



INSPIRE
Infrastructure for Spatial Information in Europe

Member State Report: Czech Republic, 2013

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Table of Contents

1	INSPIRE REPORTING – OVERVIEW OF REQUIREMENTS	3
2	HOW TO USE THIS TEMPLATE	4
3	EXECUTIVE SUMMARY	5
4	ABBREVIATIONS AND ACRONYMS	6
5	INTRODUCTION	8
6	CO-ORDINATION AND QUALITY ASSURANCE (ART. 12)	9
6.1	COORDINATION (ART. 12.1.).....	9
6.1.1	<i>Member State contact point CENIA</i>	9
6.1.2	<i>The coordination structure</i>	9
6.1.3	<i>Comments on the monitoring and reporting process</i>	13
6.2	QUALITY ASSURANCE (ART. 12.2.).....	14
6.2.1	<i>Quality assurance procedures</i>	14
6.2.2	<i>Analysis of quality assurance problems</i>	15
6.2.3	<i>Measures taken to improve the quality assurance</i>	15
6.2.4	<i>Quality certification mechanisms</i>	15
7	FUNCTIONING AND COORDINATION OF THE INFRASTRUCTURE (ART. 13)	16
7.1	GENERAL OVERVIEW DESCRIPTION OF THE SDI.....	16
7.2	INSPIRE STAKEHOLDERS	17
7.3	ROLE OF THE VARIOUS STAKEHOLDERS	18
7.4	MEASURES TAKEN TO FACILITATE SHARING	20
7.5	STAKEHOLDER COOPERATION.....	21
7.6	ACCESS TO SERVICES THROUGH THE INSPIRE GEOPORTAL.....	24
8	USAGE OF THE INFRASTRUCTURE FOR SPATIAL INFORMATION (ART. 14)	25
8.1	USE OF SPATIAL DATA SERVICES IN THE SDI.....	25
8.2	USE OF THE SPATIAL DATASETS	25
8.3	USE OF THE SDI BY THE GENERAL PUBLIC	26
8.4	CROSS-BORDER USAGE	26
8.5	USE OF TRANSFORMATION SERVICES	27
9	DATA SHARING ARRANGEMENTS (ART. 15)	28
9.1	DATA SHARING ARRANGEMENTS BETWEEN PUBLIC AUTHORITIES.....	28
9.2	BARRIERS TO THE SHARING AND THE ACTIONS TAKEN TO OVERCOME THEM	28
10	COST/BENEFIT ASPECTS (ART. 16)	29
10.1	COSTS RESULTING FROM IMPLEMENTING INSPIRE DIRECTIVE	29
10.2	BENEFITS OBSERVED.....	29
11	CONCLUSIONS	30
12	ANNEXES	31
12.1	LIST OF ORGANISATIONS – NAMES AND CONTACT DETAILS	31
12.2	LIST OF REFERENCES FOR THE COMPILATION OF THE REPORT	31
12.3	COSTS OF IMPLEMENTATION OF INSPIRE IN YEARS 2010	32

1 INSPIRE Reporting – Overview of requirements

There are five topics addressed in the Reporting chapter of the IR:

1. Organisation, co-ordination and quality assurance

The first part of this section is concerned with the way in which the contact point and co-ordinating structure for the infrastructure for spatial information are organised – the body responsible, its associated co-ordinating structure and some information about how this works. The second part offers the MS the opportunity to report on quality assurance processes within the infrastructure for spatial information (as required by Art 21 of the Directive).

2. Contribution to the functioning and coordination of the infrastructure

The second section asks for information about the stakeholders involved in the infrastructure for spatial information – including a description of their roles, how they co-operate, how they share data/services and how access is made to services via the INSPIRE geo-portal.

3. Usage of the infrastructure for spatial information

Having some or all of the various components of the infrastructure for spatial information in place is important, but equally important is if, or how much, the infrastructure is being used. This part of the report is intended to give MS the opportunity to comment and explain the results of the indicators on the usage of the different services, and to describe how spatial data and services are being used by public bodies and if possible (because it is recognised that this is difficult to observe) how they are being used by members of the general public. Because of the environmental emphasis of the Directive MS are particularly encouraged to find and describe examples of use within the field of environmental policy. The report should also describe examples of cross-border usage, efforts to improve cross-border consistency and examples of the use of transformation services.

4. Data sharing arrangements

Chapter 5 of the INSPIRE Directive is concerned with data sharing. It has not been possible to derive adequate indicators to monitor data sharing – the subject does not lend itself to quantitative methods in a way that would provide meaningful output. It is a major part of the Directive however and so this Chapter is dealt with, in terms of monitoring and reporting, by asking MS to describe data sharing arrangements in their 3 yearly reports. MS are required to provide an ‘overview’ of data sharing arrangements i.e. not all such agreements have to be listed and described (which would be very difficult and extremely onerous) – but MS are encouraged to provide sufficient description to enable readers to understand the main type or types of agreement that are used – both for sharing of data between public bodies in the MS and between those public bodies and the institutions of the EU. An important section also required is a description of known barriers that may be inhibiting the sharing of spatial data and services, and what steps the MS are taking to overcome those barriers.

5. Cost and benefit aspects

Finally, the Directive requires MS to quantify the costs and benefits involved in the establishment and maintenance of the infrastructure for spatial information *that are directly attributable to the implementation of the Directive*. The report should attempt to estimate the costs and to provide examples of benefits as described in the IR. As with other aspects of the report MS are responsible for deciding the depth/level of reporting that they find appropriate to satisfy the IR and to provide a suitable level of information for stakeholders.

2 How to use this template

This template provides a structure Member States can use to collect and transmit the reporting information to the EC.

This template mainly reflects the list of elements required by the Commission Decision 2009/442/EC on monitoring and reporting. These are the mandatory elements. For every chapter the relevant article of the implementing rules on monitoring and reporting will be reported.

Also some optional features, not strictly required by the relevant legislation, are included. These features can either contain a suggestion on what elements can be grouped under a certain topic foreseen by the legislation or they can contain additional elements that enhance the readability of the document. These features are optional.

You have full rights to deliver this report in your own language, we will then translate it internally. Of course if the report will be already in English, or accompanied by its English translation, that will be welcome.

Disclaimer: This document will be publicly available as a 'non-paper', as it does not represent an official position of the Commission, and as such cannot be invoked in the context of legal procedures.

3 Executive summary

In the Czech Republic, the implementation of INSPIRE is coordinated by the Ministry of the Environment. At the end of 2010, the Minister for the Environment established the INSPIRE National Coordination Committee (KOVIN), which became operational in 2011. As required by the INSPIRE Directive, representatives of central government, local government and professional organisations sit on the committee. Technical working groups, contributing to the technical implementation of the requirements of the INSPIRE Directive, are an integral part of KOVIN.

In the period from 2010 to 2012, a National INSPIRE Geoportal (NIG) was set up as the Czech Republic's central point of access to metadata, spatial data sets series and related services. Metadata, data and services are made available to the European INSPIRE Geoportal via the NIG. Spatial data providers make INSPIRE-related datasets available here via network services from their own geoportals, or they can draw on National INSPIRE Geoportal's services and support to make their datasets available. The NIG is designed as a tool to support providers as they implement the requirements of the Directive. Between 2010 and 2012, several important geoportals have been established or reconstructed at other ministries and in regions and municipalities. The content of these geoportals is linked by metadata to the national geoportal. Large amounts of data have been made available.

The Czech Office for Surveying, Mapping and Cadastre (ČÚZK) has provided spatial data for most of the INSPIRE themes from Annexes I and II. From 2010 to 2012, it was involved in the creation of basic public administration registers for the needs of eGovernment in the Czech Republic. In July 2012, it opened a Register of Territorial Identification, Addresses and Real Estate (RTIARE) for widespread use by public authorities. It is the RTIARE administrator. The RTIARE's current data can be browsed using remote public access, where export files and change records are freely available for download and further use. The RTIARE prompted provider changes and extensive changes to data sets related to the themes of territorial administrative units, addresses, parcels, buildings, etc. Consequently, the ČÚZK channelled considerable efforts into ensuring the interoperability of data and services in accordance with INSPIRE requirements with a 2012–2013 timeframe. It has passed on its experience of implementation to other providers through KOVIN TWGs and at expert events.

As in the previous reporting period, Czech providers are participating in European projects with a thematic focus on INSPIRE. With some projects focusing on Annex II and III data, many Czech experts have helped to map data models used in Europe and, therefore, have been involved in the preparation of Annex II and III data specifications. In the 2010–2012 period, data specifications were developed. Czech providers were heavily involved in data specification testing, consultation and translation checks.

Despite all efforts to address the issues of uniform access to public administration data and services, the simplification of licensing conditions and significant improvements in access to data and services within public administration and for institutions and interested parties outside public administration, this remains a challenge for the forthcoming period of the INSPIRE Directive's implementation.

