REPUBLIKA HRVATSKA
Državna geodetska uprava

Official geospatial data for disaster risk reduction assessment in Croatia

Igor Vilus, dipl. ing. geod.

Official mapping

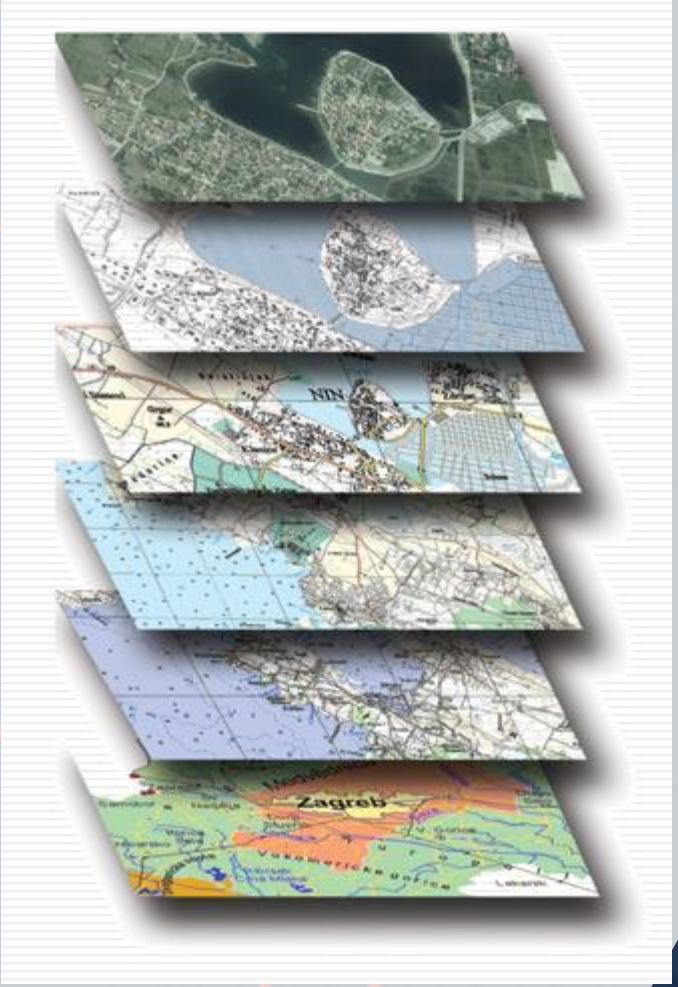
Different scales from 1:5000 to 1:250000

Covered all territory of RoC

Available in raster/vector form

Available on SGA Geoportal

SGA maps are source for all other thematic maps in RoC



Official mapping

DIGITAL ORTHOTOPHOTO MAP IN SCALE 1:5000 – DOP5

- Continuous producing – 10945 maps (56500 km2)
- Producing frequency: each 2 years
  - 2011. – 100%
  - 2014 – 2016 – 100%,
  - 2017 – 2018 – 100%,
  - 2019 – 2020 – 100%
  - 2021 – 2022 – 50%
- Projection HTRS96/TM, GRS80 ellipsoid

Official mapping

DIGITAL TERAIN MODEL - DTM

- 3D vector data for the DTM production is collected by photogrammetric mapping (stereo surveying) from aerial photographs whose resolution cannot be less than 30 cm (GSD ≤30)

- covered all territory of Republic of Croatia (last maintenance 2019-20).

Official mapping

BASIC TOPOGRAPHIC DATABASE - BTD

- large scale vector topographic data (accuracy +- 1.00 m) stored in spatial database
- basic topographic data in RoC
- data divided to main topographical units

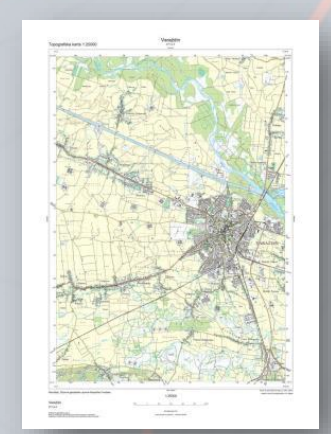
GEOGRAPHIC NAMES; BUILDINGS; UTILITIES; TRANSPORTATION; LAND COVER AND LAND USE;HIDROGRAPHY

