



The importance of surveying science in Latvia

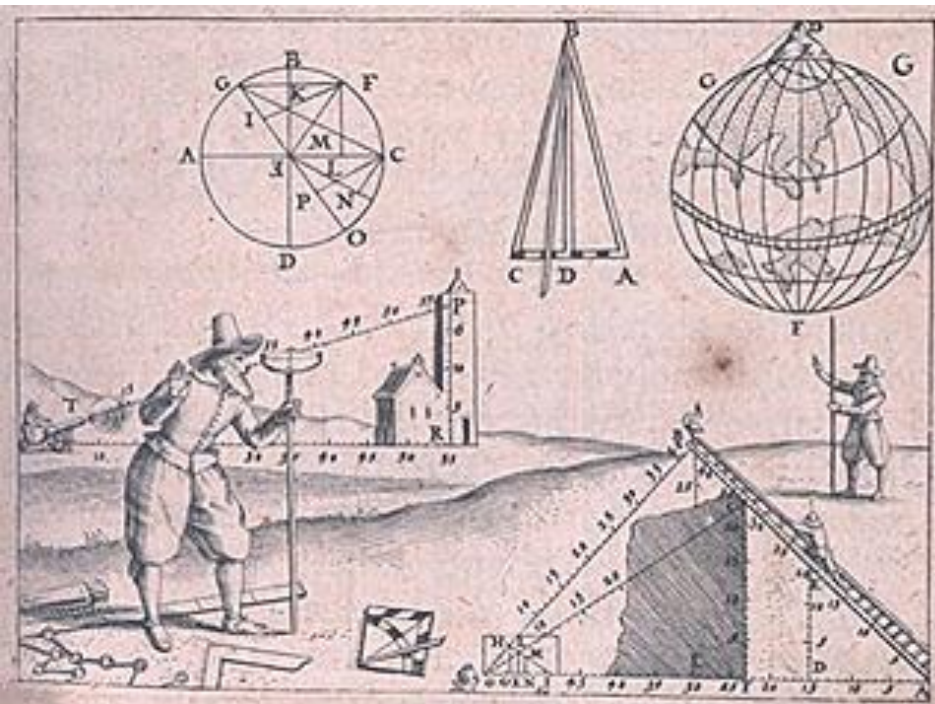
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Definition



Importance



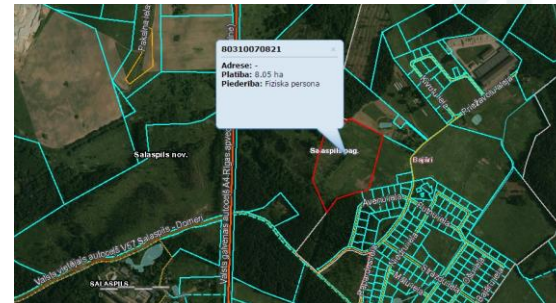
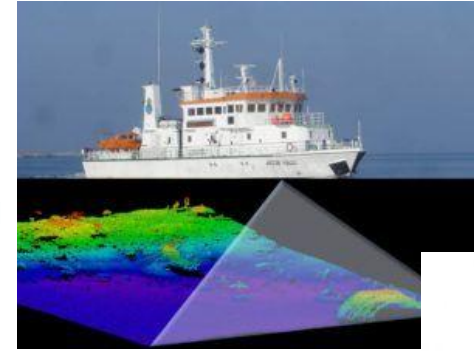
Latvia

- EPSG code - 3059
- LKS 92 TM - 1992 Latvian geodetic coordinate system
- LAS 2000.5 - Latvian normal height system
- TKS 93 - 1993 Topographic map system
- 3 certificate types - Ģ, ZI, ZKI



