



International seminar

# **„Digitization for land improvement activities and opportunities of the future. “**

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# State enterprise „State Land Fund“ activities :

1. renew and correct database Mel\_DR10LT;
2. link and digitalize (vectorise) the last plans of Lithuanian territory scanned at scale of 1:2000 with the LKS-94 coordination system;
3. correct and improve database Mel\_DR2LT;
4. State accounting;
5. Government inspection.

## **The aim of the first activity:**

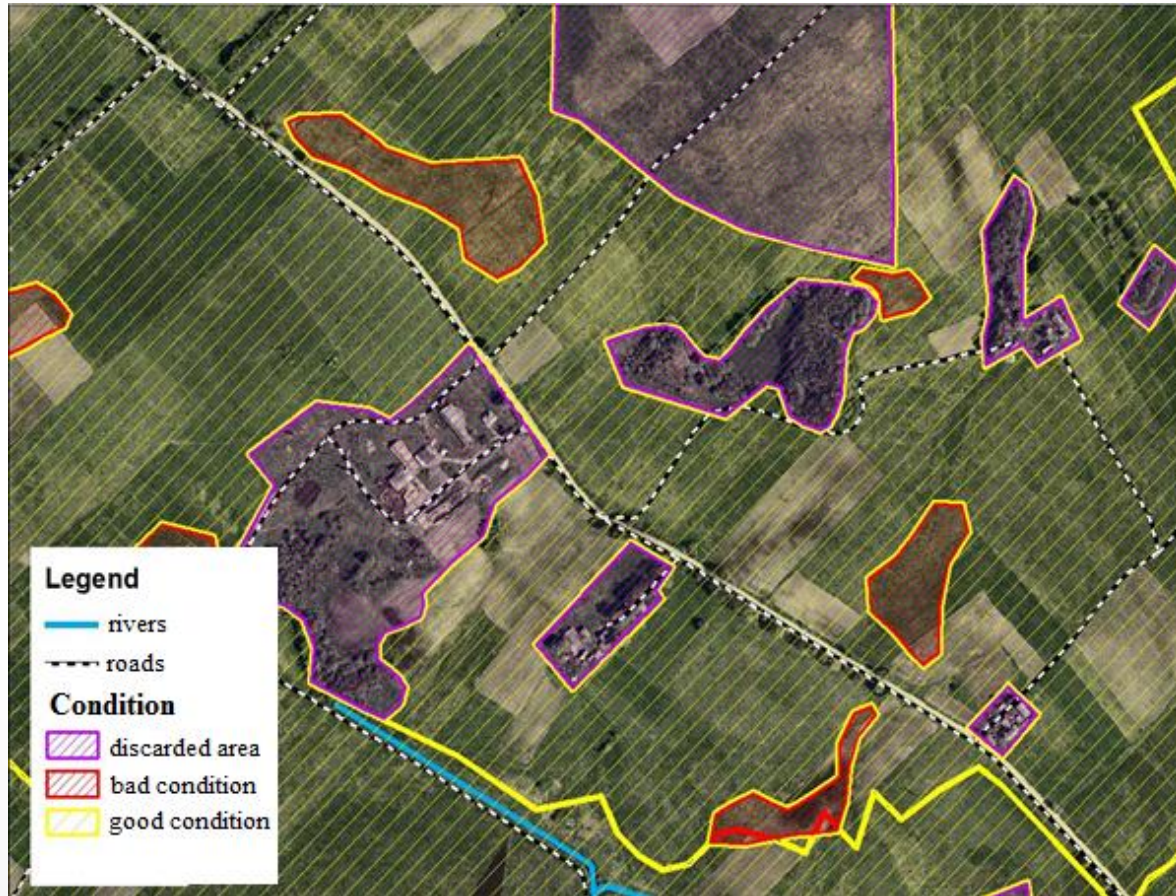
-renew and correct database Mel\_DR10LT, using the up-to-date information about the state of drained land. During last few year, the database was renewed for the whole territory of Lithuanian republic using the newest inventory data, including lost and not scanned plans, gathered from municipalities.

The reclamation property is managed using a principle of administrative unit. Lithuania consists of 57 administrative units – municipalities (1400 cadastral areas).



