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Evaluating the performance of DeepL as translation tool between German and Italian Easy Language administrative texts

Easy Language (EL), a comprehensibility-optimised form of a natural language that makes content accessible to people with communication impairments, can play an important role in institutional communication. However, the extent to which it is adopted for legal and administrative texts has not progressed evenly in the various countries. Interlingual translation could be an asset to increase the use of EL in this domain, also considering that recently AI-driven tools have become an important support for translation. The project that will be presented aims to evaluate the possibility of using DeepL as an automated translation tool for interlingual translation into EL particularly in the domain of administrative texts. To this end, the performance of DeepL was analysed for the language pair German and Italian, using a EL bilingual corpus produced by the administration of the Province of Bolzano/Bolzen. The machine-generated corpus texts were evaluated for readability, correctness and compliance with the EL rules and compared with the gold standard texts, in order to identify the potentials and limitations of the translation and the possible need for post-editing.

*Administrative texts – Easy Language – Leichte Sprache – Lingua facile – AI translation tools
Accessible Communication*

Valutazione delle prestazioni di DeepL come strumento di traduzione tra testi amministrativi tedeschi e italiani in Lingua facile

L'Easy Language (EL), forma di linguaggio naturale ottimizzata per la comprensibilità da parte delle persone con difficoltà di comunicazione, può svolgere un ruolo importante nella comunicazione istituzionale. Tuttavia, l'adozione di questa modalità comunicativa in ambito giuridico-amministrativo non è uniforme in Paesi diversi. La traduzione interlinguistica può rappresentare un'opportunità per aumentare l'uso dell'EL in questo settore, anche considerando che recentemente gli strumenti di traduzione IA sono diventati un importante supporto. Lo studio qui presentato mira a valutare la possibilità di utilizzare DeepL come strumento di traduzione automatica per la traduzione interlinguistica in EL, in particolare nel campo dei testi amministrativi. A tal fine, sono state analizzate le prestazioni di DeepL per le lingue tedesca e italiana usando un corpus derivato da testi in EL prodotti nelle due lingue dall'amministrazione della Provincia di Bolzano. I testi del corpus generati dalla macchina sono stati valutati per leggibilità, correttezza e conformità alle regole dell'EL e confrontati con i testi "gold standard", al fine di individuare le potenzialità e i limiti della traduzione e l'eventuale necessità di post-editing.

*Testi amministrativi – Easy Language – Leichte Sprache – Lingua facile – Strumenti IA di traduzione
Comunicazione accessibile*

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SUMMARY: 1. Introduction. – 2. Previous Research. – 2.1. Guidelines for Easy Language in Italian and German. – 2.2. Easy Language for legal and administrative texts in Germany and Italy. – 2.3. Research on AI tools for Easy Language Translation. – 3. Research Design. – 3.1. Corpus source. – 3.2. Corpus characteristics. – 3.3. Procedure of analysis. – 4. Results. – 4.1. Readability scores. – 4.2. Correctness. – 4.3. Deviation from the German/Italian Easy Language guidelines. – 5. Summary and Discussion.

1. Introduction

Easy Language (in German: *Leichte Sprache*; in Italian: *Lingua facile*) is a comprehensibility-optimised form of a natural language that makes content accessible to people with communication impairments, including cognitive impairments¹. Easy Language is part of international regulatory efforts aimed at enabling greater participation and communicative inclusion. In recent years, developments in this area have not progressed evenly in the various countries. Some countries already have regulations, scientific foundations and extensive textual practice, while others still have a long way to go². The professional and financial resources available for Easy Language texts in the various countries and for various natural languages are also very different.

Recently, AI-driven tools have become an increasingly important part of translation work in Easy Language translation³. They can be used for intralingual and interlingual translation⁴.

This paper analyses the performance of DeepL for interlingual translation between German and Italian Easy Language administrative texts.

DeepL is a powerful translation tool that has found its way into interlingual translation in recent years and has contributed to significant increases in productivity. If DeepL could be used to produce correct and sufficiently easy target texts in many languages, then existing resources from different countries could be better exploited and a much larger number of texts could be produced with limited resources. This method could also be used to create texts for people with different first languages in one country (e.g., for recent migrants in a host society⁵) or to create an additional English-language offer in Easy Language⁶.

This article therefore evaluates the possibility of using DeepL as a machine translation tool for interlingual translation⁷ into Easy Language in the administrative information domain.

1. MAAß 2015; BREDEL–MAAß 2016-A; MAAß 2020; MAAß 2024-A.

2. See the contributions in LINDHOLM–VANHATALO 2021 on the situation of Easy Language in 20 different European countries.

3. DEILEN–HERNÁNDEZ GARRIDO–LAPSHINOVA–KOLTUNSKI–MAAß 2023, DEILEN–LAPSHINOVA–KOLTUNSKI–HERNÁNDEZ GARRIDO 2024; KOPP–REMPEL–SCHMIDT–SPIESS 2023; SPRING–KOSTRZEWA–FRÖHLICH 2023.

4. MAAß 2024-A, MAAß 2024-B.

5. For reflections on Easy Language texts for migrants with low second language skills see AHRENS–FIORAVANTI 2022.

6. For a first exploration see KAPLAN 2021.

7. Easy Language currently belongs predominantly to the domain of intralingual translation. The use of AI tools for intralingual translation has already been tested in this field (see DEILEN–HERNÁNDEZ GARRIDO–LAPSHINOVA–KOLTUNSKI–MAAß 2023, DEILEN–LAPSHINOVA–KOLTUNSKI–HERNÁNDEZ GARRIDO 2024; they stress the role of post-editing in the process).

For the present study, texts from an interlingual German/Italian translation project were taken as the starting point for the analysis. The gold standard texts are texts from the administrative communication of the municipality of Bolzano, which were drafted in German Easy Language and were then translated by human translators into Italian Easy Language (interlingual translation). Both versions were drafted on the basis of the ruleset of the Research Centre for Easy Language (University of Hildesheim). Machine translations from both languages were then produced using DeepL and analysed for this article. The aim was to determine the performance of DeepL on various parameters with respect to readability, correctness and adherence to the Easy Language rulesets, as well as a possible need for post-editing. The German-Italian Easy Language project corpus is medium size for qualitative research. It is unique at the moment both in size and in quality.

2. Previous Research

2.1. Guidelines for Easy Language in Italian and German

The first reference guidelines for Italian and German Easy Language were created by the European Pathways project, carried out by the Inclusion Europe association. The project promoted European standards on how to make information easy to read and understand for many different European languages⁸. The Anffas national association was in charge of translating these standards into Italian. This activity also involved the participation of the end users with whom the translation was evaluated. Participation in the project enabled Anffas to give visibility to Easy Italian for the first time⁹.

The Inclusion Europe regulations are also available for German, but they are not the most widely used practical ruleset in Germany: this role be-

longs to the ruleset of the Network Easy Language (*Netzwerk Leichte Sprache*). The Network Easy Language was founded in 2006 and presented its ruleset in 2011¹⁰. The third source of practical rules is the annex to the *Barrierefreie-Informationstechnik-Verordnung 2.0* (Accessible Information Technology Regulation 2.0) from 2011, which is part of public tenders and provides a list of central Easy Language rules¹¹.

Maaß¹² compares these three sets of rules, evaluates them and proposes modifications, taking into account the findings of comprehensibility research. Bredel and Maaß¹³ broaden the scientific basis and contribute findings from various disciplines to the discourse on German Easy Language, paying particular attention to previous research on comprehensibility, reading acquisition, reading restrictions in various forms of disability, specialised communication, translation, xenolects and language varieties, all of which contribute to understanding what Easy Language should accomplish and how the texts must be structured in order to achieve this goal¹⁴.

Based on the observation that the Inclusion Europe guidelines were too general and not specific to the Italian language, Sciumbata¹⁵ has recently presented scientifically based Easy Language rules for Italian, drawing on international Easy Language research, comprehensibility research and research on the grammar and linguistic system of the Italian language. The new guidelines also include a review of existing guidelines for other languages and a thorough text analysis using quantitative and qualitative methods on an Italian corpus. They also incorporate evidence from studies on reading difficulties, as well as guidance already available from the literature on plain language and the simplification of legal and administrative language. Compared to their predecessors, the new guidelines focus more on linguistic and textual aspects and

8. BREDEL-MAAß 2016-A; MAAß 2020.

9. PEREGO 2021.

10. BREDEL-MAAß 2016-A; BREDEL-MAAß 2016-B; MAAß 2020.

11. *Ibidem*.

12. MAAß 2015.

13. BREDEL-MAAß 2016-A; BREDEL-MAAß 2016-B.

14. English summary in MAAß 2020.

15. SCIUMBATA 2022.

also include suggestions on visualisations and on web content.

