

# Chapter 10 European Language Technology Landscape: Communication and Collaborations

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**Abstract** The European Language Technology community is a diverse group of stakeholders that is characterised by severe fragmentation. This chapter provides an overview of the stakeholders that are relevant for the European Language Grid. We also briefly describe our communication channels and strategies with regard to the promotion of ELG. Furthermore, we highlight a few of the current projects and initiatives and their relationship to and relevance for ELG, especially with regard to collaborations. The overall goal of the target group-specific communication strategy we developed is to create more and more uptake of ELG in the European LT community, eventually creating a snowball effect.

# **1** Introduction

A key challenge to which ELG aims to respond is the ubiquitous fragmentation of the European LT landscape. ELG addresses this problem by bringing together all European stakeholders under one umbrella platform (European Parliament 2018). While Chapter 9 (p. 171 ff.) provides a high-level description of the LT companies, research organisations and projects registered in ELG at the time of writing (including statistics etc.), the present chapter focuses upon the stakeholder groups themselves. The challenge of severe fragmentation (STOA 2018) has been taken up in ELG from the very beginning on different levels by implementing various communication and cooperation activities. Their aim has been to make ELG known in all relevant communities within a short time in such a way that companies and research organisations develop an active interest in ELG: the more providers offer high quality and attractive services and datasets, the faster ELG will become a central marketplace, which in turn will benefit providers and users alike. This is why the ELG consortium pursued a strategy through which the communication activities in combination with the high quality of the platform and its services and resources, as well as fast and reliable

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support services, produce this desired snowball effect. Some of the communication and cooperation areas and activities were:

- National Competence Centres (NCCs) Establish a network of 32 carefully selected National Competence Centres (see Chapter 11, p. 205 ff.).
- **ICT-29b) Projects** Cooperate with the six EU projects funded through the call ICT-29b), i. e., Bergamot<sup>1</sup>, Comprise<sup>2</sup>, ELITR<sup>3</sup>, Embeddia<sup>4</sup>, GoURMET<sup>5</sup>, Prêt-à-LLOD<sup>6</sup> and their consortia and networks.
- **Major European Initiatives** Collaborate with all relevant major European initiatives including, among others, the European AI on Demand Platform<sup>7</sup>, CLAIRE<sup>8</sup>, HumanE AI Net<sup>9</sup>, CLARIN<sup>10</sup> and others (see Chapter 2, Section 8, p. 27 ff., as well as Chapter 6, p. 107 ff.). These collaborations are described in more detail in Section 4 (p. 199 ff.) of the present chapter.
- **Events** Organise local, regional and national events together with the ELG National Competence Centres (see Chapter 11, p. 205 ff.).
- **Talks and Presentations** Give talks and presentations, especially at networking and outreach events, to decision-makers and multipliers, both in the industrial sector but also in scientific European conferences.
- **Open Calls and Pilot Projects** Selected 15 pilot projects, with which we also collaborated in terms of communication activities on their respective regional and local levels (see Part IV, p. 256 ff., of this book).

Next up, Section 2 describes the European Language Technology community in more detail, focusing upon the different stakeholder groups. A key driver of success of the ELG initiative is this support and buy-in from the stakeholder community including the uptake of the platform. In addition to these networking activities in the project, several public communication channels have been established. Under the umbrella brand "European Language Technology", ELG and its sister project European Language Equality (ELE, see Rehm and Way 2023) have started addressing the stakeholders and initiatives listed above, community members outside these networks and the wider public in order to provide them with news about relevant project developments, events and updates on ELG features, among others. For this purpose, social media profiles on Twitter and LinkedIn were established. We also set up an email newsletter, which was initially published on a monthly basis and later on changed to a biweekly schedule. These communication channels, their purpose, effectiveness and the content shared through them is further detailed in Section 3.

- <sup>5</sup> https://gourmet-project.eu
- <sup>6</sup> https://pret-a-llod.github.io
- <sup>7</sup> https://www.ai4europe.eu
- <sup>8</sup> https://claire-ai.org
- <sup>9</sup> https://www.humane-ai.eu/workpackages/
- <sup>10</sup> https://www.clarin.eu

<sup>&</sup>lt;sup>1</sup> https://browser.mt

<sup>&</sup>lt;sup>2</sup> https://www.compriseh2020.eu

<sup>&</sup>lt;sup>3</sup> https://elitr.eu

<sup>&</sup>lt;sup>4</sup> http://embeddia.eu

### 2 Stakeholders of the European Language Grid

For our main groups of stakeholders we defined their specific relationships with ELG and how we will communicate and engage with them in terms of communication channels but also in terms of messages, considering our overall communication goals. Most target groups also interact with ELG in one way or another, which is why they are, in most cases, not just passive audiences but also immediate stakeholders within the ELG community (Rehm et al. 2020c, 2021). In the following, all stakeholder groups are defined including aspects relating to communication.

