Moving Towards a Fully Operational 3D Digital Cadastre: Victoria, Australia

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Limitations with the current Cadastre in Victoria
Cadastre in Victoria

- 29 levels
- 3 basement levels
- 394 apartments
- 348 car spaces
- 2 retail lots
- 1 health spa lot
- 6 Common property areas

(Ref: Little Projects, 2012)
56 Sheets to Represent Ownership Rights, Entitlements and Liabilities

(Ref: AAM Group, 2012)
Current Limitations

• Plan preparation is complex and often results in requisitions
• Examination process requires careful examination and often requires technical expertise
• Information is not easily reusable (PDF)
• Queries, analyses and decision making are possible, but not efficient
• Difficult for the Public to understand their Rights, Restrictions and Responsibilities
• Plan interpretation between two parties can be different
• What are my ownership boundaries?
• What is the extent of the common property?
Where are we now?
Victorian Cadastral Transition (Paper → Digital)

- **1990**: Vicmap Property dataset creation
- **2000**: Title information migrated to VOTS
- **2004**: PDF Plans through SPEAR
- **2008**: ePlan investigation commenced
- **2011**: ePlan as a supplementary document in SPEAR
- **2013**: SPEAR ePlan enabled
- **2014**: Digital cadastral upgrade pilot project commenced
- **2016**: The 3D Digital cadastre investigation commenced
- **2018**: ePlan Pilot commenced / Digital cadastre modernisation project commenced

PDF-based plans

Paper-based plans

- PDF
- XML

BIM? 3D ePlan? ...
Research Activities

• 3D data visualisation
• 3D data validation
• 3D data modelling
• 3D data storage
• 2012-15: ARC Linkage project on ‘Land and Property Information in 3D’
• 2016-19: ARC Linkage project on ‘3D Property Ownership Map Base for Smart Urban Land Administration’
Where do we want to be?
High Level Strategies
Short-term Vision:
• Provide the infrastructure and services to enable the submission and registration of ePlan for all 2D Victorian cadastral plans by 2020.

Long-term Vision:
• Implement ePlan for all cadastral plans & surveys by 2025.
ePlan 2025 Road Map – Major Milestones

- **2018 - 2019**: ePlan Pilot
- **2020**: Support APS & OSGV plan types in ePlan
- **2021**: All 2D subdivisions NO GREATER than 10 lots to be provided in ePlan
- **2022**: All 2D plans and surveys to be provided in ePlan
- **2025**: All plans and surveys to be provided in ePlan
Roadmap Development Process

**Phase 1 Planning and Preparation**
- Establish Steering Committee
- Determine scope and boundaries
- Select stakeholders and experts
1 to 2 months

**Phase 2 Visioning**
Conduct senior-level vision workshop to identify long-term goals and objectives
1 to 2 months

**Phase 3 Roadmap Development**
Conduct workshops to consider and identify policies, projects, stakeholders, technologies, priorities and timelines
2 to 6 months
- Develop roadmap document
- Conduct review and consultation cycles with key stakeholders for endorsement
- Refine and launch roadmap
2 to 8 months

**Phase 4 Implementation, Monitoring & Revision**
- Conduct workshops to re-assess priorities and timelines as progress and new trends emerge
- Update roadmap
Recurring (1 to 5 years)

(adopted from (IEA, 2014))
Phase 2: Visioning

• Conduct senior-level vision workshop to identify long-term goals and objectives

By 2025, implement a digital cadastre that:

• accurately delineates Victorian property boundaries in 3D
• defines the legal rights, restrictions and responsibilities of all parcels and their associated physical objects
• delivery of cadastral data is to an industry accepted single modelling standard
• facilitates 3D visualisation, validation, storing, updating, interoperability and interrogation of cadastral data
• enables key stakeholders to make timely and efficient decisions
• supports integration with existing cadastral systems and databases.
Phase 3: Roadmap Development

- Conduct workshops to identify relevant policies, projects, stakeholders, priorities and timelines
- Develop roadmap document
- Conduct review and consultation cycles with key stakeholders for endorsement
- Launch Roadmap
Phase 4: Implementation, Monitoring & Revision

- Conduct workshops to re-assess priorities and timelines as progress and new trends and technologies emerge
- Update roadmap
Future Work

- Continue development of the roadmap
- Consult with key stakeholders for review and endorsement
- Continue 3D digital cadastre investigation according to the roadmap
THANK YOU