



REPUBLIC OF ESTONIA
LAND BOARD

Cadastral services and virtual office in e-Cadastre

Priit Kuus
Estonian Land Board

October 26, 2016 Coimbra



REPUBLIC OF ESTONIA
LAND BOARD

Scope of data

Cadastral parcels (as of September 2016)

- ✓ **674 383 cadastral parcels**, i.e. **97,7 %** of Estonian land is registered in the cadastre
- ✓ Over **697 000 items** in the cadastral archive – of them about 2/3 are partially scanned

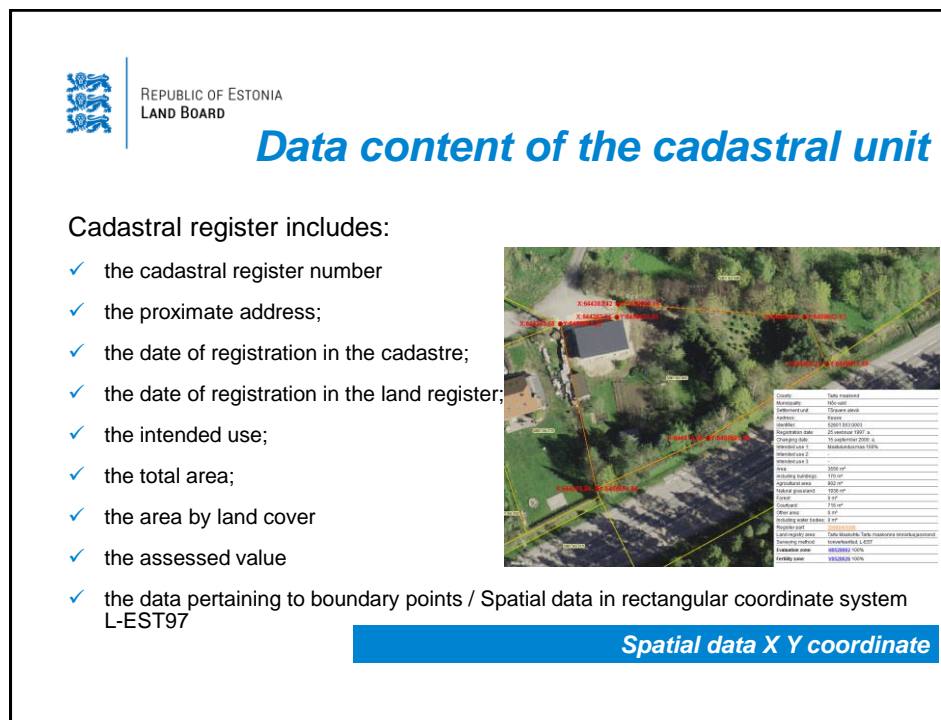
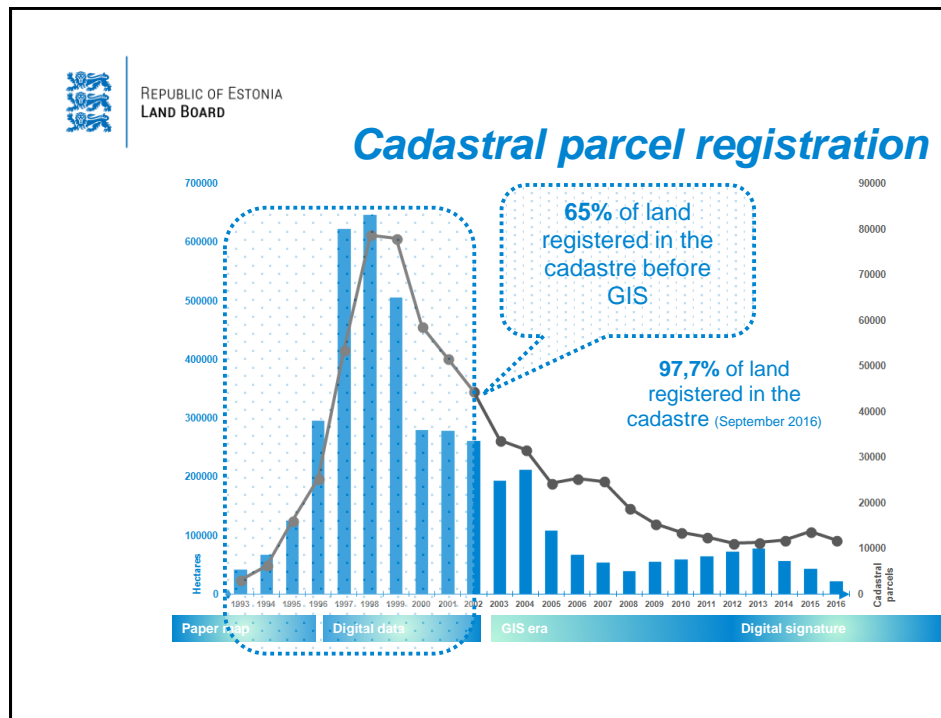
Objects causing restrictions and zones of restrictions