### 2.1 Language Technology Providers

The interests of LT *providers* (see Chapter 9 for specific numbers) are different from those of LT *users*, which is why specific communication formats need to be applied. Typically, commercial providers of LT (also see Vasiljevs et al. 2019) want to showcase their products and promote their solutions and services or their company and – on a more abstract level – they look for an appropriate marketplace in which they can participate. In contrast to other target groups, their interactions with ELG are active and direct. In order to upload or offer a service or tool via ELG, they need specific technical information and an understanding of how ELG works. This demand is met through various forms of communication, including a technical documentation with clear and in-depth explanations of ELG's functionalities, based on which video tutorials were prepared. These videos are shared through all communication channels. Furthermore, blog articles explain specific ELG features to LT providers and short announcements of new features are included in the newsletter.

The more ELG meets business requirements, the more likely LT providers are to actively use and promote it and to exploit it as an additional or sales channel or even as their preferred marketplace. Our communication activities addressing LT providers uses a marketing tonality and promotes the advantages of the ELG initiative. We have also reached out repeatedly to LT providers, inviting them to send in their questions or feedback with regard to their experience with ELG, including missing features or suggestions for improvement.

In many cases research centres and universities are also LT providers, but their interest is usually not a monetary but a research-driven one. This stakeholder group provides larger or smaller datasets or perhaps tools or rudimentary, experimental services that have evolved from research projects rather than robust, production-ready services that can be directly monetised. For researchers, sharing their results, the further development of tools and the exchange with other researchers is the main driver to use ELG. Finding datasets and tools bundled in one place, they can test functionalities in the development phase and provide feedback. Ideally, they spread the word about ELG in scientific articles or in academic conferences, and they can be approached most easily through these channels. Public communication about the usefulness of an easy-to-use platform for hosting, sharing and making available LT

services has proven an effective measure to attract researchers and initiate direct communication about ELG.

### 2.1.1 Participants in the Open Calls – Pilot Projects

ELG tested the platform and demonstrated its usefulness with the help of 15 pilot projects that it supported financially (see Part IV for more details). After their completion, the results were fed back into the ELG platform and community. To attract companies or research centres to submit proposals and to make the selected pilot projects known, communication activities were necessary. The open calls were published and advertised through email campaigns, through the ELG website and on multiple events. META-FORUM 2019 was the first public occasion where the open calls have been publicly presented. This target group had a high demand for information, therefore different channels like online trainings, videos, fact sheets and news articles were implemented. The pilot projects were an important measure and instrument to make ELG known to a wider audience, communication in this area had to be especially effective. The overwhelming response with more than 200 project proposals in total proves that this strategy has worked out and the successful completion of all 15 selected pilot projects is evidence of successful communication (and a thorough evaluation of the proposals). The results of the pilot projects were also presented in the virtual project expos at META-FORUM 2020, 2021 and 2022 and also in a number of sessions and presentations.<sup>11</sup>. Several pilot projects were showcased on the ELG blog, presenting their activities but also the greater implementations of making use of a pan-European LT platform, while the promotional videos created for META-FORUM 2021 were featured in the newsletter and on social media.

### 2.2 Language Technology Users

The users of Language Technology are the most diverse and also, by a margin, the biggest target group. Users include almost everyone – from students doing research for a paper to job seekers in the LT field, to companies looking for a machine translation solution for the corporate website, just to mention a few examples. Members of this group can look for information, try to find certain LT services or datasets or they can be potential buyers or integrators of LT. This enormous group interacts with ELG in the form of a user, consumer or potential customer (Rehm et al. 2021). This stakeholder group is addressed by a communication strategy that treats this highly heterogeneous audience as a homogeneous entity. The strategy involves focusing on what is common in terms of customer needs and preferences instead of focusing upon the differences of individual subgroups. Communication-wise, messages promoting ELG are designed to have a general appeal, transmitting communication

<sup>&</sup>lt;sup>11</sup> https://www.european-language-grid.eu/meta-forum-2021/project-expo/

primarily concentrated on the common needs such as information (ELG as an information hub), match-making (a digital marketplace where supply meets demand) and elimination of language barriers. The main communication channels include email campaigns, social media posts, regular newsletter editions and the ELG website, but also presentations and booths at industry events and conferences. For the target group of LT users, we emphasised the possibilities of modern LT and its various application areas. With this aim at stressing the importance of LT, for instance in terms of cross-language communication, information access and automation in fields such as research and the information industry, ELG intends to include both experienced and potential LT users and informs about the important role LT plays in the digital world.

#### 2.2.1 Public Administrations and NGOs

As an EU-funded project, ELG can also provide technologies to public administrations, e. g., to the European institutions or national or regional administrations. For example, ELG offers the language resources provided by ELRC, which were collected and prepared to serve the needs of public services and administrations across the EU, Norway and Iceland. At the same time, ELG wants to offer solutions to non-governmental organisations that often have to pursue their goals with limited financial resources. They can benefit from ELG as users of LT because they typically do not have the funding or technological know-how to find LT services or tools that would suit their needs. Apart from more general forms of communication like email campaigns or press releases, representatives of public administrations as well as NGOs were invited to conferences like META-FORUM, where traditionally one of the keynotes or opening addresses is given by a representative of the EU.

#### 2.2.2 European Citizens – Members of the European Language Communities

This stakeholder group also includes the members of the European language communities, i. e., all citizens of Europe, speaking and representing the official EU languages, regional or minority languages or any of the other languages spoken in Europe. Communication, networking and surveying activities have primarily taken place in the EU project European Language Equality (ELE). Through the tight collaboration between ELG and ELE we have been able to identify and exploit a number of synergies, such as, among others, the EU Citizen Survey, through which we have been able to learn more about how Europe's citizens perceive Language Technology and what kind of preconceptions and demands they have.

