

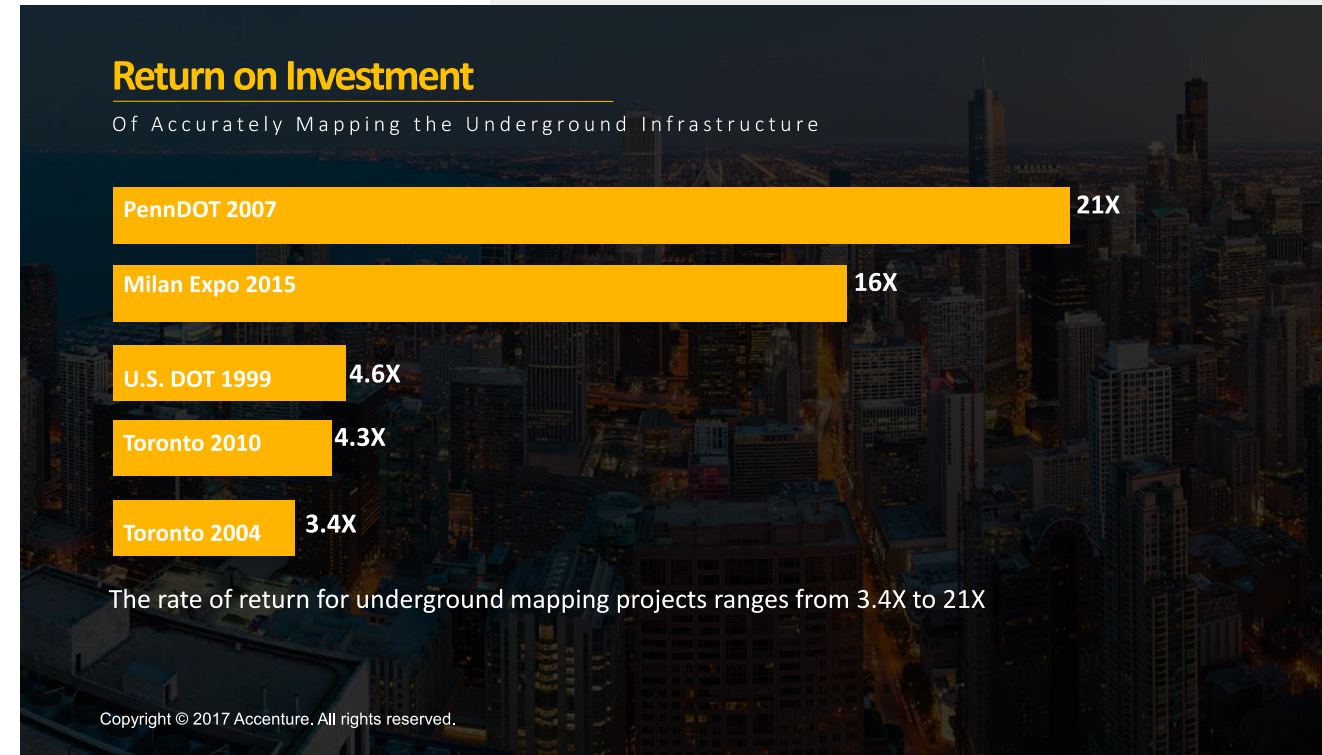


Complexity of utility infrastructure from an interest, governance, regulation and policy perspective

