



## Chapter 13

# Sustaining the European Language Grid: Towards the ELG Legal Entity

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**Abstract** When preparing the European Language Grid EU project proposal and designing the overall concept of the platform, the need for drawing up a long-term sustainability plan was abundantly evident. Already in the phase of developing the proposal, the centrepiece of the sustainability plan was what we called the “ELG legal entity”, i. e., an independent organisation that would be able to take over operations, maintenance, extension and governance of the European Language Grid platform as well as managing and helping to coordinate its community. This chapter describes our current state of planning with regard to this legal entity. It explains the different options discussed and it presents the different products specified, which can be offered by the legal entity in the medium to long run. We also describe which legal form the organisation will take and how it will ensure the sustainability of ELG.

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## 1 Introduction

One of the challenges the European Language Grid initiative aims to address is the fragmentation of the European Language Technology landscape, with regard to academia, research institutions and commercial entities. ELG aims to bring together all stakeholders, currently scattered all over Europe, under the European Language Grid platform as a common umbrella (Rehm et al. 2021; Vasiljevs et al. 2019). However, the efforts taken within the project can only be translated into a large-scale success if ELG continues to exist beyond the project runtime of 42 months. This is why it had already been foreseen in the ELG project proposal to develop a long-term sustainability plan during the project. Its centrepiece is the idea of establishing, in the second half of 2022, a dedicated ELG legal entity, which is meant to take over operations, maintenance, extension and governance of the European Language Grid platform as well as managing and helping to coordinate its community. Only with such a sustainable, long-term activity can the overarching goal of strengthening, harmonising and bringing together the European LT business and research community be met. In other words, the sustainability plan and the legal entity are mission-critical for the success of the project.

After a brief presentation of the long-term vision of ELG (Section 2), this chapter describes business and operation models that have been examined in order to assess if they are suitable for the ELG legal entity (Section 3). Not only shall the ELG platform and initiative continue to exist, we also want to expand its functionalities further in order to serve and adapt to evolving user needs even better and to fulfil ELG's mission for the European LT community. We explore a number of different dimensions with regard to the shaping of the ELG legal entity and place special emphasis on the description of a set of products we specified that can be offered by the legal entity. At the same time, it is important to point out that the AI landscape – including LT – must still be characterised as highly dynamic (Rehm et al. 2020b). Precise predictions of where the field is headed in Europe in the next years are difficult to be made right now. It remains to be seen what the post-COVID market will look like, which breakthroughs will come next in AI and LT, what the impact of the various ongoing large-scale initiatives will be and how the LT/AI-related situation in the different European countries will develop in the future. This dynamic situation creates additional challenges when it comes to specifying the final shape of the ELG legal entity, which must consequently correspond to this agile and dynamic environment.

## 2 Long-term Vision and Mission of ELG

Our vision and long-term goal is to establish ELG as the primary platform and marketplace for all commercial and non-commercial Language Technologies developed and offered by the European LT community. In order to achieve this goal, multiple prerequisites need to be in place, e. g., the ELG cloud platform must have very high

availability and it must exhibit near real-time performance for individual services, legally safe service level agreements need to be prepared so that services can be applied in production environments, simple mechanisms for billing need to be available and technical support needs to be offered. Trust in the platform and its reliability need to be established in a transparent manner. Operating these and other components of the platform and initiative incurs various system-relevant costs (Teece 2017).

## 2.1 Mission of the European Language Grid

To achieve the goal of becoming the primary platform for European LTs, ELG follows its mission of creating impact beyond the platform itself:

- Grow a vibrant community and help coordinate all European LT activities: ELG is an initiative *from* the European LT community *for* the European LT community, including industry, innovation and research. ELG can only be successful if the whole community makes active use of the platform and contributes as well as uses datasets and services. ELG collaborates with many related projects, companies, research organisations and further initiatives (see Chapters 10 and 11), most notably its sister project European Language Equality (ELE), which is currently developing a strategic agenda and roadmap that specify how to achieve digital language equality in Europe by 2030. In the agenda developed by ELE, ELG functions as the main technology platform of the ELE Programme so that the support of Europe's languages through technologies can be measured and monitored over time (Gaspari et al. 2022; Grützner-Zahn and Rehm 2022).
- Create and maintain a powerful, scalable and useful Language Technology platform: ELG's novel technological approach enables innovations and synergies between commercial and non-commercial LT demanders, suppliers and users (see Chapter 12). The unique ELG platform is based on the principle of encapsulating services in containers. This approach tackles and solves some of the issues of technical interoperability, which is a crucial obstacle on the way of cross-provider and cross-platform interoperability. ELG enables providers to deposit and deploy their services.
- Support the Multilingual Digital Single Market: ELG strengthens the commercial European LT landscape through the pan-European platform and marketplace. Offering powerful multilingual, cross-lingual and monolingual technologies, ELG aims to contribute to the emergence of a truly connected, language-crossing Multilingual Digital Single Market. European companies can showcase and offer their LTs and consulting services to customers on the ELG marketplace (see Chapter 12).

## 2.2 Added Value for Stakeholders

The implementation of this mission in the form of the ELG platform provides added value for all stakeholders, e. g., 1. ability to attract participants (i. e., customers, buyers, users, providers etc.), 2. ability to create demand economies of scale, 3. benefit of reduced time-to-market (especially from lab to market), 4. standardised quality, 5. ease of doing business and a 6. coherent ELG technology exploitation ecosystem.

