

Geodetic and Cartographic Institute Bratislava

Chlumeckého 4, Bratislava, SLOVAKIA

Status of the basic reference topographic database for NSDI in Slovakia



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Geographic Information for Development Seminar
Crowne Plaza Hotel Bratislava Thursday 28 October 2010

Primary database for GIS

- according to **THE NATIONAL COUNCIL OF THE SLOVAK REPUBLIC ACT** FROM September 12th, 1995 about **geodesy and cartography** as amended by the Act No. 600/2008 Coll.
- § 2, subsection 14:
„Primary database for a geographic information system is a real world model with the level of detail and abstraction corresponding to the feature catalog. Primary database for a geographic information system describes geometric and thematic properties of the features in time, enabling the analysis of phenomena and graphic presentations. Primary database for geographic information system is geometric basis for the national spatial data infrastructure.“



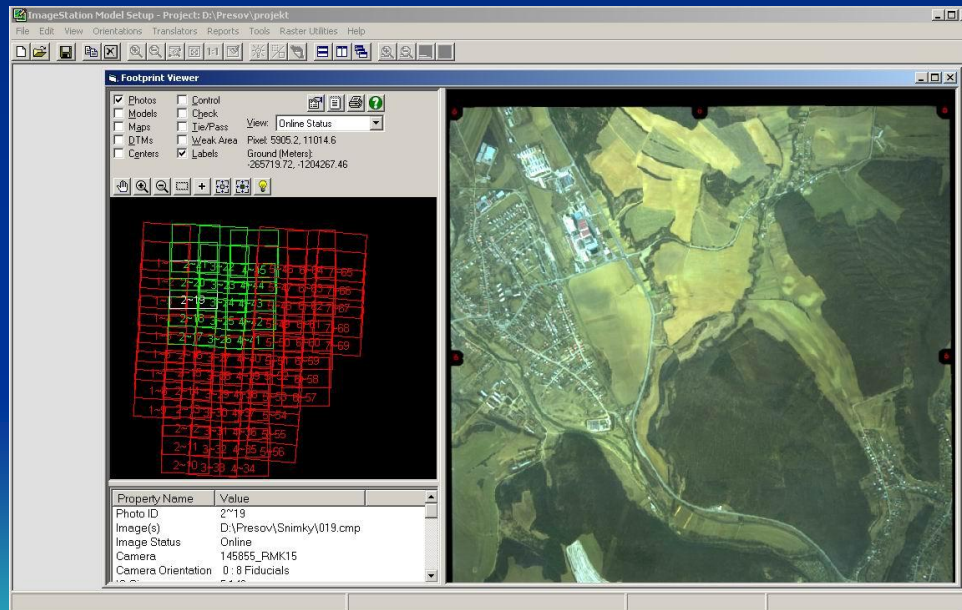
Photogrammetry

- Primary technique of data acquisition for GIS
- Since 2004 digital photogrammetry based on Z/I technology
- Digital photogrammetric scanner - Z/I Photoscan
- 9 HP workstations with active stereo kit (BA: 5, ZA: 2, PO: 2)
- Software: Bentley MicroStation v8 + Intergraph ImageStation
(including modules ISAT, ISPM, ISSD, ISFC, ISAE)