7 December 2017 – Carsten Rönsdorf, Spatial Data Infrastructure Lead, Ordnance Survey

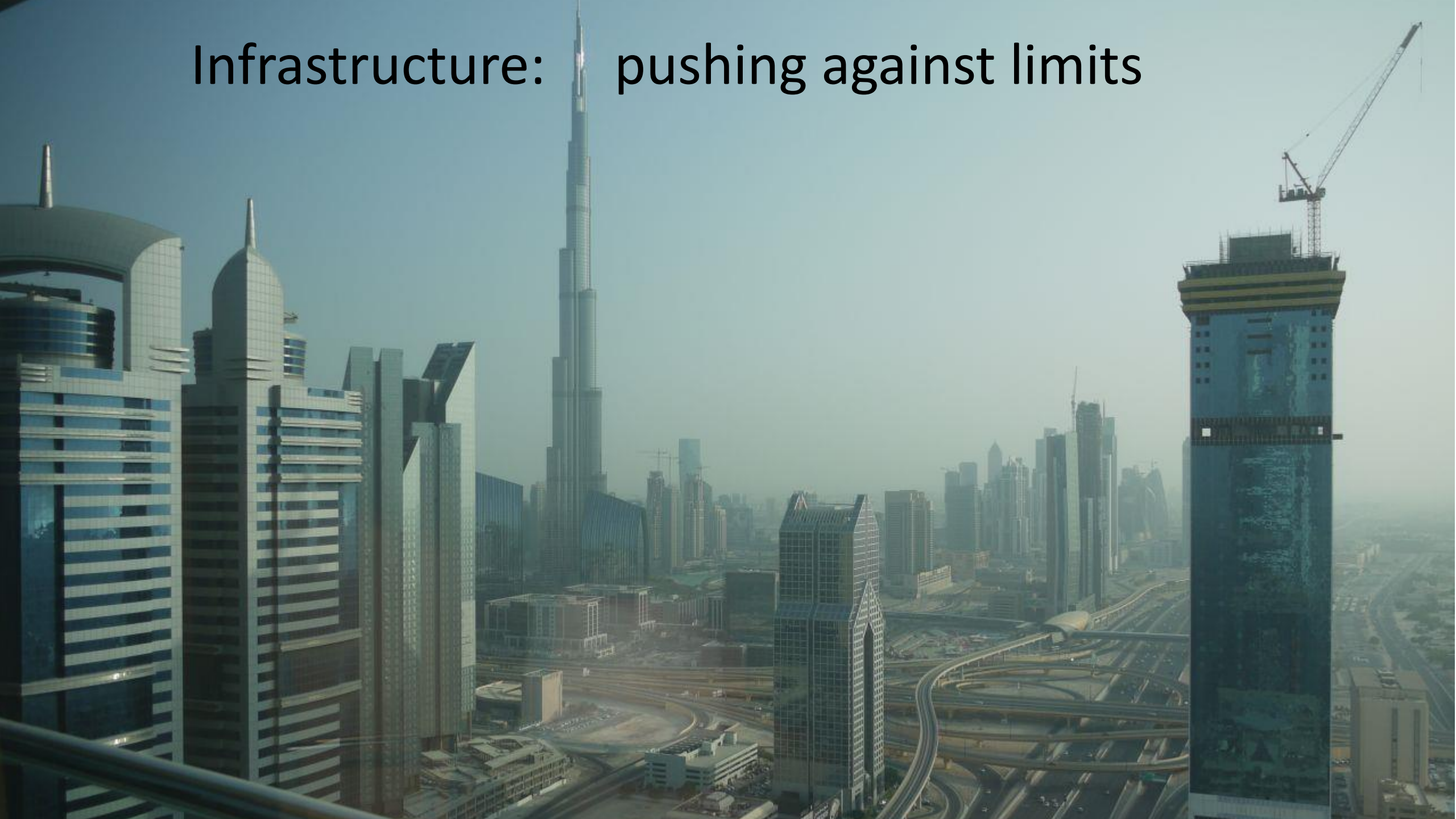
Agenda

1. Infrastructure – pushing against limits
2. OGC Underground CDS
3. NYC use case
4. Digital Twin
5. Governance
6. Summary



From Accenture, OGC Underground CDS ER

Infrastructure: pushing against limits



Optimal utilisation of infrastructure?





Satellite dishes are scaleable, other infrastructure isn't

All infrastructure has a geographic dimension:

Wherever you live/work –
you have an expectation of infrastructure being provided

Future direction

Evolving need for location data



Scenario planning
(example policy modelling
using big data)