Traditional, linear value chains are focused on a one-way process of value creation, e. g., raw materials are used and manufactured into products, which are then distributed and used by the consumer, until they are disposed of. For ELG, we foresee a two- or multi-way value creation. As a digital platform, ELG will maintain an ecosystem of reciprocity. LT providers, LT consumers, ELG stakeholders and the whole ELG community help to generate two-way and reciprocal value as a result of the combination of resources of its participants, cost benefits (demand economies of scale) and network effects. As such, marketplace participants will create value by tapping into resources and capacities that they do not have to own themselves. In addition, marketplace participants will enjoy cost benefits and positive compound effects, arising from demand aggregation, from efficiencies in networks and from technological improvements on the demand side. Third, there is value within the network itself: growth via network effects will lead to market expansion for each of the members of the ecosystem. New participants (buyers and suppliers) enter the marketplace, because they are attracted to ELG by the growing number of participants who are also part of the network. That way, value is created in a reciprocal, multi-sided (almost infinite) way. For more details, see Chapter 12.

## 3 Main Pillars of the Business and Operational Model

Given the large number of possible routes to evaluate as well as decisions to be made eventually, we stretched the consortium-internal discussion of the main pillars of the ELG legal entity's business and operational model over the whole project duration, initiating the consortium-wide discussion in late 2019, i. e., we started immediately after the implementation of the proof of concept of the ELG platform. The goal was to specify, in a step by step fashion, the main ingredients of the sustainability plan. Relevant intermediate results were presented at META-FORUM 2020 and 2021 as well as in a number of talks.

At the very start of the overall process we looked at the setup and models of various other organisations that might serve as potential blueprints for ELG or, the other way around, as examples of organisations that would *not* work for ELG. We paid special attention to the domain of Language Technology and related fields, to the aspect of community-driven organisations, to combining industry and research and to the relevance of Europe as an overarching umbrella. All organisations we examined in more detail operate in the sphere of IT, LT or AI. Some of them have been created as spin-offs of research projects. With regard to their size and setup, though,

these organisations are very diverse; the similarities with ELG in terms of their respective starting points and target groups also vary considerably. The organisations are: DBpedia Association<sup>1</sup>, World Wide Web Consortium (W3C)<sup>2</sup>, Industrial Data Spaces (IDS)<sup>3</sup>, LT Innovate<sup>4</sup>, OpenAIRE<sup>5</sup>, CLARIN ERIC<sup>6</sup>, Big Data Value Association (BDVA)<sup>7</sup>, Translation Automation User Society (TAUS)<sup>8</sup>, ELRA/ELDA<sup>9</sup> and GATE Cloud<sup>10</sup>. While discussing and learning more about these organisations – especially with regard to the type of legal entity they use, their membership as well as governance and fee structure, revenue streams etc. – we realised that despite some superficial similarities, none of them could serve as a direct model for the ELG legal entity, i. e., we are not aware of any organisation that could serve as an actual blueprint. However, we have been able to derive some important questions from this comparison that have informed the subsequent steps of the process.

The following sections present the main pillars of the legal entity approx. in the order in which we discussed and designed them.

### 3.1 Expectations by the ELG Consortium’s SME Partners

Next up in the overall process of designing the ELG legal entity, we initiated a discussion with the ELG consortium’s SME partners, primarily to collect their expectations and demands towards a legal entity that operates and maintains the “primary platform for Language Technology in Europe”. The most important aspects of their considerations can be summarised as follows.

**Sales channel:** ELG is, first and foremost, understood as a channel to promote and to sell the products and services offered by the SMEs. ELG should stir interest and convince potential customers to invest in European LT. This is also true for public administrations and governmental bodies, the European Institutions and NGOs with the general idea being that interested parties and stakeholders look at ELG first in their procurement processes for LT. It was suggested that, in the medium to long run, ELG should consider fulfilling or even establishing certain quality and security standards as well as some kind of quality seal.

**Strategy and collaboration:** Europe has strengths in certain areas and language combinations but new business opportunities can only be reached by joining

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<sup>1</sup> <https://www.dbpedia.org>

<sup>2</sup> <https://www.w3.org>

<sup>3</sup> <http://www.industrialdataspace.org>

<sup>4</sup> <https://lt-innovate.org>

<sup>5</sup> <https://www.openaire.eu>

<sup>6</sup> <https://www.clarin.eu>

<sup>7</sup> <https://www.bdva.eu>

<sup>8</sup> <https://www.taus.net>

<sup>9</sup> <http://www.elra.info>

<sup>10</sup> <https://cloud.gate.ac.uk>

forces and combining the offers with those of other European players. Missing or needed tools and services from others will help expand one's own set of tools and services. The SMEs expect ELG to help in this regard, i. e., identifying and closing strategic partnerships (also see *Interoperability* below).

**Buy-in from the whole community:** According to the SME partners, ELG must be positioned in the right way with regard to other platforms and infrastructures, e. g., a controlled transition from META-SHARE to ELG should be achieved by also integrating those organisations who have participated in META-SHARE. Furthermore, ELG should be backed, i. e., supported and *actively* used, by national centres and institutions. In terms of the governance model, all stakeholders should be able to have their say, yet dominance must be avoided. ELG can also provide a channel so that the results of national and international funding programmes can be disseminated efficiently on an international level.

**Information channel:** The goal is for ELG to become the primary European platform for participants from academia, research institutions and commercial entities. Especially with regard to industry, the relevance, understanding and benefits of LT for companies of all sizes needs to be increased. ELG could function as a means to keep interested stakeholders informed by serving as an information source and matchmaker for buyers and suppliers alike (marketplace approach, see Chapter 12).