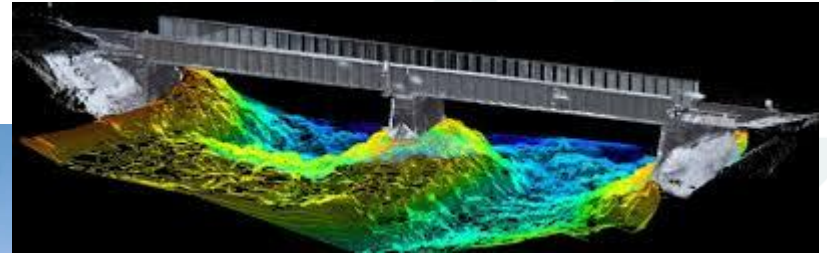
Main fields in Latvia

- Geodesy and cartography
- Teritorial planning
- Road construction planning
- Telecommunication and engineercommunication planning
- Volume measurements
- Forestry management and planning
- Hidrology
- Natural disaster analysis
- Flood monitoring
- Arheology
- Vegetation research
- Real estate field



Main applications in Latvia

- Land cadastral survey, land survey
- Topographic surveying
- Engineering geodesy
- 3D surveying, laser scanning
- Road design / construction supervision
- Aerial photogrammetry
- Geology
- Gravimetric measurements
- Military and national geodesy



LIDAR

Each point has specific spatial coordinates X, Y, Z.

According to this principle, laser scanning has been performed for the entire territory of Latvia and these data are linked to the coordinate system LKS 92 TM and the Latvian normal height system LAS - 2000.5

This data is available in * .las data format, has an open data license, and is intended for use by any natural or legal person.

LIDAR

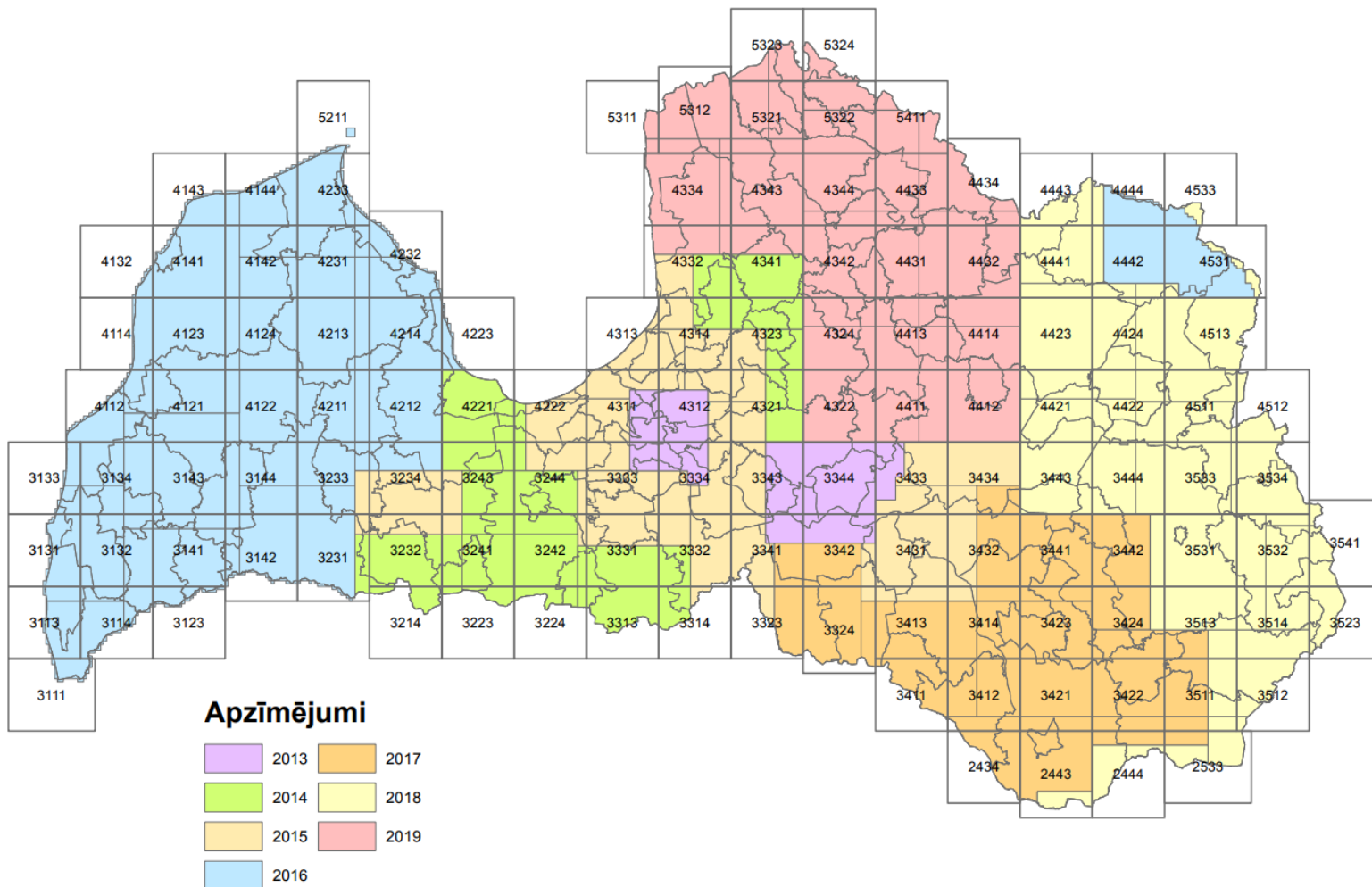
Data are automatically classified by levels: land surface, low vegetation, high vegetation, buildings.

