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Reacting to change – the Mapping Agency platform of the future.

Abstract:

Neil talked about how we must react to increasing number of real-world changes to make the platform for the future. Data changes fast, and the speed of change has increased significantly in the last 3-5 years. Neil challenged the audience that although mapping changes, what are we – as National Mapping Agencies – good at? We are good at mapping change.

Neil recognised that the volume of data being collected has to be managed in a different way. If we are to continue using our current specification to collate the data of the future (point clouds, digital twin etc.) we would be creating 50TB of data per day. To process data accurately with velocity and scale requires organisations to approach their data management ecosystems in a new way.

Ordnance Survey is looking at how it can transform into its Future State and to be able to develop a National Mapping Agency as a Service fit for the future.

Notes to support the presentation:

- How do we look at these changes? We all have the ability to manage data and content.
- Data changes, and moves fast. In the last three to five years this has moved faster than ever before.
- Mapping has changed fast, but as mapping agencies, what are we good at? Mapping change.
- Therefore, change over time is has been studied, and we have been custodians over time.
- Are we good at structured data? We are used to structured data. Most of our people interact with our data. We are creating the spec which is a representation of the real world. But we've designed the system 10 years ago, and aimed at simplifying the real world i.e. creating the map. However, we are not simplifying the real world now, we are sensing it.
- When we talk about the volume of change in the data, we need a new ecosystem. Naturally, this is a closed ecosystem or data stack. It lives in the cloud but is fundamental – It can be an in-house cloud system. What you choose to map says a lot about your country and situation.
- Surveyors own the technology that we have created. This needs to be maintained with knowledge and capability.
- What has really changed is the volume of data. The continue to map against the current specification, we would be collecting 50TB of data per day.
- Do we have the architecture to do this, and to build the quality? Drones are constrained, they are a tool.
- Conceptually we are used to mapping at large scale, on cyclic revisions. When you scale point clouds, the costs of turning in the useful data is very expensive. People talk about point clouds as a city block, not at capturing an entire city, or a country.
- It takes lots of effort to create point clouds. It also talks a lot of money. We can walk away from this technology, but it's about how we can apply it in the right places. It's about commodity, privacy, and analytics.
- We are trying to scope a data ecosystem which brings in lots of other sources of data, and how we can extract this data.
- We'd like the world to be 'smart', but we're not there yet. What are the outcomes we want to achieve?
- 'Smart' can be looked at through many different lenses. How do we associate with them, and get better value? For the first time, this is starting to dominate the next generation of user needs. This is typically driven by the citizen and human centric factors.
- There are a set of transactions, not a map. We can look at data and colour in maps anymore.

- How do we invest in our business? Is this revenue, or is it value? In isolation, it's not enough. What's in the gap and where are these new technologies and relevance. What skills and competencies do we need? Skills of data capture, easy(ier) data management, is more difficult.
- Within National Mapping Agency as a Service. Most of these areas are of relevance. How are there exploited, and what are the fundamental differentiators.
- As a model which allows us to deliver at pace. There are demands on requirements. It is very hard, especially in working out how you deploy limited resources. Partners need to build it with us. There will have to be different architecture to fit in with non-geospatial systems.
- OS is moving from a complicated current state, which has had new parts bolted on over the years. The new future state will be more cloud based, and choices have to be made.
- We have set ourselves the challenge to deal with the velocity as well as the scale of data. The question will now be how you want to manage the data. In point clouds, with 3D, etc. Another challenge is how you manage data which is changing quickly.
- Have to move the computer to the data. It has to be virtual and scalable. If you start with "should I use the cloud" you are likely to fail. There is enough infrastructure around clouds to enable multi-cloud. Analytics as a service and be procured. Changing services are changing demand. Ultimately, you can manage change as this affects the data at scale and at speed going forward.