European Commission

LIFO: Location Interoperability Framework Observatory

2019 Country Factsheet

Slovakia

ISA²

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1. Introduction

The **Location Interoperability Framework Observatory** (**LIFO**) is a domain-specific observatory relating to location interoperability. It provides a tool **to monitor, assess and report on the state of play of location interoperability in policy and digital public services of EU Member States and other countries implementing** INSPIRE**.**

The LIFO complements the National Interoperability Framework Observatory (NIFO) that monitors, assesses and reports the progress in implementing the **European Interoperability Framework** (EIF). The NIFO collects and shares details across all levels of the EIF relating to important initiatives in the Member States, uncovering best practices, areas needing improvement or where solutions could be developed.

The LIFO analytical model measures, through specific indicators, **the current level of adoption of the recommendations on location interoperability from the** EULF Blueprint[1], covering its five focus areas: *Policy and Strategy Alignment*; *Digital Government Integration*; *Standardisation and Reuse*; *Return on Investment*; *Governance, Partnerships and Capabilities*. The LIFO model is composed of primary indicators, based on information provided by respondents to a questionnaire, and secondary indicators, re-using information from existing sources, for example the INSPIRE monitoring.

The information collected through the observatory can be used to assess the current status, compare countries and plan appropriate measures, including potential partnerships and identifying opportunities for sharing solutions. More in detail:

- it helps achieve the objectives of the EULF, for example: policy coherence, effective use of location information in digital public services, standards-based approaches, attention to data quality, effective partnerships, and increased awareness and skills;
- as a complementary tool for NIFO (and thanks to the alignment between EULF and EIF), LIFO helps monitor how the EIF is implemented in the geospatial domain;
- it provides visibility and access to guidelines and best practices for each country and across countries, for reuse and/or suggestion of similar / connected developments;
- it can be used as a self-assessment tool for public administrations towards their implementation of location interoperability, both internally and cross-border.

The LIFO is coordinated by the European Location Interoperability Solutions for e-Government (ELISE) action in the Interoperability Solutions for European Public Administrations, Businesses and Citizens (ISA2) programme.

Appreciation is given to the ELISE ‘User Panel’ of 10 Member States and other countries (namely, AT, BE, CZ, DK, FR, IT, NO, PT, SI and SK) who validated the model, answered the survey, and provided further information to ensure the results are representative of the national state of play.

The LIFO will be extended to all ISA2 and INSPIRE implementing countries in 2020 in order to capture the full status of location interoperability across Europe.

[1] The European Union Location Framework (EULF) is a geospatial domain interoperability framework allied to the EIF. Key EULF guidance is published in the EULF Blueprint.

2. Structure of the document

This factsheet provides an overview of the information collected on location interoperability in Slovakia in 2019. It contains the following chapters:

- Location Interoperability State of Play: this chapter contains an overview of the implementation of the EULF Blueprint recommendations in the different focus areas. The paragraphs dedicated to each focus area contain graphs displaying the country's scores for the individual indicators and the average scores for each recommendation. In both cases, scores are compared with the average of the monitored countries. Descriptions and evidence are included to support the relevant scores.
- Best Practices: which highlights existing initiatives and applications in different domains demonstrating the benefits of a consistent use and integration of location information and services in digital public services.

Annexes to the document are:

- The method of scoring and normalisation applied to the indicators;
- A glossary of the most relevant terms used in the document;
- The questionnaire with the replies provided for Slovakia and the corresponding scores.

The 2019 LIFO monitoring information for Slovakia has been provided by Ministerstvo životného prostredia Slovenskej republiky (Ministry of Environment of the Slovak Republic - MoE).

3. Location Interoperability State of Play

3.1. Overview

Slovakia's European position from information collected through the 2019 LIFO data collection, over the five focus areas, shows a combination of good practices and areas for improvement.

Slovakia scores are the same as or close to the average of the 10 countries surveyed in the "Return on Investment", "Policy and Strategy Alignment" and "Standardisation and Reuse" focus areas. For "Return on Investment", the stand out activity is the support given to non-governmental actors for the use of public administrations' location data to stimulate innovation and growth. Under "Policy and Strategy Alignment", Slovakia scores well on alignment of location and digital strategies, legislation on reuse of authoritative location datasets and standards-based procurement. On "Standardisation and Reuse", there is strong positioning on reuse of authentic location data and services.

The focus areas requiring the greatest improvement, both in terms of absolute scores and comparisons with the European averages, are "Governance, Partnership and Capabilities" and, in particular, "Digital Government Integration". Concerning the latter, geospatial information is used for the delivery of key digital public services only where strictly necessary, without leveraging its possible added value; moreover, only limited actions are implemented for the integration of location and statistical information in the production of location-based statistics.

The value of the overall LIFO index combining the scores for all focus areas, is 0.45[2]. This compares with a LIFO European average of 0.54.