4 Abbreviations and Acronyms

AKČR	Association of Regions of the Czech Republic
ATKIS	Amtliche Topographisch-Kartographische Informationssystem (Authoritative Topographic-Cartographic Information System)
AOPK	Agency for Nature Conservation and Landscape Protection
CAGI	Czech Association for Geoinformation
CDV	Transport Research Centre
CENIA	Czech Environmental Information Agency
CRR	Centre for Regional Development
CZEPOS	Czech Network of Permanent Global Positioning System Stations
ČBÚ	Czech Mining Office
ČHMÚ	Czech Hydrometeorological Institute
ČGS	Czech Geological Survey
CZSO	Czech Statistical Office
ČTÚ	Czech Telecommunication Office
ČÚZK	Czech Office for Surveying, Mapping and Cadastre
DMPA	Digital Map of Public Administration
EEA	European Environment Agency
Commission	European Commission
EU	European Union
GMES	Global Monitoring for Environment and Security
GNSS	Global Navigation Satellite System
HEIS	Hydroecological Information System
PRIS	Property Register Information System
TIIS	Territorial Identification Information System
KOVIN	INSPIRE National Coordination Committee
MD	Ministry of Transport
MF	Ministry of Finance
MMR	Ministry for Regional Development
MPO	Ministry of Industry and Trade
MV	Ministry of the Interior
MZE	Ministry of Agriculture
MŽP	Ministry of the Environment
NP	National park
NIG	National INSPIRE Geoportal
MEP	Municipality with extended powers
RTIARE	Register of Territorial Identification, Addresses and Real Estate
ŘSD	Road and Motorway Directorate
SAŽP	Slovak Environmental Agency
SDI	Spatial Data Infrastructure
INSPIRE Directive	Directive 2007/2/EC establishing an Infrastructure for Spatial Information in the European Community
PSI Directive	Directive 2003/98/EC on the re-use of public sector information
SMOČR	Union of Towns and Municipalities of the Czech Republic
SÚJB	State Office for Nuclear Safety
TWG	Technical working group
UHUL	Forest Management Institute, Brandýs nad Labem
URL	Uniform Resource Locator
RPA	Remote public access
VÚKOZ	Silva Tarouca Landscaping and Ornamental Horticulture Research Institute
VÚGTK	Research Institute of Geodesy

VUV	T.G. Masaryk Water Research Institute
ZABAGED	Fundamental Base of Geographic Data
BM 10	Base map 1:10 000
ZÚ	Land Survey Office
BVM	Base vector map

5 Introduction

- Background

The Czech Republic is a country where spatial data and services from various fields are traditionally used for daily work. Although access to data and services was already available previously to everyone who needed it (on the basis of cooperation agreements, individual arrangements and long-term working relationships), the INSPIRE Directive has clearly done a lot to simplify how we work with state-released data these days. This can be attributed to the basic obligations imposed by the Directive for metadata and network services. Public- and private-sector employees alike welcome the well-arranged searches of long lists of data made available by the state. The fact that continuously updated property register data can be retrieved by remote public access (RPA) through the ČÚZK-run Property Register Information System (PRIS), which is also accessible on the NIG, is viewed in a very positive light.

Compliance with INSPIRE requirements allows data and their provision to be seen from a new perspective, requires changes in providers' data management and necessitates their more efficient cooperation. The influence of the INSPIRE Directive and PSI delivers a synergistic effect (as in the case of the basic RTIARE register).

Use of data and services is increasing on an enormous scale. While this may seem to be the only observable benefit of the INSPIRE Directive at present, further possibilities of data use are already being discussed and planned, not just by companies for commercial purposes, but also for better-quality decision-making processes in public administration.

- Method used to compile the report

Most data used in the production of this report were sourced from a questionnaire published on the National INSPIRE Geoportal (<http://geoportal.gov.cz/web/guest/survey?id=5>). Information about this questionnaire was published on the national INSPIRE website, distributed to interested persons on the INSPIRE e-mail list, and sent to the Monitoring and Reporting Technical Working Group under the INSPIRE National Coordination Committee.

The questionnaire was a simple questionnaire created using a tool for creating surveys on the National INSPIRE Geoportal. The list of questions in the questionnaire did not accurately reflect the structure of this report, as it encompassed only those areas and topics for which the assistance of other data providers is required. Some topics were prepared by CENIA from the perspective of the INSPIRE National Contact Point, and were supplemented from the standpoint of Monitoring and Reporting TWG members. The draft report was submitted to members of the INSPIRE National Coordination Committee, whose comments and suggestions were reflected in the final report for the European Commission.

CENIA compiled this Report from all the above documents, complemented with its own knowledge of the issues; CENIA has reported on INSPIRE and on the introduction of INSPIRE implementing rules in the Czech Republic officially since 2005.

6 Co-ordination and quality assurance (Art. 12)

6.1 Coordination (Art. 12.1.)

6.1.1 Member State contact point CENIA

Art. 12.1. (a) the name, contact information, role and responsibilities of the Member State contact point;

Name and contact information

Member State Contact Point	
Name of the public authority	CENIA, Czech Environmental Information Agency
Contact information:	
Mailing address	Vršovická 1442/65, Praha 10, 100 10
Telephone number	+ 420 267 225 226
Telefax number	+ 420 271 742 306
Email address	inspire@cenia.cz, info@cenia.cz
Organisation's website URL	www.cenia.cz
Contact person (if available)	Jitka Faugnerová
Telephone number	+ 420 267 225 294
Email address	inspire@cenia.cz
Contact person - substitute (if available)	Lenka Jirásková
Telephone number	+ 420 267 225 294
Email address	inspire@cenia.cz

Role and responsibilities

The INSPIRE National Contact Point is responsible for communication with the European Commission on behalf of the Czech Republic and for informing Czech stakeholders about INSPIRE issues (i.e. it is not limited to entities subject to obligations). The National Contact Point is also responsible for several other activities, including: a point of contact for translations, membership of the INSPIRE Committee under the European Commission, and the Secretariat of the INSPIRE National Coordination Committee (KOVIN). The national contact point for data quality is run by the Czech Office for Surveying, Mapping and Cadastre (ČÚZK).

6.1.2 The coordination structure

- (b) the name, contact information, role and responsibilities, organisation chart of the coordinating structure supporting the contact point of the Member State
- (c) a description of the relationship with third parties;
- (d) an overview of the working practices and procedures of the coordinating body;
- (e) comments on the monitoring and reporting process

Name and contact information

The Ministry of the Environment, in cooperation with other public authorities, is responsible for the implementation of INSPIRE in the Czech Republic. In the Czech Republic, the INSPIRE National Coordination Committee (KOVIN) was set up in autumn 2010 to coordinate INSPIRE spatial data infrastructure.

Coordinating structure supporting the MSCP	
Name of the coordination structure	INSPIRE Coordination Committee (KOVIN)
Contact information:	
Mailing address	Vršovická 1442/65, Praha 10, 100 10
Telephone number	+ 420 267 225 226
Telefax number	+ 420 271 742 306
Email address	kovin@cenia.cz
Organisation's website URL	www.cenia.cz (website of the secretariat's organisation)
Contact person (if available)	Lenka Hladíková

Telephone number	+ 420 267 225 214
Email address	lenka.hladikova@cenia.cz
Contact person - substitute (if available)	Jitka Faugnerová
Telephone number	+ 420 267 225 294
Email address	jitka.faugnerova@cenia.cz
Date and period of mandate	September 2010 – indefinite duration

Role and responsibilities

KOVIN is an advisory body to the Minister for the Environment. It is chaired by the Deputy Minister for the Environment. The first deputy chairman is the Deputy Minister for the Interior (with responsibility for eGovernment), while the second deputy chairman is the vice-chairman of the Czech Office for Surveying, Mapping and Cadastre.

In 2010, KOVIN had 21 permanent members, who are named in the KOVIN Statutes. All central government bodies, plus representatives of organisations drawing together local authorities and a representative of a national professional association, were invited to join KOVIN. When the initial KOVIN appointments were made, not all departments were involved because some of them had refused to participate. In the two years of KOVIN operation, some departments have cancelled their membership, while others have joined. This has been reflected in changes to the Committee Statutes. The latest version has 21 members (as did the original set-up) with the composition as set forth in the following table:

<i>Person</i>	<i>Role</i>
Representative of the Ministry of the Environment	KOVIN Chairman
Representative of the Ministry of the Interior	KOVIN Vice-Chairman
Representative of the Czech Office for Surveying, Mapping and Cadastre	KOVIN Vice-Chairman
Representative of CENIA, Czech Environmental Information Agency	KOVIN Secretary
Representative of the Czech Statistical Office	KOVIN Member
Representative of the Ministry of Transport	KOVIN Member
Representative of the Ministry for Regional Development	KOVIN Member
Representative of the Ministry of Defence	KOVIN Member
Representative of the Ministry of Industry and Trade	KOVIN Member
Representative of the Ministry of Health	KOVIN Member
Representative of the Ministry of Finance	KOVIN Member
Representative of the Ministry of Agriculture	KOVIN Member
Representative of the Ministry of Labour and Social Affairs	KOVIN Member
Representative of the Ministry of Education, Youth and Sports	KOVIN Member
Representative of the Association of Regions of the Czech Republic	KOVIN Member
Representative of the Union of Towns and Municipalities of the Czech Republic	KOVIN Member
Representative of the Czech Mining Authority	KOVIN Member
Representative of the State Office for Nuclear Safety	KOVIN Member
Representative of the Energy Regulatory Office	KOVIN Member
Representative of the Czech Telecommunication Office	KOVIN Member
Representative of the Czech Association for Geoinformation	KOVIN Member

KOVIN's main tasks are to:

- monitor the preparation of INSPIRE implementation,
- assess progress in achieving the global objective of INSPIRE implementation,
- analyse the results of INSPIRE implementation,
- propose INSPIRE implementation strategy, amend the implementation strategy and identify priorities for implementation,
- consider and approve monitoring reports on the implementation of INSPIRE infrastructure before they are dispatched to the European Commission,
- approve annual reports on the status of the INSPIRE infrastructure for the Czech Government,
- approve its plan of activities and the agenda of its meetings,

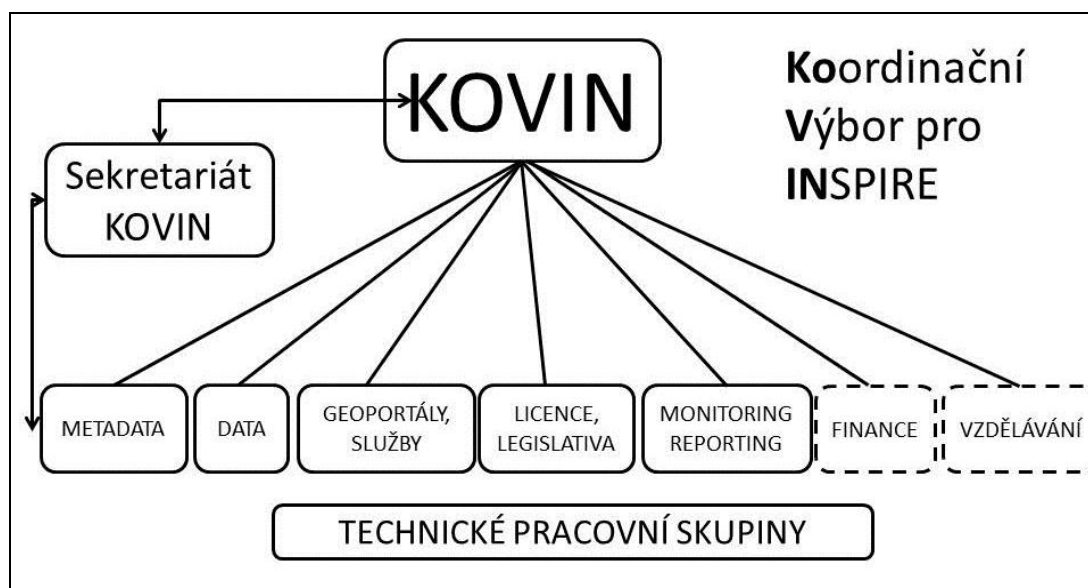
- draft the presentations to be delivered by the Minister for the Environment within the Czech Government concerning INSPIRE-related adjustments and changes reflected in the national geoinformation policy.