- covered all territory of Republic of Croatia

Official mapping

TOPOGRAPHIC MAP IN SCALE 1:25000 – TK25

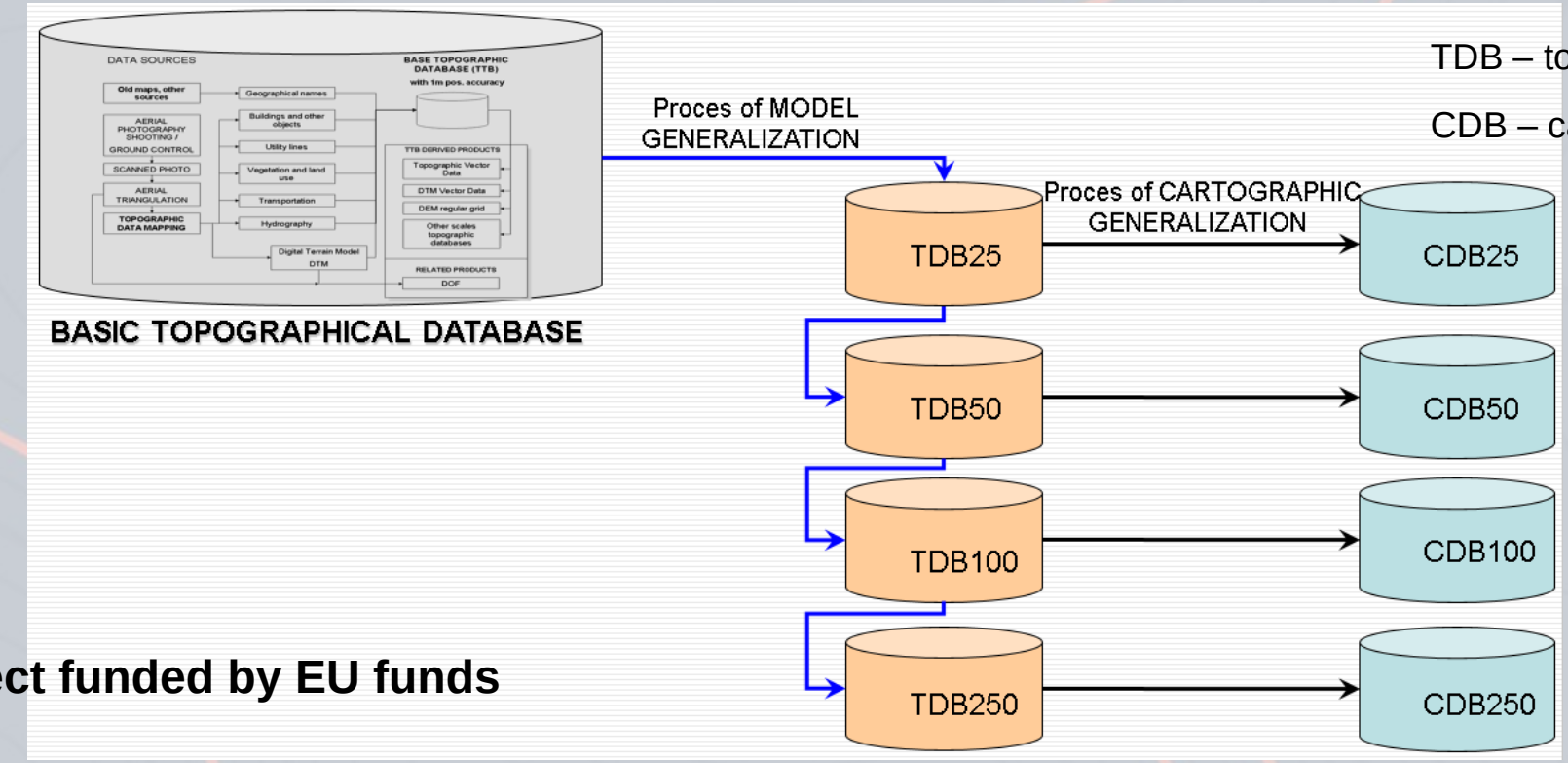
Version 1:
- Produced digitally
- Data source: aerial photogrametry
- Produced: 603/603 maps – 100%
- Gauss-Krueger projection Bessel ellipsoid



