and analysis, LLMs can produce coherent and contextually appropriate text, provide answers to questions, engage in meaningful conversations and produce text that resembles human writing, all in ways that outperform NLP.

In the T&I context, LLMs may be used to generate or refine translations and customer communications, or to perform research such as glossary building. LLMs also have the capability to enable automated translation of texts and automated transcription, so that subtitles can be produced in real time. They can also assist in content localisation by analysing patterns specific to target language recipients.

Output from LLMs still shows shortcomings in detection of textual, cultural and situational nuances, and industry- and setting-specific terms and phrases. Output can reflect data patterns rather than factual correctness, leading to inaccuracies and nonsensical responses (often referred to as ‘hallucinations’). LLMs simulate comprehension, but lack both genuine understanding and emotional intelligence.

Figure 1 (below) provides a schematic overview of different technologies and their relation to each other.

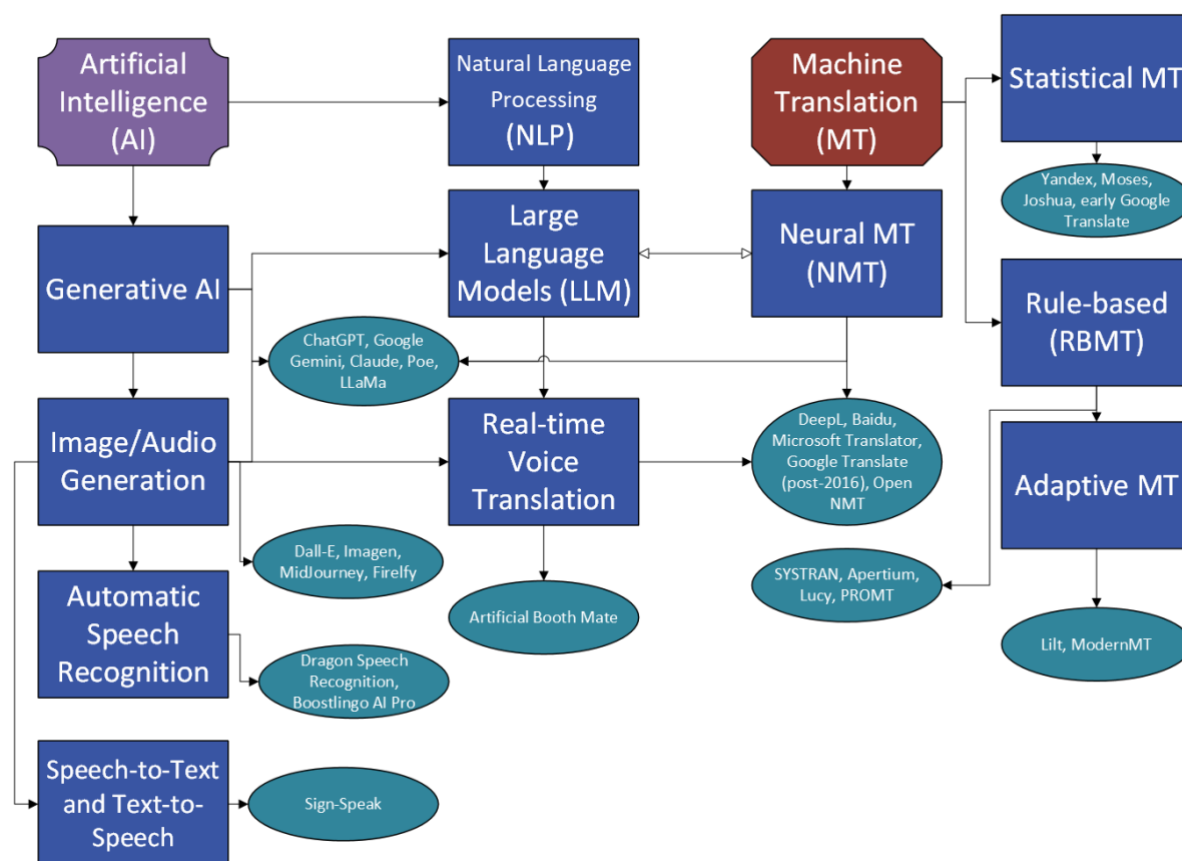


Figure 1: Relation of different technologies to each other (approximate model of representation)

(ii) Interpreting

The term **speech recognition technology** (SRT) refers to technology that has the capacity to recognise spoken language and to produce a text version or transcript of it. Speech recognition tools were initially developed within the field of natural language processing (NLP). A common example of SRT is the closed captions function on YouTube which, when selected, provides an automated transcript of spoken language.

Other examples of speech recognition tools are Dragon Speech Recognition¹ and Boostlingo AI Pro.² More recently, Microsoft has released AI tools³ that perform speech-based operations such as real-time, fast or batch transcription, speech translation (speech-to-speech, speech-to-text) and language identification.

Sign language recognition technology (SLRT) relies on cameras, sensors or wearable devices to capture the visual features of hand movements, gestures and facial expressions. Examples of base technologies that support sign language recognition are convolutional neural networks and recurrent neural networks.

It appears that most work in the field of SLRT is being undertaken by commercial entities. A US-based commercial AI research and product startup, Sign-Speak,⁴ is developing bidirectional translation tools (sign-to-text and speech-to-sign). Shortcomings are apparent in speech-to-sign interpreting: the variety of sign language used by the avatars appears to be matched to English word order, rather than to the natural grammar of the sign language on which their research is based, ASL (American Sign Language). Further, extra lexical items appear to replace features of facial grammar (specific facial expressions used in sign language to convey grammatical information). Another commercial AI research and product company, Signapse,⁵ is developing unidirectional translation tools based on datasets of sign language videos. Its SignStudio and SignStream technologies automate the translation of spoken language videos and written texts into sign language-interpreted videos (in BSL – British Sign Language and ASL only, not Auslan). Kara Technologies is also developing text-to-sign technology in ASL, with capability for Auslan in the planning stages.⁶

¹ <https://www.dragonprofessional.com.au/>

² <https://boostlingo.com/solutions/ai-speech-translation/>

³ Azure AI Foundry: <https://ai.azure.com/explore/models/aishervices/Azure-AI-Speech/version/1/registry/azureml-cogsvc/tryout/speechtotext#speechtranslation>

⁴ <https://sign-speak.com>

⁵ <https://signapse.ai>

⁶ <https://www.kara.tech/technology>

At present, SLRT for the purpose of automated interpreting is still at a developmental stage. Warnings or disclaimers regarding the functionality of tools are common. For example, a tool developed by Signapse lists its capabilities as well as its limitations:

The API [Signapse application programming interface] is entirely AI-generated, with no human grammar checking or quality assurance. The output may include grammatical inaccuracies from a BSL perspective, so it is not suitable for formal, legal, or official use. It's best for casual messaging or testing new accessibility concepts.⁷

It's likely that this warning is issued due to the risk of inaccuracies in sign language grammar that would make output inaccessible to monolingual signers. Other technology developers state that replacement of human interpreters with digitally generated human figures/avatars is not their goal, for example, Kara Technologies states that its tools 'are not replacements for human interpreters. These tools are designed to complement traditional interpreting services.'⁸

Computer-assisted interpreting technologies (CAIT) are technologies that support and optimise both an interpreter's preparation before and their performance in an interpreter-mediated interaction. Before an assignment, tools like ChatGPT or DeepL Pro can follow the interpreter's instructions to create an automatic glossary of terms relating to the target thematic area and language.

In a conference interpreting setting, tools such as Artificial Booth Mate (ABM)⁹ use both speech recognition technology and large language models to provide machine translations of speech into text. Another example is InterpretBank's¹⁰ ASR cloud tool, which can identify speakers' use of terms, names or numbers, automatically displaying these on a screen in real time during speech.

The term **machine interpreting** (MI) refers to technologies that combine speech recognition, automatic machine translation and voice synthesis to provide speech-to-speech translation – oral speech into synthesised speech. As a linear process, machine interpreting relies on automatic speech recognition converting speech into written text,

⁷ <https://www.signapse.ai/signstream-api>

⁸ <https://www.kara.tech/faqs>

⁹ https://safeaitf.org/wp-content/uploads/2024/04/R-XXVII.2.2.Virtual-Boothmate_B.Defrancq_UniGent.pdf

¹⁰ <https://www.interpretbank.com/index.html>

which is then translated into another language via NMT, after which voice synthesis converts the written translation into an artificially produced oral form.

The complexity of each process utilised in MI can lead to the propagation of errors, and these are potentially amplified in subsequent stages. Some new commercial products, such as SeamlessM4T¹¹ from Meta, aim to overcome the shortcomings of a linear, cascaded approach. Features of *Call Translate*, a machine interpreting tool released publicly for commercial use in June 2021 by Optus (a major telecommunications provider in Australia) are provided in Appendix 5.

