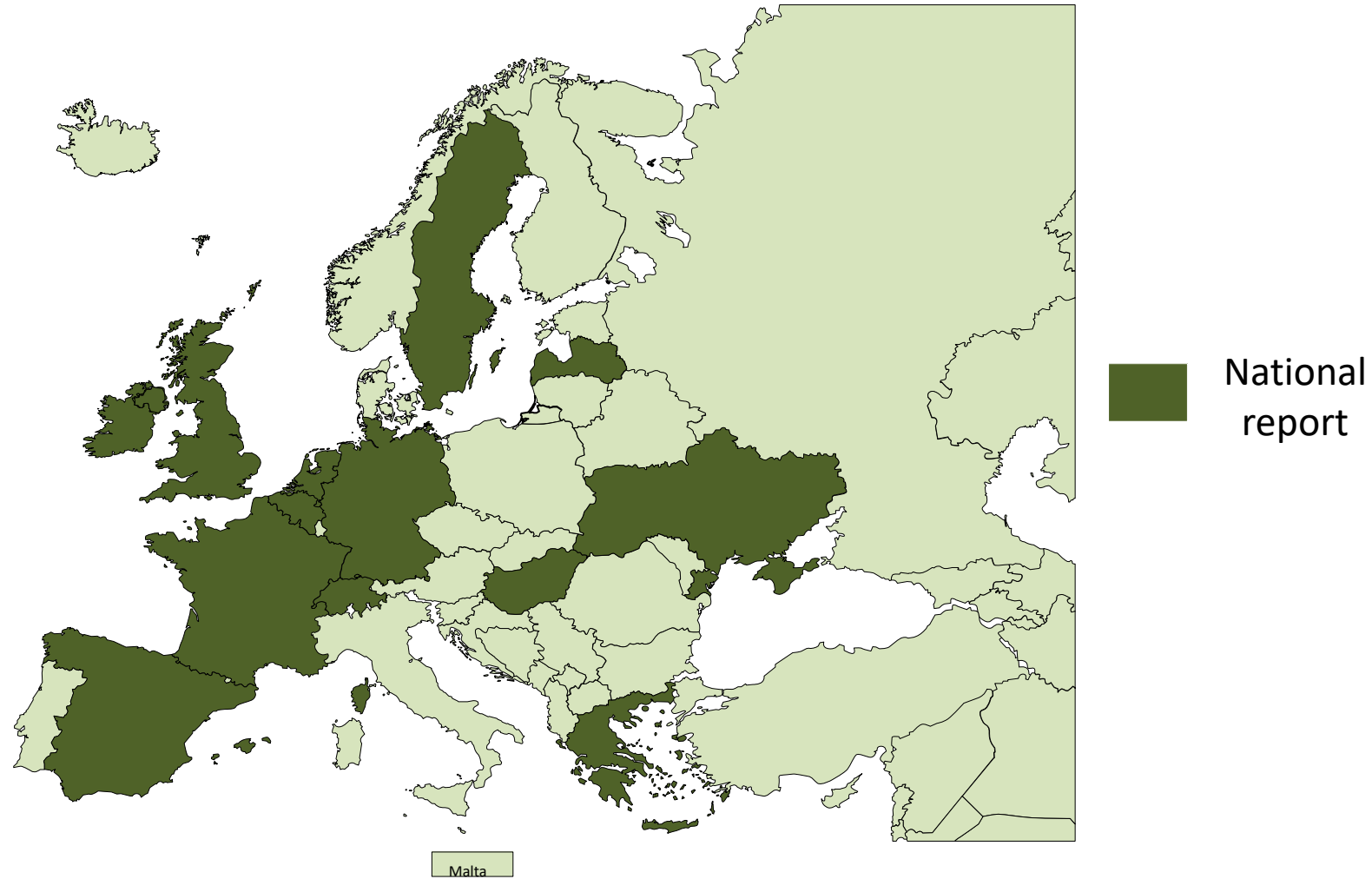


National Reports

20. April 2023, Virtual meeting

Prepared by Tamás Palya,
vice-chair of QKEN

15 National reports from 13 countries



National Geographic Institute, Belgium From November 2022 to April 2023

Production challenge

- Increasing timeliness of the data with the same resources

Provisional solution

- More resources on updating reference dataset 1:10k
- Production cycles → prioritization of updates
 - Systematic updates for small zones
 - Targeted thematic updates for larger zones
 - The above are client based
- Improved automated generalisation processes
- Quality control integrated in the production processes

National Geographic Institute, Belgium From November 2022 to April 2023

Ongoing project: quality control in 3 levels

- **Level 1: QC of indispensable tests, included in the production process**
- **Level 2: QC of important tests, included in the production process**
- **Level 3: Continuous Quality assessment of our reference data set**

Ongoing project: use of external sources

- **Analysing data from external sources**
- **Integration in our reference dataset**
- **For improving quality control activities**

National Geographic Institute, Belgium From November 2022 to April 2023

Looking into new technologies (Deep learning, visual dashboards, ea)

- No news

Determining quality requirements of our main clients

- Challenging future project

National Geographic Institute, Belgium From November 2022 to April 2023

Working on a Quality Management System

- Aeronautical products (ICAO legislation) : ISO 9001:2015 certified



National Geographic Institute, Belgium From November 2022 to April 2023

No news

National Geographic Institute, Belgium From November 2022 to April 2023

Most of our projects are in an immature phase

NGI, France

From november 2022 to april 2023

- News concerning Data Quality

- aerial orthophotography :

On-going test to produce a true orthophotography on a zone (7000km²).

Aerial acquisitions in 2023 : tests of different overlaps for 2023 (60/55, 80/55, 80/30, 60/45, 80/45). Aim at producing others zones in true orthophotography and increase the quality of the DSM.