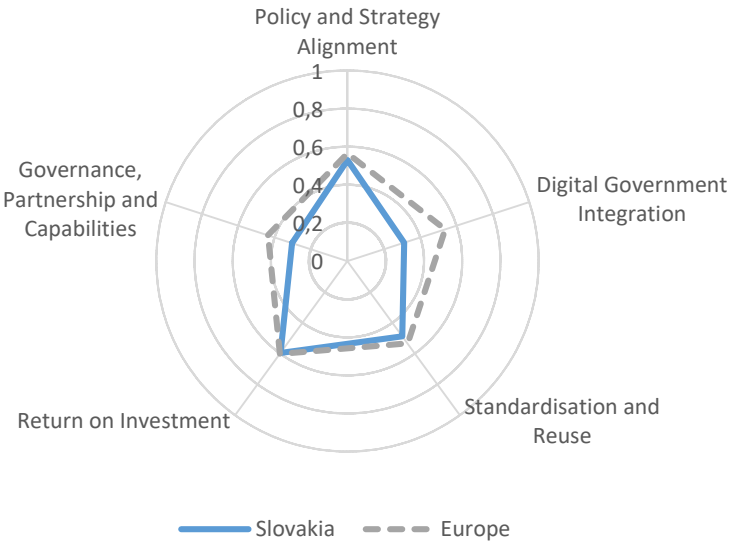

Figure 1 - Overall Location Interoperability State of Play

The following sections present the results in detail for each focus area.

[2] For the description of calculation method of the LIFO index and the other indicators and indexes see 0Annex 1: LIFO 2019 Scoring methodology

3.2. Policy and Strategy Alignment

Vision	
There is an aligned and coordinated policy and strategic approach across Europe for the use of location information that enables more efficient and effective integration of cross-sector and cross-border location-based applications, reducing costs and increasing social and economic benefit. Public sector location policies promote accessibility and interoperability. There are simple and consistent approaches to licensing, progressive open data policies that balance the needs of data users and suppliers, and authentic registers in which 'location' has a prominent role.	
Recommendation 1	Connect location information and digital government strategies in all legal and policy instruments
Recommendation 2	Make location information policy integral to, and aligned with, wider data policy at all levels of government
Recommendation 3	Comply with data protection principles as defined by European and national law when processing location data
Recommendation 4	Make effective use of location-based analysis for evidence-based policy making
Recommendation 5	Use a standards-based approach in the procurement of location data and related services in line with broader ICT standards-based procurement

Table 1 - Focus Area "Policy and Strategy Alignment" - vision and recommendations

The "Policy and Strategy Alignment" focus area index for Slovakia is 0.53, slightly under the European average of 0.57. As mentioned in the Overview, the index for this focus area is in line with the European average, due to the fact that scores for Recommendations 1 and 5 are above the average, compensating the scores for Recommendations 2, 3 and 4 which are below the average.

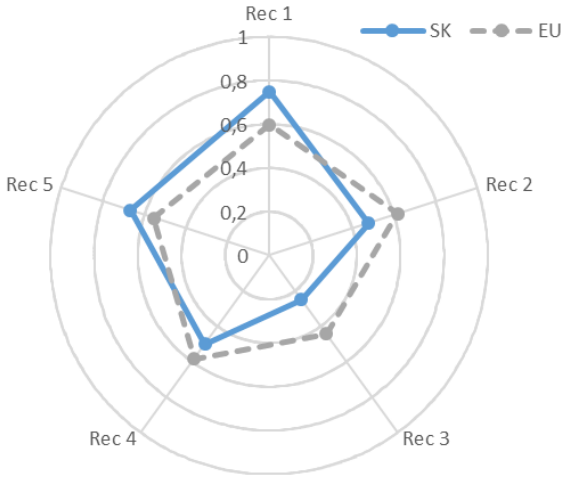

Figure 2 – Policy and Strategy Alignment – scores by recommendation

Slovakia has set up a location strategy[3] which is based on the implementation of INSPIRE, with direct reference to the country's digital government strategy[4]. Additionally, there is general cross-sector legislation[5] mandating the use in digital government of authoritative location datasets and services. The combined effect of such actions determines the score received for Recommendation 1.

Concerning Recommendation 2, policies provide for the availability of some geospatial data, particularly of core reference datasets[6]. In general, national guidelines on the

3 http://inspire.gov.sk/koordinacia/rove-sk/strategia-implementacie

4 http://informatizacia.sk/ext_dok-strategicky_dokument_2014_2020_en/16622c. The digital government strategy states however that "it is advisable to use the existing standardised geographical information generated in accordance with the INSPIRE directive", at least for the development of the Atlas of passive infrastructure.

5 See an eGov law 305/2013 Coll. Defining Reference registers

6 The reference policies are: the National Concept of Public Administration Informatics (http://www.informatizacia.sk/narodna-koncepcia-informatizacie-verejnej-spravy--2016-/22662s), the Strategic priority for data management (http://www.informatizacia.sk/ext_dok-ppvii_sp_manazment_udajov_vfinal/24196c), the law on eGovernment 305/2013 Coll. There is also ongoing discussion for High value datasets definition for the DIRECTIVE (EU) 2019/1024 on open data and the re-use of public sector information.