- ✓ Over **63 000 km² of area objects** (e.g. protected area, mineral deposit, etc)
- ✓ Over **164 000 km of line objects** (e.g. lines, roads, etc)
- ✓ Over **123 000 of point objects** (e.g. single objects of nature or heritage conservation)

Administrative boundaries

15 County; **213** Municipality; **4671** Settlement area

Estonian Republic
Area: 45 227 km²



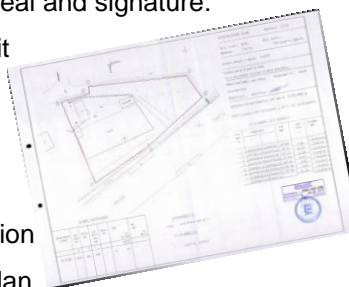


REPUBLIC OF ESTONIA
LAND BOARD

Cadastral documents

Every person can apply an official document from cadastral archive.

- ✓ These documents are certified by the seal and signature:
- ✓ A statement of registration of a land unit
- ✓ A copy of a cadastre plan
- ✓ A printout of cadastral map



Charges are:

- ✓ 4 € per page of a statement of registration
- ✓ 6 € per A3-format page of a cadastre plan
- ✓ 25 € A2 – 30€ A0 of a printout cadastral map

Issue of paper documents!



REPUBLIC OF ESTONIA
LAND BOARD

Cadastral data services

An application can be fulfilled in Estonian Land Board's geoportal.

- ✓ ESRI Mapping Software Shape File SHP
- ✓ MapInfo Table TAB, MAP, ID, DAT
- ✓ MicroStation DGN

Year 2015:
1058 requests
Up to 13000 €

Average cost 3100 units
100 €

Fee is calculated:

- ✓ 7 € in the case of up to 50 cadastral units and an additional 0.01 € per each cadastral unit
- ✓ 8 € in the case of more than 50 cadastral units and an additional 0.03 € per each cadastral unit

Ordering a vector format data!



REPUBLIC OF ESTONIA
LAND BOARD

Cadastral data services

Signed license policy and contract of using data by authorities of government or local municipality

Public servants can log in using **identity card** there they can access data in three basic formats:

- ✓ ESRI Mapping Software Shape File SHP
- ✓ MapInfo Table TAB, MAP, ID, DAT
- ✓ MicroStation DGN



Download service for public institutions!



REPUBLIC OF ESTONIA
LAND BOARD

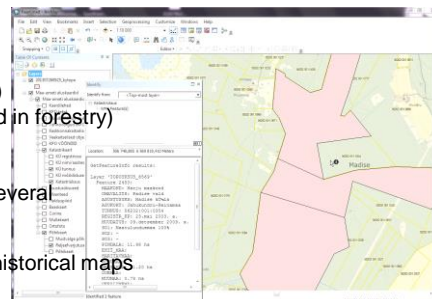
Cadastral data services

Depending of the data, there are couple of URL-s

<http://kaart.maaamet.ee/wms/alus?>

Cadastral data
Administrative and Settlement Division
Restrictions
Estonian Basic Map (color and monochrome)
Orthophotos (including NGR photo layer used in forestry)
Soil Map
Corine land cover
<http://kaart.maaamet.ee/wms/fotokaart?> several
orthophoto issues layers

<http://kaart.maaamet.ee/wms/ajalooline?> historical maps
layers



Web Map Services



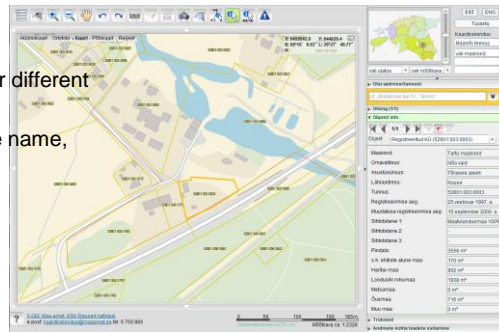
REPUBLIC OF ESTONIA
LAND BOARD

Cadastral data services

Estonian Land Board's Geoportal <http://geoportaal.maaamet.ee/eng/>

There are several Map Applications

- ✓ The user can choose between four different types of background maps
- ✓ Queries by parcel identifier, village name, land register unit number...

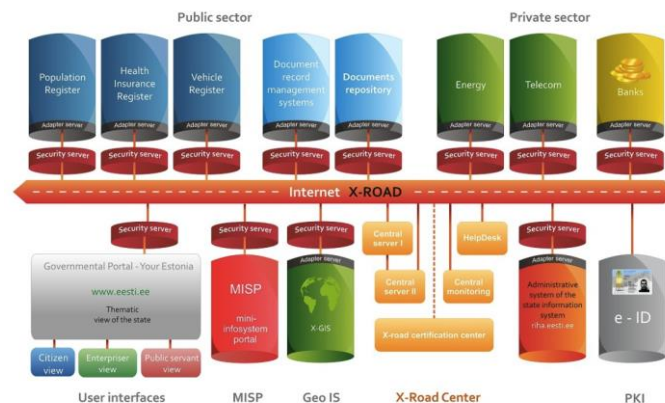


Provided web map applications



REPUBLIC OF ESTONIA
LAND BOARD

Estonian data exchange layer



X-ROAD: <https://www.ria.ee/en/x-road.html>



REPUBLIC OF ESTONIA
LAND BOARD

Cadastral data services on X-Road

These are X-Road services for public servants and entrepreneurs (XML)