#### 2.3 Additional Horizon 2020 EU Projects

The projects supported through the Horizon 2020 call ICT-29-2018 (see Section 1) are a special stakeholder group, as their consortia consist of research centres and universities as well as several industry partners. All projects dealt with domain-specific, challenge-oriented LT and provided services, tools and datasets which are also showcased in ELG. As the projects were especially featured, they benefited from a higher level of promotion (Rehm et al. 2021). Furthermore, they could make use of the various features as well as of the vast community connected with ELG. Due to their outreach into industry and academia, they functioned as excellent multipliers on multiple occasions. This target group proved to be very dynamic. We were engaged in active, bi-directional communication with all consortia, e.g., via online meetings, mutual invitations to each other's events, or by advertising our projects on our websites. Communication activities with this group had started in early 2019 and turned out to be successful and vivid.

### 2.4 Major European Projects and Initiatives

An overarching platform like ELG can only be successful if it is recognised in and used by the whole LT community. To establish ELG within the LT scene and to avoid silo-thinking, we communicated closely and in a targeted manner with other major projects and initiatives in the field including neighbouring areas, in an attempt to establish collaborations to create synergies and to share best practices. The ELG consortium has cooperated directly with projects active in similar areas, with a similar scope or working on similar topics, for example, the European AI on Demand Platform (i. e., the AI4EU EU project), CLAIRE, CLARIN and various other projects and initiatives. In addition to meetings, conferences like META-FORUM are an appropriate format to share information and knowledge about each other's activities. At META-FORUM 2019, 2020, 2021 and 2022, many relevant projects and initiatives showcased their plans and missions with the help of (virtual) expo booths, presentations or panel discussions. Members of the ELG consortium took every opportunity to present ELG at conferences and public events to make the ELG concept and approach known in different sectors and industries. Existing networks like ELRC (European Language Resource Coordination) and META-NET were tapped regularly with regards to knowledge transfer and information exchange. Section 4 presents these collaborations in more detail

### **2.5 National Competence Centres**

The National Competence Centres (NCC) played a crucial role for ELG's communication and promotion activities (see Chapter 11). This stakeholder group also functioned as an abstract communication channel (Rehm et al. 2021). The NCCs were and still are an important target group included in our communication channels, they also served as multipliers of the ELG mission in their own regions and networks, through mailings, social media posts, newsletter features, face-to-face meetings, conferences, tutorials, training sessions and promotion events.

### 2.6 Public at Large

ELG is a public and inclusive platform that also attempts to address citizens interested in Language Technology. Members of civil society who browse the web and visit ELG with no specific intention, also need to be addressed adequately. ELG wants to promote the purpose and usability of LT beyond the borders of tech-savvy stakeholders. Our communication activities aim not only at experts, but also at the public at large. Appropriate communication channels are news and blog posts on the website or videos on platforms such as YouTube. Social media channels, especially Twitter, are used to communicate updates and project results in a style that intends to make them interesting and comprehensible to audiences beyond the core LT community. Of interest are especially those ELG features that have broader social implications due to related topics in the news, which are perceived positively by followers and readers with diverse professional and personal backgrounds.

# **3** Communication and Outreach Activities

As a project with several objectives, addressing various gaps in the European Language Technology landscape and serving as a marketplace for research and industry, ELG depends on the reputation and brand it has established. In addition to the platform's functionality and positive experience of users and providers interacting with ELG, another relevant aspect is the ease of access with regard to content and information served by the platform. This refers to the information architecture of the website, structure and quality of the technical documentation, responses to requests directed at the ELG technical team as well as the overall communication strategy.

### 3.1 Communication Strategy

A communication strategy enables effective communication, in the case of ELG, this relates to informing specific target audiences and the broad public about the project and its results, gaining users and providers for ELG and representing ELG as a brand for pan-European, multilingual and all-encompassing LT. The key elements of the

communication strategy are the stakeholders, the overall goals of the communication, the messages to communicate, the communication channels and the timing.

We have two main communication goals that are closely aligned with our Unique Selling Propositions (USP), which are the key differentiators from existing platforms and offerings on the market. The success of the project and the ELG legal entity depend on these two USPs to be widely known by all relevant stakeholders. This is why the USPs became central messages for communication related to the uptake and popularity of ELG directed at potential users, participating organisations or stakeholders to be won over.

### ELG is the primary platform for Language Technologies in Europe.

ELG strives to become the most important and most relevant marketplace for Language Technology in Europe – a one-stop LT shop in which all kinds of stakeholders can find what they are looking for in terms of services, tools or resources provided by research or industry. ELG is not only a directory of companies, universities and research centres, but also contains a repository of thousands of datasets as well as hundreds of functional tools and services. To make ELG useful and efficient for its users, visibility and completeness are crucial. Moreover, to include as many relevant players as possible, one of the main objectives is wide outreach.

