



Spatial Data Infrastructures in Austria: State of play 2010



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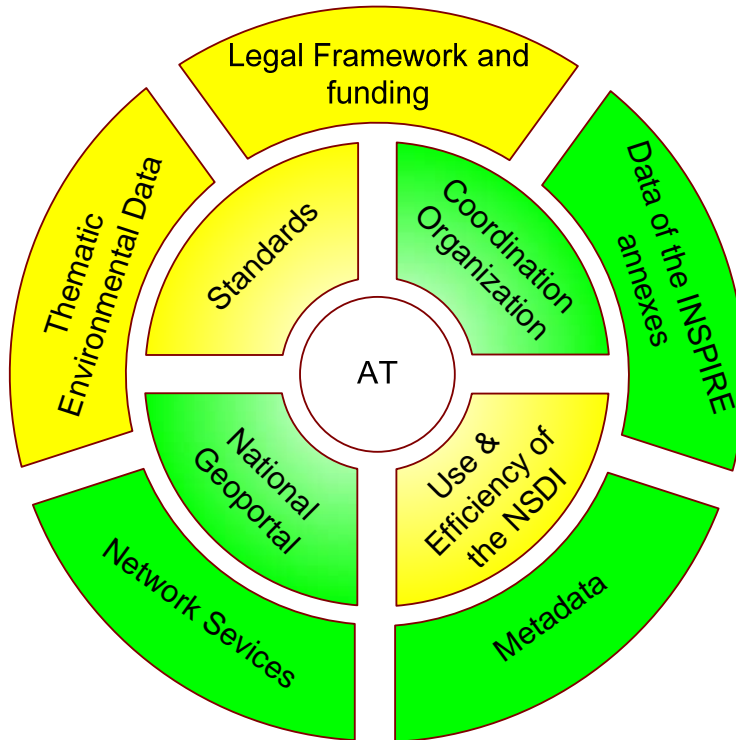
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Change matrix 2010 versus 2007

A concise graph is added to indicate changes of the various paragraphs compared to the previous report. Two colours are used: Green and Yellow indicating major and minimum changes respectively compared with the 2007 State of Play. This graph does not reflect the country situation. Merely it represents our findings/changes per section on our preparation of the desktop analysis



Executive summary

In the federal state of Austria, SDI-related initiatives in the public sphere are taken at the regional rather than at the national level. Driving issues are mainly spatial planning, emergency services and e-administration.

The federal government is responsible for coordinating the SDI activities of the states. In practice coordination is rather inter-regional and limited.

The National Mapping (and Cadastral) Agency (Bundesamt für Eich- und Vermessungswesen, BEV), which is chairing the federal coordinating body on GI, is taking the lead with respect to coordination of SDI-related initiatives. Besides its traditional mandate of maintaining the geodetic reference systems and producing nationwide high quality digital and analogue reference and core thematic datasets, BEV produces metadata and maintains discovery and other services which may serve as the core of a future NSDI. Geographic data relevant for the environment are collected by the Umweltbundesamt (Federal Environment Agency Austria) in accordance with the Federal Ministry of Agriculture, Forestry, Environment and Water Management. Together with LFRZ (Land-, forst und wasserwirtschaftliches Rechenzentrum) as key technical partner, they are responsible for more than 100 spatial datasets including themes from annexes I, II and III.

In 2009 a core team, INSPIRE/AT was established. In addition to Lebensministerium this core team comprises the Federal Ministries for Transport, Innovation and Technology, Economy, Family and Youth, Interior, as well as Finance. Furthermore, it includes representatives from the Federal Office of Meteorology and Surveying, the Federal Environmental Agency, Statistics Austria, the states, the Association of Austrian Cities and Towns and the Austrian Association of Municipalities.

Three sub –projects were defined by the core team towards INSPIRE implementation and NSDI in general and these are dealing with: Legal Transposition, Metadata and Network Services.

Simultaneously the Geoland.at portal has been established and offers free access to numerous Geodata. This is the first step of the implementation of strategic objectives defined by Austrian Geodata politics. Moreover, the geoportal links all individual federal state portals. These portals have matured the last years and provide a number of data and services.

Moreover, on March the 2nd 2010 with the Federal Law Gazette I No. 14/2010 on an environmental law of the Federal Spatial Data Infrastructure a Spatial Data Infrastructure Act - GeoDIG came into force.

