Improving housing delivery with Integrated Spatial Visualisation Platforms
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Building sustainable human settlements requires more than bricks and mortar. We need to understand the meaning of the word "human" in human settlements, and focus our efforts on building sustainable settlements and resilient communities.

South Africa's strategic plan, the National Development Plan (NDP), provides a clear vision of where we should be in 2030. Chapter 8 of this plan deals with the transformation of human settlement and the national space economy. Sadly though there are still municipalities in 2018 approving settlement plans which sometimes contain elements of outdated spatial planning infrastructures e.g. clustered dwellings and communal toilets, thus overlooking the "human" aspect of human settlement.

The NDP 2030 makes a call for the delivery of flexible human settlements that are spatially, socially, and economically integrated, and geospatial technologies are playing a key role in making this vision a reality. Esri's spatial visualisation platform is being used to assess the Duncan Village redevelopment project in the Eastern Cape; one of several priority projects targeted for intervention by the Buffalo City Metropolitan Municipality's Human Settlements Unit.

The audience at a recent seminar hosted by Esri South Africa and presented by NT Geomatics, an Esri Business Partner, were taken on a virtual reality tour of the Duncan Village redevelopment project, courtesy of a range of geospatial and 3D modelling software, which brought the full scope of the proposed housing project to life.

On the Duncan Village project, the integrated spatial visual platform has made it possible for surveying and town planning consultants from NT Geomatics to ascertain whether the human settlement plan is compliant with the prevailing legislative framework and whether space has been built into the project plans for future needs e.g. public transport systems.

The Esri solutions used for the Duncan Village project assessment include ArcGIS, Drone2Map, Story Maps and City Engine.The Esri spatial platform allows for access to a range of key datasets e.g. land cover, land use and land ownership at the touch of a button.

This facility has simplified appropriate site selection for sustainable human settlements, helping to avoid lengthy and costly land appropriation procedures by identifying suitable land that is more readily available.

The platform also demonstrated that it can strengthen good governance principles as it swiftly identified instances of possible corruption where land intended for human settlement had been sold off cheaply only to be offered back to the department at inflated prices. The integration of various systems including Cadastral, Deeds, and Valuation made this possible.