# Re-Imagining the Role of a National Mapping Agency to Support Spatially Enabled Governance

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**SUMMARY**

Effective policy and decisions can only be made when supported by complete, accurate and timely evidence.

However, we are surrounded by information and data, but don't necessarily know what is relevant for our needs. When we do find appropriate data, is it accessible, accurate, authoritative, or assured? Has it been collected at the right time, does it cover our area of interest? Finally, is the data licensed in a manner that allows us to use it effectively? With such an array of constraints it is easy to see why "analysis paralysis" may set in.

This is exacerbated with spatial data, where collection and classification strategies represent a significant investment of time, money and intellect. Changing any data collection specification to match a new policy or decision-making requirement is equally time-consuming and expensive. However, it should be expected that policy and decision-making requirements should reflect the dynamics associated with social, economic or technological change exhibited across rural and urban landscapes. Traditionally, there has been significant difficulty to effectively respond to this need.

As an organization, Ordnance Survey has been providing spatial data that supports evidence-based policy and decision-making and helping business improve efficiencies for many decades. This includes applications in land use change and (cadastral) land administration, but also right across the public sector, also across many public services including: for example emergency services, healthcare provision, and local government. We've learnt that collaboration across these sectors is key to success; highly effective relationships between a trusted data provider, a policy maker, a decision maker and the citizen. We have seen that spatial data forms the foundation for effective evidence-based decision making, by combining all the different data together for a specific property,  neighbourhood, area or region to ensure the right policies and resources are deployed.

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We realised we needed to To answer this need for foundational spatial data We we have developed more flexible mapping and spatial analysis tools to respond to these changing needs. We created by creating state of the art an automated digital mapping solution based on a suite of machine learning and artificial intelligence spatial classification algorithms to extract bespoke spatial data products digital map features and land cover classes. Our automated digital mapping solution, rapidly captures, integrates, and enables the visualisation of spatial data across the landscape. This provides the evidence upon which to collaborate, model, plan, implement and monitor policy. The ability to rapidly review and change the modes of collection, interpretation and re-use are 'built-in' to the architectural framework allowing the evolution of workflows that deliver truly 'fit-for-purpose' outputs. This results in a more nuanced relationship between policy and practice as more appropriate tools are now available to measure and evaluate policy impact more effectively.

These innovative mapping techniques were tested in Lusaka, Zambia giving planners a clearer picture of the city's rapid urbanisation and informal settlements. By bringing together national government with local government, academia, built environment professionals and the private sector, the Zambia mapping pilot provides an excellent example of a structured multi-stakeholder approach. It collectively addresses social and policy challenges, while deploying a configurable and dynamic technology stack which is both scalable and replicable.

The partnership recognises that the delivery of well-planned cities relies upon collaborative stakeholder evidence-based approaches with supporting technology infrastructure which delivers information rich datasets that are so essential to the effective management of today's cities.

We are delighted this pilot won the AI Innovation of the Year award (Digital Leaders). We will present an overview of the technology, how the technology can support spatially enabled governance, and examples from the award-winning pilot from Lusaka.