

Trends and Expectations Towards to Three-Dimensional Property System in Turkey

Nida Celik Simsek and Bayram Uzun (Turkey)

Key words: Cadastre; Digital cadastre; Geoinformation/GI; Legislation; Real estate development; 3D registration; condominium; independent unit; building; BIM

SUMMARY

It is not sufficient for today's needs to measure and record the immovables two-dimensionally. Because the differentiating human needs of the 21st century are observed in great engineering and architectural projects and they require the transition to a three-dimensional property system. The cadastre register system is based on geometrically defined two-dimensional parcels and independent units on these parcels in Turkey. However, this register system remains incapable in i) keeping the current three-dimensional records of truly three-dimensional constructions, underground and above ground facilities and houses ii) solving the problems regarding the use of the third dimension iii) following the temporal changes and lighting the way for the representation of real world. In our country, there is no compulsory system or model that could represent the immovables in three dimensions yet. However, the need for creating such a visual modeling pushes the public institutions toward conducting various studies. General Directorate of Land Registry and Cadastre, General Directorate of Geographical Information Systems and universities are among the public institutions showing the effort on this matter. Even though the projects being conducted by these institutions regarding the e-government and geographical data models at national level provide some conveniences for the 3D cadastre and visualization, they still remain insufficient for a full 3D modeling and analysis.

The objective of this study is to evaluate the present condition of Turkey in the 3D cadastre and 3D registration, and reveal the prospective tendencies and expectations and is to show that Building Information Modeling (BIM) can be used for solving the problems regarding with the vertical landownership (condominium). In order to do it, we investigate whether or not the laws and regulations are ready for the transition to the 3D registration, 3D cadastre and BIM, analyze the projects and e-government applications of public institutions regarding the spatial data and evaluate the outcomes of these projects. This study shows that 3D cadastre should be evaluated as an

important component of the goal of reaching sustainable cities today. Besides, it is shown that surveyors have an important role in terms of solving condominium problems by using BIMs.

Trends and Expectations Towards to Three-Dimensional Property System in Turkey (9016)
Nida Celik Simsek and Bayram Uzun (Turkey)

FIG Working Week 2017
Surveying the world of tomorrow - From digitalisation to augmented reality
Helsinki, Finland, May 29–June 2, 2017