

Feasibility of Introducing speech based

post-editing in international organizations

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Research Question

• Machine Translation

- Post-Editing machine translation suggestions by typing
- Post-Editing by speech: (very!!) less explored

eLUNa: already supports speech recognition!

It presents applications of space science and technology for achieving the Sustainable Development Goals, including in ensuring food security, reducing the risk of disasters, preventing humanitarian crises, monitoring natural resources and reducing poverty, as well as telecommunications and health.	On y présente la façon dont les applications des sciences et techniques spatiales peuvent contribuer à la réalisation des objectifs de développement durable, notamment à assurer la sécurité alimentaire, à réduire les risques de catastrophe, à prévenir les crises humanitaires, à contrôler les ressources naturelles et à réduire la pauvreté, ainsi que le rôle qu'elles peuvent jouer en matière de télécommunications et de santé.
	MT 🔤 BI 🗩 🖻 🖤
It analyses how new technological developments that reduce the costs of using space-based applications and collaborations among local, national, regional and international stakeholders can potentially increase the uptake of Goals-relevant applications, particularly in developing countries.	Il analyse comment les nouveaux de Aloppements technologiques qui réduisent les coûts d'utilisation des applications spatiales et les collaborations entre les parties prenantes locales, nationales, régio ale et internationales peuvent potentiellement accroître l'adoption des applications pertinentes pour les objectifs, en particulier dans les pays en développement.
The report also takes note of persisting capacity constraints and bottlenecks, including the lack of awareness of the benefits of space technologies, limited financial resources and technology and skills gaps in developing, using and adapting space technologies.	The report also takes note of persisting capacity constraints and bottlenecks, including the lack of awareness of the benefits of space technologies, limited financial resources and technology and skills gaps in developing, using and adapting space technologies.
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research and development-focused initiatives.

Google Speech API (https://cloud.google.com/speech-to-text/)

collaborative research and development-focused initiatives.

Objective

• To understand the current situation of technology usage (specifically speech technologies) in selected international organizations

• Investigating the prospect of introducing speech technologies to post-edit MT within such organizations

- Productivity (Temporal / Technical effort), User satisfaction/comfort, Final translation quality

Surveying the potential of using speech technologies for post-editing purposes in the context of international organizations: What do professional translators think?



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Quantitative and Qualitative experiments

- 1. 6 international organizations (5 in Geneva, 1 Luxembourg)
- 2. Current translation workflow (translating from scratch, post-editing by typing, post-editing by speech, and use of dictaphones).
- 3. Information about their usage of ASR as compared to other input methods (e.g. typing), and their likes and dislikes about it.
- 4. Their attitude towards different methods of translation, including speech based post-editing.
- 5. Quantitative experiments on effort/productivity (Trados + Dragon + MT)



Tool usage in organizations ...

Category	Details	
CAT tools used	Eluna, SDL Trados and Multitrans, DtSearch, MultiTerm, Groupshare, Euramis, memoQ, SmartLing.	
MT tools	WipoTranslate, DeepL, eTranslate	
Usage of dictaphone	2 organizations out of 5. One out of those two uses the dictaphone very rarely.	
Speech recognition usage (e.g. Dragon)	4 organizations out of 5 use speech recognition.	
Machine translation usage	4 organizations out of 5 use machine translation.	
Post-editing using typing	4 organizations out of 5 use post-editing using typing.	
Post-editing using speech	Only one translator of one organization could be found using post-editing using speech.	

Translation technology usage among translators



Distribution of translation workflows among translators

Usage of speech for the purpose of translating is not uncommon in the selected environments (at least 9 out of 17 translators)

Usage of speech-based input methods

Reason	Mean
Using speech is less tiring for me	3.9
Using speech is faster for me	2.4
Using speech is easier for me	3.7
Speech is a cool technology	6
Not many other alternatives for me	7.1
Personal preference	5
Speech technologies are accurate	4
Speech helps me with ergonomy	2.6

Ranking of reasons for using speech-based inputs in translation, rated on a scale from 1 (highest) to 8 (lowest).

The top reason for deciding to use ASR was that using speech was considered to be <u>faster</u> by the surveyed translators, followed by <u>speech helping them with</u> <u>ergonomy.</u>

The mean value of the translator input score was neither negative nor positive with regard to the notion of speech technologies <u>being accurate</u>, providing a mean value <u>of 4.0</u>

Openness to different workflows



8outof17translatorswereopentotheideaopentotheideaofspeech-basedpost-editingfortranslation

2 out of 17 assumed that mixing speech and post-editing together would be confusing.

Openness to technology and different translation workflows

Openness to the idea against current awareness of speech



7 out of 8 translators willing to use speech-based post-editing were already using either dictaphones or speech recognition tools, which explains their positive attitude.

Some findings..

- Speech as an input method (i.e. ASR or dictaphones) is mainly used by translators to translate from scratch, rather than to post-edit MT output currently .
 - However, some users already use Dragon + eLUNa to post-edit machine translation suggestions.
- The majority of the surveyed translators believed that speech is faster than typing and less tiresome (more ergonomic). However, they are still in doubt regarding the accuracy level of available speech recognition toolkits.
 - Necessity of high quality MT/TM suggestions working with high-quality machine translation or translation memory suggestions, larger amounts of texts for translation, possibility to use private or protected workstations for translation purposes using ASR.

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matecat

Current work

Quantitative research evaluating the productivity gains derived from speech-based post-editing.

We currently investigate how currently available CAT tools with integrated speech support (e.g. Matecat, memoQ, and SDL Trados) can be used for this purpose.

- Currently working on Matecat, SDL Trados + Dragon