KOVIN should meet approximately six times a year. At these meetings, each of the above members should be present in person or represented by a representative or by a person granted powers in advance (including voting rights). Each member is responsible for his ministry/authority and its subordinate organisations, i.e. he delegates tasks to those organisations, is responsible for their fulfilment, and contributes to KOVIN meetings with feedback. KOVIN meetings may, at the chairman's request, be attended by experts on the topic of discussion who are not core KOVIN members.

Organisation chart

The organisation of KOVIN is outlined below. The principal 'steering' group comprises the 21 members listed in the table in the section above; the steering group has set up technical working groups to cover strategy implementation requirements. Technical working groups (TWGs) were formed in spring 2011. The constituent document was 'Technical Working Groups – Rules, Focus, Goals' (the document is available in Czech here: <http://inspire.gov.cz/dokumenty/kovin/473-technicke-pracovni-skupiny-inspire-pravidla-zamereni-cile>). The TWGs indicated in the boxes with unbroken lines in the figure below have been active and operational since spring 2011. The TWGs in the boxes with broken lines, though formally established, are inactive. The tasks performed by TWGs were revised at the most recent KOVIN meeting in February 2013. The quality to which all TWGs perform their assigned tasks varies, but the most important factor is that they ensure seamless communication with statutory providers for implementation purposes. Nevertheless, in the course of 2012, personnel changes at the senior level of the Ministry of the Environment meant that KOVIN meetings could not be organised according to the original plan.

The running and administrative affairs of KOVIN are the responsibility of the KOVIN secretariat, which is provided by CENIA.



			KOVIN		INSPIRE Coordination Committee	
KOVIN Secretariat						
METADATA	DATA	GEOPORTALS, SERVICES	LICENSING, LEGISLATION	MONITORING REPORTING	FINANCE	EDUCATION
TECHNICAL WORKING GROUPS						

Relation with third parties

Third parties are represented directly within KOVIN by the Czech Association for Geoinformation (CAGI). Other third-party representatives are members of technical working groups, as described in 6.1.2 (c).

Third parties are entities which are responsible for creating, updating and managing data sets for providers and which are external organisations from outside a provider's authority. Within the framework of coordination, these entities are invited to participate in 'technical working groups' (TWGs). As these TWGs address practical issues and problems of implementation, it is advisable for their members to include experts in the field. These third parties, sometimes private companies, are very active, for example in the Metadata and Geoportal and Network Services TWGs, because they were covering these topics even before the INSPIRE Directive entered into force; armed with this knowledge and experience, they then participated as a 'spatial data interested community' in the process of preparing INSPIRE rules, and simultaneously or subsequently organised various awareness-raising activities in the Czech Republic. On the other hand, involvement in TWGs has helped them to become familiar with the requirements. As a result, this cooperation is mutually beneficial.

Overview of working practices and procedures

Besides KOVIN and its TWGs, there are other coordinating bodies and/or working groups

Name	INSPIRE Working Group of the Ministry of the Environment (MŽP INSPIRE WG)
Coordinated by	CENIA
Link	-
Members	AOPK, State Geological Institute, Šumava NP, Podyjí NP, České Švýcarsko NP, GEOFOND, Czech Environmental Inspectorate, Ministry of the Environment, VÚKOZ, State Environmental Fund, Krkonoše National Park, ČHMÚ, VÚV, CENIA
Description	The group meets once or twice a year. It builds on the work of the former metadata group at the Ministry of the Environment. Its focus has expanded beyond metadata to include the implementation of INSPIRE in general.

Name	Nemoforum Association
Coordinated by	Nemoforum Plenum, the secretariat is hosted by the Czech Office for Surveying, Mapping and Cadastre
Link	http://www.cuzk.cz/nemoforum
Members	ČÚZK, ČSÚ, Ministry of Finance, MMR, MV, MZE, SMO ČR, MŽP, ČAGI, Association of Real Estate Agencies of the Czech Republic, Czech Society of Certified Appraisers, Masaryk University Brno, Chamber of Notaries of the Czech Republic, East Bohemia Network Managers, Chamber of Surveyors and Cartographers, Central Bohemia Network Managers, University of West Bohemia in Plzeň, Association of Landowners in the Czech Republic, Association of Transport Telematics of the Czech Republic
Description	Nemoforum was founded in 1999 as a national platform for discussion, collaboration and the coordination of activities associated with information about real estate and land. Nemofora's mission is to contribute to the establishment of functioning eGovernment. In 2001, it drew up a Program of NGII Development in the Czech Republic up to 2005. Since 2002, Nemoforum has also monitored INSPIRE issues. The plenum usually meets six times a year. It organises thematic workshops.

Name	Digital Map of Public Administration – Project Team
Coordinated by	Ministry of the Interior
Link	http://www.mvcr.cz/clanek/digitalni-mapa-verejne-spravy.aspx
Members	MV, MŽP, MMR, MZe, ČÚZK, SMO ČR, Association of Regions of the Czech Republic

Description	The project aims to consolidate spatial data from various geographic information systems into a single application to facilitate public administration and make spatial data accessible to authorities and the public in accordance with the Smart Administration Strategy and the development of eGovernment in the Czech Republic.
Name	Organisational Structure of GeoInfoStrategy Production
Coordinated by	Ministry of the Interior
Link	http://www.mvcr.cz/clanek/geoinfostrategie.aspx
Members	MV, MŽP, MMR, ČÚZK, MD, ČSÚ
Description	<p>Government Resolution No 837 of 14 November 2012 ordered the Minister of the Interior, in cooperation with the Ministers for the Environment, Regional Development, Defence and Transport, and the chairman of the Czech Office for Surveying, Mapping and Cadastre, to submit to the Government, by 28 February 2014, a draft Strategy for the Development of Spatial Information Infrastructure in the Czech Republic up to 2020. One of the first steps was to establish the organisational structure for the formation of the GeoInfoStrategy (Administrator, Coordinator, Steering Committee, Project Team and Consulting Team). The aim is to complete the draft GeoInfoStrategy by the end of 2013.</p> <p>The GeoInfoStrategy will be an effective means of coordinating and integrating the activities of public bodies and commercial entities in the field of spatial information. The implementation of the GeoInfoStrategy in national spatial information infrastructure will support the consistency and transparency of public administration. The key benefit of formulating the GeoInfoStrategy is that conditions will be in place to make progressive financial savings in central government budget spending on the creation and use of spatial information by individual components at all levels of public administration. The formulation of a coherent strategy in the field of spatial information will form the basis required for the development and improvement of eGovernment services over spatial data.</p>

Since 2008, the official INSPIRE information site at <http://inspire.gov.cz> has been up and running; CENIA is responsible for the site content. This site is the main source of information on current INSPIRE developments, provides information about events, publishes invitations for comments on implementation rules, serves as an archive of key Czech and European INSPIRE documents, etc.

In 2011, the National INSPIRE Geoportal was launched at <http://geoportal.gov.cz>. The Geoportal was developed in 2012 and its features have steadily been expanded in response to statutory deadlines for implementation. First, the metadata catalogue was launched. In the second quarter of 2011, the catalogue service was tested against the European INSPIRE Geoportal. This search service is now a normal part of the European metadata catalogue. The launch also introduced browsing services (although not for all providers and not in line with INSPIRE), a metadata creation editor and a validator to check the accuracy of metadata and the search and browsing services. In 2012, an e-shop was added which, besides facilitating sales of data to providers, can share data with institutions of the European Union and in the Czech Republic. The geoportal also includes a tool to transmit monitoring operations. Beyond INSPIRE requirements, the geoportal contains a tool transmitting information contained in spatial data to users in a simplified form for a selected location (georeports).

In addition to the National INSPIRE Geoportal, other ministries are establishing their own geoportals in accordance with INSPIRE. Prime examples are the ČÚZK geoportal (<http://geoportal.cuzk.cz>) and the geoportal run by the City of Prague (<http://www.geoportalpraha.cz/>). High-quality regional geoportals are by no means left in the shade either.

The national 'Finding Inspiration' conference was first held in 2008. Last year was its fifth year, when it took the form of a Czecho-Slovak conference for the first time. The languages of the proceedings are Czech and Slovak, which is one of the advantages of the close relationship between the two languages. The 2012 conference established the tradition of alternating the venue and the organiser.

6.1.3 Comments on the monitoring and reporting process

2013 is the fourth year in which the monitoring dispatch is sent and the second year of the reporting process. In the three years since the first dispatch, the preparation, monitoring and reporting processes have stabilised. The year 2010 (Monitoring and Reporting for 2009) was described in the previous report.

National INSPIRE Geoportal tools are used for both requirements. For monitoring, this is the first year of full use.