Version 2:
- Produced digitally
- Data source: version 1 + aerial photogrametry
- Updated: 454/539 maps – 84%
- New cartographic projection HTRS96/TM, GRS80 ellipsoid

Official mapping

STOKIS – Official Topographic and Cartographic Information System



TDB – topographic database

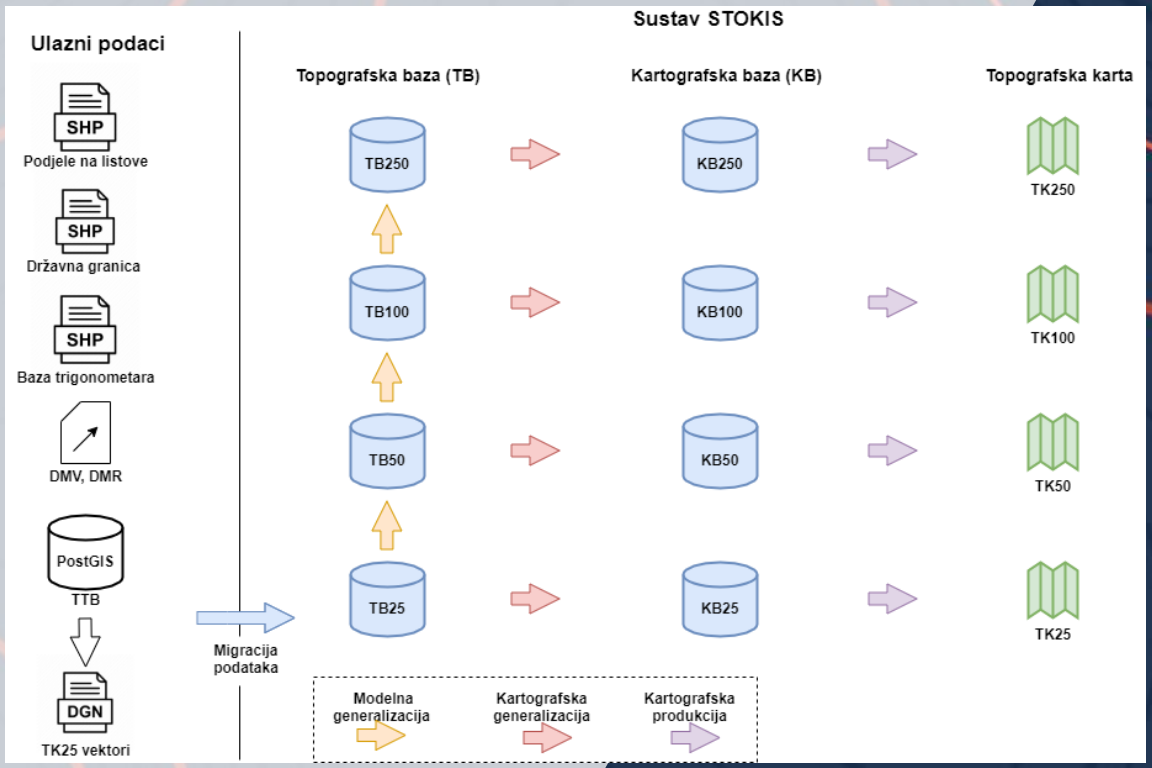
CDB – cartographic database

Project funded by EU funds

- **Official Maps production line were establish**
- **achieved 85% of automatic generalization**

Official mapping

- Basic of STOKIS system
  - System for production of topographic maps (TK25, TK50, TK100, TK250). Maps will be made from cartographic database
  - For all official scale Topographic (TB) and cartographic (KB) database was made
  - cartographic database is always created by cartographic processing from a topographic database of the same scale



