



Official Closing 3D Cadastres workshop

20-10-2016

Peter van Oosterom

at the Joint 3D Athens Conference,
18-21 October, Athens, Greece

Observations



- 5th 3D Cadastres workshop: 2001, 2011, 2012, 2014
- 2nd time combined with 3D GeoInfo (after Dubai 2014)
- Joint organization NTUA and TUD
- Good participation 70-80 persons, and most of them also participate in 3D GeoInfo (synergy)
- Submissions from all continents of the world
- Very active reviewers, **many thanks!**
also various authors/ presenters acknowledged this in public
- Both abstracts and papers with high scores
- Plagiarism check did give no worries
→ original work, all papers checked



National
Technical
University of
Athens

Plagiarism check, 'worst case' example

however specific extrinsic capabilities of a cadastral system that need to be fully or partially fulfilled so that it can be considered a 3D cadastral system.

The primary capacity for a 3D cadastral system is to be able to register space as a separate entity within the cadastral system. It is not an implicit 3D column of rights but rather an explicit registration of 3D spatial object. The 3D spatial object itself can be a physical 3D structure, an envelope of the physical 3D structure, a slice of rights above or below the surface that in turn may or may not be contiguous to any land or other 3D spatial parcels. In all cases, the main aims to be achieved in implementing a 3D cadastral model comprise the adoption (Khoo, 2012):

- to an official and authoritative source of 3D cadastral survey information,
- to open source format for data exchange and dissemination, and
- to international standards in data modelling.

The design of a smart data model that supports 3D parcels (the spatial unit against which one or more homogeneous and unique rights, onus or restrictions are associated to the whole entity, as included in a Land Administration system ISO/TC211 10152:2012), the automation of cadastral survey data as well as the integration of the temporal dimension truly integrated 4D spatio-temporal geometry/this process.

As these cadastral systems progress towards a the complexity of allowed geometric feature accommodate these complexities grow too. It cadastral jurisdiction to provide the institution facilitate the registration of 3D parcels and to p to record and display 3D cadastral data within t

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ORIGINALITY REPORT

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|------------------|------------------|--------------|----------------|
| 36% | 31% | 19% | 12% |
| SIMILARITY INDEX | INTERNET SOURCES | PUBLICATIONS | STUDENT PAPERS |

PRIMARY SOURCES

| | | |
|----------|--|-----------|
| 1 | mdpi.com Internet Source | 9% |
| 2 | www.inescc.pt Internet Source | 7% |
| 3 | Submitted to Technische Universiteit Delft Student Paper | 5% |

Abdul-Rahman A, Van Oosterom P, Chee Hua T, Sharkawi K H, Duncan E E, Azri N and Hassan I (2012): 3D Modelling for Multipurpose Cadastre. 3rd International Workshop on 3D Cadastres: Developments and Practices, Shenzhen (China), 25-26 October.

Abdul-Rahman A, Hua T H and Van Oosterom P (2011): Embedding 3D into Multipurpose Cadastre. FIG Working Week, Marrakech (Morocco), 18-22 May.

Chong C S (2006): Toward a 3D Cadastre in Malaysia – An Implementation Evaluation. Delft University of Technology: 110.

Dale P and McLaughlin J (1999): Land Ad Press, 169 p.

El-Mekawy M, Paasch J and Paulsson J (2009): Formation and BIM in Sweden. 4th International Workshop on 3D Cadastres (UAE), 11-13 November: pp. 17-34.

Guo R, Luo F, Zhao Z, He B, Li L, Luo P, Y (2014): 3D Cadastre in Shenzhen. In: Proceedings of the 4th International Workshop on 3D Cadastres, Arab Emirates, Nov. 9-11, 2014

Hassan M I and Abdul-Rahman A (2010): 3D Cadastre System. FIG Congress, Sidney (Australia): 24

Karabin M (2014): A Concept of a Model Approach and Legal Aspects. 4th International Workshop on 3D Cadastres, Shenzhen (China), 25-26 November: pp. 281-298.

Khoo V (2012): Towards "Smart Cadastre". 3rd International Workshop on 3D Cadastres: Developments and Practices, Shenzhen (China), 25-26 October.

Information Science of Wuhan University. 40(2):258-263 (in Chinese)

Zhao Z, Guo R, Li L and Ying S (2012): Topological relationship identification in 3D cadastre. 3rd International Workshop on 3D Cadastres: Developments and Practices, Shenzhen (China), 25-26 October.

BIOGRAPHICAL NOTES

Efi Dimopoulou is Associate Professor at the School of Rural and Surveying Engineering, NTUA, in the fields of Cadastre, Spatial Information Management, Land Policy, 3D Cadastres and Cadastral Modelling. She is the Programme Director of the NTUA Inter-Departmental Postgraduate Course «Environment and Development» and President of the Hellenic Society for Geographical Information Systems (HellasGIS).

Sudarshan Karki is the manager of the Digital Cadastral Database (DCDB) in the Department of Natural Resources and Mines, Queensland Government, Australia. He is a surveyor and has completed a Master of Spatial Science by Research at the University of Southern Queensland (USQ) in 2013 and a professional Master's Degree in Geo-informatics from ITC, The Netherlands in 2003. He has continued his research interest in 3D cadastre and is currently undertaking his PhD research at USQ.

