



## TRABAJO FIN DE MÁSTER

Máster Universitario en Tecnologías de la Información y  
la Comunicación en la Enseñanza y Tratamiento de  
Lenguas

**Neural machine translation as a translation tool: the  
case study of Spanish at the Translation Service of the  
Council of the European Union**

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## **Acronyms and abbreviations**

ALPAC: Automatic Language Processing Advisory Committee

BOLT: Broad Operational Language Translation

CAT tools: computer-assisted translation tools

CEC: Commission of the European Communities

CWP: Common Working Procedures

ECSC: European Coal and Steel Community

EEC: European Economic Community

EPC: European Political Cooperation

EU: European Union

EURATOM: European Atomic Energy Community

GALE: Global Autonomous Language Exploitation

GSC: General Secretariat of the Council

LSP: language service provider

MT: machine translation

MTPE: machine translation post-editing

NMT: neural machine translation

RBMT: rule-based machine translation

SMT: statistical machine translation

SYSTRAN: Systems Analysis Translator

TIDES: Translingual Information Detection, Extraction and Summarization

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## **Abstract**

Neural machine translation (NMT) constitutes a translation resource at the Council of the European Union<sup>1</sup> since 2019. While this tool has been embraced by many translators of the Council, others still distrust it. Together with other resources, it helps those who use it to elaborate the target text according to the quality standards specified by the common working procedures (CWP) of the Council of the EU. Despite these guidelines, the output varies not only from language to language, but also from one translator to another. This paper focuses on the case study of Spanish to clarify when, how and why the translator chooses to use NMT or not and what are the implications derived from these decisions. There are decisive aspects, such as timeframes, quality and prejudices against NMT, that influence this process. Whereas the last one is caused by a collective thinking, time and quality need to be deeply considered in the Council. In this line, translators split themselves among those who refuse to use NMT and those who use it while underrating it. Bearing in mind these circumstances, it is necessary to analyse languages individually to identify gaps during the reviewing and post-editing tasks. This will allow us to reflect on a single language context to draw conclusions that could be applied to similar cases and to take full advantage of NMT to produce the text. Based on this research, it is possible to confirm that in the case of Spanish, human agents and NMT will continue coexisting. While the presence of translators will not diminish, NMT will keep intervening in the translation process, which will need to be continuously updated according to the needs of the Council.

*Keywords: neural machine translation, Council of the European Union, Spanish language, post-editing*

## **Resumen**

La traducción automática neuronal (NMT por sus siglas en inglés) constituye una herramienta de traducción en el Consejo de la Unión Europea desde 2019. Muchos traductores del Consejo la han aceptado, mientras que otros desconfían de ella. Al igual que otros recursos, sirve de ayuda a aquellos profesionales que elaboran el texto meta de acuerdo con los procedimientos de trabajo común (CWP por sus siglas en inglés) del Consejo de la UE. A pesar de la existencia de estas guías, el producto final varía no solo de una lengua a otra, sino también de un traductor a otro. Este trabajo de fin de máster se centra en el caso

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<sup>1</sup> The views expressed are the author's and they do not reflect the views of the Council or the European Council.

de estudio del español con el objetivo de esclarecer cuándo, cómo y por qué el traductor decide usar NMT o no y cuáles son las consecuencias derivadas de estas decisiones. Existen aspectos decisivos, como los plazos de entrega, la calidad y los prejuicios en torno a la traducción automática neural, que influyen en este proceso. Mientras que la causa del último es el pensamiento colectivo, el tiempo y la calidad constituyen factores cruciales para el Consejo. En este sentido, los traductores se dividen entre aquellos que rechazan el uso de NMT y aquellos que la utilizan, pero la infravaloran. Teniendo en cuenta estas circunstancias, es necesario analizar cada idioma de forma individual para identificar cualquier déficit durante los procesos de revisión y post-edición. Esto nos permitirá reflexionar acerca de un contexto lingüístico individual para obtener conclusiones que puedan aplicarse a situaciones similares. Asimismo, servirá para aprovechar al máximo la capacidad de la traducción automática neuronal para producir el texto meta. De acuerdo con este proyecto de investigación, es posible confirmar que, en el caso del español, el agente humano y la traducción automática neural continuarán conviviendo. Mientras que la presencia del traductor no se verá reducida, la máquina continuará interviniendo en el proceso de traducción, que necesitará actualizarse de manera continua según las necesidades del Consejo.

Palabras clave: *traducción automática neuronal, Consejo de la Unión Europea, español, post-edición*

## **1. Introduction**

The traditional understanding of translation provided by authors like Nida (1963; 2001) or García Yebra (1989) does not match the current context of this discipline. The past decades have seen drastic changes in the field (Cronin, 2003). The introduction of technology had consequences not only on the creation of the target text, but also on the agents that produce it and the tools used by these ones (Quah, 2006; O'Hagan, 2019). Simultaneously, different aspects such as the quality of the translation or the steps followed to create it have been influenced. However, the concept of technology applied to translation includes various features: from translation memories and term bases to translation software (Zetzsche, 2020) or machine translation (MT) in its different stages (Melby, 2020). These attributes have been developed and improved throughout the years according to the needs of the industry.

As pointed out by Hurtado Albir (2020) and Kenny (2020), during this period the agents that surround the production had to adapt to continue participating. Each technological resource requires different needs when it comes to quality and technical expertise (Quah, 2006; Pym et al. 2013). Therefore, a wide variety of aspects need to be considered to meet quality standards, timeframes and financial objectives. This includes the training of translators, text typology, the acquisition of new tools and the redefinition of the translation process, which involves the addition of new tasks such as post-editing (Vieira, 2019). However, could this diversity lead to inefficiency and unsatisfactory results? Indeed, a lack of knowledge could cause an incorrect management and, consequently, a wrong implementation of these resources within the production of the translation. For this reason, Kenny (2020) highlights the need to get as deeply familiarized as possible with new procedures and tools. The more it is understood about their functioning, the more feasible will be to take advantage of their features to produce the text.

Cronin (2013) refers to this broad context as a revolutionary period in the translation field. Moreover, the raising demand of our society makes necessary the use of technology to translate (Quah, 2006). According to Arnold et al. (1994), nowadays human translators are not able to cope with the requested volume by themselves. However, thanks to the technical advancements and their commercialization, the necessary resources to deal with this demand are now available to freelance translators, language services providers (LSPs) and organizations (Hutchins and Somers, 1992). In these days, several companies and institutions use technology to produce their own translations. From the heavyweights of the

language industry, such as RWS with Trados Studio<sup>2</sup> or MemoQ<sup>3</sup>, to other non-specifically translation related businesses, like Amazon or Google. The public sector is not an exception, with organizations such as the WIPO<sup>4</sup> and the European Commission<sup>5</sup> using translation technologies.

### 1.1. Justification

This research will focus on the translation process carried out by a public institution. Concretely, the Translation Service of the Council of the European Union. On the one hand, the importance of carrying out research in this context lies on the lack of studies about translation in the Council. Although documentation has been produced about translating and translation technologies at the EU institutions, the Council comprises a minor part of them. More bibliography has been produced about other bodies, such as the European Commission, the European Parliament, or the Court of Justice. However, the information about the Council is limited to a reduced number of resources. For instance, the chapter “Quality assurance at the Council of the EU’s Translation Service” by Hanzl and Beaven (2017), and those documents published by the EU itself. That is, those issued by the Publications Office of the European Union, the General Secretariat of the Council (GSC) and internal documents of the Council of the European Union. These resources will be addressed in more detail in section 3 of this paper.

Bearing in mind the information available about other institutions and their usefulness to produce this paper, it is clear that research about the Council of the European Union is needed. Apart from this unbalance in terms of content, the nature of the Council plays an important role, making it a unique context for any research to be developed. At an institutional level, the weight of the Council in the European Union is undeniable due to its role as a decision-maker (General Secretariat of the Council of the European Union, 2016). Together with the European Commission and the European Parliament, it is one of the three main institutions. The fact that the Council is a key agent contributes to the creation of translation situations which require specific approaches and, therefore, influence the work methods of the translators. Broadly speaking, these circumstances refer to time constraints and text sensitiveness (Hanzl and Beaven, 2017). These conditions affect the tasks of the

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<sup>2</sup> RWS. Trados Studio. <https://www.rws.com/localization/products/trados-studio/>

<sup>3</sup> MemoQ. <https://www.memoq.com/>

<sup>4</sup> WIPO. <https://www.wipo.int/portal/en/index.html>

<sup>5</sup> European Commission. [https://ec.europa.eu/info/index\\_en](https://ec.europa.eu/info/index_en)

twenty-four language units that work in the Council. From now on, all the sections mentioned in this paper will be framed within this context and they will refer to the translators that work for the Council. The research will consider the tools and work methods used by the translators of the Translation Service and the needs of this institution in relation to any linguistic matter.

Among the resources used, two tools will be crucial for our research. Firstly, Trados Studio, the CAT tool employed by the translators of the EU. Secondly, eTranslation<sup>6</sup>, the machine translation system used at the European Union, which can be accessed by all the EU employees through the internal portal. However, it can be concretely used by translators as a plug-in of Studio<sup>7</sup>. More specifically, it is a NMT system, which has been used at the Translation Service since 2019. During this time, two annual reports have been released in 2019<sup>8</sup> and 2020<sup>9</sup> to provide feedback from the translators in relation to the use of this tool. In this way, it was possible to have an overview to assess whether it was a beneficial resource or not. The main conclusion of these reports was that NMT should be used as any other tool already employed by the translators. However, it should not replace human translation or be considered as a full step of the translation process by itself. It was also concluded that despite NMT can initially speed up the process, the translator would ultimately spend the same amount of time reviewing the machine translated text. Even though it proved to be useful in some translation situations and for some types of documents, it was advised to use it with caution and always with the certainty that the text would be reviewed by the translator. Thanks to these studies, a general overview was provided to set up the framework in which any research could be further developed. All the twenty-four language units contributed with their feedback by answering open questions to the extent they considered suitable. In view of the information given, at this stage it would be useful to focus on individual language cases. This could lead to results which could be lately applied to other translation units or languages of the same linguistic family if similarities were found. It is important to highlight

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<sup>6</sup> European Commission. “Machine translation for public administrations — eTranslation. eTranslation allows public administrations to get quick, raw machine translations from and into any official EU language”. [https://ec.europa.eu/info/resources-partners/machine-translation-public-administrations-etranslation\\_en](https://ec.europa.eu/info/resources-partners/machine-translation-public-administrations-etranslation_en)

<sup>7</sup> Council of the European Union, General Secretariat. Translation Service. The Language Technology Team. 2021. Machine translation for non-linguists – all about eTranslation (internal document)

<sup>8</sup> Council of the European Union, General Secretariat. Translation Service. The Language Technology Team and the Quality Policy Coordinator. 2019. Neural Machine Translation Feedback Mechanism Report (internal document)

<sup>9</sup> Council of the European Union, General Secretariat. Translation Service. The Language Technology Team and the Quality Policy Coordinator. 2020. Neural Machine Translation Feedback Mechanism Report (internal document)

that not all the languages count with the same quality when it comes to NMT output. Therefore, it is necessary to identify specific needs and determine concrete revision and post-editing standards. The more defined the manipulation of the tool is, the better use will be made of it. This usage refers to efficiency in terms of time and quality, as well as the effectiveness of the translators' work. As proved by the above-mentioned reports, identifying the translators as information sources is a productive approach to contribute with new conclusions about the field.

## 1.2. Objectives and structure

Considering the context of this research, the main objectives will be (1) to specify the factors that determine whether the translators decide to use NMT or not; (2) to explain which is the relation between the translator and NMT compared to other resources; and (3) to assess if the use of NMT diminishes or not the value of the translator as one of the producing agents in the translation process.

As mentioned before, this context becomes very specific in the Council. The combination of different constraints creates unique circumstances for which rules and patterns can be established, although they will always need to be treated individually. This is the framework where translators need to take decisions regarding their work method. Among these choices, it is possible to observe the use or avoidance of certain tools. At this point of our research, it is pertinent to ask when do translators use NMT and which are the conditions that lead them to proceed like this. In this sense, it is necessary to define the link between the translator and NMT and reflect about its impact on the use of other resources. It is important not only to determine when and why does the translator use NMT, but also the reasons for not using other tools in the same circumstances. Finally, it will be pertinent to reflect about the impact of NMT on the role of the human agent. Whether its use is more frequent than other tools' or not, its participation in the process already affects the translator. The traditional producer must share the scenario with a new agent now. Therefore, the tasks performed by the translator are influenced and they might need to be modified or reorganized. For this reason, it is indispensable to determine the real effect of the machine on the human agent and establish new processes in case they are needed.

To reach these objectives, the author of this paper has carried out a case study with a qualitative approach. As mentioned before, the research has been framed in the Translation Service of the Council and, specifically, in the Spanish Language Unit. The translators of

this team have been targeted with a survey elaborated by the author and they constitute the participants of the study. Thanks to their answers, an analysis about their use of NMT has been elaborated. In parallel, this study has been supported by the theoretical framework, which reflects about the discipline of translation and provides information about its circumstances at the EU institutions. While the author has encountered some difficulties and inconveniences throughout the development of the research, relevant conclusions have been drawn. As a result, it has been possible to refer to the future conditions of translation at the Council, as well as the usability of this document for further research.

Regarding the structure of this document, the second part of the paper will start with a theoretical framework about translation. This section will approach the discipline from a conceptual view and considering the agents that participate in it. In this sense, it will refer to the influence of technology on the workflow and the translator. This context will be also analysed in the framework of the EU institutions.

The third section of the present document will refer to the case study. It will describe the organization of the translation services at the European institutions, and more specifically, at the Council. This information will be essential to contextualize the reader. It will start with a review of the literature produced until this moment about the subject matter of this research. On the other hand, a summary about the EU institutions will follow to briefly describe the Council and its organization. It will continue with an overview about the Translation Service of this institution and the procedures that it follows in terms of workflow and technical and quality requirements.

The fourth section will describe the methodology employed to carry out the research. Firstly, the circumstances surrounding this research will be explained. Secondly, the research design will be explained in detail. Lastly, the document will make reference to the data gathering process.

The fifth part of the paper will refer to the data that has been gathered. The results of the survey will be presented and analysed to set the foundation for the conclusions.

The last section of the document will provide the conclusions derived from the interpretation of those results regarding the future use of NMT in the Council.

Finally, the Annex will make reference to the survey which has been shared with the translators of the Spanish Language Unit to proceed with this research.

## **2. Theoretical Framework**

The present theoretical framework will explore the discipline of translation and the industry that surrounds it from a theoretical perspective. The technological characterisation of the field of Translation Studies in these days and the industry that surrounds it require for certain features to be analysed before proceeding. There are key elements that define the scenario of the present research and have a direct impact on the translation process and the translator. Consequently, it is necessary to establish a solid and clear basis before referring to the specific context of our case study.

Firstly, the concept of translation will be explained thanks to the definitions provided by different authors. It will continue with a section about the traditional role of the translator compared to the current one. To follow up, the context will be analysed and an overview about the translation industry will be provided. The last part of this section will deal with technology and its impact on the text and the translator.

The second part of the theoretical framework will focus on general aspects about machine translation. It will refer to this resource from a non-operational perspective, framing it within the industry and reflecting about its development throughout history. It will start with a summary of the different stages that this tool has been through. The text will then reflect about its advantages and the stereotypes that exist about it, while the last part will analyse the relevance of MT in the current industry.

The third section will refer to MT within the translation workflow. It will analyse its impact on the process and how it affects the human agent. In this sense, the first part will refer to quality standards before moving on to activities derived from MT, with a special focus on post-editing.

This will lead us to the fourth section, which will refer to the skills needed to perform post-editing and the tasks that it consists of. This part will finish with a reflection about the benefits and drawbacks of MT and translation technologies, as well as the prejudices that exist about them.

Finally, the last section of the theoretical framework will specifically refer to MT at the EU institutions, providing details about the phases that it has gone through and its use in the Council.

### **2.1. Translation in the 21<sup>st</sup> century**

This section will provide the reader with a presentation of the area of translation while keeping in mind the influence of technology. With the aim of determining what translation

is, it will start with an introduction about translation from a theoretical point of view thanks to the analysis of different definitions. It will be followed by a reflection about the role of translators and the requirements that they are expected to hold to form part of the current industry. This analysis will serve as a link to consider the situation of the industry and the importance that technology plays in it.

### 2.1.1. Concept of translation

The conceptualisation of the act of translating into the idea of producing a translation, that is, a message which is converted into a different language from the original one while keeping the meaning of the source text, is still controversial. From the first multilingual civilizations that we know about to the current language industry, the definition of translation is yet questionable and open to modifications. Throughout history translation has been identified with different activities that could be related to this process. For example, Nida (1963) refers to Babylonian translators, who already compiled long lists of terms in different languages, which nowadays would have resembled linguistic corpus. However, other cases are more surprising and move further from the corresponding discipline. For instance, during centuries translation was even conceived as a part of the language learning field. It was not until the 1960s when translation started being considered as a discipline on its own (Munday, 2008). In the coming decades, different theories would arise and what is known as Translation Studies became a reality. In this way, the definition and the establishment of the discipline allowed it to become solid and to take distance from other fields of study.

