

FIT position paper on machine translation

Machine Translation (MT), i.e. fully automatic translation using computers, which is viewed by some as the solution for obtaining more or less satisfactory translations quickly and cheaply, has been gaining considerable ground in recent times. FIT, as the voice of associations of translators, interpreters and terminologists around the world, would therefore like to provide some information on this subject and draw attention to diverse consequences for the users as well as professional translators and their associations.

In the past, MT mainly used a rule-based approach, i.e. a set of rules for the language combination processed by the MT engine. This RbMT came up against certain limitations and has largely been superseded by a statistical approach (SMT), which is probability-based and relies on large corpora of source texts and their human translations. This has been made possible by the greater processing power of computers now available. In some cases, hybrid systems incorporating both RbMT and SMT or other models are employed. Furthermore, a distinction has to be made between free online MT systems which – depending on the language pairs – often produce rather poor-quality or incomprehensible texts and offer practically no confidentiality, on the one hand, and customised systems which are trained, maintained and used by professionals and which are able to cope with highly confidential texts, on the other hand.

The texts or other content to be subjected to MT may need pre-editing, i.e. human modification to remove complex or ambiguous structures, for example. Unless specified otherwise, the raw MT output in turn requires post-editing, i.e. human correction of errors, or some other human involvement.

Users and their expectations

There are various types of MT users, for instance:

- Organisations aiming to speed up workflows or handle large volumes of content
- Members of the general public who use free online systems but are usually unaware of the deficiencies
- Professional translators utilising MT as part of their own set of resources for the purpose of enhancing their productivity while translating
- It is generally acknowledged that worldwide there is a strongly growing demand for translations. Raw MT may well be suitable for coping with some

of that demand, such as translating highly repetitive content or content that would otherwise not be translated because of the cost factor when high levels of accuracy and fluency are not required.

Before starting a translation project, it is absolutely essential to specify the requirements. For example, what kind of product does the customer need (target language, audience and purpose)? What is expected in terms of the terminology to be used, delivery deadlines to be met, accuracy, fluency and style, etc.? Only on the basis of such project specifications can it be decided whether the use of MT or human translation is appropriate.

Caveats for MT users

Certain issues connected with MT have to be kept in mind.

In the vast majority of cases, MT engines cannot match human translators in terms of the translation quality achievable because, for example, they lack creativity and common sense in deciding whether a piece of a previous translation applies in the current context. MT output therefore needs significant post-editing or reworking to meet the requirements specified in advance, unless no or only light post-editing is considered adequate for the intended purpose. These products must be clearly identified as such.

Furthermore, the text corpora used should not be degraded by incorporating MT output.

Consequences for professional translators

Like many other sectors, the translation market is changing rapidly. Translators should seek to respond to the new developments in good time and see how to derive benefits for themselves.

MT is unlikely to completely replace human translators in the foreseeable future. Leaving aside the area where MT is a feasible option, there will continue to be plenty of work for them. Professional translators, who have the appropriate skills and qualifications, will still be needed for demanding, high-end products, e.g. highly specialised legal and medical texts, marketing texts and confidential documents, to name but a few. Needless to say, producing translations that meet demanding requirements takes time and needs to be remunerated accordingly.

It is essential that professional translators supply their existing or potential customers with sound information on MT and its possible uses. In particular, they should point out where the use of raw MT output is acceptable (e.g. for gisting, i.e. ascertaining the rough content of a text in a rudimentary form, while keeping in mind that there might be a fairly high percentage of mistranslations) and

where, on the other hand, its use will have highly adverse consequences (e.g. when businesses send out unedited MT texts together with their products, thus seriously harming their corporate image and possibly even facing product liability implications).

Post-editing of MT output is one area of activity for translators. It goes without saying that the post-editing effort needed to produce satisfactory translation quality must not be excessive in terms of time and cost.

The role of translator associations

Against this background, translator associations have a duty to provide information to everyone concerned, not least so that users are fully aware of the appropriate and inappropriate uses of MT and professional translators can position themselves accordingly in the evolving translation market. Furthermore, they have to find strategic partners to counter a development where more and more inappropriately translated texts lead to a downgrading of languages.

Translator associations have to ensure that translators' copyright is protected in respect of the human translations contained in the text corpora used for MT. And, to gain more visibility for translators of all kinds of texts, they should start a campaign for increased translator copyrights in national legislations – comparable to creators of pictures or photographers who have succeeded in having their name attached to each picture they produce in all different kinds of media.

