Translation technologies for professionals within and beyond the language industries

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Abstract

Beginning with the emergence of neural machine translation (MT), and accelerating since the introduction of generative artificial intelligence (GenAI), technologies for automating translation have been widely and rapidly deployed. The contexts of use vary greatly, and relatively little is known about how these tools are integrated into professional settings — particularly those beyond the language industries. In order to support users and encourage critical and responsible use of such systems, a broader and deeper understanding of different professional use cases for MT and GenAI translation tools is needed. This special issue of *Revista Tradumàtica* investigates the use of translation technologies by different groups of professionals within and beyond the language industries, revealing common needs and challenges while also highlighting diverging objectives and approaches, and ultimately pointing to the need for even more research on the use of MT and GenAI in professional settings.

Keywords: generative artificial intelligence (GenAI), language professionals, machine translation literacy, neural machine translation (NMT), non-translation professionals, professional use cases, translation technologies.

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1. Introduction

The year 2024 marked the 75th anniversary of the publication of Weaver's memorandum (Weaver, 1949), as well as the 70th anniversary of the Georgetown-IBM experiment (Hutchins, 2004). Yet for much of this period, machine translation (MT) tools did not attract significant attention beyond the research community. It is only in the past decade, since the introduction of neural MT (Forcada, 2017) and generative artificial intelligence (GenAI) tools based on large language models, which can also be used to translate (Siu, 2024), that tools for automatic translation have been widely deployed both within and beyond the language industries. In recent years, these technologies have begun to attract considerable attention at conferences, in research articles, in professional blogs, and elsewhere. However, details about the extent to which they have already changed — or will significantly change — the landscape of multilingual communication, translation, and interpreting in a variety of professional settings are still emerging (e.g. ELIS, 2024; Nurminen, 2025; Shi et al., 2025). As these technologies continue to evolve, their adoption and implementation may vary substantially between different professional settings, both in and outside the language industries. A number of factors may influence the degree and nature of their use, including the level of risk tolerance in the setting, the urgency of the need for communication, the available budget, and the comfort or familiarity of the users with these technologies. For example, it seems obvious that the implications of using automatic translation in the context of leisure activities are not the same as those associated with doing so in healthcare. Yet even these use cases may be too broad when discussing the use and appropriateness of MT. Scenarios in leisure activities can range from clicking on a translation widget in a web browser to translate a friend's social media post to watching a professionally dubbed or subtitled big-budget Hollywood film. Meanwhile, multilingual interactions in a healthcare setting could include everything from asking for directions to the hospital cafeteria to taking a patient history.

Translation is clearly not just "one thing", and in the age of technology, the line between translation and interpreting is also blurring. Traditionally, translation tools were used to translate written texts, but these tools are now employed as part of a wider range of translation-technology-mediated communications, such as conversations. Care must be taken to understand the setting and the communicative context in order to be able to select appropriate translation technologies and use them effectively or optimally. With this in mind, it has been recognised that there is a widespread need for MT literacy (Bowker & Buitrago Ciro, 2019) to help the users of these technologies understand how the tools work, how they can be used in a particular context, and what the implications are of using them for various purposes (O'Brien & Ehrensberger-Dow, 2020). Some elements of MT literacy may be generic in that they could be relevant to the majority of tool users. However, other elements may be more customised, applying only in certain contexts or having a different level of priority from one setting to the next. To determine the type of MT literacy needed in different contexts, it is essential to develop a clear

understanding of why and how these tools are being employed by different communities of users.

This desire to achieve both a broader and deeper knowledge about tool use was a key motivation behind this special issue of *Revista Tradumàtica*, which seeks to explore the adoption and use of translation technologies by different types of professionals within and beyond the language industries, including how tool selections are made, how the technologies are integrated and employed in work processes, and what types of expectations different user groups have of translation tools in professional settings. Although MT can certainly be used for non-professional purposes, such uses are beyond the scope of this dossier. Instead, the focus here is on exploring how MT is used in different work settings and by different professional groups.