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Abbreviations and acronyms

AGEO	Austrian Umbrella Organisation for Geographic Information
AMA	Agrarmarkt Austria
ASCII	American Standard Code for Information Interchange
BEV	National Mapping Agency
BMLFUW	Bundesministerium für Land- und Forstwirtschaft, Umwelt und Wasserwirtschaft (Federal Ministry of Agriculture, Forestry, Environment and Water Management)
CEN	Comité Européen de Normalisation
CLGE	Council of European Geodetic Surveyors
CSV	Comma-separated values
CT	Core Thematic Data
DP Act	Data Protection Act
DPLI	Data Policy and Legal Issues
ESDI	European Spatial Data Infrastructure
EULIS	European Land Information Service
EUREF	European Reference Frame
EUROGI	European Umbrella organisation for geographical information
FIG	International Federation of Surveyors
FIR	Further Investigation Required
GeoDIG	Geodateninfrastrukturgesetz
GI	Geographical Information
GIS	Geographical Information System
GPX	GPS Exchange Format
IAG	International Association of Geodesy
INSPIRE	INfrastructure for SPatial InfoRmation in Europe
INVEKOS	Integriertes Verwaltungs- und Kontrollsystem
ISO	International Organization for Standardization
LFRZ	Land-, forst und wasserwirtschaftliches Rechenzentrum
NGII	National Geographic Information Infrastructure
NIA	No Information Available
NSDI	National Spatial Data Infrastructures
OGC	Open Geospatial Consortium
ÖNORM	Österreichisches Normungsinstitut
ÖSGN	Österreichisches Schregrundnetz
PN	Präzisionsnivellements
PPP	Public-private partnerships
PSI	Policy and legislation on access to public sector information

REF	Reference data
SDI	Spatial Data Infrastructures
u	Umweltbundesamt (Federal environment agency Austria)
UIG	Umweltinformationsgesetz
WCS	Web Coverage Service
WFS	Web Feature Service
WFD	Water Framework Directive
WMS	Web Mapping Service
WPLA	Working Party on Land Administration (UNECE)

1 GENERAL INFORMATION

1.1 Method

This report is summarizing the review of SDI in Austria, and reflects the degree to which the SDI situation in Austria is similar to the ideas set out in the INSPIRE position papers¹, the INSPIRE scoping documents and INSPIRE Directive.

The 2002 report was based mainly on the analysis of various documents, project references and web sites readily accessible in English and German (See section 3.2 for the full list of references). However, almost no sources about an Austrian SDI strategy have been found. The report has been completed by integration and consolidation of comments received from a representative of the National Mapping Agency. The update of 2005 was carried out based on input from the Austrian Authorities. For the 2006 update we relied on various sources (web portal) including information obtained through the presentation of Mr. Lux during the EC GI&GIS workshop in Innsbruck, June 2006. The structure of the report has been reviewed in order to bring it more in line with the INSPIRE Directive. Empty sections were removed. In March 2007, BEV sent the templates for data sets and services (survey), but did not answer the data sharing questions. The templates were only filled for BEV as single organization.

For the 2009 update the information extracted from the web and the available presentations/publications from workshops and conferences were used. In this version obsolete information was removed, while a conclusion paragraph regarding the status of each indicator was added for each component.

1.2 Overview of SDI-actors and initiatives

Major GIS projects are currently operational of which some are covering the whole of Austria but they are not merged into a fully operational NSDI.

As such, the national mapping agency BEV can be considered as a key player in Austria's future NSDI. Besides BEV, also the Austrian Umbrella Organisation for Geographic Information AGEO may become an important contributor. The relationship between those two organizations seems to be close, as the contact person for AGEO is working at BEV.

[1]

BEV (Bundesamt für Eich- und Vermessungswesen or. National Mapping Agency) provides a number of topographic datasets, and also acts as portal to the cadastral information (<http://www.bev.gv.at>). It is working with partners on international level (ISO, CEN, Eurogeographics, WPLA, CLGE, FIG, and IAG).

[3]

¹ INSPIRE position papers, final versions: RDM, ETC, DPLI, ASF, IST, IAS (latest version).

The AGEO – Austrian Umbrella Organization for Geographic Information (<http://www.ageo.at>) has been established in 1998. Its current priority is building up its membership, after which it intends to play an increasing role in co-ordinating matters relating to the development of a GI infrastructure in the country.

[2]

AGEO defines its (future) tasks as follows: “Compile a national GI network, initiate a strong national SDI (AGII) as part of an ESDI, boost the marketing for GI (with newsletter), presentation of information and elaboration of GI standards, stimulate cooperation of AGEO members, encourage the professional training and maintaining its high quality level, awareness rising for GI interests.”

[2]

A multinational SDI initiative including Austria is called EULIS. As part of the eContent Programme of the European Union, national land registries with computerised systems have started a co-operation in a project called European Land Information Service (EULIS). The European housing and real estate credit markets are still almost totally national. A broader competition in this area could give the public benefits in the form of lower housing costs. This reduction in cost could be realised on account of increased competition between international lenders. Though all participants have computerised national land information registers in operation, there are still certain barriers that have to be overcome. At present there are for example no common principles for collecting and storing information, no common legal and regulatory framework and no common principles for access to information. The participating agencies have agreed to work together to overcome these difficulties. An important part of such a development is the creation of international access to land and property registers. The EULIS project will create a demonstrator that will provide improved access to information on-line from eight national land registries. The extent to which the EULIS project would provide a SDI-like environment remains to be evaluated. The EULIS project created a live service to cross-border access to the official land registers of different European countries through a single internet based portal. The land registers of the six countries connected to the service: Austria, Sweden, Netherlands, England & Wales, Norway and Lithuania.

[7]

In this report, the BEV is described as the central node of an emerging NSDI in Austria. AGEO is considered as the co-coordinator.

