



MS 2.4 A usability report for the eTranslate CEF building block

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Abstract

The core online digital resources and tools aimed at providing targeted guidance and smooth management of staff and students mobilities for higher education systems in Europe are usually available in English. English is a widely used language in educational and daily life, and undoubtedly plays a crucial role in the mobility process. This however raises various practical difficulties for students and staff who are not fluent in English. In this context, it is of utmost importance to investigate the potential use of the eTranslate Connecting Europe Facility (CEF) building block as a tool for generating translations of user interfaces and documents transferred between HEIs. The present report analyses the coverage of the building block notably with regards to the translation of student and staff records being sent through the data exchange network and the translation of user interfaces. These insights may have the potential to support the mobility experience and be useful for the wider needs of higher education.

1. The eTranslate service in general

ETranslation CEF Building Block provides machine translation of texts and documents into and out of all the 24 official European Union languages, as well as Icelandic, Norwegian and Russian [1]. Its main goal is to help European and national public administrations exchange information across language barriers in the EU and ensure that all Digital Service Infrastructures (DSIs) are multilingual. Even more, it offers useful stand-alone services for the translation of documents and snippets of text. The service

- is available for public administrations, citizens and businesses in the EU.
- accepts diverse input formats, including doc and pdf
- retains formatting and
- provides a variation of output formats

More technically, the eTranslate CEF Building Block is based on Neural Machine Translation to automatically translate source text to target text [2]. Its neural machine translation system is trained using the translation memories contained in Euramis. Euramis is a multilingual, multidirectional repository of clearly labelled equivalent phrases (“segments”) belonging to official EU documents allowing their re-use in translation in all European languages. It currently encompasses more than 1.2 billion translation segments (and growing), capable of handling and processing specific EU policy and legal terminology with a high level of accuracy.

In addition, the CEF eTranslation guarantees confidentiality and security of all translated data. The uploaded data remain available for 24 hours after which they are deleted. Even more, data is not shared with third parties.

The Building Block maintains a user web application with an interface (“Translate online”) and an API for machine-to-machine request of translations (“eTranslation web service”).

1.1. Translate online

“Translate online” [3] is intended for EU institutions, European public administrations, small and medium-sized enterprises and university language faculties, and for connecting Europe facility projects. Such users can self register to the service or use their EU Login (formerly ECAS) credentials, if any.

Users can submit text, paragraphs or documents for translation. Even more, they can specify the general context (domain) of the submitted text, e.g. General Text, Court of Justice Case Law, Cultural, Deutsche Bundesbank neural, Finance, etc. If specified, users can also get the translated result sent to their e-mail.

Documents submitted remain available for 24 hours after which they are deleted. There is a “delete after download” option which, if ticked, results in the text being deleted immediately after it is delivered.

Users can login at <https://webgate.ec.europa.eu/cas/login>

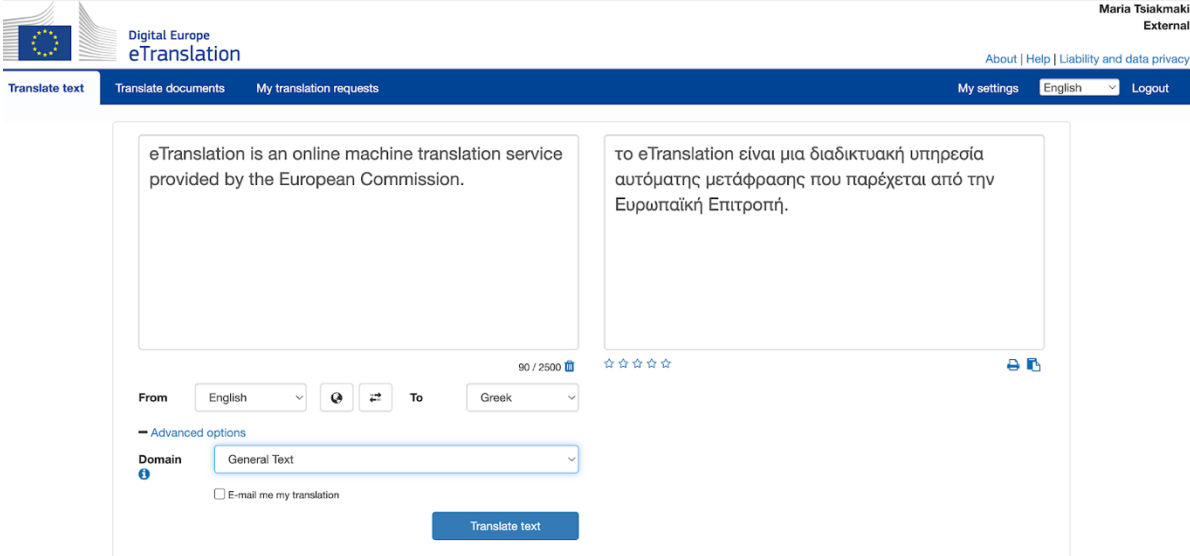


Figure 1 Screen from Translate online. Advanced domain options contain EU Formal Language, General Text, Court of Justice Case Law, Cultural, Deutsche Bundesbank neural, Finance, IP Case Law, Ministère des Finances (France), Public Health, and Valtioneuvoston Kanslia options.