One obvious group of users includes language professionals, such as translators, terminologists, and interpreters, as well as language and translation companies, who are increasingly integrating GenAI tools into their workflows (e.g. Farrell, 2025; Kollárová & Tonková, 2025; Rivas Ginel & Moorkens, 2025). Members of this group are also strengthening their use of other translation technologies, such as MT, computer-aided translation (CAT) tools, and terminology extraction and management tools (e.g. Wissik, 2025). Meanwhile, various types of professionals outside the language industries, such as healthcare professionals (Kong et al., 2025), employees of NGOs (Todorova & Liu, 2024), academic researchers (Ayeni et al., 2025), international patent professionals (Nurminen, 2020), and journalists (Havumetsä & Nurminen, 2025), have also been adopting language and translation technologies as tools they need in different types of multilingual communication within the scope of their work. Tools such as online MT or GenAI systems are increasingly used by a variety of non-translators in their respective professional contexts. This highlights the broad applicability and potential of the technologies, but also raises questions about the risks associated with their wide and rapid adoption without a similar rise in the digital literacies needed for critical and responsible use of those tools.

Different users also have different expectations of these technologies. Professional translators and interpreters make their technological choices based on a wide range of criteria. Sometimes a choice may be dictated by a client or employer, leaving language professionals to find creative ways to work within those constraints. At other times, their pursuit of improved professional performance may lead them to try to incorporate the latest technologies into their workflow. Meanwhile, some non-translation professionals may prioritise convenience, ease of use or cost-effectiveness, seeking solutions that offer immediate results for practical communication needs. Others may be encouraged by employers to experiment with newly released or acquired technologies. Understanding more about these and other factors in a wide variety of use cases is essential for improving both the tools themselves and the ways in which they are employed.

2. In this dossier issue

In response to the call for papers, we received contributions concerning both language professionals and other types of professionals who use translation in their work. A frequent approach employed in the research is to focus on a specific setting or group of professionals and use surveys or interviews to explore respondents' use of MT within that context. The settings that have been investigated include hospitals, non-governmental organisations, and small and medium-sized enterprises. Specific groups that are considered include lawyers, scholars, literary translators, and terminology professionals. Another theme concerns processes or technologies that benefit users of MT, whether specific groups or all users. Articles taking this approach have examined new ways to look at MT literacy; MT and/or post-editing tools for professional translators and, in one case, for asylum reception centre employees; and innovations for evaluating MT. In the following sections, the 12 articles that make up the dossier issue are introduced in three main categories: professionals working in the language industries, professionals working in other fields, and processes or technologies that benefit MT users in professional settings.

2.1 Professionals working in the language industries

Three investigations on professionals working in the language industries explore respondents' use of translation technology, including CAT tools, MT, and GenAI; the integration of those tools into workflows; and views on what the future might hold. Marian Flanagan, Helle Dam Jensen, Kristine Bundegaard, and Tina Paulsen Christensen's article, based on a survey of 79 professional translators in Denmark, reveals that while the use of CAT tools is widespread and consistent, that of MT is more sporadic, occurring only in certain types of work. GenAI use, meanwhile, is currently very low. The translators reported various factors that influence their decisions on whether or not to use translation technologies, including considerations related to efficiency and productivity, professional identity, clients' demands, and the suitability of the technology and of content to translation tools. Looking to the future, respondents anticipate that automation will continue to increase and to affect processes and the nature of their work. The authors advocate human-centred approaches to technology.

The second article focusing on translation professionals, by Laura Noriega Santiáñez and Gloria Corpas Pastor, investigates the use of translation technologies and resources by literary translators in Spain. The 51 respondents to their survey reported a very high level of reliance on digital tools such as online dictionaries and grammar resources, but also some degree of use of automated tools. Nearly half (47%) said they use MT, while 24% reported having started to integrate GenAI into workflows. Their perception of the effects of GenAI on rates and quality, among other things, was mixed, with half saying they had noticed no impact and others reporting both negative and positive effects. The survey also revealed general discomfort with the idea of applying GenAI in translation and editorial processes, as well as concerns over quality, working conditions, ethical and legal aspects, and environmental issues. Attitudes towards future GenAI adoption are

mixed, with pragmatic voices advocating collaboration but many others expressing pessimism or critical resistance.

Finally, Tanja Wissik explores how 15 terminology professionals use terminology tools, corpus tools, and translation tools such as MT and GenAI in their work, based on interviews carried out in two stages. Besides a wide variety of terminology tools, such as terminology management systems, term extraction tools, and corpus tools, these professionals are increasingly finding uses for MT and GenAI. While nearly all of the participants reported experimenting with GenAI, few said they had integrated the technology into their workflows. A need for human validation in processes employing GenAI was emphasised by participants. The article also highlighted the need for guidelines on and training in AI use.