Nowadays, the primary conceptualisation of translation provided above seems to be acknowledged by different authors. Nevertheless, the process of translating can still be defined from various perspectives. For example, Quah (2006) provides a simplified explanation, and he refers to translation as the transfer of a message written in one language into another. According to Pym (2010), the idea of translation can be conceived as the notion of “equivalence”, claiming that the values which are common to two languages allow them to share equivalent concepts, and therefore, to translate content from one into another and vice versa. García Yebra (1989) provides a more technical definition, and he specifies that this transfer must keep not only a semantic equivalence, but also a stylistic one. On his side, Nida (2001) also wonders about the reader and the importance of producing the target message according to the understanding of the receiver, and not only to the author’s reasoning.

Despite these descriptions provide an insight about basic features, it is also possible to consider a contextual definition. Are there any characteristics external to the text itself that influence the production of the translation? Which other aspects are also intrinsic to this process? For instance, if the producer is included in the definition, the translator can be identified as the individual who transforms the source text into the target text (Munday, 2008). But why is it relevant to mention and consider who is the creator of the translation? Cronin (2003) highlights the importance not only of what is translated, but also of who translates it. Describing the agents that participate in a process allows us to explain the tasks that they perform and, therefore, to better understand the process itself. In this case, regardless of the activity carried out – not only translation, but also editing, reviewing or quality control – the traditional producer of the target text has usually been known as the translator. In short, the author of a translation would be a human agent in charge of performing any necessary step to transform the source message into an understandable and equivalent text in the target language. For a long time, this agent was addressed with the term “linguist” (Hurtado Albir, 1996). However, this label does not apply anymore, and it limits the role of the translator in the current field, which produces and demands professionals with specific skills. These notions will be discussed in the following sections and their demand proves that nowadays translators do not necessarily have to be linguists. On the contrary, they need to fulfil a concrete profile to fit into the current discipline and the industry that surrounds it.

### 2.1.2. The translator nowadays

Once the concept of translation has been clarified, it is necessary to define who is the translator in these days, which are the tasks performed by this professional and the knowledge that is needed to do so. There are several stereotypes which have usually identified translating with an outcome of merely being fluent in another language or having writing skills. There is a general belief that understanding a language is enough to be a translator, disregarding the notion of being able to express a message in that tongue (García Yebra, 1989). Even with that knowledge, translating is a complex procedure which demands specific abilities, and it does not simply involve finding an equivalent term in another tongue. Hurtado Albir (2020) distinguishes among five skills sets that are necessary to translate. Firstly, the bilingual competence refers to an impeccable understanding of both source and target languages, which includes a producing expertise in the two of them. In the second place, Hurtado Albir (2020) refers to an extralinguistic competence, which consists of the

acquisition of knowledge related to the topic that is being translated, as translators need to be familiarized with the subject matter to produce content in the target language. The third skill refers to notions about translation and the foundations of this discipline. Regarding the fourth skill, it refers to the instrumental competence, that is, the expertise about any resource employed to produce the target text, as well as the processes that surround them. These tools can refer to the traditional ones or to the most modern resources. In this sense, it is necessary to include not only linguistic resources, such as dictionaries, but any instrument that translators use. For example, CAT tools, term bases, linguistic corpus, MT engines or translation management systems. Lastly, the strategic competence refers to the management of translation processes to obtain results and solve any possible issues that might arise. The following table reflects these competences.

*Table 1. Translation competences*

Competence	Knowledge	Notions
bilingual	operational knowledge with communication purposes	source language and target language
extralinguistic	thematic knowledge	general and specific topics
translation notions	field knowledge	translation discipline and the industry
instrumental	technical and operational knowledge	tools and resources used to translate
strategic	operational knowledge	translation workflow, processes and problem solving

According to O’Thomas (2017) and Cronin (2003), being skilled at a technical level is a must if the translator does not want to be left behind in the current industry. This knowledge is crucial, and it affects several aspects of the translator’s work. For example, King (2020) emphasizes their impact on the quality of the target text when it comes to consistency. On his side, Quah (2006) highlights the relevance that they have in terms of productivity. Even though their use is specific and not all of them are suitable for every text typology or translation situation, they still allow to produce more text in less time. For this reason, the translator is the first one who should be interested in holding a technical knowledge. Many professionals used to be reluctant to incorporate these tools into their work (Zetzsche, 2020).

However, in these days translators use different ones simultaneously and they spend their time and economic resources learning about them. In this sense, Kenny (2020) refers to the integration of translation technology in academic programmes. She points out their importance not only for those in charge of producing texts, but also for anybody that forms part of this industry and needs to get familiarized with its different areas.

It is relevant to highlight that professionals are encouraged to hold technical notions because there is a global industry that demands that from them. Technology plays a key role in this market, as well as in our present interconnected society. To cope with the needs of this system, new professional roles are required. In the case of translation, new models of agents that intervene in the process of its creation. To define this scenario, it is important to acknowledge the diversity and validity of the producing agents (Saguer, 1994). Keeping in mind the current technological advances, the variety of these producers would include different backgrounds, such as linguistic or technical experts. Quah (2006) explores different profiles of language professionals according to the type of intervention that they have in the production of the translation. These profiles can be identified with a certain discipline. For instance, at first glance it is possible to distinguish between a linguistic background and a more technical expertise, which would focus on the most mechanical side of the process. Pym et al. (2013) make the same categorization between translators and, more specifically, software engineers. Although this two-sided classification has been normalized in the current industry, it is still incomplete. Considering the wide range of agents that influence the text, more participants should be undoubtedly included in the description of the process not only according to their background, but also their nature. To do so, it is necessary to define who are the actual producers in the translation panorama nowadays.

### 2.1.3. The industry of translation

Considering the context where the translation is created, there are other questions that we should ask ourselves. Why is it important to reflect about translation? Why is it relevant to analyse who creates it, which processes are followed, and which means are used to do so? O'Thomas (2017) defines "translation" as a three meanings concept, claiming that it represents a process, a product, and a profession. That is, a complex and multipurpose reality which is at the centre of a highly lucrative industry. In this sense, at first sight the most logical reason to reflect about translation might lie on the value of the industry. There is a need to provide a deeper and more accurate knowledge about a continuously changing language market whose wealth increases every year. According to the European

Commission (2020), only in 2019, 54% of European companies in the language field reported growth. Despite the impact of COVID-19, predictions of Women in Localization (2021) for 2022 seem to be positive as well, even considering the pandemics as a chance for transformation and renewal. Looking ahead, according to Slator (2021), the language services and technology industry was valued in USD 23.8bn in 2020 and it will grow to a number between USD 29.8bn and USD 30.3bn by 2024.

The interest in investing economic and human resources in this market is motivated by an actual demand. Our current society is characterized by the sharing of huge amounts of information. The creation of the World Wide Web during the 80s and the 90s and its openness to every user produced what is known as “user generated content” (Joscelyne et al. 2020:9). Quah (2006) and Peñalver-Martínez et al. (2011) refer to the constant growth of online data that derived from this phenomenon. According to Cambria and White (2014), the same amount of information that existed during the advent of the Internet is produced now on a weekly basis. It addresses any possible topic, and it is produced and requested in several languages. Any individual that forms part of this society is an active receiver of it, regardless of any technical expertise or use of new technologies. Cronin (2003:11) refers to this as “informational society”, which consists not only in sharing data but also in establishing economic and social paradigms that depend on it. The author highlights the importance that data has as a primary component of this system and the relevance of the tools that produce it. That is, language, and therefore, translation. In this way, it is possible to verify that translation is not only relevant because of its worth. It has a fundamental role in keeping our current society functioning by establishing links among consumers and products.

In this line, the connection between users and information does not only have an impact on the demand. It also opens professional opportunities thanks to the creation of working networks between the translators and their clients (Cronin, 2003; O’Thomas, 2017). When referring to such a profitable business, it is essential to keep in mind the involvement of activities which are not related to translation. Contrary to several assumptions and stereotypes, the translation industry is not only formed by translators. As mentioned in previous sections, it includes professionals from different fields of study besides those related to languages. In fact, according to the European Commission (2020), project managers constitute the most numerous group within LSPs, followed by language experts, sales and marketing professionals, vendor managers, engineers and multimedia specialists. It is a buoyant market and above all a melting pot where a wide range of disciplines converge

with the aim of producing a target text. All in all, after identifying the agents that can intervene in the translation, it is necessary to wonder about their nature. Keeping in mind the technological characteristics of our society, should it not be logic to wonder whether all the participants are human or not? At this point, the next section of the paper will focus on the most controversial agent of the process: technology.

#### 2.1.4. Technology and translation

The current field of translation constitutes a scenario where different agents must interact among themselves in order to produce results. The industry is being constantly shaped by our society, where any activity related to communication and, therefore translation, requires a dialogue between mankind and machines (Saguer, 1994). According to Cronin (2003), the intrinsic diversity of translation embraces the inclusion of new realities, such as technology. Gone are the days when the translator produced the target text only with paper resources and without the help of any software. The introduction of technology in the translation field has been a fact for the past decades. It is already a part of the industry, and its participation is undeniable. It cannot be marginalized by the area itself or by any other agent of the field. In this sense, it would not be correct to isolate translation from the technological context that it currently belongs to (Cronin, 2003). Considering its pluralistic nature mentioned above, it would be a contradiction to limit it from any expansion. The introduction of technology should be considered as an opportunity to enrich the discipline and the industry, and not as a threat. As Cronin claims, “technology unites where culture separates” (2003:19).

On the other hand, O’Thomas (2017) highlights the need to consider the impact that technology has on both the translation and the translator. He recognizes the irruption of technology as a redistribution of power. This reorganization can be identified with the reassignment and exchange of roles between the translator and the machine. For this reason, several professionals still perceived it as a risk. Many of them refuse to assimilate technology as another component or they just consider it a mere accessory instead of a central element of the process (Cronin, 2013). According to Yamada (2020), the openness of the field to non-specialized users who employ unreliable tools diminished the confidence of many professionals in technology. Cronin (2013) also refers to the existing idea about the possible simplification of languages because of an inappropriate use of technology. In addition, in many cases this use would cause a decrease in the economic benefits of freelance translators (Zetzsche, 2020) or it could even lead to a professional discontent (Bowker, 2022).

Despite these negative views, rejecting the use of technology is still erroneous. To understand why, it is important to point out that the presence of technology in the field varies depending on different factors. Zetzsche (2020) lists some of them, such as the user, the sector that the translator belongs to, the text typology or even the languages. Moreover, the process of mechanization has not been parallel regarding each technological element of the industry. From the emergence of machine translation in the 1950s until its current and most upgraded version with NMT, to the slow adoption of CAT tools by translators during the 90s (Zetzsche, 2020). Even though the aim of translation technology is to provide support and translate, each resource has followed its own path. This has led to the creation of particular tasks, specific needs and a different impact on the translator, the text and the process. Consequently, it would be illogical to determine absolute parameters for the behaviour of all tools while ignoring the influence of other elements. Therefore, technology is not used in the same way by every translator. On the contrary, translators develop a personalized use, and they adapt it to their work methods. Consequently, it is possible to claim that technology has become an active agent and, sometimes, even a companion for the translator. It would be incorrect not to embrace it while disregarding its benefits and pretending that this rejection will not imply an isolation within the field.

Considering this, what is the difference between a companion who is a full producer agent and a tool which serves as support? What are the limits to attribute one nature or another to each resource? These features are determined by the level of intervention of the agent or the tool, depending on the case. Likewise, this participation is influenced by the translation situation. In other words, the context of the translation will determine the limits and the needs of the intervention of both human and technological agents or tools. The factors that have an influence on this scenario are varied. From quality standards to tight deadlines, from language combination to text typology. Even though it is possible to speculate about it, every case needs to be treated individually. In the following section, this bond between translators and technology, sometimes conceived as an antagonism, will be discussed. In particular, it will focus on the coexistence between machine translation and human translators.

## 2.2 Machine translation

This section will deal with one of the key concepts of our research: machine translation. In order to understand the weight and the possibilities of MT in the current industry, it is necessary to familiarize with the phases and the previous developments that it has experienced. That is, to understand its present role, it is fundamental to learn about its past.

For this reason, this third section will be introduced by an overview of MT, providing a summary about its history, and describing the different stages that it has been through. It will continue with an analysis of the prejudices that exist against it and a reflection about its benefits. This part will aim to explain the reality about it to provide the reader with a clear and actual approach of MT. The last part considers its relevance and wonders about the aspects that make it indispensable for today's industry.

### 2.2.1. History and stages of machine translation

The aim of MT is the automatization of the translation process, or at least part of it, to produce the target text (Arnold et al. 1994). At first glance, the main idea is that the source text is processed by the machine engines to provide the translation. However, going into further detail, different aspects determine the treatment of both the source and target texts prior production of the final translation. Before making any mention to these elements, it is important to consider that MT has experienced various phases. As stated by Sin-wai (2015), although the history of MT is short, this resource has developed quite fast.

The circumstances of MT have drastically changed since Weaver referred to the task of decoding a text to understand it in 1949 (Arnold et al. 1994). While it seemed to become popular in the 50s thanks to the rise of research in the field, the enthusiasm was mitigated in 1964 with the report drafted by the Automatic Language Processing Advisory Committee (ALPAC), which stated that the future utility of MT was uncertain. Fortunately, during the 70s different projects allowed the renaissance of machine translation and fostered its development. Hutchins and Somers (1992) refer, among others, to the pioneers SYSTRAN and EUROTRA, developed by the Commission of the European Communities (CEC). Moving forward, the 80s witnessed the commercialization of MT. Since then, many companies and institutions have developed their own engines to produce machine translated text.

Throughout the decades, not only different systems but also various approaches emerged. Broadly speaking, there are three main phases that MT has been through (Melby, 2020). To begin with, rule-based machine translation (RBMT) was the predominant trend during the first stages. In RBMT the target text would be the consequence of rules set up by humans and introduced within the system. This was the main approach until the 90s, when statistical machine translation (SMT) based on equivalence became popular. In SMT, the machine would match terms contained in corpora according to equivalence rules based on statistics (Quah, 2006). The translation would be the result of pairing those words. All in all, this

approach changed with the introduction of a new variant. Neural machine translation models inspired in the brain’s neurons started being integrated in SMT systems (Koehn, 2020). In this way, by 2018 NMT had already become the novelty in the field. Whereas RBMT and SMT count with rules supervised by humans, NMT is based on neural artificial networks which link ideas, and therefore words, to produce the translation. Arnold et al. (1994) already anticipated this trend, referring to it as knowledge-based MT and claiming that it would have the ability to reason about the domain knowledge that it would be based on.

The following table provides an overview of the above-mentioned stages and their characteristics:

*Table 2. MT phases*

Phase	Period of time	Target text based on	Outcome
RBMT	until 90s	rules set up by humans	rules-based text
SMT	90s to 2018	statistics	equivalences
NMT	2018 onwards	neural networks	linked ideas

Although nowadays NMT seems to be the most promising approach, Melby (2020) points out that RBMT and SMT are still used by many professionals. For this reason, the possibility of whether improved and subsequent systems will be developed after NMT is still open. As it already happens, different trends and their updated versions might coexist for a period of time, while some of them are discarded, and new ones are added. Considering all the stages that MT has been through during its relatively short history, it would be naive not to expect more advancements.

### 2.2.2. Machine translation: advantages and stereotypes

As mentioned in the two previous sections, translation technologies and concretely MT has been, and it still is, judged by the industry and its users. There are many wrong ideas about machine translation, while its advantages are ignored on many occasions. O’Thomas (2017) claims that in the same way that space restrictions have disappeared, time limitations will no longer be a problem thanks to MT. Cronin (2003:103) defines this as “the emancipation of time from space”. The author points out that thanks to MT it is possible to produce target texts instantaneously. Immediacy is the main attraction for many clients and users and the

biggest threat for several translators. This feature leads to the two main prejudices against MT: low quality output and risking the job of the translators.

Regarding quality, there seems to be a need to compare human and MT output (Arnold et al. 1994). This approach could be useful at a first stage to develop MT engines. However, after further improvements comparisons need to be well-founded to be successful. Regarding quality, it is important to understand that human and machine translation cannot be roughly compared because both intelligences do not operate equally (Cronin, 2003). Instead, differences need to be pointed out by applying specific parameters, which will be mentioned in more detail in section 4.2 of this paper. In the same way that human translation requires different approaches from translator to translator, MT is also conditioned by inner and external aspects that are not always shared with the translator. For instance, Arnold et al. (1994) provide an example highlighting the relevance of text typology. On his side, Koehn (2020) also confirms that not all types of text are suitable for MT. Those ones that require a more creative component, such as literary texts (Arnold et al. 1994) or those that belong to the transcreation field (Vieira, 2018), are less appropriate for the engines than legal texts, which are more repetitive and less subjective. Another example could refer to language pairs. Some languages present different or even more difficulties than others to be processed, as they might be more complex regarding specific aspects and vice versa. Even the characteristics of the target text can vary from one engine to another, producing different translations which present variations in their quality. Therefore, it is necessary to consider that in some situations MT becomes a producer agent on its own. In this case, it has specific needs and characteristics, and it is integrated in the same context as human translators. That is, two types of producer agents with different features that share the same field.