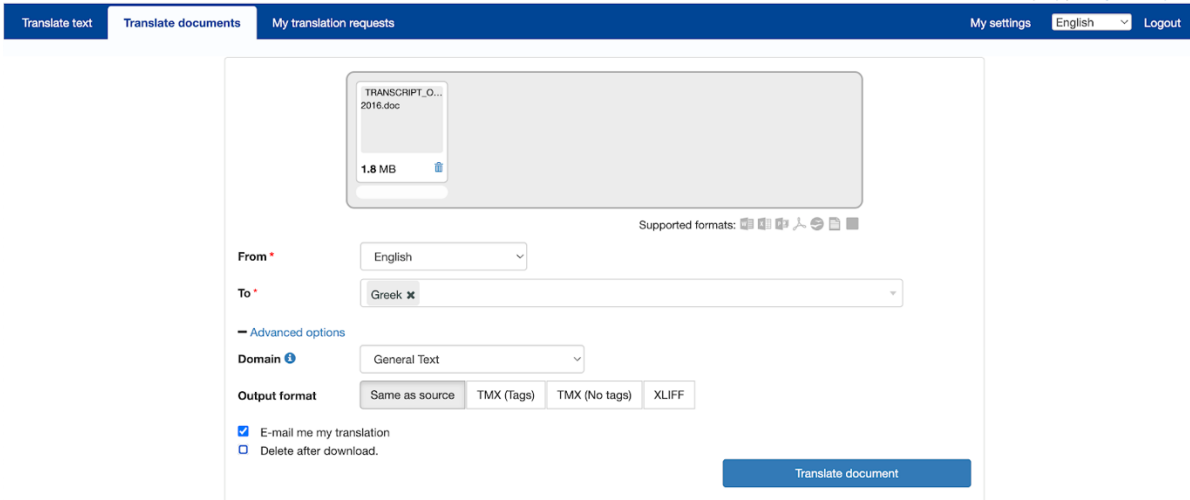


Figure 2 Screen from Translate online. Documents submitted remain available for 24 hours after which they are deleted. Advanced options also contain the “delete after download” option.

1.2. The eTranslation Web Service

European and national public administrations, or cross-border EU projects supported from the CEF programme can also integrate eTranslation into their own information systems using the CEF eTranslation API. They are able to add machine translation capabilities to their digital public services and eventually make their content multilingual.

The eTranslation web service is asynchronous. As such, the client initially sends a translation request and some time later is notified that the text snippet or document is translated. In this way of calling, the client is decoupled from the web service. The following steps illustrate this interaction:

1. The client sends a translation request to the eTranslation web service.
2. eTranslation web service replies synchronously with the eTranslation request ID (positive number) or an error code (negative number).
3. eTranslation web service translates the text or document for all requested target languages.
4. Each translated text or document is sent back to the client asynchronously to the target location via the callback URL and to the provided (if any) email address.

The full technical documentation for the web service is available [4, 5, 6]. The helpdesk address is: help@cefai-tools-services.eu

1.2.1. Examples

We created a proof-of-concept implementation that employs the eTranslate API for translating text from various languages to English and the opposite. We verified that the API is well documented and that the implementation steps are easy to follow.

Below we list some examples of using the service and the translated responses that we got.

From Swedish To English

Aristoteles född 384 f.Kr. i Stageira på halvön Chalkidike, död 322 f.Kr. i Chalkis, var en grekisk filosof och astronom. Hans far Nicomachus dog när Aristoteles var liten och han fick då Proxenus av Atarneus som förmyndare. Vid arton års ålder började Aristoteles vid Platons akademi, där han stannade i nära tjugo år. Aristoteles skrifter omfattar många ämnen: fysik, biologi, zoologi, metafysik, logik, etik, estetik, poetik, skådespeleri, musik, retorik, lingvistik, politik och styrande, och utgör den västerländska filosofins första genomgripande utläggning. Kort efter Platons död 348 f.Kr. lämnade Aristoteles Aten för att på begäran av Filip II av Makedonien bli privatlärare åt dennes son Alexander.

