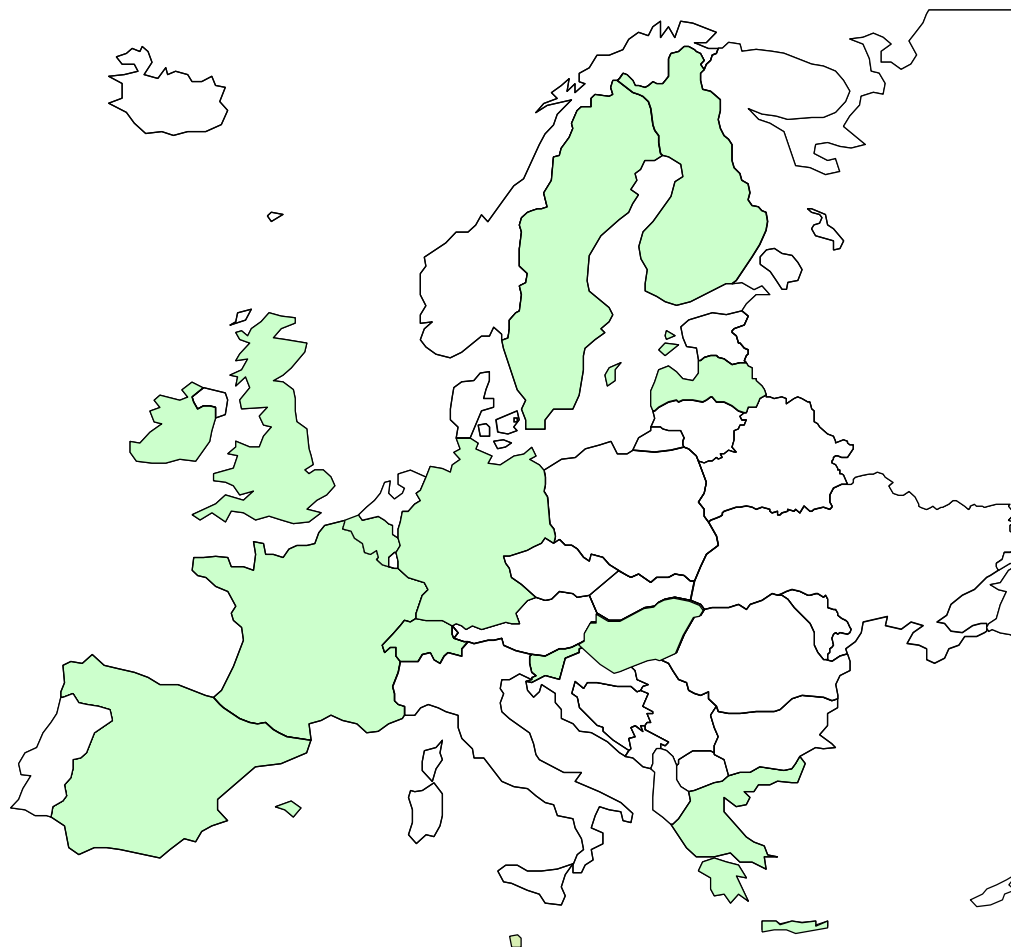


National Reports

Quality Knowledge Exchange Network

Ljubljana April 2017





16 National reports



CONNECTING YOU TO THE
**AUTHORITATIVE GEO-INFORMATION
FRAMEWORK FOR EUROPE**



National Geographic Institute, Belgium

From November 2016 to March 2017

- **News concerning Data Quality**
 - Preparing data quality tests in the field to determine data quality of our reference data (1:10k)



National Geographic Institute, Belgium

From November 2016 to March 2017

- **News concerning quality management**
 - Colleague: Michel Baltus
 - Setting up a quality control process for the production of our new 1:25k products
 - Improving the quality control process for the updating of our 1:50k products



National Land Survey of Finland, Finland

From April 2016 to April 2017

- **NLS is building new national GIS ecosystem called KMTK**
 - Part of it is to renew Quality handbooks
 - $\frac{3}{4}$ handbooks are ready
 1. Quality handbook for Aerial images and orthophotos
 2. Quality handbook for Laser scanning (3D point clouds)
 3. Quality handbook for Digital elevation model (DEM)
 4. Quality handbook for GIS objects in the database – not ready, because definition of the objects in the database is not ready yet

Handbooks are technical specifications for quality ratings.