¹¹ <https://about.fb.com/news/2023/08/seamlessm4t-ai-translation-model/>

II. General policies and guidelines on the use of AI in Australia

As a ‘frontier’ technology, AI has attracted the attention of the Australian Government. In September 2024, the federal Department of Industry, Science and Resources published a voluntary set of guidelines for AI use, aimed at organisations in both the public and the private sector, and intended to ‘ensure AI is safe, secure and reliable’. The guidelines consist of a set of eight principles which:

are designed to prompt organisations to consider the impact of using AI enabled systems. We intend them to be aspirational and complement, not substitute, existing AI regulations and practices. (Department of Industry, Science and Resources, n.d.)

The Australian Government’s AI principles are relevant to settings or contexts which involve human beings – that is, to both translation and interpreting where humans are consumers of translation or interpreting services. The Australian Government’s AI principles signal that all organisations should consider the following:

Will the AI system you are developing or implementing be used to make decisions or in other ways have a significant impact (positive or negative) on people (including marginalised groups), the environment or society?

Are you unsure about how the AI system may impact your organisation or your customers/clients? (Department of Industry, Science and Resources, n.d.)

The eight principles are as follows:

- Human, societal and environmental wellbeing: AI systems should benefit individuals, society and the environment.
- Human-centred values: AI systems should respect human rights, diversity, and the autonomy of individuals.
- Fairness: AI systems should be inclusive and accessible, and should not involve or result in unfair discrimination against individuals, communities or groups.
- Privacy protection and security: AI systems should respect and uphold privacy rights and data protection, and ensure the security of data.
- Reliability and safety: AI systems should reliably operate in accordance with their intended purpose.
- Transparency and explainability: There should be transparency and responsible disclosure so people can understand when they are being significantly impacted by AI, and can find out when an AI system is engaging with them.
- Contestability: When an AI system significantly impacts a person, community, group or environment, there should be a timely process to allow people to challenge the use or outcomes of the AI system.

- Accountability: People responsible for the different phases of the AI system lifecycle should be identifiable and accountable for the outcomes of the AI systems, and human oversight of AI systems should be enabled.

(Department of Industry, Science and Resources, n.d.)

The above principles invite practitioners to consider what role AI can and should play in work-related settings. The first principle, when applied to spoken language and sign language interpreters and to translators, calls on them to consider how AI can optimise their performance for the benefit of those who are consumers or users of their services. This means that practitioners are called on to familiarise themselves with and engage with AI technologies as a component of their own existing skillsets. This call is in line with the ethical principles / values of professional development by which all translators and interpreters are obliged to abide (AUSIT Code of Ethics and Code of Conduct, 2012, Principle 8.1; ASLITA Code of Ethics and Guidelines for Professional Conduct, Value 2.4.1, 2020).

The Australian Government's principles also both inform T&I service users of their right to benefit from the enhancement of services through AI, and encourage them to consider the implications of its use, so they are in an informed position to accept or reject services that involve the use of AI.

A recent example of a state body that has applied these principles to its specific area or activity is the NSW Supreme Court, with its Practice Note SC GEN 23: Use of Generative Artificial Intelligence (Gen AI). The Practice Note contains a 'General prohibition' of use of AI in relation to affidavits, witness statements and other evidentiary material, information subject to non-publication or suppression orders, material produced on subpoena, or other material subject to statutory prohibition. The risks and shortcomings identified by the Practice Note include AI's scope for hallucinations and for underlying databases to contain misinformation or bias, its openness to being added to LLM databases, the lack of adequate safeguards to preserve confidentiality and privacy, and the fact that Gen AI data may have been obtained in breach of copyright (The Chief Justice NSW, 2025, 3-4).

The need for practitioners and providers of T&I services to inform potential users about the advantages and disadvantages of AI is re-visited in Section V of this Position Statement.

III. Current guidelines in Australia on the use of technology in translation and interpreting

The most authoritative guidelines on the use of technology in language services in Australia to date have been issued by government agencies. At both federal and state/territory levels, government agencies are substantial providers of funds that support – either directly or indirectly – the service providers that utilise T&I services. Publicly funded service providers purchase a substantial amount of all translation services and up to 95% of all interpreting services provided in Australia. It is important, therefore, that government agencies provide guidelines to service providers, in order to ensure that their practices conform to relevant legislation, such as anti-discrimination laws. Guidelines from government agencies also advise service providers how to best implement government policy in order to overcome any language barrier between users and the provider of a service, through the provision of T&I services.

At a national level, the Department of Home Affairs' *Australian Government Language Services Guidelines: Supporting access and equity for people with limited English* (Commonwealth of Australia, 2019) is the most authoritative practice guide. These guidelines acknowledge the utilisation of CAT tools in translation – adding that their use should be in line with the international practice standards set out in ISO 18587:2017 Translation service—Post-editing of machine translation output—Requirements¹² – and describe automated tools such as Google Translate and Microsoft Translator thus:

Machine translation applications (such as Google Translate and Microsoft Translator) are freely and readily available through web browsers. Members of the public may use these tools to translate information on government web pages. However, such a 'self-service' approach, in which there is no quality assurance process to validate the translation, is likely to result in translated information that is unclear and potentially misleading. Agencies can mitigate the risk associated with uncontrolled use of machine translation by managing and providing their own machine-translated output.

Further,

Fundamentally, 'machines cannot make conscious, ethical decisions, nor can they evaluate risk'. Machines cannot understand the broader cultural and intercultural context of a document and cannot ask questions of its author to clarify its meaning and purpose in order to provide a fit-for-purpose translation.

¹² ISO 18587:2017 Translation Service—Post-Editing of Machine Translation Output

<https://www.iso.org/obp/ui/en/#iso:std:iso:18587:ed-1:v1:en> Note from ISO18587:2017: 'The use of machine translation (MT) systems to meet the needs of an increasingly demanding translation and localization industry has been gaining ground. Many translation service providers (TSPs) and clients have come to realize that the use of such systems is a viable solution for translating projects that need to be completed within a very tight time frame and/or with a reduced budget. ... This document provides requirements for the process of full, human post-editing of machine translation output and post-editors' competences.'

Machine-translated output may be less reliable (or not viable) for minor languages, owing to insufficient linguistic data available in such languages to ‘train’ machine translation. (Commonwealth of Australia, 2019, 46)

The overall message from the Commonwealth Government is that automated translation tools – without human review, editing, and evidence of the resulting level of quality – are not to be used to produce government-funded translations. No statements are made in relation to integration of technology into interpreting services.

The full text of the ‘Use of Machine Translation’ section from the *Australian Government Language Services Guidelines* can be found in Appendix 1.

Government agencies at state level contain similar warnings about the use of automated translation tools. For examples, Multicultural NSW (2022) advises that:

Online automated translation tools such as Google Translate should not be used as they can be inaccurate and the risk of mistranslation is high

and that

It is NSW Government policy that certified translators be used by NSW Government agencies and funded organisations to translate official information. (Multicultural NSW, 2022)

See Appendix 2 for a longer excerpt from the ‘Translation tools’ subsection of the *NSW Government Language Services Guidelines*.

In Victoria the Department of Premier and Cabinet’s guidelines, *Multilingual Information Online: Victorian Government Guidelines on Policy and Procedures* (2019) contains the following in its section titled ‘Machine automated interpreting and translating tools’:

Victorian Government policy strongly recommends engaging NAATI credentialed interpreters and translators and currently advises against the use of automated interpreting and translating tools, which cannot at present be guaranteed to be accurate. While some machine tools are improving, they still have a reasonably high chance of incorrectly translating information.

[...]

Machine automated interpreting and translating tools may be unable to take into account:

- variations in dialect and language
- linguistic preferences of communities
- actual meaning (i.e. word for word translation does not consider overall comprehension)
- specific cultural references
- other nuances such as politeness level.

[...]

Written content that has been translated by a machine should always be checked for accuracy by a NAATI credentialed translator. Also, machine translations may not support all languages that may be required. (Victorian Government, 2019, 7).

A longer excerpt from this section of the guidelines can be found in Appendix 3.

In Queensland, the section of the *Language Services Guidelines* on ‘Machine / Automated translation’ contains the following:

There are a number of web and application-based translation products (e.g. Google Translate) widely available to assist overseas travellers and other people needing to communicate small amounts of information in another language.

While these technologies are convenient and cheap they vary considerably in quality and provide only a limited translation (i.e. they translate one word for another without consideration of the context in which the word is used which may result in a different meaning). They also only provide translations for a limited number of languages and rarely the new and emerging languages spoken by refugee communities (e.g. for African languages. Google Translate currently only has Swahili, Afrikaans, Somali and Zulu).

