

3D Cadastral Model in Bulgaria

Yanitsa Yankova (Bulgaria)

Key words: Cadastre; Digital cadastre; Geoinformation/GI; Land management; Laser scanning; Legislation; Photogrammetry; Spatial planning

SUMMARY

The rapidly growing rates of development of large cities and the use of spaces below and above the earth's surface lead to the need to create a 3D cadastre. The registration of rights on 3D properties, which are accurately presented, would protect the rights and ensure the security of the property. There is a need for a more realistic, visual representation of the spatial objects, as well as more complete and up-to-date information about the objects in a certain territory and their characteristics. At the same time, the requirements for modern information arrays of spatial data are increasing. The article examines the possibility of moving from the existing model of the cadastre in Bulgaria to creating a model of 3D cadastre. 3D properties are divided into two main types of objects - 3D physical objects and 3D objects, on which rights are defined. The presentation of the geometry of complex objects and the spatial data acquisition is one of the difficulties that underlies the establishment of a 3D cadastre. Another activity essential for the creation of a new cadastre model is a change in the legislation and its expansion with basic definitions for 3D properties and rights. The task of creating a 3D cadastre and upgrading it with spatial data resulting from the use of modern technologies such as LIDAR and unmanned aerial vehicles is complex, but would support activities in various fields, activities to resolve issues related to property rights and would allowed the provision of administrative services to present the spatial object comprehensively and accurately.