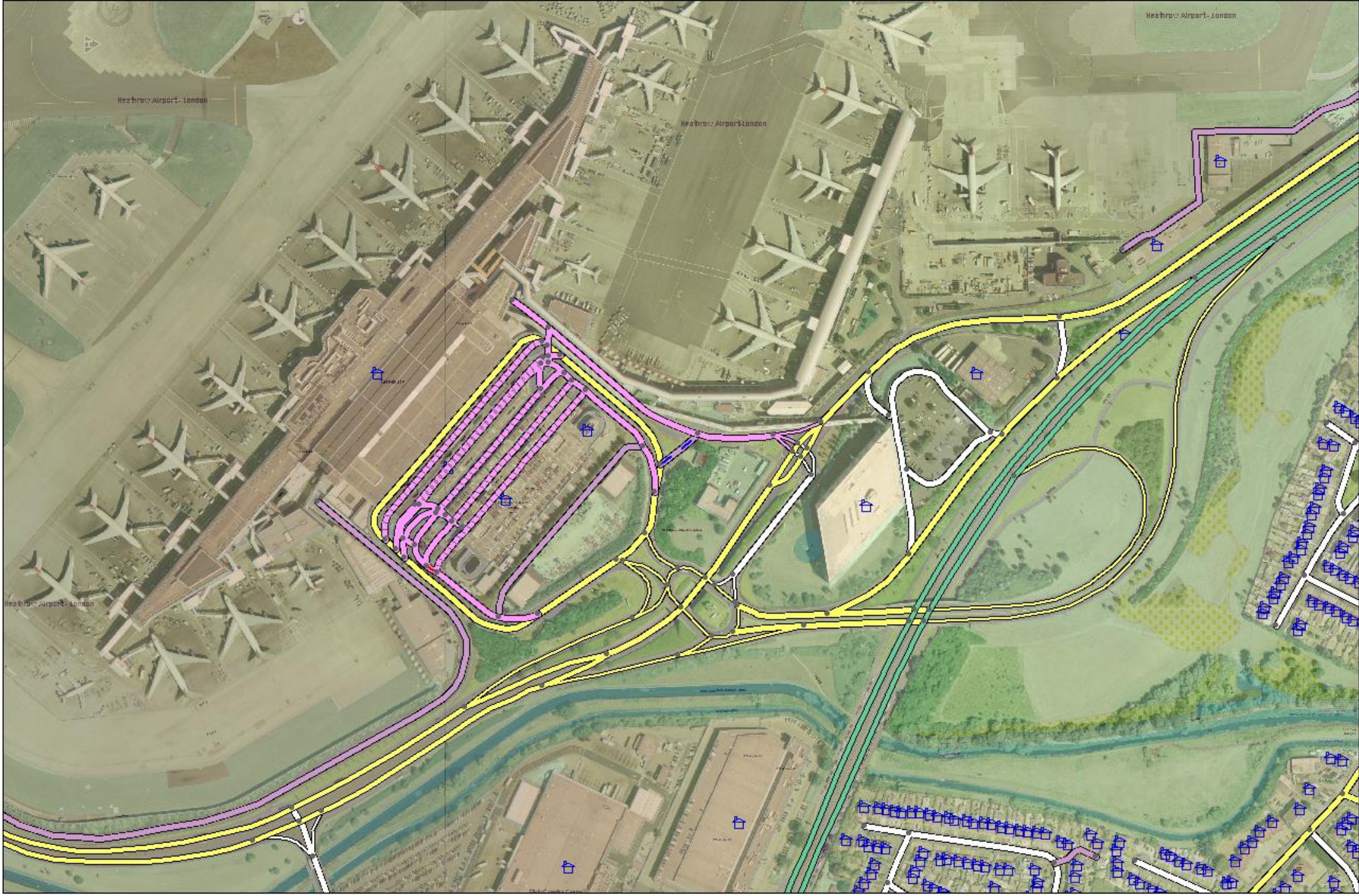


Simulation
(example 5G planning
and asset utilisation)



**Supply-Demand
optimisation**
(example: reduce
congestion)

Reliable infrastructure data



Open Geospatial Consortium

Geospatial innovation

- Standards
- Best practise
- Innovation community
- Dialogue between vendors, academia and government
- Testbeds and pilots

OGC[®]

