European Commission

LIFO: Location Interoperability Framework Observatory

2019 Country Factsheet

Austria

ISA²

This LIFO 2019 publication has been prepared by KPMG for the European Commission, Joint Research Centre (JRC) as part of the ELISE Action of the ISA2 Programme. The date of publication is August 2020.

The monitoring information for Austria has been provided by the Bundesministerium für Landwirtschaft, Regionen und Tourismus (BMLRT - Federal Ministry of Agriculture, Regions and Tourism) and the Bundesamt für Eich- und Vermessungswesen (BEV - Federal Office of Metrology and Surveying), through the coordinated answers of the INSPIRE representatives.

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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 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 Austria 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 Austria and the corresponding scores.

The 2019 LIFO monitoring information for Austria has been provided by the Bundesministerium für Landwirtschaft, Regionen und Tourismus (BMLRT - Federal Ministry of Agriculture, Regions and Tourism) and the Bundesamt für Eich- und Vermessungswesen (BEV - Federal Office of Metrology and Surveying), through the coordinated answers of the INSPIRE representatives.

3. Location Interoperability State of Play

3.1. Overview

Evidence collected through LIFO in 2019 shows that Austria closely reflects the average maturity of the ten surveyed countries with regard to the EULF Blueprint (see Figure 1).

The country is well positioned, achieving slightly higher than average scores in the focus areas "Standardisation and Reuse" and "Digital Government Integration". Compliance with INSPIRE is a driving factor in both cases, as:

- the positive results in the first focus area reflect the engagement in the implementation of INSPIRE data and network standards (as well as the focus on reusing solutions and establishing common registers);
- the result in the second focus area, reflects the well-advanced implementation of the INSPIRE Directive and its use for harmonisation of data and services.

Austria's positioning in the "Policy and Strategy Alignment" focus area is in line with the average over all of the 2019 data collection. In this area, the alignment with the EULF Blueprint is higher than the average in terms of GDPR preparedness and use of location-based evidence for policymaking, and lower in terms of alignment between location strategy and digital strategy and of location-based procurements;

In the "Return on Investment" focus area, Austria is positioned slightly below the 2019 data collection average, with good results on performance monitoring of location-based activities counterbalanced by the lack of systematic approach to the communication of benefits of integrating location information in digital public services.

Finally, the "Governance, Partnerships and Capabilities" focus area has the largest margin for improvement, both in terms of governance and capacity building, where Austria scores somewhat below the 2019 data collection average.

Figure 1 - Overall EULF Blueprint implementation

The value of Austria's LIFO index is 0.51, almost aligned with the average LIFO index of 0.54[2]. The following paragraphs describe in detail how the results in each focus area are composed.

[2] For the description of calculation method of the LIFO index and the other indicators and indexes see Annex 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

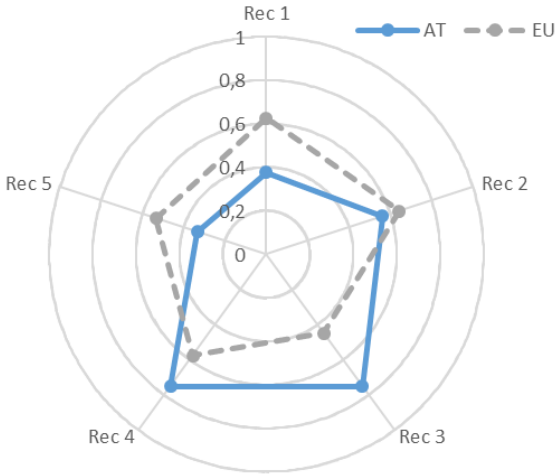

Figure 2 - Policy and Strategy Alignment - scores by recommendation

The "Policy and Strategy Alignment" focus area index for Austria is 0.55, slightly under the European average of 0.57.

In Austria use in digital government of authoritative location datasets and services is mandated by thematic legislation (Recommendation 1). However, location and digital government strategies do not appear effectively connected: the location strategy[3] does not make reference to the digital government strategy[4], nor vice versa.

The integration and alignment of location information policy within wider data policy (Recommendation 2) is weaker than the average of the surveyed countries. In particular, licensing is a sensitive area, as only some location data is available free of charge under an open licence without restrictions and, generally, location data tends to be available through different licensing arrangements from different data providers, without a common licensing framework.