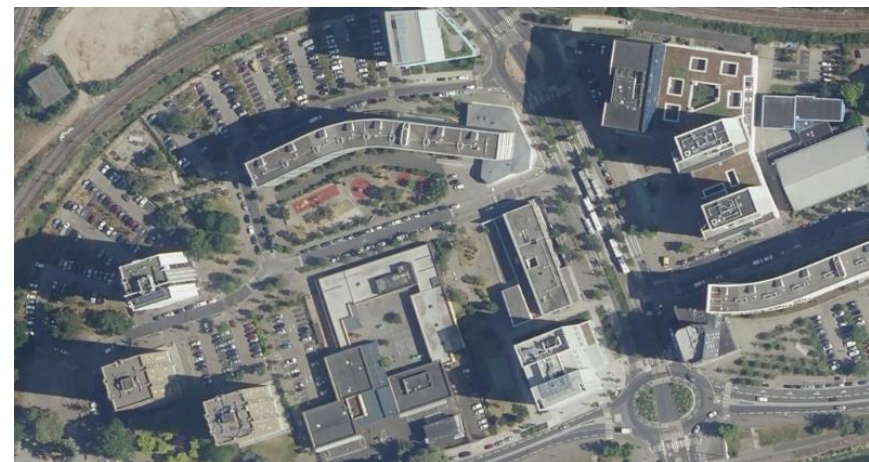
Question : shall we keep 2 products ? One with slopes, one without.

- Pléiades Néo :

- We are testing the images (RGB IR) in our production line. The aim is to be able to mix aerial and PNéo ortho if needed.



True ortho (test)



« classic » ortho

NGI, France

From november 2022 to april 2023

- News concerning Data Quality

- Land cover / Land Use :

The Challenge Flair 1 is finished. We have to merge these results in our workflow. An industrial asked for our data to use them for european landcover.

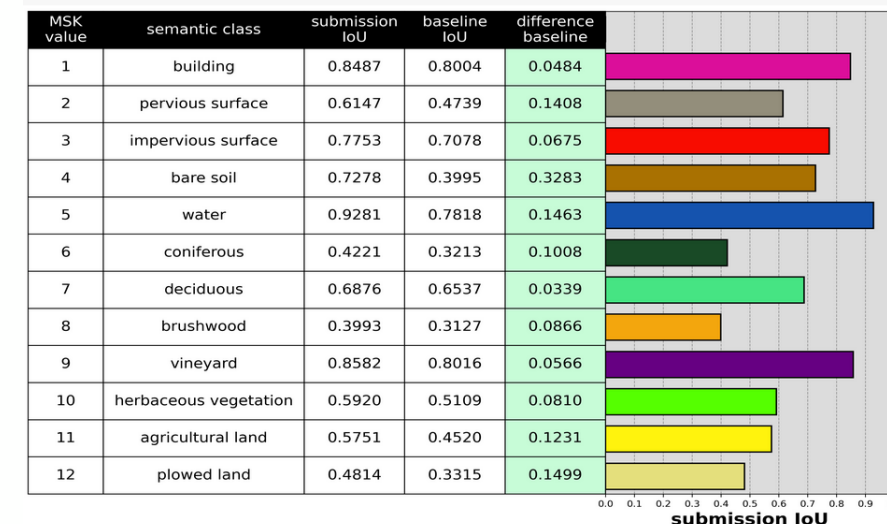
Returns from local administration (5 french departements) :

Overall good :

- Very few about land cover : at most 50.
- A few hundreds per administrative zone about land use.

Good data quality from our production line for the land cover.

Detailed per-class results of the submission:



« classic » ortho

NGI, France

From november 2022 to april 2023

- News concerning quality management
 - Open governance : which subject ? For the moment, discussions by thematics (hydrography, roads and buildings ...)
 - Questions about BD France : labeling / certification / qualification of collaborative data
Product specifications => quality and control.

NGI, France

From november 2022 to april 2023

- Any other news that would be of interest for Q-KEN?
 - no.
 -

BKG, Germany

From November 2022 to April 2023

- News concerning Data Quality
 - none

BKG, Germany

From November 2022 to April 2023

- News concerning Data Quality Management
 - Raster data management system – project: 1st phase finished.
 - Recommendations for actions delivered by the consultants are now internally reviewed
 - Still lots of questions regarding technology stack, roles of people involved and (cloud)-storage possibilities
- DTM & DSM
 - Moving completely from las/laz/xyz to GEOTIFF, workflows are expected to be more streamlined with just one file format

Tabelle 4: RACI*-Tabelle – Beispiel: Best Practice Data Management

	Daten Manager	Data Produzenten/Owner	Fachdatenmanager	Daten Komitee	Datenarchitekt/ Technischer Berater
Data Management Komitee	R, A	I	C		
Koordination und Kontrolle von Data Governance Aktivitäten	R			C	
Fachliche Anforderungen an Daten formulieren		R	C		
Freigabe von Daten	I	R1, A	R2		
Praktische Umsetzung von Data Governance Aktivitäten	A	I	R	C, I	
Datenqualitätsmanagement	C	A	R	I	C
Klassifizierung der Daten	C	I	R	C, I	C
Metadatenmanagement	C	I	R	C, I	C
Formulierung von datenbezogenen Regeln	C	A	C	R	C
Datenkatalog	C	A	R	I	C
Data Lineage-Konzept	C	A	R	C, I	C
Besetzung der Rolle Fachdatenmanager	C	R, A	I		
Onboarding von Daten Produzenten	R, A	I			
Multiplikation Prozesse und Verantwortlichkeiten	R	I	I		I

R= Responsible; A= Accountable; C= Consulted; I= Informed

Zahl= Hierarchie

Ordnance Survey, Great Britain From December 2022 to April 2023

- **News concerning Data Quality**
 - The complexities involved with collecting more data from both internal and external sources through new delivery mechanisms has continued to challenge the teams in maintaining data quality. The first new deliverables around road speeds and road widths have now been released
 - Use cases are continuing to get greater focus at OS and we are starting to look at how well our data meets them and how we can measure success against them. This is a longer term initiative.

