

3D Cadastral Objects of the Hellenic Cadastre

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SUMMARY

Real properties are the cornerstone of any cadastral system. Consequently, real property modelling as a means of accurate representations of real properties is of great importance, especially taking into consideration various types of real properties that exist in different national legal frameworks. In Greece, these mostly arise from the Civil Law but other types of real properties have been constituted before its application and are still the object of transactions (within the boundaries of customary law) and, therefore, the Cadastral System should accommodate them. In short, additionally to the widely recognized land parcels, horizontal properties (e.g. apartments), vertical properties (e.g. buildings), there are various types of real properties:

- Land parcels that do not constitute a single, independent area of land which may belong to one or more persons *ab indiviso*.
- Real properties that lie underneath the land surface, possibly extending to more than one land parcel.
- Real properties that are built on top of other properties, but are not viewed as typically divided properties (horizontal, vertical) in accordance to the Civil Law.
- Real properties that extend over more than one land parcels, possibly over roads as well.
- Mines that extend underneath hundreds (or more) land parcels.

In addition to those above, there are also other objects that are subject to transactions and are associated with rights on using the land, on exploiting the trees and plantations etc. Therefore, it is understandable that this makes a complicated framework to model. This paper reviews problems previously reported on the real property object modelling of the Hellenic Cadastre and focuses on alternative views of the existing modelling scheme.

BIOGRAPHICAL NOTES

Evangelos Dimas has a Mathematics Degree from the National and Kapodistrian University of Athens, Greece, an M.Sc. in Numerical Analysis and a Ph.D. in Computer Aided Geometric Design from Brunel University, U.K. He has worked as a researcher for the Agricultural University of Athens and the Katholieke Universiteit Leuven (KU Leuven), Belgium, as well as a free lance IT developer in Greece before joining the National Cadastre and Mapping Agency (NCMA), the company responsible for the development and operation of the Hellenic Cadastre, in 1999. Since then, he has served on various positions in the company, mostly as head of the Application Support Department in the IT Division but also in the Operative Cadastre Division as well.

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