3 https://inspire.gv.at
4 https://www.digitales.oesterreich.gv.at/

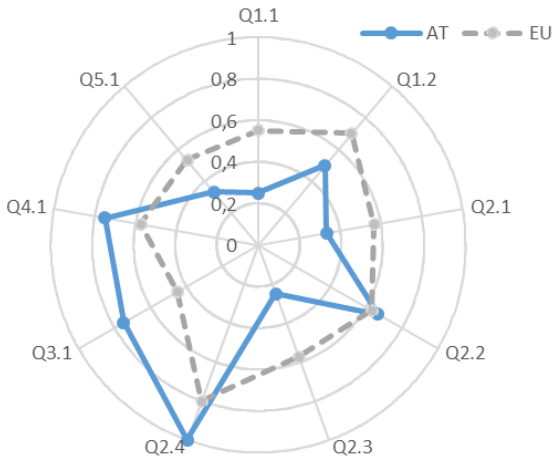

Figure 3 - Policy and Strategy Alignment - scores by indicator

Still in the policy dimension, it must be noted that a wide range of location core reference datasets are available for general use as part of a broader core reference data policy. Some examples of such core reference datasets are:

- the *Address register*, including land and buildings addresses and linked to the buildings and apartments register[5];
- the *Graph Integration Platform* (GIP)[6], the reference system of Austrian public authorities for transport infrastructure data.

The availability of these datasets is regulated by the national guidelines on the publication of public sector data, which also cover locations aspects, in particular, accessibility and usability.

Another opportunity for improvement within this focus area, is regards public sector procurement of location information and/or services, for which national procurement rules[7] make only general reference to INSPIRE or other relevant geospatial standards, with no specific details on their application (Recommendation 5).

Recommendation 3 scoring indicates Austria's strength and good preparedness of controllers and processors of public sector location data for GDPR and to the awareness of potential location data privacy issues and processes in place to comply with the rights of data subjects. Most organisations across Europe are reported as being fully prepared and active with regards with GDPR, including those in Austria. Austria can also report that no significant complaints, cases or fines are known in relation to location data privacy.

Austria also scores well under Recommendation 4, as location-based evidence and analysis are used to help developing policies and monitoring outcome in most relevant policy topics, for example environmental, traffic or spatial planning.

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

5 See Best Practice AT1
6 http://gip.gv.at/
7 https://www.e-beschaffung.at/ and http://www.nachhaltigebeschaffung.at/

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

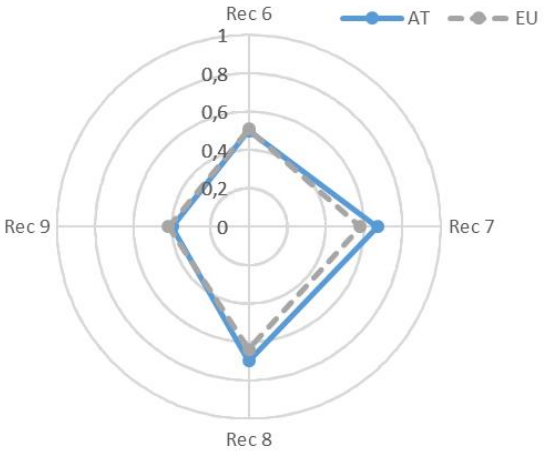

Figure 4 - Digital Government Integration - scores by recommendation

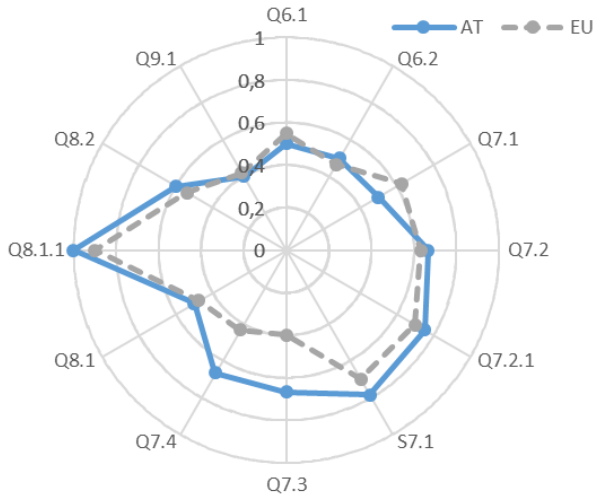

Figure 5 - Digital Government Integration - scores by indicator

The "Digital Government Integration" focus area index for Austria is 0.57, above the European average of 0.54. Austria is well positioned in this focus area, as the alignment with the EULF recommendations is around or above average for all recommendations. An area of excellence is Recommendation 7, covering the implementation of the INSPIRE Directive.

