Comparisons of Process Automation in Cadastral Digitisation Implementations in Australia - from Fit for Purpose to Digital Rigour in Spatial and Transaction Processes.

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SUMMARY

Most States in Australia are implementing cadastral digitisation processes with varied levels of machine readable survey content that facilitate process automation. This presentation compares different systems we have supported in Northern Territory (NT) and New South Wales (NSW).

The NT is sparsely populated with single Pastoral Leases covering large expanses. The NT acted over 20 years ago after recognising the benefits of GNSS and a digital survey database. It has progressed to digital cadastral modelling and legislated legalised Title coordinates in certain areas. Capture of basic components for 3D cadastre visualisation is now included in the process.

As of July 2017 the NT has mandated all survey plan lodgments to be completely digital but with a mixture of formats that is each fit for purpose. The process requires surveyors to lodge digital images of new survey plans and a file of machine readable content for a degree of automation. Surveyors are also required to provide a Plan Examination Report generated by their COTS survey database application. The NT approach is minimalist but scalable if more rigour or cadastral intelligence is required in the future.

NSW has taken a more rigorous approach by mandating to represent every element of a survey plan in a machine readable LandXML structure with the aim to automate as much of the plan examination process as possible. The intuitive input of surveyors into boundary reinstatement challenges the capacity to apply rigid digital processes to a software based examination solution but Seaconis Inc has provided NSW with a unique rigorous automated examination environment (PlanTest).

Another aim in NSW is to be able to reproduce a representation of the survey plan from the LXML

file and it is successful in ‘green field’ land release surveys. However, the complexity of representing all the annotation noted on a survey plan in older urban areas has also challenged the rigid rules of software to match the intuitive decisions made by a draftsperson and move towards an automated coherent digital representation (rendering).

This presentation compares areas of technical complexity and automation, market acceptance and levels of integration into digital land administration between the 2 jurisdictions. How the innovations benefit government and other stakeholders is also discussed.