Region map of Lithuania

Every region, each year, provides us with data about the state of reclaimed land, which are placed to one database. At the end of every year we have all information about accomplished projects, their changes, increased or decreased areas.



Database Mel\_DR10LT



## The aim of the second activity:

-to link the plans of Lithuanian territory scanned at scale of 1:2000 with the LKS-94 coordination system, creating separate database – MelDR2LT.

From the 1st of January 2018, municipalities shared a lot of missing plans of scale 1:2000 and our goal was to link and digitalize missing plans.



Missing Plan linked with LKS-94 coordination system



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## **The aim of the third activity**

-is correct and improve database Mel\_DR2LT.

Recently used database of reclaimed lands is not very precise, as it was created in 2006 by scanning cadastral areas at the scale of 1:10000 and marking the borders of reclaimed areas. All reclamation plans are of scale 1:2000, therefore database MelDR2LT was created.



# Beginning of Mel\_DR2LT



The first scanned and linked plan was digitalized by Lithuania's agricultural university scientists in 1999 year, using software „Geovectra“.

Scanned and linked Reclamation project

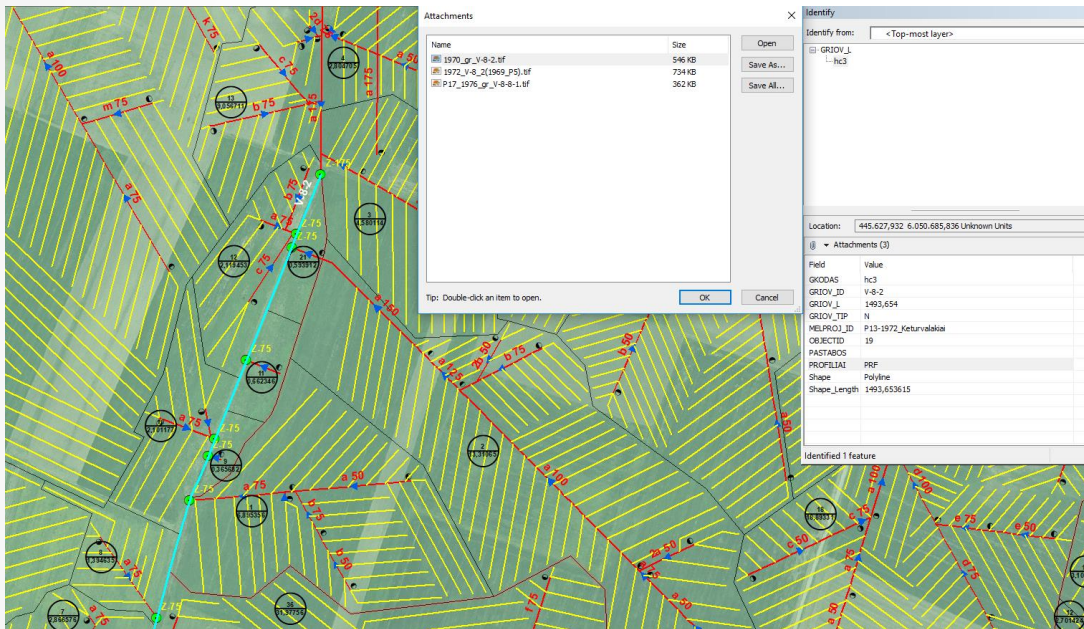
# Mel\_DR2LT structure

- SAUSINTUVAI\_L – drain pipes;
- HDRST\_T – hydraulic elements, points;
- HDRST\_L – hydraulic elements, lines;
- RINKT\_L – drain collectors;
- TILTAI\_L – bridges;
- GRIOV\_L – ditches;
- DREN\_P – drain system limits;
- MELPROJ\_P – reclamation project limit;
- POLDERIAI\_P – polder limit;
- PYLM\_L – pourings;
- TVENKINIAI – ponds.