From the INSPIRE country fiche[8], implementation is well advanced or nearly completed, and outstanding issues are minor and relatively easy to address. Only the implementation of the provision to make spatial datasets interoperable by aligning them with common data models is still far from being complete. Nevertheless, the trend of that implementation is positive, as for the overall INSPIRE implementation status, and clear and targeted actions have been identified to reach the objectives of the legislation in an effective way.

INSPIRE is used for data harmonisation in the delivery of cross-sector digital public services and in cross-border digital public services where Austria is one of the parties involved; an example is the use of harmonised data for the management of Lake Constance area[9]. INSPIRE-based data harmonisation applied to cross-sector services involves, inter alia, elevation data, address data and aerial images[10]. Datasets harmonised according to other frameworks, appear to target several domains such as environment, transport, energy, property / land administration, local or regional planning, health, culture, education and tax policy. INSPIRE data harmonisation is then applied as an additional process to otherwise harmonised datasets, taking into account that INSPIRE data are not applicable *per se* in several use cases.

8 Currently the INSPIRE country fiche 2019 is available
9 See best Practice AT2
10 See http://adressregister.at/ for harmonised address data; as for aerial images and elevation data. A representation of the status on aerial images and elevation data harmonisation is displayed at https://inspire.ec.europa.eu/sites/default/files/presentations/1515_spatial_collaboration_in_at_ins-conference-2018_v20180920.pdf.

The public sector SDI is used by the private sector and other organisations (e.g. NGOs) for delivery of new and innovative applications, products and services in a number of good examples.[11]

Location information is exploited for incremental improvements to key digital public services (Recommendation 6). Location information, an important feature in service design and delivery, is used in a comprehensive way within key digital public services, such as:

- the *administrative base map of Austria*[12]: a high-performance web base map published under an OpenGovernmentData (OGD) licence and based upon data provided by the nine Austrian provinces and their partners;
- the *Address register*[13]: provides all certified addresses officially assigned by the municipalities throughout Austria;
- the *Building and apartment register*[14]: contains address data for land, buildings and usage units as well as structural data of buildings, apartments and other usage units;
- the *Property database (GDB) – digital cadastral map (DKM)*[15]: enables surveying offices to manage the cadastral data in an automated manner; it contains fixed points and property boundaries, which can also be called up in visual form. The land register and the digital cadastral portfolio are linked to a service enabling geographical and legal information on properties to be accessed jointly and graphically;
- *Natural hazards service*[16]: provides detailed maps of floods and torrents, erosion rock falls and avalanches as well as a map with historical events.

Recommendation 8, an open and collaborative methodology to design and to improve location-enabled digital public services, is adopted in several cases at national level.

The involvement of external parties (private sector, NGOs and citizens) in location-based public services delivery is encouraged through several models, namely by implementing public / private partnerships, by making data openly available for external parties to develop their own products and services and by supporting 'civic hacking' to develop new ideas, technologies or methodologies.

A selection of relevant examples of reuse of public sector open data are provided in the section dedicated to the applications in the Austrian open data portal[17].

The integration of statistical and location information (Recommendation 9) is active within Austria and comparable with the average scores of 2019 data collection, although this is an area for improvement. The processes most frequently implemented in this domain are the following:

- census data: collected as per the location reference framework for statistics;
- location-based statistics: updated dynamically to give an up-to-date snapshot on which to make decisions;
- relevant private sector data: included in the statistical information infrastructure;
- Austrian geospatial authorities: contribute to European projects aiming at establishing a data and production infrastructure for location-based statistics (e.g. GEOSTAT).

11 Available at https://www.data.gv.at/anwendungen/
12 www.basemap.at
13 www.adressregister.at
14 http://www.statistik.at/web_de/services/adress_gwr_online/allgemeines/gebaeude_und_wohnungsregister/index.html
15 https://www.digitales.oesterreich.gv.at/register#Grundstuecksdatenbank_GDB_-_Digitale_Katastralmappe_DKM_
16 http://www.naturgefahren.at/
17 See Best Practice AT3