In 2011 (monitoring for 2010), it was decided that, to develop the monitoring tool on the National INSPIRE Geoportal, lists of data and services sent in the European Commission's Excel template would also be accepted from statutory entities. In this year, only about 20% of the total number of statements were delivered via the geoportal tool. All data delivered by providers were included in the overall list for the European Commission. There was no interdepartmental discussion of the list in 2011. In that year, the Monitoring and Reporting TWG was not established until after the submission deadline of 15 May.

In 2012 (monitoring for 2011), both methods for the transmission of information (i.e. the tool on the National Geoportal and the European Commission's Excel template) were still accepted. The percentage of statements delivered via the geoportal had increased to 45%. In 2012, for the first time, the resulting list submitted to the European Commission was the result of collaboration involving multiple entities participating in the Monitoring and Reporting TWG. It was concluded, by agreement, that not all records delivered by providers would automatically be sent to the Commission, but that records would be sent on the basis of the following principles:

- Data sets harmonised according to INSPIRE Regulation 1089/2010/EC
- Data sets with nationwide coverage with a clear single, specific provider
- Data sets with nationwide coverage from multiple providers on the same theme, but with the data sets containing different information
- For data sets on themes that do not have any one clear and specific provider at national level, or where the data do not have nationwide coverage, all records received will be sent
- For network services, all records received will be sent

In 2013 (monitoring for 2012), the monitoring list was created solely by means of the tool on the geoportal. At KOVIN meetings, it was recommended that the principle from 2012 be applied to the final selection of data and services sent within the scope of monitoring until such time as providers are designated for individual themes at national level. In 2013, this report on reporting is also being prepared. The report is compiled by the national contact point, i.e. CENIA. Inputs from participating entities (see the list at the end of this report) were processed. Inputs were obtained by means of a questionnaire published on the geoportal or in such a form that providers filled in and delivered certain parts of the report template.

6.2 Quality Assurance (Art. 12.2.)

6.2.1 Quality assurance procedures

Art. 12.2. (a) a description of quality assurance procedures, including the maintenance of the infrastructure for spatial information

The quality of data within the spatial data infrastructure is managed by the data providers themselves, which have quality assurance processes. The national spatial data infrastructure does not yet follow any quality requirements. Information on data and service quality is available in the metadata. The national metadata profile includes specific items on quality in accordance with Article 13 of Regulation 1089/2010/EC. On the geoportal, there is a tool for testing the metadata and the browsing and search services. The geoportal administrators provide all providers with support, e.g. in the publication of browsing services, and when connecting their metadata catalogues.

At the ČÚZK, which is the largest provider of basic data sets and the network services provided over them, there is a system of checks that take place when data are updated in public administration information systems, where such data are used to publish data sets corresponding to INSPIRE. For some themes, harmonised data sets are published which then pass through a series of checks and tests. An analysis of all INSPIRE qualitative requirements, i.e. the required metadata items and quality tests, is conducted. The quality items required in Article 13 of Regulation 1089/2010/EC are filled in (not only) for INSPIRE data sets; with the exception of the topological correctness item, their implementation has been launched. INSPIRE network services are published at higher than the required quality, service performance testing is provided by the independent academic sector.

KOVIN has technical working groups (TWGs) divided precisely according to the different infrastructure components. The coordinators of these TWGs are providers with considerable experience in these areas. The TWGs involve providers and representatives of private companies, who then learn how to implement each infrastructure component correctly.

Despite all this, INSPIRE infrastructure components also include metadata, data, and services of lower quality. This happens because, at a time many statutory deadlines (e.g. for data harmonisation) are still in the distant future for providers, the principle of maximum information disclosure is supported. The most important criterion remains publishing the maximum available data and services, with less emphasis on whether or not they are in compliance with INSPIRE.

6.2.2 Analysis of quality assurance problems

Art. 12.2. (b) an analysis of quality assurance problems related to the development of the infrastructure for spatial information, taking into account the general and specific indicators

TWG coordination and the operation of the National INSPIRE Geoportal show that a common quality assurance problem is ignorance of specific details in the technical implementation guidelines. However, this is not considered a problem; these are ad hoc issues that are resolved following communication with the geoportal administrator or TWG coordinator.

Another problem is when mandatory providers maintain a quality national data set and there is no capacity available for the data set or service for INSPIRE, which is often subject to different requirements and is less used than the national data set. As it is expensive to maintain both at a high quality, the national data set – with more users demanding a certain level of quality – is usually of a better quality.

An analysis of the quality of INSPIRE requirements in the implementation guidelines indicates high demands on the introduction of the required management of data and service quality. A large number of quality items are currently optional, but some issues already have set recommended and minimum requirements, compliance with which will be of great financial cost to the provider.

6.2.3 Measures taken to improve the quality assurance

Art. 12.2. (c) a description of the measures taken to improve the quality assurance of the infrastructure

On a technical level, measures are taken which guarantee a certain level of quality. Search services registered on the National INSPIRE Geoportal are tested every day during metadata harvesting. Check e-mails on error-free service or containing a list of errors are delivered daily to service administrators on the provider's part. Similarly, the national search service published on the European INSPIRE Geoportal is tested.

Browsing services are tested against the validator available at <http://geoportal.gov.cz/validator>.

These technical measures help to safeguard infrastructure quality.

6.2.4 Quality certification mechanisms

Art. 12.2. (d) where a certification mechanism has been established, a description of that mechanism

In the Czech Republic, spatial data files are not subject to attestation, but certificates are issued for public administration information systems. These certificates are issued by the Ministry of the Interior on the basis of public administration information system attestation under Act No 365/2000 on public administration information systems <http://www.mvcr.cz/clanek/udelene-atesty-574971.aspx>.

Under an amendment to Act No 365/2000 on public administration information systems, the following are subject to attestation:

- the long-term management of public administration information systems, i.e. information concepts and operational documentation – collectively the attestation of long-term management,
- the capacity to interlink a public administration information system with other information systems through a reference interface.

7 Functioning and coordination of the infrastructure (Art. 13)

7.1 General overview description of the SDI

- Vision / policy / strategy (where applicable, reference could be given to existing documents, as well as a short summary within the report)

In keeping with the requirements of the INSPIRE Directive, the implementation of INSPIRE in the Czech Republic built on the spatial information infrastructure that already existed at national level and its components at regional and local level. In the 2010–2012 period, this infrastructure was further amended to gradually meet INSPIRE requirements. It was substantially expanded by the Ministry of the Environment to include the National INSPIRE Geportal. The ČÚZK, as part of the development of eGovernment and national spatial data infrastructure, collaborated with the Ministry of the Interior and the ČSÚ to set up a basic Register of Territorial Identification, Addresses and Real Estate (RTIARE), and is responsible for keeping it updated in cooperation with building authorities and municipalities across the Czech Republic. The ČÚZK, besides making RTIARE data remotely accessible for browsing and unrestricted downloading for further use, generates national data sets and makes them freely available in accordance with INSPIRE requirements for the themes of addresses, territorial administrative units and land parcels. The ZÚ is responsible for compliance with requirements related to reference coordinate systems and harmonised sets for the themes of geographical names and for the geometry of the themes of water and the transport network.

The use of spatial data in the Czech Republic is constantly on the rise. Spatial data automatically become part of various public administration information systems, business applications in the private sector, and a large number of purely commercial applications for external users. In comparison with the situation in the past, for example 10 years ago, it is now common even for data generated only as a supporting element in the implementation of a statutory agenda to be publicly available. Every day, users from among public administration bodies, universities and private companies automatically connect to the map services operated by various providers. Commonly operated applications are often dependent on service availability.

INSPIRE (in synergy with PSI) has undoubtedly contributed to the fact that this situation is perceived as normal. However, beyond compliance with technical INSPIRE requirements, there is no comprehensive, universally accepted vision. The Strategy for the Development of Spatial Information Infrastructure in the Czech Republic up to 2020, which is currently being prepared, should deliver improvements.

The following geoportals continue to be operated at public administration institutions (in alphabetical order):

Institution	Map portal
Agency for Nature Conservation and Landscape Protection of the Czech Republic	http://mapy.nature.cz/
CENIA, Czech Environmental Information Agency	http://geoportal.gov.cz
Transport Research Centre	http://maps.jdvm.cz/cdv2/apps/nehodyvmape/Search.aspx http://maps.jdvm.cz/cdv2/apps/nehodynalokalite/Search.aspx
Czech Centre for Regional Development	http://mapy.crr.cz/tms/crr_a/default/index.php#c=3536025%252C5519376&z=1&l=ajax_default&p=&
Czech Geological Survey	http://www.geology.cz/extranet/geodata/mapserver http://www.geofond.cz/mapsphere/MapWin.aspx?M_WisID=24&MSite=geofond&M_Lang=cs
Czech Office for Surveying, Mapping and Cadastre	http://geoportal.cuzk.cz
Ministry of Agriculture	http://voda.gov.cz/portal/cz/
Povodí Labe, státní podnik	http://www.pla.cz/gis/

Povodí Moravy, s.p.	http://www.pmo.cz/portal/sap/cz/index.htm
Povodí Odry, státní podnik	http://www.pod.cz/portal/sap/cz/
Povodí Ohře, státní podnik	http://www.poh.cz/portal/sap/cz/index.htm
Povodí Vltavy, státní podnik	http://www.pvl.cz/portal/sap/cz/index.htm
Road and Motorway Directorate of the Czech Republic	http://www.rsd.cz/Mapy
Krkonošse National Park Administration	http://gis.krnep.cz/map/
České Švýcarsko National Park Administration	http://www.npcs.cz/dynamicke-mapy-metadata
Podyjí National Park Administration	http://mapy.nppodyji.cz/mapserv/php/maps.php
Forest Management Institute	http://geoportal2.uhul.cz/index.php
T.G. Masaryk Water Research Institute	http://heis.vuv.cz/

Examples of regional geoportals (some portals also include links to the portals of subordinate MEPs):

