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Abstract submission for the NCG Symposium 2020

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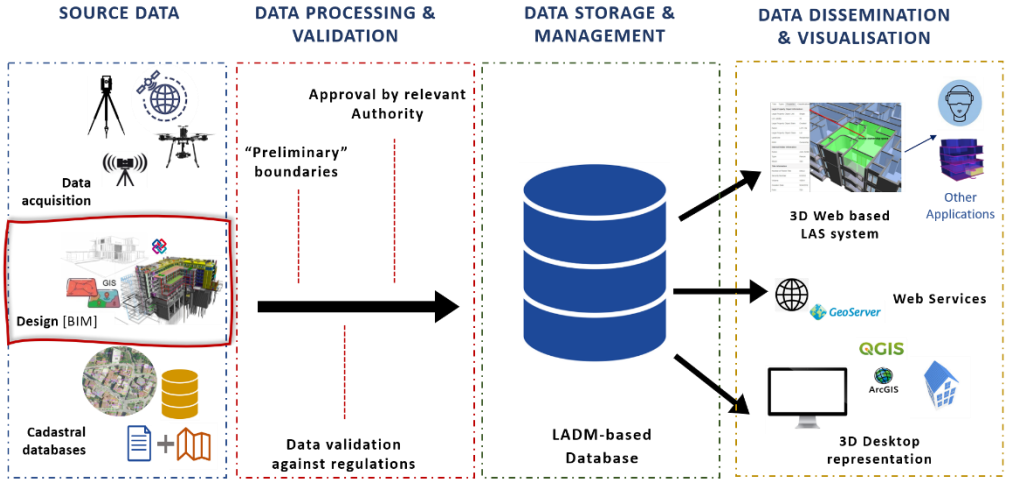
Presentation title: Investigation of using IFC files for 3D Land Administration

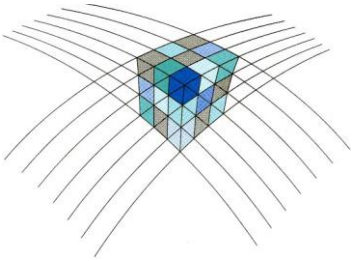
Demo: No

Abstract:

The domain of land administration is challenged by an unprecedented demand to utilise space above and below earth's surface, especially in the built environment, which mandates the use of 3D information. In parallel, the evolution and applications of Building Information Modelling (BIM) towards integrated sustainable design and dissemination of information is gaining ground. To achieve lossless exchange and reuse of standardized and trustworthy data between stakeholders through various phases of the building lifecycle, BIM is becoming popular. One of those domains is the registration of Rights, Restrictions and Responsibilities (RRRs) attached to spatial units.



In this scene, the research focuses on the reuse of BIM/ IFC files in buildings' lifecycle and specifically in the 3D registration of apartments. Given the vision for a future 3D Land Administration System, as presented at the figure below, it is investigated, that the submission of BIM models in IFC format would allow for data to be digitally archived, remain available and accessible in the long term, examined and validated according to specific rules, stored in LADM-compliant database and visualised in 3D web-based platform, where queries can also be performed.



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In this context, initial and general directions of how IFC should be structured to provide content-wise useful information for registration of RRRs are investigated within this paper using Pontsteiger building in Amsterdam as case study.