2.2. Easy Language for legal and administrative texts in Germany and Italy

Language in a legal and administrative context was the first domain in which Easy Language was legally recognised in Germany: since 2011, federal authorities have been required to provide Easy Language content on their websites¹⁶. In the following years, the obligation was extended to ever larger circles and more and more domains. Easy Language is now much more widespread in everyday life in Germany than it was just a few years ago, for example in health communication¹⁷, in the news, but also in political discourse as part of participatory efforts¹⁸, including in oral form as Easy Language interpreting¹⁹. Nevertheless, there are still major deficits with regard to the availability of Easy Language texts for various domains. The quality of Easy Language texts is also heterogeneous²⁰. Producing Easy Language texts requires large resources that are not available everywhere to the necessary extent. The question of how to make comprehensive text offerings possible with limited resources is therefore virulent.

The simplification of legal and administrative language has been an issue of interest in Italy since the 1990s, but despite the many initiatives that have been taken in this direction over the years, both in the academic and research world and by the institutions themselves, it is as yet a persistent problem²¹. Italian institutional communication is still difficult for lay people, and therefore even less suitable for people with special communica-

tion needs. Easy Language in Italy had a precursor in the controlled writing techniques proposed by Piemontese²² and applied to the magazine “Due Parole. Mensile di facile lettura”, created in the 1980s at the University of La Sapienza²³. In spite of this experience, Easy Language is still not very widespread. Italy lags far behind other countries in terms of Easy Language use and dissemination, although recently interest in the topic has gained traction especially at research level also thanks to participation in European projects²⁴.

On a practical side, one of the main producers of text in Italian Easy Language is Anffas, a national association of families of people with Intellectual disabilities, which has created several simplified documents, including many on legal issues²⁵. For example, its website²⁶ currently contains information on the UN Convention on the Rights of Persons with Disabilities, the UN Convention on Children's Rights, the right to vote and the legal process of the referendum.

Germany is in a much more favourable position than Italy when it comes to implementing Easy Language text practices²⁷. Hence, it is no coincidence that in Italy, the most virtuous public body in terms of this language policy is the Autonomous Province of Bolzano/Bozen, which has always looked to the German speaking area when planning its communication strategies. Here, following the German model, the provincial government passed a law in 2015 entitled “Participation and integration of people with disabilities”, which has also been translated into Easy language²⁸. Later on, the Province of Bolzano created a special section on its institutional website dedicated to in-

16. RINK 2020; LANG 2019, LANG 2021, LANG 2024; MAAß 2020.

17. AHRENS-MAAß 2024; AHRENS 2024; KRÖGER-MAAß 2024.

18. MAAß et al. 2021; MAAß-SCHWENGBER 2022.

19. SCHULZ et al. 2020; MAAß-MAAß LM 2024.

20. LANG 2021; MAAß LM 2023.

21. CORTELAZZO 2021.

22. PIEMONTESE 1996.

23. SCIUMBATA 2021.

24. PEREGO 2021.

25. SCIUMBATA 2021.

26. See [Anffas website](#).

27. MAAß et al. 2021.

28. MAGRIS 2022; SCIUMBATA 2022.

formation in *Lingua facile* in Italian and German, which contains a plethora of information on different sectors, from which the corpus for this research was derived (see paragraph 3.1).

Legal and administrative texts are a challenge for translation into Easy Language because they contain a particularly large number of barriers that make the content difficult to access²⁹. They are characterised by domain-specific terminology and syntax, they require familiarity with legal and administrative procedures and the facts presented are often complex in themselves because explicit or implicit references are made to laws and regulations. The effects of not understanding or misunderstanding are also often to the detriment of the user, because successful interaction with the administration is not possible if the authorities do not provide comprehensible communication. It therefore makes sense to transfer an existing best practice interlingually. This is what was done in the Province of Bolzano/Bozen, where legal and administrative texts were translated intralingually into Easy German and then interlingually into Easy Italian.

2.3. Research on AI tools for Easy Language Translation

AI tools have rapidly gained functionality for translation in recent years – both interlingually and intralingually. Intralingual translation into Easy Language is part of the concept of text simplification³⁰. For German, both general chat-based tools such as Chat GPT and tools specifically designed for intralingual translation in German such as SUMM AI or FCSP are available³¹. For Italian, the authors are not aware of any tools specifically designed for intralingual Easy Language translation. General

tools such as Chat GPT work for various individual languages, although their performance is likely to depend on the extent to which the tool has been trained and the amount of data used. For German, Deilen et al.³² have presented a first study on the performance of Chat GPT as a tool for intralingual Easy Language translation. To our knowledge, no studies on Italian Easy Language or comparative language studies with respect to different Easy Languages for this type of machine have been published to date. However, research on automatic text simplification (ATS) has been highly active in recent years. Notable contributions comprise the research of Ryan et al.³³, which released a multilingual text simplification benchmark that covers Italian language; the first in-depth investigation of LLMs' capabilities for ATS in Italian by Nozza and Attanasio³⁴; Miliani et al.³⁵ study on the simplification of Italian administrative texts for L2 readers; and Russodivito et al.³⁶ research on the effectiveness of LLMs in simplifying Italian administrative texts compared to human-based simplification.

AI-generated interlingual translation tools have significantly changed the translation market in recent years. DeepL is one of the AI-driven translation engines that is available to a wide audience and offers very high performance. In the study by Fitria³⁷, texts translated with DeepL contained less than half as many issues as those translated with Microsoft Translator and Google Translate. Kaplan³⁸ examines the use of various machine translation engines for the production of accessible texts, especially for administrative texts, focussing on the French-English language pair. She shows that easy-to-read texts have specific problems in interlingual translation, some of which can be solved by pre- and post-editing procedures.

29. RINK 2020, RINK 2024; MAAß 2024-A.

30. ŠTAJNER et al. 2018; KOPP-REMPEL-SCHMIDT-SPIESS 2023.

31. DEILEN et al. 2023, DEILEN et al. 2024; see HANSEN-SCHIRRA et al. 2020 for technological solutions in Easy Language translation in more general terms.

32. DEILEN et al. 2023.

33. RYAN et al. 2023.

34. NOZZA-ATTANASIO 2023.

35. MILIANI et al. 2023.

36. RUSSODIVITO et al. 2024.

37. FITRIA 2023.

38. KAPLAN 2021.

However, there have not yet been any systematic studies on interlingual translation into Easy Language using DeepL as a machine translation tool for the language pair German-Italian.

Just a few years ago, Wiesmann³⁹ was sceptical about the use of neural machine tools in Italian/German legal translation: she found that the target texts contained too many errors to make further processing via post-editing appear worthwhile. However, this situation has now changed and AI tools are now part of translation practice in the field of specialised communication. The desiderata described in Maaß et al.⁴⁰, namely that no CAT tools or machine translation tools are available for Easy Language, are thus at least partially fulfilled. Deilen et al.⁴¹ show that post-editing remains a necessary part of intralingual translation. This is in line with the results for interlingual translation⁴².

3. Research Design

3.1. Corpus source

The performance analysis of DeepL relies on a corpus extracted from the section of the website of the Administration of the Province of Bolzano/Bozen created in Easy Language. The Province of Bolzano/Bozen is an Italian authority with a special statute, declaring German, Italian and Ladin as its official languages. This body, in fact, administers a territory located in an Italian geographical area that comprises, for historical reasons, these three languages.

The Easy Language information on the Province of Bolzano website, available in both Italian and German⁴³, is divided into 53 fact sheets, which are grouped according to topics such as work, support services, leisure, health, administrative aspects of

the Region, benefits for people with disabilities, cultural and educational opportunities, mobility and housing assistance. Each thematic area is introduced by a short text, also in Easy Language, which explains what information is contained in the specific section.

The Easy Language pages were created by the Provincial administration in cooperation with 'Okay' – the Easy Language Office of the non-profit organisation *Lebenshilfe* (i.e., “live aid”) based in Bolzano⁴⁴. The scientific rules of the Research Centre for Easy Language (University of Hildesheim/Germany)⁴⁵ were used for the German Easy Language texts. The texts were proof-read by readers with learning difficulties who work for the “People First” association⁴⁶. This corresponds to the advice of empowerment rulesets: Inclusion Europe and, for the German context, *Netzwerk Leichte Sprache* (“Network Easy Language”).

The texts in the Italian version of Easy Language are derived from the translation of the German texts, while also applying the guidelines for the Italian language⁴⁷. The Italian texts, like their German counterparts, have been evaluated by people with cognitive disabilities⁴⁸.

3.2. Corpus characteristics

From the Province of Bolzano website, as described in the previous section, 26 German fact sheets and their Italian translations were selected (see tab. 1). The fact sheets are divided into expandable sections introduced by a title, facilitating access.