List of the services:

- ✓ Cadastral unit query – data flow and browser interface
- ✓ Cadastral unit changes query – only data flow
- ✓ Administrative unit query - only data flow
- ✓ Administrative unit changes query - only data flow
- ✓ Cadastral unit restrictions query - data flow and browser

[illegible]

Estonian data exchange layer X-Road



REPUBLIC OF ESTONIA
LAND BOARD

Cadastral data and open data

Open data legal grounds: Public Information Act

- ✓ **Access to databases :** The data processed by a database shall be accessible to the public unless access thereto is restricted by or on the basis of law
- ✓ **Obligation of holder of information to disclose information:** all data contained in databases, access to which is not restricted
- ✓ **Manners of disclosure of information:** in an up-to-date version and in a manner and format which allows to download the open data of database as a full set of data together with metadata in a machine-readable and open format



<https://opendata.riik.ee>



REPUBLIC OF ESTONIA
LAND BOARD

e-Cadastre software development

- ✓ In **October 2012** public procurement was declared to buy software development for electronic land cadaster and digital cadaster archive
- ✓ The public procurement won by Estonian IT company **Datel** www.datel.ee
- ✓ At the **beginning of 2013** the development process started



Objective: paper-free proceedings and cadastral data integration to other state GIS



REPUBLIC OF ESTONIA
LAND BOARD

e-Cadastre functional specifications

- ✓ Managing cadastral data must be used **open-sourced expandable software** based on baseline security system (Estonian ISKE standard)
- ✓ Identifying clients based on **ID-card** or **Mobile-ID** and able to store digital signatures
- ✓ All cadastral procedures are **paper-free** and based on digital files
- ✓ Ready for **3D** spatial data storing and representation
- ✓ Digital archive are able to store full cycles digital life of **electronic documents**

User friendly and customizable settings



REPUBLIC OF ESTONIA
LAND BOARD

e-Cadastre workbench

- ✓ **Virtual office**, created for surveyors to manage their surveying files and submit a data to the cadaster
- ✓ **Procedure module**, created for cadastral registrar to controlling received data and register cadastral proceedings
- ✓ **Map**, created for surveyors and cadastral registrar map proceedings
- ✓ **Digital archive**, created for managing all cadastral digital files
- ✓ **Statistical module**, created for managing cadastral data statistics and observing proceedings
- ✓ **Administration module**, created for managing user rights and software settings

All in one interface solution



REPUBLIC OF ESTONIA
LAND BOARD

Virtual office for surveyors

Surveyor can do the following procedures:

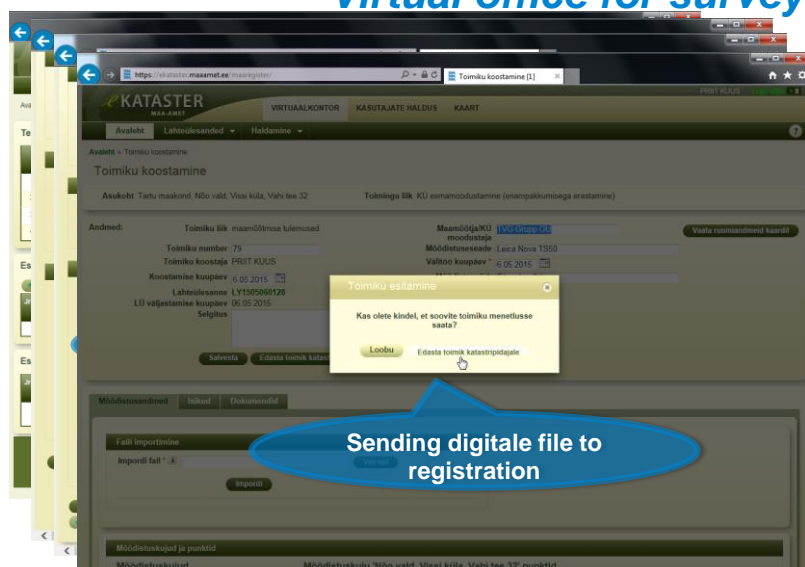
- ✓ Submit an application for the initial task of cadastral survey
- ✓ Keep in order the approved initial tasks and manage cadastral notifications
- ✓ Downloading cadastral data and cadastral file documents for survey
- ✓ Preparing cadastral file for cadastral parcel registration

Paper-free communication with the Cadastre



REPUBLIC OF ESTONIA
LAND BOARD

Virtual office for surveyors



REPUBLIC OF ESTONIA
LAND BOARD

Thank you!

Priit Kuus

priit.kuus@maaamet.ee