Handbooks are written in Finnish.



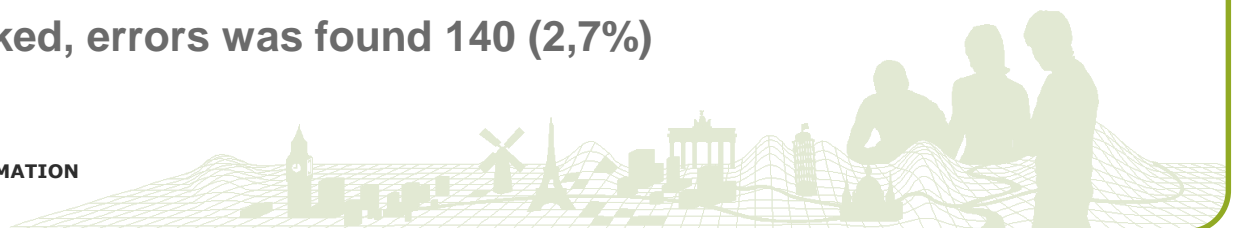
National Land Survey of Finland, Finland

From April 2016 to April 2017

- **Quality management**
 - In year 2016 consultant made quality check for NLS GIS database
 - Focus was in roads, buildings and addresses
 - 14 test fields Around Finland
 - 1x1 km for buildings
 - 3x3 km for roads and addresses
 - Completeness (commission/omission) for buildings and roads
 - Thematic accuracy for addresses (Municipalities official addressees compared to addressees in NLS GIS database)

Results

- 2071 building checked
 - Omission 8 (0,4%)
 - Commission 9 (0,4%)
- 5175 road line checked
 - Omission 58 (1,1%)
 - Commission 148 (2,9%)
- 5175 address checked, errors was found 140 (2,7%)



National Land Survey of Finland, Finland

From April 2016 to April 2017

- Quality check will be done in same way by using consultant in years 2017 and 2018
- After that it might be different system
- Building the KMTK ecosystem is great challenge
- NLS will finish **Quality handbook for GIS objects in the database after the definition of the objects.**
- **There will be in the KMTK ecosystem** real time quality checks when data is imported



Institut national de l'information géographique et forestière (IGN), France

From October 2016 to March 2017

- News concerning Data Quality
 - improving the quality control using statistical methods,
 - a great question : *how to prove **simply** that our data are better than others ?*
Reputation is not sufficient and can be destroyed by a bad buzz.
The standards do not always appear as guarantees of quality.
 - a new question : what is the real return of investment (ROI) from a standard certification ?



Institut national de l'information géographique et forestière (IGN), France

From October 2016 to March 2017

- **News concerning quality management**
 - **ISO9001:2015** for a process in metrology works
 - Implementation of the gaps assessment diagnosis with the new version of the standard,
 - IGN is now ISO9001:2015 certified,
 - Version 2015 for the rest of IGN (except research) in October 2017.
 - **Works on the « *organisational knowledge* » (§ 7.1.6)**
 - What are the needs our organisation ?
 - How long is a document still valid ?
 - Archiving or destroying ?
 - legal value of a digital or digitalised document.
 - **Extra-financial reporting & social responsibility**
 - Using the GRI 4 global reporting,
 - Greenhouse gas balance,
 - “Plan d’administration exemplaire” (Exemplary Administration Plan).



Institut national de l'information géographique et forestière (IGN), France

From October 2016 to March 2017

- Any other news that would be of interest for Q-KEN?
 - The financial balance of an institute like IGN is strongly threatened by the demand for free public data (Open Data).
 - How can we transform free data into paid services ?
 - How to compete against companies that use our free data?
 - How to be more included in the State processes (sovereign) ?
 - Defence inside and outside,
 - Land register mapping,
 - Fluids network,
 - Agriculture and forests...
 - Negotiation of a new objectives contract with the State.