The German source texts (Corpus Bolzano German) were written directly in German Easy Language. The Italian Easy Language texts (Corpus The fact sheets are divided into expandable sections introduced by a title, facilitating access.

39. WIESMANN 2019.

40. MAAß–RINK–ZEHRER 2014.

41. DEILEN et al. 2023, DEILEN et al. 2024.

42. See NITZKE–HANSEN–SCHIRRA 2021 for interlingual translation of standard and expert language texts.

43. See Province of Bolzano Easy Language website in [Italian](#) and in [German](#).

44. See [OKAY's website](#).

45. As published in MAAß 2015 and BREDEL–MAAß 2016-A, BREDEL–MAAß 2016-B.

46. See further information on the [Province of Bolzano website](#).

47. SCIUMBATA 2022.

48. MELCHIORI–SIEMONS 2024; on the reviewing process for Easy language see GARCÍA MUÑOZ 2022, SCHIFFLER 2022.

Text-ID	Information sheet title (English translation)	Information sheet title (German)	Information sheet title (Italian)
1	Finding work in South Tyrol	Arbeit finden in Südtirol	Trovare lavoro in Alto Adige
2	Finding work in South Tyrol for people with disabilities	Arbeit finden in Südtirol für Menschen mit Behinderungen	Trovare lavoro in Alto Adige per persone con disabilità
3	Job coaching	Begleitung am Arbeits•platz – Job•coaching	Accompagnamento sul posto di lavoro – Job•coaching
4	Employment services	Dienste zur Arbeits•beschäftigung	Servizi per l'occupazione lavorativa
5	Social cooperatives	Sozial•genossenschaften	Cooperative sociali
6	Social and educational daycare	Sozial•pädagogische Tages•stätten	Centri diurni socio•pedagogici
7	Social services	Die Sozial•dienste	I servizi sociali
8	Women and violence	Gewalt gegen Frauen	Donne e violenza
9	Accessible nature	Barriere•freie Natur	Natura senza barriere
10	Recreation and sport for people with disabilities	Freizeit und Sport für Menschen mit Behinderungen	Tempo libero e sport per persone con disabilità
11	South Tyrol for all	Südtirol für alle	Alto Adige per tutti
12	The medical certificate for sport	Ärztliches Zeugnis für Sport	Il certificato medico per lo sport
13	Coronavirus	Corona	Corona
14	Health districts	Gesundheits•sprengel	Distretti sanitari
15	Doctors and general practitioners	Haus•ärztinnen und Haus•ärzte	Mediche e medici di famiglia
16	Psychological service	Psychologische Dienste	Il servizio psicologico
17	Exemption from co-payment	Ticket•befreiung	Esenzione dal pagamento del ticket
18	Living will	Patienten•verfügung	Il testamento biologico
19	Provincial elections 2023 in South Tyrol	Landtags•wahlen 2023 in Südtirol	Elezioni provinciali 2023 in Alto Adige
20	The administration of the Province of Bolzano	Die Südtiroler Landes•verwaltung	L'Amministrazione della Provincia di Bolzano
21	Social services in South Tyrol	Die Sozial•dienste in Südtirol	I servizi sociali in Alto Adige
22	Income and assets declaration	EEVE - Einheitliche Einkommens•erklärung und	DURP-Dichiarazione unificata di reddito e di patrimonio
23	Employment benefits for people with disabilities	Begünstigungen am Arbeits•platz für Menschen mit Behinderungen	Agevolazioni sul posto di lavoro per persone con disabilità
24	Provincial Law No. 7 of 14 July 2015: Participation and Inclusion of Persons with Disabilities	Landes•gesetz Nummer 7 vom 14. Juli 2015: Teilhabe und Inklusion von Menschen mit Behinderungen	Legge provinciale numero 7 del 14 luglio 2015: partecipazione e inclusione delle persone con disabilità
25	Care allowance	Pflege•geld	Assegno di cura
26	Reimbursement of transport costs and care expenses for people with disabilities	Geld•beiträge für Transport und Begleit•personen von Menschen mit Behinderungen	Contributi per il trasporto e gli accompagnatori delle persone con disabilità

TAB. 1 — Text IDs and Information sheet titles (English translation, original German and Italian titles)

The German source texts (Corpus Bolzano German) were written directly in German Easy Language. The Italian Easy Language texts (Corpus Bolzano Italian) are target texts of an interlingual translation process of the German Easy Language texts. As part of the study, Corpus Bolzano German was then translated into Italian using DeepL. The style was set to “automatic”. In addition, Corpus Bolzano Italian was translated into German using DeepL. No post-editing was carried out. The German and Italian sub-corpora therefore serve as a gold standard for evaluating the performance of DeepL.

The German and Italian corpus Bolzano are of comparable quality (and therefore both considered “gold standard”) because, as stated in the description of the source corpus, the original Italian texts, although derived from a German translation, were

aligned with the Italian Easy Language guidelines and tested for user comprehensibility.

The corpus of German texts contain a total of 23.596 words and 134.582 characters, while the corpus of Italian texts consists of a total of 32.011 words and 151.894 characters, distributed among the corpora as shown in the tables 2 and 3.

3.3. Procedure of analysis

In the next step, the results of the two machine translation processes were compared with the gold standard:

- Corpus Bolzano German as gold standard with Corpus DeepL German
- Corpus Bolzano Italian as gold standard with Corpus DeepL Italian.

The procedure of analysis is shown in Fig. 1.

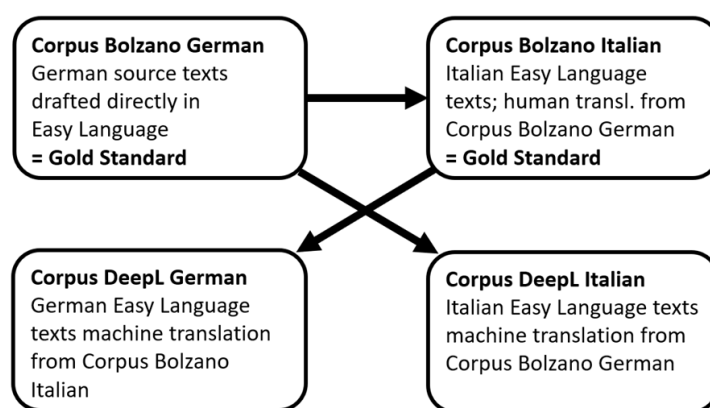


FIG. 1 — Scheme of the process of comparison of gold standard texts with DeepL translated texts

The performance of the machine translation can then be determined based on the existence of the Gold Standard texts, which were created exclusively with human resources.

The two sub-corpora were compared with regard to the following properties:

- 1) Formal readability scores according to the HIX (Corpus Bolzano German and Corpus DeepL German) and according to the Read-it global index (Corpus Bolzano Italian and Corpus DeepL Italian).
- 2) Correctness with reference to content.
- 3) Compliance with and deviation from the rules of German and Italian Easy Language.

Regarding the errors identified in the texts translated with DeepL in points 2 and 3, the study

aimed to provide qualitative results, highlighting the types of errors and deviations from the EL rules in the target text. The research did not seek to quantify errors or assess their severity as we assumed that if a text contains an error it would be unsuitable for readers.

The results of the analysis are presented in the following section.

4. Results

4.1. Readability scores

The readability score for the German language (Corpus Bolzano German and Corpus DeepL German) was assessed according to the Hohenheim Readability Index (HIX).

	Number of words	Number of characters		Number of words	Number of characters
Corpus Bolzano German	12,416	69,616	Corpus Bolzano Italian	16,558	77,077
Corpus DeepL German	11,180	64,966	Corpus DeepL Italian	15,453	74,817

