

Stream 3 -Alain Buogo, David Henderson

Consider the key areas of transformation on the road ahead for NMGAs and the obstacles to change.

Participants in the workshop focused on the following areas of transformation and obstacles to change:

- **'Why' NMGAs do what they do:** The workshop considered a quote by Friedrich Nietzsche: 'He who knows the why can endure any how'. To become future-ready, NMGAs should 'take a step back' to review what it is they are doing and what it is they should (not) be doing. The workshop concluded that the 'Why' NMGAs do what they do should go well beyond a NMGAs public mandate and focus more strongly on the passion of NMGAs for the work they do. As such, NMGAs are reliable, trusted and sustainable partners to both government and the public - a provider of quality data and information.
- **The role of NMGAs in the digital economy:** NMGAs have a vital role to play in the digital economy - location is a key enabler in unlocking value in the digital economy. The digital economy is focused on aspects of the connected economy; this is demonstrated by the increasing development of the Internet of Things and the Smart City concept - with increasing connectivity the idea of a 'sense of place' increases. Location data can be a common reference framework which not only provides connectivity between assets but can also be used for data analytics and public engagement; a way of unifying and making sense of growing volumes of data.
- **International collaboration within the geospatial industry:** International collaboration is key and should be sought more actively either through online portals or a data-driven ecosystem. Areas of collaboration include how NMGAs can become more commercially aware by either becoming more efficient or striking the balance between public task and commercial enterprise. This could also include the international sharing of strategic plans and business models of NMGAs.
- **The power of combinatorial technological change:** The rise of combinatorial technologies – the combination of various disruptive technologies - creates a step change as set out by the Gartner technology graph. CAVs are a technology that is combinatorial by nature by bringing together 5G, self-driving technology and point cloud technology. The geospatial industry needs to improve its awareness of those types of opportunities and actively contribute to its development.
- **Obstacles to change:** There are three distinct areas that provide challenges to NMGAs. This falls into three areas of open data provision, increasing competition in geodata capture, and being a commercial viable business that remains a trusted data and information provider.
- **The importance of standards:** Standards are imprinted in the future work of NMGAs, but for it to become a general-purpose commodity, standardisation needs to happen at a much greater pace. In the future, value creation will depend on the combination of different datasets underpinned by location because 'everything happens somewhere'. NMGAs should be in charge of structuring data to ensure interoperability. Working collaboratively with SDOs could help solve this.

