ČESKÝ ÚŘAD ZEMĚMĚŘICKÝ A KATASTRÁLNÍ
Pod sídlištěm 9/1800
182 11 Praha 8 – Kobylisy

V Praze dne 1. 6. 2009
Č.j.:

Cestovní zpráva
ze zahraniční služební cesty do Norska

1. <u>Úvodní informace</u>

a) Vysílající subjekt   Český úřad zeměměřický a katastrální

b) Termín a místo pracovní cesty   13. - 15. 5. 2009, Hamar, Norsko

c) Přesné znění názvu akce   Plenární zasedání expertní skupiny
zaměřené na kvalitu (EuroGeographics)

d) Účastníci cesty   Ing. Tomáš Cajthaml

e) Datum zpracování zprávy   1. 6. 2009

f) Cestovní zprávu schválil dne   …………………………
                                             předseda ČÚZK

2. Časový přehled pracovní cesty

13. 5. 2009   Přílet do Osla, odjezd do Hamaru, doprava na místo zasedání
14. 5. 2009   Celodenní účast na zasedání
15. 5. 2009   Dopolední účast na zasedání, odjezd z Hamaru do Osla, odlet do Prahy

3. Program - projednávané otázky

Plenární zasedání expertní skupiny na kvalitu sdružení EuroGeographics se koná dvakrát do roka. V tomto roce se změnil název i povaha původně expertní skupiny zaměřené na kvalitu na zájmovou skupinu pro výměnu znalostí ohledně kvality (Quality Knowledge Exchange Network). Cílem plenárních zasedání je diskutovat kvalitu dat a řízení kvality ve Státních mapovacích službách, šířit zkušenosti ohledně kvality v oblasti geografických informací a vytvořit síť expertů na kvalitu dat a řízení kvality ve Státních mapovacích službách.

4. Průběh pracovní cesty – obsah zajímavých příspěvků; osoby, se kterými bylo jednáno

Plenárního zasedání se zúčastnilo okolo 30 účastníků, podrobněji viz seznam účastníků v příloze č. 6. V rámci jednání byly prezentovány národní reporty za ČR, ohledně kvality – viz příloha č. 7 a o implementaci INSPIRE – viz příloha č. 8, včetně doprovodného textu – viz příloha č. 9. Předání překladu „executive summary" z „Guidelines for Implementing the ISO 19100: Geographic Information Quality Standards in National Mapping and Cadastral Agencies", příloha č. 2, je uveden v příloze č 3. Plenární schůzi vedl Jonathan Holmes, který zastoupil Carol Agius jež se z rodinných důvodů nemohla zúčastnit zasedání.

Antti Jakobsson, Úvod představení současného stavu projektu ESDIN, zmínil, jakým způsobem může skupina Q-KEN (Quality Knowledge Exchange Network) pomoci s realizací projektu ESDIN (European Spatial Data Infrastructure with a Best Practice Network), ve kterém je jedním z cílů vytvoření rámce pro celoevropsky jednotně prezentované datové sady a služby. Tento projekt navazuje na problematiku řešenou v projektech GMES, SES, Flood risk 2007/60/EC, INSPIRE a chce dál posunout řešení především v reakci na INSPIRE. Členy projektu jsou především Státní mapovací služby, existuje ovšem další možnost zapojení se do projektu. Cílem je vybudování ESDI (evropské SDI), založené na národních SDI, pomoci s implementací datových sad podle INSPIRE přílohy I., zvýšit jejich dostupnost implementací servisně orientované architektury, poskytnout datové specifikace pro data velkých, středních i malých měřítek. V rámci EuroGeographics se jedná o ERM, EGM, EBM ve středním a malém měřítku, které by měly být v souladu s INSPIRE. Je nutné dořešit specifikace pro data velkých měřítek, jejich soulad na hranicích a jejich specifikace služeb. Řešení je postavené na implementaci služeb WMS a WFS, licencování bude řešeno v souladu s GeoRM. K projektu byla vytvořena URL http://www.esdin.eu, na které jsou k dispozici veřejně základní informace o členech a aktivitách v rámci ESDIN.

V rámci projektu byl proveden seminář zaměřený na testování ohledně INSPIRE (WP 13, WP 12). Byly připraveny otázky pro široké konsorcium, je ale těžké začlenit všechny potřebné uživatele. Existuje souhlas s terminologickým cílem, potřeba po změně specifikace výrobků v projektu, potřeba po zvýšení produkce dat ve Státních mapovacích službách. INSPIRE specifikace jsou v tomto ohledu zastaralé.

Na závěr bloku proběhla diskuse, zmíněno např. to, že ESDIN nerozlišuje mezi původními a nově pořízenými daty, nejsou začleněni zástupci z oblasti životního prostředí, členové ESDIN jsou převážně ze Státních mapovacích služeb, univerzit, výzkumných a vědeckých pracovišť.

Jaana Mäkelä, Prezentace modelu kvality, toto téma je zpracováváno a je součástí WP8 projektu ESDIN. Pracuje se na modelu kvality a měřeních kvality. Model kvality vychází z návrhu pro technické tabulky kvality, v současnosti pro datové sady silnic a katastrálních

parcel. Budou ale zpracovávána i další témata. Tabulky jsou založeny na INSPIRE datových specifikacích 2.0. Identifikaci parametrů (elementů) kvality provedl J. Marttinen, tabulky jsou jednoduše pochopitelné, existuje 23 možností pro použití. Jsou orientovány jasně na uživatele. Požadavky na kvalitu jsou reportovány jako metadata. Úrovně kvality v modelu: -1 INSPIRE, 0 INSPIRE odvolatelné, 1, 2, 3 – úrovně kvality podle ESDIN. Principy použití podprvků kvality v úrovních jsou: -1 – žádná kvalita, 0 – je možné použít podprvky, 1 – užití podprvků neshodných a nekonformních s ostatními, 2 - konformní užití, 3 - rozšířené podprvky. Podmínkou je, že není možné poskytovat data bez zajištění jejich logické konzistence.

      Jorma Martinen, Měření kvality, měření kvality je specifikováno v souladu s ISO 19138 a se zkušenostmi z Finska. Publikování je zajištěno především s ohledem na ISO 19139 implementaci a v souvislosti s dalším vývojem. Kvalita prostorových dat může být srovnána s palubní přístrojovou deskou automobilu (dashboard), 5 základních elementů slouží ke srovnání s rychlostí, otáčkami, spotřebou, časem a teplotou.

      Pro logickou konzistenci a polohovou přesnost se používá 26 měření. Tematická neboli atributová přesnost charakterizuje klasifikační správnost, tj. počet nekorektních atributových hodnot, srovnatelné se špatným hláskováním geografických jmen. V budoucnosti je snaha dále aktualizovat ISO 19138 v souvislosti s vývojem ISO 19157. V této souvislosti pracuje R. Henriksson z Helsinské univerzity ve WP 8 na metadatech a na pokynech pro zpracování kvality. Výsledkem je procesní model ESDIN, s měřením kvality a procedurami, hodnocením.

      Při hodnocení kvality jsou uvedeny případy užití, procesy, generalizace, INSPIRE testování transformací (proces transformace schématu referenčního souřadnicového systému), integrace a srovnání hranic, hran, model generalizace a kartografického vylepšení. Je použito komerční programové aplikace Radius Studio nad databází Oracle http://www.1spatial.com/products/radius_studio/index.php. Výhodami tohoto přístupu společnosti 1Spatial je realizace zároveň vizí INSPIRE, zároveň splnění na požadavků kvality na vyšší úrovni.

      Porovnávání zaměřené na hodnocení kvality – shrnutí, se týkal uskutečnitelnosti a zavedení modelu kvality vytvářeného v rámci ESDIN WP 8 do praxe. Je připravována druhá verze dotazníku, je zapotřebí odezva, jak je model uskutečnitelný/realizovatelný. Bude zasláno členům Q-KEN, je nutné prozkoumat a prošetřit tyto možnosti. Workshop v rámci konference v Rotterdamu představí úrovně kvality, druhá část workshopu bude o interpretaci mezinárodního modelu. Problémem je získání zpětné vazby, jak začít s implementací. V této souvislosti je navrženo realizovat „webinar" pro participaci v tomto ohledu (v srpnu nebo v září 2009), ev. klasický mítink.

      Obsahem bude průzkum metod hodnocení, manuálních oproti automatickým, frekvence, použité prvky apod. O tom, jak Státní mapové služby používají validační nástroje pro kvalitu malých měřítek, v závislosti na generalizaci, bude referováno na mítinku v Rotterdamu, viz: http://www.1spatial.com/news_events/events/view_event.php?event=1146. Navržená forma semináře po internetu, „webinar", bude levnější a flexibilnější pro 19 zemí, které odpovídali na první dotazník. Je nutné v tomto ohledu zajistit dokumentaci a propagaci ESDIN do Státních mapových služeb.

      Objevil se návrh na webové mítinky a prezentace namísto plenárních zasedání. Je navrženo naplnit seznam těch organizací, které si přejí akceptovat technickou výměnu, které by rádi participovali na výměně specifických témat, pracovní skupiny musí navrhnout a vytvořit plán pro prezentace. Jde o formu navrhovanou nejen pro Q-KEN, ale celý EuroGeographics. Měla by být zveřejněna nová webová stránka s možnostmi diskuse na fóru, přizpůsobená pro Q-KEN členy, se šablonami a knihovnami dokumentů.