### ELG provides Language Technology for Europe built in Europe.

The second USP relates to the fact that LT from other continents or large global technology corporations do not have intimate linguistic knowledge of Europe's languages including their varieties (i. e., European developers of LT can serve European demand in a better and more adequate way) and that legal aspects such as copyright law, the General Data Protection Regulation (GDPR) and other policies are well considered by European players. The same goes for core European values like privacy, confidentiality and trustworthiness. Users of ELG do not have to fear their data being sold to third parties when using or offering services or resources on the platform.

### 3.2 Communication Campaign

The ELG communication campaign was developed and operationalised with communication experts and continuously revised and expanded to meet the changing conditions in the project and initiative. The initial situation was thoroughly analysed and then appropriate marketing measures were planned using various communication channels including social media.

#### 3.2.1 Communication Objectives

In addition to communicating the overall USPs of ELG to the relevant stakeholders, all ELG communication activities are also geared towards supporting and realising ELG's overall objectives. We distilled the overall objectives into three main messages, which are the underlying drivers in all ELG communication activities:

- *Support the Multilingual Digital Single Market* by providing technologies for all European languages, which can be used by LT user stakeholders in all European countries to provide digital offerings, products and solutions that support all European languages relevant for the respective LT user stakeholder.
- Establish and grow a vibrant community and help coordinate all European LT activities by becoming the primary platform for LT in Europe.
- *Develop and offer a powerful and scalable LT platform* through a novel technological approach, which enables innovations and synergies between commercial and non-commercial LT providers, buyers and users.

#### 3.2.2 Communication Channels

For ELG, we selected four main areas of communication as the most relevant ones for informing the main stakeholders and for marketing the project and the platform. These four areas include the ELG website itself, the annual ELG conference (and other events), the ELG social media channels and the ELG newsletter. While the ELG website and the representation of the project at conferences and events was primarily connected to the ELG brand, a more flexible approach was chosen for social media and the newsletter.

For the duration of the project, we maintained, in addition to the actual European Language Grid, a separate ELG website for information, promotion and marketing purposes. This website served as the face to the public with all relevant information on the project itself and its wider setup, including, among others, the ELG architecture, NCCs, annual conferences, newsletter and many other topics. It also included a news section and a blog. This stand-alone website has been merged with the European Language Grid proper in the summer of 2022 so that all the relevant information and the European Language Grid itself are now available at the same address.<sup>12</sup>

From 2019 to 2022, ELG organised an annual conference (in 2022 in collaboration with the EU project ELE). At these conferences, all relevant aspects of ELG have been presented and discussed with relevant stakeholders. In addition, ELG participated in many other conferences, workshops, industry events and expos. For more details see Chapter 11, Section 3 (p. 210 ff.).

In terms of social media channels, ELG uses Twitter and LinkedIn, their main advantages are the potential to create a very wide reach and large number of followers, thus enabling the project to address exactly the right stakeholders. Instead of establishing dedicated channels for ELG, we decided to create one slightly more general online identity, namely the umbrella-brand "European Language Technology" (ELT), which serves as the name of the social media channels on Twitter<sup>13</sup>

<sup>12</sup> https://www.european-language-grid.eu.

<sup>13</sup> https://twitter.com/EuroLangTech

and LinkedIn<sup>14</sup>. This brand serves as the outlet and interaction channel for ELG and also for its sister project, European Language Equality. The ELT brand solves the problem of communicating about two related but different projects through a single channel, while tackling the topic of European Language Technology from a technological (ELG) and from a strategic perspective (ELE). The approach has proven successful, as the ELT channels quickly gathered several hundred followers each. Table 1 shows some key statistics on both platforms.

Channel	Twitter	LinkedIn
Followers (total)	666	818
Posts (total)	316	150
Posts per month (example: March 2022)	27	19
Followers gained per month (example: March 2022)	63	75
Profile visits per month (example: March 2022)	5,944	198
Impressions per month (example: March 2022)	40,300	9,248

 Table 1
 European Language Technology: social media statistics (July 2022)

The differences in the statistics of the two channels can be attributed to the fact that while Twitter generally sees more activity in interaction and content reception, LinkedIn follows more professional conventions and goals. Its user base has a slightly bigger overlap with the main target groups of ELG. This is why the LinkedIn channel gained more followers even though there was less activity in comparison to Twitter. Both channels are used for communicating a variety of contents in specified formats: 1. new ELG platform features and quotes from reports are shared in specifically designed images (known as shareables); 2. new blog articles are promoted through links and quotes from the text; 3. upcoming events are promoted using, e. g., summaries of the programme and links to the event website; 4. related news from other sources are shared through links or the retweet/sharing function, ideally with a comment regarding the relevance for ELG.

Following the concept of the ELT brand, a newsletter was established under the same name, sharing information from and about ELG and ELE with a total of approx. 4,000 subscribers as of July 2022.<sup>15</sup> We invited many of our existing contacts to subscribe to the newsletter, we invite visitors of the website to subscribe to the newsletter and we also share the newsletter on a regular basis through our other communication channels. At first the newsletter was published on a monthly, later on a bi-weekly basis. Each issue of the newsletter includes a general introduction to the latest edition, including a list of highlights from social media and an overview of press articles in relation to ELT, followed by dedicated sections on ELG and ELE. The ELG section contains general news from and about ELG, a summary of the latest editest edited and the latest colls or services added to ELG and the latest organisation that joined ELG (short profile and link to their ELG entry).