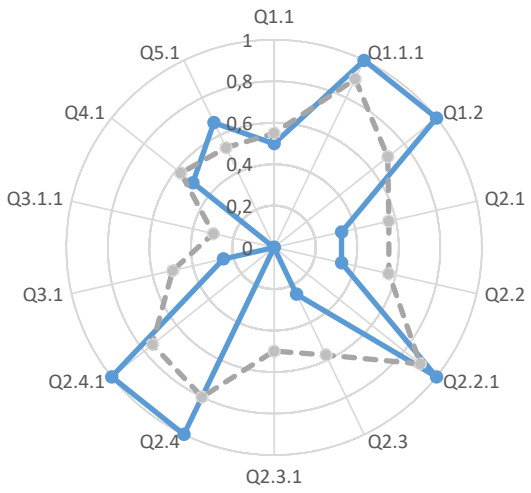

Figure 3 - Policy and Strategy Alignment - scores by indicator

publication of public sector data cover location aspects[7]. In Slovakia, location data tends to be available through different licensing arrangements from different data providers; there is no common licensing framework for all government data.

Low scores were obtained for Recommendation 3, regarding GDPR. The Act of the Protection of Personal Data which implements the GDPR was adopted by the Slovak Parliament at the end of 2017 and entered into force on 25 May 2018, however, Slovakia still shows significant gaps in the preparation for full implementation of GDPR from a geospatial perspective[8]. To date, no complaint, court case or financial penalty has been issued. The Office of the Deputy Prime Minister of the Slovak Republic for Investments and Informatisation has started to prepare Guidance for GDPR implementation[9].

Location-based evidence and analysis is used to help in developing relevant policies and monitoring outcomes in certain relevant topics (see Recommendation 4).

Regarding the procurement of location data and services (Recommendation 5), specific references are made to the applicable parts of the INSPIRE Directive and/or the national standards framework in related procurements, even if no use is made of the European Single Procurement Document (ESPD).

3.3. Digital Government Integration

Vision	
Location is well integrated in digital government processing supporting G2G, G2B and G2C interactions, through location related services across government. Users do not have to supply the same mandatory information multiple times. There is visibility of common coordinating and support structures, expert groups and technologies, a strong user voice in the design, evaluation and improvement of location-based services, and good evidence of take-up of services.	
Recommendation 6	Identify where digital government services and processes can be modernised and simplified through the application of location-enabled services and implement improvement actions
Recommendation 7	Use INSPIRE and SDI models, data and services for delivering cross-sector and cross-border digital public services to citizens, businesses, government and other parties
Recommendation 8	Adopt an open and collaborative methodology to design and improve location-enabled digital public services
Recommendation 9	Adopt an integrated location-based approach in the collection and analysis of statistics on different topics and at different levels of government

Table 2 - Focus Area "Digital Government Integration" - vision and recommendations

7 Partially via Strategic priority Open data (http://www.informatizacia.sk/ext_dok-sp_otvorene_udaje_schvalena/26035c) and OGP Action plan 2019-2021. Minimum publication guidelines are foreseen to be first implemented by the end of 2020 (https://www.slov-lex.sk/legislativne-procesy/-/SK/dokumenty/LP-2019-701).
8 Law 18/2018 Coll. makes some indirect references to location information.
9 https://datalab.digital/wp-content/uploads/DataLab_newsletter_2002_HR.pdf

Figure 4 - Digital government integration – scores by recommendation

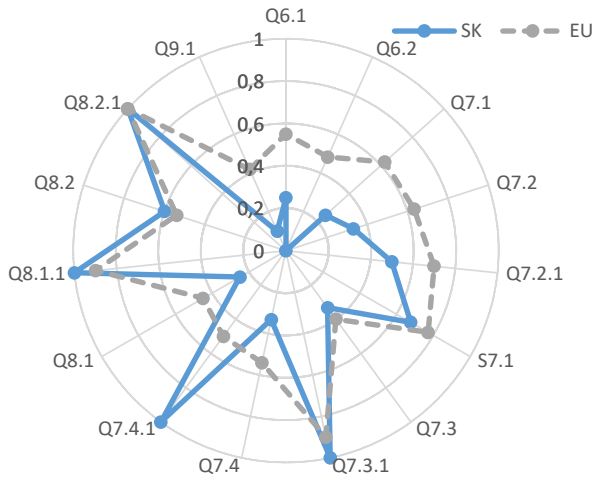

Figure 5 - Digital government integration - scores by indicator

The "Digital Government Integration" focus area index for Slovakia is 0.31, significantly below the European average of 0.54. This is mainly due to a combination of low scores for Recommendations 6 and 9. Regarding Recommendation 6, the opportunities for improving digital public services and processes in their use of location information are only exploited in a limited way, which affects the scores for that recommendation. Specifically:

- limited steps are taken to improve the use of location information in digital public services, usually, on a case-by-case basis; and
- key digital public services only use location information in a basic way; strictly when and where requested[10].

For Recommendation 9, Slovakia has implemented one of the actions for the integration of location and statistical information, collecting census data based on the location reference framework for statistics.