BKG, Germany

From October 2016 to April 2017

- **News concerning quality management**
 - Report about quality processes and quality management methods is finished
 - Definition of quality aims is under revision, on political level
 - Efforts to harmonise the publication of quality test results



NCMA S.A., Greece

From October 2016 to April 2017

- **News concerning Data Quality**
 - Quality Control for all delivered data using the NCMA's Quality Plan (running 35 contracts, 1106 municipalities, ~ 9,1 million property rights)



NCMA S.A., Greece

From October 2016 to April 2017

- **News concerning quality management**
 - Revision of Quality plan of cadastral projects in compliance with ISO 10005: Quality management - Guidelines for quality plans, is finished
 - Action plans for all quality procedures (under development - expected to be completed within the next month)
 - Identifying quantitative quality indicators for every separate quality procedure (under development)
 - We are working to full automation and semi-automation of the quality parameters testing procedures on completeness, consistency and thematic accuracy of cadastral data delivered



NCMA S.A., Greece

From October 2016 to April 2017

- Any other news that would be of interest for Q-KEN?
 - There has been an undergoing initiative in Greece, led by the Ministry of Environment and Energy and supported technically by the World Bank as part of the EU support for technical assistance, to design, plan, and implement a National Spatial Data Infrastructure for the country. Quality assurance issues of the data to be included in that infrastructure is one of the three main pillars of the initiative (along with “best practices” and “interoperability”) (<https://drive.google.com/file/d/0B-eEKuOvJEGCUXg0NF9HQ2MyVWM/view>).
 - In tendering procedure the rest of the country (32 contracts). Expected in June 2017, the signing of the first contracts.
 - Suspension of Forest Maps for 40% of the country and collection of objections from property owners (NCMA supports the forest agencies in the management of geospatial data)



NCMA S.A., Greece

From October 2016 to April 2017

- Topic I can offer for next webinar
 - Creation of UAV-based orthoimages and evaluation for the use in cadastral mapping



Ordnance Survey GB

From November 2016 to April 2017

- **News concerning Data Quality**
 - Water network improvements are (still) continuing.
 - Some names improvements are continuing.
 - Activity on a number of issues is on hold pending the outcome of the review (see later slide)



Ordnance Survey GB

From November 2016 to April 2017

- **News concerning quality management**
 - None. OS remains committed to its approach of using ISO19158
 -



Ordnance Survey GB

From November 2016 to April 2017

- Any other news that would be of interest for Q-KEN?
 -
 - Ordnance Survey announced a restructure of its business in March 2017. This change will see Ordnance Survey reshape itself into three main areas OSGB (supporting the Public Task), Ventures (concentrating on increasing revenue in GB and Internationally) and Consumer (concentrating on making Outdoor activity more enjoyable). Underpinning this activity will be a Managed Services team and some Corporate functions.
 - At the same time we will be recruiting a new Chief Data Officer who will have a team underneath them. The structure and content of this team is currently under discussion.
 - We are close to releasing a new Greenspace product for Government. This product is primarily aimed at showing areas where outdoor activities can take place.



BFKH FTFF, Hungary

From October 2016 to April 2017

- **News concerning Data Quality**
 - Specification of governmental acceptance about the quality control of aerial photos, orthoimagery and the connected workprocess was done in 2016. Extension of the specification with the preparatory platform and resolution is in progress. (New technology: drones, laser scanner!)
- **News concerning Quality management**
 - Full internal audit was done, and certification audit is in progress.
 - Reworking of the institutional Regulation Rules is in progress.
- **Any other news that would be of interest for Q-KEN?**
 - According to Government Decision FÖMI was terminated and it moved to Budapest Government Office from 1st January 2017. The new official name of the FÖMI is
Government Office of the Capital City Budapest
Department of Geodesy Remote Sensing and Land Offices
- **Topic I can offer for next webinar or meeting**
 -



OSi, Ireland

From October 2016 to April 2017

- The following number of objects were reclassified after a review of 5th Class WAYS – automated process