Region	Map portal
South Bohemia	http://gis.kraj-jihocesky.cz/
South Moravia	http://mapy.kr-jihomorovasky.cz/
Karlovy Vary	http://www.kr-karlovarsky.cz/GIS/sluzby/
Hradec Králové	http://gis.kr-kralovehradecky.cz/cz/templates/mapove-sluzby-3253/
Liberec	http://maps.kraj-lbc.cz/mapserv/php/maps.php
Moravia-Silesia	http://verejna-sprava.kr-moravskoslezsky.cz/cz/mapy/zpristupneni-uzemne-planovaci-dokumentace-prostrednictvim-webovych-technologii-3127/
Olomouc	http://mapy.kr-olomoucky.cz/
Pardubice	http://www.pardubickykraj.cz/index.asp?thema=2679&category=
Plzeň	http://www.kr-plzensky.cz/article.asp?sec=556
Prague	http://www.geoportalpraha.cz/
Central Bohemia	http://mapy.kr-stredocesky.cz/
Ústí nad Labem	http://gis.kr-ustecky.cz/site/
Vysočina	http://www.kr-vysocina.cz/gis.asp
Zlín	http://gis.kr-zlinsky.cz/

7.2 INSPIRE Stakeholders

Art. 13 (a) an overview of the various stakeholders contributing to the implementation of the infrastructure for spatial information according to the following typology: users, data producers, service providers, coordinating bodies

Stakeholders contributing to the implementation of the SDI could be classified according to the following typology: users, data producers, service providers, coordinating bodies)

In accordance with the above classification of stakeholder groups, there are:

- Data users: public administration, the private sector, schools, non-governmental associations, citizens
- Data producers: public administration, private firms, non-governmental associations
- Service providers: today, it is common for public administration institutions to create network services over their data; however, the providers of value-added services are not only public administration institutions, but also private firms
- Coordinating bodies: coordination in the Czech Republic is provided by public administration institutions and professional associations

7.3 Role of the various stakeholders

Art. 13 (b) a description of the role of the various stakeholders in the development and maintenance of the infrastructure for spatial information, including their role in the coordination of tasks, in the provision of data and metadata, and in the management, development and hosting of services

Based on the classification of stakeholder groups under Section 7.2, a description of their roles in the infrastructure is presented:

Data users:

- public administration: public administration employees use data or services which they create themselves or have created for them in order to simplify the work related to their public duties. The data thus generated are often also published (on the National INSPIRE Geoportal, in the case of mandatory data, on the geoportals of public authorities) and, based on agreements, are also used by other users. These users may be from the ranks of other public authorities, universities or private entities.
- private sector: Private companies use data to perform their contracts. Various types of contracts (analyses, value-added products) are performed for both public administration and the private sector. They make maximum possible use of the network services of various free geoportals as underlying data; for analytical purposes, they purchase data use licences from public authorities or from other private entities. The behaviour of this group can be accurately monitored by means of statistics on access to geoportal services and by means of the reaction of these users to service inaccessibility, e.g. when data sets are being updated or in cases of hardware failure. As private companies also classify the service-accessible data of public administration among products for their customers, the availability and reliability of such services are crucial for them.
- schools: the Czech Republic currently has seven universities (Czech Technical University, Charles University, Masaryk University Brno, University of West Bohemia, Mining University in Ostrava, Technical University of Liberec, Jan Evangelista Purkyně University in Ústí nad Labem) where geoinformatics/geomatics can be studied as a separate field of study or as part of a geography/cartography programme. During teaching, services made available by public administration are used. An interesting example of cooperation is the testing of ČÚZK products by the Mining University in Ostrava, where the university, for example, conducts stress tests or tests of compliance with INSPIRE in exchange for the unlimited availability of these products in teaching.
- non-governmental organisations, citizens: they usually make regular use of a single service, and report any unavailability.

Data producers are a group capable of offering data. For the most part, they produce data for their statutory agendas, i.e. they earmark part of their own budgets for these agendas. A significant portion of the data is produced with subsidies from European projects. Data are also used internally within the producer's organisations and on a national level. In some cases, the production and harmonisation of data is covered by national projects. Data is harmonised according to INSPIRE data specifications. To date, this area has been systematically explored only by the ČÚZK.

- public administration: the primary task of public administration authorities is not to create spatial data. Spatial data in public administration are formed along with tasks arising from legislation. The ČÚZK plays a specific role in the building of spatial data infrastructure; it is the only public authority, by law, whose main activity is the production, management and provision of spatial data. It manages data sources via three key comprehensive information systems (ZABAGED, PRIS and the Territorial Identification Information System – ISUI), which are also agenda information systems for editing the RTIARE. Among other things, the ČÚZK is responsible for the Czech Republic's spatial reference framework and maintains the state map series. In the geodesy and cadastre fields, it is responsible for international cooperation and coordinates research. Since 2012, the ČÚZK has produced spatial data, which it has provided for downloading, in accordance with INSPIRE requirements, first for land parcels, then geographical names and water. It publishes data and services on its own CUZK geoportal (<http://geoportal.cuzk.cz>) and by means of specialised remote public access – PRIS RPA and RTIARE RPA; it makes data for INSPIRE requirements available on the NGI via its own network services, which are INSPIRE-compliant. Outside the ČÚZK, spatial data are created

for specific uses. The production of such data is carried out directly by the employees of public administration institutions, and very often by private companies for public administration institutions. As described above, new data are also produced under European projects..

- private companies: they are producers of spatial data for government bodies or for other companies. They enter the public administration data acquisition process in cases where public authorities do not have sufficient staff with knowledge of GIS, or need to acquire large amounts of data over a short time. Private companies retain the copyright on such data; the right to provide data (in the case of INSPIRE obligations) should also be held by the contracting authority – the public administration institution. Sometimes, public authorities contract private companies to manage, update and retrieve data, etc. In such cases, companies become statutory bodies under the INSPIRE Directive; some companies object to this obligation. Conversely, some companies must remind their customers, i.e. public authorities, of their INSPIRE-related obligations.

Service producers: these days, service production is an automatic element of working with data. This is due in part to the fact that, according to INSPIRE principles, data should be available for viewing. Most providers arrange this obligation themselves for the sake of keeping data up to date. Services are created by them every time there is a major data update or every time any data is updated. The National INSPIRE Geoportal includes access to the uniform resource locator (URL) of a service, by which it complies with its INSPIRE obligation. The operator of the National INSPIRE Geoportal offers all providers who do not have their own capacities (personnel, knowledge, software) the production of services from their data and the subsequent publication of these services. Data producers then just have the task of regular data transmission for service updates.

- public administration: today, services are largely produced by autonomous providers from the ranks of public administration. This facilitates, in particular, a move away from the situation where the software suppliers with which public authorities work simplify service production through the development of their services to a level where preparations do not require such a high knowledge as three years ago. In addition, GIS specialists from among providers themselves are now able to provide a wide range of activities associated with data publication. Private companies continue to figure in the process of service production, which they provide to the public sector. The public sector itself sometimes produces services over spatial data, i.e. it does not just publish data for display, but also, through variously complex applications makes other information available with the use of services. Information for users who have no knowledge of geoinformatics and cartography can find out answers to questions about their surroundings from the maps. The most typical examples are georeports in state administration available, for example, on the Czech Geological Survey website (<http://www.geology.cz/georeporty>) and on the National INSPIRE Geoportal (http://geoportal.gov.cz/web/guest/about_georeports), or georeports operated by regions, municipalities or municipal districts for their local inhabitants. One of the many examples is the City of Prague georeports (<http://wqp.urm.cz/georeport/>).
- private companies: private companies, under contracts to create and subsequently manage the data of public administration institutions, also often create and manage their spatial data services. In addition, private companies are also involved in the production of value-added services, so they integrate services published by public administration in applications for their customers, whether from the public or private sector. An excellent example of such a service aspiring to a technical infrastructure register is e-Utility (<http://zadost.mawis.eu/>).

Coordinating bodies:

public administration: In the Czech Republic, coordinating competence within the scope of public administration rests with the Ministry of the Interior (responsible for the informatisation of public administration) and the Ministry of the Environment (responsible for the environment). Geoinformatics or INSPIRE coordination in public administration can be divided into four groups, depending on the scope.

- Central coordinating bodies: the central coordinating body for INSPIRE in the Czech Republic is KOVIN, as described in Section 6.1.2. The Strategy for the Development of Spatial Information Infrastructure in the Czech Republic up to 2020 is coordinated by the Ministry of the Interior.

- Coordinating bodies arising as a result of the competences of different institutions: To fulfil certain obligations, central authorities are required by law or legislation, or pursuant to joint agreements, to establish and coordinate working groups. The ČÚZK coordinates public authorities in the fields of geodesy and the property register, the Ministry for Regional Development coordinates public and private institutions in the collection of information for territorial analytical documentation, etc.
- Coordinating activities focused on subordinate institutions: such activities can be observed at many government agencies. For example, the ČÚZK coordinates subordinate cadastral offices, the Ministry of the Environment coordinates its subordinate organisations in the implementation of INSPIRE (see 6.1.2), the Ministry of the Interior coordinates the regions, etc.
- Coordination of INSPIRE implementation within individual institutions: public administration institutions set up internal groups for the implementation of INSPIRE. For example, the ČÚZK includes a coordinating structure in which the ČÚZK, ZÚ and VÚGTK are represented, headed by the vice-chairman of the ČÚZK. It includes a coordinating committee and four working groups. At the Ministry of the Environment, all organisations established by the Ministry are members; the group is headed by the CENIA.
- Since the turn of the millennium, the Nemoforum association has been a practical coordinating platform making long-term contributions to the convergence of diverse views on infrastructure issues in the form of expert seminars and joint papers.

Professional sector:

In the Czech Republic, there is one organisation drawing together private companies, individuals and academics working in the field of geoinformatics – the CAGI. The CAGI represents this group in negotiations with public administration institutions and foreign agencies.