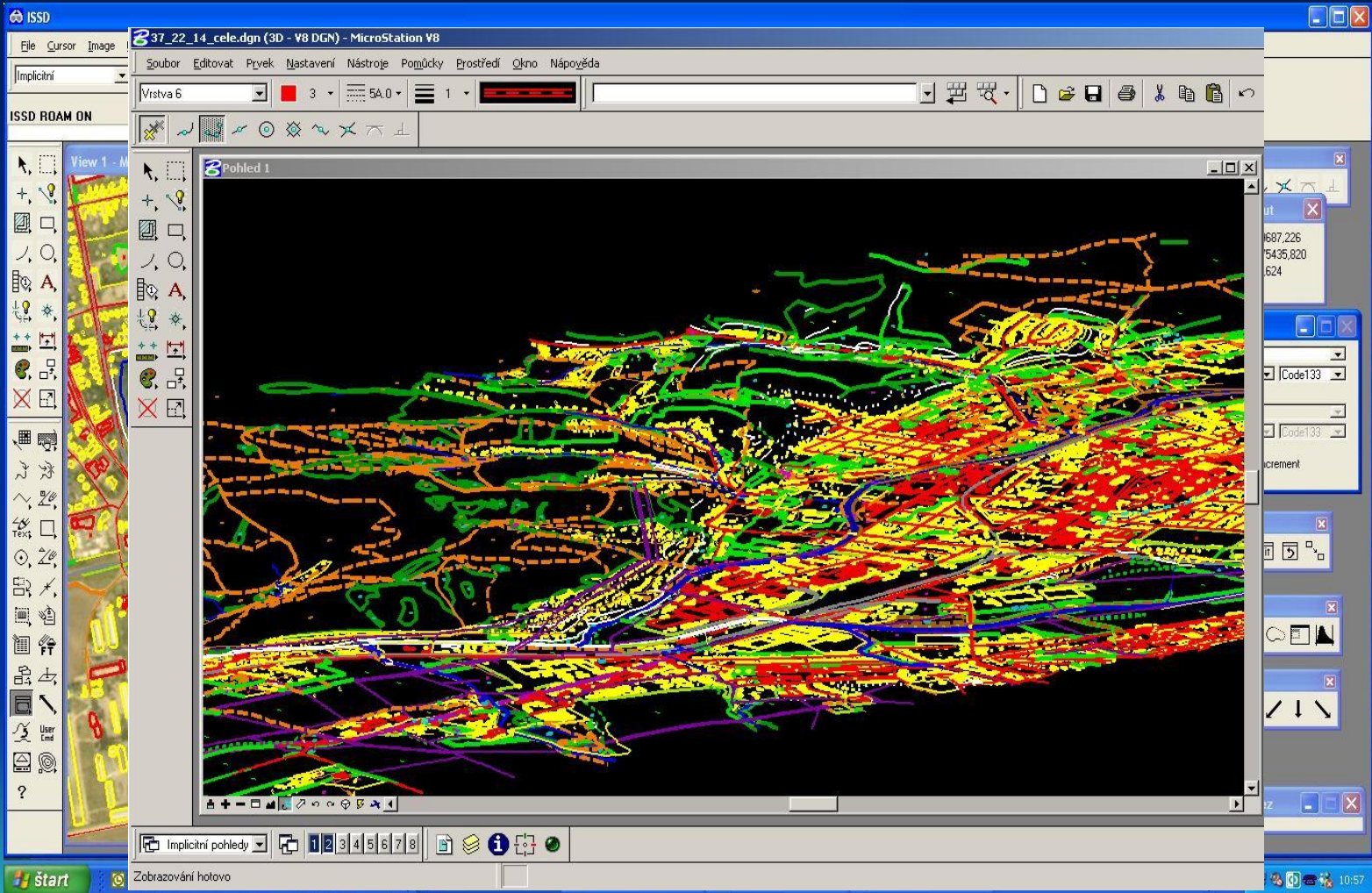


Photogrammetry

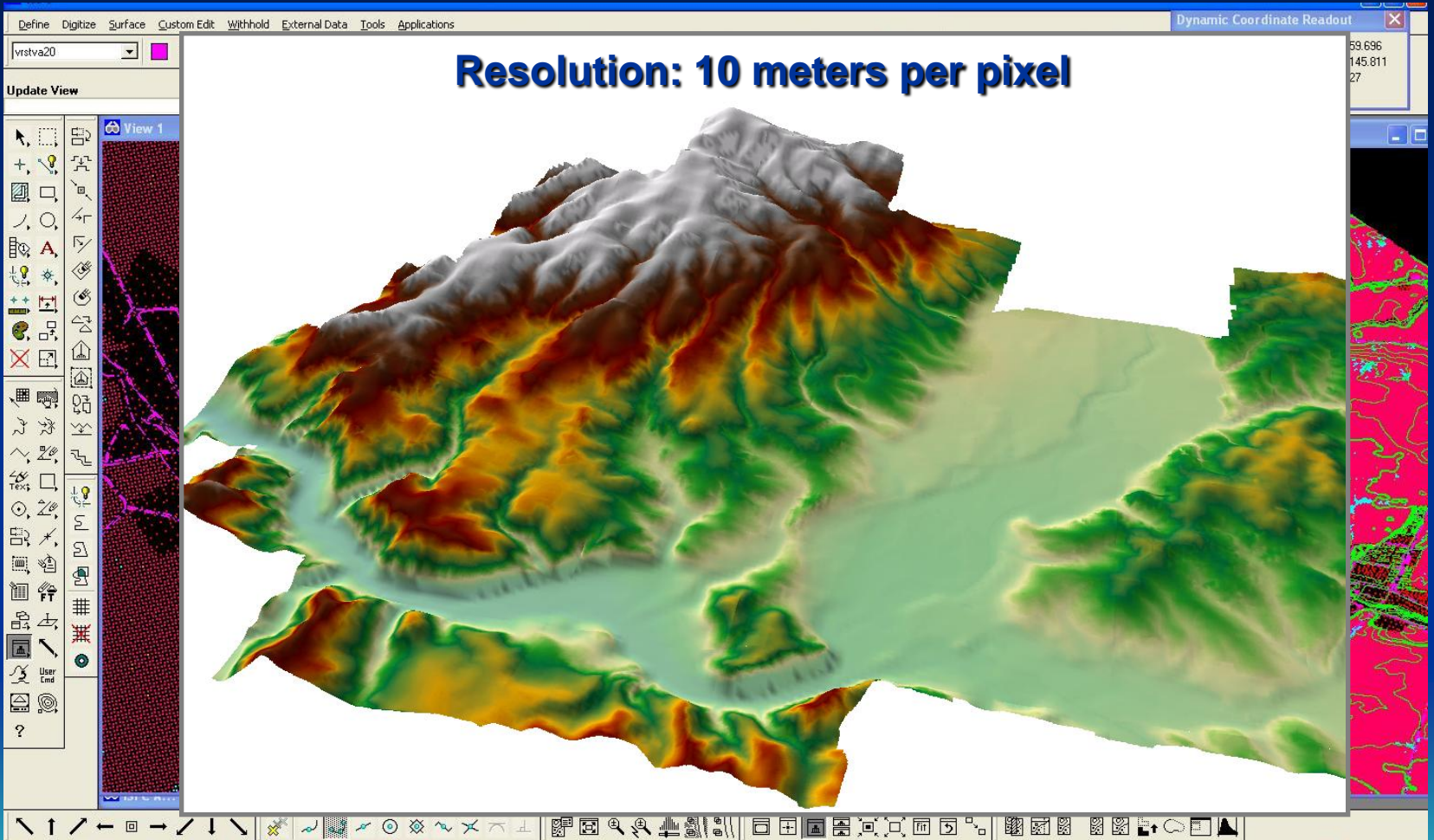
- Analog Aerial photos in scales 1:14 000 – 1:20 000
- Automatic aerotriangulation (ISAT)
- Photogrammetric project
- 3D data acquisition in stereoscopic mode