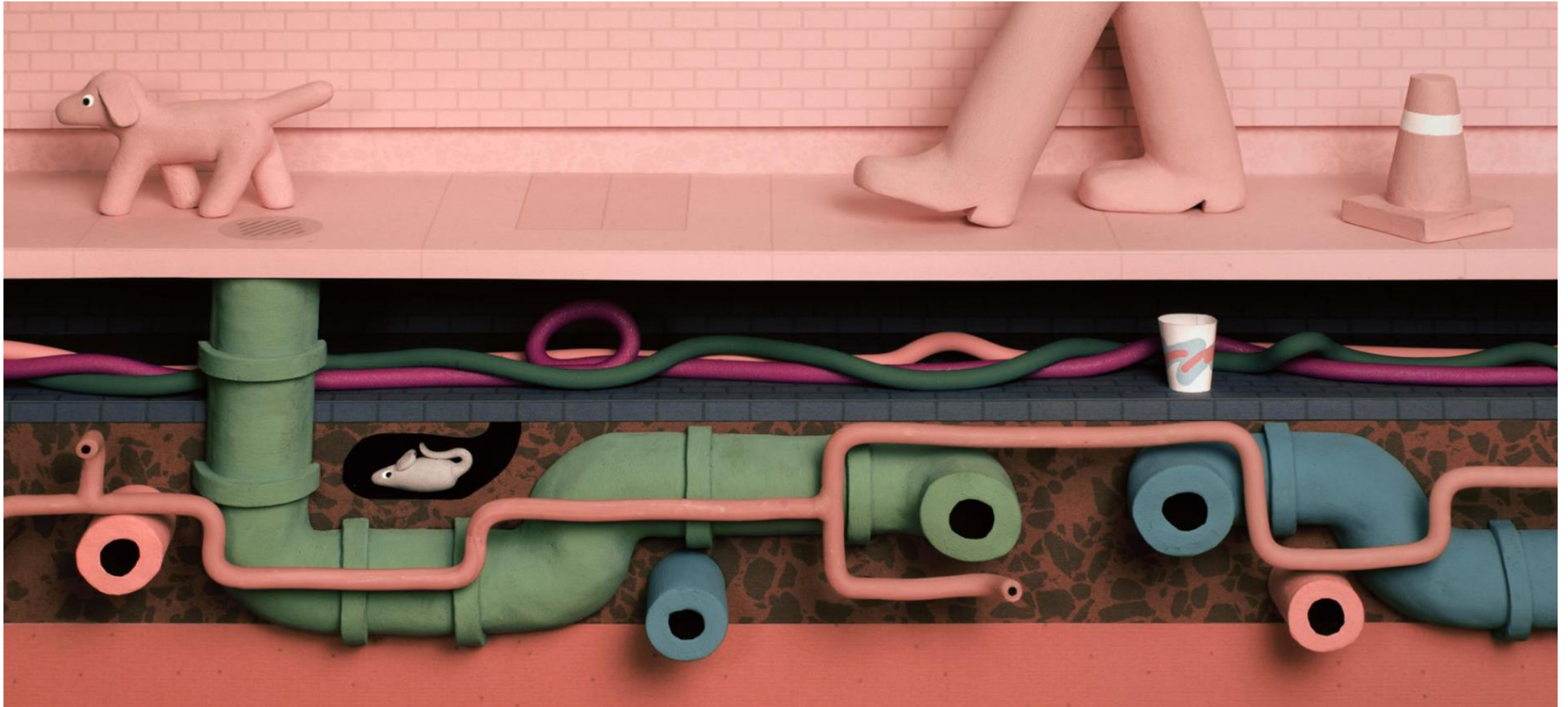
Making location count.