7.4 Measures taken to facilitate sharing

Art. 13 (c) a general description of the main measures taken to facilitate the sharing of spatial data sets and services between public authorities and a description of how sharing has improved as a result

In the Czech Republic, there is still no unified access to public administration data. The Czech Office for Surveying, Mapping and Cadastre has gradually relaxed access to reference data for public authorities. Since 2012, by virtue of the Basic Registers Act, selected data on territories has been downloadable via RTIARE RPA free of charge for further use outside public administration. Other public authorities continue to conclude agreements between themselves on the joint use of data, on mutual sharing for development purposes, etc. They sign licence agreements with each other; for certain types of use, data are provided for a fee.

The Czech Republic perceives the setting of data sharing measures as one of the most important features behind the implementation of the INSPIRE Directive. Data sharing is not a technical measure and perhaps this is why it is the most complex issue. A separate data sharing TGW called Licensing and Legislation has been set up under KOVIN. Almost all KOVIN member organisations and other entities outside KOVIN (even private companies) participate in this TWG.

Because there was no force to overcome this at national level, an attempt was made to resolve this situation by implementing Regulation 268/2010 as regards the access to spatial data sets and services of the Member States by Community institutions and bodies under harmonised conditions. The basic idea was that if joint access could be set up in relation to bodies and institutions of the European Union, which the Czech Republic is required to address under Regulation 268/2010, this access could be used at national level. The aim of the Licensing and Legislation TWG was meant to be the preparation of a framework agreement in accordance with the Regulation guidelines, with the maximum number of public administration providers being invited to accede. All that has been achieved so far is a detailed explanation of the issue of harmonised data sharing and the advantages of employing the model basic and extended INSPIRE licence. Licences are now published for users to use on the national INSPIRE webpage and the National INSPIRE Geoportal.

Because this issue has not been resolved by non-technical measures and, in the Czech Republic, we can continue to expect that spatial data use will require licensing agreements with individual providers

(albeit sometimes perhaps under a model basic and extended INSPIRE licence), a tool has been created on the National INSPIRE Geoportal that, in an emergency, facilitates rapid data access for other public institutions and for the users of bodies and institutions of the European Union. Admittedly, however, this tool is currently used by a minimum number of users. Also, so far there are no known cases where a body or institution of the European Union has made a data request that providers have had to process. This could assist or speed up the situation in practice.

The ČÚZK provides data to European Union bodies within the scope of EuroGeographics products or joint initiatives (e.g. based on a memorandum with the EEA on use in the GMES project).

This situation is expected to be resolved by the Strategy for the Development of Spatial Information Infrastructure in the Czech Republic up to 2020.

7.5 Stakeholder cooperation

Art. 13 (d) a description of how stakeholders cooperate

This could for example include the description of:

- Written framework for cooperation

As mentioned in section 7.4, a large number of public administration institutions cooperate on the basis of written agreements. These are usually agreements between the state administration institutions or agreements between state administration institutions and local government bodies. The table below provides examples of agreements in the Czech Republic:

Parties	Type of agreement/cooperation
ČÚZK, MZe, MO	Agreement on cooperation in the development of land elevation digital databases
ČÚZK, MO	Implementation agreement on cooperation in the field of aerial surveying for the preparation of the aerial surveying of the Czech Republic, the creation of digital colour orthophotography and the archiving of aerial surveying images.
ČÚZK, MZe	Report on the terms and conditions for the provision of digital orthophotography, establishing conditions for cooperation in the procurement, processing and sharing of data from aerial surveying.
ČÚZK, MŽP	Framework agreement on cooperation in the field of geographic information, implemented by the subordinate organisations ZÚ, VÚV, ČGS, the Czech Geofond, the Czech Environmental Institute (now CENIA), AOPK, Administration of Protected Landscape Areas of the Czech Republic, and the ČHMÚ.
ČÚZK, VUV, ZÚ	Agreement on cooperation in the production, renewal and issuance of BVM 50 between VUV and ZÚ, other maps for the Indicative Water Management Plan, the production and utilisation of ZABAGED® and HEIS.
ZÚ, AOPK	Agreement on cooperation in the production, renewal and use of ZABAGED® - mapping of boundaries, names and codes of specially protected areas (national parks, protected landscape areas, the national nature reserves, nature reserves, national natural monument, natural monument) at a level of detail corresponding to BM 10.
ZÚ, GEOFOND	Agreement on the provision of data about deposit structures, hydrogeological structures, landslides, dump sites and main mining structures for use in ZABAGED®.
ZÚ, ČHMÚ, VÚV	Agreement on cooperation in the authorisation of a hydrological structure, the course of watershed divides and the allocation of codes to sections of water courses in the creation of ZABAGED®
MD, ČÚZK	Framework agreement on cooperation in the field of geographic information (ZABAGED®), implemented by the subordinate organisations ZÚ, CDV
ZÚ, CDV	Agreement on cooperation in the production, renewal and use of ZABAGED® - transport network.
ŘSD, ZÚ	Agreement on the exchange of data and cooperation in the updating thereof (Motorway and Road Network Information System)
ČÚZK, MZe	Framework agreement on cooperation between the Ministry of Agriculture and ČÚZK in the field of geographic information (ZABAGED®), implemented by ZÚ and ÚHUL
MŽP, MV	Agreement on the development of public administration portal map services
MŽP, MV, MMR, MZE, SMOČR, AKČR, ČÚZK	Memorandum of cooperation in the preparation, design, testing and implementation of the DMPA project
Provinces	Minimum regional GIS standard, agreements entered into with subordinate MEPs
Nemoforum	Nemoforum contract of association
AOPK, ÚHÚL	Agreement on the mutual free exchange of data
AOPK, CRR	Agreement on the free web service provision on the AOPK Map Server
AOPK, VÚKOZ	Agreement on the mutual provision of data, cooperation in the interpretation thereof and publication of the results
AOPK, Lesy ČR	Agreement on the provision of technical support for the activities of LČR through the provision of information and data
AOPK, ČGS	Agreement on cooperation in the mutual provision of data and in the processing, interpretation and publication of the results thereof
ŘLP (Air Traffic Control), Prague Airport	Prague Airport provides data to the ŘLP, which processes them into the AIXM model
NPÚ (National Heritage Institute), regions, some MEPs	Cooperation Agreement

International cooperation

Czech organisation	Type of agreement
ČÚZK, MV	Provision of surveying activities on national borders in agreement with the administrator of national border documentary work, which is the Ministry of the Interior of the Czech Republic. Meetings of permanent border committees, work coordinators and expert groups on national borders with neighbouring states.
ČÚZK	Creation and updating of the pan-European topographic databases EuroRegionalMap (ERM), EuroGlobalMap (EGM) and EuroBoundaryMap (EBM)
ČÚZK	Cooperation with the consortium for the international project of the European web service network EuroGeoNames, in which the provision of the WFS geographic nomenclature is provided.
ČÚZK	Cooperation in the exchange of GNSS data and transmission of statistical data in the incorporation of the Czech Network of Permanent GNSS Stations (CZEPOS) into the international European networks GNSS EUPOS and EPN.
ČÚZK	Cooperation in the exchange of data resulting from the integration of the Czech Republic's geodetic bases into European geodetic structures in the projects of the European Reference System Sub-commission EUREF
ZÚ	Understanding on cooperation between the Land Survey Office and GeoSn (the Saxony State Office for Surveying) in the management of geographic information in border areas.
ČÚZK	As a member of EuroGeographics, the pan-European association of national geodetic and cadastral offices/agencies, involvement in the preparations for the 'European Location Framework' project and inventory and provision of services for EEA – GMES requirements since 2010.
ČGS	Member of the EuroGeoSurveys group, Slovak Republic, long-term cooperation; in the project OneGeology Europe, Europe-wide cooperation; project of AEGOS cooperation within Europe and Africa; GIC (Geoscience Information Consortium) and other global initiatives (One Geology Global, EIONET)
AOPK	Processing and provision of data to Natura 2000
MŽP	Processing and provision of data to Corine
CENIA	Mutual cooperation between CENIA and SAŽP in the implementation of requirements arising from the status of each organisation, in the implementation of the technical and organisational requirements of the INSPIRE (Infrastructure for Spatial Information in Europe) Directive and related Regulations, the requirements of the initiatives SEIS (Shared Environmental Information System) and GMES (Global Monitoring for Environment and Security), and in the use of information technology and the application of INSPIRE principles at both organisations. This agreement has resulted, among other things, in significant cost savings in the construction of the Slovak National Geoportal, which used the same solution as the Czech Geoportal.

- Working groups (list of active working groups)

Active working groups are mentioned in Section 6.2.1.

- Newsletters, other publications (references)

Available CENIA publications:

<http://inspire.gov.cz/dokumenty/publikace>

Nemoforum publications:

<http://www.cuzk.cz/Dokument.aspx?PRARESKOD=999&MENUID=10308&AKCE=DOC:999-DOKUMENTY>

<http://www.cuzk.cz/Dokument.aspx?PRARESKOD=999&MENUID=10681&AKCE=DOC:999-ZPRAVY>

- Description of the National geoportal (including URL), and where relevant regional or thematic portals

The National INSPIRE Geoportal has been in operation since 2011. Because the geoportal was built as one part of the nationwide information system for collecting and evaluating information on environmental pollution, the features were steadily expanded in 2011-2012 so that, at the end of 2012, it was as close as possible to INSPIRE (it was impossible to secure compliance with the Regulations which had not yet been issued at the end of 2012). The National INSPIRE Geoportal project also

includes support, ensuring, over a five-year period, that any additional features required by the Regulations or technical guidelines for the Regulations will be implemented at no additional cost. The Geoportal is available at <http://geoportal.gov.cz>. The Geoportal was built so that statutory providers without adequate infrastructure, software or hardware could meet most of their INSPIRE obligations. The Geoportal therefore makes it possible to create, validate, store and publish metadata (publication in relation to the European Commission's geoportal is provided by the National INSPIRE Geoportal's search service). It facilitates the loading of data, which the Geoportal administrator then uses to create and publish the service. Browsing services are published on the basis of service metadata; publication on the European geoportal is then carried out automatically for providers. Providers may also use e-shop features to share data with other public administration organisations or with EU institutions and bodies. The implementation of data downloading will be a matter for 2013, when ATOM will be launched according to the latest version of the technical guidelines.