3D data acquisition



DEM collection



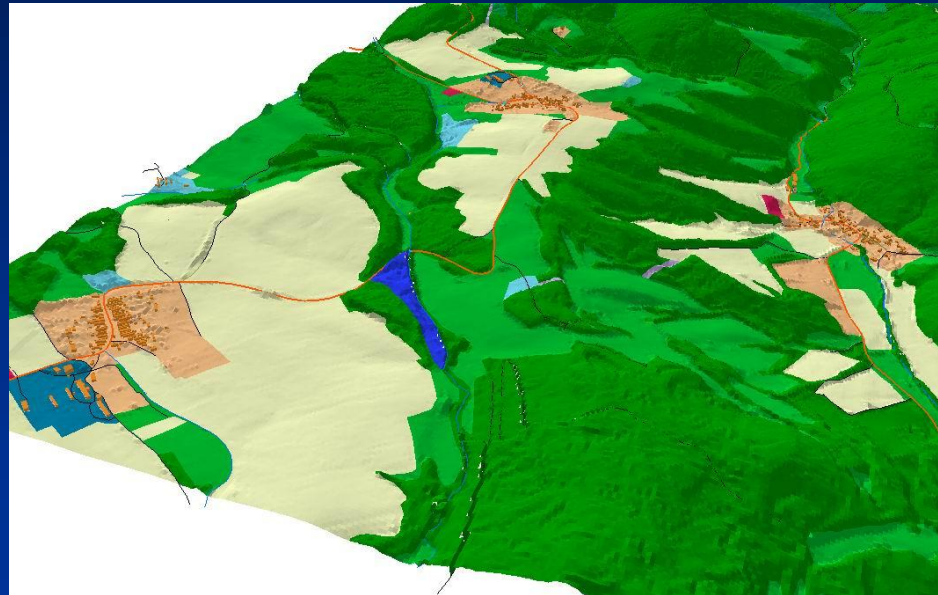
Primary database for GIS – facts and figures

126 Feature Classes

44 Composite features

292 Relational classes

2164 Attribute domains



2010:

- Full data coverage

> 9 million features in the geodatabase

- precision: horizontal < 1,5 meter, vertical < 5 m

Primary database for GIS

1. Import of 3D data from photogrammetry

2. Topological checking on geometry

3. Filling of general attributes, specific attributes

4. Attribute checking

5. Local inquiry

6. Creation of composite objects

7. Completeness check, checking topology and attributes

8. Storing to central database (ArcSDE + Oracle 10g)

(9.) Publishing (Geoportal, individually, preparing map series)

Primary database for GIS - attributes

Layers: D:\Zvolen\Zvolen_CPD_JTSK.mdb
TopoDataset

Identify Results

Layers: Budova

Location: (-419362,998921 -1246036,916910)

Field	Value
Shape	Polygon
DBJECTID	4565
CPD_ID	(C4050D9F-887C-443A-9090-128A30ED3DE2)
Dátum zmeny stavu poznania objektu	10.10.2005
Dĺžka pláňa	27,8 2011
Pôvodca	vojvodstvo (100.ch)
Presnosť horizontálna	do 5 m
Presnosť vertikálna	po miestnom šetrení
Stav poznania objektu	spolahlivý
Spolahlivosť	0,9
Výmera (obsah) plošného objektu	-32768
Typ, účel využitia budovy	Obytná budova
Kategória aktuálneho stavu objektu	Prevádzkový
Výška nad povrchom (zeme alebo vodnej hladiny)	-32768
Typ budovy	Prevažne obytná
Meno, názov objektu	Neopisovateľný, nepoužiteľný
Kategória prvkov	Neopisovateľný, nepoužiteľný
Textový atribút, poznámka, popis	cnub
Shape_Length	101,545493
Shape_Area	299,525938