3.4 Standardisation and Reuse

Vision	
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

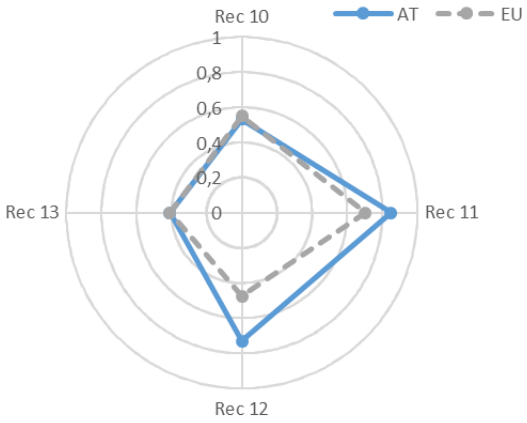

Figure 6 - Standardisation and Reuse - scores by recommendation

The “Standardisation and Reuse” focus area index for Austria is 0.63, which betters the European average of 0.53. Austria demonstrates good performance particularly for the application of relevant standards (Recommendation 12). This is evidenced in the full conformity of the INSPIRE network services with Regulation (EC) No 976/2009, while the value on the conformity of INSPIRE datasets with Regulation (EU) No 1089/2010 is below the average of the surveyed countries. The broad application of the INSPIRE metadata standard is also ensured by the use of GeoDCAT-AP specification to connect geospatial data and general data.

The alignment with EULF Blueprint recommendations is also quite good in terms of implementation of reusable solutions and authentic registers (Recommendation 11). Concerning the reuse of existing authentic data, data services and relevant technical solutions, several ISA² solutions are reused in the SDI and various core registers are implemented[18]:

- Addresses
- Geographical names
- Administrative units;
- Cadastral parcels;
- Hydrography;
- Transport networks;
- Code lists.

[18] See Best Practice AT1

The practices in terms of applying a common architectural approach and use of new technologies (Recommendation 10) show good alignment with the EULF Blueprint recommendations. The common location architecture fits within a broader national ICT architectural approach. Various location data APIs have been developed, documented and are accessible.[19] To facilitate technology-enabled improvements, an ad hoc approach is adopted to monitoring new technological features or emerging technologies.

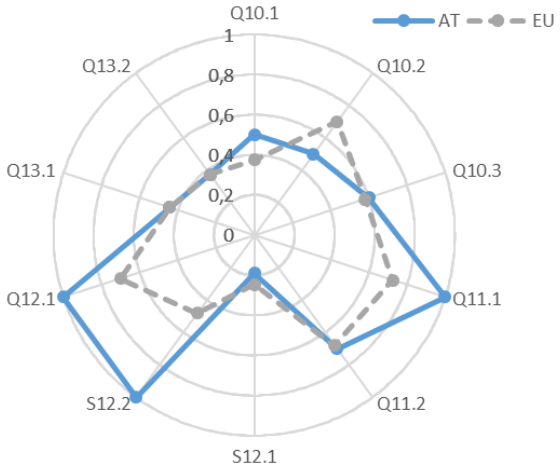

Figure 7 – Standardisation and Reuse - scores by indicator

Recommendation 13, focusing on management of location data quality, is ensured at design level by the development and application of a framework for analysis of data quality. This is achieved by linking data quality standards to data standards and by taking into account different dimensions of data quality, i.e. compliance to specifications / standards / legislation, timeliness, accuracy, completeness, integrity, and consistency. Furthermore, quality is ensured through the measurement of conformance of data to quality parameters set out in the data policy on an agreed frequency.

Concerning location data quality governance, Austria has put in place the following actions:

- Well-defined data quality responsibilities;
- Definition of a data quality review process;
- Collection of feedback from users to report problems and help improve data quality.

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

[19] Available for example at https://www.data.gv.at/applicationtype/web-app/?post_type=anwendungen&applicationsystem=0&applicationdatapublisher=0 and more in general at https://www.data.gv.at/veroeffentlichende-stellen/

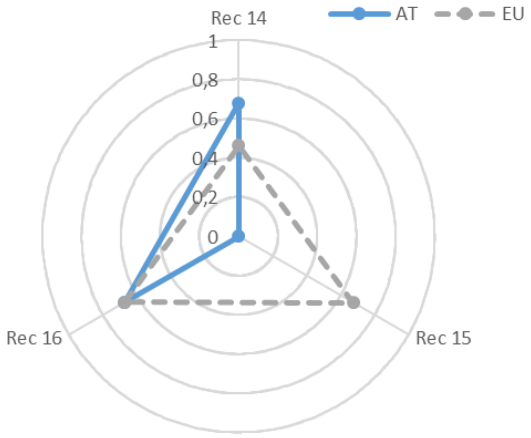

Figure 8 - Return on Investment - scores by recommendation

The "Return on Investment" focus area index for Austria is 0.45, quite below the European average of 0.60. This is mostly due to the lack of systematic approach to communicate the availability and benefits of location data and location-enabled digital public services (Recommendation 15).