Using this technology in a more systematic and widespread way may result in legal liability and be dangerous to clients. Using a web or application-based translation product in place of an interpreter will also be of limited use for oral languages where there is no written form or where literacy levels within the language community are low.

[...]

When using machine translation agencies must have mechanisms in place to ensure the quality of the translation, including engaging a qualified translator to check finalised translation and a community language speaker to ensure cultural appropriateness of the translation. (Queensland Department of Communities, Child Safety and Disability Services, 2016, 20-22)

A longer excerpt from the ‘Machine / Automated translation’ section of the Queensland Government’s *Language Services Guidelines* is reproduced in Appendix 4.

On the basis of the above guidelines for the provision of language services in NSW, Victoria and Queensland – which are host to a very large part of the T&I services provided in Australia – it is clear that the stated policies of state/territory governments are the following:

- translation assignments are to be allocated to and performed by NAATI-certified translators
- automated or machine-generated translations that have not been edited by a professional translator are not appropriate for use by service providers because:
 - their level of accuracy is variable

- the level of accuracy drops considerably for many ‘mid-range’ demand languages, and drastically for most languages ‘of lesser diffusion’, including Australian indigenous languages
- of the danger of the genre, style, tone and/or cultural context of the text being inaccurately rendered
- proofreading and editing by certified translators is required, preferably following work practices set out in *ISO 18587:2017 Translation service—Post-editing of machine translation output—Requirements*.
- of lack of clarity about the security and privacy of storage facilities, particularly those located overseas.
- where translations are automated or machine-generated, the intervention of a certified translator is required to proofread and edit the text, to ensure that it meets the standard level of quality required of translations
- machine-automated interpreting is not appropriate for use by service providers because:
 - it is not able to deal with language variation, in particular the use of dialect or non-standard language
 - it presents the risk of not conveying specific pragmatic features (e.g., level of politeness, tone) and cultural references
 - the legal responsibility of providers or producers of automated translation and interpreting tools is unclear.
- the issue of liability in instances of automated translations or interpretations that are distorted or inaccurate is also unclear, and it seems likely that the service provider would bear ultimate responsibility for the content and form of automated translations.

IV. Analysis of how AI works in relation to the language services sector

(i) How AI works in relation to language data

AI technologies harvest data in order to function and ‘learn’. The vast majority of available datasets are made up of texts (written language), primarily ‘scraped’ (i.e., located and then used) from publicly accessible sites across the internet. Current AI technologies are therefore more applicable and amenable to the translation of written texts than to interpreting spoken language. However, speech recognition technology has enabled the collection and harvesting of spoken language data. Such harvested data functions as a base corpus on which AI is trained – that is, in order to respond intelligently to instructions that it is given, AI technology performs operations based on available data. AI technologies can currently provide speech-to-text transcription, with further functions such as automated translation and target language voice generation also now becoming available.

Significantly, there currently appears to be no reliable way of measuring how ‘big’ or extensive (or how ‘small’ and restricted) the volume of currently harvested data is. It is also not clear whether such data has been sourced ethically – that is, that personal or confidential material has been excluded, and the data has been gained and used with the permission of the original creators or IP owners.

A feature common to AI technologies for both translation and interpreting is that the texts they harvest are chiefly in English, other major European languages (such as French, German, Spanish, Portuguese and Italian), and other major world languages (such as Chinese, Japanese, Arabic, Russian). Just 10 languages out of the world’s 7,000 living languages contribute 85% of available (almost exclusively written) text data that AI systems harvest (DePalma and Lommel, 2023).

As a consequence, ‘many languages do not have the digital ‘footprint’ of English and a few European languages, so GenAI output [...] tends to be less fluent, accurate, and useful for languages with fewer digital resources’ (Giustini, 2025, 337).

But even for major world languages, current AI tools yield mixed to low results. The interpretation team of the World Health Organisation (WHO) recently carried out systematic testing of an AI interpreting tool (WORDLY)¹³ which can provide machine interpreting (MI) output via speech-to-text (STT), then text-to-text through machine translation (MT), and finally text-to-speech (TTS). Source speeches in six languages (Arabic, Chinese, English, French, Russian and Spanish) were chosen from ones that had

¹³ <https://www.wordly.ai/language-interpretation>

previously been interpreted by human interpreters at WHO meetings since May 2024. Each speech was interpreted into all five other languages.

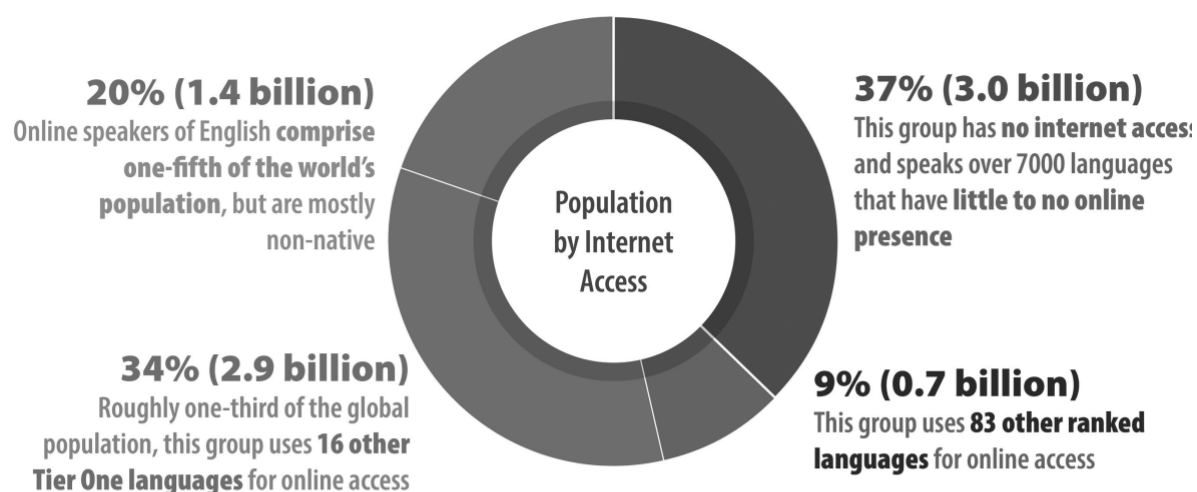
The assessment criteria used related to: content (i.e., accuracy of transferring referential content), expression and delivery. Assessors were made up of WHO languages services staff and T&I staff from the University of Geneva (WHO interpretation team, n.d.).

Assessment of WORDLY's performance on 90 speeches showed results of between 5% and 83%, with only one interpretation gaining a score above the assessors' pass grade of 75%. Errors that represent a reputational risk for the WHO and/or the presenters were prominent – that is, interpretations that conflict with the values, image or identity of the WHO, or could cause political or diplomatic fallout, undermine the functioning of meetings, or expose the speaker to ridicule. And while WORDLY machine interpreting was able to deal with the varying levels of speed at which the presenters spoke, it produced a significant time lag – up to 32 seconds, compared with less than 5 seconds when human interpreting is used.

Proper nouns, technical terms, cultural references, references to visual information (e.g., figures, charts), complex grammar, and the re-gendering of speakers or protagonists caused significant problems. Delivery was monotonous and inexpressive, and in some languages there were pronunciation errors. The report didn't explore issues relating to technical system inter-operability, inherent bias, IT security, confidentiality, liability and hidden costs.

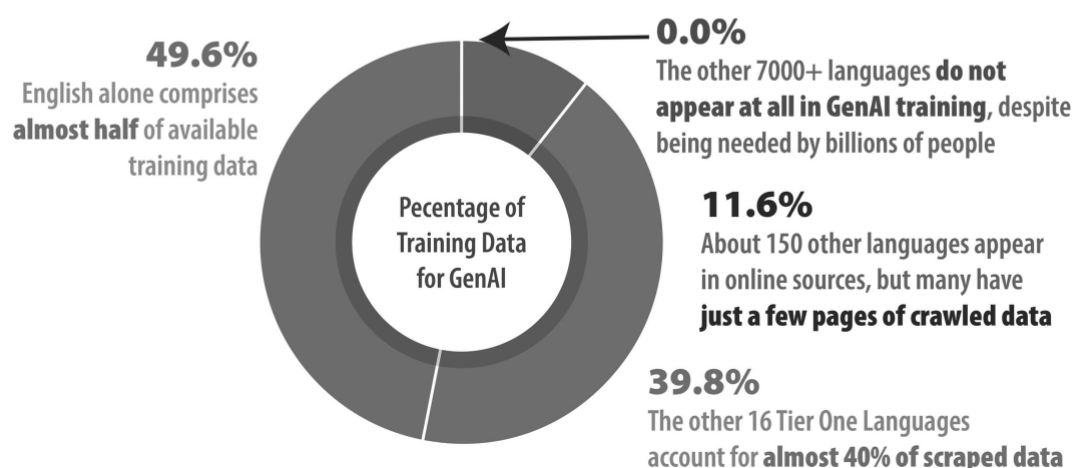
Thus, automated interlingual transfer – even between the world's largest and best-served languages – currently has considerable shortcomings. One of the issues alluded to but not investigated in the WHO test was bias. The harvesting of data from texts in English and the world's other major languages leads to a general bias in favour of the syntactic, semantic and phonological categories of these languages, as well as the text and discourse features specific to them. The bias resulting from most data being harvested from a small number of major languages is made evident in Figure 2 (below):