Another misconception about MT is the belief that it will replace translators. O'Thomas (2017) refers to this distrust and claims that part of the industry fears the leadership that big companies have acquired because of their engines. This could reduce the presence of the translators and diminish their role as producers. At this point, it is pertinent to mention how O'Thomas (2017:295) applies the concept of "transhumanism" to translation. The author claims that translators and MT will merge to produce the translation, which will be ultimately reduced to an automated procedure and lead to "posthumanism" (O'Thomas, 2017:296-297). This hypothesis seems improbable in the current industry, as the immediate future of translators is not only influenced by technology, but also by demand. In this line, Arnold et al. (1994) consider that translators will not be substituted by the machine. Cronin (2003) claims that even though human translators cannot deal with the current volume by

themselves, it is this high demand what actually makes them valuable. Therefore, the human agent will not be deleted from the process, but just reassigned to new tasks.

In this sense, the alignment of both human and mechanical agents should be perceived as an advancement. While Cronin (2003:112) takes this merging to the extreme and refers to modern translators as “translational cyborgs”, others opt for contraposing these two agents. The main reason for this is the characteristics attributed to translators and denied to the machine. For a long time, human agents have been acquainted with a more relevant role not only because of their seniority, but also because of their ability to create. According to Quah (2006), translating has been traditionally considered both a science and a creative process. Following this approach, Cronin (2003) confirms that creativity is intrinsic to translation. Creating involves being able to use the knowledge acquired and the inner self to produce a new reality. That is, creativity implies taking decisions and translators make choices all the time (Koehn, 2020). García Yebra (1989) refers to translation as a decision-making series: deciding to keep the extent to which the translation will impact the reader; deciding to translate not only words but also meanings; and above all taking decisions by understanding the source text. One of the main criticisms against MT is its inability to comprehend, that is, of not being able to decipher a message and interpret it. The machine can link ideas and produce a target text, but it cannot understand the output message like a human would do. Consequently, it is not able to recognize issues during the translation process and solve them so that they are not reflected in the target text, unless the engines are fed with patterns to prevent this.

The following image provides an insight about the relationship between the translator and the machine, as well as the attributes that they lack of and contribute with.

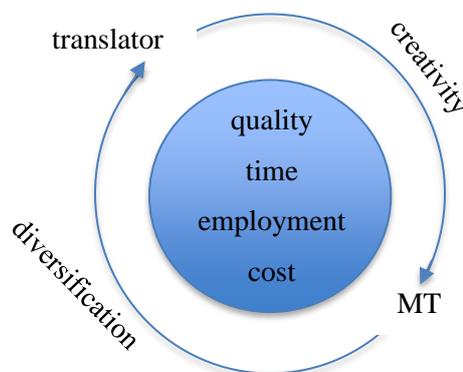


Figure 1. Relation between the translator and MT in the current translation industry

As it happens with translators, the machine is not perfect, and it might encounter difficulties (Melby, 2020). Instead of discarding its use because of certain weaknesses, it is necessary to develop procedures to support it and mitigate the impact of such flaws on the translation. Some of these procedures consist, for example, in checking the source and target texts. The direct consequence of performing these tasks is the diversification of the duties of the translator, who must share the context with technology and learn to perform new tasks accordingly.

### 2.2.3. The importance of machine translation

Considering the previous section, which is the relevance of MT? Why is it worth to introduce it in the translation process? Contrary to several generalisations, the participation of MT in the translation process is well-founded and logical in the current context. Even though it still needs improvements in certain areas, it has proved to be beneficial. This section will refer to the reasons that make MT an essential and crucial element of the translation industry nowadays.

In the first place, it has a heavy presence in the market. As mentioned in the introduction of this paper, there are several members of both public and private sectors that produce machine translated texts and many of them do it with their own engines. According to the European Language Industry Survey, in 2020 its participants referred to machine translation as the “strongest technology trend” (European Commission, 2020:48). Despite its commercialization took place some decades ago, MT is still defined by its innovative nature. In 2020, 66% of LSPs and 44% of in-house translators considered investing in this resource (European Commission, 2020). As mentioned in previous sections, its different phases and developments throughout history have confer it with an exciting unpredictability about what its next feature will be and how it will affect the industry. Therefore, many professionals do not want to miss the assets that this resource has to offer, as this would leave them at a disadvantage compared to other competitors. Consequently, many of them decide to incorporate it into their work methods, being used in 75% of translation projects between 2017 and 2020 (TAUS, 2020).

Joscelyne et al. (2020) refer to this desire of keeping up to date with the innovations of the industry. They point out that the two main reasons for this interest are cost and productivity, since the production of the translation becomes costless and limitless. Because of this, many providers see the development or the acquisition of their own engines as an asset, as it is the chance to produce large-scale text while investing less than other tools would require.

Regardless of this positive conception, Massardo and van der Meer (2017) are more pessimistic and they claim that there are still professionals that hesitate about the use of MT. Many clients have unrealistic expectations about MT quality, and they demand both immediacy and good results. Even though this resource is continuously updated, Massardo and van der Meer (2017) claim that the improvements of NMT, for example, cannot be taken for granted, as the history of MT is full of ups and downs. Professionals and clients do not have to be naive about the current possibilities of MT, which will continue to provide improved versions. However, it would not be correct to discard it because it is not flawless. It would be a mistake to ignore the potential of this tool, which has already proved its benefits. Alternatively, Joscelyne et al. (2020) consider a hybrid model. Instead of going as far as O'Thomas (2017) with his idea of merging both agents, Joscelyne et al. (2020) refer to coexistence. This option constitutes the reality nowadays, as both the translator and MT are active participants in the translation process. The question about whether this will be sustainable in the future or not remains open. According to Joscelyne et al. (2020), the amount of human and machine translated text will be the same by 2025, and it still will constitute half of the requested volume. Considering the demands of the industry, now this option seems plausible. All in all, it will be necessary to wait for the developments of technology and the transformation of the industry before making any assumption.

On the other hand, this high demand constitutes an influential factor for the relevance of MT. Quah (2006) highlights the impossibility of humans to cope with the current volume. According to Arnold et al. (1994), the number of translators in the world is not enough to deal with it. This fact, together with the unlimited productivity already mentioned, make this scenario an industry with endless possibilities. MT has been helpful in many different areas, and it is still applied to a wide variety of projects. Regarding the already mentioned SYSTRAN, it was used as a Russian-English system by the US Air Force until the European Commission bought the French-English version in 1976 (Sin-wai, 2015). Arnold et al. (1994) provide the example of the METEO system, which was used since the 70s by the Canadian Meteorological Center to translate weather bulletins from English into French. According to Sin-wai (2015), it started processing 7,500 words per day until it reached 30 million words per year before being replaced in 2001. Referring to other uses, Koehn (2020) mentions the systems TIDES, GALE and BOLT, funded during the first decade of the 21<sup>st</sup> century by the Defense Advanced Research Projects Agency in the US. Kohen (2020) points out that following the events of September 11, 2001, there was a great interest in processing languages like Arabic. Therefore, investing resources in this area was significant.

On the other hand, other types of institutions have shown their interest in this tool throughout the years. Its commercialization opened the door to other audiences, and this would not only include individual users. For instance, the non-profit organization Translators Without Borders has been working on a language equality initiative since 2019. With the aim of automating marginalized languages, Gamayun<sup>10</sup> is a project that uses text and speech technologies to help people accessing information in crisis contexts. For example, improving food security programming for Syrian refugees<sup>11</sup> thanks to the translation of Levantine Arabic. Another case is the project mentioned by Cadwell et al. (2019), who cooperated to test a French into Swahili MT system in Kenya. The objective was the evaluation of crisis-related content translated by humans and produced by the engine, both in its raw and post-edited versions, to be later compared against a market-leading system. All in all, these examples prove that the economic benefits of MT are only one of the many consequences that this resource can have. Machine translation can have a direct impact on the way users relate to their context. It helps dismantling language barriers and making content accessible to those who need information to decipher the events that surround them. In the case of crisis situations, this understanding of reality is fundamental, and it can even save lives.

Nonetheless, the usefulness and applications of MT do not imply the disappearance of human translators from the workflow. As mentioned before, the amount of information that needs to be translated nowadays requires human workforce to be produced (Arnold et al. 1994). Even though there are specific situations when MT proves to be more efficient than human translation, there are other cases where it is still not accurate enough. The current field is a hybrid context where the demand of human and artificial output is combined depending on the circumstances. However, the impossibility of human translators to disappear does not mean that these conditions do not affect them. This context produces a reorganization of the process, which consequently leads to rethinking its steps and the tasks that conform it. According to Joscelyne et al. (2020), these new duties will be focused on the evaluation and the favouring of technology, which includes MT. While many professionals are reluctant to perform these tasks because they consider them to be repetitive (Moorkens and O'Brien, 2017), this change in the translation paradigm is a chance to diversify their work and, therefore, their knowledge. As mentioned in previous sections, this diversification leads to

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<sup>10</sup> Translators Without Bordes. (n.d.). Gamayun, the language equality initiative. <https://translatorswithoutborders.org/gamayun/>

<sup>11</sup> Translators Without Borders. (2020). "The latest from TWB's language technology initiative. Leaping over the language barrier with machine translation in Levantine Arabic". <https://translatorswithoutborders.org/blog/tag/machine-translation/>

the incorporation of new profiles in the translation field. Far from being a disruption that alienates the translator, it actually provides the professional with an opportunity to evolve and contribute to the transformation of translation. The following section will analyse and describe these new tasks, and how they condition the perception of the professional about the introduction of technology in the industry.

### 2.3. Machine translation in the translation workflow

According to Hutchins and Somers (1992), there seems to be extreme opinions about MT. On the one hand, there is an enthusiasm about its use and the endless possibilities that it seems to offer in terms of economic benefits and technical advancements. However, there is also a distrust regarding the text that it produces. Many professionals are still reluctant to use it because of the quality output, apart from other factors already mentioned, such as the consequences on the profession. This section will point out how MT quality issues are being solved in the current industry. It is necessary to explain the processes performed to achieve excellence in relation to MT text. Consequently, translators and clients will be able to acquire a more objective perspective of this tool. Professionals will be provided with an insight about its implications and the actual possibilities that it entitles. On the other side, it will help to illustrate the clients with a realistic view about what they should really expect from MT and how it can be better used for their own purposes.

After focusing on the main concepts and features that set the basis of MT, this section will reflect about it from an operational perspective. In the first place, it will start with an analysis of MT quality. It will reflect about the need to actively keep in mind this aspect without diminishing the potential of this resource. Secondly, a description about the processes carried out to ensure quality will be provided.

#### 2.3.1. Machine translation quality

Despite the achievements made in the development of MT during the past years, the output quality can be improved (Arnold et, 1994). Machine translated text is still dubious, although this does not make it worthless. On the opposite, this rises the fact that quality standards are needed to produce an acceptable translation. The introduction of quality assurance steps in the translation process is not new. When human translation is performed, further stages are also included. The translator does not produce the final version of the target text immediately. Once the first stage of the process is concluded, other agents might intervene to ensure that quality standards are reached (Arnold et al. 1994).

The execution of additional tasks might seem contradictory in the case of MT because of the immediate character attributed to it. As it has been already mentioned, this feature is perceived as an asset by several users and clients. However, it is a misconception. While the instant disposal of the translation is considered as one of its main advantages, it can be an unrealistic expectation in many translation situations. In their predictions for 2022, Massardo and van der Meer (2017) confirmed that the quality of MT output would still require additional work to ensure optimal results. Therefore, it is necessary to accept that in certain cases it still counts with limitations. In this way, it will be possible to strengthen its capabilities. As pointed out by Hutchins and Somers (1992), thanks to the appropriate procedures an adequate grade can be obtained.

At this point, it is necessary to wonder which are these additional steps and how they are established. First, it is important to differentiate between standards and metrics. According to Görög (2017), metrics refer to the methods of quality measurement while standards are the required levels of quality. Preferences regarding the use of metrics and standards vary depending on the evaluating agent or the entity that establishes the benchmarks. Several examples can be found in the industry, and they are used to compare and improve a wide range of aspects. Görög (2017) mentions different metrics and standards which refer to translation processes, resources, or output quality, among others. One of the standards specified by the author is the ISO 17100:2015 (2015). It refers to the steps of the workflow that are performed after translation to ensure quality, such as revision or final verifications. However, Görög (2017) highlights that ISO 17100:2015 does not contemplate machine translation and the steps performed after processing the text. When it comes to machine translated text, it is necessary to consult specific standards. Slator (2020) refers to ISO 18587:2017 (2017), which states that current MT output cannot reach human output in terms of quality. Therefore, concrete and different benchmarks need to be determined. However, due to the continuous development of MT systems, it is very complex to establish quality standards according to their processing procedures. For this reason, ISO 18587:2017 (2017) mentions the human steps carried out within the production of the machine translated text. These steps can be included in the workflow depending on the requirements of the translation. They are performed to ensure that the raw machine translated text meets the quality requirements to be as suitable as human translation. The next section of this paper will provide an overview about these tasks and what they consist of.

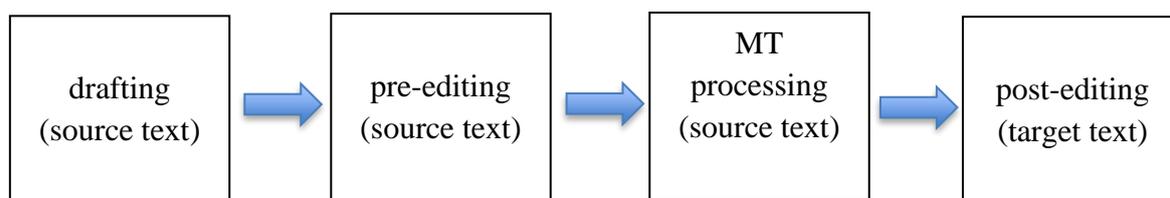
### 2.3.2. Machine translation-related activities

Together with the increasing presence of machine translation, different procedures have emerged. These activities have an impact on the text, although they also involve a transformation of the workflow, and they have direct consequences on the translator. Before referring to their influence at a human level, it is necessary to provide an explanation of these steps and the tasks that they are based on. The activities that surround the processing of the source text are varied and numerous, and not all of them imply a direct work on the text that is translated and the one that is produced. There are many other tasks related to the preparation of the resources which are used to process the text. For example, the alignment of segments or the maintenance of translation memories, among others. Whereas these tasks are necessary, they do not constitute steps by themselves within the workflow and they do not require any linguistic knowledge to perform it. These tasks refer to the instrumental competence mentioned in section 2.2 (Hurtado Albir, 2020). Therefore, they can be carried out by the translator or by any other professional that forms part of the field.

Nevertheless, other tasks involve the preparation of raw machine translated text at a linguistic level. At this point, the intervention of the translator is required. These steps refer to the cleaning of the source and target texts. They can be performed before the text is processed by the engine or once the translation has been produced. Likewise, both can be applied to the same workflow. Quah (2006) refers to them as pre-editing, applied to the non-processed source text, and post-editing, performed on the raw machine translated text. Regarding pre-editing, it refers to the adaptation of the source document. It can consist in the correction of the layout and formatting. It can also refer to the adaptation of the source language to ensure it is correctly processed by the engine, and thus, transformed into a controlled language. With the aim of avoiding an incorrect treatment from the machine, different measures can be applied to simplify the source language. For example, Quah (2006) mentions the previous checking of the source text, the use of specific vocabulary or the avoidance of certain syntactical structures. However, Moorkens and O'Brien (2017) point out that the methods to standardize the source text cannot be generalized, as they depend on different factors such as the language combination, the text typology, or the engine.