The nine Provincial Government Authorities run their own harmonised geoportal with the most relevant geographic data (<http://www.geoland.at/>).

The Umweltbundesamt has been documenting the state of the environment using GIS-solutions for nearly twenty years. The Umweltbundesamt is – together with LFRZ (Land-, forst und wasserwirtschaftliches Rechenzentrum) as technical support centre - playing an important role as provider of data for different annexes of the INSPIRE Directive.

2 Details of BEV/AGEO

2.1 General Information

Drivers for (and funders of) BEV/AGEO's efforts to work towards an NSDI are mainly the needs for better spatial planning and emergency services. E-Initiatives are proceeding well for all administrative items and SDI is seen as a key element for the exploitation of Public Sector Information. It is acknowledged that this requires existing individual SDI-initiatives to be merged.

[\[1\]](#)

2.2 Component 1: Coordination and organization of the SDI

Currently all Austrian federal states are particularly active in developing components of state level SDIs. Federal government is in principle responsible for coordinating these sub national SDI activities but in practice coordination is limited. This is illustrated by the fact that since the länder are responsible for the production, accessibility to and dissemination of a number of core geo datasets (addresses, spatial planning), the coverage of Austria by this type of data is not always uniform.

In 2002, a discussion forum has been established for state/regional government institutions in relation to an NSDI. Political involvement is moderate at the federal level. There is however a degree of difficulty in achieving such coordination whilst trying to keep all the actors involved without a specific body having the overall responsibility. The issue of funding has led to discussions about intellectual property rights and pricing between public institutions.

Coordination is however gaining momentum at the national level. In April 2003, the Austrian federal government agreed to start an initiative to co-ordinate all NSDI-related activities in a horizontal sense and to implement a co-ordination body for the federal level. This body is chaired by BEV on behalf of the Federal Ministry of Economic Affairs and Labour.

In May 2007, the "INVEKOS und GIS" department of the Ministry of Agriculture, Forestry, Environment and Water Management. (BMLFUW) was named as the Austrian National Contact Point for INSPIRE.

In 2009 a core team, INSPIRE/AT was established. In addition to Lebensministerium this core team comprises the Federal Ministries for Transport, Innovation and Technology, Economy, Family and Youth, Interior, as well as Finance. Furthermore, it includes representatives from the Federal Office of Meteorology and Surveying, the Federal Environmental Agency, Statistics Austria, the states, the Association of Austrian Cities and Towns and the Austrian Association of Municipalities. The main three sub –projects defined towards INSPIRE implementation are dealing with: Legal Transposition, Metadata and Network Services.

2.2.1 Conclusions of Component 1

The Austrian SDI approach is truly national. Currently all Austrian federal states are active in developing components of state level SDIs. SDI building blocks have reached a significant level of operationality. Since 2007, the Ministry of Agriculture, Forestry, Environment and Water Management is acting as the NCP for INSPIRE. Since 2009 a specific body for INSPIRE was created which includes the major data providers, as well as the major users, including the regional and local levels. Therefore, we can say that due to INSPIRE the leading role is now shared between users and producers, with the Environmental sector playing an important role.

Based on these conclusions we score the indicators as follows:

- The approach and territorial coverage of the SDI is truly national
- One or more components of the SDI have reached a significant level of operationality (4)
- The officially recognised or de facto coordinating body of the SDI is a NDP, i.e. a NMA or a comparable organisation (Not so clear)
- The officially recognised or de facto coordinating body for the SDI is an organisation controlled by data users (Not so clear)
- An organisation of the type 'national GI-association' is involved in the coordination of the SDI
- Producers and users of spatial data are participating in the SDI
- Only public sector actors are participating in the SDI

2.3 Component 2: Legal framework and funding

[1], [2], [11] – [14], [15]

2.3.1 Legal framework

The Surveying Act and the Metrology Act form the legal basis for the activities of the BEV as a federal agency. The emphasis of the Acts is on cadastral activities. The coordinating role BEV is playing for the federal NSDI-initiatives has no formal legal basis but is the result of a within-government agreement.

In July 2005, a Decree was issued implementing a central Address Registry (Addressregisterverordnung). The Decree organizes the technical aspects, the

competences and rights of use and the division of costs between the federal level (BEV) and the municipalities. The municipality is the official “owner” of the data, while the BEV handles the administration and the distribution. For this, the BEV receives about 10% of the revenues (see <http://www.bev.gv.at/aktuelles/pdf/adressregisterverordnung.pdf>).

The Federal Environmental Agency was founded as a separate state-owned corporation by the Umwelkontrollgesetz, which lays out its responsibilities and entered into force on January 1st, 1999.

In March 2010, the *Geodateninfrastrukturgesetz – GeoDIG* was published in the Federal Law Gazette I No. 14/2010, transposing the INSPIRE directive. It entered into force on 2 March. (<http://www.lebensministerium.at/article/articleview/82373/1/29640>). The law only provides a minimal transposition of the directive, without any additional measures to extend the impact of the law on the Austrian SDI (Runder Tisch GIS e.V., INSPIRE, Fundamentals, Examples, Test Results, http://www.cagi.cz/files/INSPIRE_Broschuere_V4_en_final_web_231109162434.pdf).