Ordnance Survey, Great Britain From December 2022 to April 2023

- **News concerning quality management**
 - We now have better focus on managing the data issues that have arisen.
 - The new quality working group is looking at how we report quality to senior management
 - OS is involved in the creation of ISO 19157 Part 3

Ordnance Survey, Great Britain From December 2022 to April 2023

- Any other news that would be of interest for Q-KEN?
 - The new Data Strategy is ongoing but has been delayed due to the need to secure resources for 23-24
 - A new data programme has been initialised. We are hoping to get confirmation of the go ahead next month

Hellenic Cadastre, Greece

From November 2022 to April 2023

- Ongoing projects
 - Quality Control for all delivered data using the Hellenic Cadastre Quality Plan based on ISO 19157 (running 65 projects ~ 25,3 million property rights).

Hellenic Cadastre, Greece

From November 2022 to April 2023

- **News concerning quality management**
 - no news

Hellenic Cadastre, Greece

From November 2022 to April 2023

- Any other news that would be of interest for Q-KEN?
 - There has been a continuation of the activities that aim at updating of the basemaps of the country. This activity includes writing the Request for Proposal (RFP) documents and the corresponding Quality Control (QC) procedures for bidding on the creation of high-resolution digital elevation backgrounds for 50% of the country (approximately 70,000 km²) . For the collection of the primary data, airborne LiDAR technology will be used with the simultaneous capture of RGB images for the needs of classifying and controlling the elevation data.
 - Ongoing projects
 - Two (2) rounds of findings have been reported to the Service of Illegal Construction Auditors of the Ministry of Environment and Energy in the areas of NE Attica which have been struck by fires in the summer of 2009 (approximately 30.000 hectares).
 - Digitization of the analog file of Mortgage Registries
 - Development of new web services for citizens and professionals
 - Migration of the Mortgage offices into the Hellenic Cadastre

Hellenic Cadastre, Greece

From November 2022 to April 2023

- **Topic I can offer for next webinar**
 - An integrated environment for monitoring and documenting the Quality of 1:25,000 scale map composition for the country, utilizing cadastre data

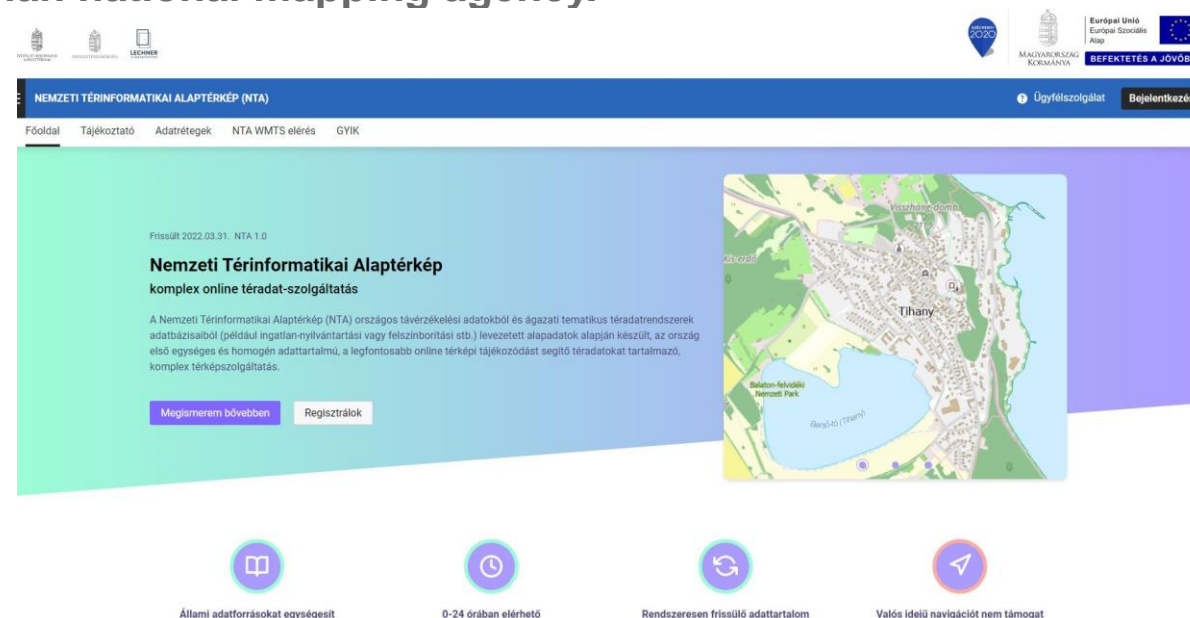
Lechner Non-profit Ltd, Hungary

From November 2022 to April 2023

- **News concerning Data Quality**
 - **Quality Control of the new national base map on the level of Hydro and transport network**
 - Using of orthophoto (year: 2022) for the validation. It is preparing for whole country.
- **News concerning Quality management**
 - There is no the continuation of general Quality management (according to ISO), but some departments have connection with IACS-LPIS, that needs ISO certificate. These departments have to be a quality assurance process.

Lechner Non-profit Ltd, Hungary From November 2022 to April 2023

- Any other news that would be of interest for Q-KEN?
 - New Organizational and operational rules from this year. The name of the geodesy sector is Land Management and Geodetic Directorate at the Lechner Non-profit Ltd (Hungarian Spatial planning Knowledge Center) . It is compliance the Hungarian national mapping agency.
 - The Hungarian National GIS Base Map (NTA) 2nd version entered into force
<https://nta.lechnerkozpont.hu/>



Tailte Éireann (formerly Ordnance Survey Ireland), Ireland From December 2022 to April 2023

- **News concerning Data Quality**
 - Focus on boundary positional accuracy improvements based on historical records (townlands, counties etc.)
 - Working closely with Central Statistics Office and Electoral Commission to ensure changes to statistical and election boundaries based on latest census results are accurate

Tailte Éireann (formerly Ordnance Survey Ireland), Ireland

From December 2022 to April 2023

- **News concerning quality management**
 - **Tender currently in progress for procurement of new Data Governance software**

Tailte Éireann (formerly Ordnance Survey Ireland), Ireland From December 2022 to April 2023

- Any other news that would be of interest for Q-KEN?
- Ordnance Survey Ireland has merged with Property Registration Authority and Valuation Office to form a new organisation called Tailte Éireann (which roughly translates as Lands Ireland). This civil service state body is funded by government and has a National Mapping division. One of the objectives is to ensure high quality authoritative geospatial data is used across government and made available to the public.