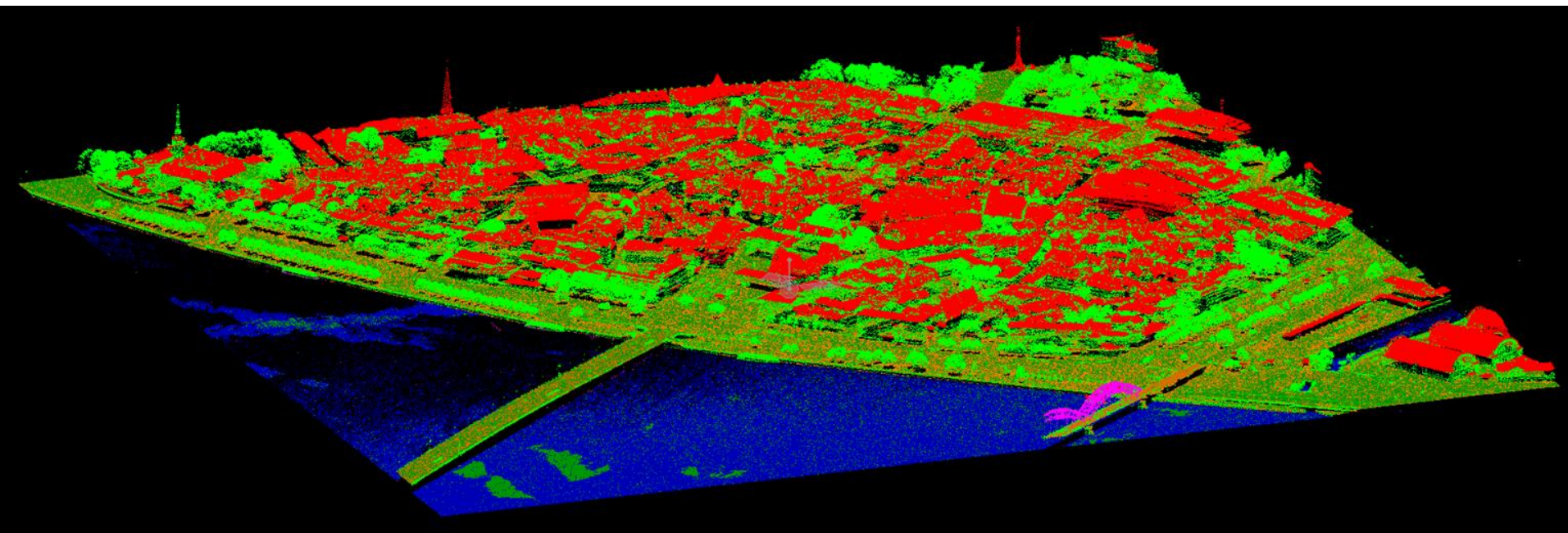
Data were collected from 2016 to 2019.