<sup>14</sup> https://www.linkedin.com/company/74073406

<sup>&</sup>lt;sup>15</sup> https://www.european-language-technology.eu/elt-newsletter-archive/

# 4 Collaborations with other Projects and Initiatives

ELG is a technology platform for the whole European LT community, which is why collaboration played and plays an important role for the success and uptake of the ELG initiative (Rehm et al. 2020c). While we are unable to list all projects and organisations we collaborated with during the ELG project's runtime, below we attempt to list the major ones (see Chapter 2, Section 8, p. 27 ff., as well as Chapter 6, p. 107 ff.).

- **European Language Equality** ELG and ELE<sup>16</sup> worked together on many different topics. ELE collected more than 6,000 LT and LR records, which were ingested in ELG, resulting in a substantial increase of the total number of available resources (Giagkou et al. 2022). The Digital Language Equality metric, developed by ELE (Gaspari et al. 2022; Grützner-Zahn and Rehm 2022), is based on the contents of the ELG catalogue and can be accessed through a dashboard developed by ELE and available on ELG.<sup>17</sup> While ELE prepares the strategic agenda and roadmap towards digital language equality in Europe, ELG offers the appropriate platform for sharing and deploying these Language Technologies. The synergies between the projects were communicated through blog articles and our shared social media channels as well as our shared newsletter.
- **Open Calls and Pilot Projects** ELG collaborated with the organisations behind the 15 selected pilot projects in terms of technical aspects and communication activities on their respective regional and local levels (see Part IV, p. 256 ff.).
- **ICT-29b) Projects** ELG collaborated with the six EU projects funded through the Horizon 2020 call ICT-29b), i. e., Bergamot<sup>18</sup>, Comprise<sup>19</sup>, ELITR<sup>20</sup>, Embeddia<sup>21</sup>, GoURMET<sup>22</sup>, Prêt-à-LLOD<sup>23</sup> and their consortia and networks, especially with regard to outreach and communication, coordination and making project results available through ELG.
- **European AI on Demand Platform** ELG cooperated with the European AI on Demand Platform through the EU project AI4EU.<sup>24</sup> Topics include strategic and coordination aspects, the technical interoperability between both platforms (Rehm et al. 2020b), the preparation of an AI ontology and participation in outreach and promotion events.
- **HumanE AI Net** This EU network of excellence<sup>25</sup>, which also belongs to the European AI on Demand Platform, aims at facilitating a European brand of trustwor-

<sup>22</sup> https://gourmet-project.eu

<sup>&</sup>lt;sup>16</sup> https://european-language-equality.eu

<sup>17</sup> https://live.european-language-grid.eu/catalogue/dashboard

<sup>18</sup> https://browser.mt

<sup>19</sup> https://www.compriseh2020.eu

<sup>&</sup>lt;sup>20</sup> https://elitr.eu

<sup>&</sup>lt;sup>21</sup> http://embeddia.eu

<sup>23</sup> https://pret-a-llod.github.io

<sup>24</sup> https://www.ai4europe.eu

<sup>&</sup>lt;sup>25</sup> https://www.humane-ai.eu/workpackages/

thy, ethical AI that enhances human capabilities and empowers citizens and society to effectively deal with the challenges of an interconnected globalised world. ELG supports this initiative as language is a core topic in human-oriented AI. Many organisations involved in ELG are also active in HumanE AI Net through specific microprojects that focus on certain research questions, funded by the initiative. HumanE AI Net and ELG collaborated with regard to joint outreach and promotion activities.

- **CLAIRE** ELG and the Confederation of Laboratories for AI Research in Europe<sup>26</sup>, the world's largest network for AI research, collaborated with regard to strategic and coordination topics. ELG, representing the language-centric AI land-scape, serves as a link between the LT and the AI communities. We also participated in various joint events.
- **CLARIN** ELG and the Common Language Resources and Technology Infrastructure<sup>27</sup> (Eskevich et al. 2020) collaborated with regard to strategic and technical aspects such as metadata harvesting (see Chapter 6) and events.
- **Microservices at your Service** This CEF-supported EU project collects and develops a larger number of functional services, develops ELG-compatible containers and makes these available through ELG.<sup>28</sup> Additionally, the two projects collaborated by participating in relevant outreach and training events.
- **NTEU and MAPA** The two CEF-supported EU projects Neural Translation for the EU (NTEU)<sup>29</sup> and Multilingual Anonymisation for Public Administrations (MAPA)<sup>30</sup> have contributed a large number of tools and services to ELG (García-Martínez et al. 2021). NTEU alone has provided hundreds of high quality machine translation models, which are now available through ELG.
- **WeVerify** This EU project develops tools and technologies for the identification and verification of various types of news and media (Marinova et al. 2020).<sup>31</sup> Internally, the WeVerify tools make use of several ELG services.
- **ELRC** The CEF-supported EU initiative European Language Resource Coordination (ELRC)<sup>32</sup> supports multilingual Europe, among others, by collecting publicly available language data from national public administrations and making them available to the European Union through the repository ELRC-SHARE (Lösch et al. 2018). ELG automatically harvests ELRC-SHARE, enabling the discovery of these resources through ELG. ELRC and ELG also collaborated in terms of joint communication and dissemination activities.
- **QURATOR** The German project QURATOR has developed a technology platform and large number of tools, services and resources for several digital con-