LGIA, Latvia

From November 2022 to April 2023

- **News concerning Data Quality**
 - **Continuous data quality maintenance for topographic maps in scale 1:2000 and 1:10 000**
 - **Ongoing validation of the first batch of LiDAR data for the 2nd cycle of LiDAR data coverage of Latvia. Current estimate shows that the new LiDAR data has a smaller percentage of incorrect files than the average of 1% for the 1st cycle**

LGIA, Latvia

From November 2022 to April 2023

- **News concerning quality management**
 - Continuous work on maintenance of the internal quality management system
 - The evaluation of potential risks for quality management system in 2023 has been completed

LGIA, Latvia

From November 2022 to April 2023

- Any other news that would be of interest for Q-KEN?
 - Work in progress to switch from current Latvian National Grid coordinate system LKS-92, which has been used for 30 years, to a new National Grid coordinate system LKS-20 (specified on 2020.04.12.)
 - Work in progress on automated and semi-automated creation of topographic map in scale 1:50 000 based on source data from topographic map in scale 1:10 000

State Land Service, Latvia

From November 2022 to April 2023

- **News concerning Data Quality**

- ☐ the boundaries of the 50 villages were specified according to the municipality data in the State Address Register
- ☐ the data on 900 address points in the spatial data of the State Address Register are specified according to the data of the Cadastral Map and orthophotomap
- ☐ about 2500 segments of administrative territories border were updated according to the Cadastral map
- ☐ the 25 state road were updated in the State Address Register according to the data provided by the Latvian State Roads

April 2023

- 3D program with multiple projects
 - True orthophoto's
 - 3D viewer
 - 3D tiles and OGC API
 - 3D documentation
 - 3D user interaction
 -

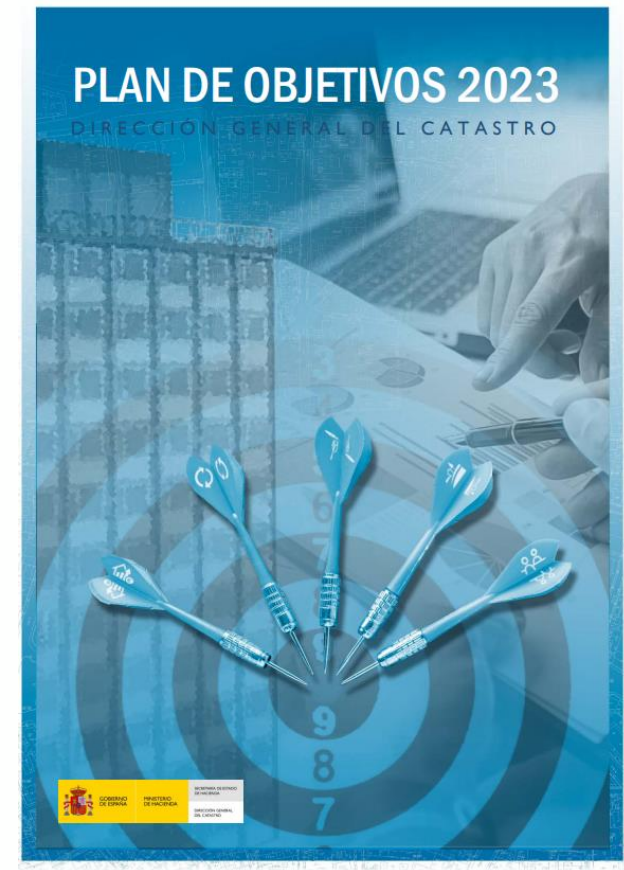


April 2023

- Continuing project: Renewal of our topographic products. Using data from other Key Registers to produce the Key Register Topography while maintaining the current high quality (project BRT.next)

General Directorate of Cadastre, Spain From November 2022 to April 2023

- News concerning Data Quality
 - Ongoing annual objectives work plan for 2023:
https://www.catastro.meh.es/documentos/Plan_de_objetivos_2023.pdf
 - Annual objectives plan based on KPIs
 - KPIs for quality → % of corrections made over a target amount
 - Publication of services compliance level about 2022 → pending
<https://www.catastro.meh.es/esp/cartaservicios.asp?var=menuleft1>
- Starting collaboration with INE (National Statistics Institute) related to addresses and census.



General Directorate of Cadastre, Spain From November 2022 to April 2023

- News concerning quality management
 - Improved internal report for some objectives