**Interoperability:** 1. Throughout Europe, there is a sizable number of other relevant platform and infrastructure initiatives including, among others, Gaia-X<sup>11</sup>, the European AI-on-demand platform<sup>12</sup>, EOSC<sup>13</sup> and NFDI<sup>14</sup>. The SMEs mentioned their expectation that ELG becomes part of this larger ecosystem of platforms around Artificial Intelligence, data economy, research data management and Open Science, i. e., that ELG should ideally be fully interoperable with these other infrastructures, eventually opening up additional markets (Rehm et al. 2020a). 2. Furthermore, providers of LT need to understand what the requirements are to participate in ELG and why it is beneficial for them. ELG needs to be compatible with existing businesses and should not duplicate existing systems. Since various companies already operate their own or managed cloud platforms, platform interoperability should be ensured so that ELG complements existing or emerging clouds rather than appearing like competition. ELG should avoid creating the impression of being yet another collection of data and tools but rather emphasise the ability to combine services and resources from different companies. 3. For this, however, full interoperability on the level of the actual tools and services, i. e., on the level of APIs, annotations, semantic descriptions, closed vocabularies etc. needs to be achieved (also see *Strategy and collaboration* above).

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<sup>11</sup> <https://gaia-x.eu>

<sup>12</sup> <https://www.ai4europe.eu>

<sup>13</sup> <https://eosc.eu>

<sup>14</sup> <https://www.nfdi.de>

## 3.2 Key Aspects of the ELG Legal Entity

Informed by the SME partners' expectations and other desk research we performed (see above), we started defining key aspects of the ELG legal entity, as follows:

**Not-for-profit or for-profit organisation?** There was a broad consensus in the consortium-internal discussions that the legal entity should be a not-for-profit organisation. This decision is rooted in the overall approach of ELG as an initiative *from* the European LT community *for* the European LT community. Moving into the for-profit direction would constitute a significant change of plan, effectively compromising the initiative's independence and ability to be perceived as neutral and non-competitive; this could also jeopardise the initiative's political standing with national and international administrations and funding agencies. In addition, the not-for-profit direction comes with additional benefits (e. g., in terms of taxation, more favourable funding conditions when participating in EU projects etc.).

**Distributed team or central location?** Due to the fact that the ELG consortium is already a distributed team and that the development of the platform and its technical infrastructure is spread across different European countries, the decision was made to keep this distributed setup and to build the team virtually rather than in one physical location. Current technical setups for remote work enable efficient virtual meetings and distributed teams are very common in business by now anyway, which is why we made this decision. The suggestion was made to position the legal entity's "headquarter" in the country where the majority of the costs are likely to be incurred, which, for the time being, will be the rented cloud infrastructure plus part of the personnel costs.

**Start small or big?** Given that developments in the AI/LT field and in Europe as a whole are very dynamic, the preparation of a detailed ten-year plan does not seem to be the right approach. A large organisation with a rigid hierarchical structure was perceived to be an obstacle in our consortium-internal discussions. Instead, we favour a flexible and agile setup that can react quickly and efficiently to changes and new framework conditions. However, the organisation must be large enough to ensure that the existing infrastructure and platform can be maintained and extended in a meaningful way and so that growth is possible. We currently assume a headcount of 10-15 employees for Phase 3 (see Table 1).

**Abrupt transition or soft launch?** While the ELG EU project will end on 30 June 2022, various partners of the ELG consortium are involved in a number of new projects, in which the European Language Grid plays a certain role. Through these new projects, some of the costs of operating the cloud platform can be covered. This situation is ideal because it gives the consortium a bit more time and flexibility for completing the overall setup of the legal entity. Our goal is to establish the legal entity in the second half of 2022, performing a rather soft launch.

**Membership organisation?** There are good reasons for having a setup that includes a membership structure, especially for actively including the many members of the European LT community and also because membership fees can be considered a constant, reliable source income if the ELG legal entity is able to

continuously provide added value. On the other hand, the membership fee needs to be reasonable to make sure that interested parties are not deterred from the very outset. The specifics are still under discussion.

### 3.3 Assessment of Operational Costs

Operating the ELG legal entity will create costs, that need to be covered, even if the organisation itself will be a not-for-profit one. While the key tangible outcome of the EU project, the implemented and populated cloud platform, is an important prerequisite for the legal entity, several additional components need to be put in place. Crucially, the legal entity needs a team and director to take care of operations, maintenance and further development of the platform, associated tools and the ELG community. The main cost items are as follows.

**Staff** Labour costs represent the largest share of the organisation's expenses. Even a minimal team includes employees for operations, development, marketing, support and management. It might not be necessary to hire full-time employees for each of these areas right away but in order to run a successful organisation, a stable team is essential.

**Cloud hosting** To enable the legal entity to operate the ELG platform, a cloud infrastructure (including CPU, GPU, RAM, SSD and bandwidth) needs to be rented from a cloud service provider.

**Overhead** This refers to costs like rent of office space, hardware like workstations and printers, furniture, electricity, heating, etc. Even if remote and part-time work might reduce these costs because there is no need to rent larger office spaces, overhead still accounts for part of the fixed costs of the organisation.

**Legal** Especially in the ramp-up phase of an organisation, comprehensive and sound legal advice is crucial. The ELG legal entity will have to draw up and maintain model contracts and service level agreements for its products. Moreover, advice on GDPR, tax legislation and human resources issues is needed. The legal entity will not have the capacity for an inhouse legal expert, instead, legal services will be outsourced.

To facilitate future planning, a preliminary cost-structure has been developed (Table 1). It illustrates the foreseen soft start of the legal entity, which is separated into three phases. The gradual soft launch is meant to go from a small team that is working part-time (Phase 1) to a team of 10-15 full-time employees (Phase 3).