      Lysandros Tsoulos, aktualizace terminologie, shrnul současný stav terminologie expertní skupiny. Na stránkách je k dispozici verze 1.1, v přípravě je rozšířená verze 1.2. Zde se objevují nově změny v definicích EuroGeographics. Je čerpáno z dokumentu „Guidelines for Implementing the ISO 19100: Geographic Information Quality Standards in National Mapping and Cadastral Agencies". Nově uvedené pojmy jsou definice

EuroGeographics „akreditace" a „certifikace". Dále byly upraveny termíny „conformance, quality level", „conformance quality requirements" a další. Byla zdůrazněna informace, že poslední sloupec slovníku je o vazbách termínů na další termíny. Zmíněn kontrast mezi měřítkem dat vs. měřítka mapy (data scale vs. map/chart scale), vazba na střední a malá měřítka, přidána definice pro „fitness for use" včetně návrhu kvality a modelu kvality, použita definice z http://en.wikipedia.org/wiki/Total_Quality_Management, kde je odkaz na relevantní podklady.

Jonathan Holmes, Antti Jakobsson, Informace o konferenci GSDI, zde pořádá EuroGeographics dva workshopy. V pondělí odpoledne za účasti A. Östmana ze Švédska o nákladech na kvalitu v SDI, o výhodách poloautomatických procesů. Součástí je také úvod do modelů kvality a hodnocení kvality. Druhý workshop, 4.7, se bude týkat certifikace, auditu kvality. Budou prezentovány myšlenky vycházející z workshopu a diskuse započaté v Paříži 2006, tématem bude administrativní přístup ke kvalitě a aspekty řízení kvality v SDI.

Antti Jakobsson, Aktualizace norem o kvalitě, v současnosti jsou připravovány ISO TS 19158 Quality Assurance of data supply, a ISO TS 19157 Geographic Information – Data Quality (nahrazení dosavadních norem ISO 19113 a ISO 19114). Tyto normy bude v budoucnu doplňovat stávající ISO 19138, připravuje se ale její aktualizace, a také novela ISO 19131. V revizi je také ISO 19115 v souvislosti s updatem norem o kvalitě. Pracovní skupina pro tvorbu ISO 19157 (Erik Stenborg, editor Johan Esko, Metria Sweden) obsahuje koncept kvality, popis komponent kvality, obecné procedury pro hodnocení kvality a podávání zpráv o kvalitě prostorových dat. Pracovní skupina pro přípravu ISO 19158, jejímž vedoucím je Antti Jakobsson a dalšími členy je také R. Petrucco z OS GB, je složena ze zástupců 8 zemí a její poznatky vycházejí z porovnávacího mítinku v Southamptonu (OS GB, 2007).

Diskuse proběhla nad dalšími prvky a podprvky kvality, i metakvality (kvality o kvalitě). V budoucnu je návrh používat pouze termín prostorová přesnost namísto polohové přesnosti (absolutní a relativní), identifikace informací – účel, původ a užití; použitelnost – vztažená k měření; informace o správě dat – údržba, frekvence aktualizace.

Jonathan Holmes - závěrečné shrnutí, proběhla aktualizace a přesunutí členů v jednotlivých pracovních skupinách. Ken Noble (OSI) nabídnul konání příštího plenárního mítinku v Dublinu, další potenciální místa jsou v Polsku, Belgii a Lotyšsku, podmínky jsou uvedeny v příloze č. 1. Jedním z témat příštího mítinku by mělo být mimo jiné práce s metadaty a vize metadat, podnět z Francie, a také poloautomatické hodnotící procesy. V návrhu na projednání je také efektivní práce Q-KEN. Navržený termín příštího zasedání, Dublin 30.11-2.12, bude definitivně potvrzen.

5. **Technická dokumentace – přiložit nebo odkaz, kde je k nalezení**

Dokumentace uvedených prezentací všech přednášek je k dispozici na adrese: http://www.eurogeographics.org/eng/05_quality.asp, v sekci přístupné pro členy skupiny. Dále ke zprávě přikládám:

  Příloha č. 1 – EuroGeographics Quality Knowledge Exchange Network – Information on hosting a plenary meeting
  Příloha č. 2 – "Executive Summary" in „Guidelines for Implementing the ISO 19100: Geographic Information Quality Standards in National Mapping and Cadastral Agencies"
  Příloha č. 3 – Překlad „Executive Summary"
  Příloha č. 4 – Open Geospatial Consortium Data Quality Working Group: Geospatial Data Quality Survey
  Příloha č. 5 – Program plenárního zasedání
  Příloha č. 6 – Hamar minutes (zápis z plenárního zasedání)
  Příloha č. 7 – Národní report o kvalitě
  Příloha č. 8 – Národní report o INSPIRE
  Příloha č. 7 – Doprovodný text k národním reportům

6. Závěr z cesty a doporučení k využití poznatků

Na posledním plenárním zasedání Q-KEN byly prezentovány informace týkající se nově vznikajících norem ISO 19157 Geographic Information – Data Quality a ISO 19158 Geographic Information - Quality assurance of data supply. Objevily se zároveň informace o novém přístupu ohledně kvality, který reaguje na INSPIRE a obsah a formu zde prezentovaných elementů kvality – model kvality a jeho úrovně. Prezentace národního reportu o INSPIRE a o kvalitě se setkala se zájmem členů Q-KEN a jedno z uvedených témat bylo vybráno pro prezentaci na příštím plenárním zasedání. Z toho vyplývá, že metody a podávané informace ohledně resortu ČÚZK se setkávají se zájmem členů Q-KEN.

Cestu hodnotím jako velmi prospěšnou pro rozšíření vědomostí, poznatky budou využity především ke zvýšení efektivity a kvality práce na připravovaných projektech.
Úkoly:

1. Připravit prezentaci o kontrolách konzistence ISKN na příštím plenární zasedání
    Termín: říjen 2009   Zodpovídá: Ing. Tomáš Cajthaml
2. Hledat efektivní možnosti zapojení resortních subjektů do projektu ESDIN
    Termín: průběžně   Zodpovídá: Ing. Tomáš Cajthaml
3. Připravit podklady pro webovou formu dotazníku, který bude navazovat na první dotazník zaslaný na počátku tohoto roku.
    Termín: srpen 2009   Zodpovídá: Ing. Tomáš Cajthaml

Zpracoval: Ing. Tomáš Cajthaml

Vyjádření vedoucího zaměstnance:

EuroGeographics
Quality Knowledge Exchange Network

Information on hosting a plenary meeting

Background to the Q-KEN

The EuroGeographics Quality Knowledge Exchange Network (Q-KEN) is a best practice network dealing with Quality management, Data Quality and Standards within the context of National Mapping and Cadastral Agencies (NMCAs).

The key objectives of the group are to:
- To discuss data quality and quality management within National Mapping and Cadastral Agencies
- To promote experiences on quality in the Geographical Information (GI) field
- To create a network of experts for data quality and quality management within National Mapping and Cadastral Agencies

One of the methods the Q-KEN employs to achieve these objectives is to hold two plenary meetings a year. The meetings are held over three days in spring and in autumn and are open to EuroGeographics members. The plenary meetings are the ideal way of both sharing and discussing quality issues, and of networking with other experts within European National Mapping and Cadastral Agencies; thus building a knowledge exchange network.

It is the practice of the group to hold the meetings at the various organisations of the different members of the Q-KEN. Hosting a plenary Q-KEN meeting is voluntary; suggestions for future meeting venues are put forward during the plenary meetings.

An issue that is often raised by the member organisations interested in hosting a Q-KEN plenary meeting is what is entailed in hosting a meeting. This short guide is a brief outline of what is required in hosting a Q-KEN plenary meeting. It should be noted that one-upmanship and trying to out-do previous hosts is neither expected nor encouraged by the CC.

Requirements to hosting a Q-KEN plenary meeting

The Q-KEN Coordinating Committee (CC) understands the financial and resource constrains that NMCAs operate under and do not wish to burden the host organisation with unnecessary costs when hosting a Q-KEN plenary. Please note that there is no funding offered for hosting a Knowledge Exchange Network meeting; however we are more than happy to use the normal facilities that are available for free within the host organisation. Of course hosts are free to offer alternative venues which they deem suitable for the meeting.

Required to host a meeting
- Meeting venue:
  - A meeting room that will host 20 – 25 delegates equipped with the facilities to project digital presentations, plug in lap-tops, etc. Internet facility is desirable but not imperative.

- One or two smaller rooms that will accommodate about 10 delegates for breakout sessions, these do not need presentation facilities.
- Two coffee breaks a day with minimal refreshments – coffee, tea, water and biscuits
- Hotel: Ideally the host will recommend a hotel(s) within easy distance from the meeting venue. If they can negotiate a special price so much the better. Delegates pay for their own accommodation expenses.
- Lunch: The host will need to organise lunch for the Q-KEN members, this does not need to be offered by the hosting organisation. The delegates can pay for their own lunches.

Extra events organised by Q-KEN Host
The plenary meetings are not just about the exchange of knowledge but also about networking and building relationships within the group. The members are also always very interested to learn about the country and culture of the country they are visiting. The host is therefore encouraged to organise social events outside of the regular meeting hours.

- Official dinner: It has been the custom for the host to organise an 'official dinner' for the Q-KEN delegates. This is normally a typical meal showing off the local cuisine; staff from the host organisation also participate. Though it would be generous of the host organisation to offer this, it is not expected. Delegates can be asked to pay for part or all of the dinner.
- Social events: Other social or sightseeing events that will encourage the delegates to learn more about the city and culture they are visiting are appreciated. There is no expectation that these are complimentary, delegates should be asked to pay for these.

Benefits to meeting host
Hosting a Q-KEN plenary meeting does provide a number of side benefits to the host organisation.