Reporte sobre indicadores de objetivos de direcciones Datos base

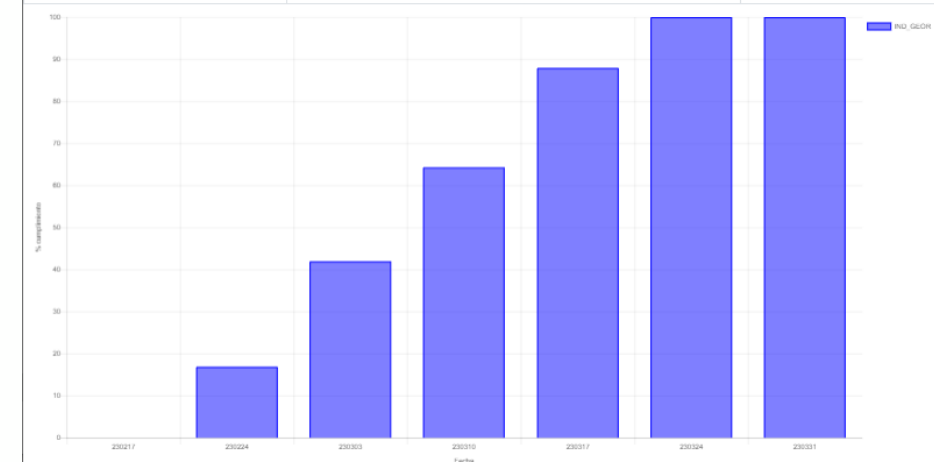
Gerencia: 28 Fecha: 31/03/23

Indicador Georreferenciación

Casos iniciales: 73615

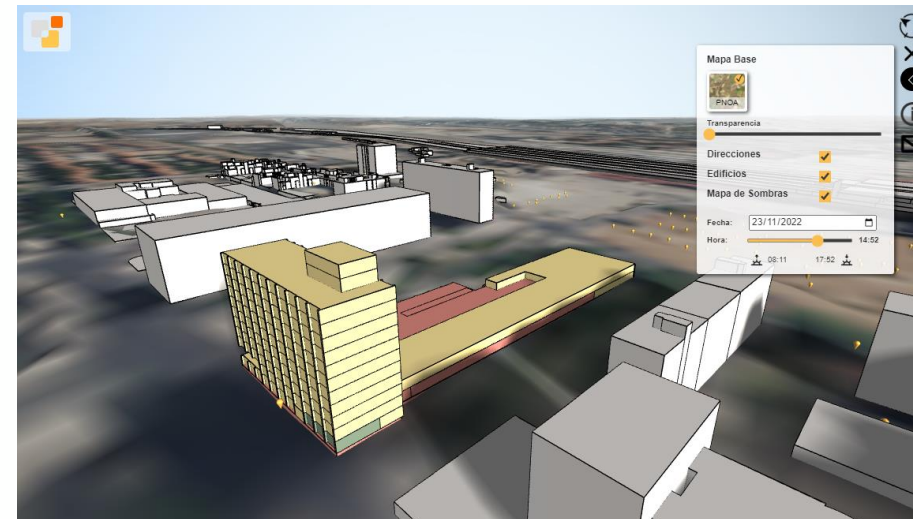
Cantidad de correcciones objetivo: 4173

Fecha	Casos actuales	Evolución	Indicador
230217	73615.0	0.0	0.0
230224	72910	705.0	16.89
230303	71865	1750.0	41.94
230310	70932	2683.0	64.29
230317	68946	3669.0	87.92
230324	68370	4245.0	100
230331	68171	5444.0	100



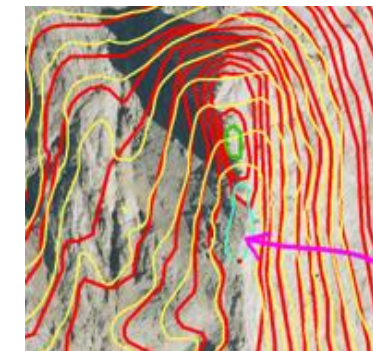
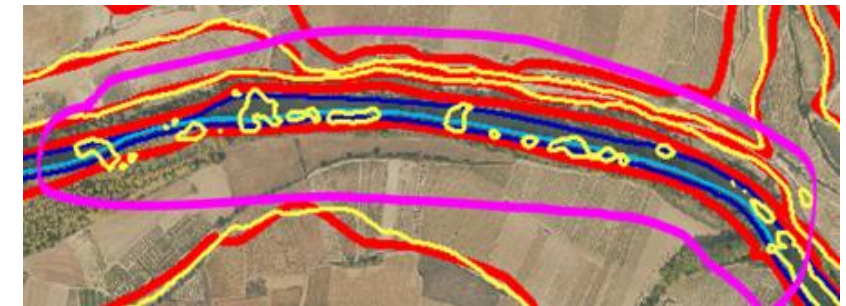
General Directorate of Cadastre, Spain From November 2022 to April 2023

- Any other news that would be of interest for Q-KEN?
- 3D Viewer → open to public
- Graphic identity certificate → service developed to check cadastral parcels geometry within a tolerance margin
https://www.catastro.minhap.es/ayuda/ayuda_identidad.htm



Instituto Geográfico Nacional (IGN), Spain From December 2022 to April 2023

- **News concerning Data Quality**
 - Sketching a pilot project to upgrade 1:25k contour lines from Lidar DTM
 - 1:25k current contour lines come from stereoscopic restitution
 - 😊 Readability (communicate landforms), coherence with other features (hydrography, elevation points...)
 - ☹ Out of date in some places, lack of accuracy
 - But, how to deal with Lidar errors (mainly classification errors) and excessive level of detail (-> how to generalize)
 - How to assess Lidar contour lines data quality
 - “Readability”
 - Consistency with other features
 - Gross errors due to misclassification
 - Similar experiences are welcome



Lantmäteriet NLS Sweden From November 2022 to April 2023

HMK - Handbook of Surveying and Mapping Issues

- Lantmäteriet has a national coordination responsibility for geodata
- Lantmäteriet provide support in surveying and mapping issues in form of digital documents (HMK)
- Support to municipalities
 - measuring methods
 - geodetic measuring
 - aerial photography
 - laser scanning
 - GNSS
 - procurement



<https://www.lantmateriet.se/en/geodata/handbook-of-measurement-and-map-issues-hmk/>

Lantmäteriet NLS Sweden From November 2022 to April 2023



Handbook for Digital Base Map

- recommendation for work with base maps to detailed development plans
- describe requirements to law and regulation
- provides information on standards for the design of digital base maps
- addresses both clients and executors and other actors in the detailed planning process
- associated web training: HMK: An orientation in digital base map

