

Initial Inventory of 3D Cadastre Use Cases in the Caribbean

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SUMMARY

As argued in many earlier FIG publications, the potential benefits of 3D Cadastre are huge. This is especially true in the Caribbean setting with quite dense urban areas and large and important marine areas, where rights (restrictions and responsibilities; RRRs) in 3D is a prerequisite for the blue economy. The Caribbean with a plethora of 3D use cases present, limited legacy data and systems, and a relative small size, is an excellent site for establishing an integrated 2D/3D Cadastral registration. Such a future system will support sustainable development of the Caribbean in the economic sense, while protecting the environmental values and human values (based on legislation and tools to support this).

This contribution will present an initial inventory of relevant 3D Cadastre use cases in the Caribbean. This initial inventory gives an indication of the multi-disciplinary nature and importance of the topic, but will also be used for scoping the future development. The current list of 3D Cadastre use cases in the Caribbean includes:

- Aruba:

A1. Condominium and apartment rights registration

A2. Registration of heritage buildings and landmarks

A3. Land and marine definition and rights management

A4. Public and private property

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overlap

- Bonaire:

B1. Registration apartment rights

B2. Registration marine rights

B3. Registration of utility lines (under and above ground) and sewerage

- Trinidad&Tobago:

T1. 3D data on buildings with overlapping rights

T2. Layered marine rights

T3. Complex buildings with above ground tunnels

T4. 3D Informal rights

In future work these various types of use cases will be analyzed. Especially in case of apartment complexes and the tourist industry, the temporal dimension via the time-sharing approach as being supported in Aruba, actually results in what could be called a 4D Cadastre. Further future work includes analyzing existing law (and proposals for new law where needed), 3D data collection for the sample use cases, developing an Caribbean 3D LA information model (based on the ISO standard 19152 LADM), prototype system development (including 3D visualization) and a cost-benefit analysis. Large parts of these future results will also be useful for 3D Cadastre solutions elsewhere in the world.

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