Aristotele born 384 BC in Stageira on the Chalkidike peninsula, dead 322 BC in Chalkis, was a Greek philosopher and astronom. His father Nicomachus died when Aristoteles was small and he was then given Proxenus by Atarneus as guardian. At the age of 18, Aristoteles began at Platon Academy, where he stayed for almost 20 years. Aristotele's publications cover many topics: physics, biology, zoology, meta-physics, logic, ethics, aesthetics, poethics, actors, music, rhetoric, linguistics, politics and governance, and constitute the first profound orientation of Western philosophy. Shortly after Platon's death in 348 BC, Aristoteles left Athens to become a private teacher for his son Alexander at the request of Filip II by Macedonia.

From Greek To English

Ο Αριστοτέλης ήταν αρχαίος Έλληνας φιλόσοφος και επιστήμονας που γεννήθηκε στα Στάγειρα της Χαλκιδικής, στη Μακεδονία. Σε ηλικία 17 ετών εισέρχεται στην Ακαδημία του Πλάτωνα, στην Αθήνα, όπου παραμένει έως τα 37 του έτη. Εκεί συνδέεται τόσο με τον ίδιο τον Πλάτωνα όσο και με τον Εύδοξο, τον Ξενοκράτη και άλλους στοχαστές. Τα έργα του αναφέρονται σε πολλές επιστήμες, όπως φυσική, βιολογία, ζωολογία, μεταφυσική, λογική, ηθική, ποίηση, θέατρο, μουσική, ρητορική, πολιτική κ.ά, και συνιστούν το πρώτο ολοκληρωμένο σύστημα στη Δυτική Φιλοσοφία

Aristotle was an ancient Greek philosopher and scientist born in the Statires of Chalkidiki,

Macedonia. At the age of 17 he enters the Academy of Plato, Athens, where he stays until the age of 37. There he is linked both to Plato himself and to Edodos, Xenocrates and other thinkers. His works refer to many sciences such as physics, biology, zoology, metaphysical, logic, ethics, poetry, theatre, music, rhetoric, politics, etc., and constitute the first integrated system in Western Philosophy.

1.3. Using eTranslation to make your website multilingual

The eTranslation can handle full documents, including html and xml, in addition to common office formats such as docx and pdf. As such, partners can also use the eTranslate web service in order to translate their websites to other languages upon users' requests. Some general guidelines can be found here [7].

There is a sample scenario on how to use the eTranslation web service through the Drupal CMS. However, it only demonstrates the email destination set up, where the end user receives an email with a translation on a hardcoded language selection. As such, more details will be needed on how the eTranslation could be used in order to build a multilingual website.

2. The current state of play

In the last three decades, the Erasmus+ has brought together a plethora of organizations and programmes in the fields of education, training, youth and sport in Europe. In this framework a broad range of services have been developed with the aim to accompany students and staff from the start of their mobility to the return to their home country. The most important connected student and staff e-services are listed below.

Erasmus+ Dashboard: a system designed to support HEIs with the administration of mobility. It allows the management of incoming and outgoing students, signing and reviewing Online Learning Agreements as well as communicating with students and partner institutions. HEIs with no local mobility-specific system can use it to exchange data with their partner institutions.

Erasmus+ App: an application that provides information, tools and services to help students plan and carry out their exchange. The aim is to become the single point of entry for students to access information on Erasmus+ opportunities, as well as to guide them through the processes surrounding their mobility and give them access to information and services.

Online Learning Agreement: a system designed for managing the Learning Agreement, a central document that provides a transparent and efficient preparation of the exchange and makes sure that students receive recognition for the activities successfully completed abroad.

MyAcademicID: a digital infrastructure that enables secure and seamless exchange of data related to student mobility in Europe. Students are allowed to identify and register themselves electronically on electronic student services abroad using their home HEI account.

The EWP Registry: a network infrastructure that enables the exchange of student data for mobility-enabling activities between HEIs, i.e. inter institutional agreements, nominations, learning agreements, transcript of records and general purpose data. When needed, the values of various entities can be provided in multiple languages.

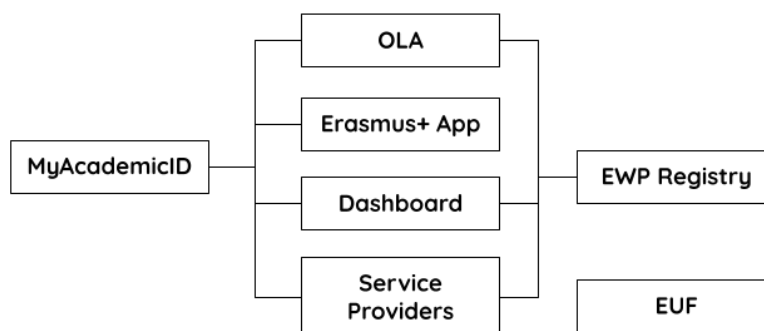
Student Service Providers: a technical infrastructure for data exchange between institutions and Student Service Providers (SSPs) in a structured and reliable way in order to expose services to students. Providers may operate different categories of services, such as

accommodation, library, insurance, transport services, culture, sport, language learning services, etc.