TAB. 2 — *Number of words and character of the corpora*

Text-ID	Corpus Bolzano German N° of tokens/ N° of sentences/ Average sentence length (in tokens)	Corpus DeepL German N° of tokens/ N° of sentences/ Average sentence length (in tokens)	Corpus Bolzano Italian N° of tokens/ N° of sentences/ Average sentence length (in tokens)	Corpus DeepL Italian N° of tokens/ N° of sentences/ Average sentence length (in tokens)
1	374/54/7.06	336/49/6.86	465/55/8.5	483/55/8.8
2	1,381/191/7.23	1,330/186/7.15	1,830/201/9.1	1,688/197/8.6
3	433/55/7.9	370/52/7.12	502/56/9	457/55/8.3
4	339/44/7.7	288/41/7.02	379/44/8.6	341/44/7.8
5	556/75/7.9	471/67/7.03	650/71/9.2	588/72/8.2
6	338/42/8.05	356/45/7.91	450/44/10.2	398/43/9.3
7	270/47/5.74	261/47/5.55	392/50/7.8	374/50/7.5
8	302/36/8.39	304/38/8	373/55/6.8	327/50/6.5
9	237/40/5.92	283/44/6.43	362/45/8	321/42/7.6
10	853/133/6.41	840/128/6.56	1,199/148/8.1	1,102/143/7.7
11	676/109/6.20	613/107/5.73	874/117/7.5	895/116/7.7
12	976/143/6.83	1,045/139/7.52	1,300/150/8.7	1,230/147/8.4
13	290/42/6.90	302/40/7.55	344/44/7.8	344/46/7.5
14	430/54/7.96	402/53/7.58	547/59/9.3	519/61/8.5
15	311/40/7.78	297/42/7.07	400/43/9.3	378/43/8.8
16	444/70/6.34	446/68/6.56	599/84/7.1	561/83/6.8
17	344/50/6.88	352/50/7.04	464/55/8.4	439/56/7.7
18	634/83/7.64	632/86/7.35	832/94/8.9	735/88/8.4
19	625/80/7.81	609/78/7.81	799/99/8.1	739/90/8.2
20	249/28/8.89	232/30/7.73	302/31/9.7	304/29/10.5
21	270/47/5.74	257/46/5.59	386/49/7.9	371/50/7.4
22	411/55/7.47	399/56/7.12	512/62/8.3	500/59/8.5
23	277/38/7.29	269/35/7.69	377/40/9.4	340/40/8.5
24	615/89/6.91	591/88/6.72	771/96/8	728/92/7.9
25	754/102/7.39	777/112/6.94	1,097/120/9.1	960/11/8.6
26	270/34/7.94	262/34/7.71	352/58/9.3	338/37/9.2

TAB. 3 — *Total number of tokens and sentences and average sentence length for each text of the German and Italian corpora*

The Hohenheim readability Index (HIX) is an index for formally measuring the readability of texts⁴⁹. It contains various relevant readability formulae and other linguistic characteristics for word and sentence length (sentence length, information density, word length, abstracta, etc.). Texts with maximum readability are awarded 20 points. 18 points are the threshold for Easy Language (Rink 2020). Tab. 4 shows the HIX values for the texts from the German corpora in the project.

In the source texts from Corpus Bolzano German, only one out of 26 texts (3,8%) did not achieve the score for Easy Language, while 96,2% performed within the formal Easy Language standard of 18 points or beyond. In the retranslated target texts from the Corpus DeepL German sub-corpus, 10 out of 26 texts (38%) do not meet the formal requirements for Easy Language according to HIX, while only 62% met the formal criteria for Easy Language. Some of the texts clearly miss the 18-point threshold and score below 13 or 14 points, which are standard text readability values that miss the requirements for Easy Language to a considerable extent.

The readability score for the Italian corpora (Corpus Bolzano Italian and Corpus DeepL Italian) was assessed according to the Global Read-IT Index. The Global Read-IT Index is an index designed to measure the readability of a text in Italian. It takes into account a combination of different features, ranging from general text characteristics (sentence and word length) to lexical and syntactic ones. The index score is scaled from 0% for a text considered easy to 100% for a text considered difficult⁵⁰.

The readability analysis of the Italian texts was carried out using the online version of Read-it⁵¹, a tool developed by the Italian Natural Language Processing Laboratory of the Institute for Computational Linguistics (ILC) of the National Research Council of Italy⁵². The tool has already been successfully used for the analysis of legal texts⁵³.

Tab. 5 shows the Global Read-IT index values for the texts from the Corpus Bolzano Italian and Corpus DeepL Italian.

Text-ID	Corpus Bolzano German	Corpus DeepL German
1	19.25	19.34
2	19.12	18.89
3	20.00	18.10
4	20.00	19.24
5	20.00	13.92
6	18.84	16.96
7	18.12	12.43
8	18.84	19.08
9	20.00	19.90
10	19.47	17.74
11	19.84	19.96
12	19.60	19.47
13	19.33	19.02
14	18.11	17.11
15	19.16	19.67
16	19.94	19.26
17	19.35	18.16
18	19.13	18.27
19	18.87	18.92
20	17.17	17.14
21	18.12	12.44
22	19.13	19.70
23	18.79	15.84
24	19.15	16.87
25	19.05	19.81
26	18.70	16.21

TAB. 4 — HIX scores for the two German corpora

There is no formally established benchmark for Easy Language for Italian. For the purposes of this study, comparability with the HIX is assumed as a working hypothesis. According to the HIX, 18 out of 20 points must be achieved in order to be considered Easy Language. This corresponds to a maximum deviation of 10% from the maximally

49. KERCHER 2013, HANSEN-SCHIRRA-GUTERMUTH 2018; BREDEL-MAAß 2016-A.

50. DELL'ORLETTA-MONTEMAGNI-VENTURI 2011.

51. See the [Read-it demo](#) available for the Italian language.

52. *Ibidem*.

53. BRUNATO-VENTURI 2014.

achievable score. For the Global Read-IT, this deviation corresponds to a maximum value of 10%.

Even though this remains a working hypothesis, this score is plausible since the complexity of an Easy Language text – designed for individuals with cognitive disabilities – is significantly lower than that of an average comprehensibility text (Global Read-it Index score: 50%).

In the Corpus Bolzano Italian, 9 of the 26 texts scored more than 10% and were thus outside the assumed formal framework of Easy Language. This corresponds to 34.6%, i.e., only 65.4% of the Italian texts met these criteria.

In the corpus DeepL Italian, 12 out of 26 texts scored outside the presumed Easy Language frame. This corresponds to 46.1%, which means that only 53.8% of the texts fulfil the criterion. Some of the texts in Corpus DeepL Italian break the 10% threshold very clearly and score considerably higher than the less easy texts in Corpus Bolzano Italian. The least easy text in Corpus Bolzano Italian reaches 35%, in Corpus DeepL Italian it is 84.9%. It can be seen here that the texts have been normalised towards the standard: the automated translation with DeepL has increased their complexity, making them more similar to typical administrative texts.

4.2. Correctness

The verification carried out on the Easy Language texts translated with DeepL revealed a number of critical points regarding their correctness (which is in line with the results in Deilen et al. 2023 and Deilen 2024 for intralingual translation). These findings were convergent in the two translation directions (German-Italian and Italian-German). The salient categories are presented below and illustrated with examples.

4.2.1. Semantic shifts through non congruent synonymy

Both DeepL corpora contain errors that result from the fact that certain terms in the respective

Text-ID	Corpus Bolzano Italian	Corpus DeepL Italian
1	1.8%	6.8%
2	1.3%	8.3%
3	0.7%	3.2%
4	1.2%	3.0%
5	6.8%	9.4%
6	0.1%	0.5%
7	6.1%	9.4%
8	16.5%	65.2%
9	15.2%	41.3%
10	11.4%	21.2%
11	19.0 %	27.3%
12	2.8%	6.4%
13	13.9%	31.9%
14	10.9%	42.2%
15	0.7%	0.7%
16	35.8%	84.9%
17	3.2%	27.5%
18	3.7%	39.2%
19	22.8%	50.0%
20	3.8%	1.6%
21	5.7%	19.4%
22	5.1%	6.0%
23	0.1%	1.3%
24	10.06%	18.6%
25	1.4%	5.9%
26	1.0%	7.7%

TAB. 5 — Read-IT scores for the two Italian corpora

source language have a different scope and an equivalent that is inappropriate for the context that appears in the target language. This is the case in the following example where Italian “laboratorio” has both the meaning “laboratory” and “sheltered workshop”. So for the Italian source text, “laboratorio” is correct. In the German context, “Werkstatt”, that is “sheltered workshop” is needed, but Corpus DeepL German-4 gives “Labor” (“laboratory”) instead (see 1).

(1)	
Corpus Bolzano German-4	Corpus DeepL German-4
Was machen die Menschen in der <u>Werkstatt</u> ?	Was machen die Menschen im <u>Labor</u> ?
<i>What do people do in the <u>sheltered workshop</u>?</i>	<i>What do people do in the <u>laboratory</u>?</i>

This type of error is also found in the Italian translations: for example, in Corpus Bolzano Italian-2 the word “indennità” (“allowance”) is re-

placed in DeepL Italian-2 by “paghetta” (“child’s pocket money”) (see 2).