Cost Item	Phase 1 (start)	Phase 2 (ramp-up)	Phase 3 (stable)
Staff	2,500€	25,000€	100,000€
Cloud hosting	2,500€	10,000€	20,000€
Overhead	500€	2,500€	7,500€
Legal	–	2,500€	5,000€
Total	5,500€	40,000€	132,500€

**Table 1** Estimated monthly costs in three phases (numbers are preliminary and indicative)

### 3.4 Business Model Canvas

The Business Model Canvas (BMC)<sup>15</sup> is a template used in strategic management for the development or documentation of existing or new business models. It is widely known and often serves as the first instrument applied when it comes to the visualisation and structuring of business models. The BMC helps to bring all essential elements of a business model into a scalable system. It consists of a visual chart with all necessary elements of an organisation or company. The idea is that the company or startup recognises its potential and weaknesses and understands where to align their activities by illustrating potential trade-offs (Osterwalder and Pigneur 2010). The nine “building blocks” of the business model design template that came to be called the Business Model Canvas were initially proposed by Osterwalder (2004) based on his work on a business model ontology. It outlines nine segments for the business model in a simple one-page canvas that can be inspected alongside each other. The nine BMC segments are: 1. Key Partners, 2. Key Activities, 3. Key Resources, 4. Value Proposition, 5. Customer Relationships, 6. Channels, 7. Customer Segments, 8. Cost Structure and 9. Revenue Streams. Below we explain how the ELG legal entity relates to each of the nine segments of the BMC. This ELG-specific BMC was prepared by all nine ELG consortium partners. First, we asked all partners to prepare a partner-specific BMC, i. e., to prepare their own vision and approach of the ELG legal entity. Afterwards we processed the nine individual, partner-specific BMCs into one consolidated BMC, which is the basis of the following description.

**Segment: Key Partners** “Who are the key partners/suppliers? What are the motivations for the partnerships?”

One key partner in the ELG BMC are commercial and non-commercial LT service providers, either with or without their own cloud platform. Equally important are Language Resource and data providers that own existing data sets and repositories. These two key partners contribute to the thriving of the ELG platform. Their motivation is not (or not only) to use available services and resources, but they offer their own services and resources and create value or profit for their own organisations. Another key partner is the wider ELG community, including the ELG consortium, the 32 National Competence Centres, the national language communities, and all running EU projects and initiatives in the field of LT (includ-

<sup>15</sup> [https://en.wikipedia.org/wiki/Business\\_Model\\_Canvas](https://en.wikipedia.org/wiki/Business_Model_Canvas)

ing ELE). This community consists of academic and research partners as well as a number of companies that need multilingual datasets and services for their research. Equally important for raising awareness are the European Commission and the European Parliament as well as national institutions such as ministries and funding agencies and other established networks and associations.

**Segment: Key Activities** “What key activities does the value proposition require? What activities are the most important in distribution channels, customer relationships, revenue stream, etc.?”

The most crucial key activity is the maintenance, further development and operation of the ELG platform. It needs to provide an interesting and relevant offering in order to grow a critical mass of members and users and gain popularity in the whole European LT community and beyond. Regular posting of content and other outreach activities (such as events, tutorials, talks, publications, meetups etc.) are essential to generate visibility and create a strong reputation (see Chapter 10). All communication and dissemination activities have to be treated with the highest priority to retain existing users and keep attracting new ones. Leveraging existing communication networks and sales channels can support this process and will be further explored. Quick and reliable service and support helpdesks are needed to strengthen customer relationships. Licensing and billing models need to be maintained and promoted. Maintenance and management of cloud storage and computing for running services has to be ensured.

**Segment: Key Resources** “What key resources does the value proposition require? What resources are the most important ones in distribution channels, customer relationships, revenue stream etc.?”

The most important resource is the ELG platform itself with all its functionalities and included services, corpora and additional information. ELG can be regarded as a set of seed technologies, tools and components that are extended over time. Customer feedback can be seen as a useful resource as well. It can come in many different forms such as evaluation from market data or helpdesk and user support feedback. Equally important is a dedicated ELG team, committed to not only maintaining existing technology, but growing it and promoting the importance of ELG on an international level. To achieve this, a wide international network is a key resource. The consortium combines vast experience and expertise, good knowledge of ongoing trends and access to numerous European networks in academia and industry.

**Segment: Value Proposition** “Which customer needs are being satisfied? What core value is delivered to the customer?”

ELG is envisioned to become the primary LT platform for Europe and to function as a one-stop-shop, offering a rich portfolio of LT services, tools and datasets. One of its core values is the availability of state of the art services which are fast, effective, robust and high-quality. Another special attribute is the fact that ELG is “made *in* Europe, *for* Europe”. This strong branding inspires trust and confidence and ensures that the system is compliant with European regulations, security constraints and ethics. For customer satisfaction, ELG needs to be customisable, cover niches, address verticals and offer direct access to providers. Fur-

thermore, all solutions come with high usability and are easy to integrate. Stakeholders familiar with the European LT landscape are aware of the fragmentation of the community which impairs an effective exchange of resources. ELG is committed to tackle this existing fragmentation. Competitive pricing is another value that makes ELG attractive for customers. Unique about ELG is that it offers a new or additional channel for service providers and consumers. Suppliers can gain more visibility, easy portability between providers is guaranteed through joint standards. Workflow functionalities will eventually be integrated to combine services from different providers and even their own clouds. ELG also offers added value to academia. It allows the use of services and data and offers easy comparison between systems on the same data or different data with the same system. ELG is meant to act as a broker for European LT and as a catalyst to boost innovation that also makes both the European industry LT sector and academic institutions an attractive employer for young high-potentials.

