

# The role of LADM (ISO19152) in the digital transformation of the Land Administration ecosystem

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## SUMMARY

The Land Administration ecosystem comprises of authoritative agencies who store and manage authoritative data (FIG, 2022, p. 139). Authoritative data is fundamental to a range of formal and informal processes and inter-agency functions. Unfortunately, for the majority of jurisdictions, the products, services and processes of these agencies are not digitally integrated (UNECE, 2021, p. 11). This often results in the duplication of capabilities and inefficient inter-agency processes.

An efficient and effective Land Administration ecosystem will store these relationships once, with the authoritative agency, and share the results throughout the ecosystem using common identifiers and linked data. This is referred to as the once-only principle (UNECE, 2021, p. 11). The expectation is that the capabilities of agencies will evolve and become increasingly integrated. Such change requires digital transformation.

As described by Brown et al. (2014, p. 14) government digital service transformation is about "the reimagining and reinvention of the way public services are conceived, designed, operated and managed" requiring the "rethinking of the very plumbing of government". There is also an expectation that transactions will become machine readable leading to entirely digital automated real-time registration (UNECE, 2021, p. 13).

As a standard, the revised LADM (ISO TC/211, 2012) should be foundational to such transformations. The revision of the LADM extends the scope of the 2012 standard towards addressing the needs of the broader Land Administration ecosystem (Body et al., 2022). The LADM revision has the potential to do more than provide semantic interoperability between jurisdictions, it can support the delivery of Government as a Platform or Service (O'Reilly, 2010; Brown et al., 2014). Within this context LADM is a standard that supports the re-definition and

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commoditisation of common behaviour to deliver well understood processes that are exposed as services using Application Programming Interfaces (APIs).

This paper describes a conceptual logic of machine and human readable transactions for Land Administration that are framed within the LADM. Core Land Registration processes have been defined that cover the alienation of parties (ToP), land (VoL), and rights (AoR). We also discuss the relationship between transactions and dispute processes. This provide clarity in terms of the foundational concepts, implementation patterns and generic business logic. This is essential to achieve the digital reforms envisaged by UNECE, FAO, and FIG (UNECE, 2021; FAO et al., 2022).

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