On the other hand, while some of the quality standards are guaranteed with pre-editing (Hutchins and Somers, 1992), in many cases post-editing is also necessary. This step consists in reviewing the raw machine translated text and it is highly advisable to perform it if the text is going to be published (Quah, 2006). Although this paper will refer to human post-editing, it is important to consider that it does not necessarily need to be carried out by a

human agent. Automatic post-editing (APE) already exists, and it aims to replicate human post-editing (Do Carmo et al. 2021). Based on the human revision of MT output, the machine tries to produce its own APE and improved version. The reasons behind this process are not purely related to time-consuming and cost-effective aspects, but also to the fact that in some cases systems need to be adjusted and they cannot be accessed internally (Vieira, 2019). In those situations, the automatization of this task seems to be the most effective solution. The following image aims to provide an insight about the different steps that can be followed during MT workflow:



*Figure 2. MT workflow*

Even though future circumstances might change, nowadays quality standards still contemplate humans as the main agents that perform post-editing. Considering the human approach, the standard ISO 18587:2017 (2017) distinguishes different grades of MTPE (machine translation post-editing) and it refers to full post-editing and light post-editing. According to TAUS (2010), these levels need to be applied depending on the expected quality. While it is advised to perform full post-editing to produce publishable texts, light post-editing is recommended when lower standards are required. In this case, the target text would be accurate, although it would not seem natural in terms of grammar and syntax, or even incorrect. However, full post-editing guarantees that the quality of the target text will be that of a human translation or, at least, very similar. Looking in more detail, Massardo et al. (2016) advice for the following aspects to be checked during light post-editing: meaning, terminology, morphology and, in the case of SMT, duplicates and omissions. Regarding full post-editing, it is more exhaustive. Apart from including those points handled by light post-editing, it takes a more detailed approach in regards, for example, to terminology. Whereas light post-editing only refers to the correction of inconsistencies, full post-editing also pays attention to disambiguation. In addition, it refers to more obvious mistakes, such as proper names, punctuation, and dates.

All in all, bearing in mind the concrete situations where post-editing needs to be performed, it is important to highlight that it consists in very specific tasks. In addition, in the same way that other steps of the translation workflow require certain competences, human post-editing also demands a concrete knowledge. The next section will refer to the skills needed to proceed with MTPE, how the translator has adapted to the performance of this task and what are the general views about it.

#### 2.4. The post-editor or human agent

In the same way that the relevance of MT has been highlighted in previous sections, it is necessary to mention that post-editing is important too. Its influence is not only due to the quality assurance that it provides. Nowadays, this step is also known as a fundamental process in the industry. According to the European Commission (2020), MTPE was the most popular service among LSPs in 2020 and 78% of them were planning to increase their performance of this activity. As MT gains more weight and influence, so do its adjacent processes, among which post-editing is included. Likewise, if the process acquires more relevance, the agent that performs it becomes more prominent in parallel.

This individual, called post-editor, is the human agent who checks the machine translated text. Since the paper has already identified what this process consists in, at this point the abilities required to perform it will be analysed. In order to know the agent who takes care of this duty it is necessary to refer to the notions that this individual holds. In addition, it is fundamental to wonder about how these circumstances affect this agent. The new post-editor, and old translator, is now responsible for new tasks.

In connection with our case study, this section will reflect about the view of the post-editor towards this activity. Although different procedures have been mentioned, this section will pay specific attention to MTPE. Its quality standards and the tasks that it consists in will be analysed to provide an insight into its nature. After describing this activity, it will be necessary to refer to the agent that performs it. For this reason, the paper will reflect about the abilities needed to be a post-editor and the aspects that this professional needs to focus on when checking a machine translated text. Finally, the last part will end up with a reflection about the positive aspects and the disadvantages regarding translation technologies.

##### 2.4.1. Post-editing skills

During the previous sections of this paper, it has been pointed out that the translator needs to have specific skills to translate. In the same way, the post-editor is still battling for the

definition of the abilities needed to post-edit. As mentioned before, the performance of this process is becoming clearer with the development of technology and the new processes of the industry. The more it is explained about post-editing, the easier will be for those who are still reluctant to embrace MT (O'Brien, 2002). Therefore, it is necessary to clarify not only what post-editing consists in, but also which are the abilities needed to perform it.

At first sight, O'Brien (2002) points out that it is crucial to admit that the post-editor must have certain abilities to carry out this task successfully. However, this fact has not always been obvious and post-editing has experienced different phases. These versions would depend on the knowledge required from the post-editor. For instance, starting with the linguistic knowledge, Vieira (2019) refers to the possibility of post-editing without knowing the source language. Initially, this process, known as monolingual post-editing, was mostly effective with SMT. However, it has not proved to produce reliable results with NMT. Despite its application to different systems, the ISO 18587 categorizes bilingual post-editing as the normative one (Vieira, 2019). Therefore, it can be concluded that one of the main skills of the post-editor is, as it happens with the translator, the knowledge of both source and target languages. Rico and Torrejón (2012) include this notion in the set of linguistic skills. They differentiate among this first group, core competences and the already mentioned instrumental knowledge. The linguistic ones would include not only knowing both languages but also holding cultural and post-editing notions. The instrumental ones are related to the technical knowledge. In comparison to translation instrumental competences, this refers to MT systems and the output they produce, as well as resources like dictionaries and corpus depending on the engine employed. On the other hand, core competences refer to those personal skills related to meeting client's expectations or managing the workflow appropriately.

Despite the relevance of these notions, it is possible to analyse other approaches which do not include the same competences, or which simply prioritize ones over the others differently. For instance, O'Brien (2002) focuses more on what has been identified as instrumental competences. Even though she covers text linguistic skills, she pays more attention to technical knowledge, which includes MT, terminology management, programming, and pre-editing. It is worth highlighting that for O'Brien (2002) being skilled in the tasks prior to the processing of the text is also advised. In this sense, it is logical to consider that the more familiarized the post-editor is with the whole procedure, the easier that will be to perform this task. Moreover, being aware of the errors that could be spotted

during the pre-editing can be helpful to identify them in the post-editing if they have not been flagged before.

The following table contains the skills mentioned above and it gathers the different views that surround them.

*Table 3. Post-editing competences*

Competence	Knowledge	Notions
linguistic	operational knowledge with communication purposes	<ul style="list-style-type: none"> <li>• source and target languages</li> <li>• knowledge of only the target language used to be accepted in the past</li> </ul>
instrumental	technical and operational	MT systems, corpus, dictionaries, programming, pre-editing and MT output
core competences	strategic and field knowledge	translation processes and the workflow

As it can be seen, post-editing skills can be examined from several perspectives. The aim of this section is not to provide details of all of them, but just to show which are the most generally acknowledged ones. In comparison with translation, the extralinguistic competence is not highly demanded to perform post-editing. However, the post-editor is required to have a deeper and broader technical knowledge than the translator. Regardless of the approach, O'Brien (2002) highlights the need to learn these competences. It is important to prepare professionals and future post-editors for this task. Such it is its significance that this training is not limited to academic institutions. For example, TAUS invites professionals to join its Post-Editing / Reviewing Course<sup>12</sup>, which is about the advantages and drawbacks of different MT systems. Even the main representatives of the industry offer their own post-editing courses to make sure that professionals are skilled not only in a process demanded by the industry they belong to, but also when performing it with

<sup>12</sup> TAUS. (n.d.). Post-Editing / Reviewing Course. <https://elearning.taus.net/course/index.php#pe-overview>

their own tools. For instance, this is the case of Trados<sup>13</sup>, which offers a Post-Editing Certification to learn how to add MT to Studio Trados and perform light and full post-editing. This section has pointed out the specificity of post-editing, which cannot be performed without certain notions. It requires a concrete treatment on the machine translated text, and therefore knowledge about the whole process and the corresponding linguistic tasks that are applied afterwards. Given the complexity of the procedure and its particularities, it is logical to consider the post-editor as a relevant and high-specialized agent which the industry and the field care about. Considering the perception that at least, the discipline, seems to have about this professional, it is necessary to wonder about the view of the post-editor. This opinion is crucial to define the role that of this professional in the industry, and consequently, the influence that post-editing has on the workflow and the translation.

#### 2.4.2. Attitudes towards technology

The misconceptions about machine translation and the need to improve MT output have usually led to a negative perspective about post-editing. This view would come from different points, including the post-editor. According to Koskinen and Ruokonen (2017), the opinion of the post-editor is directly linked to the acceptance of technology, which also affects how its related tasks are perceived. Therefore, if the professional has not experienced translation technologies positively in the past, it is more likely that the performance of any duty related to it will be refused in the future. This section will reflect about the view that professionals, and specifically post-editors, have about the impact of technology on translation. Different examples showing both positive and negative perceptions will be analyzed. While it is not the aim of this paper to provide a long list of examples, it is important to illustrate the real circumstances of post-editing and technology with actual cases.

Vieira et al. (2019) describe how during its first stages post-editing was considered a superficial step to complement MT, the central agent of the machine translation workflow. In this sense, Vieira (2019) claims that the initial approach was more machine-centered, leaving the post-editor at a secondary level. However, as MT developed, post-editing did as well and it adapted to the needs of the workflow, becoming more human-centered. As a consequence, it was possible to start elaborating a separate conception of MTPE, which would become part of the industry on its own, with particular needs and a proper agent to

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<sup>13</sup> Trados. (n.d.). Training. Post-Editing Machine Translation. <https://www.trados.com/learning/training/post-editing-machine-translation.html>

perform it. In this sense, Vieira (2018) wonders if the disdain that many professionals feel for MT and MTPE is caused by the presence of technology or by the image that the industry provides of these activities. This perception consists in the appeals that have been attributed to them, which are low cost and immediacy. Whereas they suit customers, they are directly linked to aspects that constitute handicaps for translators. The next sections will reflect about these positive and negative aspects.

- *On technology drawbacks*

The main downsides that are generally pointed out about MT are economic aspects and quality output. Nowadays, several professionals claim that technology has negatively affected their income in terms of reducing it or substituting them in tasks that they used to perform. In addition, there are complaints about the quality of the machine translated text. Even though many clients are satisfied with it, there are others who complain about the output text, which does not meet their expectations. Moreover, several post-editors share the same concerns when they confront the machine translated text.

Regarding the economic matter, the decrease in prices caused by automatization allowed for automated processes to become popular. Nonetheless, it also affected the work conditions of translators. Regarding post-editing payment, Massardo et al. (2016) advice LSPs to offer an hourly or unit (source word) rate according to the language combination and the content that needs to be translated. With respect to this, Vieira (2018) provides data about professionals that complain about a drop in wages during the past years while blaming technology. However, Vieira (2018) differs with this, and he claims that there has been an increase in overall rates. Even though word and hourly rates might have been reduced, workload has not diminished. Therefore, it has contributed to the increase of wages, for example, at a yearly level. That is, even if rates are lower there is more work, producing a higher economic outcome. While the existence of more volume is not directly caused by translation technologies, its receipt and distribution are. Our society demands and produces huge amounts of information, but technology helps us to distribute it among professionals and users. Therefore, contrary to the idea of technology causing a drop in translators' wages, it is a helpful mean to make a living in a market where it is not an option not to embrace technology anymore.

Nevertheless, working conditions that are influenced by technology are not limited to wages. Other aspects are directly impacted by the demand of MT and the transformation of the

translator into the post-editor. As mentioned in previous sections, the quality produced by MT might not always be the most desirable one. The output text plays a role in how post-editing will be carried out and the consequent attitude of the post-editor towards it (Zaretskaya et al., 2016). In the same way that human translation requires different revision approaches depending on several factors, so does machine translation output (Moorkens and O'Brien, 2017). In the case of post-editing, many professionals visualize two possibilities that contribute to their negative conception about this task. In the best situation, an output based on a controlled language. On the other side, a machine translated text with an inadequate quality. When referring to the first example, a controlled language can be the direct cause of pre-editing processes or, at least, of a restrictive drafting of the source text. Quah (2006) describes controlled languages as those whose vocabulary, grammar and style might not seem natural because of their artificial character, as they are structured and restrained according to the limits of the machine. The aim of controlled languages is to provide the engine with a text as linguistically simplified as possible to avoid any mistake. As a result, the post-editor could confront an output which might seem forced and unnatural. Arnold et al. (1994) confirm that this process is quite common, since not all source texts can be handled by the machine not only in terms of typology but also due to linguistic complexity. In this line, Hutchins and Somers (1992) consider controlled languages as the chance to get rid of ambiguities and complex structures. They claim that far from complicating the post-editor's work, controlled languages would actually simplify it. Therefore, it is necessary to keep an open-minded perspective about approaches that might be handy at certain cases. Instead of being judgmental due to the technical and artificial nature of some processes, it is important to be realistic about the capabilities of some resources and tasks in a context where they will be useful.

All in all, it is true that in some cases the output might not reach the minimum quality standards and the post-editor might find serious mistakes. According to Stefaniak (2020), some errors might have less impact on the final text than others and they would require punctual corrections. However, others can make post-editing a complex process which could finally demand more time and effort (Zaretskaya et al., 2016). The most extreme cases even require more time than human translation or the rewriting of the target text (Guerberof Arenas, 2013). However, as it happens with the revision of human output, the objective is not to redraft the text. Instead, the aim is to use as much originally produced output as possible. In this case, to post-edit as much raw machine translated text as quality allows (Massardo et al. 2016). Unfortunately, this is not always the case and sometimes the post-

editor has to perform time-consuming tasks, even if these contradict the initial instructions. This kind of cases contribute to one of the most common complaints about post-editing: dissatisfaction. Many professionals consider it boring and discouraging (Moorkens and Sharon O'Brien, 2017). According to Koehn (2020), it might make their job less enjoyable, as it lacks the already mentioned creativity due to its repetitive and monotonous procedures. Moorkens and O'Brien (2017) refer to processes that are not challenging for the post-editors, such as the correction of numerous and minor mistakes. At this point, professionals complain about the inability of the machine to learn from these mistakes in the same way that a human would have done (Moorkens and Sharon O'Brien, 2017).

- *On technology benefits*

Leaving aside the negative points, there are also positive aspects about the introduction of technology in the translation industry. Change is a given and it is undeniable that the automatization of translation involves the transformation of processes. Although there is a loud debate about the consequences that this has on manpower, Joscelyne et al. (2020) refer to a diversification of tasks and the possibilities that arise from this context, which needs to be conceived as an evolution. Instead of focusing on the restrictions that technology seems to involve, it is fundamental to turn this conception over and be aware of the positive perspectives that exist about it. Although these opinions should not imply discarding the negative ones, it is important to consider both to have a realistic perception. In this line, it is possible to find different studies which show both views to prove that it is feasible to support post-editing without ignoring improvement areas.

For instance, Moorkens and O'Brien (2017) analyze the impressions of a group of translators thanks to surveys and interviews. Even though some of these views coincide with the downsides already mentioned, others refer to the spirit of transformation that needs to be embraced. A clear example is the identification of old resources with the new roles that technology has acquired, such as traditional glossaries compared to translation memories (Koehn, 2020). This shows an assimilation of new realities by means of identifying them with old ones. While it would not be accurate to recognize post-editing as a new version of some traditional tasks, it is positive to adopt a receptive attitude towards innovation. In this sense, recognizing assets of previous tools to foster new ones is an effective method to make technology a participant. After all, the first MT attempts focused on mirroring the steps that human mind carries out to process language (Joscelyne et al. 2020). Despite their opposite

nature, it is possible to observe how the artificial agent emerges from the natural one to create different procedures and obtain new results.

Another case which shows an optimistic approach is the research by Koskinen and Ruokonen (2017). This interesting example consisted in asking a group of translators to either write a love letter or a break-up message to the tools they worked with. Contrary to the prejudices already mentioned, the study concluded that participants were more positive towards technology than it is usually thought. Despite some aspects, such as age and precariousness, had a big influence, this research is based on the principle of usability. That is, the parameter that establishes how easy is for users, in this case post-editors, to employ a tool. In this example, the study refers to MT and reference is made to post-editing too. Among the positive comments, a high number were related to efficiency and satisfaction, which are two of the core features of usability.

In terms of the attitude of the post-editor towards MT, the findings of Macken et al. (2020) are revealing. They carried out interviews about the impact of MT on the translators' work. They showed that even the single presence of MT in the workflow was reassuring. Some professionals claimed that just knowing that they could count with the MT output was somehow encouraging. Contrary to other views, which actually identify it as dissuasive, certain participants pointed out the advantage of counting with a textual base instead of starting to translate from scratch. Even if this would not involve time reduction, it was still worth for some of them in terms of working with a tool that made them confident.

The examples of this section have provided different reasons about the positive impact that using translation technologies has on professionals. Even though special remarks have been made about post-editing, these cases show perceptions about other activities, the tools related to them or just technology itself. While it is fundamental to keep in mind its drawbacks, it is also crucial to highlight its advantages. On the one hand, reflecting about the downsides allows for development and evolution, which are the ultimate aims of technology. For this reason, it is important to keep these aspects in the scope, not to criticize them, but to profit from them in the best way possible. Acknowledging all the spheres of a reality opens the door to the correction of flaws, which consequently leads to improvement and transformation. On the other hand, not everything is negative. The examples mentioned present an image of translation technologies and post-editing which is unknown for many professionals. Due to the general pessimism that exist around them, there is an instant reluctance to use them. However, there are users that have reported good experiences, not

only at a technical and professional level, but also personally. For instance, regarding the disposition that many translators already show towards machine translated text, or the agreement about the efficiency of a system. While it is true that some areas still need to be improved, it is also possible to observe a trend to adopt a deeper commitment and understanding of technology. There is a correlation between its use and the demands of the society, which will not be reduced. Therefore, it is encouraging to confirm that many professionals are willing not only to embrace technology and its related tasks, but also to make it a participant of the process.