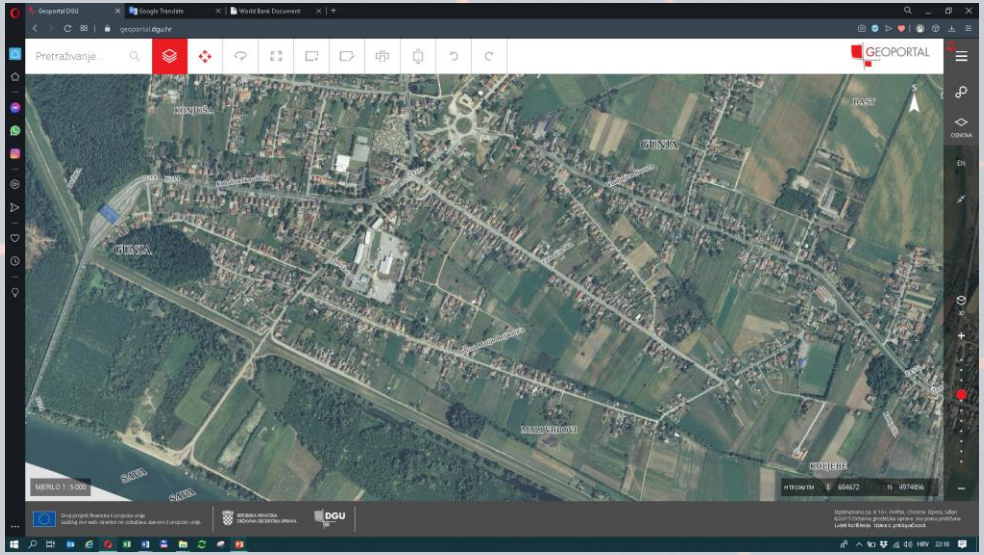
STOKIS changes the focus from „standard” map layout to functionally - related spatial databases created on the basis of official spatial data.

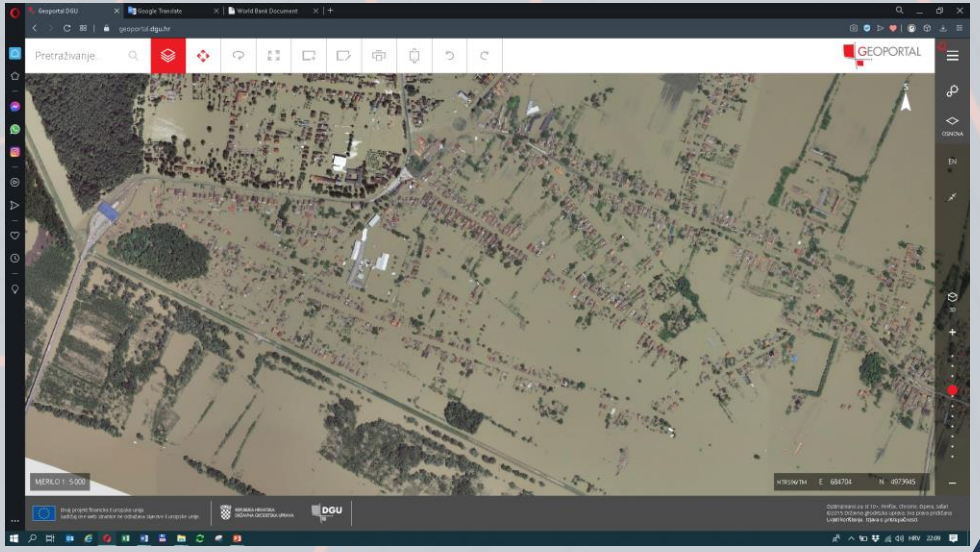
LiDAR

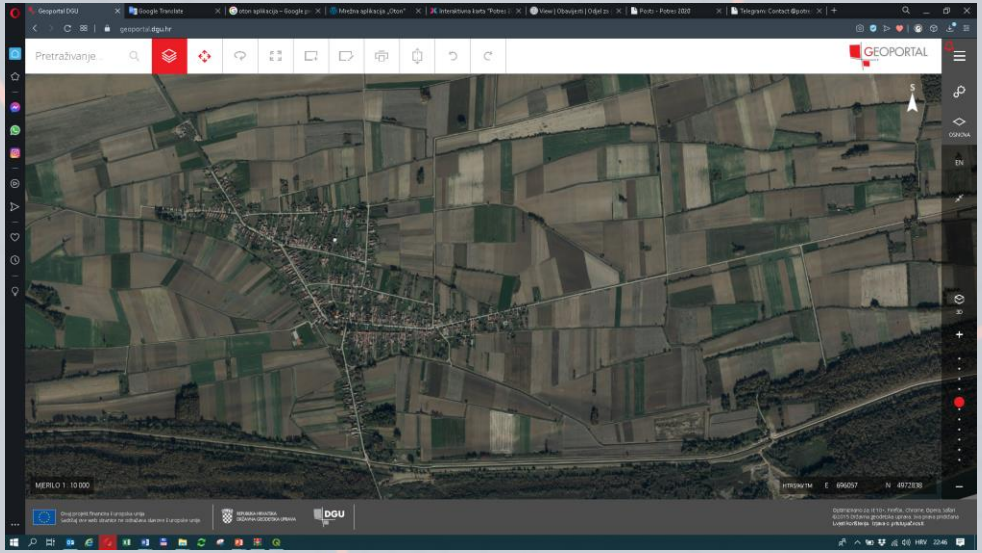
EU Project: **Multisensory aerial surveying of the Republic of Croatia for disaster risk reduction evaluation**