<sup>&</sup>lt;sup>26</sup> https://claire-ai.org

<sup>27</sup> https://www.clarin.eu

 $<sup>^{28}</sup>$  https://www.lingsoft.fi/en/microservices-at-your-service-bridging-gap-between-nlp-research -and-industry

<sup>&</sup>lt;sup>29</sup> https://nteu.eu

<sup>30</sup> https://mapa-project.eu

<sup>&</sup>lt;sup>31</sup> https://weverify.eu

<sup>32</sup> https://www.lr-coordination.eu

tent curation use cases (Rehm et al. 2020a).<sup>33</sup> Both projects, QURATOR and ELG worked together closely from the very beginning in terms of platform development, communication and dissemination, among others, through the annual QURATOR conferences. Many tools and resources created by QURATOR are available through ELG.

- **PANQURA** This sister project of QURATOR focuses upon the application of QURATOR technologies to the COVID-19 pandemic, striving for more transparency in times of a global crisis.<sup>34</sup> Among others, PANQURA has developed tools for the automated assessment of the credibility of online content, which are now available through ELG (Schulz et al. 2022).
- **OpenGPT-X and Gaia-X** The German project OpenGPT-X develops large language models for the German language.<sup>35</sup> The project is part of a group of AI projects that will test and deploy their project results through the emerging Gaia-X infrastructure.<sup>36</sup> In Gaia-X, representatives from business, politics, and science are working together to create a federated and secure data infrastructure for Europe, addressing the topic of data sovereignty in Europe. OpenGPT-X will not only make use of various resources available in and through ELG, the project will also extend ELG so that the platform is compatible with Gaia-X, i. e., OpenGPT-X will integrate the ELG platform into the emerging Gaia-X infrastructure.
- **NFDI4DS** The project NFDI for Data Science and AI<sup>37</sup> is part of the German NFDI initiative, which develops, with a total of approx. 20-25 projects, the national German research data infrastructure.<sup>38</sup> NFDI4DS will support all steps of the research data life cycle, including collecting or creating, processing, analysing, publishing, archiving, and reusing resources in Data Science and AI. In NFDI4DS, ELG will be integrated into the emerging NFDI infrastructure.
- **DataBri-X** The EU project Data Process and Technological Bricks for expanding digital value creation in European Data Spaces (DataBri-X), which will start in October 2022, will develop a toolbox for data processing, data handling and data curation. The ELG platform will be used and also extended as one technical infrastructure in this project.
- **SciLake** The EU project Democratising and Making Sense out of Heterogeneous Scholarly Content (SciLake), which will start in January 2023, will build upon the OpenAIRE ecosystem and European Open Science Cloud (EOSC) services to facilitate, among others, the creation, interlinking and maintenance of researchoriented knowledge graphs. In SciLake we will establish technical bridges between the ELG platform and EOSC.

<sup>33</sup> https://qurator.ai

<sup>34</sup> https://qurator.ai/panqura/

<sup>&</sup>lt;sup>35</sup> https://opengpt-x.de

<sup>&</sup>lt;sup>36</sup> https://gaia-x.eu

<sup>37</sup> https://www.nfdi4datascience.de

<sup>&</sup>lt;sup>38</sup> https://www.nfdi.de

# **5** Conclusions

As a community platform and initiative, ELG does not operate in a vacuum without contact to other projects, groups or initiatives. On the contrary, it is of fundamental importance that ELG is tightly integrated into the community with active use of the ELG platform by many members of the community. To achieve this, ELG has defined its target groups and cooperates closely with a number of relevant projects to exploit existing synergies. These networking and collaboration efforts will be continued after the runtime of the ELG EU project, i. e., when the ELG legal entity is established and operational. This approach is based on a clear communication strategy with transparent goals that are pursued jointly with other key stakeholders.

While we have been able to establish a shared platform for the European LT community during the 42 months of the ELG project, we now need to concentrate on engaging with more and more stakeholders so that ELG is also utilised and expanded by more and more active users, resulting in a European Language Grid *from* the European LT community *for* the European LT community.

