

## Capacity building and Extension of coverage

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Activity report of Open ELS project Task 3.4 and 3.5

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## Change Summary

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| 0.1     | 23/01/2019 | Torsten Svärd   | 1:st draft           |
| 0.2     | 21/03/2019 | Torsten Svärd   | 2:nd draft           |
| 1.0     | 17/04/2019 | Saulius Urbanas | Revision, amendments |
|         |            |                 |                      |
|         |            |                 |                      |

## References

| Ref. | Title/Version/Publication Date/Author                                                                                                                                                                                              |
|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| [1]  | European Location Framework (ELF) project, co-funded by the European Commission's Competitiveness & Innovation framework Programme (CIP) Information and Communication Technologies Policy Support Programme (ICT PSP), 2013-2016. |
| [2]  | Open ELS Data Policy.<br><a href="https://openels.eu/wp-content/uploads/2018/07/Open-Data-Policy-for-OpenELS-v1.0.pdf">https://openels.eu/wp-content/uploads/2018/07/Open-Data-Policy-for-OpenELS-v1.0.pdf</a>                     |

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## I Background

The report provides information about the completed activities performing the tasks 3.4 and 3.5 of the Open ELS project.

Aim of the task 3.4 “Capacity Building” was to strength capacities of data providers and candidates to become data providers for Open ELS. It included engagements with National Mapping and Cadastral Authorities (NMCAs), find out more about issues in web-service setup and identify gaps in technical capacities. Capacities shall be strengthened in those domains where demands received.

Aim of the task 3.5 “Extension of coverage” was to bring more data providers amongst EuroGeographics members (NMCAs). The task has been carried by engaging potential data providers and organising join workshops, bilateral meetings, conferences, webinars, providing consultations by email communication and web tools.

The tasks 3.4 and 3.5 complimented each other, so the project resources have been consolidated for tackling activities of both tasks.

## 2 Capacity Building and Engagement to NMCAs

### 2.1 Organisation of events

Project team contributed sharing knowledge and experience organising events to NMCAs - current and candidate Data providers, or making presentations in conferences and workshops.

| Event                                                                                 | Attendees                                                                             | Project presenters and contributors                                        |
|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|----------------------------------------------------------------------------|
| EuroGeographics General Assembly<br>Vienna, 1-3 October 2017                          | About 150 attendees from NMCAs and invited guests                                     | Mick Cory, Helen Kaestner, Saulius Urbanas                                 |
| International conference “NSDI: towards data society”<br>Kiev, 22nd February          | About 200 attendees from Ukraine public authorities, universities and foreign experts | Saulius Urbanas, Dominik Kopcewski                                         |
| Webinar “Update on ELS Data Supply activities”<br>12 <sup>th</sup> March              | About 50 attendees from NMCAs                                                         | Saulius Urbanas, Dorus Kruse                                               |
| Webinar “IMPULS partners’ possible contribution to ELS”,<br>10 <sup>th</sup> May 2018 | 10 experts from Albania, Croatia, Bosnia & Herzegovina, Serbia and Montenegro         | Saulius Urbanas, Torsten Svard                                             |
| EuroGeographics Extraordinary General Assembly<br>Leuven, 15-16 May 2018              | 65 attendees from NMCAs                                                               | Helen Kersten, Saulius Urbanas, Dominik Kopcewski, Abigail Page, Mick Cory |
| XI Regional conference on NSDI and Cadastre of Western Balkans                        | About 200 attendees from Western Balkan authorities                                   | Mick Cory, Angela Baker, Patricia Sokacova                                 |

