Implementation of the new role of national statistical offices at the time of expanded possibilities

Mart Mägi
Director General
Statistics Estonia

EESTI STATISTIKA

Emerging new roles

- **The objective is to identify opportunities and address the challenges** regarding the development of national data ecosystems

- Data ecosystems typically comprise many types of data: statistical, administrative, **geospatial** and other new sources including big data

- Data ecosystems are driven by new possibilities for linking these diverse data sources to **create valuable information assets for policy makers and the general public**

- Strategic questions were raised in a UNECE paper for the 67th plenary session in Paris, 26–28 June 2019

- Main questions today

1. What strategic partnerships are needed?

2. How to maintain high trust in delivering quick insights to changes in society?

3. Could we identify any areas where the two communities can work together for mutual benefit?

EESTI STATISTIKA

Possible common considerations

NSOs have a lot to offer to potential partners: strict principles, transparency and quality. NSOs have to preserve these and other strengths resulting from Fundamental Principles of Official Statistics to remain trustworthy.

It is time to start discussions within the national governments in order to establish a legal system enabling (*better)* use of data. We should promote the benefits of following the Conference of European Statisticians' "Guidance on modernizing statistical legislation", particularly regarding:

- Open data, linked open data and official statistics;

- Data exchange among Producers of Official Statistics;

- Evolving population and housing census and the legal aspects;

- Collaboration with Central Banks;

- **Integrating geospatial data and statistics;**

- Collaboration with different data providers

- Statistical offices and government data management

EESTI STATISTIKA

Consideration 1, UNECE Paper ECE/CES/2020/10 at 68th plenary session

Integration Case (1): climate change / disasters

Problem: How to save lives in flood areas

Similarly to many countries, Estonia has linked different administrative data sources with geospatial data to identify flood areas. The work done together with National Land Board supports local municipalities to set up proper rescue and constituency plans.

Integrating such data is benefitial for most public services – for setting up local transport, hospitals, schools, etc.
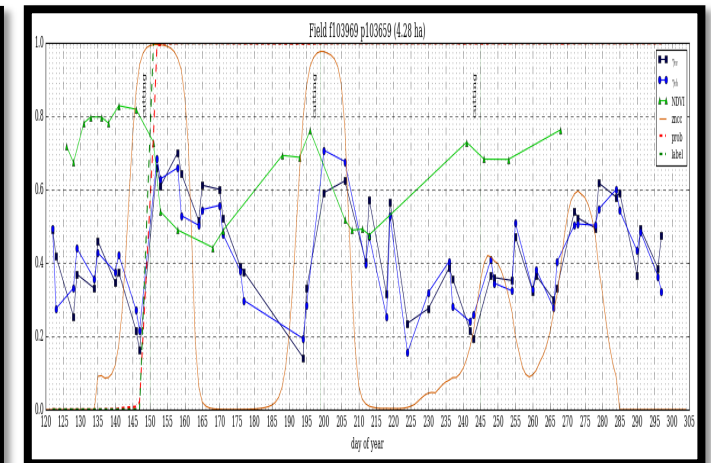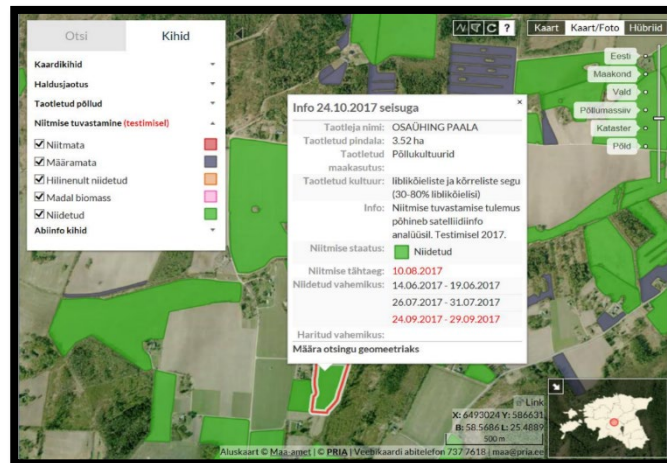