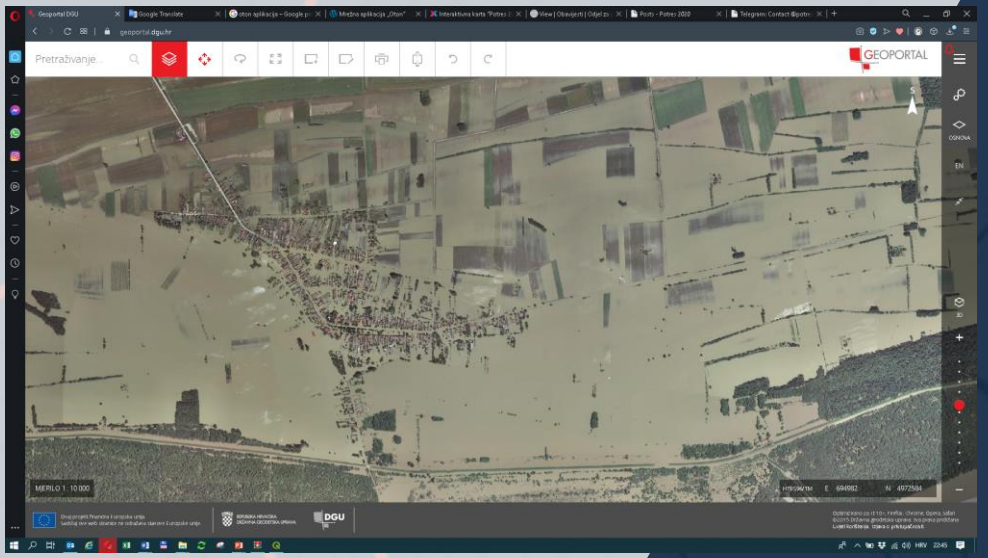
- Main goals:
  - to produce DTM and DSM based on LiDAR data
  - to produce spatial data for more efficient risk management
  - to develop a methodology for earthquake risk management (Zagreb pilot area) that will be applicable to all big cities in Croatia

- LiDAR scanning of the whole territory of the Republic of Croatia
  - 4 points per m2 in non-urban areas
  - 8 points per m2 in urban areas
- Aerial photogrametric capturing of the whole territory of the Republic of Croatia with GSD of 15 cm
- Line LiDAR scaning of the river banks with high density (floods)
  - 20 points per m2