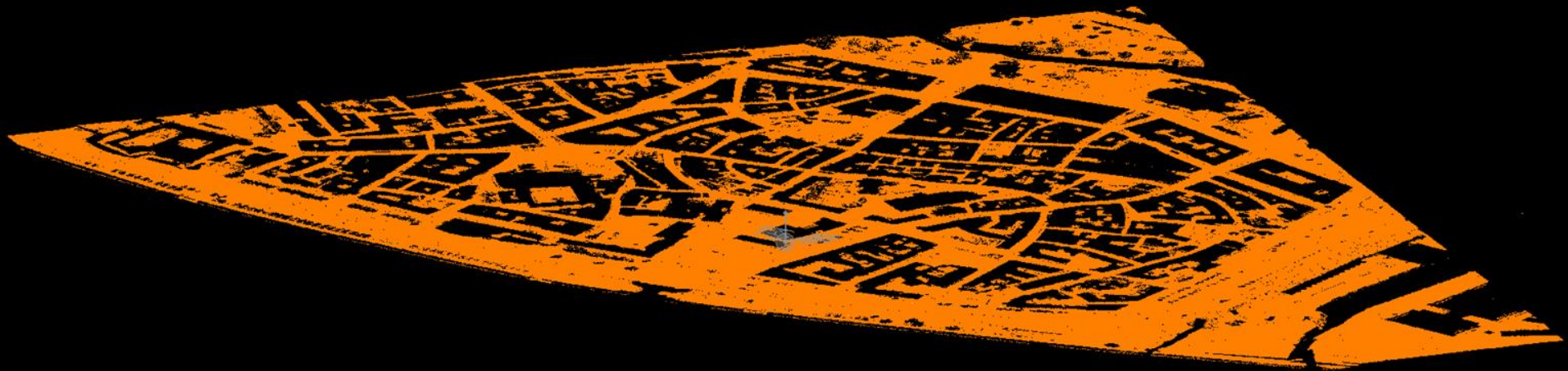
The total density of the obtained points is not less than $4 \text{ p} / \text{m}^2$, the average density of the points characterizing the Earth's surface is not less than $1.5 \text{ p} / \text{m}^2$

