

Slovenia

Surveying and Mapping Authority of the Republic of Slovenia

Using digital twin technology for a 3D view of Slovenia

“The Surveying and Mapping Authority of the Republic of Slovenia continued with the digitalisation of operations and the integration of spatial, land and environmental policies. Its aim is to improve the business and investment environment and encourage sustainable, high value economic investment. Enhancement of the 3D viewer, in particular, brings users even greater opportunities to benefit from spatial data. These activities all contribute to the building of a digital twin of Slovenia which will represent virtual copies of real-world objects that exist and function in parallel with their physical counterparts. The digital twin technology enables real-time updates of a virtual replica to make it behave like the real object it represents.”

Tomaž Petek
Director General,
Surveying and Mapping Authority
of the Republic of Slovenia

Slovenia’s 3D viewer is enabling users to take a closer look at the surface of the entire territory as a result of a national laser scanning initiative.

By the end of 2025, the Surveying and Mapping Authority will have captured detailed data for the whole country to provide a 3D overview of the point cloud. The 3D viewer also enables the download of products created within the framework of this task.

The work builds on the full laser scan of Slovenia which took place from 2011 to 2015 – the first iteration of this type of remote sensing method for the entire country. The latest activity uses the laser method to capture data and aerial photography. This allows the points in the cloud to be assigned a colour value and a complete orthophoto to be created.

Users are provided with a georeferenced and classified point cloud, a digital relief model, a digital surface model and shaded relief image. A complete orthophoto in two colour versions – in the visible and infrared spectrum – is also available. All the data is available in the form of files with a spatial extent of one square kilometre.

The viewer is published at <https://clss.si> and, in addition to 2D and 3D viewing, it also allows simple measurement operations and data download.



More information:
<https://clss.si/>



Benefits

- Ensures access to laser scanning data is available to everyone; individuals, government and private organisations.
- Enables data download and simple measurement operations (measurement of distances, heights, areas and angles).
- Increases the use of data as a result of easier access.
- Allows data users to make suggestions to influence the adjustment of data acquisition (point density, acquisition cycle).
- Delivers data, that together with other information from the Surveying and Mapping Authority, has multiple uses, including as a source for spatial planning, spatial management, protection against natural disasters and flood studies.
- Supports high-quality 3D topography.
- Contributes to the green transition programme – Recycle Space Slovenia.