

Legal Framework 3D Cadastres

Position paper 1

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1. INTRODUCTION

This paper serves as a discussion basis for a working session on ‘Legal framework 3D Cadastres’ held as one of the four working sessions at the 2nd International FIG Workshop on 3D Cadastre. Keeping in mind the objectives of the FIG Working Group the discussion should contribute the development of basic guidelines (‘a checklist’) for the implementation of 3D-Cadastres, by providing best practices. The paper aims to identify the main topics concerning the legal aspects of 3D Cadastres. However it should be kept in mind these topics are meant to be a ‘starter’ for the discussion and not as a fixed agenda.

After some general observations about the legal aspects, the paper deals with fundamental questions about the way of research, the (im)possibility to create a common basis for 3D Cadastres from a legal point of view and the lack of a common terminology (esp. concepts as ‘3D parcel’ and ‘3D property’). The paper ends with more practical topics to be addressed with regard to the legal aspects of 3D Cadastre.

2. LEGAL ASPECTS

As speaking about the legal aspects of 3D cadastres it is important to discern between the laws and regulations that deal with the land registration as such (legal principles of land registration), and the laws regarding land tenure (land law). More specific the latter refers to the legal instruments for the creation of 3D properties. In fact if a legal system does not provide the instruments to create 3D property, there is no need for a 3D cadastre at all. On the other hand a 3D Cadastre itself does not make 3D property rights possible.

3. LACK OF RESEARCH

In their paper, 3D Property Research – a survey of the occurrence of legal topics in publications, Paulsson and Paasch (2011) observe that “*more focus is given to technical and registration aspects than to legal aspects when it comes to research within the field of 3D property.*” Their conclusion is that more (international) research is needed and that more and focused attention should be given to legal aspects of 3D property.

They raise the question “*whether there should be more specific legal research on 3D property or if it is sufficient to include such aspects in the research of other non-legal topics (...)*”.

4. ABSENCE OF COMMON RULES

Land tenure is typically a national (or even regional) matter, influenced by social-cultural aspects. Of course these differences in land law between jurisdictions also influence the systems of land registration. Worldwide one can observe major differences in those systems, also the result of cultural and historical differences in background. (Zevenbergen 2002).

On the other hand ongoing developments (esp. within Europe) regarding cross-border access to and improved transparency of information from land registries (e.g. EULIS, Crobeco, INSPIRE, LADM, Eurotitle) raise the question if research on legal aspects of land registration should focus more on the common characteristics and possibility of integration and harmonisation (Ploeger and Van Loenen, 2005). As at this moment no country in the world has a true 3D Cadastre (Oosterom et al 2011) this indeed might offer the perspective to development a common basis for 3D Cadastres world wide, also regarding the legal aspects.

After the first FIG Conference on 3D Cadastres (FIG 2002) one of the remarks was that *“Although every country has its own specific laws, this should not lead to the development of a system for every country. If a system should be developed, it is important to look at the common aspects”*.

A decade later Paulsson and Paasch (2011) observe the need for *“a foundation regarding legal system and terminology for 3D property, both nationally and internationally”* and therefore leading to *“a common, conceptual framework allowing the exchange of legal 3D real property information within the cadastral domain”*.

Is this feasible in the light of the fact that land registration in general will be determined by the national context, i.e. the national land law, cadastre law and the state of the art of the land registration in the specific country (Oosterom et al. 2011)?

5. THE ABSENCE OF A COMMON TERMINOLOGY

In the field of 3D Cadastres, there is clearly a lack of a common terminology. Current definitions are based on national legislation and its national, specific characteristics of 3D property (Paulsson and Paasch 2011). Therefore the concepts "3D cadastre" and "3D parcels" are ambiguous (Oosterom et al. 2011).

Paulsson and Paasch (2011) give the definition of 3D property as *“real property that is legally delimited both vertically and horizontally”*. However as land law is mainly a national matter, also the concept of 3D property depends mainly on the national legal system. Each legal system has its own instruments (leases, strata title, limited rights in rem).