## 2.5. MT in the European Union

Considering the previous sections, it is pertinent to describe the circumstances of MT in the context of our case study. This part will focus on the use of MT in the EU institutions. It will provide an brief insight of the history and the characteristics of this tool to set a foundation for the understanding of the case study.

As mentioned in the introduction of this paper, MT has been used by the European Union during the past years. The MT system eTranslation was officially launched in 2017<sup>14</sup> and it has been used by the translators of the Translation Service of the Council since 2019. Although all EU employees can access this resource throughout an internal portal, the EU is not the only entity who can benefit from it. As stated in its webpage, it also targets external users in the form of European public administrations, small and medium-sized enterprises, and universities. This system is free of charge and the user needs to work in an EU country, Norway, or Iceland for any entity from the ones mentioned above in order to create a free account. In addition, it also provides access to the participants of Connecting Europe Facility projects<sup>15</sup>. This initiative is framed within the Digital Europe Programme, which consists in the development of digital infrastructures which are at the service of the European citizens and administrations. Its aim is to foster the creation of a European digital environment to connect European users and offer them assistance in different matters. The availability of the machine translation system eTranslation forms part of these services.

Before being launched, this system had a previous version which served as a base for its building. MT@EC was the previous machine translation engine of the European

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<sup>14</sup> European Commission. “Machine translation for public administrations — eTranslation. eTranslation allows public administrations to get quick, raw machine translations from and into any official EU language”. [https://ec.europa.eu/info/resources-partners/machine-translation-public-administrations-etranslation\\_en](https://ec.europa.eu/info/resources-partners/machine-translation-public-administrations-etranslation_en)

<sup>15</sup> European Commission. (n.d.). CEF Digital Connecting Europe. The Vision of a Digital Europe. <https://ec.europa.eu/cefdigital/wiki/display/CEFDIGITAL/The+Vision>

Commission<sup>16</sup>. This version also targeted EU employees and external public administrations, offering them a safe environment to obtain instant translations without cost. The main difference between both systems is that MT@EC was based on SMT and eTranslation relies on NMT<sup>17</sup>. MT@EC engines were trained with translation memories which are hosted by an interinstitutional system called Euramis<sup>18</sup>. This repository compiles the translation memories of different European institutions, and it makes them available for being reused<sup>19</sup>. As the new version of MT@EC, eTranslation has inherited this legacy.

As already mentioned, eTranslation can be used by translators as a Studio Trados plug-in. Broadly speaking, the translators can decide whether they want to use this feature or not, and in case they do, it is up to them to use the whole text or only part of it<sup>20</sup>. Despite the possibility of using this resource, there are some indications that need to be followed to ensure quality standards of the target text. For this reason, there are internal CWP that refer specifically to the use of NMT<sup>21</sup>. As pointed out by Hanzl and Beaven (2017), most part of the texts translated at the Translation Service of the Council are based on previous texts and only a minor part of the source text is new. Therefore, it is advised to use NMT with new text, since the text that has been already translated has preference and serves as reference. Even though output quality has proved to be good, it is also confirmed that revision of the machine translated text needs to be performed. On the other hand, there are specific remarks about the use of NMT with those documents that contain sensitive information, as those which exceed certain limits shall not be submitted for machine translation. Bearing in mind these instructions, translation units are advised to proceed in the preferred way regarding the text that can be machine translated. Moreover, since output quality might differ depending on the target language, translators can assess by themselves whether they prefer to proceed with NMT or not.

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<sup>16</sup> Publications Office of the European Union. (2014). MT@EC Secure Machine Translation for the European Union. [https://ec.europa.eu/archives/isa/documents/publications/brochure-mt@ec-a5-v3\\_en.pdf](https://ec.europa.eu/archives/isa/documents/publications/brochure-mt@ec-a5-v3_en.pdf)

<sup>17</sup> Council of the European Union, General Secretariat. Translation Service. The Language Technology Team. 2021. Machine translation for non-linguists – all about eTranslation (internal document)

<sup>18</sup> European Commission. (n.d.). CEF Digital Connecting Europe. eTranslation. eTranslation Documentation. <https://ec.europa.eu/cefdigital/wiki/display/CEFDIGITAL/What+is+eTranslation>

<sup>19</sup> European Parliament. (n.d.). Implementation of Euramis in DG TRAD. [https://www.europarl.europa.eu/meetdocs/2009\\_2014/documents/budg/dv/2010\\_c4\\_implem\\_euramis\\_dgtrad/\\_/2010\\_c4\\_implem\\_euramis\\_dgtrad\\_en.pdf](https://www.europarl.europa.eu/meetdocs/2009_2014/documents/budg/dv/2010_c4_implem_euramis_dgtrad/_/2010_c4_implem_euramis_dgtrad_en.pdf)

<sup>20</sup> Council of the European Union, General Secretariat. Translation Service. The Language Technology Team. 2021. Machine translation for non-linguists – all about eTranslation (internal document)

<sup>21</sup> Council of the European Union. General Secretariat. Translation Service. Common Working Procedures. “General guidelines on handling NMT output in LING” (internal document)

Being this the context of this research, the following part will describe the case study, which is framed in the Translation Service of the Council and whose participants are translators of this one. The previous sections of this paper have analysed the current circumstances of translation and the translator from different perspectives. In the first place, from a theoretical point of view and from the angle of the professional. Secondly, it has been framed in our society, according to the needs of this system and its characteristics, which has allowed to take an insight into other activities that have emerged from this context. Finally, this last part of the theoretical framework constitutes a connection with the case study.

### 3. Case study

The third part of this document will present the case study of the research. Firstly, the text will refer to the resources produced in relation to translation in other EU institutions. This will confirm the already mentioned lack of research about translation in the Council. This section will lead to a description about the process of translation in the Translation Service of the Council of the EU. In this line, an overview about the internal structure of the EU will be provided, starting from the European Union and its creation to continue with the Council and the General Secretariat, which includes the Translation Service.

#### 3.1. Related research

Considering the need of resources that has been pointed out, this section will refer to the few existing ones about the Council. The paper will also highlight some publications which are relevant to this research and framed within other institutions.

The European Commission is the one that counts with more works. To name some of them, “Quantifying the Effect of Machine Translation in a High-Quality Human Translation Production Process” by Macken et al. (2020) is, among the examples provided, one of the few whose topic is more related to the research of this paper, as it analyses the impact of MT on the translation workflow at the Commission. Another case analysed in this institution is “Evaluating the usefulness of neural machine translation for the Polish translators in the European Commission” by Stefaniak (2020), who values the risks and benefits of using NMT according to the views of the Polish translation unit. The rest of the cases deal with different topics within the translation field. In “Translating Institutions. An Ethnographic Study of EU Translation”, Koskinen (2008) focuses on the daily work of the Finnish translation unit of the European Commission; “Every Second Counts. A Study of Translation Practices in the European Commission’s DGT”, by Fernández-Parra (2020), analyses the tasks performed by translators with the aim of distinguishing them from other professionals in the field; and “Translating Transparency in the EU Commission” by Tomasi (2003) reflects about the impact of globalisation on the Translation Service of the Commission.

The European Parliament counts with different resources as well. For instance, “The Multilingual Translation Service in the EU Parliament” by Wilson (2003), which describes the polyglot environment of the Parliament and how translation is performed in this institution; and “Translation and Computerisation at the EU Parliament” by Tucker (2003), which focusses on the automatization of translation in the EP. Research has been also made about the Court of Justice, with papers such as “Enlargement at the European Court of

Justice: Law, Language and Translation” by McAuliffe (2008), who reflects about the administrative reorganization of the translation structure because of the addition of new states; or “Two-tiered approach to quality assurance in legal translation at the Court of Justice of the European Union” by Koźbiał (2017), who focuses on the fulfilment quality standards. The same volume that contains this last chapter, “Quality aspects in institutional translation” edited by Svoboda et al. (2017), counts with more examples about the European Commission, although it is not the aim of this paper to provide a large list of all of them.

All in all, this last work is one of the few examples of literature about the Council of the European Union, with “Quality assurance at the Council of the EU’s Translation Service” by Hanzl and Beaven (2017), which analyses quality procedures in the framework of the Translation Service at the Council. Moving forward to different topics within this institution, in “Translating for the European Union Institutions”, Wagner et al. (2012) provide brief descriptions about the translation services, as well as interviews with translators, which include the Council. Therefore, even though it is possible to find some papers, the existing literature about the Council is not extensive. With the exceptions of Macken et al. (2020) and Stefaniak (2020), the few cases that can be consulted do not deal specifically with NMT and post-editing. Consequently, it is confirmed that research about translation in this context is needed.

### 3.2. The European Union and the Council

Regarding the institutional sphere of our case study, it is important to refer to the foundation of the EU, as well as to its current organisation and the role that the Council has in it. During the second half of 20<sup>th</sup> century, there were different attempts to establish an administration to unite the European states. Following the Second World War, there was a need to constitute a common framework to foster cooperation among European countries. In this way, the proposal for a European Defence Community was submitted in 1950 and the European Coal and Steel Community (ECSC) was established in 1952<sup>22</sup>. Later on, the European Economic Community (EEC) and the European Atomic Energy Community (EURATOM) entered into force with the Treaty of Rome in 1957 (General Secretariat of the Council of the European Union, 2018). The idea to create a fellowship continued for the next decades, involving any kind of interests. For instance, political ones, with the European Political Cooperation (EPC) report in 1970, which would set the basis for a European foreign and security policy; or

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<sup>22</sup> European Defence Agency. (n.d.). “Our history”. <https://eda.europa.eu/our-history/our-history.html>

economic and monetary, with the creation of a single market in 1986. It was not until the 90s when the European Union was finally set up due to specific facts that framed the basis for its establishment. The fall of the wall of Berlin in 1989 and the diminishing influence of the Soviet Union were fundamental to create this context (General Secretariat of the Council of the European Union, 2018). In 1993 the Treaty of Maastricht, also known as the foundation of the Treaty on European Union, entered into force and the EU was set under three foundations. As specified by Article 3, Title 1 of this Treaty<sup>23</sup>, the first base was community, which should be interpreted as the sovereignty performed by the European institutions on the member states regarding those fields specified by the treaty. These areas were monetary policies and economy, environment, research, industry, cohesion policies and the power of the European Parliament and the Council to adopt jointly legal acts that would involve the state members. Secondly, a common foreign and security policy to guarantee the safety and protection of the European interests. Lastly, a joint approach to protect European citizens at a judicial level and to ensure their freedom and safety.

Additionally, the founding of the European Union entailed the establishment of the European institutions, which according to Article 13, Title 1 of the Treaty on European Union are “the European Parliament, the European Council, the Council, the European Commission, the Court of Justice of the European Union, the European Central Bank and the Court of Auditors” (Publications Office of the European Union, 2016:22). While Article 14, Title 1 of the Treaty specifies the allocation of legislative and budgetary functions to the European Parliament and the Council, Article 17, Title 1 of the Treaty refers to the executive function awarded to the European Commission. The three institutions exercise these powers on behalf of the entities and individuals that they represent. As stated by Article 14, Title 1 of the Treaty, in the case of the Parliament this representation refers to the European citizens. Regarding the Council, Article 16, Title 1 of the Treaty explains that this institution represents the member states. Finally, Article 17, Title 1 of the Treaty refers to the European Commission, which represents the interests of the EU itself.

As for the pertinent institution for this paper, the Council is presided over the member states during periods of six months. It is important to highlight that the Council is formed by the European Council and the Council of the European Union, which were formally recognised as two institutions with the Treaty of Lisbon (Hanzl and Beaven, 2017). They do not act as

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<sup>23</sup> Publications Office of the European Union. (2016). “CONSOLIDATED VERSION OF THE TREATY ON EUROPEAN UNION”. In *CONSOLIDATED TREATIES. CHARTER OF FUNDAMENTAL RIGHTS*. <https://www.consilium.europa.eu/media/29726/qc0116985enn.pdf>

an extension of each other, and they are formed by different members who perform diverse tasks. The European Council is composed by the governments of member states, and it determines the priorities and the political orientation of the EU (General Secretariat of the Council of the European Union, 2016). On the other hand, the Council of the European Union counts with representatives of the member states and, mostly together with the European Parliament, it adopts the EU legislation. As stated by the General Secretariat of the Council of the European Union (2016), the daily work at the Council is organised around two Committees of Permanent Representatives of the Governments of the member states, known as Coreper I and Coreper II. On the one hand, Coreper I is formed by the deputy permanent representatives. It deals with the areas of employment, social policy, health and consumer affairs, competitiveness, transport, telecommunications and energy, agriculture and fisheries, environment, education, youth, culture, and sport. On the other hand, Coreper II is composed by the permanent representatives themselves. It is in charge of political and economic queries, dealing with general and foreign affairs, economic and financial matters and justice and home affairs.

Keeping in mind the bilateral character of the Council, together with its internal bodies and the subjects these ones work on, it is important to mention that it also counts with the service of the GSC. The GSC was established in 1952 to assist the ECSC, and lately the EEC and EURATOM in 1958. Initially, it was a small team that took care of secretarial and administrative tasks. Throughout time, its duties increased and in 1993 it was recognized by the Treaty of Maastricht (General Secretariat of the Council of the European Union, 2016). Nowadays, the GSC assists logistically with the events of the Council, providing assistance in many different areas. On the one hand, it helps coordinating the work of the Council and it supports the presidency. At the same time, it continues assisting logistically when it comes to preparing documents and organising meetings, which include high-level ones, such as events that gather governments. In this sense, the GSC takes care of matters such as meeting rooms, minute-taking, technical aspects or translation services, among others<sup>24</sup>. Therefore, the Translation Service of the Council belongs to the GSC and it forms a whole structure by itself. The next part of this section will explain how the Translation Service is organised and which are its functions.

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<sup>24</sup> European Council. Council of the European Union. (n.d.). "The General Secretariat of the Council". <https://www.consilium.europa.eu/en/general-secretariat/>

### 3.3. The Translation Service of the GSC

The Translation Service provides translations into the twenty-four official languages of the EU and it does not assist with interpreting services, which are carried out by the European Commission (General Secretariat of the Council of the European Union, 2012). Thanks to the support of the Translation Service, information produced by the Council is available internally and also to the general public, depending on the nature of this data. The impact of its work can be illustrated by the figures provided by Hanzl and Beaven (2017). The authors refer to the yearly production of approximately 15,000 documents. That is, 110,000 source pages and 1.2 million target pages, considering all target languages. Still, these numbers refer to a small proportion of all the documents produced by the Council, since around 70% of total pages are translated only into certain languages or not translated at all (General Secretariat of the Council of the European Union, 2012).

According to Hanzl and Beaven (2017), the Service is organized in different teams, some of them exclusively performing translation tasks and others providing assistance to these ones. There are twenty-four translation units, one per official language, which are formed by the translators, the Head of Unit, the Quality Controller and the assistants. The number of translators per unit can vary, although it is estimated to be 20 by Hanzl and Beaven (2017) and 26 by the General Secretariat of the Council of the European Union (2012), which also adds an approximate number of 10 assistants. The translators are in charge of translating and revising, usually from English into their native language (Hanzl and Beaven, 2017), although they can also proceed from their mother tongue into another language when necessary (General Secretariat of the Council of the European Union, 2012). On the other hand, assistants provide administrative and technical support to translators. For instance, in terms of formatting and finalisation of the layout or preparation of the translation regarding technical matters. In addition, the translation units also count with the support of the horizontal units, which do not perform translation tasks but provide aid in terms of coordination, technical support, and terminology matters.