Although the professional groups in these articles use a variety of technologies specific to their respective specialisations, they are all engaged with MT and GenAI to some degree. The two studies on translators reveal that 47–57% of professionals use MT for at least some of their work. Across all three articles, it is reported that GenAI is being actively tested but has not found its way into workflows yet. This seems natural, given that the data for all these articles was gathered in the early phases of GenAI development. Professional translators express concerns about quality, ethics, and professional identity, and underscore the importance of human involvement in processes that have a component of automation. All three articles emphasise the need for further research, as well as for guidelines on and training in the use of AI.

2.2 Professionals working in other fields

Five articles explore the use of automatic translation technologies by professionals working outside the language industries. First, Inma Mendoza-García and Isabel Briales Bellón present an empirical study that investigates how 13 Andalusian small and medium-sized enterprises in the agri-food sector address their translation needs. The findings reveal that most translation is handled by in-house staff who have no formal training in translation and turn to free online MT tools (primarily Google Translate). Among the group, there is little knowledge of other technologies (e.g. CAT tools) or resources (e.g. style guides), leading the researchers to highlight a need for improved awareness about other approaches to translation and about professional services and standards, as well as for additional research as GenAI tools become more prevalent.

The next study, undertaken by Cristina Toledo-Báez and Luis Carlos Marín-Navarro, is based on a survey completed by 182 Spanish scholars from various disciplines (excluding language-related disciplines) who have published work in English. The article presents quantitative and qualitative findings about their use of and attitudes towards neural MT (NMT), chatbots, and post-editing. Overall, NMT is widely used for drafting and translating abstracts, even though many users have a generally negative attitude towards this technology. Familiarity with post-editing is low, and the authors identify a perceived need for training in this area, suggesting that post-editing literacy should be integrated into a broader framework for AI literacy.

Susana Valdez, Floor van Heeswijk, and Noa Warren draw on a survey-based case study to examine how MT and GenAI tools are used by healthcare professionals at a hospital in the Netherlands. In general, such tools are primarily used for routine care and low-risk interactions; they are considered less suitable for complex or sensitive situations (e.g. delivering bad news, end-of-life care). Most professionals combine the use of such tools with other communication strategies, such as shared languages or ad-hoc interpreters. Satisfaction with MT or GenAI for routine tasks is high, but there is little awareness of the confidentiality risks involved or whether institutional policies exist. The study highlights the lack of formal guidelines and training, and calls for policy development and training to ensure responsible and effective use of translation technologies in healthcare settings.

Kyriaki Kourouni and John O'Shea report on an exploratory survey of 101 Greek lawyers which investigated their use of MT for legal translation, including their motivations and risk-awareness. The study's findings reveal that most of the lawyers who responded handle legal translation themselves rather than outsourcing it. Only about a third of the respondents use MT, typically employing it for low-risk tasks such as gisting or internal communication; it is rarely used for high-stakes legal documents. Quality assurance mainly consists of self-editing, and there is little awareness of post-editing as a concept. While some lawyers are conscious of risks related to confidentiality and copyright, few express concerns about legal liability. The authors conclude by suggesting that there is a need for targeted training in legal translation technology and ethics.

The section on the use of translation tools by professionals concludes with a contribution from Lubna A. Abdul-Hadi and Khetam Shraideh about how translation technologies are employed in humanitarian work among NGOs in Jordan. To gain insights, the authors conducted a survey of 33 professionals in 15 Jordanian NGOs, including 13 translators and 10 communication officers, alongside various types of managers and consultants, and found that most NGOs mainly rely on multilingual staff or volunteers to cover their translation needs. Free MT and GenAI tools are widely used, but there is little formal training or policy guidance. Key challenges include mistranslation of technical/sensitive content, poor Arabic output quality, lack of customisation, and data privacy concerns, pointing to a strong need for ethical, inclusive policies and improved support for Arabic.

Although each of the studies in this section addresses a different professional setting, a number of commonalities emerge. For instance, the authors report that free MT or GenAI tools are used, although to differing degrees and with differing attitudes and levels of competence. In all cases, however, the users have little to no formal training or guidance (e.g. policies), although such support would be welcomed. Given that the tool users are not, for the most part, translation specialists, and that the tools are being deployed in both high- and low-resource situations, translation quality assurance efforts are uneven.