Plot

Riečny úsek

Plochy okolo líniových objek

Priesek

Kroviny, húštiny

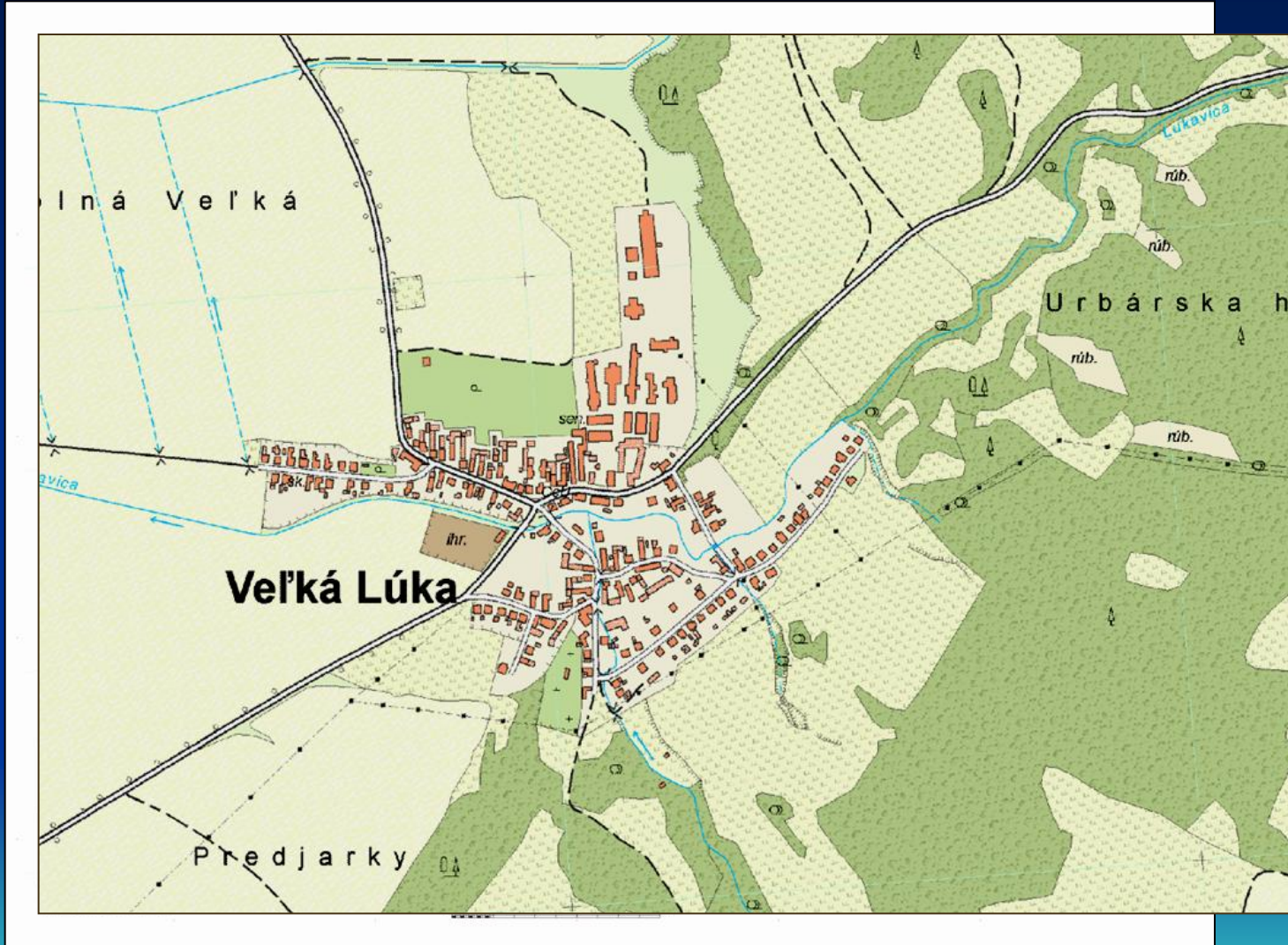
Plocha bez typického využiti