- Host organisation will save on the travel costs of the Q-KEN member for that plenary session.
- Provides the host organisation with the opportunity to expose other staff members to the presentations and work of the Q-KEN since staff from the host organisation are invited to participate in the plenary meeting.
- Offers the host organisation with the opportunity to showcase quality related work and projects it is engaged in to a like minded audience. The host organisation is always offered a presentation slot in the plenary proceedings.

In the 19100 Geographic Information standard series developed by the International Organization for Standardization (ISO), several standards are specifically dedicated to the quality of geographic Information:

- ISO 19113 on the specific concepts,
- ISO 19114 on the principles for quality evaluation and, together with
- ISO 19138, on the description of quality assessment methodologies,
- ISO 19131 on specifications,
- ISO 19115 on the reporting of quality assessment results as metadata, and
- ISO 19139 on the implementation of metadata communication.
-

These indeed are domain-oriented standards, specific to Geographic Information, i.e. related to the following issue: in what measure is the geographic world well represented by the data?

Organisational or managerial quality, at a more general level, is the object of the ISO 9000 family on Quality Management Systems, which is not addressed *per se* in this document. However we discuss and mention some of the new quality related concepts that might be useful in the implementation process that are not currently covered by the ISO 19100 standards (e.g. quality auditing, accreditation, certification).

Several member organizations of the EuroGeographics Expert Group on Quality have both expertise in the content of the ISO 19100 standards, and experience regarding their implementation. The present guidelines give information for implementing the ISO 19100 data quality standards for National Mapping and Cadastral Agencies (NMCAs).

The guidelines give information for implementing the ISO 19100 data quality standards for National Mapping and Cadastral Agencies (NMCAs). However, it might also be useful for other organizations that produce geographic information, or for users who want to better understand the approaches taken by producers of geographic information, or who are invited to design specifications in collaboration with producers.

These guidelines are written by a group of experts from Finland, Sweden, the Netherlands, France, and Denmark. In addition, experts from Estonia and Germany have contributed to the work.

V řadě norem ISO 19100 vyvinutých ISO (The International Standardization Organization) jsou zaměřeny některé normy speciálně na kvalitu geografické informace:

- ISO 19113 na specifickou koncepci,
- ISO 19114 na zásady porovnávání kvality a, společně s
- ISO 19138, na popis metod hodnocení kvality,
- ISO 19131 na specifikaci,
- ISO 19115 na publikování výsledků hodnocení kvality jako metadata, a
- ISO 19139 na implementaci komunikace prostřednictvím metadat.

Ve skutečnosti jde o normy orientované v oblasti, související s geografickou informací, tj. v souvislosti s následujícím problémem: do jaké míry je geografický svět správně vyjádřen daty?

Podnikové řízení kvality, na obecnější úrovni, je předmětem norem řady ISO 9000 o systémech řízení kvality, které nejsou předmětem tohoto dokumentu. Nicméně jsou diskutovány a zmiňovány některé z nových koncepcí kvality, které mohou být užitečné v implementačním procesu, a jež nejsou momentálně pokryty normami z řady ISO 19100 (např. audit kvality, akreditace, certifikace).

Několik členských organizací Expertní skupiny na kvalitu EuroGeographics má odborné znalosti obsahu norem řady ISO 19100 stejně jako zkušenosti týkající se jejich implementace. Tato směrnice podává informace pro implementaci norem kvality dat řady ISO 19100 pro Státní mapovací služby.

Směrnice podává informace pro implementaci norem kvality dat ISO 19100 pro Státní mapovací služby. Ačkoliv je použitelný také pro další organizace zabývající se výrobou geografických informací nebo pro uživatele, kteří chtějí lépe porozumět přístupům používaným výrobci geografických informací je určen i těm, kteří jsou vyzýváni k navržení specifikací při spolupráci s těmito výrobci.

Tato směrnice je sepsaná skupinou odborníků z Finska, Švédska, Nizozemí, Francie a Dánska. Mimo zmíněných přispěli k této práci také odborníci z Estonska a Německa.

Geospatial Data Quality Survey

Open Geospatial Consortium Data Quality Working Group

Results of survey on geospatial data quality open to both OGC and non-OGC members between October 2007 and March 2008

4. Are you a consumer or supplier of spatial data? Or both?

		Response Percent	Response Count
Consumer		33.3%	250
Supplier		8.5%	64
Both		**58.2%**	437
	answered question		**751**
	skipped question		**22**
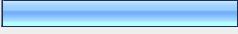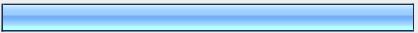
5. Are you a member of the Open Geospatial Consortium (OGC)?
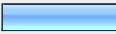
		Response Percent	Response Count
Yes		16.6%	123
No		**83.4%**	620
	answered question		**743**
	skipped question		**30**
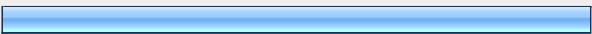
6. What is your job title?

		Response Percent	Response Count
CAD Drafter/Technician		1.9%	14
Database Administrator		1.6%	12
Database Programmer		0.3%	2
Geospatial Analyst		3.0%	22
GIS Administrator		2.7%	20
GIS Analyst		5.7%	42
GIS Coordinator		3.8%	28
GIS Developer		2.4%	18
GIS IT Specialist		3.5%	26
GIS Manager		7.1%	52
GIS Production Manager		1.6%	12
GIS Specialist		6.8%	50
GIS Technician		2.6%	19
IMS Manager		0.4%	3
IT Director		2.2%	16
Mapping Analyst		1.9%	14
Mapping Technologist		1.8%	13
Marketing		0.9%	7
President/CEO/Manager		8.1%	60
Product Engineer		1.9%	14
Sales		0.9%	7
Software Developer		2.7%	20
Surveyor		7.5%	55
Web Programmer		0.4%	3
Other		**28.2%**	208

	answered question	737
	skipped question	36

7. What country is your company or ogranization headquartered?

		Response Percent	Response Count
Afghanistan		0.1%	1
Albania		0.1%	1
Algeria		0.1%	1
American Samoa		0.1%	1
Andorra		0.1%	1
Angola		0.1%	1
Anguilla		0.1%	1
Antarctica		0.0%	0
Antigua and Barbuda		0.0%	0
Argentina		1.2%	9
Armenia		0.1%	1
Aruba		0.0%	0
Ashmore and Cartier Islands		0.0%	0
Australia		8.0%	58
Austria		0.3%	2
Azerbaijan		0.0%	0
Bahamas, The		0.0%	0
Bahrain		0.0%	0
Baker Island		0.0%	0
Bangladesh		0.0%	0
Barbados		0.0%	0
Bassas da India		0.0%	0
Belarus		0.0%	0

Country		Percentage	Count
Belgium		0.7%	5
Belize		0.1%	1
Benin		0.0%	0
Bermuda		0.0%	0
Bhutan		0.0%	0
Bolivia		0.1%	1
Bosnia and Herzegovina		0.1%	1
Botswana		0.1%	1
Bouvet Island		0.0%	0
Brazil		1.1%	8
British Indian Ocean Territory		0.0%	0
British Virgin Islands		0.0%	0
Brunei		0.0%	0
Bulgaria		0.1%	1
Burkina Faso		0.0%	0
Burma		0.0%	0
Burundi		0.1%	1
Cambodia		0.0%	0
Cameroon		0.1%	1
Canada		5.8%	42
Cape Verde		0.0%	0
Cayman Islands		0.1%	1
Central African Republic		0.0%	0
Chad		0.0%	0
Chile		0.8%	6
China		0.4%	3
Christmas Island		0.0%	0
Clipperton Island		0.1%	1

Cocos (Keeling) Islands		0.0%	0
Colombia	[]	0.7%	5
Comoros		0.0%	0
Congo, Democratic Republic of the		0.0%	0
Congo, Republic of the	|	0.1%	1
Cook Islands		0.0%	0
Coral Sea Islands		0.0%	0
Costa Rica	|	0.1%	1
Cote d'Ivoire		0.0%	0
Croatia	[]	0.7%	5
Cuba	[]	0.3%	2
Cyprus	|	0.1%	1
Czech Republic	[]	0.7%	5
Denmark	[]	0.8%	6
Djibouti		0.0%	0
Dominica		0.0%	0
Dominican Republic		0.0%	0
East Timor		0.0%	0
Ecuador	|	0.1%	1
Egypt	[]	0.3%	2
El Salvador		0.0%	0
Equatorial Guinea		0.0%	0
Eritrea		0.0%	0
Estonia	|	0.1%	1
Ethiopia	|	0.1%	1
Europa Island		0.0%	0
Falkland Islands (Islas Malvinas)		0.0%	0
Faroe Islands		0.0%	0

Fiji		0.0%	0
Finland		0.7%	5
France		2.9%	21
French Guiana		0.0%	0
French Polynesia		0.0%	0
French Southern and Antarctic Lands		0.0%	0
Gabon		0.0%	0
Gaza Strip		0.0%	0
Georgia		0.0%	0
Germany		2.1%	15
Ghana		0.0%	0
Gibraltar		0.0%	0
Glorioso Islands		0.0%	0
Greece		0.7%	5
Greenland		0.0%	0
Grenada		0.0%	0
Guadeloupe		0.0%	0
Guam		0.0%	0
Guatemala		0.3%	2
Guernsey		0.0%	0
Guinea		0.0%	0
Guinea-Bissau		0.0%	0
Guyana		0.0%	0
Haiti		0.0%	0
Heard Island and McDonald Islands		0.0%	0
Holy See (Vatican City)		0.0%	0
Honduras		0.1%	1

