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TOWARDS 3D-REAL PROPERTY CADASTRE IN SLOVENIA

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SLOVENIAN LAND ADMINISTRATION

Dual registration system



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BUILDING CADASTRE

- Introduced in 2000
- Before, strata title was registered in Land registry

What is a building?

- Can be entered by a person
- Designed for housing (permanent or temporary), business activities or any other activities
- Cannot be moved without damaging its substance



BUILDING CADASTRE

Detailed data

- Buildings built after 2006
- Older buildings, if strata title is registered

All other buildings

- Basic geometry (photogtammetry)
- Attributes from mass inventory

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BUILDING CADASTRE MODIFICATION IN 2018

- Classification of the building part usage
- Digital floor plans (GeoJSON)
- Floor height attributes
- Improved quality control
- Enabling 3D visualisation
- Facilitate changes in delineation





NEW LEGISLATION IN 2021

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Establishing a unified cadastral information system that will combine data from the **Land cadastre** and the **Building cadastre**





NEW LEGISLATION IN 2021

- Structured digital data and digital processes
- Geometries of easments and building rights
- Above-ground outline
- Underground outline



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3D VISUALISATION

3D viewer for floor plans and external geometry

- Link to attributes
- Clarify the representation
- Identifying errors







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PILOT PROJECT VECTORIZATION OF FLOOR PLANS

575 buildings

- All variants of stored data
- Spatial distribution over entire Slovenia
- Misplacement (swapped positions) of building part numbers in the floor plans
- The shape of the floor plan not matching the shape of the external building outline
- Inconsistency between the attributes and the graphical representation
- Missing building part numbers
- Unclear subsequent changes to the building parts
- Missing floor plans



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GeoBIM PROJECT 2-YEAR PROJECT

Research on the adaptation of information systems, legislation, data structures and processes to support BIM data at the SMA





POTENTIAL FOR UPGRADE TO 3D

- 3D volumetric representation of indoor spaces
- Additional measurements
 - Thickness of walls and ceilings
 - Passages
 - Additional heights in complex spaces



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OPEN QUESTION:

HOW DETAILED AND ACCURATE?







CONCLUSIOS

- The new legislation will improve the data management and data quality
- Additional geometries will improve the representaion of the building in cadastral database
- For proper 3D modelling of indoor spaces, additional data needs to be acquired on-site, which can lead to significant increase in costs
- New technologies will alow more efficient indoor spatial data acquisition