**Segment: Customer Relationships** “What relationship that the target customer expects are you going to establish? How can you integrate that into your business in terms of cost and format?”

The ELG brand is intended to be a quality seal for customers that guarantees state of the art services, a high level of security and compliance with all relevant EU regulations. Customers can use ELG through the web UI including code samples and libraries or through the APIs or SDKs. High quality guidelines and a user-friendly design make processes intuitive. Support through a service helpdesk is also possible. Technical onboarding and support packages will be offered and a fine-grained customer relationship model is being developed. Essential for targeting customers is strong brand building. Related marketing activities are tailored to different audiences and distributed regularly. While retaining customers is essential, new potential customers can be attracted through outreach and training events, tutorials, webinars and conferences. A brand that has earned people’s trust can also create a need for other customer services such as consulting services around ELG and language-centric AI.

**Segment: Channels** “Through which channels do customers want to be reached? Which channels work best? How much do they cost? How can they be integrated into customers’ routines?”

Customers will be reached through a variety of channels. Events, both established and new ones, will play an important role, for example, events targeted at stakeholders in a specific industry domain. Dedicated networking sessions, conferences and presentations are also foreseen. Online advertising campaigns will accompany all events. Since ELG builds on an existing network of stakeholders, email marketing and social media campaigns have proven to be successful means of reaching out. Presence on social media channels such as Twitter or LinkedIn helps to promote events and maintain customer relationships. ELG itself is a channel through which customers can retrieve information, not only about services and datasets, but also about the community and events. Cloud platforms that are either currently being developed in other EU or national projects as well as exist-

ing commercial platforms can also act as channels to point potential customers to ELG. SEO can also help promoting ELG since users trust search engines.

**Segment: Customer Segments** “For which segment is value being created? Who is the most important customer?”

The ELG platform offers value to different customer segments. LT providers, both commercial and academic ones, can use ELG to offer their services and datasets. Research organisations can benefit immensely from the wide offer. Customers from industry that demand LT (including large enterprises, SMEs, startups etc.) represent an essential customer segment that contributes to turning ELG into a flourishing marketplace. The European Union, public administrations and NGOs can also integrate ELG services into their current solutions. The same holds true for funding agencies and policy makers, advertising companies etc. Other EU project consortia as well as project consortia on the national level can benefit from the value created by ELG.

**Segment: Cost Structure** “What are the highest costs? Which key resources or activities are most expensive?”

As mentioned earlier, the highest costs are created by the human resources and the digital infrastructure. Personnel costs are created by the team maintaining and further developing ELG including daily operations as well as customer support, but also community management work that requires marketing and communication activities. Further resources need to be assigned to management and administration work that includes budgeting, accounting and legal counselling. Moreover, overhead costs are to be covered.

**Segment: Revenue Streams** “For what value are customers willing to pay?”

Part of the overall revenue will be generated through different products including usage or subscription fees, brokerage fees (marketplace approach), commission fees and products such as LT as a Service (LTaaS; hosting of services, models, datasets), LT Platform as a Service (PaaS; combining ELG services into workflows) and Repository as a Service (RaaS; hosting service for whole repositories). Advertisements can, for instance, showcase companies, services, conferences etc. Sponsored content, services, data sets, companies etc. present another revenue stream as well as commission fees. Paid training events, tutorials, webinars etc. can be offered to commercial stakeholders. Conferences (event registration fees; sponsorship packages for companies) are also an opportunity to generate income as well as general consulting services around ELG and language-centric AI.

This brief summary of the nine segments is an extract of the ELG BMC, produced by consolidating the BMCs prepared by the ELG consortium partners. For many segments, there was broad agreement within the individual BMCs, especially with regard to *key partners*, *key activities* and *key resources*. Also, in *value proposition*, *customer relationships* and *channels* the answers were largely similar. The *customer segments* are quite heterogeneous, though, which may make a targeted approach more difficult. As far as the *cost structure* is concerned, there are few deviations. A crucial open question concerns the appropriate size and ambition of the ELG, in particular with regard to team size. The answers were rather diverse in the case

of *revenue streams*; here, positions could be aligned more closely through the subsequent step of specifying and discussing the different ELG products. As a follow-up step, the exact revenue streams will be evaluated with regard to cost-effectiveness and sustainability.

### 3.5 Product Portfolio and Revenue Streams

Together with all partners of the ELG consortium we defined, in a process that included several iterations, a portfolio of products that the ELG legal entity can potentially offer. These products are targeted at members of the European LT community and also at stakeholders interested in using, implementing, integrating or purchasing European LT. The products are primarily foreseen as revenue streams for the ELG legal entity so that it is able to cover the fixed costs associated with operating the ELG legal entity and platform (Section 3.3).

Such a structured portfolio of products, including associated fees, is necessary for eventually preparing the budget plan of the legal entity. In the following, we briefly describe the main categories of the ELG product portfolio; due to space restrictions we are unable to include all the details (especially aspects such as competitors, pricing, technical preconditions and general prerequisites are left out), i. e., the description in this chapter is not meant to be exhaustive but rather indicative of the overall plan and vision of the legal entity. It is also important to note that not all products will be offered right from the start but that the set of products will be expanded gradually over time.