A point of strength in this focus area is that performance monitoring of location-based services is completed for specific projects or services and at the agency level for public administrations in charge of geospatial services and at SDI / national level (Recommendation 14). Furthermore, many elements are evaluated to assess the efficiency and effectiveness of those services (i.e. reusability, risks, availability, responsiveness, reduction in administrative burden, simplification of administrative processes, increased participation, enhanced business opportunities and user satisfaction). Benefits of location information are regularly identified and monitored, and production, dissemination and use of location data and services are equally regularly monitored, although such information is not yet fully exploited for impact-based improvement of digital services (e.g. to prioritise investments across the governmental portfolio).

To facilitate reuse of public sector location information by the private sector (Recommendation 16). Austria has improved the process of searching, finding and accessing location data and web services easily for companies, research institutions, citizens and other interested parties through various applications. These include: a national discovery portal integrating INSPIRE and non-INSPIRE data; a geoportal harvested by the European Data Portal[20]; thematic portals complementing general search facilities with "specialist" search; websites with exposition of data; and spatial data sets available in web search engines.

Furthermore, there is a policy supporting the reuse of Public Sector Information both within public administration and by the private sector[21]. Private, non-profit and academic actors are also supported in the development of new products and e-services through some actions, such as the implementation of "innovation labs" or "innovation hubs", the promotion of an open data policy and brokering access to this data through hackathons, and the collection of requirements by businesses, research institutions and other actual or potential users for consideration in further development of the SDI/INSPIRE.

20 https://www.data.gv.at/
21 https://www.ris.bka.gv.at/GeltendeFassung.wxe?Abfrage=Bundesnormen&Gesetzesnummer=20004375

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 Austria is 0.32, compared with the European average of 0.44. This focus area indicates Austria has margins for improvement, achieving high scores only for certain actions within Recommendation 18.

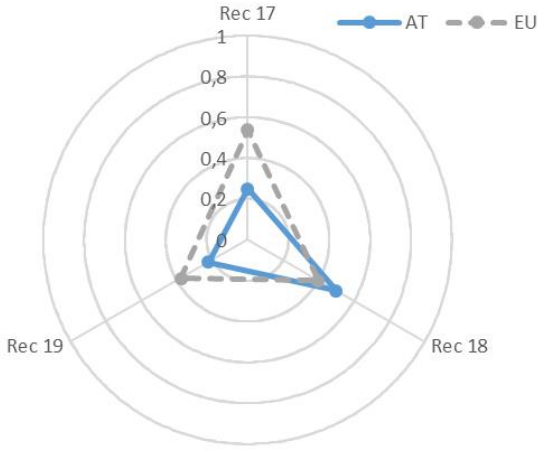

Figure 9 - Governance, Partnerships and Capabilities - scores by recommendation

With reference to this Recommendation, the main strength of Austria is the existence of formal agreements between public authorities in the country to finance, build and operate location data services or digital public services using location data in a large number of services or applications. One of these examples is the aforementioned *Address register*, managed and updated by the municipalities and cities via a central reporting system.

On the other side, agreements with public authorities in other countries exist only for a limited number of services, such as the management of Lake Constance area involving Austria, Germany and Switzerland, also mentioned above[22].

Significant opportunities for improvement are open regarding communications, skills and training (Recommendation 19). The initiatives in these fields are limited to a few cases, i.e. training for specialists, e.g. developers, data analysts, and special interest group for knowledge sharing within the geospatial community. Furthermore, there is no, or very little, training or

[22] See Best Practice AT2

awareness raising on geospatial skills and, although there is a geospatial competency framework, it is stand-alone and not part of a broader ICT or data competency framework.