Hong Kong		0.0%	0
Howland Island		0.0%	0
Hungary		0.1%	1
Iceland		0.1%	1
India		1.9%	14
Indian Ocean Islands (French)		0.0%	0
Indonesia		0.4%	3
Iran		0.4%	3
Iraq		0.3%	2
Ireland		0.4%	3
Israel		0.8%	6
Italy		1.9%	14
Jamaica		0.1%	1
Jan Mayen		0.0%	0
Japan		0.3%	2
Jarvis Island		0.0%	0
Jersey		0.0%	0
Johnston Atoll		0.0%	0
Jordan		0.0%	0
Juan de Nova Island		0.0%	0
Kazakhstan		0.0%	0
Kenya		0.1%	1
Kingman Reef		0.0%	0
Kiribati		0.0%	0
Korea, North		0.0%	0
Korea, South		0.7%	5
Kuwait		0.0%	0
Kyrgyzstan		0.0%	0

Country		Percent	Count
Laos	▍	0.1%	1
Latvia		0.0%	0
Lebanon		0.0%	0
Lesotho		0.0%	0
Liberia		0.0%	0
Libya	▊	0.3%	2
Liechtenstein		0.0%	0
Lithuania	▍	0.1%	1
Luxembourg	▍	0.1%	1
Macau		0.0%	0
Macedonia, The Republic of	▍	0.1%	1
Madagascar		0.0%	0
Malawi		0.0%	0
Malaysia	▍	0.1%	1
Maldives		0.0%	0
Mali		0.0%	0
Malta	▊	0.3%	2
Man, Isle of		0.0%	0
Marshall Islands		0.0%	0
Martinique		0.0%	0
Mauritania		0.0%	0
Mauritius	▍	0.1%	1
Mayotte		0.0%	0
Mexico	▊	0.5%	4
Micronesia, Federated States of		0.0%	0
Midway Islands		0.0%	0
Moldova	▍	0.1%	1
Monaco		0.0%	0

Country		Percentage	Count
Mongolia		0.0%	0
Montenegro		0.0%	0
Montserrat		0.0%	0
Morocco		0.1%	1
Mozambique		0.0%	0
Myanmar		0.0%	0
Namibia		0.0%	0
Nauru		0.0%	0
Navassa Island		0.0%	0
Nepal		0.1%	1
Netherlands		1.1%	8
Netherlands Antilles		0.0%	0
New Caledonia		0.0%	0
New Zealand		1.0%	7
Nicaragua		0.1%	1
Niger		0.0%	0
Nigeria		0.1%	1
Niue		0.0%	0
Norfolk Island		0.0%	0
Northern Mariana Islands		0.0%	0
Norway		1.0%	7
Oman		0.1%	1
Pakistan		0.8%	6
Palau		0.0%	0
Palmyra Atoll		0.0%	0
Panama		0.3%	2
Papua New Guinea		0.0%	0
Paracel Islands		0.0%	0

Country		%	Count
Paraguay		0.0%	0
Peru		0.0%	0
Philippines		0.5%	4
Pitcairn Islands		0.0%	0
Poland		0.7%	5
Portugal		0.5%	4
Puerto Rico		0.1%	1
Qatar		0.1%	1
Reunion		0.0%	0
Romania		1.0%	7
Russia		1.6%	12
Rwanda		0.0%	0
Saint Helena		0.0%	0
Saint Kitts and Nevis		0.0%	0
Saint Lucia		0.0%	0
Saint Pierre and Miquelon		0.0%	0
Saint Vincent and the Grenadines		0.0%	0
Samoa		0.0%	0
San Marino		0.0%	0
Sao Tome and Principe		0.0%	0
Saudi Arabia		1.2%	9
Senegal		0.0%	0
Serbia		0.4%	3
Seychelles		0.0%	0
Sierra Leone		0.0%	0
Singapore		0.1%	1
Slovakia		0.1%	1
Slovenia		0.5%	4

Solomon Islands		0.0%	0
Somalia		0.0%	0
South Africa		1.2%	9
South Georgia and the Islands		0.0%	0
Southern Ocean		0.0%	0
Spain		3.2%	23
Spratly Islands		0.0%	0
Sri Lanka		0.0%	0
Sudan		0.0%	0
Suriname		0.1%	1
Svalbard		0.0%	0
Swaziland		0.0%	0
Sweden		1.6%	12
Switzerland		0.5%	4
Syria		0.1%	1
Taiwan		0.0%	0
Tajikistan		0.0%	0
Tanzania		0.4%	3
Thailand		0.4%	3
The Gambia		0.0%	0
Togo		0.0%	0
Tokelau		0.0%	0
Tonga		0.0%	0
Trinidad and Tobago		0.0%	0
Tromelin Island		0.0%	0
Tunisia		0.3%	2
Turkey		0.7%	5
Turkmenistan		0.0%	0

Turks and Caicos Islands		0.0%	0
Tuvalu		0.0%	0
Uganda		0.0%	0
Ukraine		0.5%	4
United Arab Emirates		0.7%	5
United Kingdom		7.3%	53
United States		**26.8%**	195
United States Minor Outlying Islands		0.0%	0
Uruguay		0.4%	3
Uzbekistan		0.0%	0
Vanuatu		0.0%	0
Venezuela		1.4%	10
Vietnam		0.5%	4
Virgin Islands		0.0%	0
Virgin Islands (UK)		0.0%	0
Virgin Islands (US)		0.0%	0
Wake Island		0.0%	0
Wallis and Futuna		0.1%	1
West Bank		0.3%	2
Western Sahara		0.0%	0
Western Samoa		0.0%	0
Yemen		0.0%	0
Yugoslavia		0.0%	0
Zaire		0.0%	0
Zambia		0.0%	0
Zimbabwe		0.0%	0
		answered question	**728**
		skipped question	**45**

8. Which industry best describes the main line of business of your company or organization?

		Response Percent	Response Count
Agriculture, Forestry, Fishing and Hunting		5.4%	39
Mining, Quarrying, and Oil and Gas Extraction		9.7%	70
Utilities		5.4%	39
Construction		2.8%	20
Manufacturing		1.0%	7
Wholesale Trade		0.3%	2
Retail Trade		0.3%	2
Transportation and Warehousing		1.5%	11
Information		8.7%	63
Finance and Insurance		0.0%	0
Real Estate and Rental and Leasing		0.3%	2
Professional, Scientific, and Technical Services		**23.5%**	170
Management of Companies and Enterprises		0.6%	4
Administrative and Support and Waste Management and Remediation Services		0.6%	4
Educational Services		8.0%	58
Health Care and Social Assistance		0.7%	5
Arts, Entertainment, and Recreation		0.3%	2
Accommodation and Food Services		0.0%	0
Other Services (except Public Administration)		9.3%	67
Public Administration (Government or Military)		21.9%	158
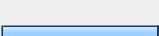
		answered question	723
		skipped question	50

9. How many employees at your company or organization?

		Response Percent	Response Count
Less than 20		**25.1%**	179
21-100		17.7%	126
101-250		10.9%	78
250-2000		24.5%	175
More than 2000		21.7%	155
		answered question	713
		skipped question	60
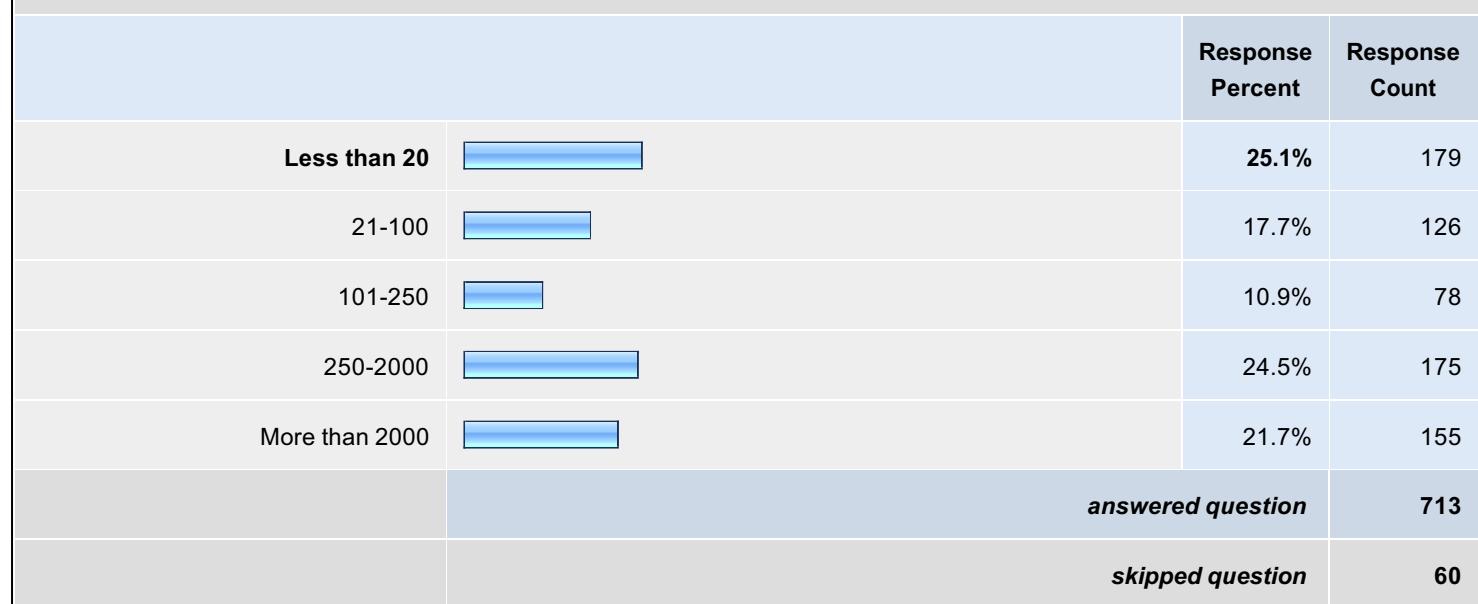
10. What are the average annual revenues of your company in US Dollars?