Count of Ways that were successfully “downgraded”	190,029
Count of Way junctions that were “healed”	99,310
Count of Way Points that had their form changed – e.g. “Crossroads” to “T-Junction”	15,480
Count of Buildings that had their waySegValue set to the GUID of an adjacent Way	650,615
Count of Structures that had their waySegValue set to the GUID of an adjacent Way	58,483
Count of Ways deleted	150,450
Count of Way_GDF2 deleted	289,339
Count of Way Points deleted	282,412



OSi, Ireland

From October 2016 to April 2017

- **Review of Form/Function of buildings > 500 sq. m.**
 - 21413 of 22446 reviewed
 - 18704 Form/Function updates applied
 - Remainder require further review ; possible sub-division of existing building polygon
- **Review of Named Ways (1 person)**
 - **National**
 - 289 of 754 Reviewed
 - **Street**
 - 863 of 34516 Reviewed
 - Approx. 5% of the Ways reviewed required a geometry correction.
- **Named Group Management tool under development to manage Named Way/Water process**
 - Multiple editors
 - Using Oracle Workspace Manager
 - Validation Rules



Latvian Geospatial information agency, Latvia

From April 2016 to April 2017

- **News concerning Data Quality**

- Challenges with quality control of orthophoto pictures
 - in addition to RGB and CIR files LGIA also began creating and using RGBI pictures
 - data requires less space, but quality control demands more man-hours
 - distortions at the bridges and viaducts, stereo effect distortion
- Beginning of April marks the end of the third cycle mapping area of Latvia in scale of 1:10 000 (7 years)- the last pages are currently being uploaded into CDB. The fourth cycle mapping has already started in the end of 2016 and it marks significant changes to the previous cycle
 - workflow is being migrated from Bentley Microstation v8i to Bentley Map
 - map objects now have attributes
 - the resources for data symbology are being developed
 - creation of quality handbook for the fourth cycle of mapping (including the new data fields) is scheduled to the end of 2017



Latvian Geospatial information agency, Latvia

From April 2016 to April 2017

- **News concerning quality management**
 - Sudden changes of personnel in management of data administration and control division at the end of 2016 resulted in setback of development in data quality field
 - In the summer of 2017 there will be a reorganisation of the Agency structure:
 - Quality management system group will be created after reorganisation of Agency with an intent of improving and standardizing the data control in all divisions and departments
 - Creation and control processes of raster/LiDAR data will be split from creation and control of vectordata into different departments



Latvian Geospatial information agency, Latvia

From April 2016 to April 2017

- **Any other news that would be of interest for Q-KEN?**
 - In 2017 LGIA will continue it's already started projects of mapping Latvia in scale of 1:10 000 (4th cycle) and 1:50 000 (3rd cycle), renewing orthophoto coverage (6th cycle) and further extending the coverage of LiDAR data
 - Mapping of largest cities in scale of 1:2 000 will be moved to Bentley Map instead of Microstation v8i
 - Publishing of data online has been moved to ESRI ArcGIS 10.5. and possibilities of using ESRI ArcGIS Pro are being evaluated



The State Land Service (SLS), Latvia

From October 2016 to April 2017

- **News concerning Data Quality**
 - Quality evaluation of buildings on Cadastral Map is done according with ISO 19157 some criteria – Completeness, Logical consistency, Positional accuracy, Thematic accuracy, Temporal quality and Usability
- **News concerning quality management**
 - To save financial and human resources, the SLS is started reviews of cadastral data registration and updating processes
- **Any other news that would be of interest for Q-KEN?**
 - Large amounts of data are registered in the Information System of Restricted Territories. Until March 1, 2017, the Information System of Restricted Territories register 1 890 523 elements - both the object and restricted territory



Planning Authority, Malta

From???? – April 2017

- News concerning Data Quality

Basemap

- Current quality measures include:
 - lineage;
 - attribute accuracy;
 - positional accuracy



Planning Authority, Malta

From???? – April 2017

- News concerning quality management

Basemap

- Prospective: Spatial Data QMS as part of ERDF funds



Planning Authority, Malta

From???? – April 2017

- Any other news that would be of interest for Q-KEN?