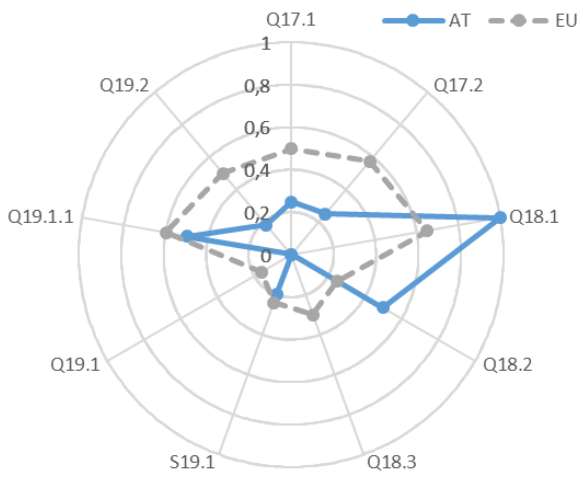

Figure 10 - Governance, Partnerships and Capabilities - scores by indicator

Concerning governance, (Recommendation 17), there is no central organisation responsible for leading and coordinating the implementation of policies on the role of location information in digital government, but only a collaboration via joint working groups on specific matters between the organisations respectively coordinating location information / SDI and digital government.

The inclusion of other stakeholders in decision-making on the role of location information in digital government is also limited to a few mechanisms, such as public consultations. More structured governance initiatives, such as the institution of a joint decision-making body including those different stakeholders, are not implemented.

4 Best practices

EULF Best Practice AT1	**Integration of location information policy with wider data policy through the Registers**
Policy domain: Geospatial	
Process owners: Federal Ministry for Digitization and Business Location and several Public Administrations	
Short description: In the context of Digital Austria Platform, under e-government policy, a set of registers has been set up. The digital infrastructure includes 21 electronic registers of the Austrian federal Administration, including those related to location information, in many cases linked together. Inter alia: address register, building and housing register, property database (GDB) - digital cadastral map (DKM), property database - land register (GB), central Motor Vehicle Register (KZR).	
Recommendations: Policy and Strategy Alignment (2), Standardisation and Reuse (11)	
Link: https://www.digitales.oesterreich.gv.at/register	

EULF Best Practice AT2	**Cross-border management of Lake Constance area**
Policy domain: Cross-border Cooperation	
Process owners: Federal Office for Metrology and Surveying – BEV	
Short description: Lake Constance forms the centre of a cross-border natural and economic region, involving Austria, Germany and Switzerland. The surveying administrations involved in the management of Lake Constance area are: the State Office for Geographic Information and State Development Baden-Württemberg (Germany); the State Office for Digitization, Broadband and Surveying (Germany); the Federal Office for Metrology and Surveying – BEV (Austria); the Federal Office for Topography (Switzerland). These organisations are responsible for the national management and provision of the spatial reference, the landscape models, national maps, aerial photos, elevation and gravity models as well as the property register. In 2002, a permanent working group on the Lake Constance geodata was set up to deal with the cross-border issues. This group makes analysis, processes pilot projects and provides suggestions for solutions to improve cross-border cooperation and the cross-border use of data through the coordination of processes, the harmonisation of databases and the impetus for new applications.	
Recommendations: Digital Government Integration (7), Governance, Partnerships and Capabilities (18)	
Link: http://www.bodensee-map.net	

EULF Best Practice AT3	**List of the applications reusing open data**
Policy domain: Geospatial / ICT	
Process owners: Open Government Data Austria Cooperation (Federal Chancellery, the cities of Vienna, Linz, Salzburg and Graz)	
Short description: The section in the Austrian open data portal dedicated to applications provides a list of applications that use open data made available by the public sector. Almost	

500 applications, created by external parties, are listed, reusing open data from more than 30 sources. For each application, the following information is provided: a short description, the records and/or services used, the link to the application, the contact points and the link to the source code, whenever available. Many of those applications are based on location data and services.

Recommendations: Digital Government Integration (8)

Link: https://www.data.gv.at/anwendungen/

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[23] 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:

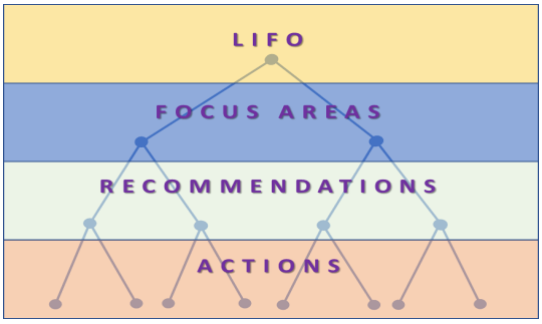

Figure 11 – Hierarchy of indicators and indexes

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[24]
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.

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

[24] 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.	

Term	Meaning	Link
Indicator	Quantitative measurement of the performance / practice of an organisation or entity. In the context of the LIFO, the 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.	