(2)	
Corpus Bolzano Italian-2	Corpus DeepL Italian-2
Nel progetto di integrazione l’azienda paga alla persona con disabilità un’ <u>indennità</u> .	Nel progetto di integrazione l’azienda dà alle persone con disabilità una <u>paghetta</u> .
<i>In the work integration project the company pays persons with disabilities an <u>allowance</u>.</i>	<i>In the work integration project the company gives persons with disabilities <u>child’s pocket money</u>.</i>

4.2.2. Translation of proper names and terms

Another critical aspect of the DeepL-translated versions, in both languages, concerns technical or specific terminology that cannot be expressed as such by synonyms, as it would no longer be recognisable in the context to which it belongs. Particularly, this concerns names relating to legal institutes and administrative organisations typical of a given country (such as the names of public bodies, offices and services) and names referring to specific professional figures. The particular difficulty here is that the proper names of the municipality of Bolzano are generalised in the direction

of the standard for Germany and the actual terms disappear from the Italian in the retranslation. For example, the German “Meldeamt” is translated literally as “registration office”, not considering that in Italy the office for the procedure mentioned in the text is called “ufficio anagrafe”.

The text Corpus Bolzano German-25 contains the word “Sozial-sprengel”, which is separated with a mediopoint according to the Easy Language rules for long words⁵⁴; DeepL replaces this term with two other terms and does not even preserve term consistency as an additional problem (see 3).

(3)	
Corpus Bolzano German-25	Corpus DeepL German-25
Oder bei Ihrem <u>Sozial•sprengel</u> .	Oder bei den Ämtern Ihres <u>Sozialhilfebezirks</u> .
Die Liste mit den <u>Sozial•sprengeln</u> in Südtirol finden Sie hier.	Hier finden Sie die Liste der <u>Sozialbezirke</u> in Südtirol.
<i>Or at your local social <u>welfare centre</u>.</i>	<i>Or at the offices of your <u>social welfare district</u>.</i>
<i>You can find the list of <u>welfare centres</u> in South Tyrol here.</i>	<i>Here you can find the list of <u>social districts</u> in South Tyrol.</i>

The machine-translated text is not sufficiently action-oriented⁵⁵, as it remains unclear to text users which office is to be addressed. In order to carry out the action successfully, it is necessary to know the correct terminology, which is used, for example, in the forms to be filled out. Reproduction with different termi-

nology considerably reduces the action-orientation of the texts.

A corresponding example for the Italian language is the term “Distretti sanitari” (“Health districts”, Corpus Bolzano Italian-14) that appears as “Centri sanitari” (“Health center”) in Corpus Bolzano DeepL-14 (see 4).

54. See BREDEL-MAAß 2016-A, BREDEL-MAAß 2017.

55. MAAß 2020; MAAß-RINK 2021.

(4)		
	Corpus Bolzano Italian-14	Corpus DeepL Italian-14
	Dove sono i <u>distretti</u> sanitari? <i>Where are the <u>health districts</u>?</i>	Dove sono i <u>centri</u> sanitari? <i>Where are the <u>health centers</u>?</i>

4.2.3. Use of modal verbs

In the texts produced by DeepL, specific critical points were found in the translation of modal verbs. These are sometimes modified with respect

to the source text, resulting in a considerable semantic shift in the text, both in the German and the Italian corpora (see 5).

(5)		
	Corpus Bolzano German-8	Corpus DeepL German-8
	Oder diese Frauen <u>dürfen</u> nicht aus dem Haus gehen. <i>Or those women <u>must</u> not leave the house.</i>	Oder diese Frauen <u>können</u> nicht aus dem Haus gehen. <i>Or those women <u>cannot</u> leave the house.</i>

In Corpus Bolzano Italian-5 the expression “devono guadagnare soldi” (“must earn money”) appears as “vogliono guadagnare soldi” (Corpus DeepL-5), that is “want to earn money”, thereby

losing the meaning that it is a right (and not just a desire) to receive remuneration for the work done (see 6).

(6)		
	Corpus Bolzano Italian-5	Corpus DeepL Italian-5
	Anche le cooperative sociali <u>devono</u> guadagnare soldi. <i>Even social cooperatives <u>must</u> earn money.</i>	Anche le cooperative sociali <u>vogliono</u> guadagnare soldi. <i>Even social cooperatives <u>want</u> to earn money.</i>

4.2.4. Grammatical errors

In some cases, the machine translated versions reported grammatical problems. These are errors that are limited in number but recur in the same syntactic structures. This is the case in the following German example, in which the auxiliary+infinitive structure “wählen können” (“can vote”) occurs twice:

- (7) Wählen können auch Menschen, die die einen Vormund oder Betreuer haben, können auch wählen gehen. (Corpus Bolzano German-19)
**Vote can also people that have a legal guardian can vote.*

The same is true for the next Italian example, where the “bullet point” structure, that is typical for Easy Language texts, has an introductory sentence that does not grammatically match the following list of elements. It seems as though the translation did not recognise the two parts to be syntactically connected:

- (8) “Le persone possono stare nel centro diurno:
(*People can stay in the day centre*)
- stare insieme ad altre persone (*be with other people*)
 - imparare cose nuove (*learn new things*)
 - e fare cose interessanti (*and do interesting things*)” (Corpus DeepL Italian-6).

4.2.5. Non-translated sequences

Another category of errors found in the text concerns sequences of words which, in both directions of translation, have remained unchanged in relation to the source text, albeit to a very limited extent, thus appearing in Italian in the German text and in German in the Italian text. This applies, for example, to the names of the Bolzano administrative units, which in the machine translation remain in German in the Italian text and in Italian in the German text, but not consistently. The names that have been correctly translated are shown in bold, the untranslated cases are underlined (see 9).

(9)	
Source text: Corpus Bolzano German-7	Target text: Corpus DeepL Italian-7
Die 8 Sozial•dienste sind:	Gli 8 servizi sociali sono:
<ul style="list-style-type: none"> – Betrieb für Sozial•dienste in Bozen. – Sozial•dienst <u>Burggrafenamt</u>. – Sozial•dienst <u>Eisacktal</u>. – Sozial•dienst <u>Pustertal</u>. – Sozial•dienst Salten-Schlern. – Sozial•dienst <u>Überetsch-Unterland</u>. – Sozial•dienst <u>Vinschgau</u>. – Und Sozial•dienst <u>Wipptal</u>. 	<ul style="list-style-type: none"> – Operazione per i servizi sociali a Bolzano. – Servizio sociale del <u>Burggrafenamt</u>. – Servizio sociale <u>Eisacktal</u>. – Servizio sociale della Val Pusteria. – Servizio sociale di Salten-Schlern. – Servizio sociale <u>Überetsch-Unterland</u>. – Servizio sociale della Val Venosta. – E il servizio sociale <u>Wipptal</u>.

The problem is also reproduced in the other translation direction. Here it also becomes clear that there is no system underlying it, because dif-

ferent toponyms are translated or left untranslated in the German-Italian translation than in the other direction (see 10).

(10)	
Source text: Corpus Bolzano Italian-7	Target text: Corpus DeepL German-7
In Alto Adige ci sono 8 servizi sociali:	In Südtirol gibt es 8 Sozialdienste:
<ul style="list-style-type: none"> – Azienda servizi sociali di Bolzano. – Servizi sociali del Burgraviato. – Servizi sociali della Val d'Isarco. – Servizi sociali della Val Pusteria. – Servizi sociali <u>Salto-Sciliar</u>. – Servizi sociali <u>Oltradige-Bassa Atesina</u>. – Servizi sociali della Val Venosta. – E servizi sociali dell'Alta Val d'Isarco. 	<ul style="list-style-type: none"> – Die Sozial-Dienste von Bozen. – Sozialdienst Burggrafenamt. – Sozialdienst des Eisacktals. – Sozialdienst Pustertal. – Sozialdienst <u>Salto-Sciliar</u>. – Sozialdienst <u>Oltradige-Bassa Atesina</u>. – Sozialdienste Vinschgau. – Und Sozialdienste Alta Val d'Isarco.

4.2.6. Abbreviations

Abbreviations remain untranslated throughout the target texts. In a bilingual region such as Bolzano, however, each language has its own abbreviations for the same institutions and processes in the administrative context, which are usually based on the unabbreviated compound. These abbreviations therefore remain as leftovers in the automatically translated target text. The risk exists that they will

not be recognised or that they cannot be related to the unabbreviated compound if this also appears in the text. In the following example, the abbreviation is resolved differently on two occasions in the translation – once even in English (see below for English fragments in the translation), both times without reference to the individual letters of the abbreviation (see 11).

(11)	
Corpus Bolzano Italian-22	Corpus DeepL German-22
DURP – Dichiarazione unificata di reddito e patrimonio.	DURP - Einheitliche Erklärung über Einkommen und Vermögen.
DURP è la sigla per:	DURP steht für:
Dichiarazione unificata di reddito e patrimonio.	Unified Declaration of Income and Assets (Einheitliche Erklärung über Einkommen und Vermögen).

The problem also applies to the reverse translation direction. This case is specific for the fact that in one case the abbreviation is not even correctly

transferred to the target text: in the heading, EEEV becomes EVE, while the correct German abbreviation appears in the Italian body text below (see 12).