Nevertheless, users in multiple settings have raised various ethical concerns in relation to working with tools, including misgivings about quality and privacy. One difference across the articles is the varying levels of tolerance for risk, with the healthcare and legal settings being more sensitive to errors. Additionally, the language combination in play can affect satisfaction with tool output, since the tools do not perform equally well in all languages (or domains).

2.3 Processes or technologies that benefit MT users in professional settings

The final section of the dossier includes four articles that identify processes or technologies that can benefit MT or GenAI tool users in professional settings. First, Joop Bindels, Mark Pluymaekers, and Aletta G. Dorst argue that instead of framing MT literacy as a list of competences, it could be better defined as a critical and informed decision-making process that can be applied across all professional contexts. The authors identify seven common phases that professionals go through when deciding whether and how to use translation technologies. They go on to propose a process-based definition and a user-centred educational framework that can be applied to offer instruction in MT literacy in diverse professional contexts.

The contribution from Lieve Macken, Margot Fonteyne, Arda Tezcan, Ella van Hest, Katrijn Maryns, and July De Wilde examines whether MT can meaningfully support everyday communication in asylum reception centres. Using a WhatsApp-based messaging system tested across multiple languages, the study evaluates how well different MT tools handle short, practical messages commonly exchanged between staff and residents. The findings show that while MT can facilitate basic information exchange — especially when systems are domain-adapted — the quality of the translation is inconsistent, particularly for low-resource languages. Consequently, MT is best used as a support tool for routine communication, but should not be considered a suitable replacement for professional language mediation.

Vicent Briva-Iglesias focuses on a longitudinal experiment in which professional translators performed tasks in both traditional and interactive post-editing (IPE) modalities. The effects of the different approaches on machine translation user experience (MTUX), translation quality, and productivity were compared. Results indicate that IPE offered superior MTUX, productivity, and translation fluency, while providing translation adequacy equivalent to that achieved with the traditional approach. Briva-Iglesias argues that by giving humans a more central role in their interaction with technology, IPE and similar solutions promote what he terms “human-centred, augmented machine translation” (HCAMT).

Finally, the article from Miguel Menezes, Amin Farajian, Helena Moniz, and João Graça addresses the need for MT systems that can take the context of a full document into consideration when producing translations, resulting in higher quality. Among the support

requirements of such systems are evaluation techniques that focus on document-level context, to which end the authors propose a context-aware annotation framework. They used a corpus of customer support chat dialogues to develop and test the framework, which will lay the foundation for the design of other evaluation frameworks that account for context at the document level.

3. Conclusion

The contributions to this dossier on the use of translation technologies by professionals within and beyond the language industries provide some fascinating insights into the different ways that translation technologies, including MT and GenAI, are being employed for multilingual communication by diverse groups with varying professional needs. At the same time, this collection serves to highlight how much work remains to be done. While there are commonalities, such as a need for increased training and policy development, each professional setting has its own particularities, suggesting that an understanding of one professional context is unlikely to be entirely sufficient for recommending how tools can be used effectively or responsibly in another setting. Nevertheless, we believe that this dossier offers an excellent starting point for learning more about the use of translation technologies for professional purposes, and we hope that it will stimulate further research into additional settings where translation tools are used by professionals within and beyond the language industries.

References

Ayeni, Philips; Kulczycki, Emanuel; Bowker, Lynne (2025). Machine translation in scholarly publishing: A scoping review. *Canadian Journal of Information and Library Science* 48(1), pp. 123-145. https://doi.org/10.5206/cjils-rcsib.v48i1.22296 [Accessed: 20251215]

Bowker, Lynne; Buitrago Ciro, Jairo (2019). Machine Translation and Global Research: Towards Improved Machine Translation Literacy in the Scholarly Community. Bingley: Emerald.

