

LAU KU ATBALSTA DIENESTS







Member State experience Latvia

Rural Support Service

LPIS workshop 2014 - Brussels, BE

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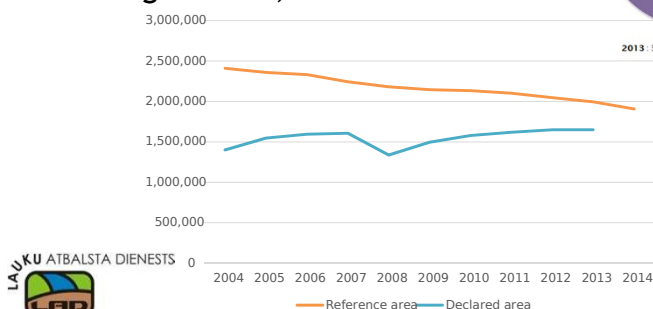
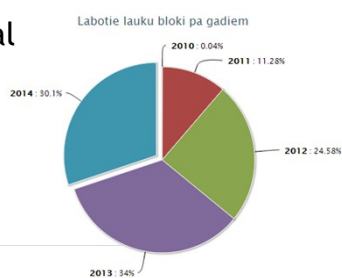
Basis of Latvian LPIS

- Physical block system
- LPIS production environment is based on ESRI ArcGIS 10 software products
- Spatial data are maintained in a central Oracle 11g database using ArcSDE connection
- Data backups are performed (once a week full data copy, daily incremental backup)
- For publication of data on the internet ArcGIS Server REST-driven applications are used
- Users have ArcGIS Desktop licenses (ArcInfo, ArcEditor and ArcView)
- Also special developed applications are used in ArcGIS Desktop environment for more convenient everyday work



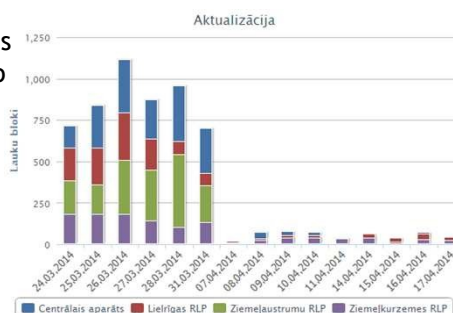
LPIS in figures 2014

- 263 754 reference parcels in total (194 692 active ones)
- Total area 1 906 988 ha
- Declared area 1 650 523 ha
- Average area 7,23 ha



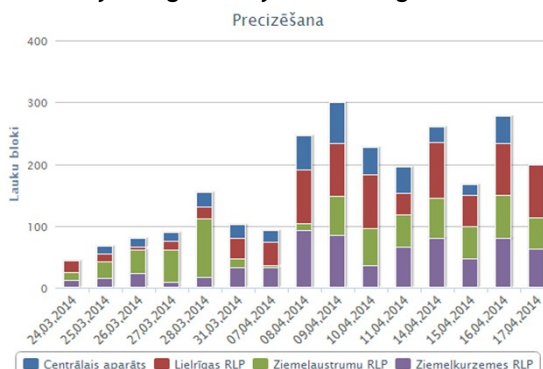
LPIS upkeep - RPs actualization

- Reference parcels actualization is based on new orthophoto maps and current very high resolution (VHR) satellite imagery
- Data update is continuous process throughout the year with a little break (~ 2 weeks) when the data are prepared for the new season and RP maps printed to clients
- Information about actualized RPs IACS read at the moment of map printing (freezed data) but for clarified and deleted RPs also during the season