17 Languages Dominate the Digital World



Generative AI Is Even More Unequal

The training data that GenAI relies on is largely scraped from the internet



Source: CSA Research

Figure 2: Representation of the world's language in digital texts and in generative AI (source: DePalma & Lommel, 2025, 34)

The bias in favour of a small group of languages that provide over 85% of input data harvested by AI has commensurate consequences for the T&I sector in Australia. The problem of bias is amplified in relation to sign languages, as the limited corpora of sign language data also contain their own limitations: they are unlikely to reflect sign language conventions across generations, differences between social groups, regional dialects, usage by L1 or L2 users, and non-citation forms.

The provision of T&I services in Australia is, to a very substantial degree, determined by the linguistic needs of residents who require them, regardless of whether their requested language is amongst either the world's 10 most widely used languages, or the 17 that 'dominate the digital world', as identified in Figure 2 (above) by DePalma & Lommel (2025).

Service provision must encompass all of the 375+ languages spoken or used in Australia, which include approx. 125 Indigenous languages, and Auslan as the country's most widely used sign language.¹⁴ At present, AI-based automated translation tools can only provide very variable levels of accuracy and output quality of written translation for most of these languages. It is difficult to assess the actual quality of the output of AI-based automated translation tools in individual languages without involvement of bilingual speakers/practitioners. At the same time, even if the output were assessed in this way, this would only ascertain the level of quality at a certain point in time. As AI tools are constantly being updated and modified and new models are regularly being released, the levels of accuracy and output quality are highly variable over time. While many AI tools give the impression that they are consistently improving in a linear fashion, in actual fact the quality of automatically generated output fluctuates in line with the current development status of the tool used and the availability of training data to that tool.

While the number of languages on which AI draws data is constantly increasing – for example, automatic MT tools that now cover Burmese and Tibetan have been shown to produce results that are sometimes usable as raw output for translators in these languages – limitations and biases remain in relation to the data available for harvesting.

For many languages – including many of those ‘transposed’ through migration (e.g., Assyrian, Chin, Hazaragi, Rohingya) as well as Indigenous languages (e.g., Kriol, Warlpiri, Pitjantjatjara) – there are currently few or no language-specific machine translation tools. Many MT tools give the impression that they can translate for these languages; for example, asking a Large Language Model to translate a text into Rohingya or into Warlpiri will often result in an output that appears to be a translation. However, upon closer examination by a speaker or user of that language it usually becomes apparent that these ‘translations’ are not accurate, and at times are merely nonsensical collections of words in these languages dredged up from the training data and presented to the casual observer as a ‘translation’.

For interpreting tools based on recordings of spoken language data the situation is even more limited, as the volume of harvested datasets is much smaller, and input factors such as clarity of speech, volume and use of standard language, along with the quality of each tool's audio reception, all greatly affect quality of output. And for sign languages used in Australia the situation is similar, as there are no tools based on or designed specifically for Auslan, Indigenous sign languages or Non-Conventional Sign Language.

¹⁴ Auslan is not the only sign language used in Australia. There are also several Australian Indigenous sign languages, other codified sign languages such as American Sign Language (ASL), and other visual-gestural codes encompassed within the term ‘Non-Conventional Sign Language’. Deaf interpreters are often the most suitable interpreters to service signers in this group, working in relay with Auslan-English interpreters.

The current structural limitations of AI-generated translation for all but a small number of the world's languages is but one of the six shortcomings identified by DePalma and Lommel (2020, 33) in their analysis of the application of LLMs to the global translation market and to language services in general – see Table 1 (below):

<i>Data quality</i>	<i>Sample quality issues – Plus your application-specific concerns</i>
Data latency	• The model may be outdated because of infrequent training updates due to the cost of processing huge amounts of data and correlations.
Relevance	• Data for linguistic, domain, vertical, cultural, political, economic, and business practices is under-resourced for most use cases. • Common practices for harvesting training data lack the systematic and application specific methodologies used to collect and manage linguistic assets such as translation memories and termbases.
Bycatch data	• Training data sources include unwanted and suspect data that harbours bias and incomplete views of most languages and cultures. • Want more information? Providers are unlikely to reveal details about their training data and methodology.
Data deficits	• Under-resourced languages may not result in content generation or translation functions that meet quality expectations. • That same caution will apply to NLP functions such as summarization, condensation, personalization, and grammatical issues like gender and number.
Data governance	• Your organization's data may be sucked into the model and made available worldwide. • Providers may not have established policies for data storage, security, privacy, retention, or how they share data with others, including competitors. • Output may reflect data, terminology, and perspectives from competitors.
Permanence	• The randomness of Common Crawl may present other risks. • Providers may change underlying data, correlations, and algorithms themselves, thus diminishing the use of an LLM as an authoritative reference.
Integration capabilities	• Integrating an LLM with your technology stack may be difficult or undocumented, although this concern will lessen as providers offer more comprehensive APIs.

Source: CSA Research.

Table 1: Capacities and limitations of Large Language Models (LLMs) and their ability to meet enterprise data requirements for professional translation (DePalma and Lommel, 2020, 33)

(ii) The implications of AI and MT for freelance translators

AI and MT can both be seen as tools in a translator's toolbox. As stated above, engagement with AI and MT is called for, as these technologies are now widely used within the language services industry. Engagement with AI and MT is in line with the ethical principle of professional development that requires translators to continue acquiring skills and abilities relevant to their work. Where translators choose to use MT and AI in performing their work, they must do so responsibly and exercise all due care. This includes ensuring that confidentiality is maintained (i.e., by removing all identifying data from the source text) and safeguarding against any hallucinations or errors that may be found in raw, unedited MT/AI output.

Revising or post-editing MT/AI output is necessary to ensure that the true meaning has been correctly transferred. For professional use, AUSIT does not endorse the use of raw, unedited MT or AI output without human oversight by an appropriately skilled language professional. The unsupervised use of MT and AI can present a high level of risk, where errors can have severe consequences. No MT or AI system currently guarantees or takes responsibility for its output, or is willing to certify that output as a true and accurate translation. At present, such warranties can only be provided by human translators, based on their skills and experience.

Parallel to this and in situations where it is possible, many translators engage in pre-editing of a source text before it is machine translated. Pre-editing refers to the process of standardising a source text in order to reduce the number of errors in the passage through machine translation. This kind of pre-MT optimisation generally involves clarifying syntax and eliminating ambiguities. Further, when a text is to be translated into multiple languages, pre-editing can be more cost-effective and less labourousome than post-editing. Pre-editing is not a replacement for post-editing, but it can greatly reduce the level of post-editing required for raw machine-translated output.

When used responsibly, translators can leverage AI and MT to assist them in transferring meaning from one language into another. MT and AI may be used to create a first draft of a translation. AI may be used to support rephrasing, terminology research and assignment preparation, but it is not considered to be an authoritative source of information in isolation. As with Wikipedia, general popular knowledge on a subject may or may not be factually correct or idiomatically phrased. Translators should always sense-check any external information against their own expert knowledge and independently verify any unknown variables with more than one authoritative source. The quality and reliability of MT and AI output may vary significantly between language pairs.

(iii) Translation, confidentiality, and the integrity of source and target texts

Australian translators abide by the AUSIT Code of Ethics and Code of Conduct (2012), and/or the ASLITA Code of Ethics and Guidelines for Professional Conduct (2020) in the case of (written English-to-Auslan) Recognised Practising Translators. These codes include the principle of **confidentiality**. Interpreters and translators maintain confidentiality and do not disclose information acquired in the course of their work. However, the improper use of MT or AI has the potential to breach client confidentiality. AUSIT strongly recommends that all practitioners actively review and consciously consider the terms and conditions for using any software that may breach this principle, including email providers, cloud storage solutions, CAT tools, grammar checkers and MT/AI.