Finally, translator associations have to speak out against the commoditisation of translation and raise awareness for the highly creative task of translators.

Machine Translation: 10 questions and answers

(as guidance for professional translators)

1. What is Machine Translation (MT) and how does it work?

- Machine Translation (MT) is fully automatic translation using computers.
- In the past, MT mainly used a rule-based approach, i.e. a set of rules for the language combination processed by the MT engine. This RbMT came up against certain limitations and has largely been superseded by a statistical approach (SMT), which is probability-based and relies on large corpora of source texts and their human translations. This has been made possible by the greater processing power of computers now available. In some cases, hybrid systems incorporating both RbMT and SMT or other models are employed.

- The texts or other content to be subjected to MT may need pre-editing, i.e. human modification to remove complex or ambiguous structures, for example. Unless specified otherwise, the raw MT output in turn requires post-editing, i.e. human correction of errors, or some other human involvement.
2. **Who uses MT?** There are various types of MT users, for instance:
- Organisations aiming to speed up workflows or handle large volumes of content
 - Members of the general public who use free online systems but are usually unaware of the deficiencies
 - Professional translators utilising MT as part of their own set of resources for the purpose of enhancing their productivity while translating (“MT as an Optional Resource” in the diagram below)
3. **Where is the use of raw (i.e. unedited) MT output a feasible option?**
- Raw MT output may well be suitable for certain tasks where high levels of accuracy and fluency are not required, such as
 - Getting the gist of a text written in a language unknown to the user or
 - Translating content that would otherwise not be translated because of the cost factor
4. **Where can the use of raw MT output have dire consequences?**
- For example, businesses that send out unedited MT texts together with their products will seriously harm their corporate image and may even face product liability implications.
5. **What are the drawbacks of MT?**
- In the vast majority of cases, MT engines cannot match human translators in terms of the translation quality achievable because, for example, they lack creativity and common sense in deciding whether a piece of a previous translation applies in the current context.
 - MT output therefore needs significant post-editing or reworking to meet the requirements specified in advance, unless no or only light post-editing is considered adequate for the intended purpose. These products must be clearly identified as such.

6. Where are human translators indispensable?

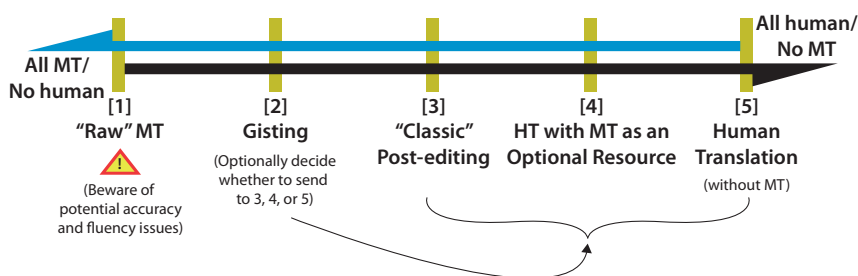
- In areas where professional translators with the appropriate skills and qualifications produce reliable translations and deliver reliable services
- In areas where demanding, high-end products are needed, such as
 - highly specialised legal or medical documents
 - marketing texts

Needless to say, producing translations that meet demanding requirements takes time and needs to be remunerated accordingly.

7. Is there any overlap or interaction between MT and human translation?

This is best explained by the following diagram.

Interaction between human translation and machine translation (MT) in translation activities



Post-editing of MT output is one area of activity for translators. Obviously, the post-editing effort needed to produce satisfactory translation quality must not be excessive in terms of time and cost, or else human translation will be the better option.

8. What is the precondition for deciding how to handle a translation project?

It is absolutely essential to specify the requirements in advance. For example:

- What kind of product does the customer need (target language, audience and purpose)?
- What is expected in terms of the terminology to be used, delivery deadlines to be met, accuracy, fluency and style, etc.? Only on the basis of such project specifications can it be decided whether the use of MT or human translation is appropriate.

9. Can machines completely replace human translators?

MT is unlikely to completely replace human translators in the foreseeable future because, for example, they lack creativity and common sense in deciding whether a piece of a previous translation applies in the current context.

10. What should professional translators do?

Professional translators have an important role to play in helping to ensure that the strongly growing demand for translations worldwide can be met. With their knowledge and expertise they can advise customers on whether the use of MT is a feasible option. Dialogue and cooperation between professional translators and translation buyers are therefore essential.