#### 3.5.1 Product Category: Marketplace

**Marketplace Commission** ELG features a directory of all European LT developers and can enable a match-making process, i. e., ELG facilitates, for potential buyers or integrators of LT, the discovery of the right LT provider. In this product, ELG receives a commission from every contract generated through the marketplace (approx. 5-10%). This product can be used by commercial LT developers to broaden their reach and to penetrate new markets, especially if the current is limited or if the developer is operating in a niche. On the demand side, we foresee this product to be used by larger organisations that want to buy LT or integrators that need a specific LT for a customer project. In order to participate in this marketplace, LT developer companies have to agree and to sign a marketplace participation framework agreement.

**Public Request for Bids Model** This product is a potential extension of the *marketplace commission* product: Customers can publicly and maybe anonymously post the need for a certain technology or resource or perhaps for an integration task and ask supplier companies for bids. Multiple LT developers and integrators can post their bids (not publicly) so that the organisation that posted the origi-

nal request for bids can identify a cost-effective way to move forward. Posting the original request for bids would require a small fee to be paid. If a contract is established, the usual ELG marketplace fee applies on top of this.

### 3.5.2 Product Category: Consulting

**Technical ELG Platform Consulting** The ELG legal entity has enough expertise so that it can offer various types of technical consulting services, for example, regarding ELG, providing or using ELG services, combining services, training new models and making them available, i. e., services with a clear focus on the ELG platform, ecosystem and technical basis. This product is likely to be purchased by organisations that have a certain need for LT and that want to test and explore certain functionalities, models or tasks, but these organisations realise that they need some kind of help, e. g., implementation of prototypes, selection of technologies, evaluations etc. Using this product, organisations are able to make full use of the ELG platform and all its services. This product can be offered for a one-time fee or, for larger companies, also as part of a framework contract.

**Conceptual ELG Community Consulting** This product is similar to the one described above; it primarily makes use of the ELG team's in-depth knowledge of the ELG community, i. e., of the European LT developer or provider landscape. In that regard, the ELG team can support organisations with a certain need for a general or specific type of LT in finding the right technology provider. Customers interested in this type of product know that they have a certain need for LT but they are unsure about the concrete next steps, i. e., where and how to find the provider company.

**LT Market Intelligence Report** The ELG legal entity could exploit its in-depth knowledge of the European LT landscape and community and publish an annual or semi-annual market intelligence report about the European and maybe also global LT landscape including topics such as, among others, emerging trends, new players and rising stars, new projects and success stories. Such market analyses are highly relevant for a larger group of stakeholders including larger companies and enterprises (LT developers, LT users), non-governmental organisations, venture capital companies and others. These reports could be offered for a one-time fee or as packages that cover multiple reports with a slightly reduced fee.

### 3.5.3 Product Category: ELG APIs

**ELG Power User Flatrate (for commercial users)** Through this product, commercial customers get unlimited and unrestricted access to the ELG APIs of all integrated services and tools. This product targets companies of any type (SMEs, integrators, enterprises) that have to pay a small monthly or annual fee to be able to use it. This subscription product provides direct to all ELG APIs for experimentation and evaluation purposes, enabling fast comparisons and immediate results.

It can also be used to develop smaller LT-driven applications by integrating ELG APIs into existing systems. Like with many other products, any surplus generated through this product will be transferred to those LT developing companies that have provided the ELG-integrated services that were used in the relevant month, based on the proportionate number of API calls.

**ELG Power User Flatrate (for academic users)** Technically, this product is exactly like the first one but it targets academic users exclusively. The monthly or annual fee will be significantly lower than the fee of the power user flatrate for commercial users.

**ELG Professional Flatrate** Conceptually, this product is similar to the first one but the professional flatrate includes additional features and support services, e. g., faster tools, more compute resources, faster helpdesk support, workflow or pipeline functionality etc. The price of this product will be significantly higher than the pricer for the first product.

### 3.5.4 Product Category: LT-as-a-Service

**LT-as-a-Service (for commercial users)** This product targets commercial LT developers. Paying a certain fee, it enables them to host a limited number of LT tools or services within the ELG platform with guaranteed performance and availability. In order to be able to host more services or API endpoints in ELG, a different type of product needs to be purchased (see Section 3.5.6). This product is especially interesting for those companies that do not operate their own cloud infrastructures or that are eager to participate in the ELG initiative, i. e., ELG's LT-as-a-Service product can be seen as an alternative to renting cloud infrastructure. Another benefit of this product is that companies are able to extend their reach and to open up new markets, i. e., once again ELG can be used as an additional sales, promotion and distribution channel. This product can also be set up in multiple tiers, representing different maximum numbers of services and corresponding prices. While companies have to pay a certain fee for this product, the different ELG APIs products (see Section 3.5.3) will generate revenue, from which the companies will benefit. In that regard, it is important to identify the right balance over time.

**LT-as-a-Service (for academic users)** Technically, this product is exactly like the previous one but it targets academic users exclusively. The monthly or annual fee will be significantly lower than the fee of the LT-as-a-Service product for commercial users. This product also targets research projects, for which ELG can function as a secondary or maybe even primary dissemination and exploitation channel for their research results. Like the ELG power user flatrate for academic users, we consider making this product available for free for academic users if and when the ELG legal entity has established stable revenue streams.

### 3.5.5 Product Category: Data-as-a-Service

**Data-as-a-Service (for commercial users)** This product is very similar to LT-as-a-Service but instead of focusing upon running services or tools, it only allows making datasets or other (static) resources available on ELG, again, with guaranteed availability. Like LT-as-a-Service, this is an entry level product and, thus, only allows hosting a limited number of datasets (or up to a certain amount of data) on ELG. In case of more demand on the side of the customer, a different type of product needs to be purchased (see Section 3.5.6). This product needs to be priced lower than the LT-as-a-Service product.