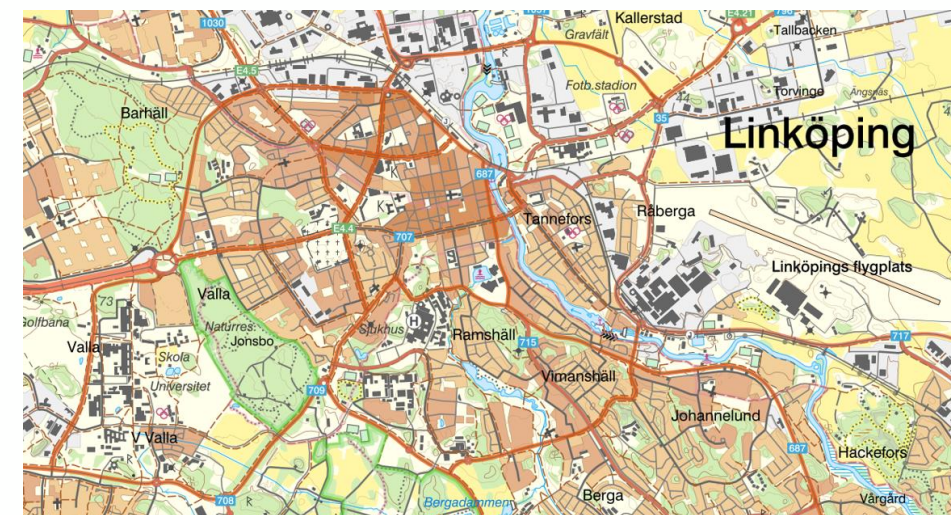
Lantmäteriet NLS Sweden From November 2022 to April 2023

News concerning Data Quality

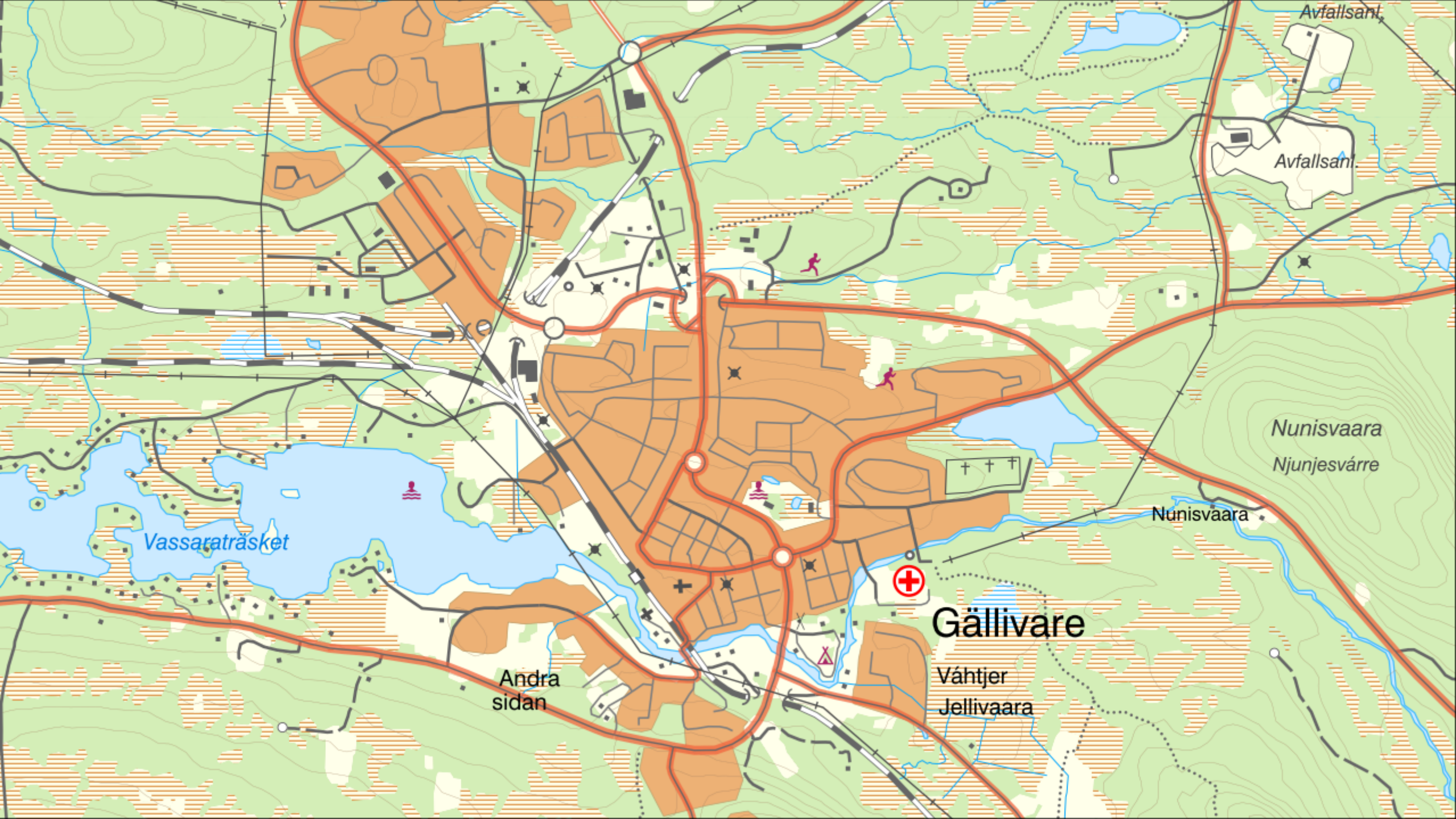
New products:

Topography 50 download, vector
Topography 100 download, vector

- First products that is produced by automatic generalisation of the basic data set
- Covering the whole country
- Harmonised data models
- Height curves, in 5 and 10 meters equidistance
- More attributes than in previous 1:50 000 and 1:100 000
- Open data license CC0
- Gällivare - example







Avfallsanl.