ELIS (European Language Industry Survey) (2024). European Language Industry Survey 2024: Trends, expectations and concerns of the European language industry. https://elis-survey.org/wp-content/uploads/2024/03/ELIS-2024-Report.pdf [Accessed: 20251215]

Farrell, Michael (2025). Survey on the use of generative artificial intelligence by professional translators. *Proceedings of Translating and the Computer* 46, pp. 23-34. https://asling.org/tc46/wp-content/uploads/2025/03/TC46-proceedings.pdf [Accessed: 20251215]

Forcada, Mikel L. (2017). Making sense of neural machine translation. Translation Spaces 6(2), pp. 291-309. https://doi.org/10.1075/ts.6.2.06for [Accessed: 20251215]

Havumetsä, Nina; Nurminen, Mary (2025). (Kone)kääntäminen Ylessä ja muunkielisten episteemiset oikeudet [(Machine) Translation at Finnish public broadcaster Yle and the epistemic rights of non-dominant language speakers]. *Mikael: Finnish Journal of Translation and Interpreting Studies* 18 (1), pp. 7-22. https://doi.org/10.61200/mikael.147618 [Accessed: 20251215]

Hutchins, W. John (2004). The Georgetown-IBM experiment demonstrated in January 1954. In: R. E. Frederking; K. B. Taylor, K.B. (eds) *Machine Translation: From Real Users to Research.* Berlin: Springer, pp. 102-114. https://doi.org/10.1007/978-3-540-30194-3_12 [Accessed: 20251215]

Kollárová; Karolína; Tonková; Lucia (2025). The use of generative artificial intelligence in interpreter preparation. *L10N Journal*, 4(1), pp. 67-109. https://l10njournal.net/index.php/home/article/view/52 [Accessed: 20251215]

Kong, Marianna; Fernandez, Alicia; Bains, Jaskaran; Milisavljevic, Ana; Brooks, Katherine C.; Sahnmugan, Akash; Avilez, Leslie; Li, Junhong; Honcharov, Vladyslav; Yang, Andersen; Khoong, Elaine C. (2025). Evaluation of the accuracy and safety of machine translation of patient-specific discharge instructions: A comparative analysis. BMJ Quality and Safety (early online). https://qualitysafety.bmj.com/content/early/2025/07/06/bmjqs-2024-018384 [Accessed: 20251215]

Rivas Ginel, María Isabel; Moorkens, Joss (2025). Translators' trust and distrust in the times of GenAI. *Translation Studies* 18(2), pp. 283–299. https://doi.org/10.1080/14781700.2025.2507594 [Accessed: 20251215]

Nurminen, Mary (2025). Machine translation in non-translation workplaces. In: Baumgarten, S.; Tieber, M. (eds) *The Routledge Handbook of Translation Technology and Society*. Abingdon, UK: Routledge, pp. 389-400.

Nurminen, Mary (2020). Raw machine translation use by patent professionals: A case of distributed cognition. *Translation, Cognition & Behavior* 3(1), pp. 100-121. https://doi.org/10.1075/tcb.00036.nur [Accessed: 20251215]

O'Brien, Sharon; Ehrensberger-Dow, Maureen (2020). MT literacy—A cognitive view. *Translation, Cognition & Behavior* 3(2), pp. 145-164. https://www.jbe-platform.com/content/journals/10.1075/tcb.00038.obr [Accessed: 20251215]

Shi, Yining; Xu; Han; Kwok, Ho Ling; Liu, Kanglong (2025). ChatGPT in professional translation: A double-edged sword—Insights from Chinese translators on capabilities, concerns, and future prospects. In: Sun, Sanjun; Liu; Kanglong; Moratto, Riccardo (eds) *Translation Studies in the Age of Artificial Intelligence*. London: Routledge, pp. 125-149. https://doi.org/10.4324/9781003482369-7 [Accessed: 20251215]

Siu, Sai Cheong (2024). Revolutionising translation with AI: Unravelling neural machine translation and generative pre-trained large language models. In Peng, Yuhong; Huang, Huihui; Li, Difeng (eds) *New Advances in Translation Technology: Applications and Pedagogy*. Springer, pp. 29-54.

Todorova, Marija; Liu, Rachel Hang Yi (2024). The use of MT in humanitarian NGOs in Hong Kong. *Proceedings of the 25th Annual Conference of the European Association for Machine Translation*, Vol. 2, 51–52. https://aclanthology.org/2024.eamt-2.0/ [Accessed: 20251215]

Weaver, Warren (1949/1955). Translation. Reprinted in: W. N. Locke; A. D. Booth (eds.) *Machine translation of languages: fourteen essays*. Cambridge, MA: Massachusetts Institute of Technology, pp. 15-23.

Wissik, Tanja (2025). Impact of automatic term extraction on terminology work: A qualitative interview study in institutional settings. *Terminology* 31(1), pp. 110-135. https://www.jbe-platform.com/content/journals/10.1075/term.00085.wis [Accessed: 20251215]