|                                                                                                               |                                                                                      |                                                                                                                                               |
|---------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|
| Budva, 29-31 May 2018                                                                                         |                                                                                      |                                                                                                                                               |
| INSPIRE KEN webinar<br>“Validation of INSPIRE<br>metadata, data and services”<br>26 <sup>th</sup> June 2018   | 86 attendees from NMCAs                                                              | Paloma Abad-Power, Roy<br>Mellum, Saulius Urbanas                                                                                             |
| Webinar “Update on ELS Data<br>Supply activities”<br>12 July 2018                                             | 34 attendees from NMCAs                                                              | Saulius Urbanas                                                                                                                               |
| Two webinars “Capacity<br>building and contribution to<br>ELS/OpenELS”<br>26 and 27 September 2018            | 81 attendees from NMCAs                                                              | Saulius Urbanas, Marcin<br>Grudzien, Amalia Velasco, Cora<br>Cora van Oorschot, Sonja<br>Werhahn, Jari Reini, Angela<br>Baker, Torsten Svard. |
| EuroGeographics General<br>Assembly<br>Prague, 7-10 October 2018                                              | About 150 attendees from<br>NMCAs and invited guests                                 | Mick Cory, Helen Kaestner,<br>Saulius Urbanas, Abigail Page.                                                                                  |
| Workshop “Use of INSPIRE<br>data: past experiences and<br>scenarios for the future”<br>Warsaw, 27-28 Nov 2018 | 50 attendees from national<br>public authorities, universities,<br>private companies | Marcin Grudzien, Saulius<br>Urbanas                                                                                                           |
| Webinar “Guidance on<br>implementation of cross-<br>border harmonisation”<br>10 <sup>th</sup> December 2018   | 29 attendees from NMCAs                                                              | Marcus Brühl, Saulius Urbanas                                                                                                                 |

Regular communication with two groups of NMCAs experts (Data supply experts and Data policy experts) have been organised setting up and maintaining the basecamps – web forums. A number of subscribers:

- ELS Data supply basecamp – 137 users
- ELS Data policy basecamp – 76 users.

The presentations and records of webinars and physical events have been shared to NMCAs by email communication, through the two basecamps and via EuroGeographics ([www.eurogeographics.org](http://www.eurogeographics.org)) and Open ELS project websites (<https://openels.eu>).

## 2.2 Direct engagement to potential data providers

### 2.2.1 Priority data themes

The focus for data themes has been first considered to follow up on the most popular themes from the ELF project results. However, the Product team (Activity 4) corrected the demands for Open ELS products after received a feedback from user consultations. The following data themes have been agreed as priority in consultation with potential data providers for Open ELS:

- Geographical Names;
- Cadastral Parcels;
- Buildings;
- Addresses;
- Transport networks (Rail and Road).

Project team investigated on an availability of a full coverage of the national data and INSPIRE compliant web-services (WFS, WMS) from the respective national authorities, acting as potential candidates to become Open ELS data providers.

The direct engagement and capacity building activities guided NMCAs for contributions to following products:

- Cadastral Index Map (CIM);
- Web Feature services of Addresses (WFS-AD), Buildings (WFS-BU), Transport Networks (WFS-TN-Road and WFS-TN-Rail).

Later during the project period WFS-TN have been postpone and cancelled as open service product, but nevertheless consultations and tests of Transport network web-services have been performed. In some cases, also WFS-HY and WFS-AU have been tested as an initial contribution to Open ELS.

### 2.2.2 Planning and selection of the short list

It was considered that available data and web-service contributors from the ELF project [1] maintain knowledge and experience on how the Open ELS web-services shall be arranged. Despite all NMCAs have been involved to communication encouraging their contributions to Open ELS, project team aimed to specifically investigate of the demands for capacity building with those authorities, which either have not been involved in data supply activities during the ELF project [1], or did not succeed actually contributing to the ELF/ELS products. There were several reasons of why the national data or web-services did not pass quality assessment. One of the reasons, to which the project team was ready to support, is a lack of technical or organisational knowledge and experience for setting up the web-services so, that could be utilised by European users in the Open ELS products. The selection of the NMCAs for engagement activities have been planned considering the following criteria:

1. A willingness of the authorities contributing to Open ELS;
2. Availability of data and web-services in the priority themes from the authorities;
3. Demands from European stakeholders (European Environment Agency, DG GROW, Eurostat, others) for the coverage;
4. Possibility and probability in utilising the national data and web-services as open data and open web-services.

The selection of the short list (Fig 1) has been completed accommodating the available information evaluating the above listed criteria.