	Free publicly available online version	Paid/commercial version
AI example (ChatGPT)	ChatGPT Free Tier: Interactions may be used to improve OpenAI's models. Training data may incidentally include personal information. https://help.openai.com/en/articles/5722486-how-your-data-is-used-to-improve-model-performance	ChatGPT Enterprise: You own and control your data, inputs and outputs (where allowed by law). OpenAI does not train its models on your business data by default, and you control how long your data is retained. https://openai.com/enterprise-privacy/
MT example (Google Translate)	Google Translate: This licence allows Google to host, reproduce, distribute, communicate, use, publish, publicly perform, publicly display and modify your content, and create derivative works based on your content, such as reformatting or translating it. https://policies.google.com	Google Cloud Translation API Advanced: Google does not use any of your content for any purpose except to provide you with the Cloud Translation API service, and does not make the content available to the public. https://cloud.google.com/translate/data-usage

Table 2: A model contrast of AI and MT tools with different conventions regarding use of data that has been input.

In relation to the difference between the 'free publicly available online' and 'paid/commercial' versions shown in Table 2 (above), translators should keep in mind that every time they enter data into an AI or MT tool, they have done so to a third party, and are therefore reliant on that party treating and storing the data in an ethical manner, and also maintaining a level of security for it that is equal to or higher than the level translators themselves would otherwise provide for their clients.

(iv) Spoken language interpreting, sign language interpreting and AI

Interpreting involves an interpreter using *spoken language* or *sign language* to enable others who do not have a common language to be able to communicate with each other. Spoken language differs greatly from written texts. Language-focused technologies are based entirely or mostly on written texts. These texts are analysed for models and patterns in the source language, broken up, and matched against models and patterns in the target language. Algorithms apply probabilities of words, phrases and sentences matching cross-linguistically to produce an automatically generated target text. In this manner, AI has developed on the basis of written language.

In contrast, spoken language often consists of short, elliptic or incomplete sentences. The way a speaker uses tone, emphasis, pace and volume are all key to how humans register meaning. The same applies to metaphors, analogies and ‘turns of phrase’ that may be culturally specific and also more frequent in spoken language.

In face-to-face verbal or signed exchanges, body language and facial gestures convey meaning, as does other non-linguistic content, such as pause fillers (‘um’, ‘er’), paralinguistic markers (nervous laughter, polite coughing), and even silence. Natural spoken language frequently contains non-standard forms that are regional, dialectal or colloquial, as well as slang. Therefore, natural spoken language contains a large number of features, most of which AI technologies can only process in a very limited way, if at all.

Sign language (with the exception of fingerspelling) bears no resemblance to written language. Sign languages are entirely visual and utilise handshapes, movements, spatial relationships in general, established and constructed signs, and facial expressions to convey meaning. Automated speech-to-text technologies, such as that which automatically generates closed-captioned subtitles on YouTube, are now sometimes used with the aim of providing deaf or hard-of-hearing people with a text version of spoken language. Such subtitles presume that the deaf user is bilingual and has the high level of literacy in written English that is needed in order to quickly read and understand written texts. However, automatically generated subtitles that reflect a speaker speaking at natural speed are frequently too wordy in length and delivered too fast for even someone with high-level literacy skills to read and comprehend.

When we consider that most deaf people have, on average, a lower level of literacy than hearing people (Canadian Association for the Deaf, 2015), it becomes apparent that the use of automatically generated subtitles is not an effective way to convey what is being said to a deaf audience.

The production of effective and appropriate subtitles for deaf people involves a linguist ‘respeaking’ spoken content at a slower pace and in summarised form, to yield subtitles that are readable and comprehensible for a deaf audience. However, even this strategy

does not provide deaf people with an interpretation in their preferred language – namely Auslan in the Australian context.

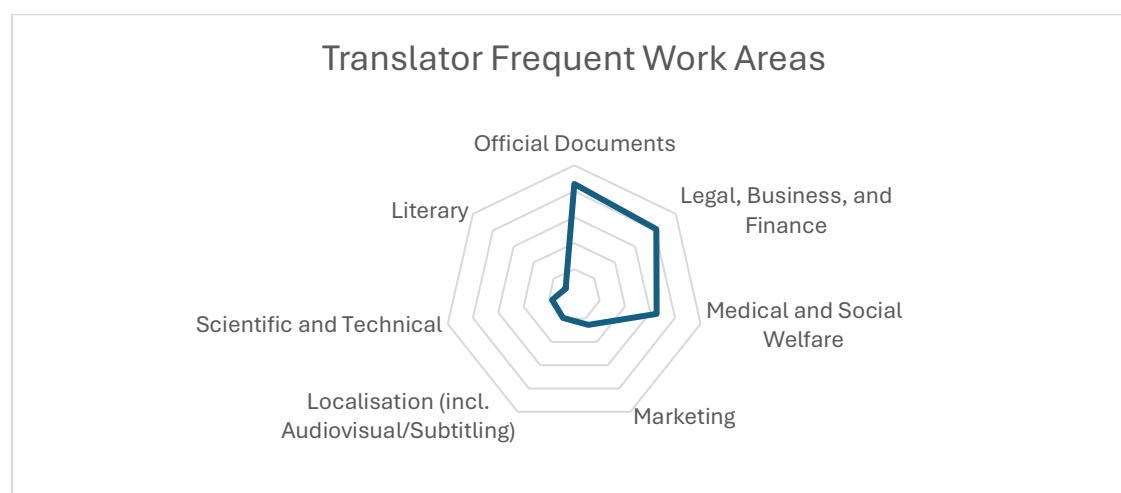
Most deaf people favour a sign language interpretation over text-based subtitles, and when given the choice, focus on an interpreter rather than written content (Agrawal & Peiris, 2021). Further, speech-to-text technology addresses one language direction only (as does text-to-sign language technology). Notwithstanding the developments projected by software companies such as Sign-Speak and Signapse – mentioned in Section I (ii) above – there is currently no AI or other software that can recognise and interpret sign language into spoken language or text. The implication of this is that interpreters are required for two-way communication.

(v) Topics and text genres in translation, fields and settings in interpreting: implications for the suitability of AI

Generalist translators work with texts from a wide variety of genres (e.g., patient discharge reports, financial statements, conditions of lease agreements, etc.) across a wide variety of thematic areas (e.g., finance, sport, medicine, etc.). Similarly, the majority of interpreters in Australia work across multiple fields (e.g., health, education, police, etc.) and settings (e.g., home visits, courtroom, video-enabled telehealth, etc.).

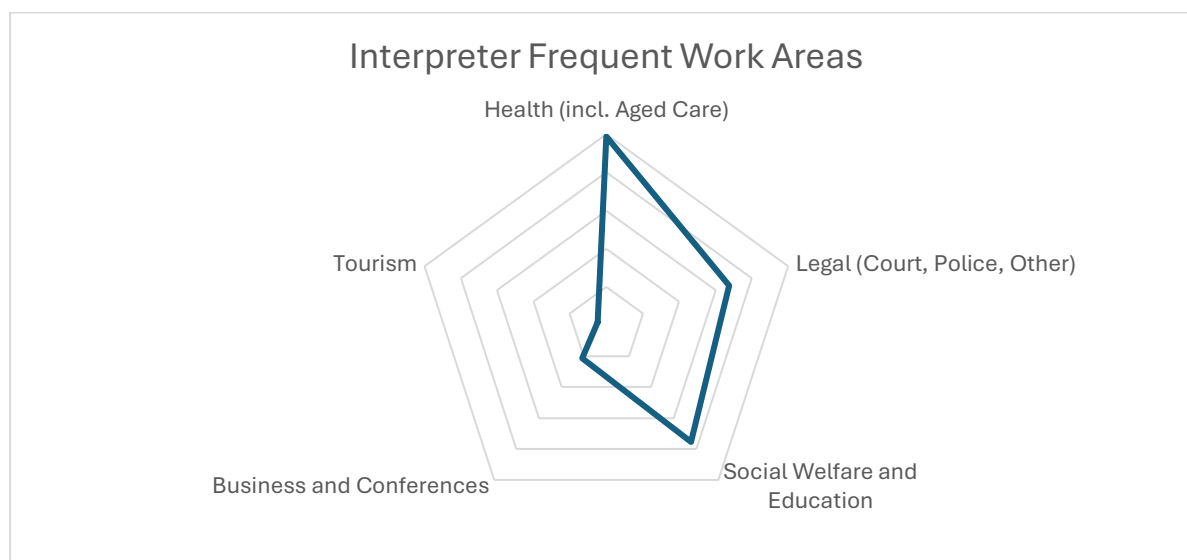
Data from a large sample of 3,268 Australia-based translators and interpreters, which can be considered representative of the work practices of Australian T&I practitioners in general, shows the fields/settings that translators and interpreters report working in ‘often’ (Tobias et al., 2021).