With reference to Recommendation 7, the public sector SDI is only occasionally used by the private sector for delivery of new and innovative applications, products and services.

Harmonised location datasets, although not based on INSPIRE, are used for a significant number of digital public services[11]. This also applies to the deployment of cross-sector and cross-border digital public services[12].

The implementation of the INSPIRE Directive,[13] while fully or almost fully achieved for the key obligations of effective coordination and identification and documentation of spatial datasets, still has long way to go for all other key obligations, particularly for service provision of the identified datasets and dataset interoperability.

With reference to Recommendation 8, the use of an open and collaborative methodology to design and improve location enabled digital public services only occurs in limited cases at national level. When delivering location-based public services, external parties are involved in a variety ways such as, subcontracting to the private sector under public control; encouraging

10 See the Extract from the Land Register (Simulation at: https://stopbyrokracii.sk/simulovane-prostredie/pouzivatel/lv/); EIA in my neighbourhood (https://eia.cyklokoalicia.sk/, https://www.enviroportal.sk/en/eia)

11 See Stop the bureaucracy (https://stopbyrokracii.sk/) – reducing the need for citizens to deliver extract from the land register, when interacting with public sector authorities, and the activities under eGov Data management (https://datalab.digital/) – e.g. via declaration of Address registry as reference registry.

12 For example, the TOKAJGIS SK - HU project (http://www.skhu.eu/funded-projects/development-of-webgis-platform-based-on-big-geodata-for-the-tokaj-wine-region-foster-cross-border-collaboration)

13 Currently the INSPIRE country fiche 2019 is available

'civic hacking' to develop new ideas, technologies or methodologies to help solve civic problems and improve the lives of citizens; making public owned data available for the delivery of services by third parties. Examples are:

- A Government cloud project, established by the Ministry of Environment to support publishing of INSPIRE services for public authorities with limited or no infrastructure at hand;
- eGovernment working groups discussing location aspects (working groups under the governance of the Office of the Deputy Prime Minister of the Slovak Republic for Investments and Informatisation (ODPMSRII) on Better Data, Open Data, Reference Data[14], including geospatial standards[15]);
- Conferences[16], Workshops[17] and Hackathons[18].

In general, the integration of location enabled services into the digital public services and processes remains a challenge. In order to support improvements in this focus area, two related national projects were recently initiated, focused on the support of INSPIRE implementation in synergy with the e-Government activities:

- JPPUS[19]: Uniform access to spatial data and services, focused on data standardisation and creation of a national spatial information infrastructure.
- ESPUS[20]: Effective management of spatial data and services, mainly focused on the organisational dimension of location data.[21]

JPPUS, in particular the MoE, aims to provide the technology infrastructure sufficient to meet INSPIRE legal and technical requirements, as well as support for stakeholders with limited or no infrastructure. The two projects are closely linked: JPPUS addresses the requirements for ensuring the necessary infrastructure, while ESPUS will primarily provide capacity support and training, including awareness raising in improving the management, exchange and use of spatial data and services. In addition, relevant use cases where digital location enabled services are in place or identified for future development, will be documented and supported as much as possible.

3.4. Standardisation and Reuse

Vision

14 https://datalab.community/
15 https://metais.vicepremier.gov.sk/standardization/groupslist
16 https://inspirujmese.cz/
17 Workshop focused on stakeholders interaction related with the INSPIRE implementation (https://inspirujmese.cz/wp-content/uploads/2019/10/td.pdf)
18 http://danubehack.eu
19 http://inspire.gov.sk/projekty/jppus, further referred to in paragraph 3.4
20 http://inspire.gov.sk/projekty/espus, further referred to in paragraph 3.6
21 A schematic framework depicting the relation between the two projects is provided in the INSPIRE Country Fiche: http://inspire.gov.sk/Upload/country_fiche/sk_inspire_country_fiche_2019.pdf

Core data has been defined and a funding model has been agreed for its ongoing maintenance and availability. Consistent use of geospatial and location-based standards and technologies, enabling interoperability and reuse, and integration with broader ICT standards and technologies, including the standards and solutions promoted by the ISA2 programme. Use of these standards in all areas related to the publication and use of location information in digital public services, including metadata, discovery, view, exchange, visualisation etc.	
Recommendation 10	Adopt a common architecture to develop digital government solutions, facilitating the integration of geospatial requirements
Recommendation 11	Reuse existing authentic data, data services and relevant technical solutions where possible
Recommendation 12	Apply relevant standards to develop a comprehensive approach for spatial data modelling, sharing, and exchange to facilitate integration in digital public services
Recommendation 13	Manage location data quality by linking it to policy and organisational objectives, assigning accountability to business and operational users and applying a “fit for purpose” approach

Table 3 - Focus Area “Standardisation and Reuse” - vision and recommendations

Figure 6 - Standardisation and Reuse – scores by recommendation

The “Standardisation and Reuse” focus area index for Slovakia is 0.49, compared with a European average of 0.54. In this focus area, Slovakia stands out for its performance with regards to Recommendation 11, on reuse of authentic data and services, while it is still short of the EULF Blueprint “vision” for the other recommendations.