		Response Percent	Response Count
Less than $1,000,000		**28.5%**	194
$1,000,001 - $5,000,000		16.0%	109
$5,000,001 - $20,000,000		11.5%	78
$20,000,001 - $100,000,000		11.6%	79
$100,000,001 - $1 Billion		10.4%	71
Greater than $1 Billion		7.0%	48
Not Applicable		15.0%	102
		answered question	681
		skipped question	92
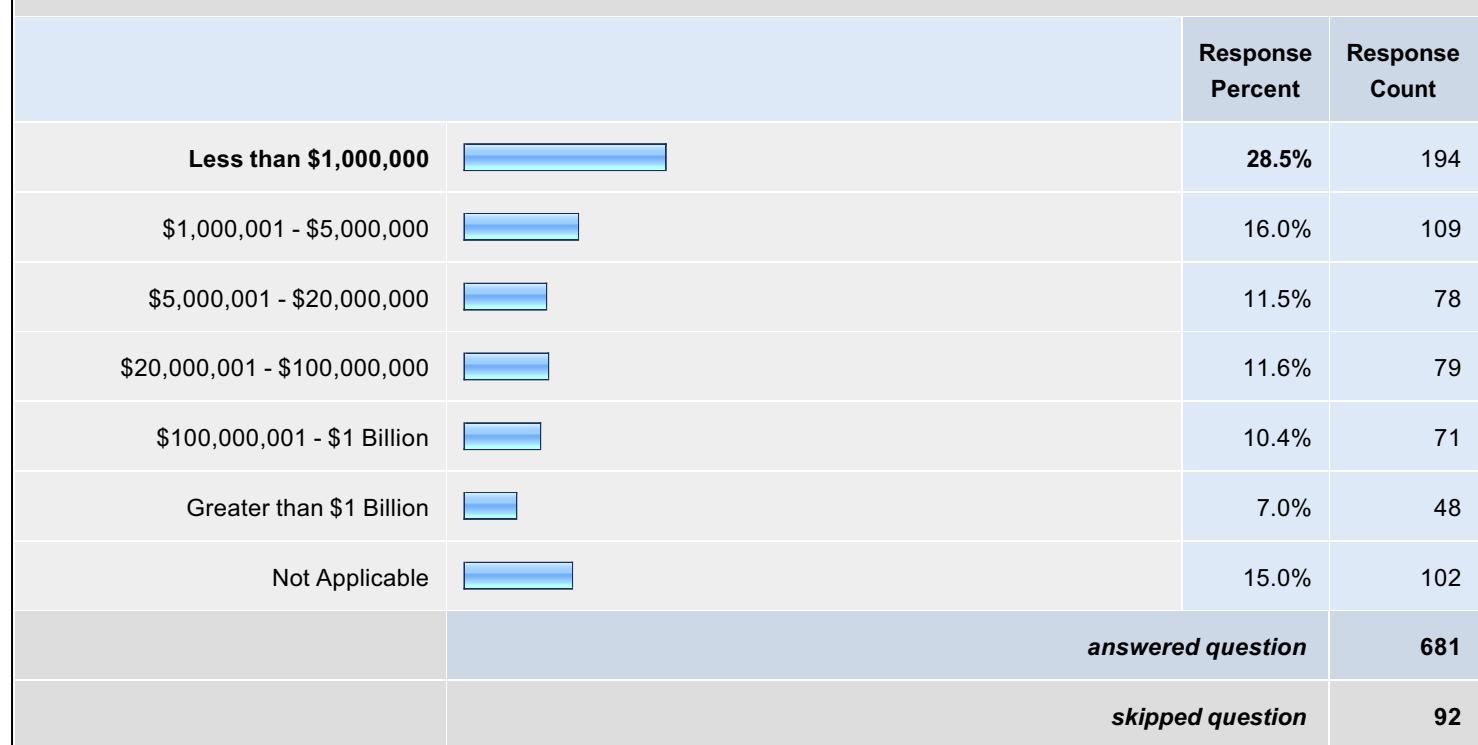
11. Is your organization currently involved in any spatial data quality projects?

|		Response Percent	Response Count
Yes, for more than 6 months		**46.2%**	311
Yes, but only at initial stage		9.2%	62
Yes, but only at planning stage		5.2%	35
Currently under consideration		9.8%	66
No, but maybe in the future		25.0%	168
No we will never do this		4.8%	32
		answered question	**673**
		skipped question	**100**
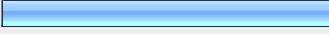
12. In what capacity are you involved in these spatial data quality projects? (Select all that apply)

		Response Percent	Response Count
As an end user of spatial data		**51.4%**	320
As a software systems supplier		23.3%	145
As an independent consultant		25.8%	161
As a systems integrator		28.7%	179
As an academic researcher		20.9%	130
Other (please describe)		18.9%	118
		answered question	**623**
		skipped question	**150**
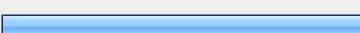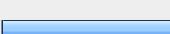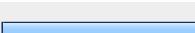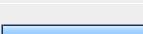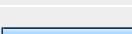
13. How would more accurate or more consistent spatial data help your organization or your customers? (Select all that apply)

		Response Percent	Response Count
Provide consistent results		71.0%	447
Increase revenues		19.5%	123
Reduce operational costs		50.8%	320
Increase profitability		22.2%	140
Improve my organization's understanding of business problems		27.0%	170
Better meet customer expectations		52.7%	332
Deliver higher quality products		64.3%	405
Improve the decision making process relating to spatial data		62.7%	395
Improve the importance of spatial data		55.7%	351
Other (please explain)		7.8%	49
	answered question		630
	skipped question		143
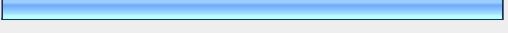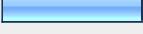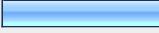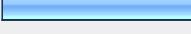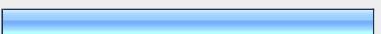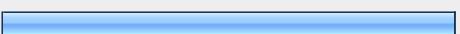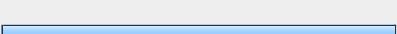
14. Is data in your organization used by your end customers fit for its intended purpose? For example are you using the same data once collected for cartographic map printing for online analysis?

		Response Percent	Response Count
Yes – fit for purpose		57.5%	358
No – far from original purpose		17.3%	108
Unsure due to lack of origin information on said data		25.2%	157
	answered question		623
	skipped question		150
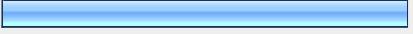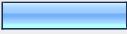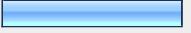
15. Do you have a means to quantitatively measure your spatial data quality?
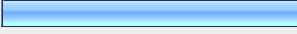
		Response Percent	Response Count
Yes		**42.5%**	262
No		33.2%	205
Unsure		24.3%	150
		answered question	**617**
		skipped question	**156**
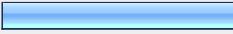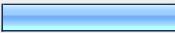
16. How do you measure your data quality?

	Response Count
	254
	answered question	**254**
	skipped question	**519**

17. How do you communicate the quality of your spatial data to your users?

	Response Count
	247
	answered question	**247**
	skipped question	**526**

18. How do you assess the quality of spatial data that you are a consumer of?

	Response Count
	558
	answered question	**558**
	skipped question	**215**

19. How do you store your spatial data? (Select all that apply)

		Response Percent	Response Count
In a spatial database		**70.9%**	395
In a flat file system on my computer		53.0%	295
In a flat file system on an external drive		42.2%	235
Via a remote web server but not in a database		20.1%	112
On paper or hardcopy		20.6%	115
Other (please specify)		8.6%	48
		answered question	**557**
		skipped question	**216**
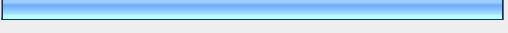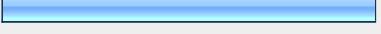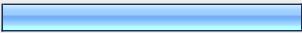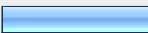
20. Who is responsible for spatial data quality in your organization?

|		Response Percent	Response Count
Whoever enters the data		**25.0%**	138
The GIS Manager		19.2%	106
The Data Quality Manager		11.6%	64
The IT Manager/Director/CIO		6.7%	37
No person currently responsible		20.3%	112
Other (please describe their position)		17.4%	96
		answered question	**552**
		skipped question	**221**
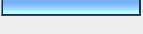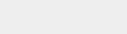
21. If you currently manage your spatial data quality manually, how much of your current workflow is taken up with manual processes?

		Response Percent	Response Count
Up to 25%		**52.7%**	260
Up to 50%		23.9%	118
More than 50%		14.2%	70
100% (entirely manual)		9.1%	45
		answered question	493
		skipped question	280
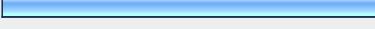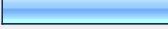
22. Are you aware of any current legislation that mandates the way in which data are to be stored or maintained?

		Response Percent	Response Count
Yes		23.3%	127
No		**76.7%**	419
		answered question	546
		skipped question	227
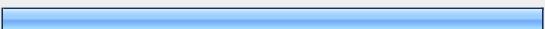
23. Please name the legal procedure or appropriate ruling.