For translators, these are: official documents (58.5%), legal (31.0%), medical (27.8%), business/finance (26.9%), marketing (19.5%), social welfare (19.1%), scientific/technical (13.3%), localisation (8.8%), audiovisual/subtitling (7.2%), literary (6.6%) (Tobias et al., 2021, 15).



Graph 1: Work areas reported by Australia-based translators (n=1,643)

For interpreters, they are: health (76.5%), social welfare (47.7%), education (35.8%), aged care (32.6%), general legal (31.4%), court (26.1%), police (20.8%), business (18.7%), conferences (8.4%), tourism (6.4%) (Tobias et al., 2021, 15).



Graph 2: Work areas reported by Australia-based interpreters (n=2,530)

As mentioned above, AI tools function on the basis of harvesting features mainly from written texts, with spoken texts present in only a small proportion of available databases. Written texts in electronic form that are commonly available to be harvested include articles, websites, public online datasets such as Wikipedia, and most recently, social media content. While medicine, finance and housing may be widely harvested topics, it is not clear whether the types of texts harvested are representative of those frequently encountered by translators – for example, patient discharge reports, financial statements and ‘conditions of lease’ agreements. Grave problems – including distortions, omissions, ambiguous syntax, and culturally offensive translations – have certainly been found in automatic machine translations for public healthcare messaging and emergency instructions intended for Australia-based consumers. (Pym, 2023; Hajek et al., 2024).

The wide variety of texts with which many – if not most – translators work means that their AI has only variable ability to provide reliable translational solutions, especially as many of these texts – such as personal documents, medical records and financial statements – are personal and confidential, and therefore much less likely to be accessible as AI source data.

In relation to interpreting, most of the assignments – particularly those characteristic of community or public service interpreting, which form the vast majority of assignments

performed in Australia – involve dialogic or multi-party interactions. Examples of these are a post-operative check-up appointment (patient, surgeon), initial meeting regarding a social housing application (service user, housing officer), parent–teacher meeting (parent / adult sibling, teacher). These kinds of interactions can have a wide variety of features, including questions (polar, open, probing, leading, recall/process, inference, etc.); responses (non-response, direct, evasive, counter-question, etc.); and statements or speech acts (assertions, directives, declarations, etc.).

Many dialogic or multi-party interactions are dynamic rather than procedural – that is, speakers’ turns are determined by the general topic or what has been previously said, resulting in elliptic and highly contextualised speech. Further to this, tone, volume, pace, level of emotion, facial expressions and body language play a large role in conveying the underlying ‘meaning’ of what each speaker is saying at any point.

Spoken language data sourced by AI tools include public online datasets (e.g., TED talks), customer data (e.g., complaints from customers to a utility provider via telephone) and industry-specific archives (e.g., recorded in-service PD). It is possible that monologic – rather than dialogic and multi-party – interactions form a large part of sourced data. In addition, in the fields within which interpreters work – health, social welfare, education, aged care, court, police, business – almost all interactions are private and confidential. Recordings of such interactions are often not permitted, or can be made only with the permission of all parties, or – when such permission is not required, as in the case of some police/legal interactions (e.g., telephone intercepts, bodycam footage) – are kept confidential and not made available online. For procedural or legal reasons, therefore, the sources of spoken language recordings accessed by AI very rarely include the types of interactions in which interpreters work.

When AI is used to automatically translate verbal messages from interactions that are outside the scope of the data that it relies on, it is highly likely that this will reduce the quality of its output. When we consider the above-mentioned features of non-standard language – dialect, colloquialisms, slang – as well as tone, pace, gestures and body language, all of which current AI tools either cannot detect at all, or can detect but with a substantial chance of mistranslation, then replacing human interpreters with AI alone contains considerable risk that participants will not be able to communicate effectively with each other.

V. Implications and conclusion: principles on the use of AI for providers and users of translation and interpreting services

The above sections examine the use of AI in T&I, and current guidelines governing this. The availability of AI tools which claim to provide free or low-cost automatic translation and interpreting of written and spoken texts into any other language appear to enable unlimited access and communication across language barriers. We have identified, in general terms, how AI-based T&I tools work, and what their limitations are with regard to reliability and accuracy of performance. In order to address these limitations and to advise providers and users how to lessen the risk of unreliable or inaccurate outcomes, we provide the following scale of human – that is, professional translator or interpreter – supervision relative to the presence of AI tools:

Translation (interlingual text-to-text transfer):

- Human-generated. A professional translator undertakes all language transfer tasks and delivers a translation without recourse to AI-based resources. Appropriate for high-stakes scenarios with confidentiality/quality requirements, or for languages with low machine translation quality.
- Human-generated with AI tools. A professional translator is the primary provider of the translation. A translator may use AI tools to check technical jargon, collocations, grammatical accuracy, etc. Appropriate only for medium to high stakes scenarios where confidentiality restrictions permit use of AI.
- AI-generated with human pre-editing. The source text is rewritten in a clear way, to reduce the number of likely or possible errors which will be made in the text through machine or generative AI system translation. If a text is to be translated into multiple languages, pre-editing can be more cost effective than post-editing; the two approaches can also be combined to maximise translation quality.
- AI-generated with human post-editing. This relates to inter-lingual text-to-text transfer. AI tools are used to generate an initial draft translation which is next checked and revised by the translator to ensure not only linguistic accuracy and clarity/correctness of language use in the final version of the translation, but also that it meets the specifications of the translation brief or the requirements of the commissioner of the translation. It is usually also the translator themselves who proofreads the translation before submission to the client / end user. Appropriate for assignments that involve a high volume of repetitive text with sufficient quality controls to ensure accurate output.

- AI-generated with no contribution or intervention from a translator. The automatically generated output is not checked for accuracy of interlingual transfer or grammar, or for appropriateness of style, register, pitch or voice, so it is unclear how closely it meets the requirements of the consumer.

Scale of Professional Translator Intervention

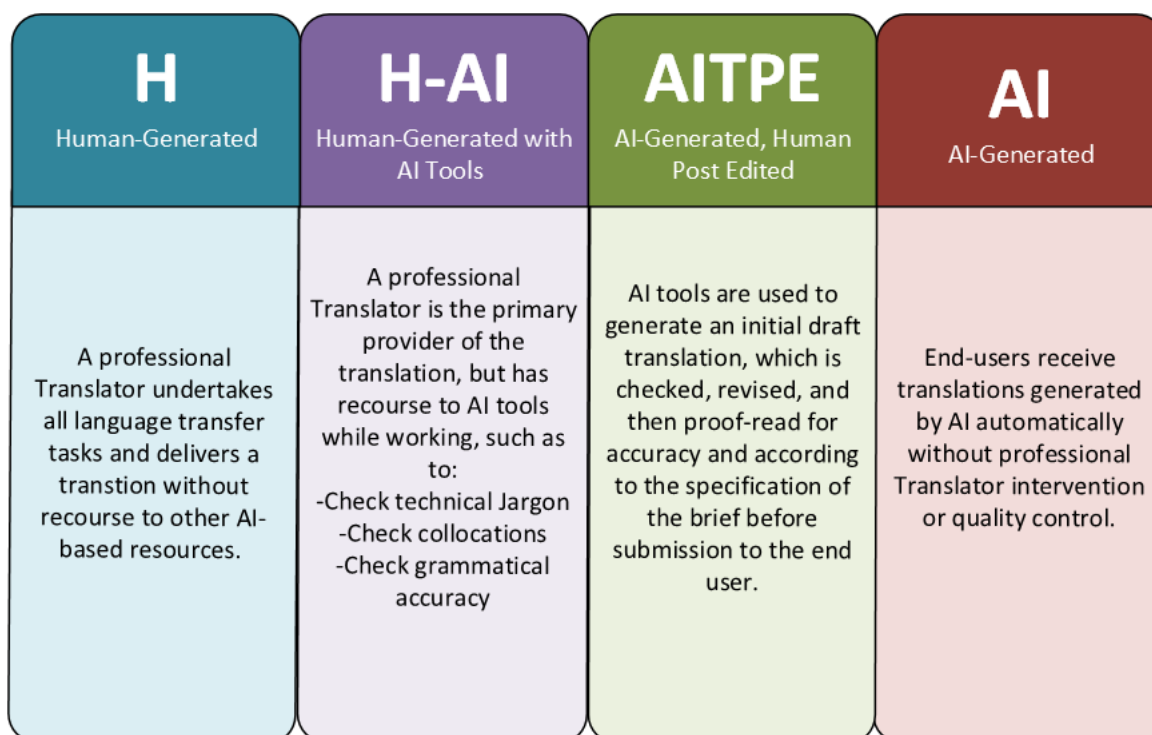


Figure 3: Scale of translation processes, from human-generated only to AI-generated only

Interpreting:

- Human-generated. A professional interpreter provides interpreting without recourse to other AI-based resources. (NOTE: When an interpreter uses AI tools (e.g., to generate a model speech transcript or a list of specialist terms) before the assignment, but does not use them in the interpreting process, the resulting interpretation still counts as 'human-generated'.)
- Human-generated with AI tools. A professional interpreter is the primary provider of the interpretation, but has recourse to AI tools while working. This may relate to contemporaneously produced speech-to-text transcription that can aid the

interpreter in correctly interpreting numbers, figures, names, proper nouns, et cetera.