The following image provides an overview about the organisation of the Translation Service at the GSC:

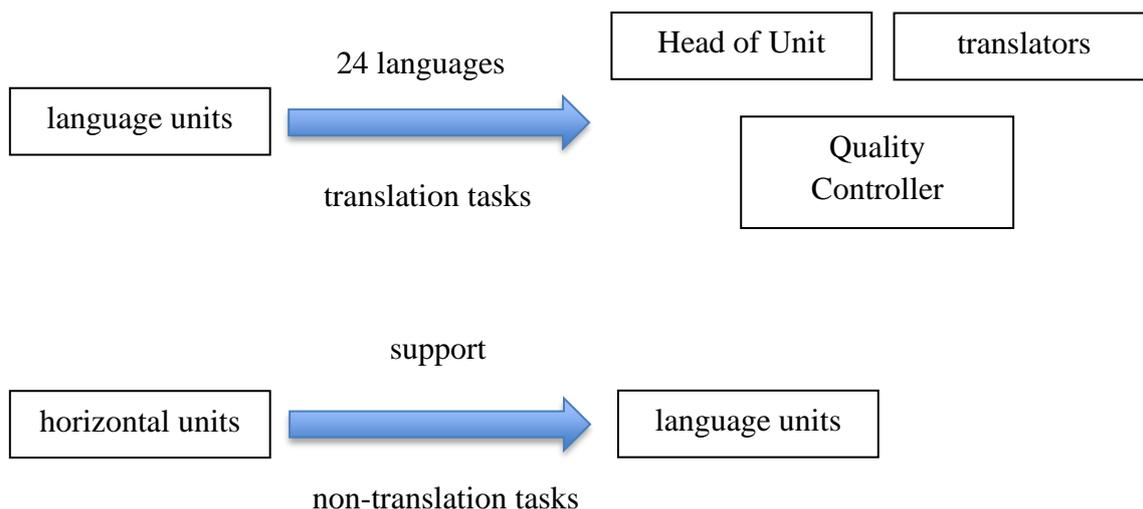
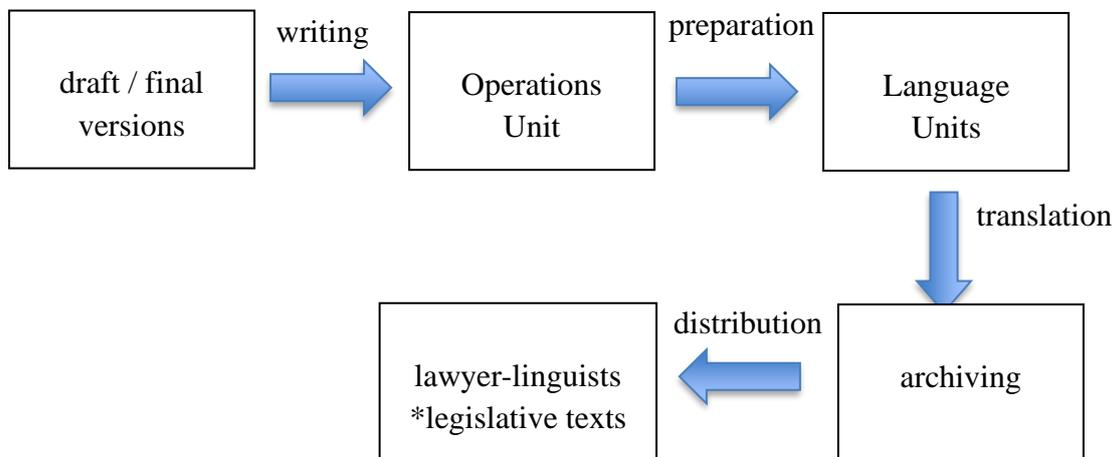


Figure 3. Structure of the Translation Service of the GSC

All these teams cooperate and work together to produce translations into the twenty-four official languages. The extent of documents that can be translated goes from press statements to non-legislative texts or policy documents, although in most part of cases the translation involves legislative texts (General Secretariat of the Council of the European Union, 2012). The process to do it is a complex procedure which starts with the draft of the document. The experts that draft the text might modify it several times before producing the final version, which results in sending different variants of the same text for translation every time that it is updated (Hanzl and Beaven, 2017). The translation process starts when the document produced by the drafter reaches the Operations Unit by means of the internal system. This first step involves setting a deadline for the translation and preparing the document at a technical level, which includes the provision of any support material that the translators might need, such as reference documents or translation memories. At this stage the document, together with the correspondent background material, is distributed among the translation units, where it reaches the local coordinators. These ones assign it to the assistants and the translators, who assess how to proceed depending on different aspects, such as the turnaround time or the length of the text. Once the translation and the revision are finalized, the assistants make sure that the document is ready according to the layout and technical requirements. Lastly, the translation is archived and made available or accessible to the public, if the text can be distributed as such (General Secretariat of the Council of the European Union, 2012). As a final remark, in the case of legislative texts, they need to be

checked and approved by lawyer-linguists of the GSC before being published (Hanzl and Beaven, 2017).

The following image illustrates the above-mentioned workflow:



*Figure 4. Translation workflow at the Translation Service of the GSC*

Broadly speaking, this is the general procedure to produce the translations. However, there are situations when the workflow and requirements change, creating a very specific context which is proper of the Council. For example, Hanzl and Beaven (2017) refer to the process carried out during the EU Summits. These events bring together the heads of state or government, who meet during days to deal with any matter that might require the involvement or action of the member states. In these cases, specific teams are set up and members of each unit of the Translation Service are assigned to work only in the summit. The translators work on the translation of the summit's conclusions while the summit teams of the horizontal units assist them at a technical and coordination level. In order to ensure that the process occurs appropriately, a draft of the conclusions is translated a week before the summit. At this stage, terminology and quality queries are discussed. In this way, any doubt should be solved before the summit. After this event, the final version of the conclusions will be submitted for translation. Even though it should not differ significantly, it always incorporates changes compared to the draft version. These modifications need to be introduced on the go, resulting in a stressful environment where text sensitivity and short deadlines are a given. Therefore, the translation situations that any professional might encounter in the Council are challenging and demanding, while also being very specific.

Whereas in any circumstance the production of a correct target text is imperative, the complexities of this context make more difficult to reach this aim.

There are other aspects, besides the linguistic ones, which influence the output text. According to Hanzl and Beaven (2017), in the Council this set of priorities extends to technical quality aspects and timeliness. Whereas the first one considers layout and typographical requirements, timeliness refers to avoid any delay in the delivery of any translation, since this could have consequences on the decision-making processes of the institution. Apart from meeting these conditions, Hanzl and Beaven (2017) confirm that the Council's quality benchmarks are very similar to the already mentioned ISO 17100:2015 (2015). However, there are additional procedures followed by the members of the Translation Service to ensure quality. From different levels of revision to terminology resources, functional groups of translators that specialize in certain topics or the use of CAT tools (Hanzl and Beaven, 2017). All these processes are homogenized by the Quality Controllers and compiled in the internal CWP.

#### **4. Methodology**

This section refers to the methodological approach that has been used to carry out this research. In the first place, the reasons to choose the Spanish Language Unit as the case study will be explained. This will be followed by a description of the context where the research has been developed and the means of the author to access this scenario. Secondly, the paper will refer to the design of the project and the variables of the research will be introduced. Finally, the resource used to carry out this research will be described. That is, a survey which has been shared with the translators of the Spanish Language Unit. The paper will explain in detail how the survey has been elaborated at an administrative level.

##### **4.1. Research context**

The practical reasons to choose the Council of the European Union as the context of this research arise from the professional circumstances of the author. The author of this research is currently working at the Directorate for Linguistics of the Council in the Translation Planning and Support unit. Being a direct member of the research context has been extremely helpful. Firstly, in terms of knowledge about the processes followed and the tools used at the Council. In this sense, forming part of the above-mentioned unit provides the researcher with an overview of the whole service. This team belongs to the central level, that is, its duties are operational tasks which affect the twenty-four language units. For this reason, the central position of the author has been crucial to understand the circumstances that surround the research. In the second place, information which was fundamental to elaborate this research is internal. This data refers to the reports already mentioned and the possibility to send surveys to the translators of the Council. The direct access and contact with these professionals have been essential to carry out this research. In this sense, the fact that they are contacted throughout the Council provides more certainty about their participation in the survey.

Following up with the reports already mentioned, this paper will focus on the performance of the Spanish Language Unit. The decision to choose this one and not another language unit lies on the relation between this language and the author. Spanish is the native language of the author of this research. Therefore, at a linguistic level it would be an advantage in case any knowledge of this language would be required to understand the replies. Even though the survey has been answered in English and not in Spanish, the reasons of the participants to answer in a certain way could be determined by the specific needs and treatment of Spanish. In addition, sharing the same target language as the participants of the survey could

be helpful to comprehend their reasoning to reply. In this way, any linguistic gap would be filled.

#### 4.2. Research design

Following Robson (2016), a non-experimental fixed design with a qualitative approach has been used for this research. The project has an explanatory purpose, as it pretends to analyse the behaviour of the translators without interfering in the choices they make, while simultaneously explaining the reasons for this conduct. In addition, this allows to measure the existing relationships between the variables and their context, which plays a crucial role in this research. According to King, Keohane and Verba (2000), variables have been traditionally known as dependent and independent. However, in non-experimental fixed designs, Robson (2016:142) identifies them as “explanatory variables and outcome variables”. In the case of this research, NMT is the explanatory variable and the use that translators make of it is the outcome variable.

On the other hand, the decision to focus on one single unit and language is based on the need to move away from the holistic approach of the initial reports. As these ones referred twenty-four language units, at this stage it is pertinent to narrow the scope of the research to one unit. In addition, this project deals with multiple subcases within the Spanish Language Unit, that is, the translators. In this sense, Robson highlights the importance of avoiding “oversimplification” (2016:154). The author points out the need to target the results of case studies from various perspectives to ensure the foundation of the theory. The reports mentioned above provided overall conclusions, which complement the individual outcomes of this research, contributing to the avoidance of their simplification. Moreover, targeting one language unit is crucial to focus on the circumstances of this research. The context that surrounds the case study is unique and concrete, and it could not remain in the background. For this reason, reducing the number of participants has been beneficial.

#### 4.3. Data gathering

The case study of this research is a grounded theory study based on the results of a survey with a cross-sectional design (Robson, 2016). From March 16<sup>th</sup> to April 1<sup>st</sup>, 2022, thirteen translators out of the twenty-five that form the Spanish Language Unit of the Translation Service answered the survey elaborated by the author of this research. They answered

anonymously and on a voluntary basis by means of EUSurvey<sup>25</sup>, the European Commission system to launch and manage online surveys. The author sent the link to the survey to the participants by email on March 16<sup>th</sup>. A reminder to participate in the survey was also sent on March 29<sup>th</sup>.

In order to introduce the survey in the system, the GSC's staff surveys Guide<sup>26</sup> was followed. According to the instructions specified in this document, the survey was written in English by the author of the research, to be lately edited in English by the English Language Unit of the Council. At this stage, questions were drafted and then shared with the Organisational Development unit of the Council of the European Union. After a period of two weeks, this unit provided the approval to send the survey to the translators. In addition, the Privacy Statement provided by the Staff and Development unit needed to carry out the survey was filled out by the author of the research and sent to the Organisational Development Unit and the Data Protection Officer, together with the survey. The survey was introduced in EUSurvey and tested to avoid future technical issues. At the same time, access was provided to the Organisational Development Unit and the Privacy Statement was uploaded to EUSurvey. Finally, the survey was published, and the Organisational Development Unit was informed prior to launching it on March 16<sup>th</sup>, 2022. In this way, the link to the survey was sent by email to the translators on this day. Once the participants replied, the survey was unpublished, and data was extracted from the system on April 4<sup>th</sup>. As specified in the Privacy Statement, data will remain in the system for a period of 12 months since its extraction.

The final version forwarded to the participants contained an introduction and eleven questions formed by three sets of questions. It can be consulted in the Annex of this paper. The introduction was a brief explanation of the purpose and the context of the survey. Regarding the questions, before being reviewed by the English translation unit to produce the final version, they were also checked by experienced internal members of the Translation Service. Their feedback was very useful to ensure consistency between the survey and the context of the research. The first batch of questions consisted in seven queries that were related to the use of NMT during their daily work. Regarding the second batch, it was formed by two questions about the output text. Finally, the third batch asked basic information about their professional experience. The aim of this section was to identify any pattern unconnected to their work tasks that could be relevant to obtain results and establish further conclusions.

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<sup>25</sup> EUSurvey. <https://ec.europa.eu/eusurvey/home/welcome>

<sup>26</sup> Council of the European Union. General Secretariat. Directorate-General Organisational Development and Services – ORG Organisational development Unit. GSC staff surveys Guide (internal document)

Depending on the case, questions were single choice or multiple choice. Questions 3.1. and 4 offered four and five answers respectively, being the last one a free text option. These answers allowed the respondents to reply adding text without limiting themselves to any given option. Apart from this point, the rest of the answers were drafted according to two criteria. On the one hand, Likert scale to measure time or frequency and attitude. On the other hand, questions with limited answers (such as yes, no and a neutral option), and queries with more and longer answers, provided more specific options about the context of the research.

## **5. Data analysis and discussion**

This part of the paper will focus on the analysis and discussion of that data gathered from the questionnaire. Throughout this section it will be possible to reflect about the concepts that arise from the analysis. These ideas are decisive to conclude the reasons behind the use or the rejection of NMT. On the other hand, it is important to mention that thirteen translators participated and provided their answers. That is, 52% of the translators of the Spanish Language Unit.

Considering the circumstances that surround this information, the fact that it has been provided by translators from 10 to more than 30 years of professional experience, and concretely 1 to more than 5 years working with NMT, makes this data even more valuable. This information is supported by the last part of the survey. This section, called “About you”, is formed by questions 10 and 11. In question 10, “How long have you been working as a professional translator?”, five people answered “10 to 19 years”; six replied “20 to 29 years”; and two answered “more than 30 years”. Regarding question 11, “How long have you been working with machine translation output? Please take into account the period of time that you have been using NMT output.”, five participants answered “1 to 3 years”; three replied “4 to 5 years”; four answered “more than 5 years” and one did not answer.

The specificity of the context, as well as the expertise of the participants, establish a solid basis to delve into the analysis of the results. At first glance, the information extracted from the survey leads us to reflect about two main ideas: time and quality. Most part of the replies provided by the participants, including the open answers, refer to these concepts. Therefore, it is pertinent to give them the relevance that they deserve. This will be explained in more detail throughout this section and illustrated by different figures. In addition to quality and time, the results clearly show a general reluctance to use AutoSuggest in Studio, and therefore, NMT. Despite some participants provided positive opinions about this tool, there is still a majority that refuses to use it or points out negative aspects about it. In this sense, it is important to highlight that the analysis will consider the concepts mentioned above while keeping in mind that a considerable percentage of participants do not use this tool. Consequently, this section acquires two scopes: (1) considering those aspects that influence the use of NMT positively; and (2) reflecting about those ones that make translators not to use it.

In the first place, this section will focus on the two main concepts mentioned above. That is, time and quality. To begin with, it is possible to establish a time relation between different uses of NMT. On the one hand, the general frequency of use. On the other hand, the specific

employment of this tool in the context of tight deadlines. According to the answers provided in the survey, there is a clear link between both uses. That is, the number of participants who uses AutoSuggest more frequently seems to be proportional to those who tend to use it with tight deadlines. This relation can be observed in the results of questions 1 and 3. Regarding question 1 “How often do you use Automated Translation in AutoSuggest?”, four participants answered “never”; two replied “rarely”; “often” and “very often” were both chosen by three participants; and “very often” was selected only once. In regard to question 3, “Do you use Automated Translation in AutoSuggest when you have a tight deadline?”, it is possible to see some balance among the answers. Three people answered “never”; one replied “rarely”; four people answered “sometimes” and “often”; one did not reply and nobody answered “very often”. In this line, all participants that did not answer “never” were led to question 3.1. This query allowed them to specify the reason for their previous reply and they were able to choose more than one answer. Nobody answered “mandatory use”; “quality reasons” was selected once; “to save time” was chosen nine times; four people did not answer; and two people selected “other”. Participants that selected “other” had the option to provide an open answer. Both of them replied with the same reason, which is reducing typing time (“When the result is usable, it reduces typing time” and “To type less, so my hands get less tired”).

In both questions, answers “sometimes” and “often” were selected by 23.08% of participants. Option “rarely” was selected by one more participant in question 1 than in question 3. That is, it obtained 15.38% in question 1 and it got 7.69% in question 2. Even though “very often” and “no answer” got opposite results, it is still accurate to claim that there is a relation between the results of both questions, as reflected in Figure 5:

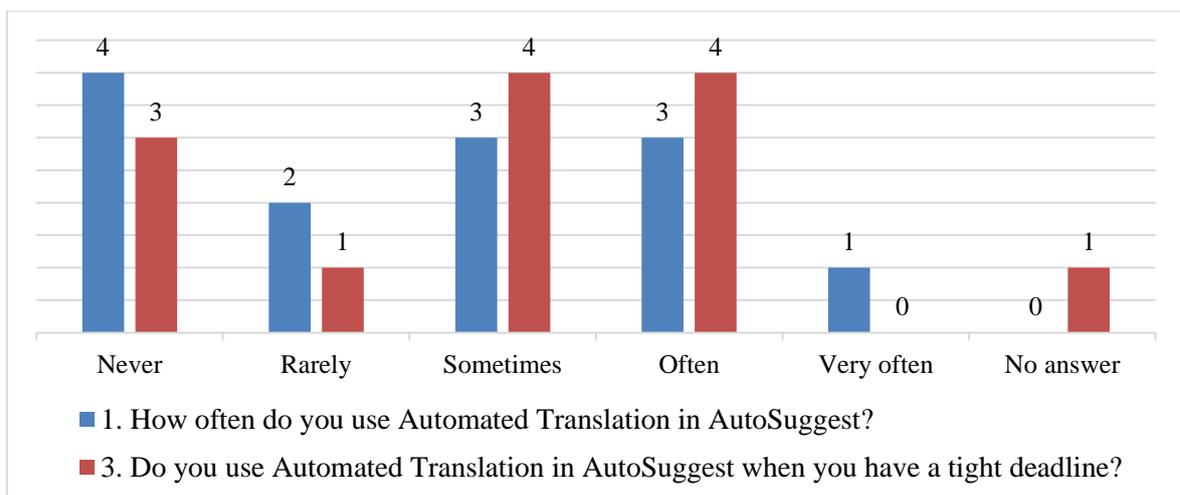


Figure 5. Questions 1 and 3. Comparison between frequency of uses

This connection leads to claim that timeframe plays a key role in the decision of using the tool or not. Therefore, time could be a decisive aspect for the translator to proceed in one way or another and, consequently, to establish a concrete translation workflow. In this line, this could also affect the other main aspect of this analysis, quality, which will be mentioned in more detail at a later stage. On the other hand, this proportionality does not apply to those participants who answered “never” to both questions. Those who answer that they never use it with tight deadlines might still use it with other timeframes. That is, replying “never” to question 3 does not completely exclude using the tool according to question 1. As a consequence, while time seems to be a fundamental aspect for many translators, it is still not relevant for others. Those participants who perceive other aspects as more influential than time might focus on different features, which will be also analysed in this section.