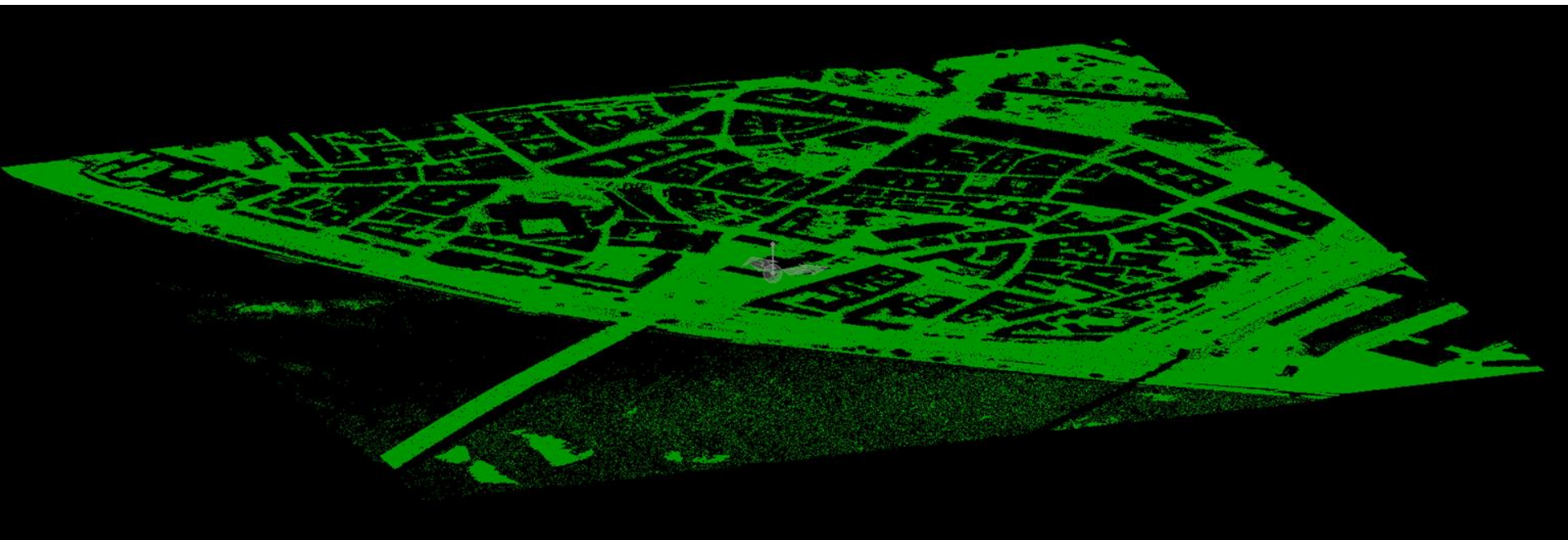
Vertical data accuracy up to 12 cm

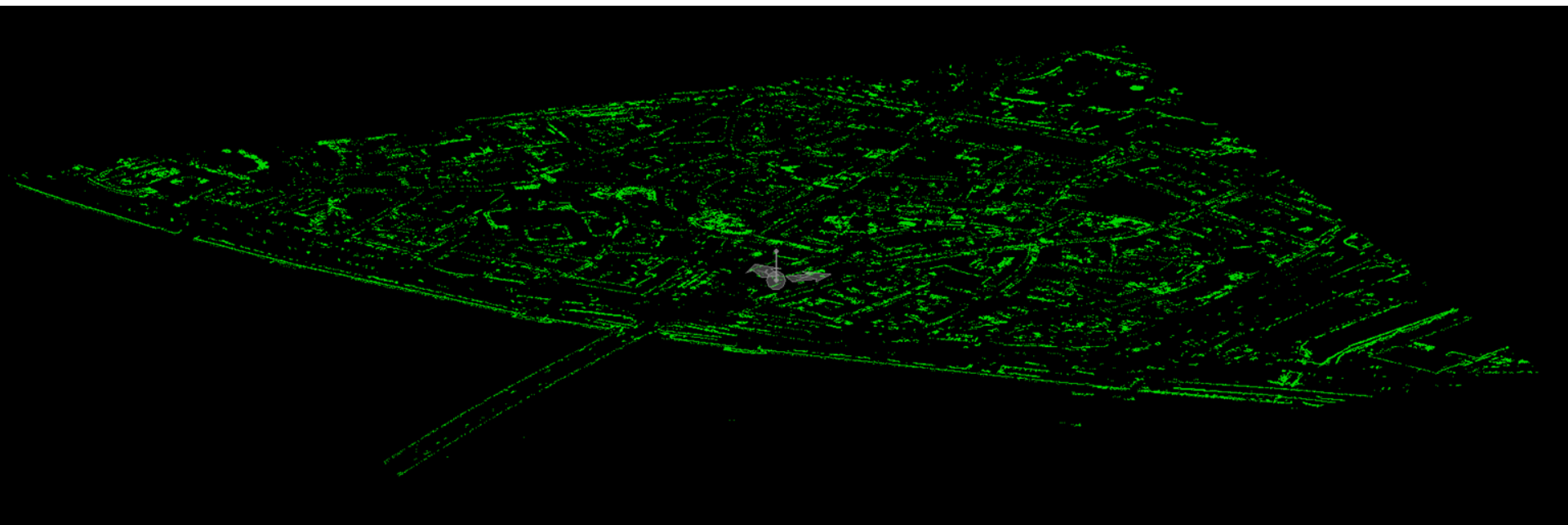
And the horizontal accuracy of the data up to 36 cm