For Recommendation 10, there is a policy for a common location architecture, but it is not yet widely adopted, and an ad-hoc approach is applied to monitoring new technology developments, with very little testing involved. The use of APIs for location datasets is in the planning and testing phase[22].

[22] E.g. Open data and INSPIRE API for meteorological data (https://data.gov.sk/dataset/atmosfericke-podmienky-a-meteorologicke-geograficke-prvky/resource/c654de9d-cff3-47b2-af88-a64e67d398e7)

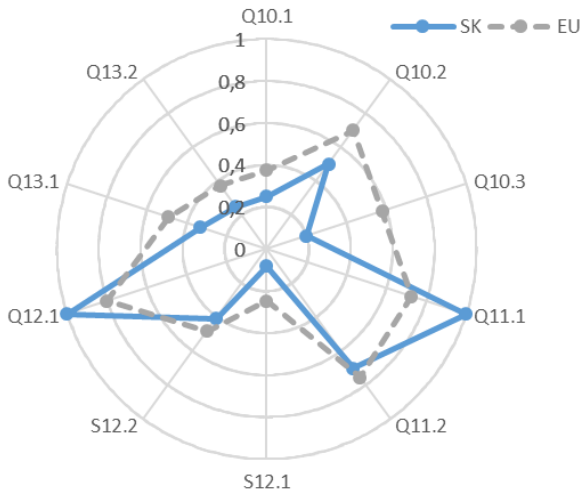

Figure 7 - Standardisation and Reuse - scores by indicator

For Recommendation 11, ICT solutions from other national or international catalogues, in particular, ISA2 solutions, are reused in the SDI, and a significant number of registers of location information are implemented[23], such as: Register of code lists and data types, Register of the UML model of the Catalogue of Objects (KO) of the Landscape-Ecological Base for Integrated Landscape Management, Register of Landscape Structures.

For Recommendation 12, there is limited conformity of spatial data sets and network services with Regulation (EU) No. 1089-2010 and Regulation (EC) No. 976-2009[24], respectively (i.e. 8% of datasets and 40,9% of services). This only partially enables a comprehensive approach for spatial data modelling, sharing, and exchange to facilitate integration in digital public services.

For Recommendation 13, only a small number governance and design actions, among those recommended by best practices, are put in place to ensure location data quality[25].

3.5. Return on Investment

Vision	
There is a strategic approach to national and European funding, procurement, and delivery of location information and location-based services to minimise costs and maximise benefits for government, businesses and citizens, recognising best practices, and building on INSPIRE and standardisation tools. The funding and sourcing model for collection and distribution of core location data takes into account user needs from different sectors and the strategic importance of continued supply of data at a suitable quality. Procurement recognises INSPIRE and other standardisation tools in a meaningful way. There are compelling impact assessments and business cases, a rigorous approach to targeting and tracking benefits, and good evidence that benefits are being achieved.	
Recommendation 14	Apply a consistent and systematic approach to monitoring the performance of their location information activities
Recommendation 15	Communicate the benefits of integrating and using location information in digital public services
Recommendation 16	Facilitate the use of public administrations' location data by non-governmental actors to stimulate innovation in products and services and enable job creation and growth

Table 4 - Focus Area "Return on Investment" - vision and recommendations

The "Return on Investment" focus area index for Slovakia is 0.60, consistent with a European average of the same magnitude. This is the focus area where Slovakia obtains the best results.

[23] For instance, reuse of ISA2 Re3gistry for national environmental SDI (http://registre.enviroportal.sk/geo), GeoDCAT-AP implemented in Spatial data registry (https://rpi.gov.sk/sk/sluzby-metaudajov/narodna-vyhladavacia-sluzba)

[24] https://inspire-geoportal.ec.europa.eu/mr2019_details.html?country=sk

[25] However, discussions have been initiated with the eGov responsible authority (https://datalab.digital/kvalita-udajov/) on synergies with INSPIRE data and service quality requirements.