		Response Count
		125
	answered question	125
	skipped question	648

24. Do you follow any standards in relation to maintaining spatial data quality?
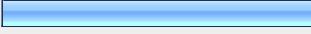
		Response Percent	Response Count
Yes		44.2%	238
No		**55.8%**	300
		answered question	**538**
		skipped question	**235**
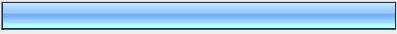
25. Please name the standard(s):

		Response Count
		234
	answered question	**234**
	skipped question	**539**

26. Do you list spatial data quality requirements in contracts or request for proposals?

		Response Percent	Response Count
Yes		47.7%	252
No		**52.3%**	276
		answered question	**528**
		skipped question	**245**
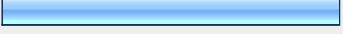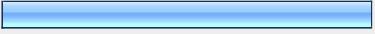
27. What are usually the requirements?

		Response Count
		247
	answered question	**247**
	skipped question	**526**

28. If you were to place a data project out for bid via an RFP or quote solicitation process, with all things being equal in vendor response to satisfying the terms of the RFP, if a vendor could assure a level of spatial data quality what value would your organization place on it?

		Response Percent	Response Count
Zero – we would not be willing to pay more		**26.5%**	136
5% higher cost for a data quality guarantee of 100%		15.6%	80
10% higher cost for a data quality guarantee of 100%		25.3%	130
20% higher cost for a data quality guarantee of 100%		20.0%	103
50% or more higher cost for a data quality guarantee of 100%		12.6%	65
	answered question		514
	skipped question		259

29. What is most important to your organization in terms of spatial data quality?

		Response Percent	Response Count
Attribute information		14.8%	76
Data accuracy		**35.9%**	184
Meta Data		13.1%	67
Geometric		13.6%	70
Topological		10.1%	52
Other (please specify)		12.5%	64
	answered question		513
	skipped question		260
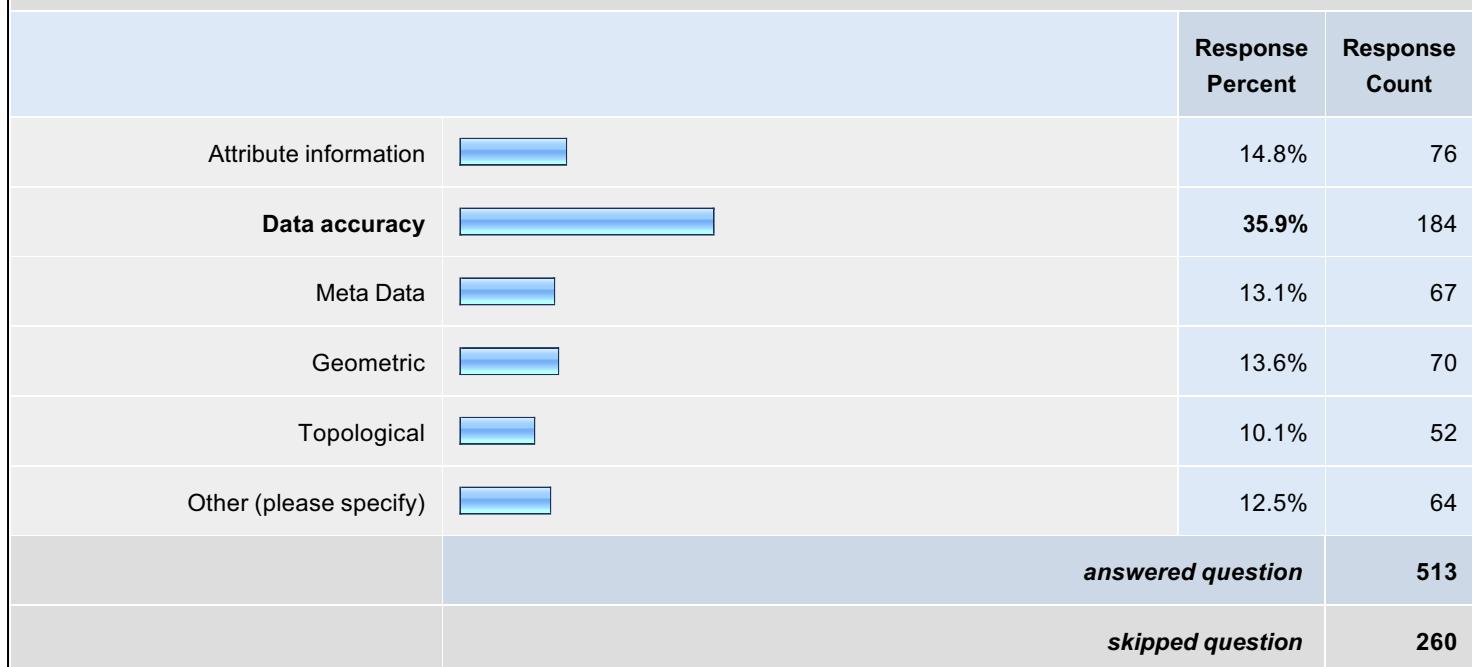
30. What do you find consistently missing in spatial data?		
		Response Count
		511
	answered question	**511**
	skipped question	**262**

31. Which of these spatial data quality management activities do you currently undertake in your organization or on behalf of customers:			
		Response Percent	**Response Count**
Data Augmentation - Enhance data using information from internal and external data sources		39.3%	199
Data Integration – Match, merge or link data from a variety of disparate sources		**52.3%**	265
Data Profiling – Inspect for errors, inconsistencies, redundancy and incomplete information		38.3%	194
Data Monitoring – Check and control data integrity over time		24.7%	125
Data Validation – Correct, standardize and verify data		41.2%	209
All of the above		36.5%	185
	answered question		507
	skipped question		266
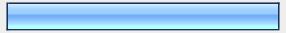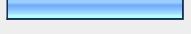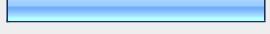
32. Content
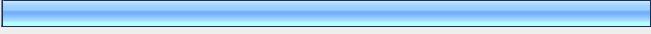
		Response Percent	Response Count
Important		**92.1%**	453
Not Important		3.3%	16
Unsure		4.7%	23
	Reason		78
	answered question		492
	skipped question		281

33. Scope

		Response Percent	Response Count
Important		**61.2%**	301
Not Important		12.2%	60
Unsure		26.6%	131
	Reason		67
	answered question		492
	skipped question		281
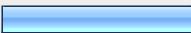
34. Level of detail
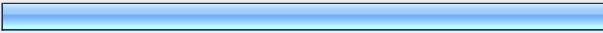
		Response Percent	Response Count
Important		**85.8%**	422
Not Important		7.9%	39
Unsure		6.3%	31
	Reason		75
	answered question		492
	skipped question		281

35. Composition
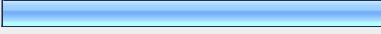
		Response Percent	Response Count
Important		**53.9%**	265
Not Important		13.2%	65
Unsure		32.9%	162
	Reason		61
	answered question		492
	skipped question		281
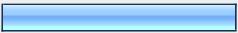
36. Consistency

		Response Percent	Response Count
Important		**93.1%**	458
Not Important		3.3%	16
Unsure		3.7%	18
	Reason		61
	answered question		492
	skipped question		281

37. Reaction to change
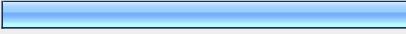
		Response Percent	Response Count
Important		**57.7%**	284
Not Important		16.9%	83
Unsure		25.4%	125
	Reason		74
	answered question		492
	skipped question		281
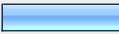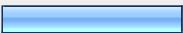
Plenary meeting of the
Quality Knowledge Exchange Network
Hamar, Norway
13th – 15th May 2009
Agenda
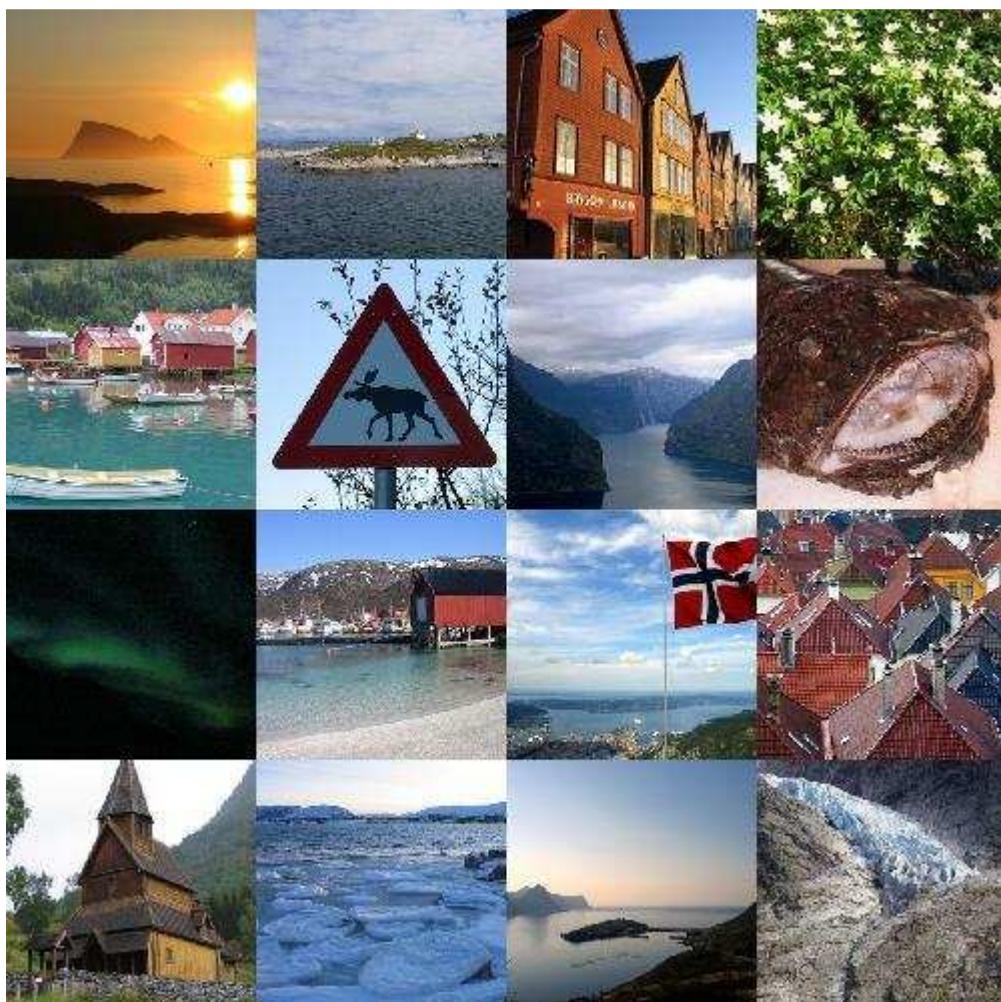
	Item	Lead
13th May	**Q-KEN Meeting**	
	(ESDIN WP8 meeting at same time -- different room)	
9:00	Opening of the meeting	*Host Organisation*
9:15	Introduction, main decisions from Barcelona and main objectives	*Carol Agius*
9:45	Status report of current group actions	*Jonathan Holmes*
10:15	*Coffee break*	
10:45	Research on SDI evaluation from Sweden	*Christina Wasström*
11:15	Testing method for the Nationally Standardised Atkis from Germany	*Christian Elsner*
11:45	Revised Data Model from Norway	*Erling Onstein*
12:15	*Lunch*	
13:15	National Reports	*Christina Wasström*
13:45	National Reports *(selection of future presentations)*	*Christina Wasström*
14:00	Commercial presentation from ESRI	*Nick Land & Paul Hardy*
15:30	*Coffee break*	
16:00	INSPIRE report from NMCAs - INSPIRE/EG questionnaire presentation – Transposition status	*Christina Wasström*
16:30	Presentations from the Host organisation	*TBC*
17:30	End of the first day	
	Evening – CC meeting	
14th May	**Q-KEN & ESDIN WP8 Meeting**	
9:00	Introduction	*Carol Agius / Antti Jakobsson*
9:15	General presentation/status of the ESDIN Project	*Antti Jakobsson*
9:45	Presentation of Quality Model	*Jaana Mäkelä*
10:15	*Coffee break*	
10:45	Quality Model: discussion and group work	
12:15	*Lunch*	
13:15	Presentations of group work and discussion	
13:45	Quality Measures	*Jorma Marttinen*
14:45	Semi-automatic quality evaluation concept presentation (1Spatial?)	*TBC*
15:30	*Coffee break*	
16:00	Quality Evaluation BM: Introduction - Discussion	*Jonathan Holmes*
17:00	Conclusions	*Carol Agius / Antti Jakobsson*
19:30	Dinner	