Miodrag Roić graduated in Geodesy from the University of Zagreb, Faculty of Geodesy. Since 1996, he is a professor at the University of Zagreb, Faculty of Geodesy. He was Vice Dean of the Faculty, Head of the Chair of Spatial Information Management and the Institute

More observations from the workshop

- Good progress in science and in practice
 - More operational 3D cadastral systems announced (after earlier prototypes and pilots)
 - A lot of discussion and interaction between participants from government, industry and academia
 - Active participation by Hellenic Cadastre
 - Open attitudes
-
- Best paper award



Best paper award goes to

Katerina Athanasiou, Efi Dimopoulou, Christos Kastrisios and
Lysandros Tsoulos

Management of Marine Rights, Restrictions and Responsibilities
according to International Standards

Reviewers opinion

- Paper received highest possible overall evaluation scores, twice!
- Some selected remarks:
 - 'The contents of the paper reveal knowledge of developments related to 3D marine cadastre / marine administration systems.'
 - 'The topic is interesting for discussion and the text is well-structured, carrying important contributions to the theme.'

- Contributed to important progress via integrating ISO LADM and IHO S-121

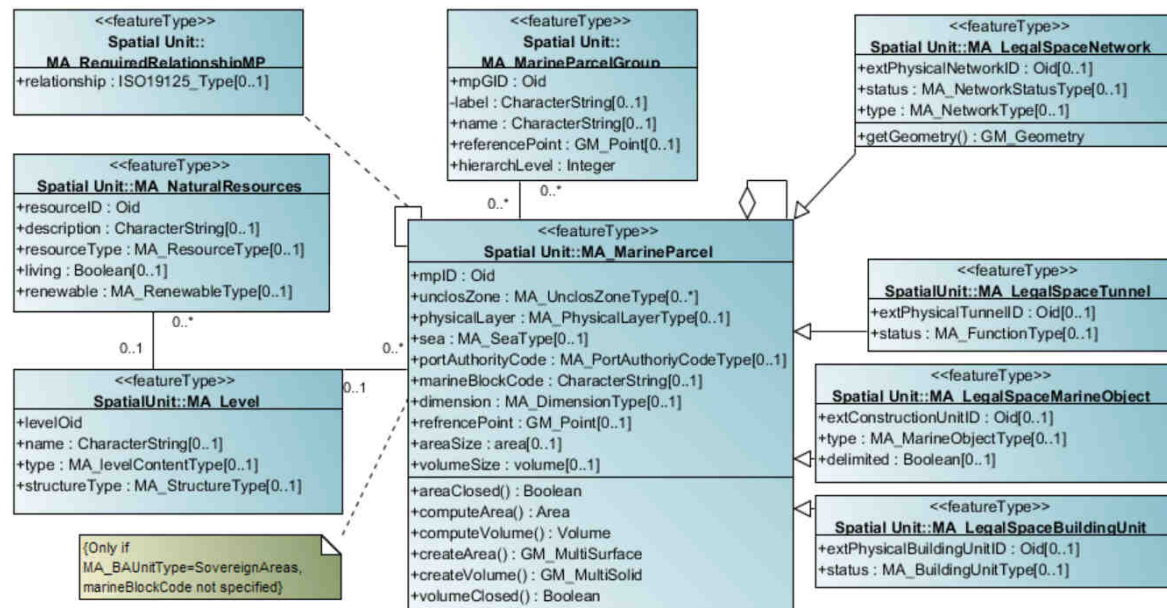


FIG best practices publication

- Based on reports the four/**five** key areas of 3D Cadastres:
 1. Legal framework 3D Cadastres
 2. Initial registration of 3D parcels
 3. 3D data management & modelling → **2 chapters: DBMS + modelling?**
 4. Visualization, distribution and delivery of 3D parcels
- More co-authors welcome, including the constructive reviewers



The screenshot shows the FIG website's Publications page. At the top, the FIG logo is displayed in red, with the text "International Federation of Surveyors", "Fédération Internationale des Géomètres", and "Internationale Vereinigung der Vermessungsingenieure" below it. A "Google Custom" search box is visible on the right. A navigation menu includes "Home", "News", "Organisation", "Members", "Resources", "Partners", "Foundation", "Events", and "About FIG". Below the menu, a secondary navigation bar lists "General", "Publications", "Proceedings", "Databases", "Articles about FIG", "Article of the Month", and "e-Newsletter". The breadcrumb trail reads "Home > Resources > Publications > FIG Publications". The main content area is titled "FIG Publications" and features a collage of various publications, including "The FIG Profile", "ANNUAL REV", "The FIG Profile", and "In-For Purpose Land Administration".

Next steps

- On-line proceedings
<http://www.gdmc.nl/3DCadastres/workshop2016/programme/>
After the workshop also the slides will be added (pdf)
- Authors get review reports on their full papers (next week)
- FIG publication: Best practices in 3D Cadastres
(based on overview papers)
- Selected authors get invitation to submit a significantly extended /
changed version before 31 March 2017 to the special issue of ISPRS
International Journal of Geo-Information (a SCIE journal)
- Next 3D Cadastres workshop most likely in 2 years from now:
2018, back to Delft (joint event with 3D GeoInfo, ISPRS comm.4)?

Finally....

- Learn, enjoy and have more fun at 3D GeoInfo and Indoor 3D!
- Many thanks to all 3D Cadastres
 - authors,
 - presenters,
 - active participants,
 - reviewers,
 - local organizing team (NTUA, ERA) and
 - special, special thanks to Efi Dimopoulou
- for making this an event never to forget due to the great content, amazing venue, and warmest hospitality