

Development plan – Open ELS

Author: Helen Kaestner/Dick Eertink

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Change Summary

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References

Ref.	Title/Version/Publication Date/Author
[1]	The Socio Economic Impact of Open ELS, Deloitte, November 2018

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I Introduction

I.1 Context

EuroGeographics is a not-for-profit association of the National Mapping, Cadastral and Land Registration Authorities (NMCAs), with the aim to facilitate access to its Members' authoritative data. In order to achieve this, EuroGeographics undertakes the effort to develop a one stop access point to harmonised pan-European spatial data services, the European Location Service ELS.

The Open ELS project aims at developing Open Data services for the priority domain of geospatial information from European National Mapping and Cadastral Authorities. It will improve the quality, availability and interoperability of open data from different, cross-border Public Authorities, facilitating access to and encouraging the uptake and use of data. More information are available on the website www.openels.eu.

I.2 Purpose and scope of this document

As intended in the Grant Agreement, one of the deliverables of the project is an Economic Appraisal and Business Plan for an Open ELS. This would include an operational plan, taking into account the costs and funding sources needed to ensure the sustainable maintenance of Open ELS. However, at the end of the Open ELS project we are not reaching the stage of sustainable maintenance yet. Therefore the present plan for Open ELS describes the scenario for developing Open ELS to operational services over the next 2 years after the project end.

The purpose is to provide to EuroGeographics and its stakeholders a clear picture of the planned activities and resources for the further development of Open ELS – if funding is available and therefore the actions are affordable.

This development plan describes activities in the timeframe of 2 years after ending of the Open ELS project (May 2019 – August 2021) and the high-level tasks and resources as well as it includes an estimation of costs for the defined time frame.

2 Constraints and conditions for implementing the plan

The implementation of this plan has certain constraints which prevent an immediate implementation of the proposed actions after the project end (30 April 2019).

EuroGeographics reserves the right to change the direction of implementing the actions described in the plan - depending on the availability of sustainable funding and the decision on the strategic direction of Open ELS.

EuroGeographics will perform a review of the current Open ELS project, assessing the lessons learnt and the way to move forward before taking up the further development.

Financial constraints

A further development of Open ELS products and services, but also of developing and implementing a scalable and future-oriented technical solution and operational model requires further financial investments by EuroGeographics.

EuroGeographics clearly states that developing sustainable funding for these services will be critical to their continued operation.

EuroGeographics has not decided at this stage whether further investments are affordable or not; and it has not finalised its strategic positioning on the continuation of the Open ELS project yet. Depending on the decisions, the development plan will be implemented or not.

Data Content Constraints

The implementation of this plan is constrained by the availability of authoritative open services from EuroGeographics' members.

The coverage of the current and future Open ELS products and services is dependent on the availability of open authoritative geospatial data from EuroGeographics' members. Pan-European coverage of Open ELS products and services based on authoritative open geospatial data cannot be delivered at this stage, due to the absence of harmonised open content at national level. As described above, EuroGeographics' ability to progress with open cross-border or even pan-European Open Location Services has not been decided yet, due to the absence of consistent open national data.

Conditions

The conditions for proceeding in the further development of Open ELS are:

1. EuroGeographics Management Board has to set the strategic direction for Open ELS.
2. A source of sustainable funding has been identified, secured and the funding is available.
3. A scalable and future-oriented technical solution needs to be implemented to improve the accessibility and usage of Open ELS products and services. A new technical solution cannot be implemented without sustainable funding (see 2).
4. An operational model has to be defined and set up.
5. Secured data supply chain.

3 Vision and user demand for Open ELS

3.1 Vision of European Location Services

As the official bodies responsible for national cadastre, land registration, geodetic surveying and mapping activities in Europe, EuroGeographics' members fulfil an essential role providing definitive and detailed geospatial information.

EuroGeographics believes in a society empowered by our members' authoritative geospatial services. Facilitating access to and the use of our members' geospatial data and services remains a core strategic goal of the Association.

We do this by representing the importance of our members' data at European and global levels, as well as by producing pan-European products, and by developing European Location Services. Our members support the vision for European Location Services.

Research¹ shows that there are many benefits for users and for society in having a single access point for international users of harmonised, pan-European, authoritative geospatial information and services.

The Open ELS project is a substantial part of European Location Services and demonstrates the potential of a single point of access and offers the opportunity to try harmonised European open data services from official national sources.

3.2 Users' demand for Open ELS products

Results from customer requirement workshops within the Open ELS project with representatives of EU public institutions show that there is a common requirement to access harmonised pan-European spatial data.