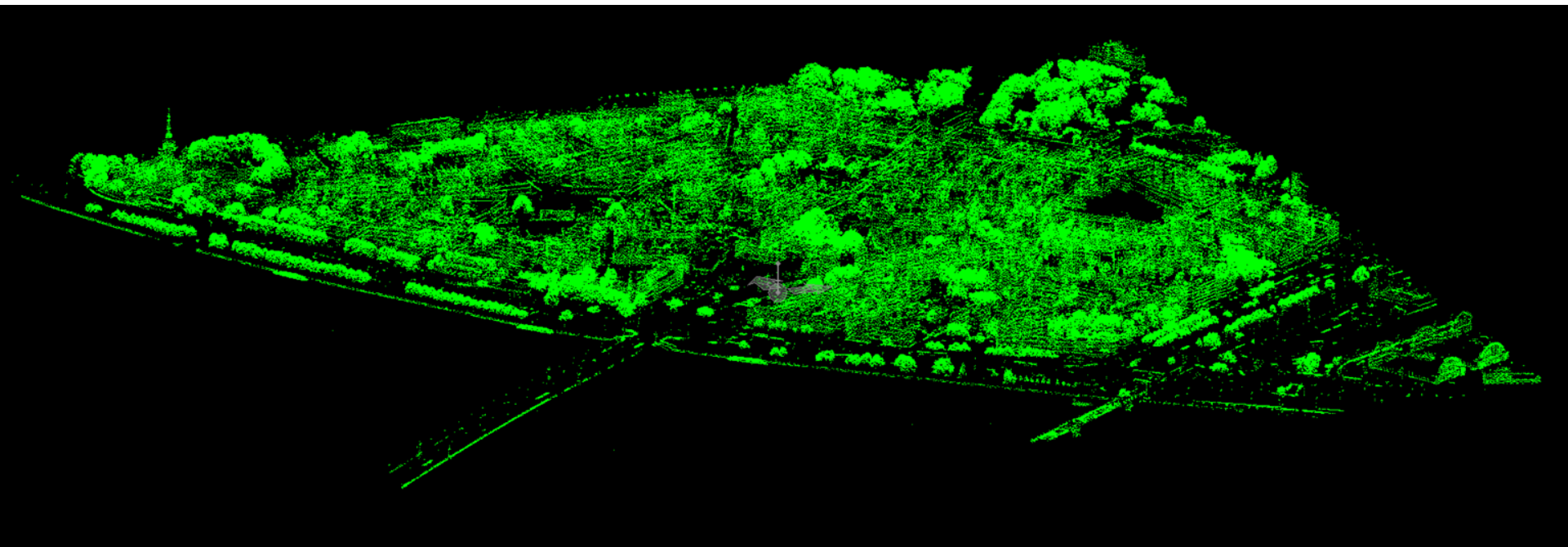


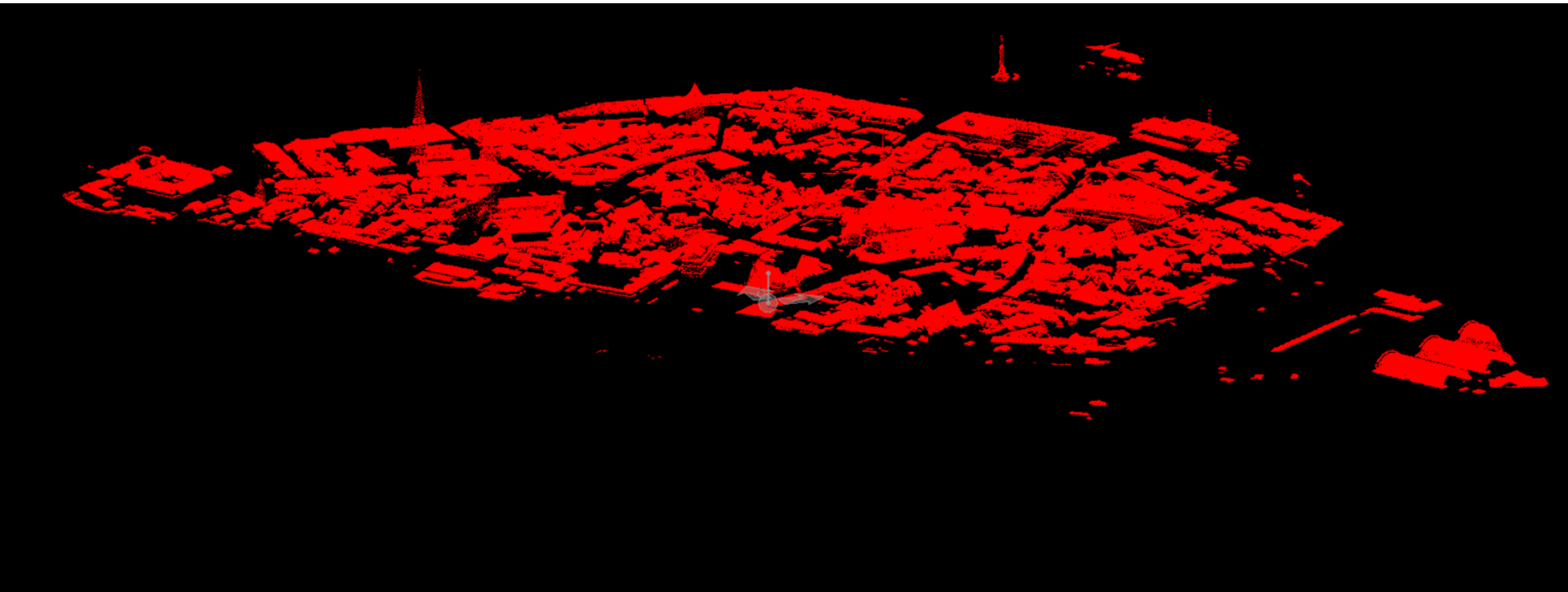


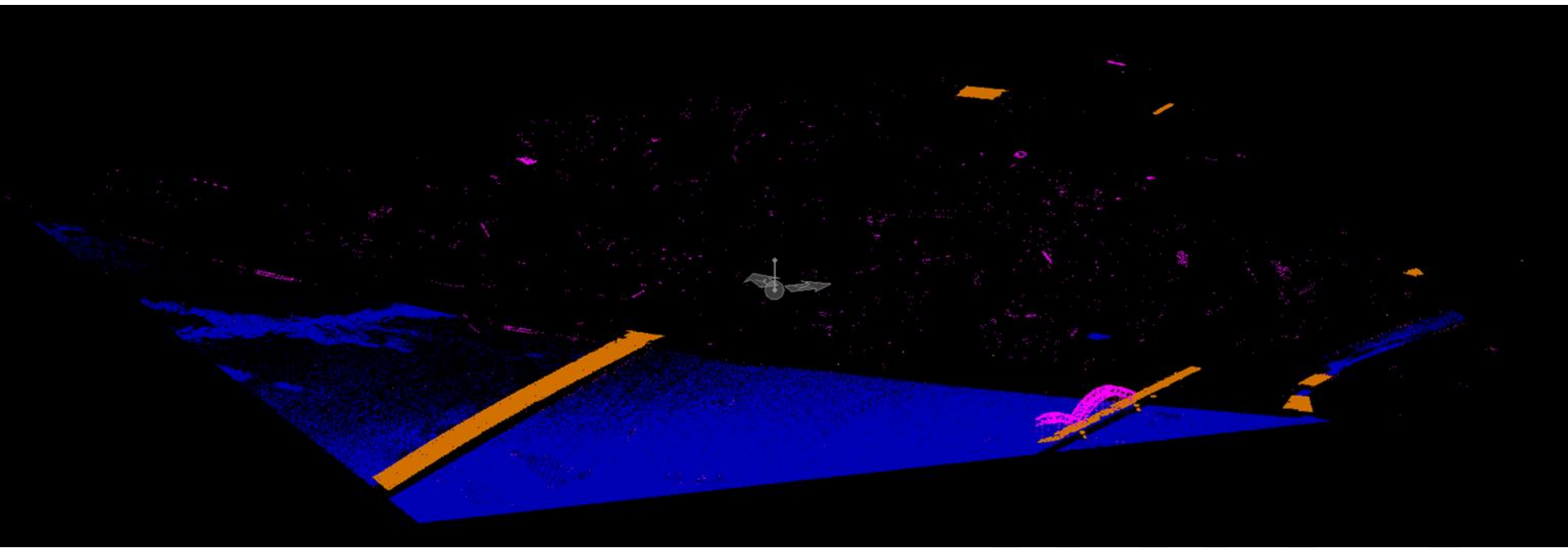












Struve Geodetic Arc



Ministry of Culture
Republic of Latvia





THANK YOU FOR YOUR ATTENTION!