LPIS upkeep - RPs clarification

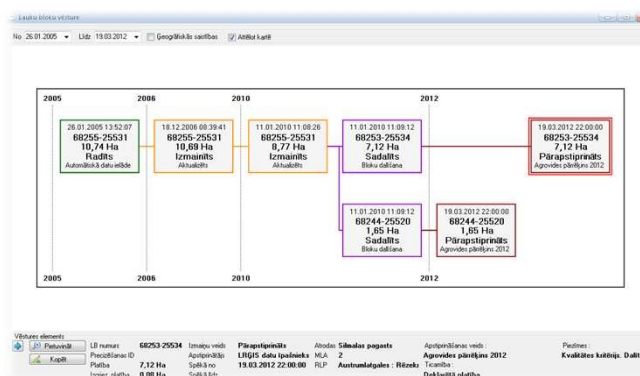
- Reference parcels clarification is performed upon the clarification request (CR) into RPs clarification process management system
- CRs can be initiated by clients, by on the spot (OTS) results or by visual inspection and administrative controls
- RPs clarification results are already being used by IACS during the current season



History layer of reference parcels

- Starting from year 2005 the history of reference parcels with their validity dates are maintained in the single data layer
- For convenience of users the schematic representation of data history was developed to be easy to track RPs changes over time

VIDEO



History layer of RP - principles

- Basic idea:
 - Each RP has a unique, constant identification number
 - The identification number (ID) of RP is created automatically from the coordinates of a point within the RP (24027-51193)
 - RP is valid from its approval
 - Application management system is deciding how far to read RP history:
 - so IACS can take information it need for the curent season
 - and updating of reference parcels can be without time restrictions
- Main principles:
 - Small changes of RP boundary doesn't change ID of RP
 - Every RP split or merge action generate new RP IDs for new parts
 - History between old and new RPs is connected with HIST_ID attribute values

+/- of RP history layer

+

Easy to get answers on questions 'who, when, where, what and why'?

Graphical understanding of changes performed in timeframe

-

Sometimes there are too many history events what are hard to 'read'

Slow synchronization of data between production and test environments (1 860 990 records in complete RP history layer)

Now thinking about archiving of history data..



Software for GIS operators

- LAD Bloks - main extension and environment for editing RPs
- EPSPrec - for solving RP clarification requests submitted by E-applicants
- GPS Upload - tool for input of GNSS measurements in database
- LAD Tools - toolset with small tools to help daily routine
- LAD REMCtrl - application for remote sensing
- LAD PietBLOKS - to view declared areas by application numbers from different years
- LAD CLRaster - to view scanned and georeferenced raster maps
- Vectoriser - application for vectorising of parcels submitted on paper maps
- Luksofors - indicator showing 'traffic lights': red - some user saving data in database (reconcile); green - DB is available for saving edited data



Screenshots from use of LAD Tools



Web maps (public & intranet)

Public Web map

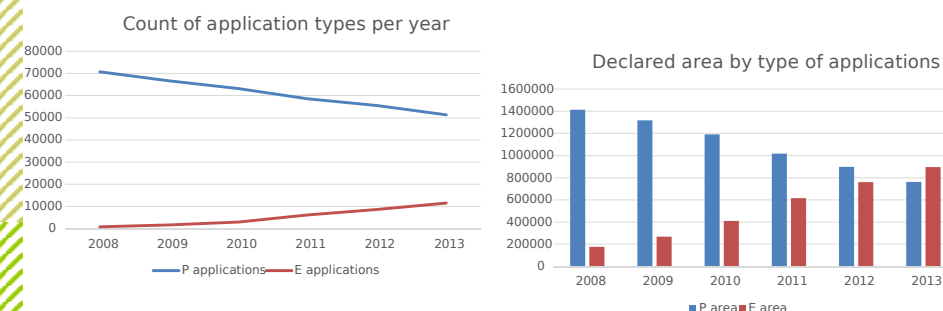
<http://karte.lad.gov.lv>

RSS intranet map with more layers
and extended attribute data



Electronically submitted data

- Every year increases the number of E-applicants and declared area by them

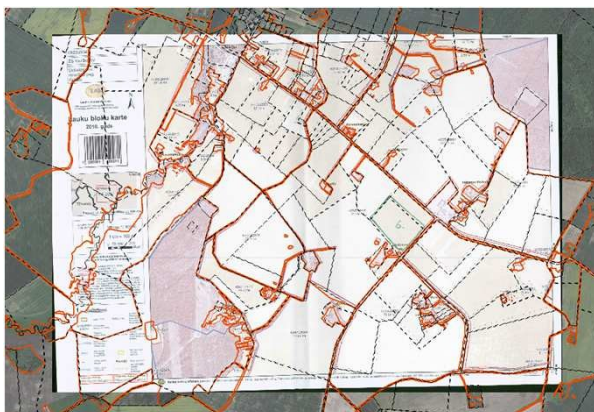


- E-application parcel digitizing example on YouTube [VIDEO](#)