2.3.2 Public-private partnerships (PPPs)

No recent information has been found.

2.3.3 Policy and legislation on access to and reuse of public sector information (PSI)

Article 20 of the Federal Constitution obliges the federal, provincial and municipal administration to give information on matters relating to their scope of activity, unless they are under a legal duty to maintain secrecy. This obligation is made operational by federal and provincial legislation.

The Auskunftspflichtgesetz is a Freedom of Information law that obliges federal authorities to answer questions regarding their areas of responsibility. However, it does not permit citizens to access documents, just to receive answers from the government on the content of information. If an interest can be shown, then the individual requesting information can obtain copies of the documents under the Code of Administrative Procedures or the Data Protection Act. The nine Austrian Provinces have laws that place similar obligations on their authorities.

As far as environmental information is concerned, the Federal Law on Environmental Information adopted in 1993 implements the European Union Directive 90/313/EEC on the freedom of access to information on the environment for information held by the federal government. It was amended to implement Directive 2003/4 in the course of 2004-2005 (Bundesgesetz über den Zugang zu Informationen über die Umwelt (Umweltinformationsgesetz – UIG, BGBl. Nr. 495/1993 idF BGBl. I Nr. 6/2005. The changes entered into force in February 2005.

By decree of the Austrian Federal Minister of Economic Affairs of 24 June 1997 everybody is granted direct access to the cadastre and the land registry database via the

public services of Telekom Austria AG, Datakom Austria AG, IBM Network Services and Bundesrechenzentrum GmbH.

Directive 2003/98 on the re-use of public sector information has been transposed on the federal level and in the Länder. At the same time as the introduction of the federal legislation on re-use (Informationsweiterverwendungsgesetz), the Surveying Act (Vermessungsgesetz) was changed. The new §48 concerns the delivery of geodata and their use for other purposes. In accordance with this act, BEV has introduced new conditions on standard charges and use of the data on 1 January 2006. These general conditions can be downloaded from http://www.bev.gv.at/aktuelles/pdf/standardgelte_nutzungsbe.pdf <http://www.bev.gv.at/aktuelles/pdf/agb.pdf>.

2.3.4 Legal protection of GI by intellectual property rights

The Austrian Copyright Act (Urheberrechtsgesetz) dates from 9 April 1936 and has been amended several times since then.

Paragraphs 73 to 76 of the Copyright Act provide for special protection for photographs. Whilst original photographs are subject to normal copyright regulation, all non-original photographs are also protected for thirty years after production or publication.

Paragraph 7 of the Copyright Act stipulates that laws, decrees, judicial decisions and the like are not subject to copyright. In addition, all works of public entities produced exclusively or mainly for official use, cannot be subject to copyright. The latter provision should however be interpreted restrictively.

Paragraph 7 of the Copyright Act also explicitly states that topographic works produced by the Bundesamt für Eich- und Vermessungswesen can be subject to copyright. This is the case if they are original, destined for publication, and produced by the Bundesamt.

Austria was one of the four countries that managed to implement European Directive 96/9/EC concerning the legal protection of databases in time, i.e. by 1 January 1998. The most recent amendment dates from 2003 and adapts the Copyright Act to the 2001 Directive on copyright in the information society.

2.3.5 Restricted access to GI further to the legal protection of privacy

The Austrian Data Protection Act (called Datenschutzgesetz) was enacted in 1978, creating the Data Protection Commission and the Data Protection Council. It is concerned with all personal data, but does not specifically recognise the concept of “sensitive” data. However, personal information may not be sold and public authorities are required to institute a system of control and sanction for infractions.

[15]

There were however a number of differences between the Austrian DP Act and the European Directive, but these were for the most part addressed by the Austrian Federal

Chancellery in a bill presented to Parliament in 1999, which was passed into law with effect from 1 January 2000. This Bundesgesetz über den Schutz personenbezogener Daten (Datenschutzgesetz 2000) applies to all processing by automatic means. Seven Länder have also adopted new data protection laws to implement the Directive.

The Austrian legislation is fully compliant with Directive 2002/58 on privacy and electronic communications.

2.3.6 Licencing framework

A licensing framework is in use for BEV products. Since 2008, almost all products are available on-line on the BEV portal. A distinction is made between different shops (see http://www.bev.gv.at/portal/page?_pageid=713,1576213&_dad=portal&_schema=PORTAL):

- BEV Shop Light: the user does not have to register for this and he can anonymously obtain access to Austrian Map Fly 5.0 and national maps
- BEV Shop: without registration, the user can search and order predefined products, such as Orthophotography or 1:1.000.000 vector maps.
- BEV Shop Plus: the user has to register to obtain further means to search data. All products of BEV are offered in different formats, such as aerial images, orthophotography, topographic maps, and administrative boundaries.
- MyBEV Shop: registered users can see the products and searches they have queried.
- BEV Shop APOS: registered users can download data from all APOS reference stations.
- BEV WebGIS: registered users can query and obtain attributes of selected objects in different themes.