# Whats new



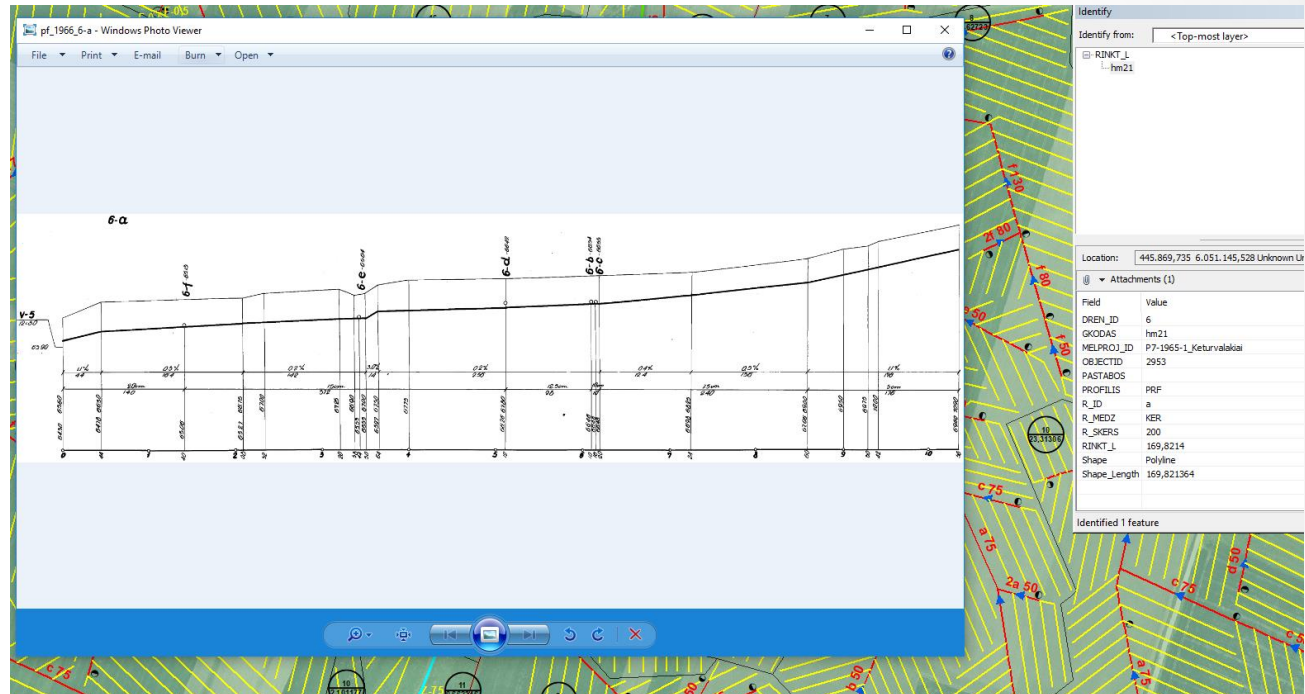
- In 2016 RINKT\_L and GRIOV\_L layers structure was updated with „PROFILIAI“ field.
- Field „PROFILIAI“ contains image (.tif) data.
- This field lets the „viewer“ to see ditches and collectors length profiles by two simple clicks.

.tif data inside attributes



# Updated geodatabase

- Profile data is useful to drainage users to organize repair and reconstruction processes.



Drain collectors length profile

# Future perspectives

Our main goal is to create full and **accurate** geodatabase Mel\_DR2LT containing all land reclamation projects (more than 2,9 million ha) with all its hydraulic elements and all projection and installation data;

To publicize accurate geodatabase using Lithuania's „Land information system“ ŽIS;

Update Mel\_DR2LT geodatabase with accounting data.

# The main obstacles

To achieve accuracy, we must ensure that digitalization process is done by land reclamation and GIS specialists.

This „easy task“ is difficult because of self-government autonomy (municipalities) and public purchases law.



Lack of competent leads to common mistakes such as:

- [illegible]

In order to achieve accuracy in MelDR2LT „State land fund“ voluntarily checks data, that municipalities purchases from the contractors and gives advices how to edit and improve data before finishing.



The scope of the [www.geoportal.lt](http://www.geoportal.lt) (Lithuania's Land information system) is to make good conditions for centralized data provision among the data users. The shared data is provided and might be used by cadastral managers, data based systems, developers, municipal authorities, officers and others who create and use spatial data and metadata. The geoportal can be used to search, access, download and transform geographic data. Today Geoportal contains full data of MelDR10LT, scanned and linked reclamation projects.



**Thank you for your attention**

