

## Nigel Clifford – Chair Opening Remarks

### Abstract

*'Geospatial is like a general-purpose technology; it's the oil for the next generation of the digital economy.'*

The experience and knowledge represented at today's conference brings together representatives from every continent (except Antarctica). The 2017 Cambridge Conference aims to address three key objectives. First, a desire to share experiences, second a chance to collaborate with one another, and third an opportunity to think together about the common challenges pressing all NMAs. One of these challenges is the power of disruptive technology that has created a feeling of discomfort; a feeling also experienced by NMAs. In the light of increasing competition and technological and skills challenges, NMAs need to redefine their role within this digital economy and seek the opportunities presented by technological advances. NMAs are faced by a world of challenges, but more importantly NMAs should celebrate the power of geospatial.

Nigel outlined 3 aims for the conference:

1. To **share experiences** based on collaborative conversation;
2. To **Engage** together; and
3. To think about and **unite around common challenges**.

Nigel referred to a book by Thomas Friedman about the galloping pace of innovation. He highlighted that, in more recent years, the world has experienced exponential changes in technology and innovation which has created a feeling of discomfort. Geospatial is at the heart of those changes including areas like 3D and modelling of the real world, or bringing in predictive analytics. This disruptive movement is asking many questions and the future of the NMA has become one of those challenges.

Ordnance Survey had the opportunity to participate in a number of demonstrators such as smart cities, or what 5G networks will be require in the future. OS had three learnings coming out of that:

1. **Providing more detail, more currently for future geospatial needs:** The detail being sought for these experiments is unmatched from anything NMAs ever had to produce, going down to the level of an extra 40,000 features captured in 4 km<sup>2</sup>. This includes looking a street-level geography for putting in a new 5G network where the foliage on the trees suddenly becomes an input to the modelling.
2. **Integration of a variety of datasets:** The second learning is the increasing need to integrate various datasets. There is a need for an agency, not to be owning or managing all the data, but to ensure that data is interoperable for insight to be gained from its analysis.
3. **The ability for NMAs to vend detailed information out to machines who can provide detailed analysis:** The third thing, and perhaps most profound, is the detail that machines are demanding. Instead of producing information that can be consumed by humans, the machine-to-machine world NMAs are engage in requires extraordinary detail.

More recently, OS had to think about its offer to government looking at new use cases, new technology (adapt its technology stack for the volume, variety and velocity of data), and looking at

the skills that are required. With a workforce of 20 to 30 years of experience on average, OS needs to address the questions of what happens once this workforce is leaving and when new skills are needed. Particularly, as NMAs are looking for more than just geospatial skills and are competing with other companies for data-ready skills. In addition, NMAs are not the only ones anymore that can collect data, there are others that can do this more cost-effectively and authoritatively; data which NMAs should be consuming rather than owning.

What does the 21<sup>st</sup> century offer of NMAs look like?

In Nigel words, **more** information and **more** data sources, and **better** information – more current, detailed, complete and authoritative - will need to be served **faster** - in real-time - and provided **cheaper** in terms of unit of output.

Recently, OS has been through a comprehensive review (something the UK government does periodically) where an external panel of experts comprising economists and a number of stakeholders are taking a close look at the future and current performance of OS. The outcome of the review highlighted that the country needs an NMA for reasons of security and authenticity supporting a number of different use cases. An economist from McKinsey (without any experience in the geospatial world) concluded that geospatial is like a general-purpose technology; a technology that cannot be put down to a single use case, similar to electricity, automotive, and computing.

Geospatial is at the heart of the economy – prosperity, industry, planning, security.

When it comes to change, NMAs can either observe it, participate in it, or lead it.