Following up with the concept of time, its relevance is also confirmed by the 9 participants who answered “to save time” to question 3.1. Moreover, in this case the open answers bring up a clear reason for the translators to prioritize time by using this tool. The two participants who replied with open answers specifically referred to the reduction of typing time, which proves that their choice to use the tool is not based on linguistic matters. This is not surprising, as only one answered “quality reasons” to question 3.1. However, the typing aspect proves that their decision is based on logistical matters within the translation workflow. That is, the tool is perceived by the translators as a resource with operational purposes, and not linguistic ones. In this sense, it is important to highlight that the decision to reduce time excluding linguistic purposes constitutes evidence of the already changing role of the translator. As mentioned in previous sections of this paper, the function of the traditional producer agent is being modified. Against those ideas which anticipate his or her disappearance, this analysis proves that the tasks of the translator are being diversified. This agent does not longer focus exclusively on linguistic duties. Now the translator also intervenes in the process by taking decisions at an operational level.

On the other hand, it is important to keep in mind that there is a percentage of participants who continue being reluctant to use the tool. There is a 30.77% of people who answered to question 1 that they never use AutoSuggest. Therefore, while there seems to be an acceptance among some of them as a non-linguistic tool, others completely refuse to use it. In this sense, question 5 illustrates this refusal and a major indifference from the participants towards the tool. This query, “Does working with Automated Translation in AutoSuggest make your work more enjoyable?”, received one positive answer; four negative replies; seven people replied “it does not make any difference”; and one did not answer. As pointed out in the

theoretical framework of this paper, this reluctance could be caused by several facts. From the fear to perform tasks that do not seem familiar or interesting, to prejudices against the quality of the output text. All of them could contribute to develop a feeling of discontent towards the tasks that they have to perform.

Coming back to the idea of time, it is also possible to relate the analysis of questions 1 and 3 to the answers provided for questions 2 and 4. Once again, it is confirmed that time is a determining aspect in the decision-making process to elaborate the translation. First, question 2, “Do you spend more time translating a document when you use Automated Translation in AutoSuggest than when you do not use it?” received a majority of negative answers (7) and a positive answer; four participants confirmed that “it takes them the same amount of time”; and one did not answer. These results confirm that most part of translators spend less time on the elaboration of the target text when using AutoSuggest. Considering the results of question 3, this could be related to the typing aspect mentioned above.

With respect to question 4, “How would you define Automated Translation in AutoSuggest in terms of how you use it?”, participants were able to choose more than one answer. Five people answered “it provides me with the basis of the translation, which I post-edit and finalise”; two people replied “it helps me find suitable options (e.g. vocabulary) for the target text”; seven participants answered “it is a resource that supports me in the production of my translation, just like any other tool”; five people selected “it allows me to save time and work faster”; one did not answer and three replied “other”. As it happened in question 3.1, these ones could provide open answers. In this sense, one participant referred again to the typing time (“AutoSuggest saves time mainly because you need to type less, since you can just use "Enter" to choose one of the options provided, usually a word or a shorter part of a sentence. It can never provide the basis of a translation, since you need to type something in order to get suggestions from AutoSuggest, what can be used as a basis for the translation are the TA results in the Results Window”). The other two participants confirmed that they are reluctant to use AutoSuggest: (1) “No applicable. I never use AutoSuggest, therefore I cannot assess its use”; and (2) “I do not use it and do not intend to use it”. These replies bring up the operational approach mentioned above. This aspect comes to light once more when only two participants refer to “finding suitable options (...) for the target text”. In this sense, any linguistic use of the tool is dismissed again. However, while it seems that its role is reduced to a mechanical purpose, this resource is upgraded to the same level as others. It is remarkable to notice the attitude of the participants towards the tool when comparing it to other resources. Whereas this equal comparison could be perceived as something negative,

it is actually positive. Considering that regardless of its slow acceptance there is still a high number of participants who are reluctant to use it, its equation to other resources is favourable.

On the other hand, it is important to refer to those participants who answered that they use it as a basis for the translation, which is then post-edited. Five people acknowledged this, which contrasts remarkably with the participants that confirmed that they never use it. That is, the four replies from question 1 and the two participants that specified this in the open answers in question 3. In this sense, it seems that while some translators completely refuse to use it, others even start embracing the new tasks derived from it, compared to the traditional ones. While the unwillingness to use it does not represent most part of the participants, it constitutes a solid resistance. However, it is contrasted with a slow but clear trend to welcome this tool, regardless of the reasons for the translators to use it. Therefore, not only the traditional tasks are being diversified, but also those who remain at a linguistic level are being modified. Even if the translators of the GSC are not designated as post-editors, some of them openly acknowledge their performance of this task. Considering the above-mentioned, the following figure illustrates the answers provided in question 4:

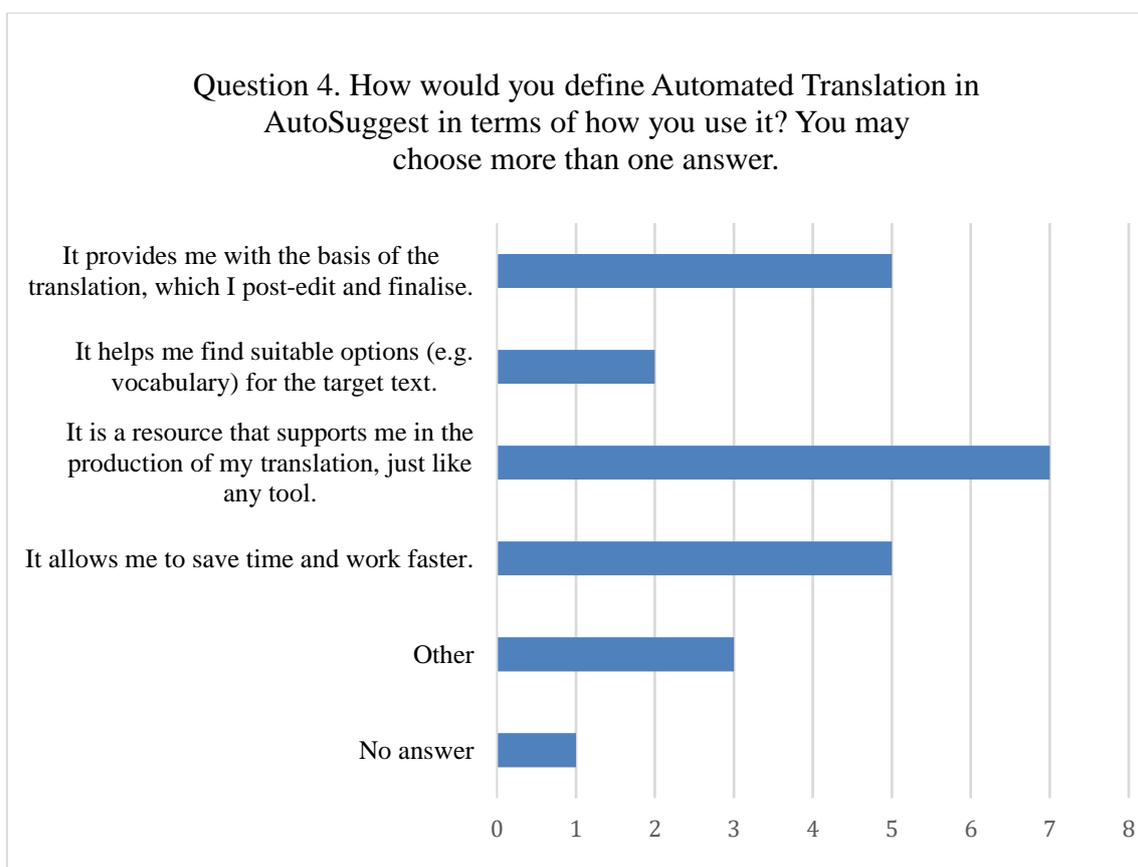


Figure 6. Question 4.

Bearing in mind this reflection about time, it is pertinent to refer to the other main concept of this analysis: quality. Considering the refusal expressed by some translators, as well as the non-linguistic purpose shown by others, it would be logical to conclude that their approach to quality would not be positive. Indeed, this is confirmed by the open answers in question 7. In this query, “Do you feel comfortable working with post-edited machine translated-bases?”, two people answered positively; five provided a negative reply; four answered “it does not make any difference”; and two did not answer. The five participants that answered “no” could provide open replies. In this case, all their answers were related to quality: (1) “You have to pay more attention to some possible errors or mistranslations that can be overlooked at first glance”; (2) “I fear that the quality of the translation is lower”; (3) “It depends very much on the quality of the previous translators’ post-editing”; (4) “The quality is usually quite bad”; (5) “I do not find them reliable, they are also often too literal and use a poor language”. Five participants openly claimed that the quality of the output text can be low, poor literal and unreliable. This distrust can be also verified in question 9, which will be analysed later and whose answers bring up that distrust against MT that characterizes many translators. As mentioned previously, quality could be one of the main prejudices against the tool among those participants who refuse to use it.

However, other results of the survey contradict this aversion for the quality of the output text. In the first place, answers in question 6 show a balanced attitude towards the influence of quality. This query, “How often does the quality of the original influence you when deciding whether to use Automated Translation in AutoSuggest”?, shows some balance among the answers. Three participants replied “never”; two answered “rarely”, “sometimes” and “often” respectively; three replied “very often”; and one did not answer. In this case, it is possible to perceive the two groups of participants that have come to light throughout this analysis. That is, there is a clear division among those who accept the use of the tool and the participants that do not use it. Still, there is a high number of translators who use it compared to those who do not and, above all, to the participants that provided negative opinions in the open answers. Secondly, the rate given to quality in question 8 also seems to be contradictory compared to the reluctance shown by certain translators. In this query, “How would you rate the quality of the output text when using Automated Translation in AutoSuggest?”, options “awful” and “excellent” were not selected; one person answered “bad”; nine participants replied “average”; one answered “good”; and two people did not answer. Nine people unexpectedly rated the quality of AutoSuggest as “average” and one as “good”. Although one participant chose the option “bad”, it does not actually constitute a big remark compared

to the number of “average” replies. Considering the negative perspective that seems to surround the tool, having neutral opinions about it is positive. The following figure reflects the answers in question 8:

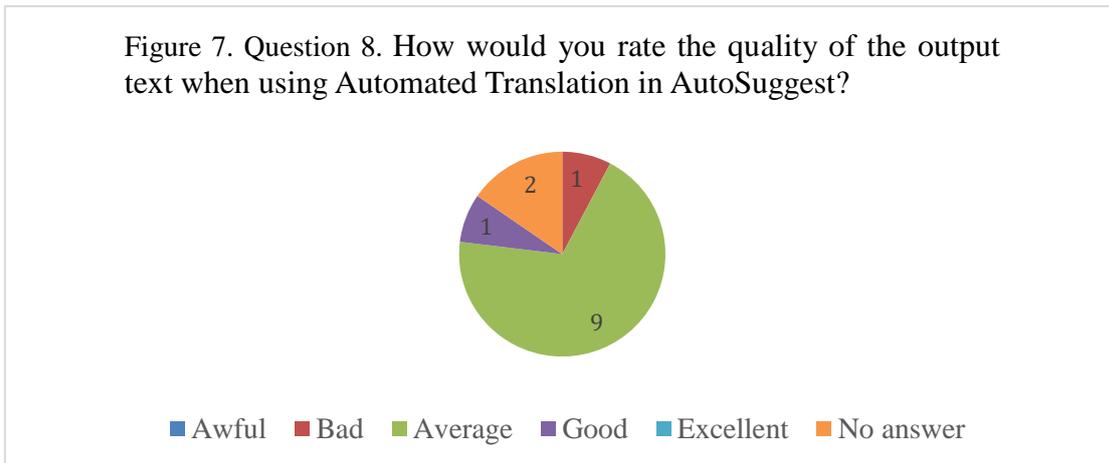


Figure 7. Question 8.

The bipolarization of these groups can be also perceived when comparing answers of questions 8 and 9. While replies in question 8 seem to be positive about quality, answers in question 9 show the opposite. In question 9, “Do you feel confident about the non-edited output text produced by Automated Translation in AutoSuggest?”, six people answered “not confident at all”; five participants replied “not very confident”; one person answered “confident”; nobody replied “very confident”; and one person did not answer. Once again, it is contradictory that most part of participants do not trust the non-edited output text while many have rated it as average. The following figure shows the answers in question 9:

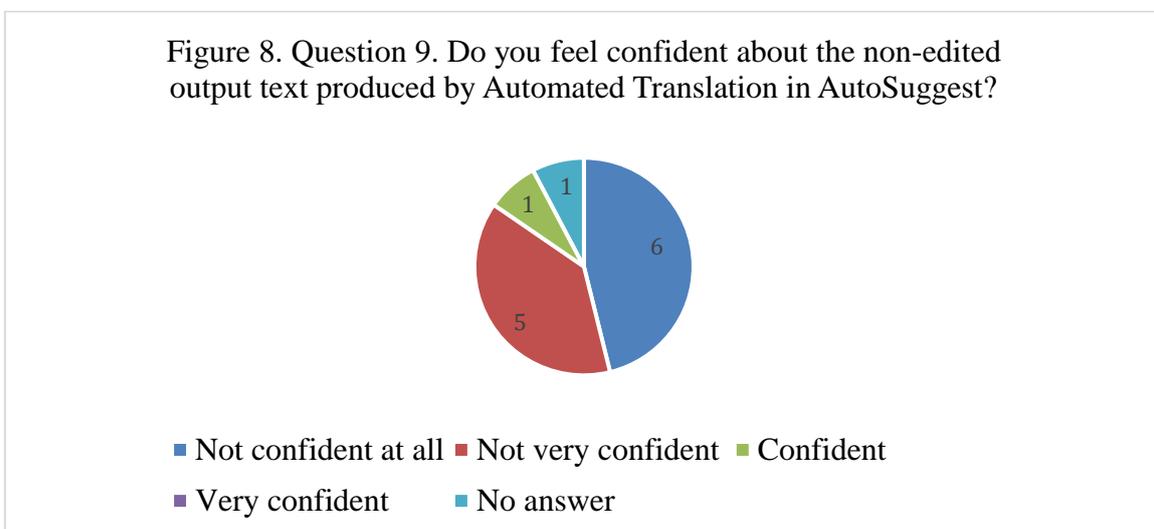


Figure 8. Question 9.

This contradiction could be explained by different facts. The most obvious one would be the prejudices and negative opinions from the translators towards the tool. The general perception that exists in the field about MT could also contribute to this, resulting in a rejection and distrust to use it while acknowledging that quality is not bad once it has been employed. This would not include those participants who might not be completely reluctant to use it, since this last group has made clear their feelings towards the tool in the open answers.

Another reason to explain this contradiction is the idea that translators less reluctant to use NMT could have of quality. While it does not seem that they are more willing to embrace it because they agree with their use, they could just be more permissive about it. In this sense, there could be an imbalance between their standards of human and MT quality output. That is, translators would expect quality to be poor when the text is machine translated. Therefore, they would have lower standards about it and perceive it with suspicion while settling with what they consider to be an average quality. The reports elaborated in 2019<sup>27</sup> and 2020<sup>28</sup> already recommended the revision of the machine translated text. Whereas this could favour an attitude of distrust towards the tool, it is important to highlight that human translated text also goes through revision at the Translation Service. In this sense, Hanzl and Beaven (2017:145) mention different types: “thorough revision, standard revision, light revision, review and optional revision”. The following table reflects the characteristics of these processes:

*Table 4. Levels of revision at the Translation Service of the GSC*

Revision Level	Nature	Process / Documents affected
thorough	bilingual / monolingual	most important documents. E.g. European Council conclusions, Presidential statements, treaties.
standard	bilingual	revision of target text against source text

<sup>27</sup> Council of the European Union, General Secretariat. Translation Service. The Language Technology Team and the Quality Policy Coordinator. 2019. Neural Machine Translation Feedback Mechanism Report (internal document)

<sup>28</sup> Council of the European Union, General Secretariat. Translation Service. The Language Technology Team and the Quality Policy Coordinator. 2020. Neural Machine Translation Feedback Mechanism Report (internal document)

light	bilingual / monolingual	monolingual review of the whole text and bilingual review of problematic parts
review	monolingual	monolingual review of target text
optional	not specified	no review is performed unless demanded by the translator

In this sense, the revision of MT output should be perceived as a necessary process for a kind of text which demands specific procedures to ensure quality, as it happens with any other type of document. The fact that it requires certain needs due to different results does not mean that quality will not be ensured. It alludes to a different translation workflow which demands concrete treatments. Once again, the already mentioned changes in the process and therefore, in the producer agent's tasks, can be perceived thanks to the insight of the translators.