(12)	
Corpus Bolzano German-22	Corpus DeepL Italian-22
EEVE - Einheitliche Einkommens•erklärung und Vermögens•erklärung. EEVE ist die Abkürzung für: Einheitliche Einkommens•erklärung und Vermögens•erklärung.	EVE - Dichiarazione Unica di Reddito• e Patrimonio•. EEVE è l'abbreviazione di: Dichiarazione Uniforme dei Redditi e Dichiarazione dei Patrimoni.

It is obvious that these cases considerably restrict the action orientation because the abbreviation cannot be resolved in the respective context of the other language.

4.2.7. English fragments in the translation

Both the Italian and the German DeepL corpora display some fragments of English with no rela-

tion to the source text. We have seen an example for the translation direction Italian > German in (11) above. An example for the translation direction German > Italian is the following, where the English term “exemption” appears in the Italian title – instead of “esenzione” (see 13).

(13)	
Corpus Bolzano German-17	Corpus DeepL Italian-17
<u>Ticket</u>•befreiung. Ein <u>Ticket</u> ist ein Geld•beitrag. Diesen Geld•beitrag bezahlen Menschen zum Beispiel für Untersuchungen im Kranken•haus. Untersuchungen können nämlich viel Geld kosten. Die Menschen müssen nicht die ganze Untersuchung bezahlen. Die Menschen bezahlen nur einen Teil. Dieser Teil heißt: <u>Ticket</u> .	<u>Ticket</u>• exemption. Un <u>biglietto</u> è un contributo monetario. Le persone pagano questo contributo in denaro• per per le visite in ospedale, ad esempio. Gli esami possono costare molto. Le persone non devono pagare per l'intero esame. Si paga solo una parte. Questa parte si chiama <u>ticket</u> .

In the target text, “ticket” is sometimes rendered as “ticket” and sometimes as “biglietto”; this inconsistency makes it considerably more difficult to build up a mental representation of the subject. The requirement of term consistency is a rule of Easy Language, which we will discuss below. However, it is obvious here that problematic results arise at text level even beyond the requirements of Easy Language. The presence of the English language could perhaps be due to the fact that DeepL uses English as a pivot language for some translations⁵⁶.

4.3. Deviation from the German/Italian Easy Language guidelines

Easy Language is highly regulated and deviates from the standard varieties of natural languages in

the extent of these regulations⁵⁷. However, DeepL does not carry out its translations on the basis of the Easy Language rule system, but on the basis of dominant standard language and specialised language text corpora⁵⁸. The input texts of the Bolzano Corpus are in Easy Language and we have shown above that the machine translated target texts are still relatively easy, even if on average they no longer meet the Easy Language benchmark. This section offers a qualitative analysis of the aspects in which the target texts deviate from the standard requirements of Easy Language.

4.3.1. Normalisation towards the standard

As was to be expected, we can observe an overall normalisation of the target texts towards the

56. GERHALTER 2024.

57. For a short cross-language summary of the basic rules, see MAAß 2024-A, p. 238 f.

58. For a quantitative study of the error types in the respective corpora see MAAß-FIORAVANTI 2025.

standard for administrative texts. The sentences are longer and the vocabulary is less commonplace and does not belong to the fundamental vocabulary of German⁵⁹ or Italian⁶⁰. This is particularly evident where the target texts show more com-

plex synonyms for the same subject than the Gold Standard texts. The corpus contains numerous examples of this phenomenon in both translation directions, including the following (see 14).

(14)	
Corpus Bolzano German-18	Corpus DeepL German-18
Eine Patienten•verfügung kann verschieden <u>gemacht</u> sein.	Eine Patientenverfügung kann auf viele verschiedene Arten <u>verfasst</u> werden.

The example shows another striking feature of the corpus: a special rule of German Leichte Sprache is the splitting of long words with hyphens or mediopoints⁶¹. The Bolzano corpus follows the rules of the Research Centre for Easy Language of the University of Hildesheim and therefore works with mediopoints. The Italian human translation (Bolzano Italian corpus) partially adopts these and is therefore the only corpus of Italian Easy Language known to us with this feature. But wherev-

er there are no mediopoints in the Italian source text, they are also missing in the German Easy Language text – even in long compounds such as in this example, where they are obligatory for German Easy Language.

Example 15 gives a list of Italian words that have been substituted by terms belonging to a higher linguistic register or by hyponyms that don't belong to the Italian basic vocabulary (see 15).

(15)	
Corpus Bolzano Italian	Corpus DeepL Italian
medicina (<i>medicine</i>)	farmaco (<i>medication</i>)
persona (<i>person</i>)	dipendente (<i>employee</i>)
andare (<i>to go</i>)	recarsi (<i>"to go" higher linguistic register</i>)
fare un lavoro (<i>to do a job</i>)	svolgere un lavoro (<i>to perform a job</i>)
cose (<i>things</i>)	beni (<i>goods</i>)

In the Italian machine-translated version, as regards nouns, for example, in the information sheet on the "Administration of the Province of Bolzano" the word "persona" ("person") is replaced by the more specific and elevated term "dipendente" ("employee"), while in the information sheet on the "Medical certificate for sports", the basic Italian word "medicina" ("medicine") appears in the machine-translated version as "farmaco" (a highly used word but not belonging to the fundamental vocabulary). Another example of substitution with

more complex nouns can also be found in the information sheet on the "Unified declaration of income and assets", where "cose" ("things") become "beni" ("goods").

In the case of verbs, there is also a tendency to use more complex terms in the automatically translated texts. For example, in the information sheet on finding a job, "fare un lavoro" (to do a job) becomes "svolgere un lavoro" ("to perform a job"), while in the one on psychological services "fare un test" ("to do a test") becomes "eseguire un test" ("to

59. Its qualities are described in BREDEL–MAAß 2016-A, p. 347 ff.

60. See DE MAURO 2003; CHIARI–DE MAURO 2014.

61. The "mediopoint" was proposed for German Easy Language in MAAß 2015 and BREDEL–MAAß 2016-A, B "to segment compounds where the use of the hyphen would be incorrect. The mediopoint is not part of the German orthographical system and thus more neutral, as it does not generate misspellings in the strict sense. Just like the hyphen, it indicates the borders between the single lexical items in the compound noun" (MAAß 2020).

carry out a test”). The verb “andare” (“to go”) as in “andare al distretto sanitario” is then replaced by synonyms belonging to a higher linguistic register, such as “recarsi” or “rivolgersi” (“to address”) as in “rivolgersi alla commissione medica”.

4.3.2. Verbal tenses, modes and diathesis

Verbal tenses and modes are strongly restricted in Easy Language. Bredel and Maaß⁶² show that the practical rules for German are limited to the present and perfect tenses and the indicative, while the subjunctive should not be used. In Italian, the subjunctive is obligatory in some grammatical

constructions, so it cannot generally be avoided; the limitation to only one past tense is also not grammatically possible. Nevertheless, even in Italian, Easy Language limits itself to the minimum possible number of tenses and modes and avoids morphological complexity wherever possible⁶³. This limitation is not found in the automatic translations: We find many examples for verbal tenses and modes that are more complex than the ones suggested in the Easy Language guidelines. This includes conditional and gerund as well as future tense and passive constructions (see 16).

(16)		
	Corpus Bolzano German-19	Corpus DeepL German-19
	Die Broschüre <u>ist</u> vom Südtiroler Landtag.	Dieser Text <u>wurde</u> vom Landesrat <u>verfasst</u> .
	<i>The brochure <u>is</u> from the South Tyrolean Parliament.</i>	<i>This text <u>was compiled</u> by the Provincial Council.</i>

In this case, the present active “is” was substituted by a past tense passive. The following exam-

ple has future tense instead of present (see 17).

(17)		
	Corpus Bolzano Italian-19	Corpus DeepL Italian-19
	Le elezioni provinciali in Alto Adige <u>sono</u> il 22 ottobre 2023.	Il 22 ottobre 2023 <u>si terranno</u> le elezioni provinciali in Alto Adige.
	<i>The provincial election in South Tyrol <u>is</u> on 22 October 2023.</i>	<i>The provincial election in South Tyrol <u>will be held</u> on 22 October 2023.</i>

4.3.3. Impersonal constructions and double negatives

Impersonal sentences are more complex than personal sentences because they conceal the subject of the sentence and do not address the reader⁶⁴. Easy Language texts should be written in an action-orientated way⁶⁵: users should understand who the actors and contact persons are in the administrative context. For this reason, impersonal constructions as well as passive constructions are not allowed in the Easy Language rulesets⁶⁶.

In the following German example, the formal form of addressing is used throughout the human translation. This ensures action-orientation and politeness. In the DeepL version, the title uses the impersonal form, which is not part of the repertoire of Easy Language. The next sentence switches to the informal form of address, which signals closeness if used among family and friends, but communicates asymmetry in an administrative context (see 18).