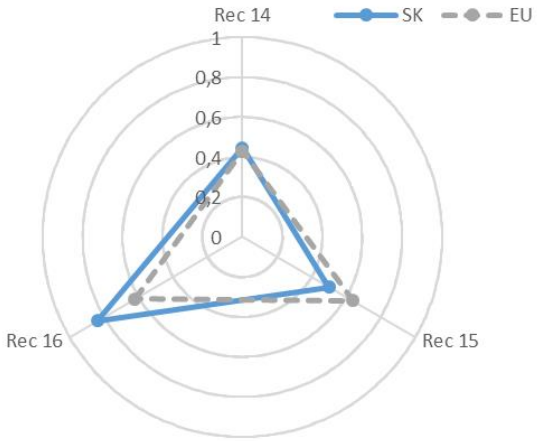

Figure 8 - Return on Investment - scores by recommendation

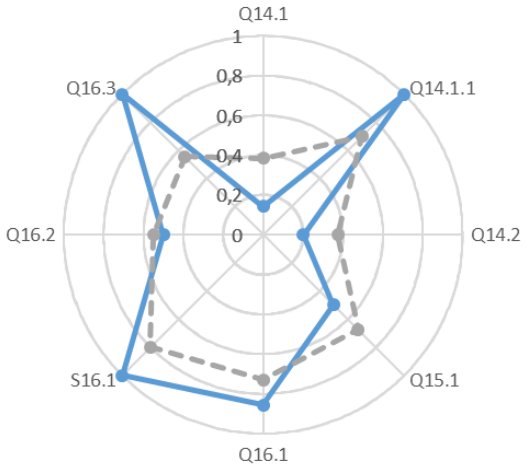

Figure 9 - Return on Investment - scores by indicator

(Recommendation 15)[32].

A positive aspect is the support to non-governmental actors for innovation and growth through the use of public location data (Recommendation 16). In this respect, a wide range of actions are being implemented or planned to actively support private, non-profit and academic players in the development of new products and e-services[26]. This includes targeted policies, national open data portals, thematic portals complementing general search facilities with "specialist" search functionalities and websites with exposition of location data[27]. Dedicated funding calls have also been released, aiming to support improvement in management and use of public sector data[28]

With reference to Recommendation 14, initial activities have been implemented to evaluate the efficiency and effectiveness of location based services in Slovakia, starting with the identification and monitoring of the costs and benefits for SDI development and maintenance[29]. This also includes an economic analysis for the JPPUS project[30], and the Common Assessment Framework (CAF) evaluation project for the Ministry of Environment.[31]

A systematic approach to communication of availability and benefits of location data and location enabled digital public services is being considered. Having said that, many examples of benefits, evidence and communications are already in place

[26] From stimulating sharing location data via Open Data portal (https://data.gov.sk), introduction of new Law on data to stimulate reporting data quality issues, including the balancing new challenges driven by EU policy as PSI vs GDPR (https://datalab.digital/wp-content/uploads/DataLab_newsletter_2002_HR.pdf).

[27] See best practice SK1

[28] See calls published at https://datalab.digital/dopytove-vyzvy/

[29] http://inspire.gov.sk/Upload/country_fiche/sk_inspire_country_fiche_2019.pdf

[30] https://metais.vicepremier.gov.sk/studia/detail/a702ef12-b6dd-90fd-256c-47e844cbd920?tab=documents

[31] https://www.minzp.sk/spravy/mzp-sr-zavadza-prestizny-model-kvality.html

[32] INSPIRE costs and benefits collection for the Country fiche public consultation (http://inspire.gov.sk/clanky/konzultacia-navrhu-sk-inspire-country-fiche-a-monitoringu-2019), Survey on Better GeoData for Slovakia (http://inspire.gov.sk/clanky/uvatesk-prieskum-lepie-geodata-pre-slovensko-efektyna-sprava-priestorovch-dajov-a-sluieb)

3.6. Governance, Partnerships and Capabilities

Vision	
There is high level support for a strategic approach to the funding and availability of location information at Member State and EU level, based on INSPIRE and other tools to achieve interoperability. Effective governance, partnerships, work programmes, responsibilities and capabilities to progress such an approach have been established, taking into account the needs and expectations of stakeholders at Member State and EU level. Governments recognise the importance of 'location' understanding and skills and invest in awareness raising, training and resourcing. Service design takes account of user capabilities. Specialists form communities to share knowledge and develop new ideas related to location information. As a result, there is a sufficient level of understanding and skills to develop, deploy and use effective location-based services.	
Recommendation 17	Introduce an integrated governance of location information processes at all levels of government, bringing together different governmental and non-governmental actors around a common goal
Recommendation 18	Partner effectively to ensure the successful development and exploitation of location data infrastructures
Recommendation 19	Invest in communications and skills programmes to ensure sufficient awareness and capabilities to drive through improvements in the use of location information in digital public services and support growth opportunities

Table 5 - Focus Area "Governance, Partnerships and Capabilities" - vision and recommendations

The "Governance, Partnerships and Capabilities" focus area index for Slovakia is 0.30, compared with the European average of 0.44. Alongside "Digital Government Integration", this represents to lowest scoring focus area for Slovakia.