ERDF funds – Sintegram Project

- to develop and implement a national spatial data infrastructure
- creation of a strategic approach to spatial data and the creation of critical base datasets
- a new national basemap of the Maltese Islands
- free dissemination and exchange of data between government entities

Planning Authority GI Strategy - Draft



SMA – Surveying and Mapping Authority, Slovenia

From November 2015 to April 2017

- **News concerning Data Quality**
 - New National Topographic model (NTM) was established – harmonised with INSPIRE
 - Data quality model for NTM, object catalogue, capturing rules, quality controls
 - Ortophoto – ASPRS standard for positional accuracy
 - Continue improvement of real estate data
 - New CRS in establishment, tie points and model of transformation for transition from old to new CRS carried out
 - Controls of SIGNAL (GNSS) network (data flow, position of stations)



SMA – Surveying and Mapping Authority, Slovenia

From November 2015 to April 2017

- News concerning quality management
 - Project real estate data improvement
 - Introducing changes in updating real estate data procedures
 - Linking INSPIRE metadata and OPEN DATA metadata
-



SMA – Surveying and Mapping Authority, Slovenia

From November 2015 to April 2017

- Any other news that would be of interest for Q-KEN?
 - Launching the program of projects called E-space
 - All the geodetic data will be free of charge from the beginning of the year 2018
 - EUREF campaign - measurements of 49 state geodetic points, defined in Epoch 1995,55 in the ETRS 89 CS (checking deformations of points)
 - New real estate legislation in preparation



ICGC, Catalonia – Spain

From May 2016 to April 2017

- **News concerning quality management**

Achievements

- Renovation of ISO 9001 certificate.

In process

- Use of Confluence, a collaborative platform, to share the QMS documentation.

- **News concerning Data Quality**

ICGC Orthoimages

- ICGC availability of process and sub-process indicators of any Ortho project.
- In process, to increase usability:
 - Publishing simultaneously orthoimages at different geometric resolution of the same area
 - Publishing simultaneously orthoimages at different radiometric resolution of the same area



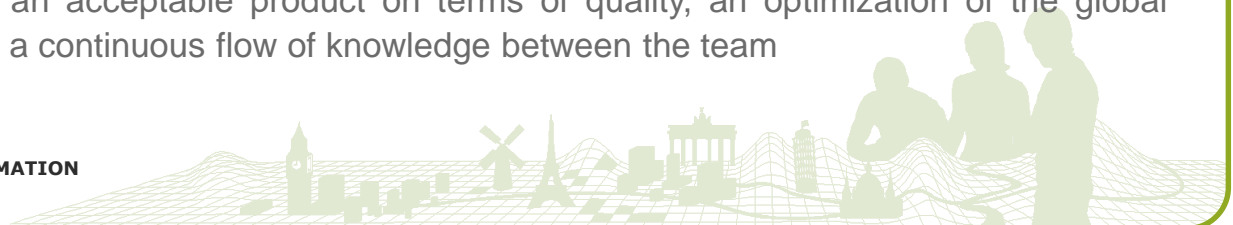
ICGC, Catalonia – Spain

From May 2016 to April 2017

- **News concerning Data Quality**

ICGC Topographic Data Bases

- Improvement of semi-automatic QC to test logical consistency: conceptual schema adherence, domains, topology constraints and aspects related to the coherence between elements, especially altimetric information.
- Methodological changes to visually validate the completeness and correct digitation in terms of position, interpretation and classification of the elements:
 - The updating process starts with the digitation of polygons where changes are detected and follows with the stereo-plotting inside this polygons to update the information.
 - The visual validation is performed in a sample of the change polygons, which are selected according to the complexity of the work area, the quality of the original data and the expertise of the cartographer. During the validation, a flag is added to the change polygon if an error is detected. The errors are commented with the cartographer in order to provide feedback about his work. Only major errors are corrected, minor errors will be queued and corrected during next updating.
 - This method provide an acceptable product on terms of quality, an optimization of the global updating process and a continuous flow of knowledge between the team



IGN, Spain

From October 2016 to April 2017

- **News concerning quality data**
 - **InciGEO:** Developing the phase 2 of the tool. Incigeo is based in BPM for the management and update with changes in the National Topographic Database: Roles management, different ways of entry, triage, errors location, tasks, management of the different solutions and quality control. In this phase 2 it is being developed the “quality evaluation” of the Jobs based in sampling.



