

3D Cadastres Best Practices, Chapter 1: Legal foundations

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SUMMARY

The concepts of three-dimensional (3D) real property have been the subject of increased interest in land use management and research since the late '90s. Literature provides various examples of extensive research towards 3D Cadastres as well as those that are at various stages of implementation of 3D cadastral systems. In most countries the legal aspects of 3D real property and its incorporation into 3D cadastral systems have not been so rigorously examined. This paper compares and discusses 3D property concepts in 15 cadastral jurisdictions, based on the authors' national experience, covering Europe, North and Latin America, Middle East and Australia. Each of the legal system in these cadastral jurisdiction are based on different origins of Civil Law, including German, Napoleonic and Scandinavian Civil Law, which can prove useful to research in other Civil Law jurisdictions interested in introducing 3D cadastral systems. These jurisdictions are at different stages of introducing and implementing a 3D cadastral system. This contributes to the detection of the 3D real property concepts that apply as well as deficiencies that prohibit introduction of 3D cadastral systems, while highlighting challenges that may have not yet surfaced in individual jurisdictions. This paper aims to present the different legal concepts regarding 3D real property in the examined countries, focusing on the characteristic features of cadastral objects described as 3D within each country's legal and cadastral framework. The analysis of the case studies revealed that the countries are on different stages of 3D Cadastral implementation, starting from countries with operational 3D cadastral systems, to others where there is yet no interest in introducing a 3D cadastral system. This paper presents the nature of 3D cadastral objects in each country, as well as differences in the regulatory framework regarding definition, description and registration. The paper continues the legal workshop discussions of the 4th International Workshop on 3D Cadastres in Dubai 2014 by analysing the legal concepts of 3D cadastres in the above-mentioned countries. The outcome is an overview and discussion of existing concepts of 3D property describing their similarities and differences in use, focusing on the legal framework of 3D cadastres. The article

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concludes by presenting a possible way forward and identifies what further research is needed which can be used to draft national and international research proposals and form legislative amendments towards introduction of national 3D cadastral systems.

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