The EUF Website: a network directed to support and improve European Higher Education.

The International Relations Offices' Websites: the websites that in general all HEIs maintain in order to guide their incoming and outgoing students and staff throughout their mobility.

The graph below gives an overview of the different services and their interactions.



3. Use cases

The main objective of this report is to demonstrate the practical usefulness of the eTranslate CEF building block for user interfaces and documents transferred between HEIs in the students and staff mobility cycle. To this end, we studied the several phases of student's mobility and identified the interfaces, data and documents that usually take part in the process, given the current state of play.

Apart from common templates and general study materials that are connected with terminology that most users are already familiar with, we found various cases where the internal communication may suffer by the use of different local languages. Below we list some common interfaces and documents that students and staff encounter and/or exchange during a mobility that might not be available in every partner's language.

International Relations Offices Websites: Usually these websites contain useful information regarding the academic calendar, instructions on how to create an institutional account, accommodation, general information about the life in the receiving HEI and services offered to students.

Inter-institutional Agreements: Apart from the standard agreement's template that is signed between two or more HEIs, a set of detailed requirements and additional information for the student and staff mobilities may be listed in the institutional factsheet document. I.e. information regarding the academic calendar, the grading scheme, the available services and facilitates for students with disabilities, and further institutional contact pages, such as visa, housing, and insurance contacts ready to provide assistance when required.

Nominations and local erasmus applications: Usually, each institution publishes the relevant documents/websites required for its local selection process and the nomination phase for an incoming nomination, such as CV, motivation letter, details on transcript of records, external certification, recommendation letter, language level, portfolio, and references. These documents might not be translated in the host institution's language.

Learning agreements: It is a standard agreement's template that is signed between students and departmental coordinators of the sending and receiving institutions. Usually, this process contains terminology that most users are already familiar with.

Services for students during their stay (SSPs): a structured overview of available student services at the receiving institution. Websites, data and/or documents related with accommodation, library, insurance, transport services, culture, sport, language learning services, etc.

Transcript of records: a standard template with the learning outcomes of the modules completed abroad that is in line with the European Credit Transfer and Accumulation System. Related data that detail the grading system of the receiving information might be also available. Such information facilitates in the interpretation of each grade awarded to students and the credit transfer to the sending institution.

Table 1 Summary of Interfaces and e-documents in the students' mobility cycle

Mobility cycle	Interfaces and e-documents in different languages
International Relations Offices Websites (IROs)	Websites and links to documents with useful information about erasmus educational programmes
Inter institutional agreements	EUf template document and the ewp iia and factsheet structured data that details the mobility contract (student and staff mobilities) between two HEIs.
Nominations and local erasmus applications	the relevant documents/websites required by the student for the selection process and the ewp outgoing mobility structured data that details the nomination of a mobility.
Learning agreements	EUf template document and the ewp incoming mobility structured data that details information about the student's mobility
Services for students during their stay (SSPs)	data related with the available student services at the receiving institution
Transcript of records	the ewp transcript of records structured data that details information about the student's mobility outcomes

4. Conclusion

To sum up, we investigated the potential use of the eTranslate CEF building block as a tool for generating translations of user interfaces and documents transferred between HEIs, notably with regards to the needs of erasmus+ mobility projects. We studied the eTranslate solution, the service's features, its API and its language coverage. We further investigated the online tool and built a proof-of-concept service that employs the eTranslate API. Moreover, we described the current state of play and what kind of user interfaces and documents are being transferred between HEIs in the students and staff mobility cycle.

We conclude that the current erasmus+ mobility process could benefit from the utilisation of a machine translation service. Apart from some cases where the used interfaces and documents are connected with terminology and templates that most users have become familiar with, in most cases the use of an automatic translation service could benefit the end users.

More specifically, the translation of interfaces of applications like OLA and Erasmus+ App could make it easier for students to start and organise their mobility journey, as content will be available in their language of preference. Meanwhile, the translated versions of the Dashboard application could also speed up the workflow of IROs and administrative staff across the erasmus+ programme countries. The automatic translation helps IROs reduce the workload of preparing documents and websites with practical information for their staff and students that are preparing for a mobility, as currently most translations are done manually. Also, mobility data exchanged through the EWP network could be automatically provided to the end-user's language and ultimately help them to handle content more quickly. These advantages all contribute to creating a more efficient mobility process.

The eTranslate CEF building block clearly has some important advantages, but further technical inquiries will be necessary. On one hand, we need to investigate the asynchronous nature of the service, and how this feature will conform with the current implementations. On the other hand, the online sample scenario on how to use the eTranslation web service through a Drupal CMS lacks to demonstrate how an actual multilingual website could be built. Further coding samples need to be implemented to establish this fact.

5. References

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