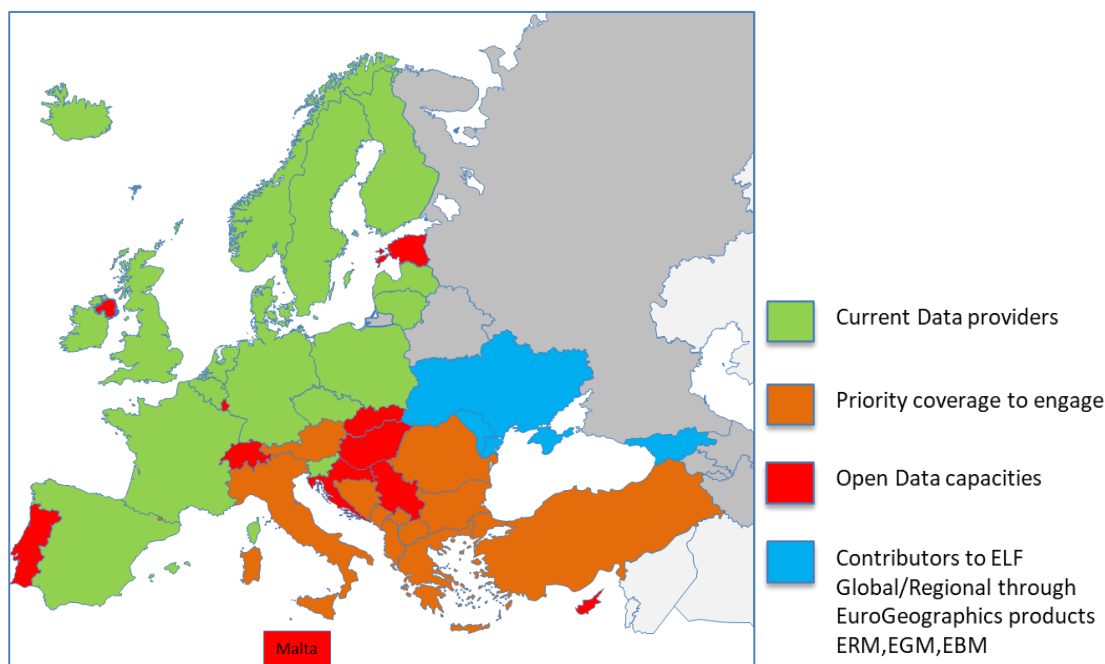
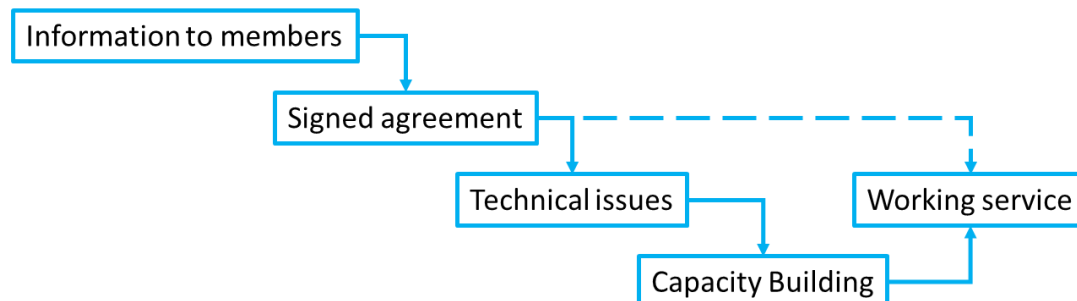


Fig. 1. The selected coverage for direct engagements

### 2.2.3 Content of direct engagements



During the engagements project team members provided presentations and investigated on capacities of the authorities.

- Information and introduction to what Open-ELS is. Show advantages and benefits. Short description of the data process.
- Discuss capacities and willingness to sign a Data provider agreement. Explain licencing and terms of use. Explaining the demands and obligations for participation.
- After agreement is signed there are either need for capacity building or the skills considered to be enough in the organization to arrange the service with or without help from the support desk.
- Talk about personal skills and needs for capacity building of technical issues.
- The capacity building can be held as workshops or webinars.
- Conclude individual plan for setting up web-services and metadata, agree milestones for testing and validation of the web-services.