Ostatné objekty

Display Source

-419448,44 -1246052,81 Met

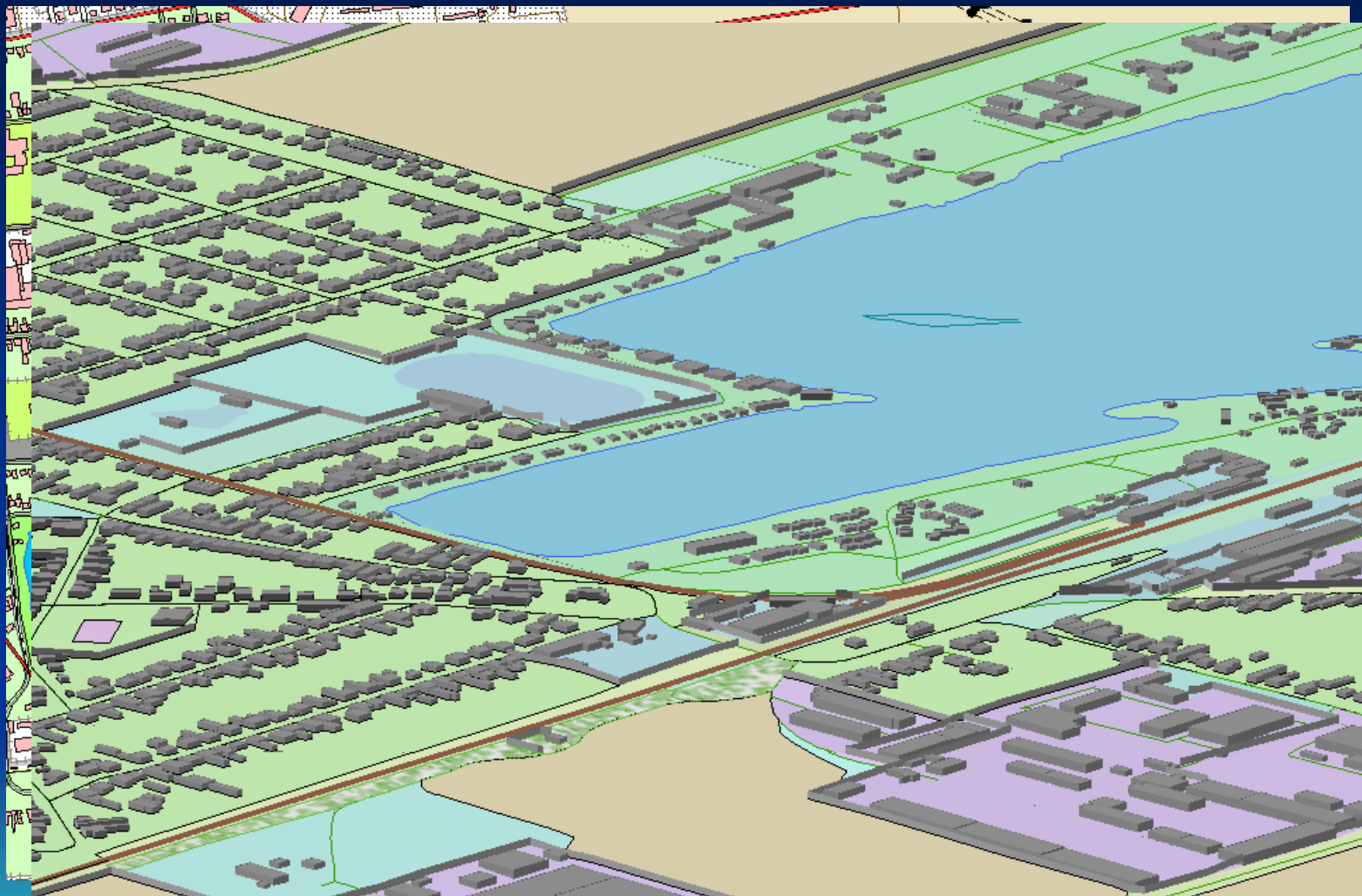
Map proposal derived from Primary database for GIS