Examples of thematic, regional local geoportals are listed in Section 7.1.

7.6 Access to services through the INSPIRE Geoportal

Art.13 (e) a description of the access to the services through the Inspire geo-portal, as referred to in Article 15(2) of Directive 2007/2/EC

The National INSPIRE Geoportal search service:

<http://geoportal.gov.cz/php/micka/csw/index.php?service=csw&request=GetCapabilities&version=2.0.2&language=eng>

All services published in the Czech Republic are available, together with a detailed description using metadata, in the metadata catalogue of the National INSPIRE Geoportal:

<http://geoportal.gov.cz/web/quest/catalogue-client>

To date, a total of 361 various services have been published on the National INSPIRE Geoportal. A catalogue search can narrow the service type, i.e. put simply, it is possible to distinguish how many services of a particular type are available. It is possible to connect to services via the URL link contained in the metadata of each service. As described in the chapter on quality (specifically section 6.2.1 Quality assurance procedures), at this stage, which in terms of meeting the technical specifications, can still be regarded as an initial phase, more emphasis is placed on actual access to data and services than on their quality. The difference between the number of services available on the geoportal and the number of services that are included in the list for monitoring can therefore be explained by the fact that not all of the currently available services will also be harmonised and forwarded within the scope of monitoring in the future. Only the download service situation differs, as the number of services within the scope of monitoring is higher here, i.e. not all of these services are made available on the National INSPIRE Geoportal. Other services are not only 'other services' within the meaning of INSPIRE. This group could also include browsing services, download services, etc., but for such services the provider has incorrectly filled in the metadata in the 'service type' section.

Summary of services:

Service type	Available on the geoportal	Included in monitoring	In accordance with INSPIRE
Search	9	7	3
Browse	291	89	71
Download	6	18	1
Transformation	1	1	1
Other services	54	51	0
Total	361	166	76

The situation is similar with data, with a larger quantity of data available on the geoportal than forwarded in the list for monitoring. With the exception of the ČÚZK, providers do not address compliance with data specifications, so all data, regardless of compliance with Regulation 1089/2010 are available on the geoportal. The manner in which the data sets were selected for monitoring is described in the introduction to this report in section 6.1.3.

8 Usage of the infrastructure for spatial information (Art. 14)

8.1 Use of spatial data services in the SDI

Art. 14 (a) the use of the spatial data services of the infrastructure for spatial information, taking into account the general and specific indicators

This could include an explanation of how this information was collected, and how it should be interpreted/understood.

In the Czech Republic, service use has a long tradition. As early as the launch of the first geoportal in 2005, it was measured that 2 000 unique visitors from different types of institutions – from public administration, private companies, and universities – connect to services. Now the figure is twice as high. Since the last reporting period, there has been a massive increase in the use of services. This can be attributed mainly due to the widespread availability of services (they are easily searchable thanks to the metadata requirement), the high-quality data displayed by the services, and, in particular, the excellent availability of the service of cadastral maps and orthophotomaps, which has long been the most frequently used service available. While the availability of different thematic services ranges from tens to hundreds of thousands per year, in the case of cadastral map service the figure is hundreds of millions per year. A short summary for the service use indicator from Monitoring for four consecutive years shows that in 2009 there were 38 million service visitors, rising to 130 million in 2010 and as many as 589 million in 2011, before exceeded one billion (specifically, 1.08 billion) in 2012.

Clearly, compared to the previous reporting period, users have no problem accessing the services and such service use has become an automatic part of their work. This is evidenced by the fact that in 2010–2012, many users switched from data collection on data carriers and data repository management to the use of network solutions delivered directly by the provider. This is reflected in the increasing number of service users. Besides the commonly used imaging services, data download services are becoming increasingly widespread, as can be seen in the list of Monitoring services for 2012.

8.2 Use of the spatial datasets

Art. 14 (b) the use of spatial data sets corresponding to the themes listed in Annexes I, II and III to Directive 2007/2/EC by public authorities, with particular attention to good examples in the field of environmental policy

The use of spatial data in public administration in the Czech Republic is also very widespread. While data access via browsing service is 'unlicensed', i.e. to launch the imaging service, there is no need to confirm any licence and these services are available free of charge, access to the actual data is a little more complicated in certain cases.

As described in section 7.4, in the Czech Republic there is no unified data access in public administration. In cases of regular, long-term cooperation, agreements on mutual or unilateral data use, whether for consideration or free, are concluded. However, this issue is addressed more or less on case-by-case basis and the texts of licensing agreements vary. While the largest provider of data in the Czech Republic, the ČÚZK, passes is switching as much as possible to the simplification of licensing agreements in the style of a basic and extended INSPIRE licence, this cannot automatically be expected at other public authorities.

Another interesting finding is that providers maintain national data sets and subsequently form data sets derived to meet INSPIRE requirements. These derived data sets are harmonised in accordance with INSPIRE data specifications, but are not commonly used at national level. They are currently

used to meet requirements, but also form a basis and point of entry to international projects aimed at achieving the practical interoperability of spatial data and related services in Europe, e.g. the European Location Framework (ELF).

The situation described above, however, does not alter the fact that spatial data are widely used. Since 2010, they have been commonly described by metadata; spatial data and related services can easily be retrieved, as evidenced by the number of users, which is growing every year. However, as already mentioned in section 7.4, Strategy for the Development of Spatial Information Infrastructure in the Czech Republic up to 2020 could help to resolve the unified licensing policy.

8.3 Use of the SDI by the general public

Art. 14 (c) if available, evidence showing the use of the infrastructure for spatial information by the general public

Public access to spatial data infrastructure for personal purposes is not limited in any way. Everyone has the opportunity to find and view data on the available geoportals. No special permission is required. It is possible to connect to any public service from a personal computer. The above information on growing access to public administration geoportal services shows that the public makes most use of the basic data made available on the ČÚZK geoportal.

8.4 Cross-border usage

Art. 14 (d) examples of cross-border use and efforts made to improve cross-border consistency of spatial data sets corresponding to the themes listed in Annexes I, II and III to Directive 2007/2/EC

Organisations which are providers of data for INSPIRE cooperate in the production and management of data sets with organisations with the same or a similar specialisation in neighbouring countries, or in European projects with organisations from several European countries at once. These are the central government authorities on the one hand, and local institutions on the other (typically involving the cooperation of national parks on both sides of the border).

Below are examples of these activities:

- Reference systems: The ČÚZK's cooperation in the exchange of GNSS data and transmission of statistical data in the incorporation of the Czech Network of Permanent GNSS Stations (CZEPOS) into the international European networks GNSS EUPOS and EPN, and in the exchange of data resulting from the integration of the Czech Republic's geodetic bases into European geodetic structures in the projects of the European Reference System Sub-commission (EUREF).
- Geographical names: for details on the ČÚZK's involvement in the provision of EuroGeoNames, see section 7.5.
- Administrative units: cooperation between the Ministry of the Interior's State Border Department and delegations of permanent border committees (German, Austrian, Slovak and Polish). Cooperation within Euroregions.
- Administrative units: for details on the ČÚZK's involvement in the provision of EuroBoundaryMaps, see section 7.5.
- Property register land parcels: at the ČÚZK (bilateral cooperation with Slovakia)
- Water: at the ČÚZK, basic geographic data are being homogenised, e.g. Harmonisation ZABAGED ® and ATKIS on the border between Germany and the Czech Republic. The consequences of this homogenisation are reflected in the data published by the Land Survey Office for the theme of water and in the upcoming publication of the transport network theme.
- Land Survey Office data was harmonised within the scope of pan-European products, e.g. EuroRegionalMap (ERM), EuroGlobalMap (EGM)
- Transport: at the ČÚZK, basic geographic data are being homogenised, e.g. Harmonisation ZABAGED ® and ATKIS on the border between Germany and the Czech Republic. The consequences of this homogenisation are reflected in the data published by the Land Survey Office for the theme of water and in the upcoming publication of the transport network theme.

- Transport: a data standard is being developed via the AIXM model (under Eurocontrol) in air transport.
- Transport: local carriers in integrated transport systems.
- Water: water data cooperation is provided via the International Commission for the Protection of the Elbe (ICPE), the International Commission for the Protection of the Oder (ICPO) and the International Commission for the Protection of the Danube River (ICPDR).
- Protected areas: typical cooperating parties are National Parks located along the border (Krkonoše National Park on the border with Poland, České Švýcarsko National Park on the border with Germany, Šumava National Park on the border with Austria and Germany, Podyjí National Park on the border with Austria) and protected areas in the border regions.
- Geology: The ČGS has long cooperated with the Slovak Republic. GIC (Geoscience Information Consortium) and other global initiatives (One Geology Global, EIONET)
- Biodiversity: Exchange of data between countries within the Carpathian Convention.
- Human health and safety: Integrated rescue systems.

8.5 Use of transformation services

Art. 14 (e) how transformation services are used to achieve data interoperability

Transformation services for the transformation of coordinate systems are operated, distributed and used by the ČÚZK. These services may be used freely by all users, they are particularly useful for large-scale transformation. Directly linked to the dispatch of data, they are used at the ČÚZK for cadastral maps and surveying data and, gradually, for other INSPIRE themes, e.g. water, as provided by the VUV.

Transformation services are not known to have been used anywhere to ensure interoperability. In the cases observed so far, national data sets have been maintained, and a data set has been created which is derived to meet INSPIRE the requirements. It should also be noted that only Annex I data providers now engage in harmonisation and transformation services to ensure interoperability.