**Data-as-a-Service (for academic users)** Technically, this product is like the previous one but it targets academic users. The monthly or annual fee will be significantly lower than the fee of the Data-as-a-Service product for commercial users.

### 3.5.6 Product Category: Repository-as-a-Service, Platform-as-a-Service

**Repository-as-a-Service, Platform-as-a-Service** Using this product, customers can host whole LT platforms or repositories on ELG while the ELG team takes care of all technical aspects including branding, availability, backups etc. This product targets a variety of stakeholders including governments and ministries (e. g., for hosting national LT platforms on ELG), smaller or larger companies, smaller research groups and also whole research centres. The idea behind the product is that setting up and operating a cloud with an LT repository requires a lot of effort and expertise, which can be fully avoided by purchasing the corresponding ELG product. While the branding of the respective hosted platform or repository can be adapted to the brand and logo of the respective customer on the user interface level, at the same time, all hosted services, tools and other resources are automatically also part of the ‘wider’ ELG cloud platform, which will automatically broaden their reach significantly. We currently foresee three different tiers of this product: one entry level tier for research groups, one for SMEs and research centres and one for national LT repositories.

### 3.5.7 Product Category: Events

**Training Events and Tutorials** In addition to the more technical products described above, training events and tutorials can be offered as products, especially for commercial customers. These can be, among others, general ELG-related training events (from half a day to multiple days) where the training relates to the ELG platform, using, providing and combining services etc. This type of event can be offered to organisations that have a need for certain LT and that want to be able to make the most of the ELG platform. This product is a pre-packaged and generic course, while those training events that involve customisation of content,



tailoring the course to the respective customer and its specific needs, would be rather considered technical ELG platform consulting (see Section 3.5.2).

**Annual Conference** The annual ELG conference assembles the whole ELG community, including commercial and academic participants, related projects and initiatives etc., and also the ELG team. While the annual ELG conference organised by the ELG EU project has been free of charge, this model could change (e. g., registration fees, sponsorship packages, paid presentation slots, booths for a fee in the industry exhibition etc.).

### 3.5.8 Product Category: Marketing and Advertisements

**Conference Sponsorship** This product relates to typical conference sponsorship packages, which can be purchased by, typically, companies to position themselves as gold or platinum sponsors of the annual ELG conference. This product model is well established and accepted in industry and research but to be successful it requires the respective conference to be of very high relevance for its community.

**Online Advertisements** The ELG platform could offer a small part of its screen real estate for online advertisements that can be purchased, among others, by members of European LT community to position their products or services in a more targeted way on the ELG website, for example, when certain keywords or search terms are used. In terms of revenue generated, this product only makes sense if the website has a very high number of users. Furthermore, it remains to be discussed and seen if online ads are a welcome addition on the ELG website or if they are perceived as not appropriate.

**Sponsored Content** Similar to online advertisements, the idea behind this product is that customers can pay a small fee to get one or more of their products, services or resources or perhaps even their own organisation's or project's page in the ELG catalogue featured on the ELG website, clearly marked as "sponsored content" (for example, the first search result).

**Merchandise** The final product relates to ELG-branded merchandise, which could be sold online, for example, tshirts, hats or pens with the ELG logo.

### 3.5.9 Miscellaneous

In addition to the actual products offered by the ELG legal entity, there are at least three other potential revenue streams or activities related to marketing the ELG products. These additional revenue streams cannot be considered products per se.

**Foundations** The ELG legal entity could approach one or more foundations with the request to grant financial support. In return, the foundations could position themselves as supporters of the ELG initiative.

**Project Grants** EU or national project grants are an obvious mechanism to support part of the ELG team and platform as well as its operation.

**ELG Use Cases as Show Cases** Together with larger enterprises and some of the commercial LT developer companies represented in ELG, interesting and relevant show cases as well as success stories can be published on the ELG website, which can function as marketing instruments and testimonials that demonstrate that ELG is an important and valuable activity.

### 3.5.10 Summary and Assessment

The ELG product portfolio is diverse and broad, it offers multiple different options of moving forward under the umbrella of the legal entity. As mentioned, we will not start with all products right away but only with a selection. Before we make the final selection, we will validate the products and their chance of being accepted by the European LT community with a number of experts from the field. As the most promising products we currently perceive the ELG APIs (Section 3.5.3) due to the enormous market for this product, the LT-as-a-Service products (Section 3.5.4) due to high demand, the marketplace (Section 3.5.1) as well as the consulting product (Section 3.5.2).

Additionally, we see a lot of potential in offering countries the technical infrastructure for the purpose of supporting national LT platforms (Section 3.5.6). Especially for smaller countries or regions, it is challenging to develop, operate and maintain an elaborate technical platform all by themselves. For these, having their *National LR/LT Repository* hosted as a service within ELG can be an attractive offer. For ELG, in return, it appears to be an interesting financial pillar to operate such platforms, charging an annual hosting fee.

Making use of the ELG platform as the primary dissemination and exploitation channel for research projects is another product idea that has a lot of potential (Section 3.5.4). It enables research projects to fully concentrate on the actual research work without a need for developing complicated exploitation plans on their own because they can fully rely on ELG for this purpose. This approach can increase the general visibility of European research results significantly.

## 3.6 Legal Entity Type

For the creation of a dedicated legal entity with European scope, we considered a number of different entity types. The decision to move forward with a not-for-profit organisation was made rather early in the process. The main options that we explored were a professional association or a foundation. In that regard, each EU country has its own set of different types of business entities as part of their legal system, which, generally, all have their own specific sets of rules. These include, among others, cooperatives, partnerships and limited liability companies. Looking at Germany, for a not-for-profit organisation, a *gGmbH* (a not-for-profit private limited company), or an *e. V.* (eingetragener Verein, registered association) would be two obvious options.