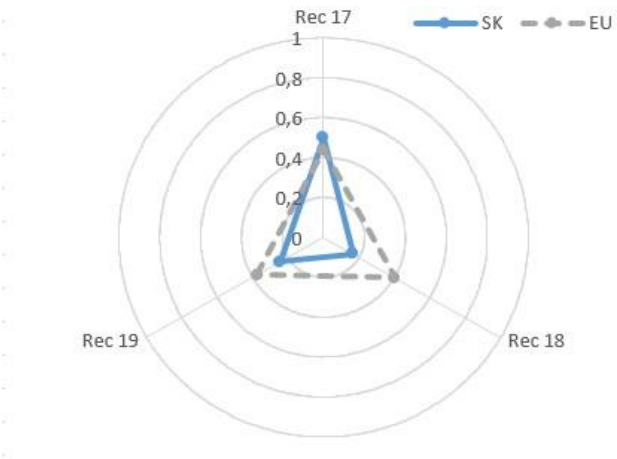

Figure 10 - Governance, Partnerships and Capabilities – scores by recommendation

Regarding Recommendation 17, there are governance and decision-making mechanisms in place, through different communities, domains, administrative levels and sectors. These are involved in decision making on the role of location information in Digital Government. There is a coordination framework for the SDI implementation, the NSDI Coordination council (representing also the ODPMSRII), dealing with INSPIRE and e-Government location aspects. The e-Government governance framework includes various working groups on topics such as better data and better services working groups, where location aspects are discussed. Tasks and responsibilities of location / SDI and Digital Government coordination organisations are reciprocally defined and framed[33].

With respect to Recommendation 18, there are agreements in place between public authorities in Slovakia to finance, build and

[33] Location governance is in Slovakia driven by the NSDI coordination framework (Coordination council with expert groups) as well as working groups under the ODPMSRII.

Figure 11 - Governance, Partnerships and Capabilities - scores by indicator

operate location data services or digital public services using location data. This support is mainly under the e-Government and INSPIRE frameworks, such as the two above mentioned national projects (ESPUS and JPPUS), as well as smaller projects, mainly focused on improvement in data management and provision of better digital services. With the exception of the joint CZ+SK INSPIRE conference[34], there are no other cross-border or public-private partnering agreements relevant to this recommendation.

Several ad-hoc actions are implemented on geospatial skills and awareness (Recommendation 19). Training and awareness raising on GeoICT skills are foreseen via the national project ESPUS[35] and related activities such as workshops, hackathons, etc. The latter includes training for specialists (e.g. developers, data analysts); special interest groups for knowledge sharing within the geospatial community; public or cross-government events specialising in location information / GI topics; INSPIRE, and Copernicus training modules[36].

Finally, the Geographic Information Science and Technology Body of Knowledge[37], the Data Management Body of Knowledge, and other similar frameworks, contribute to awareness raising and capacity building.

[34] See Best Practice SK2

[35] ESPUS - Effective management of spatial data and services, is mainly focused on the organisational dimension of location data: resources, soft skills and implementation support for stakeholders. Main areas of activity are 1) the methodology framework for spatial data and services management and monitoring; 2) harmonisation of spatial data and services; 3) use cases demonstrating SDI in practice; and 4) awareness raising activities.

[36] E.g. Copernicus MOOC (Massive Open Online Course) http://inspire.gov.sk/clanky/copernicus-mooc-massive-open-online-course

[37] http://www.gi-n2k.eu/the-project/, as well as considered in the national projects ESPUS and JPPUS.

4. Best practices

EULF Best Practice SK1 **Geopresovregion.sk**
Policy domain: Broad set of policy domains
Process owners: Prešov Self-governing Region
Short description: The Geo-Infrastructure Platform of the Prešov Region was created as part of the Catching-up Regions initiative with support of the European Commission, the World Bank and the Office of the Deputy Prime Minister for Investment and Informatisation. The Prešov Self-governing Region in cooperation with University of Prešov are participating in activities towards the creation of a regional spatial information infrastructure. The solution is based on building a comprehensive database of high-quality and up-to-date open data. The aim of the platform is to bring high-quality knowledge of the region, effective information exchange among institutions, and a simple view on important information to the public, municipalities, academia or the private sector.
Recommendations: Recommendation 16 (Return on Investment)
Link: https://geopresovregion.sk/geonetwork/srv/en/catalog.search#/georchestra

EULF Best Practice SK2 **Czech and Slovak INSPIRE conference – Inspirujme se**
Policy domain: Geospatial
Process owners: Czech Environmental and Information Agency, Slovak MoE
Short description: The Joint Czech and Slovak INSPIRE conference, has a long tradition (from 2008), aiming to share experience and knowledge across the INSPIRE and geospatial community. The conference provides an opportunity to present latest achievements as well as share challenges faced by stakeholders. Each year the conference aims to address relevant topics and arrange appropriate contributions. During recent years, efforts have been made for better involvement of participants in order to ensure stronger interaction and a higher quality event. Although the majority of participants come from public sector, increasing participation can be seen from the other societal domains (e.g. private sector, academia, non-government sector).
Recommendations: Recommendation 18 (3.6)
Link: https://inspirujmese.cz/

Annex 1: LIFO 2019 Scoring methodology

The LIFO scoring methodology is based on a hierarchy of indicators and indexes.