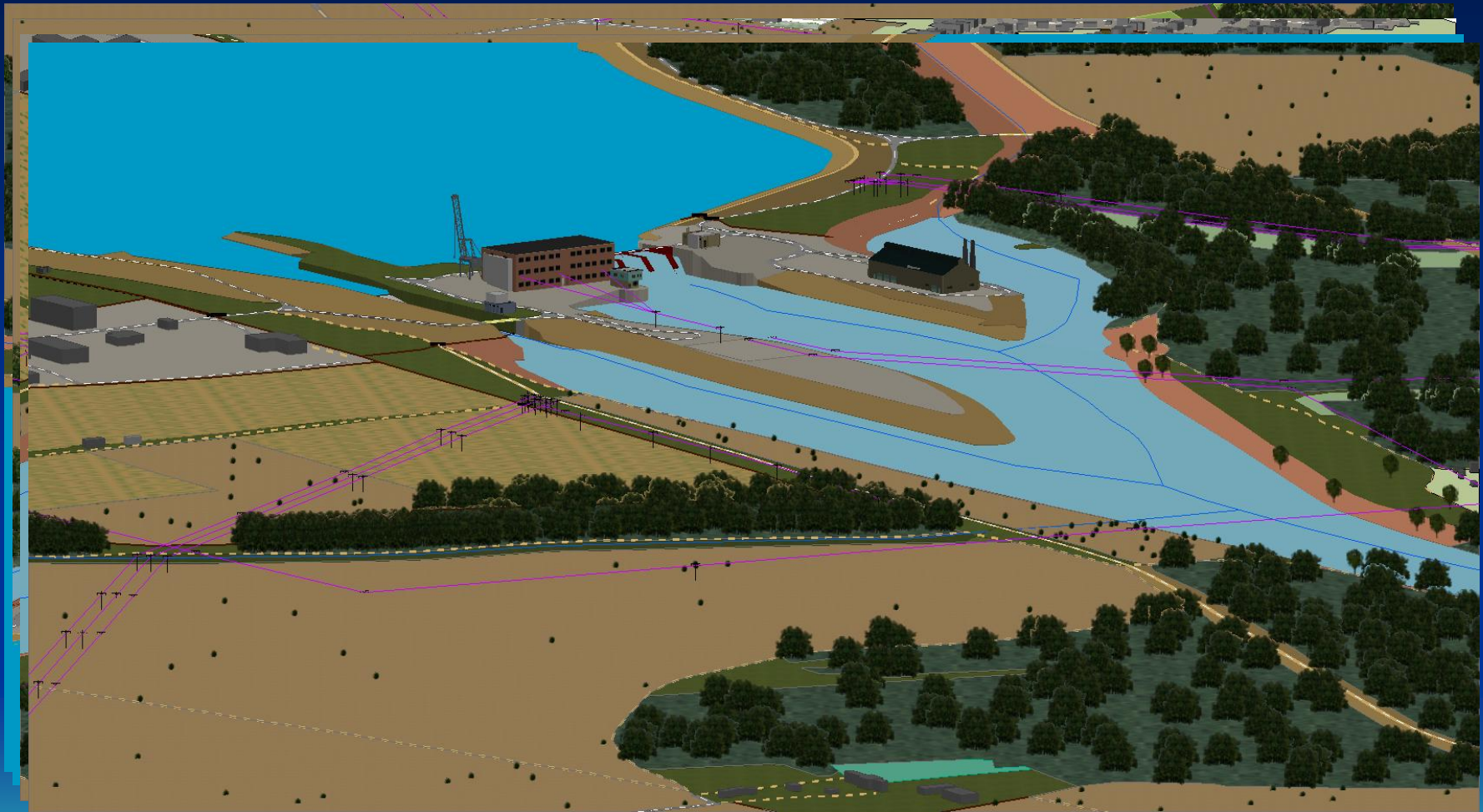


SLÁDKOVIČOVO

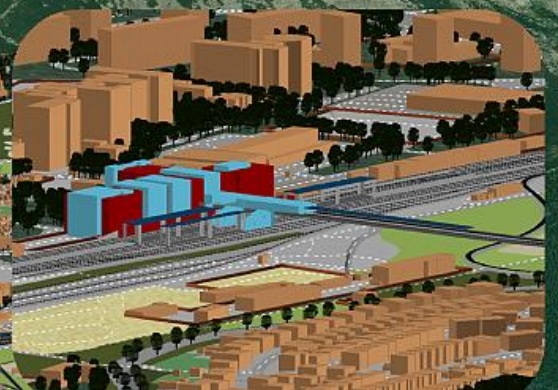
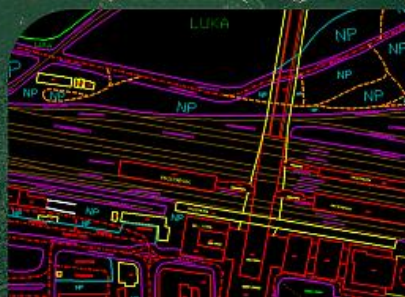
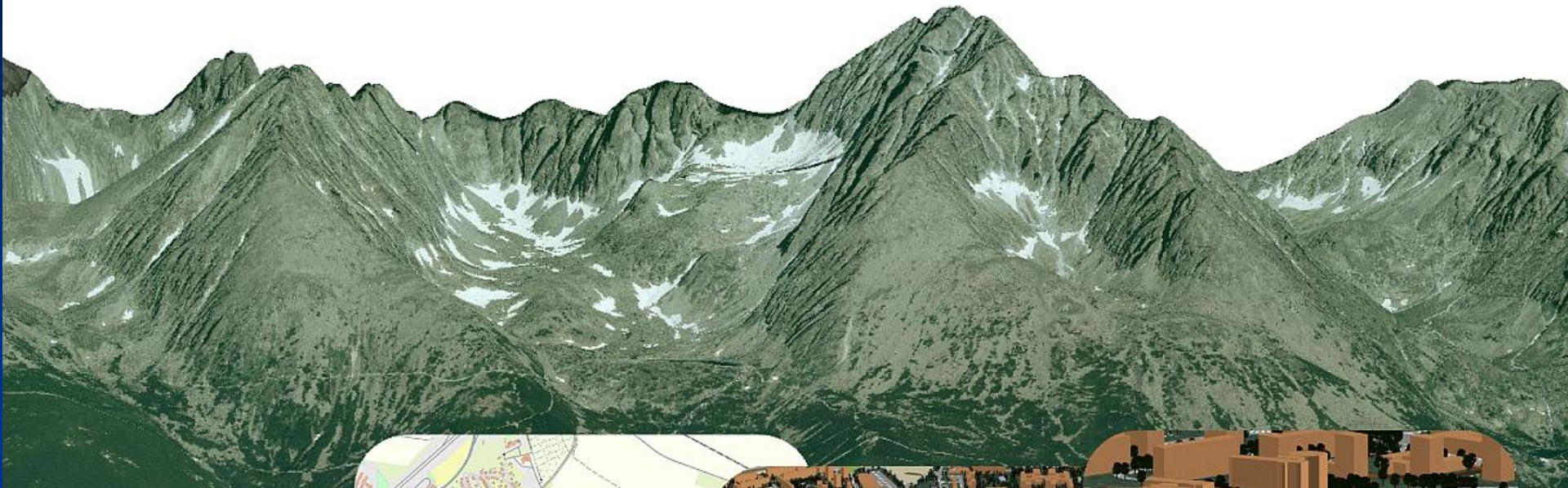
Visualization of Primary database for GIS