Nunisvaara
Njunjesvárre

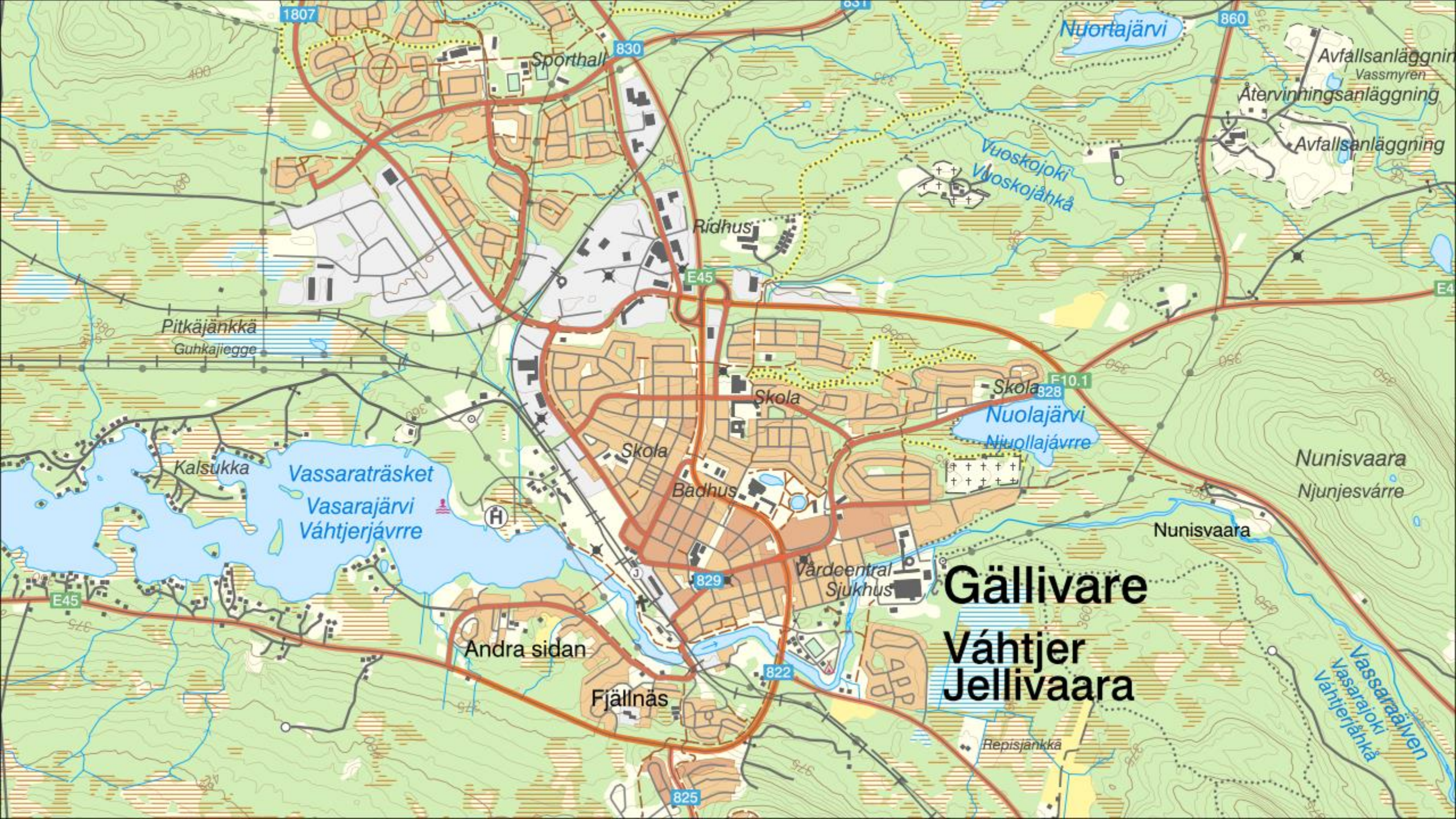
Nunisvaara

Gällivare

Váhtjer
Jellivaara

Andra
sidan

Vassaraträsket



Bundesamt für Landestopografie swisstopo , Switzerland

From 11 2022 to 04 2023

- Still improving PROSUITE QA
 -
 -

Bundesamt für Landestopografie swisstopo , Switzerland

From 11 2022 to 04 2023

- News concerning quality management
 - no news

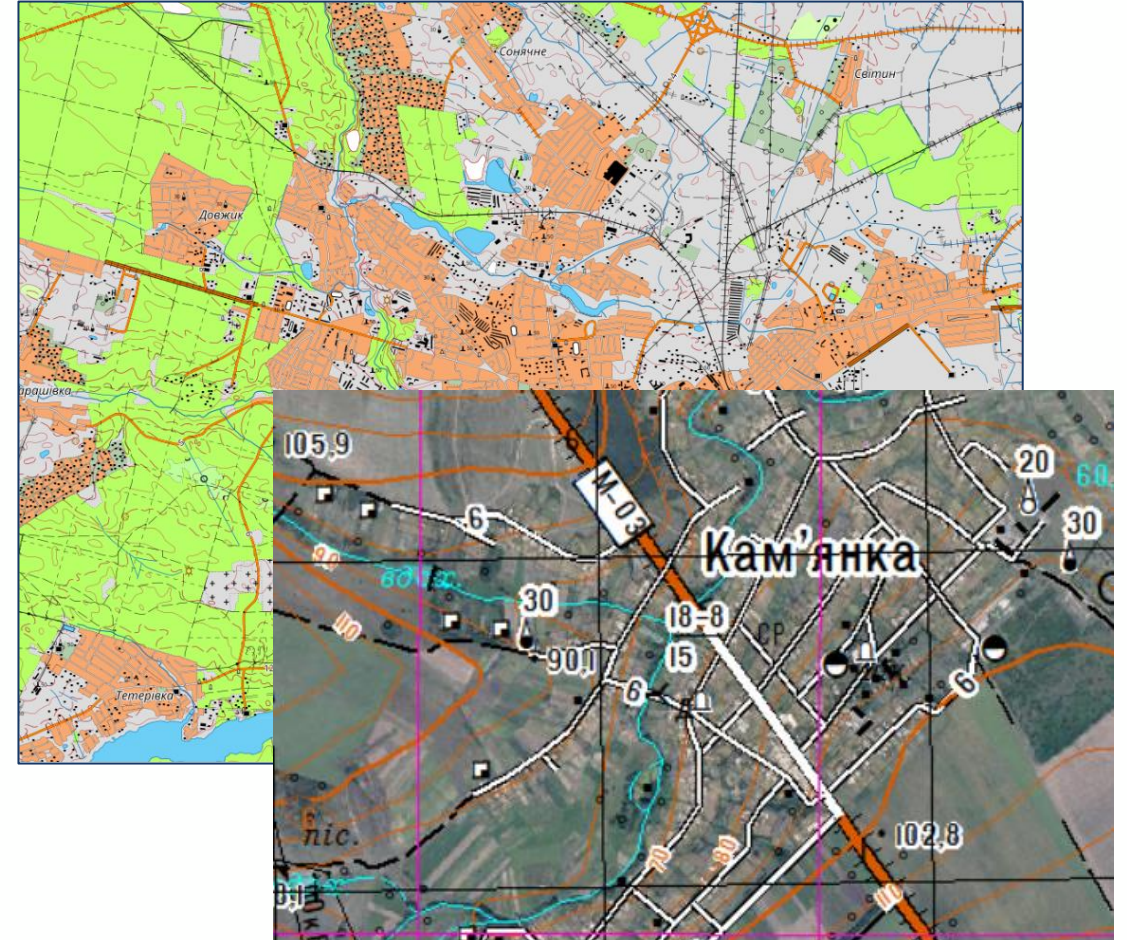
Bundesamt für Landestopografie swisstopo , Switzerland