Relevant EU policy drivers for the demand for open geospatial data are:

- Commission policy agenda (Digital Single Market)
- Commission Jobs, Growth & Investment agenda
- Commission Justice & Property Rights agenda
- Commission Environmental policy
- Copernicus Regulation

And there is also a common requirement to access harmonised pan-European geospatial data within the private market sector – in particular for SMEs.

As part of the Open ELS Project, EuroGeographics contacted 26 SMEs from across Europe. The findings were included in a Deloitte report on the Socio-Economic Impact of Open ELS.

The research for the Open ELS economic appraisal found that SMEs have a strong appetite for more cross-border authoritative data which could help them improve their product and service offerings, save money and become more competitive.

The key findings of the research but also of the project's SME engagement activities are:

- There is a strong interest in free cross-border services, in particular administrative units and areas, cadastral parcels and addresses delivered through a web service or API.
- Centralising access to official geospatial open data
 - Is an opportunity to boost SME productivity and competitive advantage;
 - Would enable SMEs to be more competitive by cutting costs and boosting their ability to scale up and enter new markets.

The majority of SMEs participating in the research already use official map or cadastral information and said it was important that it was harmonised across national borders. Whilst there is strong demand for cross-border, edge-matched interoperable data however, SMEs currently face challenges in using and accessing authoritative information, including lack of resources for dealing with multiple NCMA's as well as costs for data cleaning.

The survey highlighted four potential benefits:

- The possibility to improve existing products and services offering.

¹ The Socio Economic Impact of Open ELS, Deloitte, November 2018, published at <https://openels.eu/latest/new-report-open-geospatial-data-from-official-sources-is-opportunity-to-boost-sme-productivity-competitive-advantage/>

- The possibility to develop new products and services.
- The reduced time and costs of dealing with different national mapping and cadastral agencies.
- And the reduced time and costs for acquiring/accessing data.

4 Strategy and approach for further development

4.1 Strategic approach for the Open ELS development

The strategic approach for the further development of Open ELS in the period of time from September 2019 – August 2021 is to

- Create and deploy cross-border services providing access to harmonised thematic open datasets. The ambition is to enhance the Open ELS products based on user demands in prioritised EU policy areas. The focus will be on the demand from EU institutions and SMEs to support specific application areas.
- Continue engagement and collaboration with SMEs.
- Expand the provision of open data content for the Open ELS products.
- Facilitate and provide access to the open data services through an adequate and scalable technology. A new technology has to be implemented; the current Open ELS technical infrastructure has to be replaced by a new technical solution and is following a centralised approach of data provision. The limitations of the current technical infrastructure are significant for future services. A new technology solution has to be procured, based on defined requirements and scope. The key driver is to have a solution in place which improves the accessibility and usage of Open ELS services.
- Set up a robust, reliable Open ELS data production process to have cross-border harmonised services available. The data supply and production process is being refined and improved. The objective is to have an integrated process established to manage efficiently the content of Open ELS services, backed up by legal agreements to ensure data supply to the operational service.
- Develop a strategy and roadmap for long-term sustainability and recommendations to foster the creation and deployment of open pan-European geospatial services.

4.2 Product strategy

The objectives of our product strategy are to prioritise and validate enhancements for Open ELS services through the engagement of users and to develop and deliver a road map for further enhancement of services. Future products should support the usage of Open ELS services, focussed on key policy areas (such as transport, environment, energy, health, justice) or facilitating the development of value added applications from SMEs.

The key activities planned within the next 2 years are:

- Develop the product roadmap and delivery of product enhancements based on user requirements
- Deliver the roadmap by building and running operational services
- Encourage the use of Open ELS services by defining and conducting an engagement programme

4.3 Data production and coverage strategy

Based on NMCA's willingness to contribute to the ELS requirements and taking into consideration the preliminary results from the users and stakeholders' consultation, the following data themes are considered as priority to address in the further communication of potential data providers:

- Administrative Units,
- Geographical Names,
- Buildings,
- Hydrography (Physical Waters),
- Transport Networks (Road, Rail, Water),
- Elevation,
- Land cover,
- Cadastral Parcels
- Addresses.

The Open ELS project during 2017-2019 focussed on a number of themes which were indicated by users to be highly desirable and provided a good match of data availability from National Mapping and Cadastral Agencies. These included cadastral parcels, addresses, buildings, road and rail network, geographical names and topographic features at regional/global scale.