9 Data sharing arrangements (Art. 15)

9.1 Data sharing arrangements between public authorities

Art. 15 (a) an overview of data sharing arrangements that have been, or are being, created between public authorities

As mentioned in section 7.4, public authorities share data based on previously concluded agreements in cases of long-term cooperation. These are classic sharing agreements or agreements on cooperation in the development of data and services. These agreements are concluded horizontally, i.e. between central government organisations, and also vertically, i.e. between central government organisations and local government authorities. Financial compensation for such arrangements is a matter for the parties concerned and is not centrally regulated; the transposition of the INSPIRE Directive covered public authorities which, to perform their tasks having a direct or indirect environmental impact, have unlimited access to data free of charge.

Below is a list of sharing arrangements recorded in the preparation of this Report:

CENIA has entered into agreements with all organisations within its remit, the Ministry of Agriculture and the ÚHÚL, for the reporting of national environmental data – for the production of an environment statistical yearbook.

ČÚZK shares data with all public authorities by law. No further agreements are concluded beyond the scope of the law.

Data sharing arrangements between public authorities and Community institutions and bodies

Art. 15 (b) an overview of data sharing arrangements that have been, or are being, created between public authorities and Community institutions and bodies, including examples of data sharing arrangements for a particular spatial data set

In the preparation of this Report, no information was obtained about agreements between public administration institutions and European Community authorities. It is likely that such agreements were formed as framework agreements for certain European projects resulting in data available across Europe.

9.2 Barriers to the sharing and the actions taken to overcome them

Art. 15 (c) a list of barriers to the sharing of spatial data sets and services between public authorities and between public authorities and the Community institutions and bodies, as well as a description of the actions which are taken to overcome those barriers

Although there have been significant improvements in mutual use and sharing of data since the last reporting period, the above-mentioned divergent approaches to licensing could be a major obstacle to sharing. The Licensing and Legislation TWG under KOVIN should eliminate this obstacle through its activities. The Strategy for the Development of Spatial Information Infrastructure in the Czech Republic up to 2020 is a promising prospect in the handling of this issue.

10 Cost/Benefit aspects (Art. 16)

10.1 Costs resulting from implementing INSPIRE Directive

Art. 16 (a) an estimate of the costs resulting from the implementation of Directive 2007/2/EC

To determine the implementing costs, inputs from KOVIN members were used. Instructions for determining these costs were created according to the template for this report. The results obtained were not easy to process because some providers determined the amount according to INSPIRE categories (i.e. metadata, data, services, etc.) and others according to logical items in the accounts (purchasing, support, payroll). One provider also expressed some costs financially and others in man-days, especially in cases where the purchase of hardware or software can be expressed by price, while work on INSPIRE components is expressed in hours of work done by employees. In most cases, therefore, the costing was an educated guess. INSPIRE implementation is monitored in costs separately from activities related to other spatial data only at two providers (out of those providing input). This situation is mainly caused by the fact that none of the providers receives the allotted amount for the implementation of INSPIRE; this amount is always earmarked internally by providers, sometimes at the expense of other activities.

Some providers also note that they have not yet incurred any costs in connection with the implementation of INSPIRE. This mainly applies to activities such as the acquisition of metadata catalogues and the creation of a search service over that catalogue, which has been long in the planning, and the creation of metadata planned for internal data management outside INSPIRE requirements. Those providers admit that they do not even present the minimum range of activities performed in the context of INSPIRE as costs of implementation.

Based on the sum of all incoming documents, the cost of implementing the INSPIRE Directive is **CZK 78.65 million** and **1,010 man-days**. A detailed quantification of individual contributors is part of Annex 12.3.

10.2 Benefits observed

Art. 16 (b) examples of the benefits observed, including examples of the positive effects on policy preparation, implementation, evaluation, examples of improved services to the citizen as well as examples of cross-border cooperation.

The greatest benefit often mentioned by representatives of public administration and the private sector alike is the availability of data in general. It is almost incredible how the active implementation of the INSPIRE Directive has progressed in this field in the past three years. The RTIARE example shows the synergistic effect of the implementation of the PSI and INSPIRE Directives.

11 Conclusions

Geoinformatics generally has a long-standing tradition in the Czech Republic. INSPIRE therefore does not introduce any new theme for data producers, but only adjusts and standardises the existing one. Since the last reporting period, centred more on awareness and an information campaign, the Czech Republic has progressed to active implementation. The Regulations are an important driver behind this progress. Their mandatory implementation dates were in 2010-2012, and so many had no choice but to get involved. A downside of the long-awaited standardisation is that its processing is highly challenging. Perhaps this why a particular effect of the increasing knowledge about INSPIRE among providers has been observed, namely the gradually increasing gap between the group of those who actively implement and know the issues and the group of providers that were not involved in INSPIRE from the beginning and today are unable to cope with such involvement.

Another important factor is the establishment of the INSPIRE National Coordination Committee and its technical working groups. After many years of cooperation among proactive providers operating on the basis of an interest in a common goal, there is finally a formal setup in which several entities are already involved.

In summary, however, due to the broad availability of spatial data and services across the public sector, and also for users for personal use, INSPIRE is perceived as a step forward in the field of spatial data.

12 Annexes

12.1 List of organisations – names and contact details

Organisation	Address	Contact person	E-mail
Agency for Nature Conservation and Landscape Protection	Kaplanova 1931/1, 148 00 Praha 11	Jan Zárybnický	jan.zarybnicky@nature.cz
Association of Regions of the Czech Republic	Zborovská 11, 150 21 Praha 5	Vladimír Klimeš	klimes.vladimir@kr-jihomoravsky.cz
CENIA	Vršovická 1442/65, Praha 10, 100 10	Jitka Faugnerová	jitka.faugnerova@cenia.cz
Czech Geological Survey	Klárov 3, 118 21 Praha	Dana Čápková	dana.capova@geology.cz
Czech Mining Office	Koží 4, 110 01, Praha 1 - Staré Město	Petr Šponar	petr.sponar@cbusbs.cz
Czech Hydrometeorological Institute	Na Šabatce 2050/17, 143 06 Praha 412-Komořany	Jitka Brzáková Luboš Moravčík	brzakova@chmi.cz lubos@moravcik.cz
Czech Statistical Office	Na padesátem 81, 100 82, Praha 10	Zdeňka Udržalová	zdenka.udrzalova@czso.cz
Czech Telecommunication Office	Sokolovská 219, 190 00 Praha 9	Petr Landkammer	landkammerp@ctu.cz
Czech Office for Surveying, Mapping and Cadastre	Pod sídlištěm 9, 18211 Praha 8	Eva Pauknerová Ivana Svata	eva.pauknerova@cuzk.cz ivana.svata@cuzk.cz
Ministry of Transport	nábř. L. Svobody 1222/12, 110 15 Praha 1	Ondřej Šváb	ondrej.svab@mdcr.cz
Ministry of Finance	Letenská 15, 118 10 Praha 1	Zdeňka Máchová	zdenka.machova@mfcz.cz
Ministry of Trade and Industry	Na Františku 32, 110 15 Praha 1	Antonín Beran	beran@mpo.cz
Ministry of the Interior	Nad Štolou 3, 170 34 Praha 7	Eva Kubátová	Eva.kubatova@mvcz.cz
State Office for Nuclear Safety	Senovážné náměstí 9, 110 00 Praha 1	Michaela Boďová	michaela.bodova@sujb.cz
Water Research Institute	Podbabská 2582/30, 160 00 Praha	Petr Vykoch	Petr_Vyskoc@vuv.cz

12.2 List of references for the compilation of the report

List of documents:

Provider	Document title	Type	Date
Agency for Nature Conservation and Landscape Protection	naklady_inspire_aopkcr	.xlsx	18.4.2013
Association of Regions of the Czech Republic	E-mail	E-mail	8.4.2013
CENIA	Reporting2013_CzechRepublic_20130503	.docx	3.5.2013
Czech Geological Survey	E-mail	E-mail	25.4.2013
Czech Mining Office	E-mail	E-mail	5.4.2013
Czech Hydrometeorological Institute	naklady_inspire_CHMU_hydrologie Reporting_2013_Stanoveni_nakladu_CHMU	.xlsx	24.4.2013
Czech Statistical Office	náklady 2010-2012_final_v1_CSU	.xlsx	17.4.2013
Czech Telecommunication Office	E-mail	email	9.4.2013
Czech Office for Surveying, Mapping and Cadastre	Monitoring_ke_dni_17.4.2013_oprava CUZK Kvalita133amrbs úřady a krajinyce INSPIRE vyjádřeny: tímco práci na INSPIRE komponentách dříve moc nezajímala a dnes INSPIRE	.docx	29.4.2013
Ministry of Transport	_resort_dopravy_naklady_na_implementation INSPIRE	.xlsx	16.4.2013

Ministry of Finance	email	email	15.4.2013
Ministry of Trade and Industry	email	email	15.4.2013
Ministry of the Interior	MV_ Naklady_na_ implementaci_INSPIRE MV_ Reporting2013_ CzechRepublic_20130 415_3	.xlsx .docx	1.5.2013
State Office for Nuclear Safety	email	email	12.4.2013
Water Research Institute	Reporting_2013_ Stanoveni_nakladu_MZP_ VUV	.xlsx	19.4.2013

List of websites:

Operator	Website
Agency for Nature Conservation and Landscape Protection	http://www.nature.cz/
Association of Regions of the Czech Republic	http://www.asociacekraju.cz/
CENIA	www.cenia.cz
Czech Geological Survey	www.geology.cz
Czech Mining Office	http://www.cbusbs.cz/
Czech Hydrometeorological Institute	www.chmu.cz
Czech Statistical Office	http://www.czso.cz/csu/redakce.nsf/i/home
Czech Telecommunication Office	http://www.ctu.cz/
Czech Office for Surveying, Mapping and Cadastre	www.cuzk.cz
Ministry of Transport	http://www.mdcr.cz
Ministry of Finance	http://www.mfcr.cz
Ministry of Trade and Industry	http://www.mpo.cz/
Ministry of the Interior	www.mvcr.cz
State Office for Nuclear Safety	www.sujb.cz/
Water Research Institute	http://www.vuv.cz/

12.3 Costs of implementation of INSPIRE in years 2010

Enclosed XLS file