EESTI
STATISTIKA
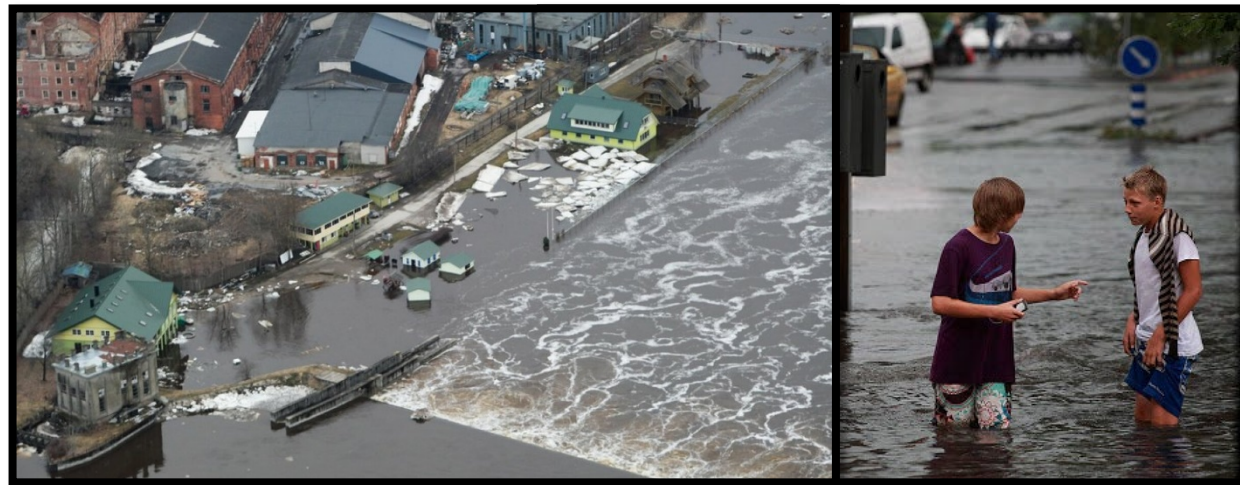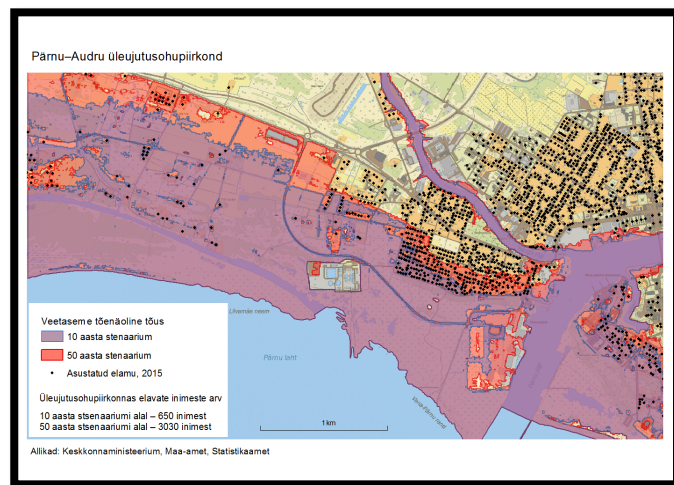
Integration Case (2): economic / agriculture

Problem: How to measure growing forest in GDP calculations

Estonia has developed a system called SATIKAS, which processes data from Sentinel 1 and 2. It already produces time series for every grass or wheat field, from which changes are recognised based on machine learning. A new study is starting on how to use the same data for changes in forests for measuring GDP.

The data are highly beneficial for agricultural and economic statistics and decision making.

Integration Case (3): pandemic / saving lives

Problem: How to support the fight against viruses

Estonia has developed mobility analysis based on mobile and geospatial data to follow up and support decision making for lock-down rules during COVID-19.

Integrating such data is highly beneficial for sustainable development, disaster, turism, migration, mobility, etc. statistics.

% of sedentary mobile phones (lighter is more sendentary), polygon level

EESTI
STATISTIKA

NSS, GGIM and EU INSPIRE directive

- Portugal has identified five themes listed under EU INSPIRE directive from the total 34 in which the linkage between statistical and spatial data is most substantial. These are: (1) Geographical Names, (2) Addresses, (3) Statistical Units, (4) Buildings, (5) Population Distribution

- In addition, we identified nine themes handling data sets, which might be useful in the production of official statistics. These are: Administrative Units, Cadastral Parcels, Transport Networks, Orthoimagery, Utility and Government Services, Environmental Monitoring Facilities, Production and Industrial Facilities, Agricultural and Aquaculture Facilities, Area Management/Restriction/Regulation Zones and Reporting Units

- All these themes have parts which are important for reusing geospatial data in the production of official statistics. Those parts are:
  - Reference systems
  - Data quality
  - Dataset-level metadata

EESTI STATISTIKA

Emerging roles for turning data into information

Data GOVERNANCE

DATA

INFORMATION

GATHER

Definition
Cataloguing
Acquisition
Inter-operability
Linking

GUARD

Ethics
Rights
Security
Protection
Confidentiality

GROW

Analysis
Virtualisation
Creation of algorithms
Updating registers
Lifecycle management

GIVE

Dissemination
Visualisation
Open data
Creation of APIs

Metadata and common standards

Data protection and quality guidelines

EESTI
STATISTIKA

Conclusion

- Data ecosystems are driven by new possibilities for inter-operability and linking diverse data sources (geospatial, statistical, etc.) to create valuable information assets for policy makers and the general public

- Major joint efforts are expected in information sharing and data governance, incl. mutual standards, protection and quality guidelines

- Close co-operation will accelerate better use of public data to increase the well-being of citizens and for sustainable growth

EESTI STATISTIKA

Thank you!

Mart Mägi

Director General

Statistics Estonia

**EESTI
STATISTIKA**