The priorities in guiding Data provider contributions will be further validated with a feedback from the user consultation and the defined product roadmap and specification. Furthermore, the list of high value datasets that will be developed based on the revised PSI directive will be taken into account.

The objectives are also to set up the integrated data production process within the next 2 years which integrates the required processes and tools into one managed and coordinated production process within the service value chain (generation, validation, aggregation). A data production team will be assigned to manage the data production process which includes sub-processes such as maintenance of data specifications; accommodation and validation of data and metadata content (quality management, compliancy to MQA, cross-border harmonisation); testing and validation of national web-services; performing data updates; and ensuring Data providers' support.

EuroGeographics members (63 National Mapping and Cadastral Authorities from 46 countries) will be engaged as potential data providers. The aim is to influence data providers to deliver open cross-border harmonised data content or, if feasible, organise specific activities harmonising national spatial data and service contributions to provide a seamless coverage.

To extend the coverage, a data supply strategy and roadmap have to be defined and implemented to ensure the provision of open data by EuroGeographics' members. Elements of the strategy to be taken into account could be to set-up agreements with members about data supply, extending coverage stepwise by regions, support members in making their data accessible on European level.

4.4 Technical infrastructure strategy

The Open ELS technical platform has been sustained by a number of EuroGeographics members based on the ELF project technical infrastructure. The ELF project commitments ended in October 2018 and they are no longer able to sustain the technical infrastructure. Based on the experiences of the European Location Framework (ELF) project and the Open ELS project the current technical architecture will not meet future technology requirements and there are shortcomings regarding the accessibility and performance of services. Additional to that, a lack of control of the performance of national services still causes problems with the quality of the services.

Therefore EuroGeographics has decided not to invest in the existing Open ELS technical platform and to replace it by a scalable, robust and performant technology solution – if funding is available.

A key objective of this plan is to procure a technical solution which enables user friendly access to Open ELS services with a scalable, robust and performant technical solution. Some technical components of the current Open ELS technical architecture may be used for the future solution.

The purpose is to

- Set up an adequate and scalable technology architecture supporting the generation of services and ensuring access to the services and the harmonised thematic open datasets by the end of the project.
- Implement the processes required to manage the availability and accessibility of the Open ELS services.
- Start with a minimum technology solution which can be scaled up.

5 Development plan

5.1 Objectives of the development plan

The objectives of the development plan are to describe the actions required to develop Open ELS further into an operational system and operational services.

This operational plan summarises

- The activities that must be undertaken to develop Open ELS further and the timeline for completing the proposed actions (2 years' horizon)
- The project organization for this development
- The financial resources required to complete the tasks and implement the operational plan.

5.2 Overview key activities

The following table summarises the planned actions within the period of September 2019 – August 2021.

Activity	Performance indicator	Baseline result	Defined time frame
Product development			
User research and requirements gathering	Number of validated and prioritised customer requirements (EU, SME)	Product specifications for Open ELS product enhancements	October 2019 – February 2021
Product roadmap and delivery of product enhancements	Defined Product roadmap and number of planned Open ELS products to be delivered	Product roadmap Open ELS products delivered and operational	January 2020 – June 2021
Encouraging use of Open ELS services	Number of interested users Number of EU organisations developing Open ELS use cases Number of SMEs engaged in developing uses cases or applications with Open ELS services	Potential users (EU, SME) identified, contacted and engaged Further use cases available Open ELS services used and applied in solutions	January 2020 – June 2021
Data production			
Set up integrated data production process	Integrated data production process being implemented and applied	Data production process defined, described and implemented	November 2019 – June 2021
Encourage Data providers	Numbers of services available from EG members for Open ELS products	Members' Open data services ready for use due to specifications	February 2020 – August 2021
Data harmonisation	Numbers of edge-matched and harmonised data sets	Cross-border harmonised data sets	February 2020 – July 2021
Operational environment			
Procurement and implementation of the new technology	New technology solution being implemented and running	Procurement and implementation of new technology solution, Open ELS products and services are running on new platform	October 2019 – July 2021
Set up operational model	Operational model being implemented	Operational model defined and implemented, resources are available	May 2021 – August 2021
Sustainability			
Ensure long-term sustainability and funding	Financial resources secured for operational services	Evaluation and identification of financial source to fund future operational Open ELS	January 2020 – August 2021
Marketing and communications	Numbers of stakeholder events	Key stakeholders identified, events organised and follow up	January 2020 – August 2021

5.3 Project organisation 2019 – 2021

As described, the implementation of this operational plan is depending on the availability of financial resources to develop Open ELS further into enhanced operational services.