IGN, Spain

From October 2016 to April 2017

- News concerning quality management

GRI: Finalised the Versions 1 of the Geospatial Reference Information (GRI). The next step is the integration into the National Topographic Database (BTN).

Buildings layer: (of National Topographic Database) It has been made a conflation between Cadastral buildings and BTN. The next step is the continuous updating by connecting to the Cadastral WFS.

- Any other news that would be of interest for Q-KEN?



Lantmäteriet, Sweden

From October 2016 to Mars 2017

- **News concerning quality management**
 - An inventory has been done to document the quality controls that are done on the data in our land registry. After that three quality levels are set approved, accepted and rejected and data is followed up in the improvement process. The result from the quality controls are grouped and weighted to be reported to the management board



Lantmäteriet, Sweden

From October 2016 to Mars 2017

- Any other news that would be of interest for Q-KEN?
 - Our Handbook of surveying and mapping, HMK shall be updated
 - Today 14 documents, Two of them deal with data quality
 - A guide describing how all object types in 9 themes shall be geometrical represented in the data transfer is published



Lantmäteriet, Sweden

From October 2016 to Mars 2017

- **Topic I can offer for next webinar**
 - Presentation of a real case in Flare to use a data specification to produce other “documents”
 -



Bundesamt für Landestopografie swisstopo , Switzerland

From 05 2016 to 03 2017

- **News concerning Data Quality**
 - still improvement in QA-Tools
 - still more use of QA-Tools in production workflow



Bundesamt für Landestopografie swisstopo , Switzerland

From 05 2016 to 03 2017

- **News concerning quality management**
 - Standardize and automated data integration process by checking delivered data format versus the agreed schema.
 - Enhanced and automated tests to verify the reproducibility of geoprocessing.
Example:
 - Extract data from a terrain and create a regular grid
 - We receive new version of geoprocessing tool or data
 - automated comparison of both results
 - Fix with FME problems with external produced data
Example:
 - We receive data, not OGC simple features
 - Target is PostGIS DB and users use ESRI or QGIS
 - Log, document and analyse processed data to reproduce the process



Bundesamt für Landestopografie swisstopo , Switzerland

From 05 2016 to 03 2017

- **News concerning quality management**
 - Testing INSPIRE and ELF two datasets : SwissNames and SwissBoundaries
 - WMS based on mapserver
- more than one checkinfra.
- not the same results on both infras we've tested



Bundesamt für Landestopografie swisstopo , Switzerland

From 05 2016 to 03 2017

- Any other news that would be of interest for Q-KEN?
 - New 3D-Viewer <https://s.geo.admin.ch/723f149545>(best with Chrom)
 - Timeenabled data <https://s.geo.admin.ch/723f134846>
 - And more historical data like a areal images



Proposals in Ljubljana for presentations at next plenary

Subject	Organisation
Quality handbooks	NLS, Finland
What is the real return of investment (ROI) from a standard certification ?	IGN, France
Report about quality processes and quality management methods is finished	BKG, Germany
Using ISO 19158	OS, GB
Revision of Quality plan of cadastral projects in compliance with ISO 10005: Quality management - Guidelines for quality plans Creation of UAV-based orthoimages and evaluation for the use in cadastral mapping	NCMA S.A, Greece
Specification of governmental acceptance about the quality control of aerial photos, orthoimages and the connected workprocess was done in 2016. Extension of the specification with the preparatory platform and resolution is in progress. (New technology: drones, laser scanner!)	BFKH FTFF, Hungary

Proposals in Ljubljana for presentations at next webinar

Subject	Organisation
Creation of UAV-based orthoimages and evaluation for the use in cadastral mapping	NCMA S.A., Greece
Presentation of a real case in Flare to use a data specification to produce other “documents”	Lantmäteriet, Sweden
From Paris:	
Possibly water network creation and quality assessment	Ordnance Survey
Developed of a new positional accuracy evaluation methodology to test the automatic network obtained from DTM02:	IGN, Spain