- Human-generated and -directed with recourse to AI-generated machine translation. An interpreter provides an interpretation (either consecutive or simultaneous) and has, at the same time, access to a speech-to-text and machine-translated transcript for reference.
- AI-generated with contemporaneous human oversight. The interpreter can intervene into machine-interpreted output in order to correct, expand, paraphrase or otherwise clarify the automatically generated speech-to-speech output.
- AI-generated with subsequent human oversight. Users of interpreting services receive machine-interpreted speech-to-speech output. The interpreter's role is restricted to monitoring this output to detect miscommunications, and providing correction, clarification or other strategies to address these miscommunications at the post-output stage – either at the end of the interpretation, or at junctures during the interpretation when this is logically feasible, as either spoken or text-based additions to the machine-interpreted speech-to-speech output.
- AI-generated machine interpreting. An AI-based speech-to-speech tool generates output to users of interpreting services without input from or supervision by a human interpreter.

We revisit the Australian Government's AI principles (see Section III above) and apply them to the provision and use of T&I services in Australia.

- Human-centred values: AI systems should respect human rights, diversity, and the autonomy of individuals.

The last feature of this principle – 'autonomy' – means that where providers of interpreting services include the use of AI tools within their range of services, they are obliged to inform clients and end users about the possible use of these tools, including information about their usability, data collection and storage, and how such use conforms to the ethical standards set out in the AUSIT Code of Ethics and Code of Conduct and/or the ASLITA Code of Ethics and Guidelines for Professional Conduct.

Respecting the autonomy of clients and end users as individuals means that after providers have supplied this information, the client or end user is free to accept or decline the use of AI without penalty to them. It also means that where AI is used, providers must inform clients and end users about grievance procedures, in case they

identify shortcomings with the interpretation, and should also allow them to switch from AI-enabled interpreting to human interpreting at any time.

The above procedures also speak to the Australian Government's principle of 'transparency and explainability'. This principle requires providers of services to clearly describe the features of AI-based tools, such as usability/user-friendliness, local/logistic requirements, algorithmic bias, privacy and confidentiality of data use and storage, and clear costing of services involving AI-based tools only, AI + human interpreting, and human interpreting only.

The effect of bias and lack of information about privacy are identified as issues of grave concern by the European Language Council's Special Interest Group on AI in Translation and Interpreting, in its reflection paper *AI for Translation and Interpreting: A Roadmap for Users and Policy Makers* – see subsections on 'Perpetuation and even reinforcement of human biases' and 'Copyright, data protection and legal accountability' respectively (European Language Council, 2025, 15, 16).

A further principle is that of 'accountability':

- **Accountability:** People responsible for the different phases of the AI system lifecycle should be identifiable and accountable for the outcomes of the AI systems, and human oversight of AI systems should be enabled.

Human oversight in relation to the provision of interpreting services involves a human interpreter monitoring or regularly auditing aspects of the performance of AI tools, for example linguistic accuracy, ability to convey tone, meaning and intent of speakers' messages, appropriateness to setting, et cetera.

Oversight also involves intervening to address and rectify any shortcomings detected in the performance of AI tools. This is done either by correcting mistranslations, or by alerting clients and end users to any incorrect or inappropriate content in the AI-generated machine interpretations.

The role of the human interpreter in overseeing AI use should be stated in information provided to clients and end users, to enable them to decide whether they want the interpreter to use their judgement and discretion to revert to human interpreting where the performance of AI tools displays significant shortcomings.

Accountability also refers to the party that takes responsibility – in a legal sense – for the translation or interpreting services, via the contractual agreement between a service provider and the end user. Where an AI-based translation or interpreting tool is used and the client or end user discovers problems or errors in the tool's output, the client or end user must have access to clear information about what accountability or liability the tool offers, and how to report a grievance or to seek restitution for problems or errors that

occur. This contrasts with employing a human translator or interpreter to provide these services, or to oversee the use of any AI-based tools, as the practitioner is accountable to the client or end user for their work, including liability for any problems or errors that occur.

For further information regarding AI use in spoken language interpreting, see *Interpreting SAFE AI Task Force Guidance on AI and Interpreting Services*, produced by the SAFE-AI (Stakeholders Advocating for Fair and Ethical AI in Interpreting) Task Force (Interpreting SAFE-AI TF, 2024).

For further information regarding use in sign language interpreting, see *Deaf-Safe AI: A Legal Foundation for Ubiquitous Automatic Interpreting. A Report by Co-SET to the Interpreting SAFE AI Task Force*, produced by the Coalition on Sign Language Equity in Technology (2024).

APPENDICES

Appendix 1

Department of Home Affairs (2019). *Australian Government Language Services Guidelines: Supporting access and equity for people with limited English*, 45-46.

6. Use of machine translation

Machine translation technology is developing rapidly. [...]

Australian Government agencies are beginning to recognise and realise the benefits of deploying machine translation in a controlled process to translate public-facing web pages into community languages. The benefits of machine translation may include reduced cost and the ability to update material in languages other than English in line with updates to the English language text (whereas previously there may have been significant time lags in completing such updates).

Machine translation applications (such as Google Translate and Microsoft Translator) are freely and readily available through web browsers. Members of the public may use these tools to translate information on government web pages. However, such a 'self-service' approach, in which there is no quality assurance process to validate the translation, is likely to result in translated information that is unclear and potentially misleading. Agencies can mitigate the risk associated with uncontrolled use of machine translation by managing and providing their own machine-translated output.

When agencies use machine translation to create static translations they should comply with the International Standard *ISO 18587:2017 Translation service—Post-editing of machine translation output—Requirements*. This standard sets out the need for human translators to undertake a thorough post-editing of machine translation output to check its accuracy and comprehensibility. It also outlines the specific skills translators should have to undertake post-editing work. Australian Government agencies should engage NAATI-credentialed translators to post-edit machine translation output.

The above guidance may not apply to the deployment of online dynamic translators, which provide translations in real time. When deploying online dynamic translators, agencies should consider including an automatic post-editor where necessary (as described in Annex E of ISO 18587:2017)—for example, if the content being translated includes site-specific terminology. Agencies should engage NAATI-credentialed translators to create translations for use in an automatic post-editor.

Deploying machine translation may involve:

- identifying and recording the risks and benefits

- engaging stakeholders as required
- analysing and pre-editing the text to be translated (to ensure that it is clear, unambiguous and is in plain English)
- identifying specialised or technical terms requiring translated equivalents in the target languages
- developing a glossary of specialised/technical terms
- understanding the ‘capabilities and limitations of the software and considering whether the use of such software is appropriate for the type of translation required before procuring such a service’ [ISO 18587: 2017]
 - This may also include the use of automated evaluation metrics—such as ‘Bilingual evaluation understudy’—which assess the quality of machine translation output by comparing it with human translations.
- considering the use of appropriate and ongoing quality assurance processes using NAATI-credentialed human translators or bilingual staff. These processes should track quality over time and be used to undertake remedial action
- considering privacy implications for the treatment of personal information. This may include ensuring that the machine translation service has onshore storage so that no personal/sensitive information is sent offshore. The onshore/offshore capability differs between software providers
- gathering and preparing data for customising and training machine translation models
- working with NAATI-credentialed translators to undertake post-editing of machine output
- obtaining legal advice on necessary disclaimers for the use of machine translation
- considering whether translations presented to users need to be stored for audit or other purposes.

In short, Australian Government agencies should use machine translation only after:

- assessing and recording the risks (which may include the risk of not using it)

- considering whether the output should undergo an appropriate level of post-editing or quality assurance by NAATI-credentialed human translators to ensure the translations produced are fit for purpose
- confirming that the translated text conveys the meaning of the English original and meets the agency's intention for the communication product.

6.1 Limitations of machine translation

Notwithstanding the advances to date and the rate of development in machine translation, machine technology continues to have limitations.

Fundamentally, 'machines cannot make conscious, ethical decisions, nor can they evaluate risk'.¹⁵ Machines cannot understand the broader cultural and intercultural context of a document, and cannot ask questions of its author to clarify its meaning and purpose in order to provide a fit for purpose translation.

Machine-translated output may be less reliable (or not viable) for minor languages, owing to insufficient linguistic data available in such languages to 'train' machine translation.