Visualization of Primary database for GIS



River dam „Kráľová“

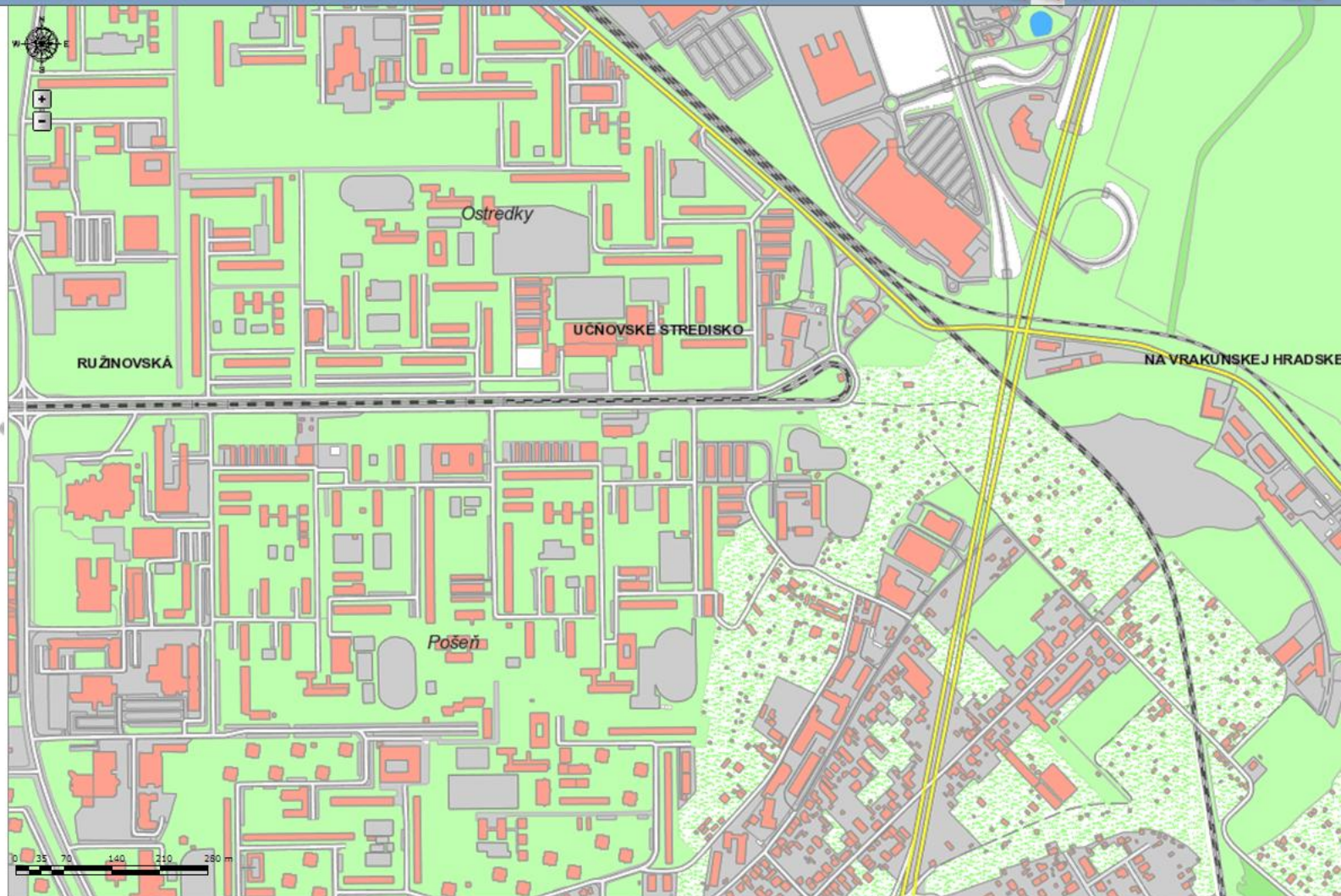


Vyhľadávanie | Hľadať názov

Results

Map Contents

- Hranice
 - Štát
 - Kraj
 - Okres
 - Obec
 - Kat. územie
 - Krajské mestá
- Povodeň jún 2010
 - Zaplavené územia
- Adresné body (BA kraj)
 - Adresný bod
- Názvoslovie
 - Kategória názvu
- Kataster
 - VKM
- ZBGIS
 - ZBGIS
- Ortofoto
 - ortofoto
- DMR
 - DMR
 - Tieňovaný reliéf



-569425.318, -1280109.812

Lokálna sieť intranet | Chránený režim: Vypnutý

110%



Results

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- Operational Programme Informatisation of Society

- OPIS-2009/1.1/06-NP – Electronic services of cadastre – ZB GIS

Project goals and objectives:

- Provide access to the reference topographic database for NSDI in Slovakia using electronic services (incl. OGC services)
- 33 services: data services (WMS, WFS, WCS), transformation service, conversion service
- Portal – Web application for everybody without authentication
- Today: preparing for prototype phase, 2011 – pilot, 2012 – roll-out

Issues and challenges

- Acquire high quality aerial images (GSD10/20) and LIDAR data in order to produce ORTHOPHOTO and DTM/DEM.
- Extend photogrammetric production line and update data
- Publish data and metadata using services (OGC Services)
- Provide data for INSPIRE Spatial data themes
- Create and provide portal - GeoPortal for building of information systems in public administration, building of information society and e-Government



**Thank you
for your attention !**

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