What type of expectations for capacity building are offered? Based on the communication with NMCAs the following activities have been proposed by the project team and then have been kindly appreciated by recipients:

- Share technical competence;
- Review NMCA's services / detail issues (in composition, performance);
- Provide training to the staff;
- Organize a specific workshop(s)/webinar(s);
- Consultations.

### 3 Engagement results

The summary of the engagement and achieved progress

| <b>Country,<br/>authority</b>                                                 | <b>Actions</b>                                                                                                                                  | <b>Signed<br/>DPA</b> | <b>Result</b>                                                                                                                                                                                        |
|-------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Estonia.<br>National Land<br>Board                                            | Meeting, web-meetings with M.Markka, T.Hurt, S.Oitspuu. Test of BU, AD, TN (Rail and Road).                                                     | Yes                   | Contribution of WFS-AD, WFS-TN(Rail), WFS-TN(Road). However, the services have not been included to Open ELS products due to the incomplete content for WFS-AD. WFS-TN product have not been issued. |
| Lithuania. GIS-Centras.                                                       | Meetings, email communication with E.Rozanskas, A.Balciunas. Work arranging the WFS-BU. Sample webservice passed the test and validation.       | Yes                   | Expected WFS-BU of whole country coverage be provided by the end of the project.                                                                                                                     |
| Iceland.<br>Registers<br>Iceland                                              | Communication by email with B.K. Árnason, H. Grétarsson. CIM and WFS-BU and WFS-AD have been tested and issues handled providing consultations. | Yes                   | Contribution of CIM, WFS-BU and WFS-AD.                                                                                                                                                              |
| Iceland.<br>National Land<br>Service                                          | Meeting, email communication with E. Lindal Finnbogadottir, A. K. Óladóttir. Test of WFS-TN(Roads)                                              | No                    | No contribution of WFS-TN (Roads) due to the limited content and technical constrains.                                                                                                               |
| Hungary.<br>Department of<br>Geodesy<br>Remote<br>Sensing and<br>Land Offices | Meeting, web-meetings with E.Lucas Harbula, T.Palya. Investigation on technical requirements, security settings.                                | No                    | No contribution due to an unavailability of national web-services as open data.                                                                                                                      |
| N.Ireland.<br>Land and                                                        | Meeting, email communication with J.Lennon, L.Byrne.                                                                                            | No                    | No contribution due to an unavailability of national web-services as open data.                                                                                                                      |

|                                                                              |                                                                                                                                                                                                                          |    |                                                                                                                                                                                                                                                       |
|------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Property Services.                                                           |                                                                                                                                                                                                                          |    |                                                                                                                                                                                                                                                       |
| Portugal. Directorate General for Territory                                  | Email communication with A.Seara                                                                                                                                                                                         | No | No contribution due to a lack of resources in NMCA.                                                                                                                                                                                                   |
| Luxembourg. Administration of the Cadastre and Topography.                   | Email communication with B.Reisch. Consultations to Stijn Goedertier (GIM, the contractor for NMCA). Test of the sample WFS-AD.                                                                                          | No | No contribution due to an unavailability of national services during the project period. However the test results of WFS-AD contributed to the quality of the service. High probability including the services from Luxembourg after the project end. |
| Switzerland. Swisstopo.                                                      | Meeting, email communication with R.Balanche, W.Fridolin, C.Najar, S.Dayer. swisstopo offered AtomF web-services of GN and AU.                                                                                           | No | No contribution due to an unavailability of WFS national services during the project period. No open data policy for web-services.                                                                                                                    |
| Slovak R. Geodesy, Cartography and Cadastre Authority of the Slovak Republic | Meeting, web-meetings, email communication with K.Leitmanova. M.Foigt, T.Dekan. Test and evaluation of CIM, WFS-HY, WFS-TN. Issues discovered: limited content, technical constraints in service setup.                  | No | No contribution due to limited content and technical constraints.                                                                                                                                                                                     |
| Croatia. State Geodetic Administration of the Republic of Croatia            | Meeting, email communication with S.Zekusic. No open data and web-services                                                                                                                                               | No | No contribution due to an unavailability of open data and web-services in Croatia.                                                                                                                                                                    |
| Serbia. Republic Geodetic Authority                                          | Meeting with D.Vucetic. In general the willingness to contribute to ELS, but the strategy for NMCA to be defined in 2019, which might consider open data. The services shall be arranged in the new tech infrastructure. | No | No contribution due to an unavailability of open data.<br>Interest to strength capacities in near future.                                                                                                                                             |
| Cyprus. Cyprus Department of                                                 | Meeting, web-meeting and email communication with A. Christodolou, M.                                                                                                                                                    | No | No contribution due to incompliance of CIM to Open ELS technical                                                                                                                                                                                      |