An alternative that enjoys some popularity with EU-funded projects is the Belgian Association without lucrative purpose (*AISBL*). As the ELG consortium does not have any partners in Belgium or Luxembourg, the *AISBL* option was ruled out for reasons of efficiency. In addition to national entities, there are several types of legal entities on the level of the European Union.

The *EEIG* (European Economic Interest Grouping) is part of European Corporate Law, created in 1985. An EEIG makes it easier for companies in different countries to do business together. Its activities must be ancillary to those of its members. Any profit or loss is attributed to its members. It is liable for VAT and social insurance of its employees but it is not liable to corporation tax and it has unlimited liability. Several thousand EEIGs exist and are active in various fields. This legal entity only applies to companies, it does not include research institutions.

The *SE* (*Societas Europaea*) is a European company, established in 2001 by an EU Regulation. The SE has been growing in popularity ever since. It is a type of public limited-liability company and allows an organisation to operate its business in different European countries under the same rules. An SE offers many advantages such as easily setting up Europe-wide subsidiaries as well as an international holding company. The company headquarters can be relocated easily and the SE legal form conveys a strong European image. However, the SE comes with strict foundation criteria, such as the requirement of high initial capital.

The *SCE* (*Societas cooperativa Europaea*, European Cooperative Company) was established in 2006, it is related to the SE. An SCE can be established in the European Economy Area. This entity type was created to remove the need for cooperatives to establish subsidiaries in each EU Member State in which they operate, and to allow them to move their registered office and headquarters from one EU Member State to another. SCEs are governed by a single EEA-wide set of rules and principles which are supplemented by the laws on cooperatives in each Member State.

The *SPE* (*Societas privata Europaea*) is a European private limited company, it corresponds to an Ltd. in Anglo-Saxon countries or a GmbH in Germany, Austria and Switzerland. This legal entity type has been a European Commission proposal for more than ten years. As of now, it still does not exist.

For ELG, a crucial requirement is that the selected solution provides flexibility, agility and the ability to ramp up the operation of the legal entity in a careful way. The final decision must also be made on the basis of financial considerations, i. e., it must be specified which products or services can be offered to generate which profit.

At the time of writing, we will establish a registered association headquartered in Germany (e. V., *eingetragener Verein*). This option does not require any initial capital and frees ELG from the pressure of having to generate income immediately. Since some of the staff members who will be active in the ELG e. V. in the first phase are based in Berlin, it appears practical to set up the entity in Germany and under German law. It must be noted, however, that the legal entity will work in virtual teams primarily. The only legal entity type on the European level that could be appropriate for ELG, the SPE, does not exist yet.

## 4 Summary and Next Steps

This chapter presents the current state of planning of the ELG legal entity, which is foreseen to be established as an *eingetragener Verein, e. V.*, as a registered, not-for-profit association, in the second half of 2022. The legal entity will start small, with a soft launch, and is meant to be flexible and agile. The main pillars of this concept have been under development since late 2019 and cover most of the crucial aspects of the legal entity. In terms of financing, a mixed model is envisaged, driven by the product portfolio (Section 3.5), that includes shared revenue streams through LT provider companies that use ELG as a sales channel and their customers who use ELG to find the right providers and suppliers as well as services.

One aspect that still needs to be specified in more detail is the inclusion and active involvement of the European LT community and the governance structure of the legal entity. As an initiative *from* the European LT community *for* the community, its involvement is crucial to create trust and transparency as well as to provide representation to academic and industrial European LT developers. The proper inclusion of the community in a representative manner will require a number of discussions and deliberations. Fortunately, with regard to an *e. V.*, these matters do not need to be fully resolved before establishing the organisation but can also be taken on board and revised through updates of its statutes.

Originally we had envisioned to establish the legal entity within the project runtime and to start with a ‘bigger’ approach than is currently foreseen. The aforementioned delay of a few months in establishing the entity does not pose a problem because the overall framework conditions have changed in the last 12 to 18 months. Through recently started and publicly funded projects including ELE, ELE2, OpenGPT-X, NFDI4DataScience and AI as well as the upcoming EU projects DataBri-X and SciLake, which are about to start in October 2022 and early 2023 respectively, we are able to operate the ELG cloud platform and we can also perform some maintenance and other ELG-related work, including the extension of the ELG platform itself so that it is compatible with the emerging Gaia-X ecosystem. In addition, SciLake will establish the first bridges to the EOSC ecosystem.

Since the start of the project, we have been collaborating with the European AI on demand platform, especially with the AI4EU project, to ensure compatibility of our approaches in terms of semantically describing resources. Furthering these collaborative efforts will facilitate cross-platform search and discovery enabling ELG resources and other assets to be visible and usable by the wider AI community. Considering the EU’s plan to deploy the European AI on demand platform, ELG is ready to act as the central language-related AI hub and marketplace providing access to and direct use of several thousands of LT services and related data.

While the future is always difficult to predict, it is clear already now that over the past three years the interest in ELG has risen constantly and that the legal entity that will take over the initiative after the EU project has ended has very good starting conditions. The ELG brand has been established in the community and a considerable buy-in can be observed already now. However, to take advantage of this momentum, the marketplace, broker, dissemination, exploitation and participation model needs

to be extremely simple and easy to grasp to make sure users understand and accept it and the platform needs to be as user-friendly and all-encompassing as possible in every regard, including the various levels of technical interoperability. Quality and security aspects play a crucial role and can become the unique selling proposition as opposed to providers of LT services from the US or Asia.

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