

# Progress towards fully digital cadastral survey data exchange in Australia and New Zealand

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## SUMMARY

Major digital transformation activities are currently underway in Australia and New Zealand to modernise jurisdictional land administration systems so that they meet the future digital needs of government, industry and community. Significant developments are being undertaken in digital cadastre upgrades, automated validation and processing of digital cadastral information, digital examination, digital titling and registration systems, online spatial data portals, and digital twins. An important step that each Australian and New Zealand land administration agency will take on its respective digital transformation journey is the introduction of mandatory digital lodgement of cadastral survey data.

To support the implementation of a unique, sustainable and international standards-based approach for the exchange of cadastral data throughout Australia and New Zealand, the Intergovernmental Committee on Surveying and Mapping (ICSM) is leading the development of a new standard, coined ‘3D Cadastral Survey Data Model.’ This new standard is central to achieving ICSM’s vision for all cadastral systems – a cyclic flow of digital data between surveying professionals and the agencies.

To date, ICSM and key partners have produced a harmonised data model that describes all the 2D and 3D cadastral survey elements that jurisdictions require for the exchange of cadastral data. The data model has been defined at the conceptual and logical levels and uses existing internationally recognised standards and ontologies wherever possible. Moreover, profiling has been included to support jurisdiction-specific requirements and nuances in cadastral legislation and policy. From this model, a 2D standard reference implementation in JSON has been developed and made available (via open source channels) for public testing and implementation. Next steps involve developing 3D extensions to the JSON encoding specification, producing additional jurisdiction profiles, testing

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and refinement of the model, and implementation by Australian and New Zealand land agencies. In view of a successful, nationally-consistent implementation across the various jurisdictions, engagement with survey software vendors is also underway.

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