15th May	Q-KEN Meeting	
9:00	New developments with Quality Group Future meetings	*Carol Agius*
9.30	Update of terminology	*Lysandros Tsoulos*
10:00	GSDI Conference	*Carol Agius*
10:15	*Coffee break*	
10:45	INSPIRE Working Group Quality Evaluation Working group	
11:35	Presentation of group work	
11:45	Update of Quality Standards (Working Group on Quality Standards)	Antti Jakobsson
12:15	Conclusions and agreed actions End of the Expert Group on Quality meeting	*Carol Agius*
12:30	*Lunch*	

File name	Hamar_minutes.doc			
Version	Author	Date	Con	Příloha č. 6
1.0	Christina Wasström	15 May 2009		

| Chairperson	Jonathan Holmes, Great Britain		
Participants	*Name*	*Country*	*Organization*
	Marcin Grudzien	Poland	GUGIK
	Celia Sevilla Sánchez	Spain	IGN
	Karl Haussteiner	Austria	BEV
	Erling Onstein	Gjøvik University College	Norway
Day 2-3	Antti Jakobsson	Europe	EGHO
	Christina Wasström	Sweden	Lantmäteriet
	Jonathan Holmes	Great Britain	Ordnance Survey
	Marcin Lebiecki	Poland	GUGIK
Day 2-3	Tomas Cajthaml	Czech Rep	COSMC
	Heinz Bennat	Germany	BKG
	Gunhild Lönnberg	Sweden	Lantmäteriet
Day 2-3	Lies de Meulenaer	Belgium	IGN
	Claude Luzet	France	IGN
Day 2-3	Lysandros Tsoulos	Greece	HEMCO/NTUA
	Ken Noble	Eire	OSI
	Ourania Mayrantza	Greece	KTIMATOLOGIO S.A
	Zoltan Forgacs	Hungary	FOMI
	Magni Busterud	Norway	Statens Kartverk
	Nils Ivar Nes	Norway	Statens Kartverk
	Slavko Lemajić	Croatia	State Geodetic Administration
Day 1-2	Paul Hardy	UK	ESRI Europe
Day 2-3	Matt Beare	UK	1Spatial
Day 2	Jörgen Brennecke	Germany	BKG
Day 2	Inger Persson	Sweden	Lantmäteriet
Day 2	Jorma Marttinen	Finland	Geoaudit Oy
Day 2	Frederique Williams	France	IGN
Day 2	Jaana Mäkelä	Finland	Helsinki Technical Univerity

1 Decisions and Action Minutes

Number	Action / Finding	Name & Date
1	Georg Langerak from the Statens Kartverk in Hamar welcomed the Quality Knowledge Exchange Network to Hamar.	
2	Jonathan, who chaired the meeting in Carols absence, welcomed the following new permanent members to the group. Ourania (from Greece) and Gunhild Lönnberg (from Sweden).	
3	**Actions from Previous Minutes (Barcelona November 2008)**	
3.1	It was agreed that the NWIP document (PPM Accreditation) would be distributed to all members for information in January. Christina will send the document to all members.	Christina
3.2	Jordi gave a very interesting presentation on the proposal for a New Quality Control system for the 3D 1:1000 mapping at the meeting in Barcelona. Jordi will contact the author and ask him to provide a two page summary of the report. **Done** Claude agreed to translate the summary into English. **Done** Carol will check the English spelling and then distribute the summary to the whole group	 Carol
3.3	Karl presented on change detection from Imagery in Austria at the meeting in Barcelona. Karl will present the result at the next plenary meeting. CC will include the presentation in the agenda for the meeting in Ireland.	 Karl CC
3.4	Christina presented the status of Inspire in each of the countries focusing on main actions, coming events and topics to be discussed at plenary meetings. CC to review and take up at future plenary. **Not done** It was agreed that we should do this at each plenary meeting. Christina to collate reports. **Done**	CC
3.5	The group listened to the presentation from Seb Lessware on the OGC Working Group on Data Quality Antti has contacted Seb Lessware (OGC) to ask him about the use cases that the group is supposed to supply. Once Antti has a response from Seb then he will take this forward. Antti has not heard anything from Seb. New contact at OGC will probably be Matt. Carol to distribute the results from the survey on the OGC working group on Data Quality to all members. Not Done. Jonathan will distribute.	 Antti Jonathan
3.6	In Eurogeographics Strategic Goal 3 we could revisit the BM on SABE update processes (from Czech Rep 2004) which may be useful to the SBE project. CC to take this forward. **Not done**	CC

Number	Action / Finding	Name & Date
3.7	Action to all – consider translations of 19100 and Accreditation report. **There are still some translations that are missing**. Jonathan and Christina to distribute and collate replies. Jonathan and Christina will send a reminder to translate BM report and guidelines	All Jonathan & Christina
3.8	Discussion took place on what the group expected from the meetings. CC needs to discuss this further. **Done**	
3.9	Carol will try to go through the specs (annex I) and send comments to all others and reply via Eurogeographics. If that is not possible, each member will give comments from members organisation with comments possibly copied to Eurogeographic Ho for information. Jonathan did a study on the quality parts. He will send his comments to the whole group.	Jonathan
3.10	Jonathan gave a run through of what had been discussed and the fact that the group had refocused on providing information for the ESDIN questionnaire. Jonathan to complete the review and to forward to Antti in time for ESDIN. **Done**	
3.11	Carol to contact Patricia to ensure that new members have access to the members only section of the web site. **Done** Carol will after each meeting ensure that new members will have access to the web site.	Carol
3.12	Carol to send out latest e-mail contact list with each set of minutes. **Done**	
3.13	Carol to chase HO to ensure that she has the ability to upload documents to the EXGQ area of the website. **This is part of the new web site**.	
3.14	Carol to see if 2nd – 3rd March is suitable for the next CC meeting in Brussels. **The meeting was held as an web conference** Jonathan to see if London is a suitable venue for a future CC meeting. **Done, the meeting will be held in September**.	
4	**National Presentations**	
4.1	Christina Wasström presented a research on SDI evaluation from Sweden	
4.2	Heinz Bennat presented testing method for the Nationally Standardised Atkis from Germany	
4.3	Erling Onstein presented revised data model on quality adjusted to national standards and in conformance with international standards.	
5	Christina presented a summary of the 17 national reports that were received From these presentations the following topics were selected for national presentation at the next meeting in Dublin; • **Greece**: Development of new quality evaluation methods for assessing the spatial / thematic accuracy, as well as the correctness of the spatial and thematic (legal) information for the spatial datasets that would result from the upcoming cadastral survey projects. • **Croatia**: Quality control system (NSDI) • **Czech republic**: The Information System of the Cadastre of Real Estates – new data consistency checking methods All were encouraged to read all the reports when they are made available	Ourania Slavko Tomas All
6	Paul Hardy gave a presentation of what ESRI has to offer regarding quality.	