OS is one of the five strategic OGC members



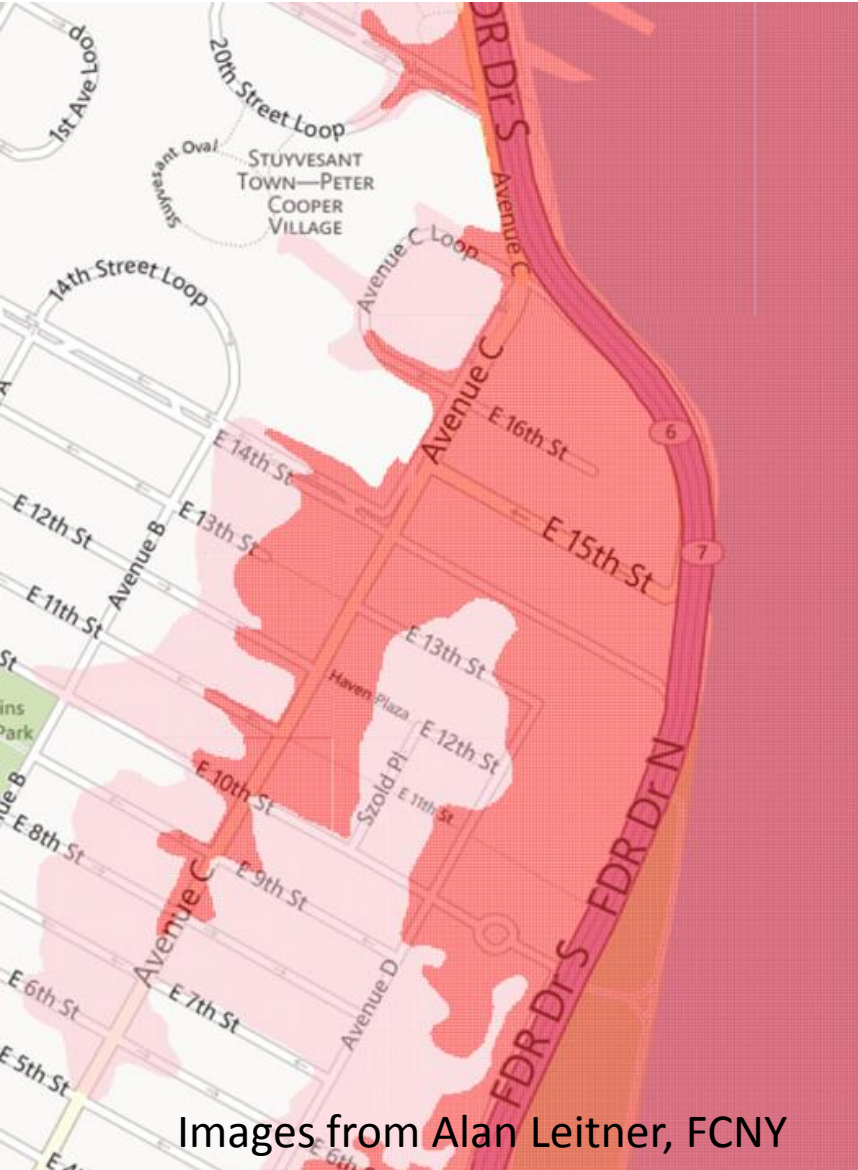
Infrastructure and the Evolution of GIS in NYC

OGC Location Powers: Underground - keynote



“Nobody Knows What Lies Beneath New York City” by Greg Milner for Bloomberg Businessweek Magazine, 8.10.17

NYC: Oblique Imagery from 2012: Showing apparent vulnerabilities to surge waters Hurricane Sandy; predicted flooding(left)