(Action) Indicators: A certain number of actions[38] have been selected in the EULF Blueprint as being representative of the scope of the recommendations to which they belong. For each of these actions, an indicator has been designed to measure how monitored countries are progressing towards the "vision" outlined in the EULF Blueprint. Each indicator is calculated on a specific scale, which best reflects the nature of the action (e.g. if it can be measured over a continuous or a discrete scale, if it is a binary phenomenon i.e. yes/no or similar, etc.). Indicators are then normalised over a scale 0-1, as follows:

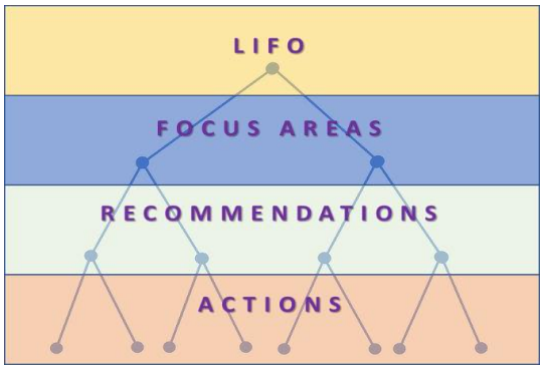

Figure 12 – Hierarchy of indicators and indexes hierarchy

Score attributed to the answer / Maximum Applicable Value: where the Maximum Applicable Value is the upper end of the scale that the non-normalised Value of the indicator can reach.

Note: Optional questions in the LIFO survey capture supplementary information relevant to corresponding mandatory questions about the actions. The mandatory questions (i.e. those marked '*' in the survey) are scored whereas the optional questions are not scored.

(Multi-level) Indexes: Indexes aggregate the Action Indicators at the levels of Recommendations, Focus Areas and LIFO overall, in order to represent the performance of each country at the respective levels. The relationships between (Action) Indicators, Recommendation Indexes, Focus Area Indexes and the overall LIFO Index are described in the table below.

Level	No.	Scoring method
LIFO	1	Average of the 5 Focus area indexes
Focus area	5	Average of scores for all recommendations associated with a focus area
Recommendation	19	Average of normalised scores for all indicators associated with a recommendation[39]
Action	61	Scores calculated using different scoring methods, converted to standard normalised scores in range 0-1.

***Table 6** – Relationships between indicators and indexes*

Action indicators, Recommendation indexes and Focus Area indexes are thus equally weighted in the calculation of their respective upper level indexes.

Note: Some questions have a "don't know" response as an option. Respondents are encouraged to provide answers wherever possible. Where a "don't know" response is given, the question has a null score. This is shown as zero in the indicator charts and the question is ignored in calculating the index scores.

[38] Described in the "How" section of each Recommendation

[39] In the event of a failure to respond or an "I don't know" answer, the indicator in question scores zero and it is excluded from the computation of the average score for the above levels.

Annex 2: Glossary

Term	Meaning	Link
European Location Interoperability Solutions for e-Government (ELISE)	The action in the ISA2 programme responsible for maintaining the EULF Blueprint and coordinating the LIFO.	https://joinup.ec.europa.eu/collection/elise-european-location-interoperability-solutions-e-government/about https://ec.europa.eu/isa2/home_en
European Union Location Framework (EULF)	An EU-wide, cross-sector interoperability framework for the exchange and sharing of location data and services. It consists of a package of recommendations, guidance, methodologies, case studies, training, pilots and collaborative action required by public administrations and stakeholder communities to facilitate the free flow of location data and ensure its effective use in e-government services.	https://joinup.ec.europa.eu/collection/european-union-location-framework-eulf/about
EULF Blueprint	Guidance framework for a wide audience to implement the EULF vision. The EULF Blueprint is updated periodically to embrace new developments in digital government.	https://joinup.ec.europa.eu/collection/european-union-location-framework-eulf/eulf-blueprint
EULF Vision	Vision and framework for 'location-enabled government', based on applying good practice in a number of 'focus areas'. It identifies the objectives, transition strategy and high-level actions needed in each focus area.	https://joinup.ec.europa.eu/sites/default/files/inline-files/ReqNo_JRC94727_lb-na-27125-en-n%20.pdf
Focus area	Best practice domain relevant to the effective use of location information in policy and digital public services. The focus areas identified in the EULF Vision and adapted in the EULF Blueprint are: Policy and Strategy Alignment, Digital Government Integration, Standardisation and Reuse, Return on Investment, Governance, Partnerships and Capabilities.	
Indicator	Quantitative measurement of the performance / practice of an organisation or entity. In the context of the LIFO, the	

Term	Meaning	Link
	indicators evaluate the degree of alignment of the practices implemented by Member States to the EULF Blueprint recommendations. LIFO includes “primary indicators”, which are specifically created for the Observatory and are measured through direct questions to LIFO contact points, and “secondary indicators”, taken from external sources, following principles of relevance for the scope of LIFO.	
INSPIRE implementing countries	Group of countries that have engaged to implement the INSPIRE directive or parts thereof. It includes: EU Member States, EFTA Members and a group of non-member states.	https://inspire.ec.europa.eu/INSPIRE-in-your-Country
Recommendation	EULF location interoperability best practices in the EULF Blueprint focus areas. Each of the 19 EULF Blueprint recommendations, contains a description of the rationale for following the recommendation and the expected benefits (why?), a checklist of associated actions (how?), potential problem areas to address in implementing the recommendation (challenges), a variety of best practices across Europe where this has been done successfully, links to relevant parts of the EIF, and further reading related to the recommendation.	