General conditions for obtaining and using the data can be found on the website (http://www.bev.gv.at/portal/page?_pageid=713,1606946&_dad=portal&_schema=PORTAL). An overview of standard licensing charges and conditions is available at <http://www.bev.gv.at/pls/portal/url/ITEM/890D310A325C50CCE040010A1F210D3B>.

By the end of 2009, over 3.000 users were registered on the BEV-portal. During 2009, almost 80.000 orders of products took place, an increase of 30% in comparison to 2008. Most orders took place via the download service, only a limited number were delivered by CD or e-mail (BEV, *BEV Leistungsbericht 2009*, <http://www.bev.gv.at/pls/portal/url/ITEM/8A3E44FD3D063647E040010A1F216F91>)

2.3.7 Funding model for SDI and pricing policy

Standard pricing policies for data held by BEV can be found on the BEV portal (http://www.bev.gv.at/portal/page?_pageid=713,1941531&_dad=portal&_schema=PORTAL). An essential part of the pricing policy lies in the distinction between internal use and external use. For internal use, the standard charge for analogue products depends on the data layer and the size. For digital data, the standard charge is determined by the relevant data layer, the size of area or the number of cadastral properties, and the number of workstations. For services, the charge is determined by the frequency of use or as a flat rate. For external use, an additional fee may be charged to the fee for internal use, depending on the type of use that is made. Extra fees are required for web services, digitizing data and disseminating derived products. Discounts are available for educational purposes.

2.3.8 Conclusions of Component 2

INSPIRE was transposed in national legislation, Geodateninfrastrukturgesetz – GeoDIG, but is a minimal transposition without any additional measures to extend the impact of the law on the Austrian SDI. Austria was one of the four countries that managed to implement European Directive 96/9/EC concerning the legal protection of databases in time, i.e. by 1 January 1998. The most recent amendment dates from 2003 and adapts the Copyright Act to the 2001 Directive on copyright in the information society. There is a licensing framework in use for BEV products. Since 2008 almost all products are available on-line on the BEV portal through different kind of ‘data-shops’. The conditions for obtaining and using the data are described and publically available.

Based on these conclusions we score the indicators as follows:

- There is a legal instrument or framework determining the SDI-strategy or – development (In Preparation)
- There are true PPP’s or other co-financing mechanisms between public and private sector bodies with respect to the development and operation of the SDI-related projects (No)
- There is a freedom of information (FOI) act which contains specific FOI legislation for the GI-sector (In Preparation)
- GI can specifically be protected by copyright
- Privacy laws are actively being taken into account by the holders of GI (No)
- There is a framework or policy for sharing GI between public institutions (In Preparation)

- There are simplified and standardised licences for personal use
- The long-term financial security of the SDI-initiative is secured (No)
- There is a pricing framework for trading, using and/or commercialising GI (No)

2.4 Component 3: Data for themes of the INSPIRE annexes

2.4.1 Scale and resolution: European, National, Regional, Local, Other

BEV is producing topographic GI at European, national, regional and local scale levels:

- 1:2 000 000 raster A-Map
- 1:500.000 vector, raster KM500V, KM500R
- 1:200.000 raster KM200R
- 1:250.000 vector KM250V
- 1:50.000 vector, raster KM50R, KM50V (partly)
- 1:25 000 vector, raster V BMN
- 1:25 000 vector, raster UTM
- 1:1.000 raster, vector OP, DKM, DLM
- 1:2.000 raster, vector OP, DKM, DLM
- 1:5.000 raster, vector OP, DKM, DLM
- 1:10.000 raster, vector OP, DLM

2.4.2 Data by resolution or scale range for the INSPIRE themes

In Austria core data sets include those created for public interest or those required by law. Examples include land information, topographic maps, addresses and environmental information, the latter being freely available after the implementation of the 1990 EC Directive. Other information exists including more extensive coverage of planning information and addresses, although provision is dependent on the decisions made by the federal states and so there is not a complete coverage for the entire country.

[16]

Other data available:

Corine Landcover (u)

Contaminated Sites (u)

Geographic data relevant for 2000/60/EU (BMLFUW supported by u)

Geographic data relevant for soil (Provincial Government Authorities and u)

Geographic data relevant for agriculture (BMLFUW supported by AMA)

Geographic data on conservation areas (Provincial Government Authorities)

The Ministry of Life (Lebensministerium) and its partners are responsible for more than 100 spatial datasets including hydrography (Annex I), geo-references image data (Annex II), soil, bio-geographical regions, natural risk zones (Annex III). Data are collected also through the WFD initiative, the Environmental Information Act, the Aarhus Convention and the Integrated Administration and Control System.

[A list of all the available maps and products can be found at: http://www.bev.gv.at/portal/page?_pageid=713,1569819&_dad=portal&_schema=PORA](http://www.bev.gv.at/portal/page?_pageid=713,1569819&_dad=portal&_schema=PORA)
[L.](#)

The themes included in Geoland.at are available at:
<http://www.geoland.at/geoland2/%28bfcka2unnegnvx55wwynk42t%29/themenliste.aspx>

Regarding the three INSPIRE annexes addressing the 34 spatial data themes Austria is providing discovery and view services mainly for Annex I and II while a number of them can be also downloaded. All metadata are based on ISO and the main provider is BEV. The datasets are provided in a variety of scales and resolution according to their usage. A complete list will be presented in the updated report including the information provided by the country in 2010.