|                                              |                                                                                                                                                                                    |    |                                                                         |
|----------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|-------------------------------------------------------------------------|
| Lands and Surveys                            | Themistocleous, K.Demetriou.<br>Tests of CIM and WFS-TN.                                                                                                                           |    | requirements. WFS-TN was not issued as a product.                       |
| Italy. Italian Military Geographic Institute | Meeting with M.Morelli.<br>interest to collaborate, but limited capacities in serving web-services. No support of open data policy.                                                | No | No contribution due to an unavailability of open data and web-services. |
| Lithuania. Centre of Registers               | Meeting with K.Maksvytis, S.Urbanavicius, S.Milevicius.<br>CIM and WFS-AD are provided, but not as open service. Opportunities to contribute if changes in data policy (expected). | No | No contribution due to an unavailability of open data and web-services. |
| Malta. Malta Planning Authority              | Email communication to R.Attard. No feedback unfortunately.                                                                                                                        | No | No information.                                                         |

In addition to the listed engagements meetings and discussions have been also carried with NMCAs that have not been in the short list. Those authorities expressed interest to Open ELS or have already contributed during the ELF project. Different opportunities and capacities have been assessed, but no actual contribution achieved due to either limited resources in NMCAs or constrains toward open data policy after the discussions with the representatives of the following countries and authorities:

- Western Balkan. NMCAs of Albania, Kosovo, Bosnia & Herzegovina, Montenegro, Republic of N.Macedonia have been engaged through the IMPULS project.
- Latvia. Latvia Geospatial Agency - M. Liberts, A.Ozols.
- Moldova. Agency for Land Relations and Cadastre of the Republic of Moldova – M.Ovdii.
- Ukraine. State Service of Ukraine for Geodesy, Cartography and Cadastre (StateGeoCadastre) – D. Makarenko and O. Maliuk.
- Belarus. SE “Cadastre – A.Filipenko; SE "Belaerokosmogeodezia") – A.Zabagonsky.
- Turkey. General Directorate of Mapping – O.Alp.

## 4 Conclusions

- Project widely promoted demands to implement the INSPIRE directive and offered Open ELS as a practical realisation of the INSPIRE vision to all members of EuroGeographics (63 authorities from 46 countries).
- 12 events have been organised briefing Open ELS data providers and candidates on technical and organisational aspects for setting up web-services according to the agreed common requirements for building Open ELS products.
- Project team established direct engagement with the teams of experts from 26 NMCAs explaining in details the Open ELS data supply requirements and evaluating capacities of those NMCA)s for contribution to Open ELS products.
- 3 NMCA)s actually managed to deliver the national web-services to Open ELS products extending the available coverage.
- Project efforts have been directed to strengthen those capacities, which constrained NMCA)s in providing high quality data and web-services. However, a number of NMCA)s did not realised issues in the national services while the tests and validation actions have been performed. The 2 years project period and a shortage of resources in NMCA)s for investigations and improvements of the web-services, unfortunately constrained an organisation of needed trainings and deeper investigations on the discovered problems in national web-services.
- Many potential data providers, especially from non-EU countries, were not able to contribute to Open ELS due to restricted terms of use of national data and web-services, or incompliance of national data policies to the Open ELS data policy [2].
- In general, the performed activities in capacity building and engagements for extending the coverage of Open ELS have been highly appreciated by NMCA)s. The project activities **allowed to clarify issues and improve national web-services**. This provides good prospects for the developments of pan-European products and web-services in the future.