The FIG Questionnaire (Oosterom et al. 2011) used the following definition of a “3D parcel”: *“the spatial unit against which (one or more) unique and homogeneous rights (e.g. ownership right or land use right), responsibilities or restrictions (RRRs) are associated to the whole entity, as included in a Land Administration system.”* However, the survey itself

confirmed that what exactly is (or could be) a 3D parcel is dependent on the legal and organizational context in the specific country (state, province).

This raises the question if it is indeed possible to reach a common terminology from a legal perspective.

6. PRACTICAL ISSUES TO BE ADDRESSED

1. Which types of 3D cadastral objects (3D properties) can be registered? Are these always related to constructions (buildings, pipelines, tunnels, etc.) as in Norway and Sweden or could it be any part of the 3D space (both airspace or in the subsurface).
2. In case of infrastructure objects crossing 2D parcel boundaries, such as long tunnels, and pipelines and cables networks: should these be divided based on the surface parcels (as in Queensland, Australia) or treated as one cadastral object (as in Sweden or the Netherlands)?
3. How to deal with the fact that the legal status of such an object, does not have to be the same for all the ground parcels. E.g. one construction situated in three ground parcels, each on the basis of an other type of right (e.g. easement, restrictive covenant, lease).
4. For the representation (and initial registration) of a 3D cadastral object, is the legal space specified by its own coordinates in a shared reference system (as is the practice for 2D in most countries) or is it specified by reference to existing topographic objects/boundaries.
5. Should the 3D registration and visualisation reflect the actual dimensions? Or is it sufficient to have a visualisation of property units in buildings based on standard floor-to-floor heights, as in Spain? What is the legal value of these boundaries. Is an investigation of the source documents (title deed, survey plan) needed to get legal binding information?

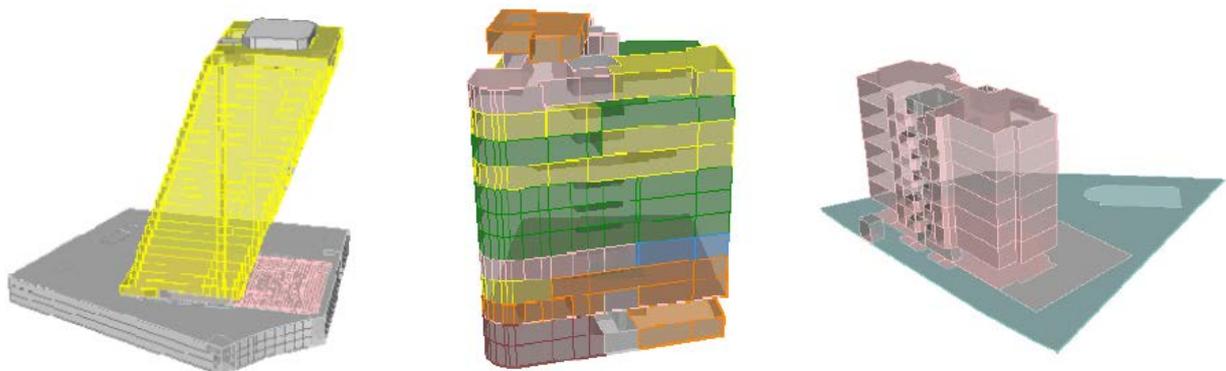


Figure 1. 3D visualization of buildings in the Spanish cadastre, based on a standard floor-to-floor height of 3 meter. (Oosterom et al, 2011)

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BIOGRAPHICAL NOTES

Hendrik Ploeger (1965) studied law at Leiden University and the Free University of Amsterdam, The Netherlands. In 1997 he finished his PhD-thesis on the subject of the right of superficies and the horizontal division of property rights in land. He is associate professor at Delft University of Technology (OTB Research Institute) and holds the endowed chair in land law and land registration at VU University of Amsterdam. His research expertise focuses on land law and land registration, especially from a comparative legal perspective.

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