2.4.3 Geodetic reference systems and projections

Name and nature of the Austrian geodetic coordinate system (Austrian National System):

- Ellipsoid: BESSEL

- Datum: MGI
- Map Projection: Lambert Conic Conformal with as parameters :
 - 46 00 00 /* 1st standard parallel
 - 49 00 00 /* 2nd standard parallel
 - 13 20 00 /* central meridian
 - 47 30 00 /* latitude of origin of projection
 - 400000 /* false easting (meters)
 - 400000 /* false northing (meters)

[\[9\]](#)

For regional/national mapping, the following projection systems are also used:

- KM200: UTM
- KM 50: Universal Transverse Mercator

[\[10\]](#)

For the International Map 1:250 000:

- Universal Transverse Mercator

[\[10\]](#)

For local mapping, the following projection systems are in use:

- Gauss-Krueger, Bessel
- UTM
- And others

Height reference: Präzisionsnivellements (PN), Level Triest/Italy (Epoche 1875)

Gravimetric reference: Österreichisches Schweregrundnetz (ÖSGN)

[\[5\]](#)

The spatial referencing is done based on EUREF (European Reference Frame) of IAG (International Association of Geodesy)

[\[8\]](#)

2.4.4 Quality of the data

The BEV is obliged to follow the EN ISO 9001:2000, EN ISO/IEC 17025 and to improve constantly the Quality management.

Data content and structure consistency check is done by BEV.

[\[5\]](#)

There is a permanent updating process going on. The digital 1:50.000 topographic map is updated every 6-8 years.

[\[5\]](#)

There is no possibility for the user to access change-only information.

The symbolized geographic information is presented according to a defined Austrian Standard.

2.4.5 Interoperability

The GIS software MAP is broadly used throughout Austria. The most popular database format is MS_Access.

[\[6\]](#)

2.4.6 Language and culture

Metadata and accompanying documents are provided in German and generally not translated in other languages. A data dictionary for BEV-data is available in German.

2.4.7 Data Content

There are text explanations for attributes and for the data dictionaries.

2.4.8 Geographical names

Geographical names are managed in German. No secondary name sets are used.

2.4.9 Conclusions of Component 3

Already from the previous AT's SoP report Geodatasets existed which provide a basis for contributing to the coverage of pan-Europe for the INSPIRE-selected data themes and components while the geodetic reference system and projection systems are standardised, documented and interconvertable. The INSPIRE 2010 MR confirms the statement. 296 data sets have been reported most of which belong to Annex I and Annex II (130 belong to Annex III). The BEV is obliged to follow the EN ISO 9001:2000, EN ISO/IEC 17025 and to improve constantly the Quality management No new information on

Interoperability was found. The main language used is German while English translation is scarce.

Based on these conclusions we score the indicators as follows:

- Geodatasets exist which provide a basis for contributing to the coverage of pan-Europe for the INSPIRE-selected data themes and components
- The geodetic reference system and projection systems are standardised, documented and interconvertible
- There is a documented data quality control procedure applied at the level of the SDI
- Concern for interoperability goes beyond conversion between different data formats (No)
- The national language is the operational language of the SDI
- English is used as secondary language (No)

2.5 Component 4: Metadata

2.5.1 Availability

There are metadata available for a significant part of the reference data and core thematic data produced and maintained by BEV. Metadata also exist for certain data at provincial and federal levels, alongside a complete metadata set for land registration. [1].

Geoland.at offers free access to important Geodata/Metadata and it is the first step of the implementation of strategic objectives defined by Austrian Geodata politics. At the site, www.geoland.at, there is a link to metadata for each of the 9 federal states (http://www.geoland.at/index.php?option=com_content&task=view&id=16&Itemid=48).

2.5.2 Metadata catalogues availability + standard

The 9 federal states although have different portals to provide their metadata they can be found and accessed via the geoland.at portal.

2.5.3 Metadata implementation

Metadata implementation is coordinated within each of the data producing organisations, not among them.

2.5.4 Conclusions of Component 4

Metadata are produced for a significant fraction of geodatasets of the themes of the INSPIRE annexes. The 2010 MR reveals that for the reported datasets of INSPIRE (58% of the data sets have metadata). Geoland.at integrates data from the different regions in one portal. Metadata implementation is coordinated within each of the data producing organisations, not among them.

Based on these conclusions we score the indicators as follows:

- Metadata are produced for a significant fraction of geodatasets of the themes of the INSPIRE annexes
- One or more standardised metadata catalogues are available covering more than one data producing agency (Partially)
- There is a coordinating authority for metadata implementation at the level of the SDI (No)

2.6 Component 5: Network services

With the realisation of the Geodata Network with all Austrian Federal states through geoland.at, the first concrete step of the conversion of aims, defined by Austrian Geodata politics, is made.