62. BREDEL–MAAß 2016-A.

63. SCIUMBATA 2022.

64. *Ibidem*.

65. MAAß 2020, p. 47 ff.

66. BREDEL–MAAß 2016-A, p. 506 ff.; MAAß 2024-A.

(18)	
Corpus Bolzano German-22	Corpus DeepL Italian-22
Was brauchen <u>Sie</u> für die EEVE?	Was braucht <u>man</u> , um DURP zu machen?
<u>Sie</u> brauchen viele Dokumente.	Um DURP zu machen, brauchst <u>du</u> viele Dokumente.
<i>What do <u>you</u> [formal pronoun] need for the EEVE?</i>	<i>What does <u>one</u> need in order to do DURP?</i>
<i><u>You</u> [formal pronoun] need many documents.</i>	<i>In order to do DURP, <u>you</u> [informal pronoun] need many documents.</i>

Formal addressing is also used in the Italian Gold Standard Corpus. This is unusual, as in the Italian context informal addressing is also used in administrative interaction. Formal addressing is therefore less close to everyday life. Here, the

avoidance of asymmetry and the observance of formal politeness were obviously prioritised over comprehensibility. An impersonal form appears in the machine-translated version: (see 19).

(19)	
Corpus Bolzano Italian-14	Corpus DeepL Italian-14
<u>Lei</u> ha l'esenzione del ticket?	<u>Si</u> ha diritto all'esenzione del ticket?
<i>Do <u>you</u> [formal pronoun] have a fee exemption?</i>	<i>Is <u>one</u> entitled to a fee exemption?</i>

Practical guidelines also advise against negative statements and negation in general. Research has shown that this is not expedient⁶⁷ if a statement is conceptually negative, it is action-orientating if this negativity is also evident on the linguistic surface. Another case is double negatives: here, an

actually positive statement is presented on the linguistic surface with a (double) negative statement. Such uses of negation are not advisable for Easy Language. However, such double negatives can be found in machine-translated texts in the corpus, as in the following example (see 20).

(20)	
Corpus Bolzano Italian-19	Corpus DeepL Italian-19
Per votare lei ha bisogno di una tessera elettorale.	<u>Non</u> è possibile votare <u>senza</u> la tessera elettorale.
<i>To vote you need a voter registration card.</i>	<i>You <u>cannot</u> vote <u>without</u> a voter registration card.</i>

4.3.4. Same concept – same designation

The Easy Language guidelines recommend using the same designation for the same concepts throughout the document, in order to support text cohesion and the correct interpretation of concepts⁶⁸. This rule is broken in almost every single

text in both automatically translated sub-corpora. It is clear that DeepL operates on a sentence basis and does not establish consistency even at section level, let alone at text level. Examples of this in the preceding text include (12), (13) and (14). In the following, we give one more example for each language (see 21 and 22).

67. BREDEL–MAAß 2016-A, p. 460 ff.; MAAß 2020, p. 74 ff.

68. MAAß 2020, p. 103 ff.; SCIUMBATA 2022.

(21)		
	Corpus Bolzano German-12	Corpus DeepL German-12
	Nicht•leistungs•sport <i>non-competitive sport</i>	Sport ohne Wettkampfcharakter, Freizeitsport, wettbewerbsfreier Sport, Nicht-Wettkampfsport <i>non-competitive sport, recreational sport, uncompetitive sport, non-competition sport</i>

(22)		
	Corpus Bolzano Italian-15	Corpus DeepL Italian-15
	medico di famiglia <i>family doctor</i>	medico di famiglia, medico di base <i>family doctor, general practitioner</i>

4.3.5. Non-explanation or wrong explanation of difficult terms

Easy Language texts avoid using technical or unfamiliar words⁶⁹. However, in administrative texts, it may be necessary to include such words⁷⁰. In this case, they should be clearly explained the first time they appear in the text⁷¹, as has been done in the German and Italian Bolzano Corpora. In Corpora DeepL, this rule is violated when the difficulty lev-

el of a word doesn't correspond between the two languages, causing two types of problems: (1) if the source text does not contain an explanation, there will be none in the automated translation (even though the word used in the translation would need one); (2) if the word in the target text does not require an explanation, there will be one anyway, and it will either be incorrect or make the text heavier (see 23).

(23)		
	Corpus Bolzano German-7	Corpus DeepL German-7
	Die Sozial•sprengel sind in Häusern.	Sozialbezirke befinden sich in <u>Gebäuden</u> .
	In diesen Häusern arbeiten viele Menschen.	Gebäude ist ein anderes Wort für: <u>Zuhause</u> .
	Diese Menschen sind Fach•personen vom Sozial•sprengel.	<i>Social districts are located in <u>buildings</u>.</i>
	Die Fach•personen unterstützen die Menschen bei Problemen.	<i>Building is another word for: <u>Home</u>.</i>
	<i>The social centres are located in houses. Many people work in these centres. These people are specialists from the Sozialsprengel. The specialists support people with problems.</i>	

An Italian example for an incorrect or useless explanation is (24).

69. MAAß 2024-A.

70. RINK 2020.

71. MAAß 2020; RINK 2020; SCIUMBATA 2022.

(24)	
Corpus Bolzano Italian-23	Corpus DeepL Italian-23
L'azienda ha tante sedi. Sedi significa: L'azienda lavora in tanti posti diversi.	L'azienda ha molte sedi. Sedi significa: L'azienda ha molte sedi.
<i>The company has many locations, Locations means: the company works in many different places.</i>	<i>The company has many locations. Locations means: The company has many locations.</i>

5. Summary and Discussion

For the language pair German-Italian, the study analysed how DeepL performs in interlingual translation with texts in Easy Language as the source text. Corpus Bolzano German is a sub-corpus comprising 26 texts that was created directly in Easy Language according to the scientific rules of the Research Centre for Easy Language. Corpus Bolzano Italian is the human translation of these texts into Italian Easy Language. These two sub-corpora served as the Gold Standard for comparison with the machine-translated sub-corpora Corpus DeepL German and Corpus DeepL Italian created for the purpose of the study. The corpora were analysed according to the following criteria:

- 1) Readability
- 2) Correctness
- 3) Compliance with the Easy Language rules

(1) The results show that DeepL normalises the texts towards the standard at all linguistic levels. However, this also applies to the Italian human translation.

While 96.2% of the texts in Corpus Bolzano German reach the Easy Language threshold, this only applies to 73.1% of the human translations into Italian in Corpus Bolzano Italian. The levelling towards the standard is even stronger for the machine-generated texts: only 62% of the machine-translated texts from Italian in the Corpus DeepL German achieve the minimum readability for Easy Language. And only 53.8% of the texts

translated from German in the corpus DeepL Italian achieve this minimum value. This figure is subject to an assumed readability of HIX for German and Global Read-it for Italian, whereby 90% of the maximum readability was assumed as the threshold for Easy Language in each case. Further studies are needed here. Overall, it can be seen that the interlingual machine translation of legal-administrative texts with DeepL tends more towards the standard legal texts than the human translation in the Gold Standard Corpus. The texts are therefore not easy enough.

By normalising the data obtained with the two readability indices on a scale between 0 and 1, we can more easily compare the scores obtained by the two DeepL corpora. In the German DeepL corpus readability decreased from a minimum of 0.002 (0.2%) to a maximum of 0.304 (30.4%). In 7 cases (out of 26) readability increased slightly. Only 6 out of 26 increased their complexity by more than 10%. In the Italian DeepL corpus, readability decreased from a minimum of 0.09 (0.9%) to a maximum of 0.491 (49.1%). In 1 case readability increased slightly. Only 9 out of 26 texts increased their complexity by more than 10% (2 between 10% and 20%, 3 between 20% and 30%; 2 between 30% and 40%; 2 between 40% and 50%). The readability scores obtained from the Bolzano and DeepL corpora for the two languages are compared in the following graphs (fig. 2 and fig. 3). The horizontal line at 0.9 point corresponds to the threshold for Easy Language.