# References

- Eskevich, Maria, Franciska de Jong, Alexander König, Darja Fišer, Dieter Van Uytvanck, Tero Aalto, Lars Borin, Olga Gerassimenko, Jan Hajic, Henk van den Heuvel, Neeme Kahusk, Krista Liin, Martin Matthiesen, Stelios Piperidis, and Kadri Vider (2020). "CLARIN: Distributed Language Resources and Technology in a European Infrastructure". In: Proc. of the 1st Int. Workshop on Language Technology Platforms (IWLTP 2020, co-located with LREC 2020). Ed. by Georg Rehm, Kalina Bontcheva, Khalid Choukri, Jan Hajic, Stelios Piperidis, and Andrejs Vasiljevs. Marseille, France: ELRA, pp. 28–34. URL: https://aclanthology.org/2020.iwltp-1.5.
- European Parliament (2018). Language Equality in the Digital Age. European Parliament resolution of 11 September 2018 on Language Equality in the Digital Age (2018/2028(INI). URL: http://www.europarl.europa.eu/doceo/document/TA-8-2018-0332\_EN.pdf.
- García-Martínez, Mercedes, Laurent Bié, Aleix Cerdà, Amando Estela, Manuel Herranz, Rihards Krišlauks, Maite Melero, Tony O'Dowd, Sinead O'Gorman, Marcis Pinnis, Artūrs Stafanovič, Riccardo Superbo, and Artūrs Vasiļevskis (2021). "Neural Translation for European Union (NTEU)". In: *Proceedings of Machine Translation Summit XVIII: Users and Providers Track.* Association for Machine Translation in the Americas, pp. 316–334. URL: https://aclanthology .org/2021.mtsummit-up.23.
- Gaspari, Federico, Owen Gallagher, Georg Rehm, Maria Giagkou, Stelios Piperidis, Jane Dunne, and Andy Way (2022). "Introducing the Digital Language Equality Metric: Technological Factors". In: Proceedings of the Workshop Towards Digital Language Equality (TDLE 2022; colocated with LREC 2022). Ed. by Itziar Aldabe, Begoña Altuna, Aritz Farwell, and German Rigau. Marseille, France, pp. 1–12. URL: http://www.lrec-conf.org/proceedings/lrec2022/wor kshops/TDLE/pdf/2022.tdle-1.1.pdf.
- Giagkou, Maria, Stelios Piperidis, Penny Labropoulou, Miltos Deligiannis, Athanasia Kolovou, and Leon Voukoutis (2022). "Collaborative Metadata Aggregation and Curation in Support of Digital Language Equality Monitoring". In: Proceedings of the Workshop Towards Digital Language Equality (TDLE 2022; co-located with LREC 2022). Ed. by Itziar Aldabe, Begoña Altuna, Aritz Farwell, and German Rigau. Marseille, France, pp. 27–35. URL: http://www.lrec-conf.o rg/proceedings/lrec2022/workshops/TDLE/pdf/2022.tdle-1.3.pdf.