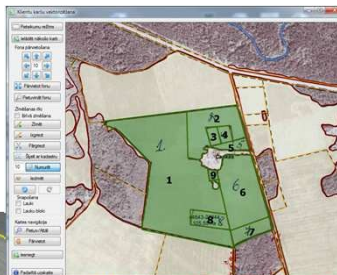
Paper map scanning

- Performed every season from year 2010 during application registration process
- Maps are georeferenced
- Main source for vectorising of declared parcels from 2012



Vectorising of declared parcels

- In 2012 created declared paper map vectorization solution:
In total 352 851 parcels were vectorized from paper maps
- Spatial parcel overlapping detections are performed including electronically declared parcels (122 634) and vectorized ones from paper maps (all together 475 485 parcels)
- We continue vectorising of parcels in years 2013-2014

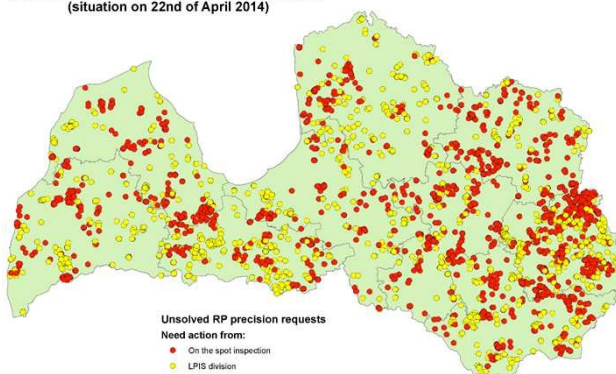


New solutions - FME

- Safe FME software used for data converting and generating actual GIS data layers mostly for management purposes



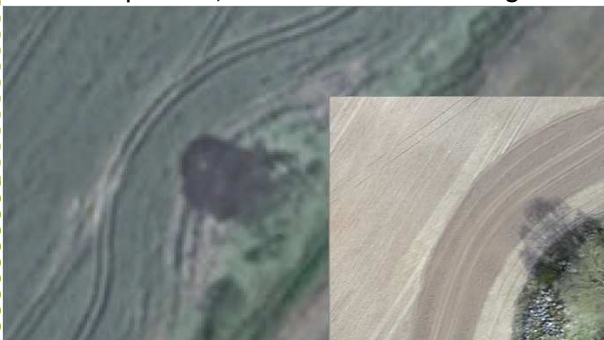
Unsolved RP precision requests made by farmers
(situation on 22nd of April 2014)



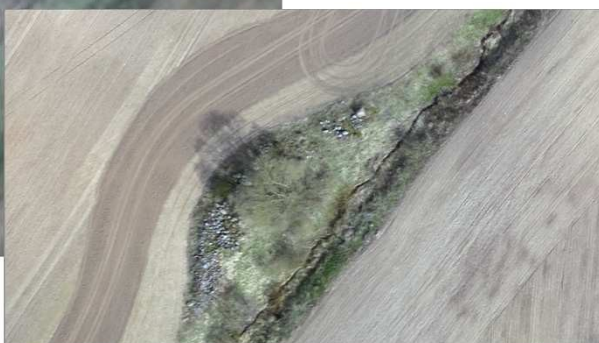
New solutions - eBee pilot



- eBee pilot test in previous week:
 - + very easy to use, great detail, very good software package
 - expensive, doesn't like wind stronger than 12 meters per second



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Thank you for your attention!