This Geodata Network offers a free and Austrian wide access to Geodata and Services of the federal states of Austria for many purposes. The planned openness of the Geodata network – with decentralised data-management following the subsidiary principle on the basis of international standards (OGC, ISO, CEN, WMS, WFS, etc.) and national Standards (ISO EN ON) offers the possibility to include and link further Geodata. The user can access Austrian wide GIS data and visualize as well as print data. Detailed information about the project is available at: http://www.geoland.at/images/stories/Geoland/presse/folder_geoland_2007.pdf (in German).

The Internet portal www.geoland.at provides central access to metadata, maps, mapping services and contacts of all Austrian provinces. Up to 200 different Web mapping applications are used.

Its State has its own portal providing GI information, data, download sections as well as information about its structure, standards, visions and strategies for the future.

These portals are available as links from the www.geoland.at.

2.6.1 On-line access service for metadata: discovery services

There are several on-line discovery services for the metadata of subsets of reference data available on the Internet (in German). A generalized access service has been achieved with the geoland portal.

[From geoland.at users can access metadata of:](#)

[Metadata Carinthia](#)

(no active page)

[Metadata Lower Austria](#)

(http://www01.noel.gv.at/scripts/cms/bd/bd5/noegis/geokatalog/suche_ssi.asp)

[Metadata Upper Austria](#)

(<http://doris.ooe.gv.at/geoinformation/metadata/index.htm>)

[Metadata Salzburg](#)

(no active page)

[Metadata Styria](#)

(<http://www.gis.steiermark.at/cms/ziel/3186097/DE/>)

[Metadata Tyrol](#)

(<https://portal.tirol.gv.at/Geodatenkatalog/getThemen.do?cmd=fetchThemen>)

[Metadata Vorarlberg](#)

(http://www.vorarlberg.at/geokatalog_internet/index.htm)

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2.6.2 Availability of viewing services

The portal <http://www.geoland.at/> offers free access to geodata and it is the first step of the implementation of the strategic objectives defined by Austrian Geodata politics. Users have the possibility to view the geodata of all 9 federal states of Austria by using an Internet Browser. Moreover they can search for places and coordinates, can zoom in and out and it is possible to print the selected maps.

Some of the data layers can also be accessed via WMS while users can use these layers in other GIS-Applications.

Moreover, www.geoland.at offers a GPS transformation service. Data can be transformed from WGS84 into all coordinate systems used in Austria. The service is based on the open SOURCE library "proj4", while all computations take place with genuine date transition.

The data can be uploaded in different input formats (ASCII, CSV, GPX) and a visual control with WMS is possible.

At <http://www.bev.gv.at/index.html>, BEV provides some metadata about all its data products together with limited visualization functionality.

Via the website of BEV (www.bev.gv.at) and straight via www.austrianmap.at the Austrian Map Online service is available. This particular service allows to graphically browsing the raster versions of topographic maps at scales of 1:50.000, 1:200.000, 1:500.000 and 1:2.000.000 to locate named places. The application is developed using Java 1.1. The website does not state the date at which the service has become operational.

The website <http://egis.lfrz.at/> contains several maps, and ArcIMS web mapping and WMS. Most of them related to environmental data like soils, bio-geographical regions, waste management, flooding areas, but also aerial photos, etc. These services were developed in the framework of the eGIS project. LFRZ is storing the necessary data respecting the existing legal framework (so no connection to data where they are, e.g. orthophotos). The maps and services target not only own staff, but the public as well.

2.6.3 Conclusions of Component 5

The Internet portal www.geoland.at provides central access to metadata, maps, mapping services and contacts of all Austrian provinces. Up to 200 different Web mapping applications are used.

Based on these conclusions we score the indicators as follows:

- There are one or more discovery services making it possible to search for data and services through metadata

- There are one or more view services available for to visualise data from the themes of the INSPIRE annexes
- There are one ore more on-line download services enabling (parts of) copies of datasets (Not so clear)
- There are one or more transformation services enabling spatial datasets to be transformed to achieve interoperability (No information found)
- There are middleware services allowing data services to be invoked (No information found)

2.7 Component 6: Thematic environmental data

BEV is not dealing with thematic environmental data; this is the work of the Umweltbudsamt. These data however, fall within the field of interest of AGEO and the federal coordinating body with respect to GI and SDI. Umweltbudsamt provides a number of environmental (and other) data via its portal (<http://www.oerok-atlas.at/>). Data and maps about Air pollutants, NATURA 2000 sites, Water quality, Nature conservation, etc can be found.

In Austria core data sets include those created for public interest or those required by law. This includes environmental information, which should be freely available after the implementation of the 1990 EC Directive. [16]

Geoland.at provides information about the water bodies of Austria along with visualisation of data from the different provinces

(http://www.geoland.at/index.php?option=com_content&task=view&id=50&Itemid=79)

2.7.1 Conclusions of Component 6

Umweltbudsamt provides a number of environmental (and other) data via its portal (<http://www.oerok-atlas.at/>). Data and maps about Air pollutants, NATURA 2000 sites, Water quality, Nature conservation, etc can be found.