From 11 2022 to 04 2023

- Any other news that would be of interest for Q-KEN?
 - no news
 -

SE 'Research Institute of Geodesy and Cartography' / Ukraine January 2022 – April 2023

1. The topographic database “**The Main State topographic map of Ukraine 1:50 000**” was created in January 2022.
2. **The War with Russia – the 24th of February, 2022.**
3. Along with the main requirements for the creation of geospatial data - Accurate, Authoritative, Assured, **the main requirement is added – Promptness providing data for Armed Forces of Ukraine (>8800 maps).**
4. **The Main State topographic map of Ukraine 1:50 000** fully provided the needs of the military for the performance of combat tasks, demining territories and defense planning.
5. High demand for **hybrid maps (ortho + topography)**
6. In the military topography mapping: the process of transition **to WGS-84 and UTM** in accordance **with NATO requirements is ongoing.**



ORTHO + TOPO

SE 'Research Institute of Geodesy and Cartography', Ukraine From January 2022 to April 2023

- **Data Quality in the state topography mapping (1:10 000 – 1:1 000 000)**
 - **Implemented ISO 19157 in the quality control** of updated digital topographic maps of the scale 1:50 000 and the topographic database of the scale 1:50 000, more detailed: <https://v.gd/6OAgo2>.
 - **Taking into account data quality control** of created digital topographic maps of the scale 1:10 000 and the topographic database of the scale 1:10 000 (in the process).
 - Performance of data quality control in **two stages**, before uploading into TDB and after uploading into TDB.
- **Data Quality in the local topography mapping (1:500 – 1:5 000)**
 - Most administrative centers have developed **semi-automated data quality control tools**.
 - Domestic GIS developers have also developed their own **data quality control tools**.
- **Data Quality in the urban planning, energy, transport infrastructure etc.**
 - **The transition from paper to digital format is completed.**
 - **The transition from the CAD environment to GIS is actively underway**, as designers will receive data that supports the GIS environment.
 - **The government has clearly established requirements for geospatial data, metadata and specifications.**

SE 'Research Institute of Geodesy and Cartography', Ukraine

From January 2022 to April 2023

- **Quality management system in the state topography mapping (1:50 000)**
 - Data quality control is performed in a semi-automated mode.
 - The Commission accepts the work and establishes compliance with requirements by means of decisions in the protocols.
- **Quality management system in the state topography mapping (1:10 000)**
 - It is planned to use a similar model.
 - But **quality control - as a separate type of work** will be performed by independent organizations **for the StateGeocadastre**, and not for the data producer.
- **Quality management system in the local topography mapping (1:500 – 1:5 000)**
 - **Data quality control is carried out by local services that approve the results of works** (department of architecture and urban planning, communal services of heat, water, gas supply).
 - **This system is not unified and standard for the entire territory of Ukraine.**

SE ‘Research Institute of Geodesy and Cartography’, Ukraine From January 2023 to May 2023

1. With the support of the program USAID AGRO a training course for authorities is ongoing:

One of the lecture’s topics "**Requirements for the quality of geospatial data**", they will consider the following questions:

- definition and content of the quality category of geospatial datasets;
- unification of elements and quality measures of geospatial data in accordance with ISO 19157;
- the method of determining the list of elements and quality measures for thematic geospatial datasets ;
- experience in developing requirements for the quality of geospatial data for the topographic database and thematic data in the INSPIRE specifications;
- methodology and scheme of the quality assessment process of geospatial datasets.

2. The government forces data producers and holders to raise the level of data quality in order to integrate as easily as possible into the pan-European SDI.

SE 'Research Institute of Geodesy and Cartography', Ukraine From January 2023 to May 2023

- Topic we can offer for next webinar
 - Topography monitoring system (1:500 – 1:10 000 – 1:50 000) in practise
 - The requirements of geospatial data and services for the Digital Twin

Proposals for presentations at next plenary/webinar

Subject	Organisation
Quality of 1:25,000 scale map composition	Hellenic Cadastre, Greece
Graphic identity tool	Cadastre, Spain
Topography monitoring system (1:500 – 1:10 000 – 1:50 000) in practise	SE, Ukraine
3D modelling on the web	Planning Authority, Malta



Thank you for your work!