Human translators have a sophisticated understanding of the different linguistic structures of the source language and target language (for example, whether the subject is more commonly found at the start of a sentence or the end) as well as an understanding of the cultural context and how this may affect the translation.

Accordingly, agencies should ensure that the quality of the machine translation output is indeed adding value to the process. It may be more laborious for a human translator to fix a poor quality machine-translated text than to start from scratch. This may have cost implications. While a human translator may receive a lower rate of pay for a post-editing assignment, if the task is more complex than initially envisaged, the cost may increase.

6.2 Computer-assisted translation software

As ISO 18587:2017 says, translators commonly use computer-assisted translation (CAT) tools, also known as automated translation software, to increase their productivity.

¹⁵ Quoted from: Moorkens, J. (2017). The roles of humans and machines in translation: legal and ethical considerations, *In Touch* 25(3), 8.

Appendix 2

Multicultural NSW (2022). *NSW Government Language Services Guidelines*, 14.

Translation tools

It is NSW Government policy that certified translators be used by NSW Government agencies and funded organisations to translate official information.

[...]

Online automated translation tools such as Google Translate should not be used as they can be inaccurate and the risk of mistranslation is high.

These translation tools are unable to take into account:

- Idioms and metaphors
- Unique variations in dialect and language nuances. such as politeness level, tone, etc.

Appendix 3

Victorian Government (2019). *Multilingual Information Online: Victorian Government Guidelines on Policy and Procedures*, 6-7.

Machine automated interpreting and translating tools

[...]

Victorian Government policy strongly recommends engaging NAATI credentialed interpreters and translators and currently advises against the use of automated interpreting and translating tools, which cannot at present be guaranteed to be accurate. While some machine tools are improving, they still have a reasonably high chance of incorrectly translating information.

[...]

Machine automated interpreting and translating tools may be unable to take into account:

- variations in dialect and language
- linguistic preferences of communities
- actual meaning (i.e. word for word translation does not consider overall comprehension)
- specific cultural references
- other nuances such as politeness level.

There may be risks of legal action due to distorted translations. It is unlikely that a disclaimer about the content in an automatic translation would relieve an organisation of the responsibility for the information provided.

Written content that has been translated by a machine should always be checked for accuracy by a NAATI credentialed translator.

Also, machine translations may not support all languages that may be required.

Appendix 4

Queensland Department of Communities, Child Safety and Disability Services (2016). *Queensland Language Services Guidelines*, 20-22.

Machine / automated translation

While use of qualified translators is the standard under the Queensland Language Services Policy for the translation of government publications and information resources, this is very expensive and often time consuming. It therefore limits the amount of information accessible to people with limited English language proficiency.

There are a number of web and application based translation products (e.g. Google Translate) widely available to assist overseas travellers and other people needing to communicate small amounts of information in another language.

While these technologies are convenient and cheap they vary considerably in quality and provide only a limited translation (i.e. they translate one word for another without consideration of the context in which the word is used which may result in a different meaning). They also only provide translations for a limited number of languages and rarely the new and emerging languages spoken by refugee communities (e.g. for African languages. Google Translate currently only has Swahili, Afrikaans, Somali and Zulu).

[...]

Using this technology in a more systematic and widespread way may result in legal liability and be dangerous to clients. Using a web or application-based translation product in place of an interpreter will also be of limited use for oral languages where there is no written form or where literacy levels within the language community are low.

Machine or automated translation, such as Memory Translation and collaborative translation, provides a seemingly cost-effective and practical solution to translating volumes of information.

Some translation service providers are using machine translation for particular clients. This involves establishing a database of previously translated information by a qualified translator that can be utilised to assist in future translations for the same client. As it is client specific, the database can accommodate particular terminology used by the client, business or industry, reducing the risks associated with machine translation.

When using machine translation agencies must have mechanisms in place to ensure the quality of the translation, including engaging a qualified translator to check finalised translation and a community language speaker to ensure cultural appropriateness of the translation.

If providing machine/automated translation programs on websites agencies should be responsible for ensuring the quality of the particular program used. Some factors agencies should consider include:

- whether the system includes a feedback and corrective action system so that errors are identified and rectified
- whether a skilled and qualified translator was involved in the development and ongoing quality control of the machine/automated translation system
- engagement with community language speakers to test the translation provided through the system for accuracy and cultural appropriateness.

Levels of use of translation according to risk can be described as below:

- critical, legal and health content should be provided through high-quality translation channels (human)
- large volume product-related knowledge content may be processed via customised machine translation with post-editing by a qualified translator (human)
- random comments and social media feedback could be processed by customised machine translation systems.

Appendix 5

Commercially released machine interpreting tool in Australia: *Call Translate*.

In mid-2021, a major, commercial telecommunications company in Australia, Optus, released an automatic speech-to-speech (machine interpreted) translation tool to be made available to its clients. The following excerpt is taken from an Optus media release:

Optus launches Call Translate trial: turning two languages into one conversation

29 June 2021, 10:00 AM

The latest innovation in Optus' Living Network strategy

Optus has launched its latest innovation, Call Translate, which translates calls between different language speakers in real time via a standard voice call across the Optus Living Network. Optus Call Translate helps break down language barriers and empowers customers to connect, even when they don't speak the same language.

Last month, Optus Mobile customers were provided with the opportunity to submit expressions of interest to trial the innovation and today is the day they gain access. Built on the Optus Living Network using Google Cloud technology, customers can pick what language they want to translate 'from' and 'to' from a selection within the My Optus App and then make their calls in real time just like normal.

Connecting people across Australia and the world, the Optus Call Translate trial launches initially with support for ten languages – Arabic, English, Filipino, Greek, Hindi, Italian, Mandarin, Russian, Spanish and Vietnamese, with more languages coming soon.

Clive Dickens, Optus Vice President of TV, Content & Product Development said 'Call Translate epitomises how the Optus Living Network connects customers with technology that improves their lives.'

'As part of our ongoing commitment to become Australia's most loved everyday brand with lasting customer relationships and to provide innovative options that customers love, we are making life simpler for customers with Call Translate, the next feature unveiled in our Optus Living Network.'

'At Optus, connecting people is at the heart of what we do and Call Translate makes conversing possible for some of the many Australians who don't speak English as their first language.'

‘So, whether you’re an Australian resident, an international student or a small business owner who needs help interacting in another language, whether it’s making an appointment with the dentist, booking a restaurant or arranging a sale, Optus Call Translate helps you communicate with confidence.’

Antony Passemard, Head of Product for Conversational AI, Google Cloud, added, ‘The goal of Conversational AI technologies is to create hyper-personal engagement between people, so we’re thrilled to support Optus who are leveraging our advanced machine learning models in speech and natural language processing to bring people closer together.’

Optus Call Translate is built, owned and operated by Optus using Google Cloud translation technology to power the translation element within the Optus application.

For customers wanting to find out more info on Call Translate please see here: <http://www.optus.com.au/calltranslate>

Optus Call Translate was reviewed by a media communications commentator (Bhatt, 2021). An excerpt from the review is given below:

Call Translate is powered by Google Cloud translation technology and will initially launch with 10 available languages: Arabic, English, Filipino, Greek, Hindi, Italian, Mandarin, Russian, Spanish and Vietnamese.

You must be an Optus Postpaid mobile customer and have VoLTE provisioned on your service in order to be eligible for the beta trial.

How does it work? Call as normal. Only you need to have Call Translate. Once switched on in My Optus app you can make and receive calls as normal. Both you and the other person on the call will receive a pre-call voice message to say the call will be translated.

Optus Call Translate won’t work if you’re roaming outside of Australia. However as long as the Optus subscriber with Call Translate enabled is in Australia, any call made or received with an overseas number can be translated.

Emergency calls will not be translated and will be connected as normal without Optus Call Translate enabled.

Note that Optus Call Translate is a new service that is launching in beta trial phase. Many factors may affect its accuracy, like background noise, a caller’s accent, the language pair being used, and more.

Optus Call Translate will not be a certified or legal translation and is intended for personal, person to person conversations. It shouldn’t be used in situations

where the translation needs to be relied on, such as medical procedures or legal contracts. In cases where professional translations are required, users should engage a [NAATI translation service provider](#).

Optus says that they only temporarily capture your conversation for the purposes of translation and then that conversation is deleted. They promise never to use your conversations for anything other than this purpose and they are never used to train the translation model. See the [Optus Privacy Policy](#) for details of how Optus manages any personal information they collect.

Google stores text sent to the APIs for a short period of time to perform the translation, return results, and for debugging in case of service failure, after which it is automatically deleted.

For more information see [Google Cloud data usage](#). (Bhatt, 2021)

Optus 'Call Translate', using Google Cloud technology, was discontinued on 3 August 2024.

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