Based on the information provided on the previous paragraph we score the indicator as follows:

- Thematic environmental data are covered by the described SDI-initiative or there is an independent thematic environmental SDI

2.8 Standards

AGEO launched the initiative ÖNORM A 2270 in 2007 as a contribution to building a spatial data infrastructure Austrian GDI. The project provide the metadata profile for Geoinformation rules to implement the ON / EN / ISO 19115 (<http://www.ageo.at/aktuelles/oenorm-A2270>).

Moreover, the Austrian Standards Institute is a neutral and independent service organization. As a non-profit private organization (since 1920) it provides the platform for the development of norms, standards and regulations. (<http://www.as-institute.at/development/>).

Individual states provide also their standards used in their portal. For example the state of Steiermark provides standards and guidelines for the assignment and transfer of spatial data at: <http://www.gis.steiermark.at/cms/ziel/890814/DE/>.

2.8.1 Conclusions of Component 7

Although attempts exist of standard initiatives no significant attention has been devoted yet to standardisation issues.

Based on these conclusions we score the indicator as follows:

- The SDI-initiative is devoting significant attention to standardisation issues (No)

2.9 Use and efficiency of SDI

The main usage of the SDI focuses on the public use of data from the 9 federal states. Via the various interactive maps the states assists decision making and provides useful geographical and environmental information to the public authorities and citizens. A simple example is the online search and location for a doctor in Vienna: <http://www.wien.gv.at/english/viennagis/>.

3 Annexes

3.1 List of SDI addresses / contacts for Austria

Table: SDI contact list			
Name	Web address	Organisational mailing address	Over-all contact person: tel./fax/e-mail
National			
AGEO – Austrian Umbrella Organization for Geographic Information	http://www.ageo.at/ageo/index.asp		Contact: DI Gerda Schennach Bürgerstrasse 34, A-6010 Innsbruck email: gerda.schennach@bev.gv.at Tel: +43 / 512 / 588948-60 Fax: +43 / 512 / 588948-61
BEV - Bundesamt für Eich- und Vermessungswesen	www.bev.gv.at	Krotenthallergasse 3 1080 Wien, Schiffamtsgasse 1-3 A 1025 Wien	Kundenservice Krotenthallergasse Fax: +43-(0)1-40146-463 e-mail: kundenservice@bev.gv.at
Umweltbundesamt	http://www.umweltbundesamt.at	Spittelauer Lände 5, 1090 Vienna	Felix Lux, Stabsstelle Bereichsleitung Studien & Beratung I, +43 (1) 31304 5362

3.2 List of references for Austria

Table: list of references used to compile the Country Report	
Web sites:	http://www.ageo.at/ageo/index.asp [2] http://www.bev.gv.at/organisation/qualitat/quali.html [3] http://www.austrianmap.at/bevportal/help_details.html [4] http://www.austrianmap.at/bevportal/index1.asp [5] http://www.orangex.at/bev/sitemap/site_fr_amap_14.html (NOT VALID) [6]

	<p>http://www.eulis.org/</p> <p>[7]</p> <p>http://www.bev.gv.at/</p> <p>[8]</p> <p>http://data-dist.jrc.it/cgi-bin/tl1.pl?tl+projectionsys+AT</p> <p>[9]</p> <p>http://www.austrianmap.at/bevportal/</p> <p>[10]</p> <p>http://www.ec-gis.org/reports/policies.pdf</p> <p>[11]</p> <p>http://www.eurogi.org/index_1024.html</p> <p>[12]</p> <p>http://www.jus.unitn.it/cardozo/Review/Europeanlaw/Quinton-1997/access.htm</p> <p>[13]</p> <p>http://www.jusline.at/juslineat/hlp/urhg/urhga.html</p> <p>[14]</p> <p>http://wwwlmu.jrc.it/ginie/doc/SDI_final_en.pdf</p> <p>http://www.jus.unitn.it/cardozo/Review/Europeanlaw/Quinton-1997/access.htm</p> <p>http://www.jusline.at/juslineat/hlp/urhg/urhga.html</p> <p>http://egis.lfrz.at/</p> <p>http://www.geoland.at/</p>
	<p>http://gis.umweltbundesamt.at</p> <p>http://www.lebensministerium.at/geoinfo</p> <p>http://www.geoland.at/</p>
Publications :	<p>M. Craglia, A. Annoni, R.S. Smith and P. Smits [Eds.]: Spatial Data Infrastructures: Country reports. Final version D 5.3.2(b). GINIE reports, September 2002.</p> <p>http://wwwlmu.jrc.it/ginie/doc/SDI_final_en.pdf</p> <p>[1]</p>
	<p>DPLI Working Group's meeting Febr. 02</p> <p>[15]</p>
	<p>GINIE - GI in the Wider Europe Complete Book, October 2003</p> <p>http://wwwlmu.jrc.it/ginie/doc/ginie_book.pdf</p> <p>[16]</p> <p>INSPIRE Fundamentals, Examples, Test Results 2009. available at: http://www.cagi.cz/files/INSPIRE_Broschuere_V4_en_final_web_23110</p>

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