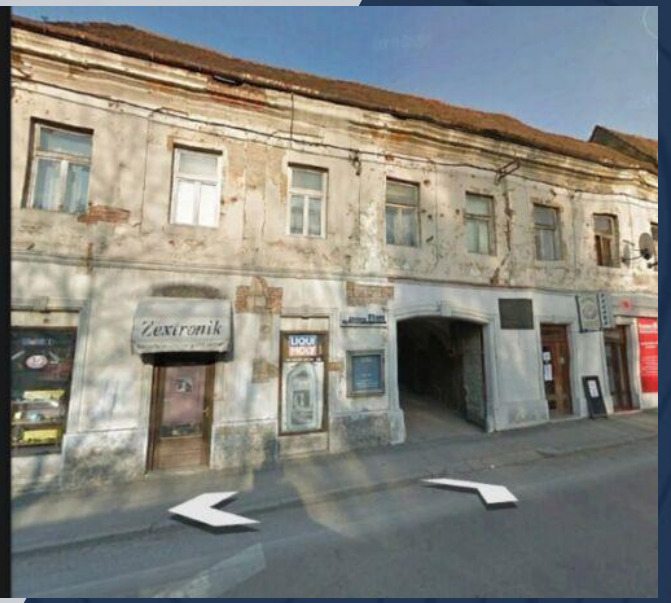




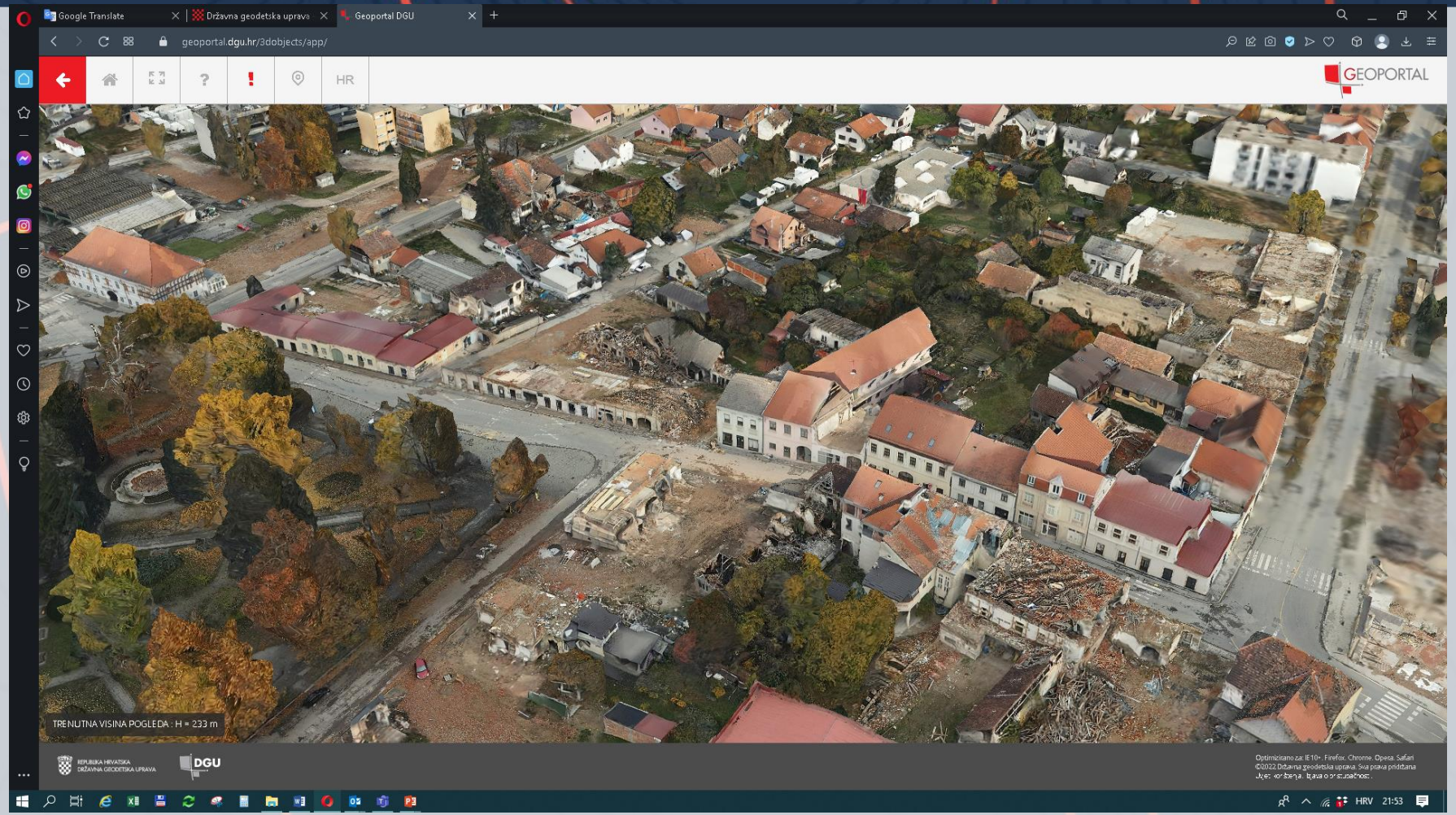




Croatia, 2014, flood



Croatia, 2020, earthquake



https://geoportal.dgu.hr/3dobjects/app/?baselayer=DOF5_2017_2018&bbox=-231149.99999999988,4602238.647471756,1231150,5315538.647471756

Igor.vilus@dgu.hr

https://dgu.gov.hr