- Grützner-Zahn, Annika and Georg Rehm (2022). "Introducing the Digital Language Equality Metric: Contextual Factors". In: Proceedings of the Workshop Towards Digital Language Equality (TDLE 2022; co-located with LREC 2022). Ed. by Itziar Aldabe, Begoña Altuna, Aritz Farwell, and German Rigau. Marseille, France, pp. 13–26. URL: http://www.lrec-conf.org/proceedings /lrec2022/workshops/TDLE/pdf/2022.tdle-1.2.pdf.
- Lösch, Andrea, Valérie Mapelli, Stelios Piperidis, Andrejs Vasiljevs, Lilli Smal, Thierry Declerck, Eileen Schnur, Khalid Choukri, and Josef van Genabith (2018). "European Language Resource Coordination: Collecting Language Resources for Public Sector Multilingual Information Management". In: Proc. of the Eleventh International Conference on Language Resources and Evaluation (LREC 2018). Miyazaki, Japan: ELRA. URL: https://aclanthology.org/L18-1213.
- Marinova, Zlatina, Jochen Spangenberg, Denis Teyssou, Symeon Papadopoulos, Nikos Sarris, Alexandre Alaphilippe, and Kalina Bontcheva (2020). "Weverify: Wider and Enhanced Verification for You Project Overview and Tools". In: 2020 IEEE International Conference on Multimedia Expo Workshops (ICMEW), pp. 1–4. DOI: 10.1109/ICMEW46912.2020.9106056.
- Rehm, Georg, Peter Bourgonje, Stefanie Hegele, Florian Kintzel, Julián Moreno Schneider, Malte Ostendorff, Karolina Zaczynska, Armin Berger, Stefan Grill, Sören Räuchle, Jens Rauenbusch, Lisa Rutenburg, André Schmidt, Mikka Wild, Henry Hoffmann, Julian Fink, Sarah Schulz, Jurica Seva, Joachim Quantz, Joachim Böttger, Josefine Matthey, Rolf Fricke, Jan Thomsen, Adrian Paschke, Jamal Al Qundus, Thomas Hoppe, Naouel Karam, Frauke Weichhardt, Christian Fillies, Clemens Neudecker, Mike Gerber, Kai Labusch, Vahid Rezanezhad, Robin Schaefer, David Zellhöfer, Daniel Siewert, Patrick Bunk, Lydia Pintscher, Elena Aleynikova, and Franziska Heine (2020a). "QURATOR: Innovative Technologies for Content and Data Curation". In: *Proceedings of QURATOR 2020 – The conference for intelligent content solutions*. Ed. by Adrian Paschke, Clemens Neudecker, Georg Rehm, Jamal Al Qundus, and Lydia Pintscher. CEUR Workshop Proceedings, Volume 2535. 20/21 January 2020. Berlin, Germany. URL: htt p://ceur-ws.org/Vol-2535/paper\_17.pdf.
- Rehm, Georg, Dimitrios Galanis, Penny Labropoulou, Stelios Piperidis, Martin Welß, Ricardo Usbeck, Joachim Köhler, Miltos Deligiannis, Katerina Gkirtzou, Johannes Fischer, Christian Chiarcos, Nils Feldhus, Julián Moreno-Schneider, Florian Kintzel, Elena Montiel, Víctor Rodríguez Doncel, John P. McCrae, David Laqua, Irina Patricia Theile, Christian Dittmar, Kalina Bontcheva, Ian Roberts, Andrejs Vasiljevs, and Andis Lagzdiņš (2020b). "Towards an Interoperable Ecosystem of AI and LT Platforms: A Roadmap for the Implementation of Different Levels of Interoperability". In: Proc. of the 1st Int. Workshop on Language Technology Platforms (IWLTP 2020, co-located with LREC 2020). Ed. by Georg Rehm, Kalina Bontcheva, Khalid Choukri, Jan Hajic, Stelios Piperidis, and Andrejs Vasiljevs. Marseille, France, pp. 96–107. URL: https://www.aclweb.org/anthology/2020.iwltp-1.15.pdf.
- Rehm, Georg, Katrin Marheinecke, Stefanie Hegele, Stelios Piperidis, Kalina Bontcheva, Jan Hajic, Khalid Choukri, Andrejs Vasiljevs, Gerhard Backfried, Christoph Prinz, José Manuel Gómez Pérez, Luc Meertens, Paul Lukowicz, Josef van Genabith, Andrea Lösch, Philipp Slusallek, Morten Irgens, Patrick Gatellier, Joachim Köhler, Laure Le Bars, Dimitra Anastasiou, Albina Auksoriūtė, Núria Bel, António Branco, Gerhard Budin, Walter Daelemans, Koenraad De Smedt, Radovan Garabík, Maria Gavriilidou, Dagmar Gromann, Svetla Koeva, Simon Krek, Cvetana Krstev, Krister Lindén, Bernardo Magnini, Jan Odijk, Maciej Ogrodniczuk, Eiríkur Rögnvaldsson, Mike Rosner, Bolette Pedersen, Inguna Skadina, Marko Tadić, Dan Tufiş, Tamás Váradi, Kadri Vider, Andy Way, and François Yvon (2020c). "The European Language Technology Landscape in 2020: Language-Centric and Human-Centric AI for Cross-Cultural Communication in Multilingual Europe". In: *Proceedings of the 12th Language Resources and Evaluation Conference (LREC 2020)*. Ed. by Nicoletta Calzolari, Frédéric Béchet, Philippe Blache, Christopher Cieri, Khalid Choukri, Thierry Declerck, Hitoshi Isahara, Bente Maegaard, Joseph Mariani, Asuncion Moreno, Jan Odijk, and Stelios Piperidis. Marseille, France: ELRA, pp. 3315–3325. URL: https://www.aclweb.org/anthology/2020.lrec-1.407/.
- Rehm, Georg, Stelios Piperidis, Kalina Bontcheva, Jan Hajic, Victoria Arranz, Andrejs Vasiljevs, Gerhard Backfried, José Manuel Gómez Pérez, Ulrich Germann, Rémi Calizzano, Nils Feldhus, Stefanie Hegele, Florian Kintzel, Katrin Marheinecke, Julian Moreno-Schneider, Dimitris Gala-

nis, Penny Labropoulou, Miltos Deligiannis, Katerina Gkirtzou, Athanasia Kolovou, Dimitris Gkoumas, Leon Voukoutis, Ian Roberts, Jana Hamrlová, Dusan Varis, Lukáš Kačena, Khalid Choukri, Valérie Mapelli, Mickaël Rigault, Jūlija Meļņika, Miro Janosik, Katja Prinz, Andres Garcia-Silva, Cristian Berrio, Ondrej Klejch, and Steve Renals (2021). "European Language Grid: A Joint Platform for the European Language Technology Community". In: *Proceedings of the 16th Conference of the European Chapter of the Association for Computational Linguistics: System Demonstrations (EACL 2021).* Kyiv, Ukraine: ACL, pp. 221–230. URL: https://www.aclweb.org/anthology/2021.eacl-demos.26.pdf.

- Rehm, Georg and Andy Way, eds. (2023). European Language Equality: A Strategic Agenda for Digital Language Equality. Cognitive Technologies. Forthcoming. Springer.
- Schulz, Konstantin, Jens Rauenbusch, Jan Fillies, Lisa Rutenburg, Dimitrios Karvelas, and Georg Rehm (2022). "User Experience Design for Automatic Credibility Assessment of News Content About COVID-19". In: *Proceedings of HCI International 2022 – Late Breaking Papers*. Accepted for publication. 26 June-01 July 2022.
- STOA (2018). Language equality in the digital age Towards a Human Language Project. STOA study (PE 598.621), IP/G/STOA/FWC/2013-001/Lot4/C2. URL: https://data.europa.eu/doi/10 .2861/136527.
- Vasiljevs, Andrejs, Khalid Choukri, Luc Meertens, and Stefania Aguzzi (2019). Final study report on CEF Automated Translation value proposition in the context of the European LT market/ecosystem. DOI: 10.2759/142151. URL: https://op.europa.eu/de/publication-detail/-/publicatio n/8494e56d-ef0b-11e9-a32c-01aa75ed71a1/language-en.

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