Number	Action / Finding	Name & Date
7	Christina Wasström presented a summary of the 18 INSPIRE reports received from NMCAs. Christina will send out the summary of proposed topics on the next plenary so that each member can suggest one or more special topic that would be interesting to take further at next plenary. INSPIRE/EG questionnaire presentation – Transposition status. **Antti does not have the report ye**t. <mark>Antti will find out when it will be available</mark>	Christina All Antti
8	Presentations from the Statens Kartverk; GEOVEKST	
9	Antti Jakobsson gave a general presentation/status of the ESDIN Project; This covered the need for a seamless pan-European reference data and services (Inspire, SEIS, GMES, …) The project are working mostly in Annex I area The project will provide data specification ExM as a set of profile of Inspire spec. Inspire spec will not discuss generalisation, but that is included in ESDIN Project will implement an operational environment A Quality model should be delivered by the end of May If anybody is interested in joining the ESDIN project, they are welcome. More information on ESDIN website www.esdin.eu	
10	Jaana Mäkelä gave an presentation of ESDINs draft Quality Model; Agreed on a structure for table for each annex I theme. Three type of measures are included Report quality on two levels; dataset level and subset level also have an idea to have different levels of quality models 0-3. These would cover inspire compliance, ESDIN compliance and ESDIN compliance and measured.	
11	Jorma Marttinen presented the standard for Quality Measures; ISO 19138 consist of 73 defined measures 19113, 19114 and 19138 will be combined	
12	Matt Beare from 1Spatial presented the Semi-Automatic DQ Evaluation Service for ESDIN	
13	**Group work discussions**	
13.1	Quality model Hard to understand the tables, important to understand Inspire spec and the ISO standards. Different scenarios were discussed. What will happen if the model is not implemented? Benefits of having a Quality Model were identified as: - When used in decision making – know where deficiencies are. - If there is competition? Will help secure funding to ward off competitors. - Provides evidence to prove quality is better than competitors - Helps in the procurements process if quality requirements exist - Sub contracting, easier to operate in different countries - Increase the European market	

Number	Action / Finding	Name & Date
13.2	Quality measures and evaluation Discussed sampling, sampling sizes and how to define AQL. The group also discussed practical problems when checking data.	
13.3	Semi-automatic quality evaluation Logical consistency; nothing new, done in-house, but maybe not in an intelligent way should be standardised Non logical consistency; use of reference data, even that could be auto-mated, cost benefit analyse of measures, Metadata, needs from customers point of view	
14	**Quality Evaluation BM** Two suggestions were offered for discussion *Suggestion 1* Investigate the feasibility of implementing the ESDIN WP8 quality model. ESDIN will not be producing a second questionnaire as they have taken the decision to use a simple model. Possible actions here would include - Holding a workshop to explain the model (webinar in September?) - Investigations into the feasibility of implementation - Having a discussion on how NMCAs will implement the model (or-dinary meeting in January?) - produce a report, as a delivery from the exercise Open question - will there be a workshop for several members or a smaller meeting of interested countries. *Suggestion 2* Identification of what quality elements are measured? Are they measured manually or automatically? Which measures would be most advantageous to automate? CC will discuss these two options further. There is the possibility of doing both of these. Discussion to take place before the next CC meeting in London	CC
15	**Conclusions** Use webinar to inform Q-KEN about ESDIN project	Antti
16	**New developments with Quality Group** CC set up the list for technical exchange	CC
	The idea of setting up web meetings in between plenary meetings was discussed. The idea is that the web meeting could be used to distribute information about any quality related topic. This could be from results of activities to a briefing on ESDIN or Inspire.	
	Action to all to send proposals for discussion to either Carol or Jonathan	All
	CC will decide on what technique should be used.	CC
	EuroGeographics web sites are divided into three parts. There is a special part for sharing documents and it will also support a forum for discussions. Action to CC to decide on how to produce a quick guide to our reports and documents on the web site	CC

Number	Action / Finding	Name & Date
17	Future Plenary meetings Autumn 2009 meeting will be in Dublin 30 Nov - 2 Dec. There is a possibility that the spring 2010 meeting will be held in Belgium. Lies to investigate this as a possibility and inform Carol. Volunteers for future meetings – possibly France or Poland. Claude and Marcin to consider if this would be a possibility Jonathan will distribute practical information about organising a plenary meeting to all members	Lies Claude and Marcin Jonathan
18	Update of terminology Lysandros proposed some changes in Q-KENs terminology list. The proposals were discussed and agreed.	
19	GSDI Conference Antti informed about the two workshops that are organised by Euro-Geographics; WS 3.7 *Is there quality in SDIs? How will technology help?* WS 4.7 *Just because they're interoperable … Meeting users expectations of data quality in SDI* For more information www.gsdi.org/gsdi11	
20	**Q-KEN working groups** There was a proposal that a member should be able to take part in two WGs. CC will discuss if this could be solved practically.	CC
20.1	INSPIRE Working Group ToR and list of WG members were updated according to presentation (see also WG quality evaluation) Christina will update the ToR for INSPIRE WG	Christina
20.2	Quality Evaluation Working group Jonathan will update the ToR for Quality evaluation WG	Jonathan
21	Update of Quality Standards (Working Group on Quality Standards) Antti informed about the changes related to quality standards in particular the merger of ISO 19113, 19114 and 19138.	

Template for National Report

INSTRUCTIONS
Organisation/Country
Period Covered

- **Data Quality and Quality management**
  - 1 or 4 Bullet Points outlining any:
  - developments, emerging issues and/or hot topics in this field of relevance to the ExG-Q
- **General Information about Organisation**
  - 1 or 2 Bullet Points outlining any high level:
  - developments, emerging issues and/or hot topics that could be of interest to ExG-Q
- **Looking forward**
  - Any plans or forthcoming events that may be of interest to ExG-Q or;
  - that may emerge as issues in future reports
- **Feedback**
  - How have you, as an EGQ member, spread information from the last plenary meeting and from published reports, to others in your organisation.

Page 2

COSMC, Czech Republic
From November 2008 to May 2009

- **Data Quality and Quality management**
  - Outputs from Metainformation system about cadastral districts are published on COSMC web page (data about digitalization)
  - The Information System of the Cadastre of Real Estates (ISKN) – new data consistency checking methods
  - Working group was established for analysis of errors in the ISKN database – the subject is creation of procedures for their elimination
- **General Information about Organisation**
  - The Cadastral law amendment came into force on 1st March 2009
- **Looking forward**
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Czech National report for exchanging experience on implementing INSPIRE among members

Tomáš Cajthaml, COSMC - Hamar, 13th – 15th of May 2009

Actions for implementing metadata according to IR

National Level: Adoption of the Act on INSPIRE is delayed on national level – the Bill was delivered into the parliament. Current situation can be influenced by new elections into the Czech Parliament (autumn 2009). There is national accordance on the Bill and its adoption is expected after new elections to the latest.

Organisation: Czech Office for Surveying, Mapping and Cadastre (COSMC) has created and continuously updates datasets and services on Geoportal http://geoportal.cuzk.cz with metadata according to Implementing Rules (IR). Geoportal provides possibility to search information about spatial data of Czech Office for Surveying, Mapping and Cadastre – COSMC. There is access to view, download and discover the data through WMS, WFS and CSW services. There is also a possibility to order the spatial data through the services of e-shop. Main innovation is the discovery service that was launched on Mach 2009. Geoportal provides services and enables data sharing as described in implementing rules of INSPIRE regulation.

Quality requirements

COSMC extended INSPIRE metadata profile. COSMC has created own profile that is common for data sets of cadastre and for small scales data sets and also for provided XML services. The COSMC profile is permanently updated and is a part of discovery and searching services.

Figure 1   New appearance of web page of Geoportal COSMC

Other main actions for implementing INSPIRE and Coming events

COSMC "Metadata editor" has been completed. It is a web application with metadata XML templates that respect implementing rules and COSMC metadata profile. Some added items of COSMC metadata profile are fulfilled in manual (fixed) and some in automatic way (outputs of "Presentation database of cadastre" and of "Metainformation system about cadastral territories").

INSPIRE at plenary meeting

We would appreciate a discussion on the subject of a recommendation if to include arcs of a circles and circles in implementing rules for the cadastral parcel theme. Czech cadastre contains these geometries which are stored in Oracle database and are published through other XML web services. According to the current draft of implementing rules we would have to reduce the content for presentation and we would have to make a conversion from arcs of a circles and circles. We don't know any relevant reasons (except from the draft of implementing rules) why we should be obliged to carry out this conversion.

Czech National report about quality implementation among EuroGeographics expert group of quality members

Data Quality and Quality management

Outputs from "Metainformation system about cadastral districts" are published on COSMC web pages. The outputs contain important information about digitalization that is in progress on cadastral districts. Some other additional information are published, e.g. information about the details of cadastral territories and its summary statistics .

The data, stored in the Information System of the Cadastre of Real Estates (ISKN), the main information system and database, has been underwent some new data consistency checking methods. These methods are designed by the working group that was established for analysis of data discrepancies in the ISKN database. The goal of this working group is to create procedures for discrepancies elimination.

General Information about Organisation

The Cadastral law amendment came into force on the 1st March 2009. The amendment will help to protect personal data stored or published by the cadastre. The main goal of the amendment is to increase control of some personal data with keeping cadastre as a public information system.

Looking forward

COSMC is preparing a colour depiction of cadastral parcel boundaries according to the accuracy of coordinates of boundary points in the Internet application „Cadastre Viewing ".

Feedback

The article about anniversary EGQ Helsinki meeting was published in the professional magazine. Other information about EGQ, working on data quality and new procedures how to describe quality

parameters in the Czech cadastre was reported in project about "standardisation and quality" outputs.