Considering the above-mentioned, it is accurate to claim that there are three factors that influence the translators of the Council in their decision to use NMT or not. These aspects are time, quality and the existing stereotypes against NMT. As confirmed by the analysis, they can take place in isolation or they can converge in the same decision-making process. This range of possibilities exists because of other aspects that surround them and also affect them. That is, the translator and the specific context of the Council. In the same way that time, quality and the view of the professional about the tool condition its use, the translator and the context also create concrete scenarios when considering these three key concepts.

On the other hand, this section has confirmed that there is a relation between the translator's perception of NMT compared to other resources. While the overall NMT's level of acceptance might not be high, the results of the survey still show this link. In this sense, it is possible to observe a slight equalization between NMT and other tools. It is important to highlight that this represents a positive step towards the embracement of NMT. While it might not involve a full degree of inclusion in the workflow, it already shows some progress in the path to acknowledge it.

With respect to the role of the translator, the analysis shows evidence of existing modifications in the tasks of this professional. Although this fact had been already highlighted in the theoretical framework, it was necessary to confirm it specifically in the context of our case study. Although there is extensive literature about the continuously

changing functions of the traditional agent, the examples given mirror the reality of other areas in the industry which do not include the Council. On the other hand, the conclusions already provided by this institution in previous reports could not fully reflect this fact at a more specific single language unit level. All in all, the analysis of the answers provided to the survey made possible to reflect about this matter in the context of this research.

Bearing this in mind, the following section will conclude the paper. Regarding the three influencing aspects – time, quality and stereotypes about MT –, the last part of this document will reflect about their effect on the translation workflow. In this sense, the purpose will be to establish patterns about the use of NMT. On the other hand, the comparison that arose in the analysis between the different tools will lead to a reflection about its real circumstances in the Translation Service of the Council. The perception that translators have of NMT compared to other resources will be helpful to determine its role not only in the workflow but also in this specific context. Finally, the paper will reflect about the transformation of the translator's role considering the above-mentioned. Now that changes in the duties of this professional have been confirmed, it will be possible to reflect about the impact that they have on the whole figure of the translator. In this sense, this will allow to analyse the future of this agent in the workflow and, specifically, at the Translation Service of the Council.

## 6. Conclusions

This research has allowed to analyse and reflect about the use of NMT by the translators of Spanish at the Council of the EU. Throughout this paper, the relation between the human agent and the machine has been explored, as well as the facts that influence the decision to use NMT or not. Likewise, this has led to understand the behaviour of the translator in comparison to other tools. The study has been framed in the Translation Service of the GSC, which provides specific and unique translation situations. In the first place, thanks to the context of the EU institutions. Secondly, because of the conditions that surround the Council, which counts with high standards in terms of efficiency and accuracy due to the sensitiveness of the content that is translated (Hanzl and Beaven, 2017).

As it happens in the rest of the industry, the Translation Service of the Council has not escaped the technological wave of the past years. Although its public character and circumstances provide it with concrete needs and a distinctive pace, new tools and processes have been incorporated to the translation workflow. In this sense, NMT has become a common resource used by the translators. However, not all of them have embraced its use positively and it is possible to perceive different attitudes towards this tool. In order to distinguish and understand these views, a survey was carried out. Its questions targeted the translators of the Spanish Language Unit of the Translation Service. Thanks to the results of this questionnaire, it was possible to deduce relevant outcomes which could be substantial for the institution and the work of the translators.

In the first place, the research shows that the transformation that the translator has gone through in the industry is also applicable to a public institution like the Council. At this stage, the duties of this agent are far from being only linguistic. As mentioned by Hurtado Albir (2020) and Rico and Torrejón (2012), they have now acquired an operational and technical character. Even though internal processes at the Translation Service are well structured and specified by the CWP, this research proves that they change gradually following the trends of the industry. These ones include the increasing presence of CAT tools and the consequent addition and reorganization of steps within the translation workflow. As a result, the tasks performed by the translator are also affected. In this sense, this professional is now more autonomous as a decision maker in relation to the translation workflow. The fact that he or she chooses to use or not a certain tool – in this case NMT – that could affect the rest of the steps, reveals the degree of independence that this agent has acquired. As mentioned before, even if the operational structure of the Council is not as flexible as its counterparts in the

private sector, slow-paced changes still occur. Therefore, the diversification of tasks mentioned by Joscelyne et al. (2020) is confirmed. This conclusion deviates from the generalized fear for the replacement of the human agent by the machine. Indeed, the role of the translator is not reduced. Instead, the competences of this agent grow and acquire a different substance.

Regarding this new nature, linguistic tasks are influenced as well. Even though the text has referred to operational and technical duties, those linguistic-related ones are also affected. The theoretical framework of this paper has referred to MT related activities. Thanks to the survey carried out for this research, it is confirmed that now translators of the Translation Service find themselves performing one of these tasks: MTPE. Considering that a high number of participants still refuse to use NMT, the fact that others acknowledge that they post-edit the text is a remarkable finding. This constitutes an indirect self-designation as post-editors, which once again fulfils the theory of the continuing changing role of the translator.

The fact that the producer agent does not undertake this new function in a straightforward manner reflects the stereotypes that surround the tool. On the one hand, Arnold et al. (1994) referred to that negative idea of MT that derives from the collective thinking. O'Thomas (2017) also mentioned that view, which refers to MT as a threat for both the translator and the text. Whereas many professionals perceive the machine as a rival in the field, several are also concerned about the quality that it produces. These aspects contribute to the fostering of a collective reluctance, being the last one the most disturbing for the translators of the Council. As reflected by the results of the survey, there is a clear verdict about NMT output text. While this is entirely pessimistic, it contains different levels of resistance. Firstly, those who completely refuse to use the tool due to the reasons mentioned above. In the second place, those who are reticent but lower their standards in order to use it. Although both approaches are common among translators, they are erroneous. As mentioned throughout this paper, nowadays technological changes in the translation field are a given (Cronin, 2003). Even if these are usually introduced in the private sector, public administrations and, therefore the Council, are not an exception. For this reason, refusing to use the tool at an individual level will not imply its removal from the field. Denying the presence of a reality will not make it disappear. On the contrary, this ignorance will contribute to the creation of gaps not only between the translators and the field, but also between those professionals who embrace the trend and those who do not. On the other hand, keeping lower standards when it comes to certain tools will actually contribute to the endurance of prejudices. In order to

raise quality standards, it is necessary to demand and expect these levels (Hutchins and Somers, 1992; Arnold et al. 1994). A demanding attitude will contribute to set the appropriate procedures to achieve the desired standards. While it is essential to be realistic about the actual capabilities of the machine, it is also important to keep a receptive attitude towards all its features. This includes the output text that it produces, which might be difficult for many professionals to assimilate. However, embracing the tool and its effects does not imply accepting unconditionally what it produces. It means to tackle a reality that has come to stay, a reality that requires a different treatment from any other tool. Therefore, a clear and firm approach is needed to achieve quality standards. In this sense, it is important to establish appropriate procedures and to follow the existing ones to ensure quality. At the same time, it is necessary to consider the possibility of a constant update. In a field where processes and tools are changing continuously, requirements and standards will do as well (Cronin, 2013).

Considering the above-mentioned, this paper aimed to decipher the reasons for the translators of the Translation Service to use NMT or not. It has been made clear that the existing stereotypes play an important role in this decision-making process. Likewise, quality constitutes one of the main concerns. For this reason, it is also one of the crucial aspects when deciding to incorporate NMT or not. In addition, the paper also concludes that time is as decisive as quality. Following the results of this research, timeframe is highly considered when establishing a translation workflow according to the requirements of the machine. It helps translators to save typing time, although it does not fulfil this thanks to linguistic preferences. Once again, the diversification of tasks comes to light and the translator assumes responsibilities at a logistical level. While the time difference between using AutoSuggest or not might not have a large-scale effect on the translation workflow, it can affect the translation step. In addition, it constitutes a non-linguistic decision. Therefore, it is another proof of the dynamic scene that translation and professionals are going through. Despite the negative idea that seems to surround NMT, translators who use it regard it as another tool in their daily work. In this sense, the overall perception of the tool might not be entirely unfavourable. The existing reluctance is caused in many cases by prejudices, which are preconceived ideas based on the collective imaginary (Arnold et al. 1994). Nonetheless, the answers of the survey show an opposite opinion at certain points. As mentioned in the analysis of this research, some results would contradict each other in order to reveal the actual attitude of the translators towards the tool. While it might not be a general one, there is a trend to meekly accept the tool and add it to the list of resources employed to translate.

As a consequence, the division between professionals at the Translation Service becomes more obvious. That is, those who completely reject the tool and those ones who slowly assimilate it while comparing it to other tools and degrading its quality standards.

#### 6.1. Limitations and further research

During the elaboration of this paper, the author has encountered certain constraints that have made difficult to proceed with the research at some points. These restrictions refer to bureaucratic processes linked to administrative issues, as well as to limitations related to the results obtained due to the number of participants and the formulation of some questions in the survey.

Regarding bureaucracy, while it may appear redundant, time has been one of the main drawbacks to elaborate this research. Holding a solid knowledge and consulting the right sources about the translation industry, translation at the EU institutions and, specifically at the Council, have been crucial. Not surprisingly, bureaucracy has an important place among these notions. Administrative procedures slowed the research at different stages. For this reason, getting familiarized with these processes and planning the research by anticipating them was fundamental to complete it in the given timeframe.

Following up with the administrative constraints, the fact that the survey was answered on a voluntary basis resulted in the participation of thirteen translators. From the beginning of the process, the Council made clear that taking part in the survey would not be compulsory for the participants. This aspect had to be specified in the Privacy Statement, which was uploaded to EUSurvey and made available to the respondents. However, it was possible to send information to the translators about how to contribute, as well as reminders to do so. As mentioned in previous sections, the author of the research proceeded accordingly. As a result, the number of translators indicated above answered the survey. Although a higher percentage of participation would have been beneficial to produce more precise and reliable outcomes, the current number is also positive. These results represent half of the Spanish Language Unit, and they serve as a solid basis for the conclusions about the use of NMT.

On the other hand, after obtaining the results of this research it is understood that negativity might prevail among them due to the formulation of the questions. Regardless of the veracity of these outcomes, there could have been more room to visualize positive opinions about the tool. For example, by providing options of open answers not only to the negative replies but also to the affirmative ones. In this way, participants would have been able to express their positive views about the tool. If this would have not been the case, negative perceptions

would have reached a higher level since any other view would have been provided despite having the opportunity to do so. Therefore, the research would have followed the same line, but it would have acquired a broader scope.

Nevertheless, the limitations mentioned above also open the door for further research. This paper pretends to contribute to the elaboration of future studies both in the framework of the Council and externally. In the first case, the Translation Service counts with analysis at a collective level, since the reports mentioned throughout this document refer to the twenty-four language units. Furthermore, the individual case of the Spanish Language Unit has now been added. The results of this last one could be useful to carry out or compare this research with other language units. In this sense, it would be possible to confirm whether there are patterns or differences between languages of the same linguistic family or those who belong to different ones. Moreover, the number of respondents leaves the possibility of adding more participants to any future research. This could be carried out within the Spanish Language Unit or any other group. On the other hand, regarding the other limitation mentioned before, reformulating the questions or creating a new survey based on the possibility of more positive answers could be another option for further research.

With respect to the usability of this research for any external future study, it is important to highlight that it could acquire two scopes. In the first place, it could be carried out at other EU institutions. In this sense, since eTranslation is the common MT system used in all EU institutions, this research could be applicable to other administrations. Comparisons at different degrees, such as at a directorate, unit, or language level, could be performed. Secondly, further research could be framed within any organism which is unrelated to the EU. In this line, eTranslation performance could be evaluated from an external point of view, as it is accessible to non-EU institutions employees as well. Moreover, the use and outcomes of this tool could be contrasted to other MT engines. In any case, there are plenty of possibilities for which different methodology could be applied as well. For instance, due to the linguistic nature of the field it could be helpful to proceed with data gathering methods other than surveys, such as translation exercises or practical cases for the translators.

All in all, making these scenarios accessible to external readers is fundamental for the enrichment and the development of the field. In order for the industry to grow and expand, it is necessary to hold knowledge about the functioning of the field in its different spheres. That is, academics, the private sector, and public administrations. All of them, including those belonging to the same sphere as the Council, would benefit from the results of this research or any continuation of it. As it can be seen, the possibilities of applying the

outcomes of this paper are diverse. In addition, these potential projects are necessary. The translation field will continue changing in the future and it will be crucial to continue adapting to it. All the agents that intervene in the process, the text itself and the industry will have to readjust themselves constantly. To do this, it is imperative to count with the appropriate information, which will allow to continue developing the most suitable tools and procedures for each translation situation. Therefore, counting with analysis about the last scenarios will help to predict with more accuracy the needs of the next situation.

In conclusion, NMT will continue being present at the Translation Service of the Council. This will be combined with the reorganization of the translators' tasks in terms of transforming the existing ones and acquiring new knowledge and expertise. It will be a gradual and progressive phenomenon, which will not imply the removal of linguistic duties or the deletion of other resources from the translators' agenda. On the contrary, all the activities listed above will be compatibilized, as it is already happening. Finally, in order to achieve quality standards, certain processes will be rethought regularly. In this way, the Council and the EU institutions join the community of organizations and professionals that intervene actively in the current era of translation technologies.

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## ANNEX

The text below contains the introductory explanation, questions and possible answers of the survey that has been shared with the participants.

Title: Use of Automated Translation in AutoSuggest in Studio Trados

The purpose of this survey is to analyse the use of neural machine translation (NMT) when translating. This survey is part of an academic research for a master thesis at the Universidad Nacional de Educación a Distancia (UNED). It is being carried out on the basis of its usefulness for the GSC and its results will be shared with the institution. For your information, the results might be published as part of the master thesis in the referred university's open access repository, called e-spacio UNED (<http://e-spacio.uned.es/fez/collection/bibliuned:master-Filologia-TICETL>).

Your participation in the survey is voluntary and completely anonymous.

Completing the survey will take you less than 10 minutes. Please use Chrome or Edge to fill it in.

Thank you for taking the time to respond.

First section: Your use of Automated Translation in AutoSuggest

1. How often do you use Automated Translation in AutoSuggest?

- a) Never
- b) Rarely
- c) Sometimes
- d) Often
- e) Very often

2. Do you spend more time translating a document when you use Automated Translation in AutoSuggest than when you do not use it?

- a) Yes
- b) No
- c) It takes me the same amount of time

3. Do you use Automated Translation in AutoSuggest when you have a tight deadline?

- a) Never
- b) Rarely

- c) Sometimes
- d) Often
- e) Very often

3.1. Please specify why. You may choose more than one answer:

- a) Mandatory use
- b) Quality reasons
- c) To save time
- d) Other. Please specify

4. How would you define Automated Translation in AutoSuggest in terms of how you use it? You may choose more than one answer.

- a) It provides me with the basis of the translation, which I post-edit and finalise.
- b) It helps me find suitable options (e.g. vocabulary) for the target text.
- c) It is a resource that supports me in the production of my translation, just like any other tool.
- d) It allows me to save time and work faster.
- e) Other. Please specify

5. Does working with Automated Translation in AutoSuggest make your work more enjoyable?

- a) Yes
- b) No
- c) It does not make any difference

6. How often does the quality of the original influence you when deciding whether to use Automated Translation in AutoSuggest?

- a) It never influences my decision.
- b) It rarely influences my decision.
- c) It sometimes influences my decision.
- d) It often influences my decision.
- e) It very often influences my decision.

7. Do you feel comfortable working with post-edited machine-translated bases?

- a) Yes
- b) No
- c) It does not make any difference.

Second section: About Automated Translation in AutoSuggest

8. How would you rate the quality of the output text when using Automated Translation in AutoSuggest?

- a) Awful
- b) Bad
- c) Average
- d) Good
- e) Excellent

9. Do you feel confident about the non-edited output text produced by Automated Translation in AutoSuggest?

- a) Not confident at all
- b) Not very confident
- c) Confident
- d) Very confident

Third section: About you

10. How long have you been working as a professional translator?

- a) 1 to 9 years
- b) 10 to 19 years
- c) 20 to 29 years
- d) More than 30 years

11. How long have you been working with machine translation output? Please only take into account the period of time that you have been using NMT output.

- a) Less than 1 year
- b) 1 to 3 years
- c) 4 to 5 years
- d) More than 5 years
- e) I do not use NMT output