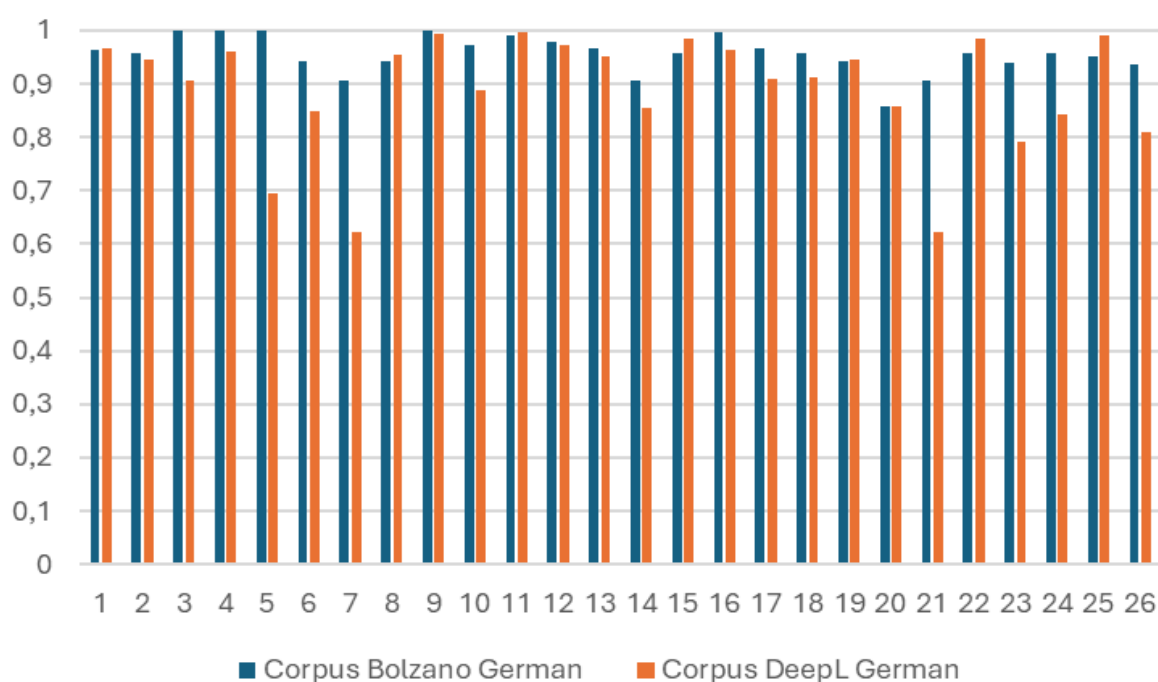


FIG. 2 — Graph of normalised readability obtained by the Bolzano German and DeepL German corpora

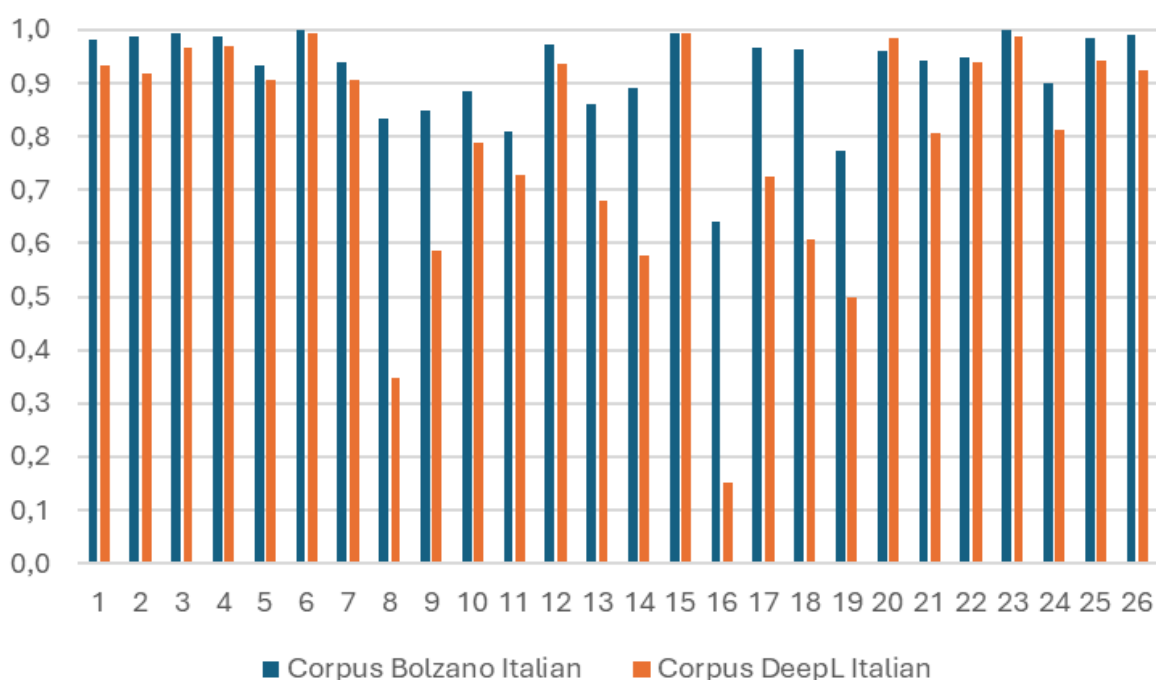


FIG. 3 — Graph of normalised readability scores obtained by the Bolzano Italian and DeepL Italian corpora

(2) With regard to the types of error, problems can be seen at all linguistic levels that run through the machine-translated sub-corpora: semantic shifts of terms in all word types, especially in the area of terminology, toponymy, names of institutions and official titles, modal verbs, abbreviations, etc. Grammatical errors were also found

in sporadic but recurrent cases in the same syntactic structures. Finally, there were also untranslated fragments that remained in the respective source language, as well as fragments in English. This problem seems to occur particularly with low resource and medium resource languages in machine translation and it would be interesting to

see how the German-Italian language pair is positioned in this context. However, this would require a broader interlingual perspective and larger corpora with more text types. The problems with content correctness are pronounced and show that machine-translated texts pose a security risk for the primary target groups, as the information they contain is not reliable and secure.

(3) With regard to deviations from the Easy Language rules in the Corpora DeepL, these were only identified when the same rules were applied in the corresponding texts of the Bolzano corpora. Deviations from these rules included using more complex terms, verb tenses, modes, double negatives and syntactic structures that are not covered by the Easy Language guidelines since they increase the complexity of the text on word and syntactic levels. With regard to the text level, we noticed pronounced term inconsistencies and an overall deviation from the principle “same concept – same designation” for all word types. The deviations observed show an overall tendency of machine translation to approach the characteristics of typical standard administrative texts⁷². Another striking feature was the non-compliance of term explanations to Easy Language requirements.

It is the nature of machine translation to adhere to the source text and simply adopt the word explanations it contains. As these are often language-specific, the explanations are commonly inappropriate or incorrect for the target text. This is where intralingual text simplification tools and intralingual translation into Plain Language and Easy Language perform significantly better⁷³. This is a limiting factor for interlingual translation into Easy Language: explanations of terms have to be processed in post-editing. This involves selecting terms that are important for the target text, re-drafting definitions and possibly removing existing definitions from the target text. Explanations of terms therefore represent an effort that should not be underestimated in the context of post-edit-

ing tasks. This is likely to have a limiting effect on the efficiency of interlingual Easy Language translation with DeepL.

To summarise, it can be said that DeepL has achieved good, but not outstanding results in interlingual translation into Easy Language administrative texts⁷⁴. The texts harbour the risk of producing non-understanding and misunderstanding among the users from the primary target groups. This happens in two ways: (1) Through incorrect solutions (analysis category 2: correctness); (2) By not being comprehensible enough (analysis category 1: readability/comprehensibility) or by not complying with the Easy Language Rules and thus overstraining users (analysis category 3: compliance with the Easy Language Rules). Misunderstanding is the bigger problem here because users may assume that they have understood, yet base their actions on false assumptions. In the case of open non-comprehension, the text can represent a motivational or emotional barrier because it remains unclear in the specific situation whether the users will invest the energy to obtain further resources. However, non-understanding does not contain the false certainty inherent in misunderstanding.

The automatic translation of texts in Easy Language cannot therefore be proposed directly to the recipient of the information (e.g., by inserting the functionality into an institutional website), as human post-editing is always required to make it accurate and suitable for the target audience. However, the study results suggest that DeepL can surely provide support and be an important tool to help increase the number of Easy Language texts currently available to those needing simplified information. Through interlingual machine translation and post-editing, texts from European countries that already have long experience and a large production of administrative or legal texts in Easy Language⁷⁵. Existing texts could therefore be disseminated to other countries in order to increase the number of texts available to the communities.

72. As described in MAAß–RINK 2021 for German and FIORITTO 2009 for Italian.

73. DEILEN–LAPSHINOVA–KOLTUNSKI–HERNÁNDEZ GARRIDO 2024.

74. These results therefore differ from those obtained in studies on DeepL translation of standard language, which had achieved excellent performance (see, for example, the studies by TAVOSANIS 2019 on the translation of journalistic language between Italian and English and by RESCIGNO–MONTI 2023 for the language pair German and Italian, which used the MT-GenEvsal data set based on data from Wikipedia).

75. For the Easy Language text practice in 21 European countries see LINDHOLM–VANHATALO 2021.

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