The chosen approach to develop Open ELS further within the next 2 years is to keep a project organisation, formed by EuroGeographis' members and the EuroGeographics Head

Office. This allows EuroGeographics to benefit from members' experiences in setting up the new technology and data production process but is also a flexible way to manage costs over the next 2 year.

5.4 Financial requirements and funding options

The costs and resource calculation is based on a detailed activity breakdown which was prepared for the CEF Telecom bid on "Public Open Data" (CEF-TC-2018-5; submitted in November 2018).

To develop Open ELS into operational services, EuroGeographics has identified together with the project partners the financial resources required:

- Personnel costs,
- Costs for the implementation of the new technology solution (provided by a 3rd party/ service provider),
- Other costs related to product development and managing the services.

The following table summarises the resource and financial requirements over the next 2 years:

Activity	Budget required (in EUR)	Estimated CEF contribution	Comments
Product development	437.000	328.000	User-oriented approach, further enhancements of Open ELS products and services, new developments
Data production	383.000	287.000	Improving the data supply chain and making services available
Operational environment	512.000	384.000	Procurement and implementation of new technology solution
Sustainability	209.000	157.000	Secure future funding, stakeholder management
Project management	170.000	127.000	Managing the further development within the next project phase
Total	1.713.000	1.285.000	

The following funding option for the described implementation approach has been identified yet:

- The CEF Telecom call on "Public Open Data" has been identified as the key single source of funding to develop Open ELS into an operational service within the next 2 years from September 2019 on.
- The project costs incurred are allocated to the various CEF bid project partners, depending on their proportion of the project work. All project partners invest resources into the further development of Open ELS.
- As the call covers 75% of the eligible project cost, each project partner is also financing 25% of the incurred costs.

Therefore the identified funding option is a mix of receiving EU fund plus investing own resources in the further development of Open ELS.

But as stated in chapter 3 (Financial constraints): receiving the CEF funding but also having the project partner's personnel resources available are conditions to continue with the development of Open ELS. EuroGeographics still has to decide on the affordability and strategic direction of the Open ELS project continuation.

6 Success factors and risks

6.1 Success factors

Based on the experience of the past project (European Location Framework, Open ELS) the following factors have been identified to be important for being successful in the future:

- More geographic coverage is required to meet customer demands and to prove the delivery capability of pan-European products/ services by EuroGeographics.
- Supportive policies on national and European level - implementation of the revised PSI Directive to promote the availability of high-value open data sets so that data content will become available for future pan-European products/ services.
- Enhanced content is required, which means more data themes and better harmonised content is available.
- Focusing on making "fit-to-purpose" Open ELS products available.
- Increased efficiency of data supply and data production process.
- Improved infrastructure performance to ensure availability and accessibility of data to users.
- Improved engagement with stakeholders for a better positioning of Open ELS products/ services.

6.2 Key risks to the further development of Open ELS

The following key risks have been identified.

Risk 1: Insecure funding available for implementing this plan

- Mitigation:
 - Securing financing for building and running operational services, including to set up an organisation required to manage operational services but also further product development.
 - Developing a funding strategy and funding agreements with stakeholders.

Risk 2: Insufficient availability of authoritative geospatial open data by EuroGeographics' members

- Mitigation:
 - Alignment with PSI directive for high value datasets.
 - Support members in making data as open data available (for example by providing a toolkit to support members in making their data available as open data).
 - Encouragement of members to open geospatial data and awareness campaign for EuroGeographics' members.
 - Focus in a first step to develop regional cases uses to show the potentiality to users and stakeholders in a very clear way.

Risk 3: Too long time to market and insufficient product building capacities available

- Mitigation:
 - Improved data production process and data supply chain.
 - Common understanding of importance of delivery
 - Common understanding – or even better – agreements with EuroGeographics’ members to deliver national open data sets in quality and time.
 - Funding for product development capacities in EuroGeographics’ Head Office available to drive the activities and increase the speed of product development and product releases.

Risk 4: No sustainable operational model for running operational services

- Mitigation:
 - Availability of financial funding to implement an operational model.

Risk 5: Coping with a very competitive market; the availability and increased use of alternative, proxy data that is more easily available and at no cost for users (OSM, Google) – although the accuracy or coverage is uncertain.

- Mitigation:
 - Provide “fit-for-purpose” data and services
 - Strengthen communications with stakeholders/users about risks using OSM
 - Focus on improving coverage and delivery by EuroGeographics (see all mitigation recommendations above).