

Modeling Spatial Units Class for Spatial Planning Map for the Future of Iso 19152 on Land Administration Domain Model (ladm)

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SUMMARY

Spatial planning is exists as soon as communities manage and use space and everything inside. FIG has acknowledge the land management paradigm in guiding land management practices to achieve sustainable development. Acknowledging land as scarce resource, UN-Habitat (2017) stated explicitly the importance of spatial planning system to for achieving Sustainable Development Goals. Spatial planning produce spatial (or land use) plan map that describing functions, priorities, privileges prohibitions, and obligations implies on each spatial unit. Countries may apply rules and hierarchy on spatial planning. In this setting, interoperability is vital to reduce complexity in constructing and documenting spatial plan map, particularly in maintaining consistency vertically (upper or lower administrative jurisdiction) and horizontally (with neighboring areas). Policymakers and planners constrains time on spatial plan map, for they can update it not only in a fixed time interval but also to respond changes in demography, geopolitics, trends, or disasters. Standardization may even more critical in the operational component of land management when land administration functions attempt to integrate information resulted from spatial planning process with other domains, such as land tenure, land valuation, and land development. A smart city must develop an effective Land Administration System (LAS) for linking information about Rights, Restrictions and Responsibilities (RRRs) from these domain to the landowners. European Commission has developed a extendable spatial planning data model and code lists through Plan4All initiative to ensure interoperability and harmonization of spatial planning information as part of European Spatial Data Infrastructure (INSPIRE) establishment (Schrenk et al. 2011). In 2012, ISO published ISO 19152 on Land Administration Data Model (LADM) to provide a guideline for country or city in developing LAS, consisting classes to represent four inter-related components: party (person or institutions), basic administrative units, spatial units, and Rights-Restrictions-Responsibilities. Stakeholders involve in LADM have agree to include land use planning and land development into the future LADM. The development of future LADM is a

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great opportunity for planners and policymakers in developing a modern LAS for supporting ranges of application, such as tax and revenue, permit systems, land and development rights acquisition, development land (and space) market, partnership in urban infrastructure planning, and participatory disaster management. However, a modern LAS require a robust data modeling for representing RRRs, particularly in visualizing in 3D space and time-bound RRRs. This paper aims to present our development in modeling spatial plan data derived from spatial planning processes to be integrated with the future LADM.

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