Images from Alan Leitner, FCNY



Midtown to Downtown Manhattan Blackout: Oct 29th 8:50PM

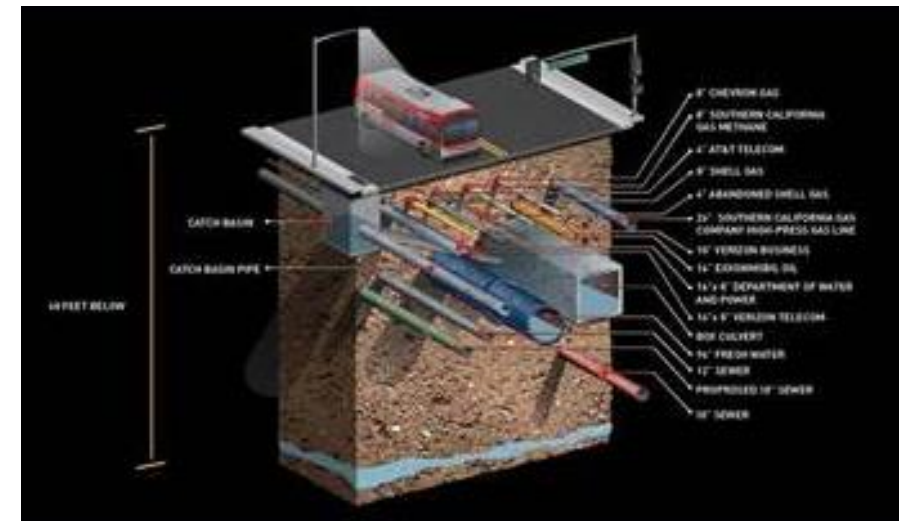


OGC Underground Infrastructure Concept Study Engineering Report

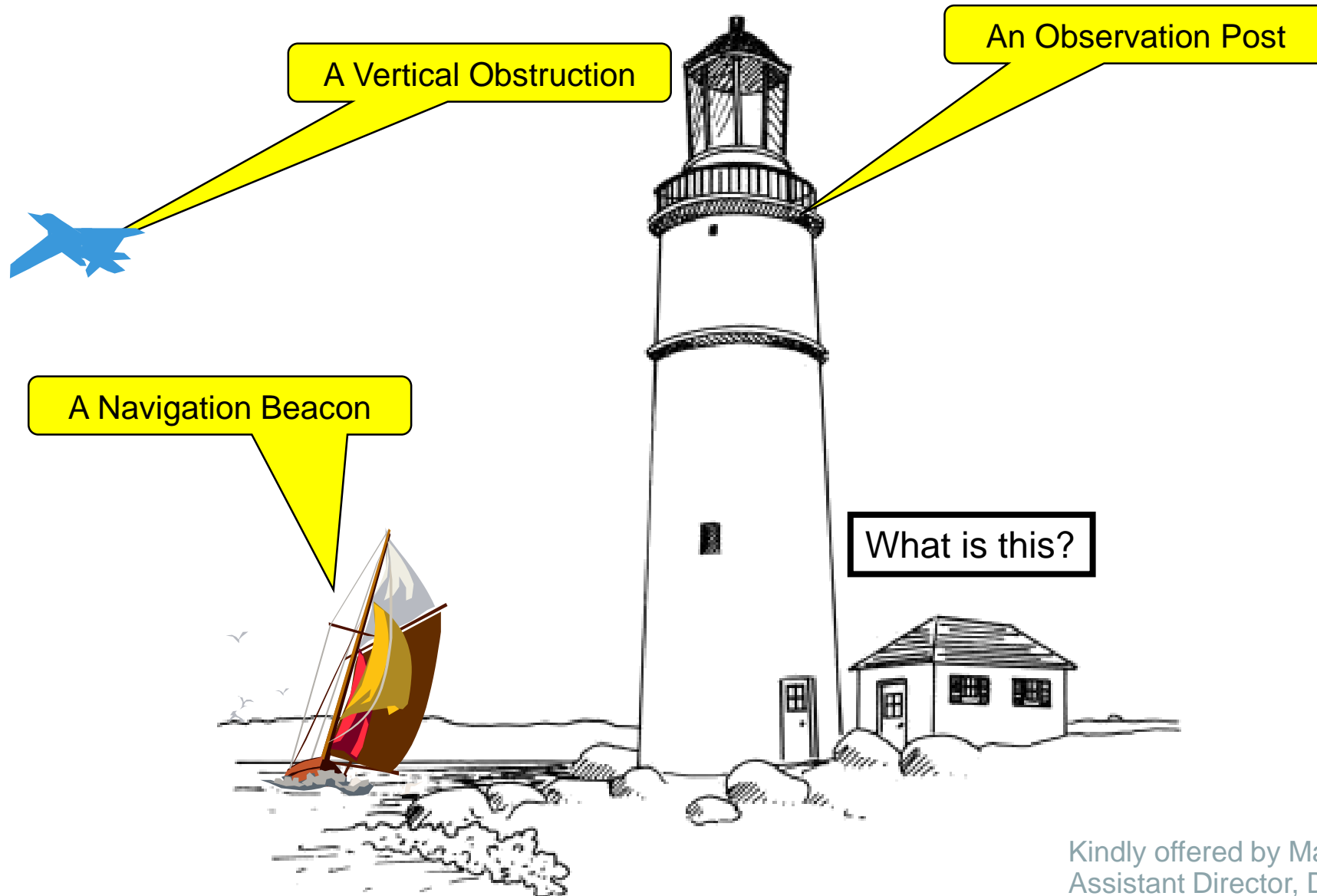
<http://docs.opengeospatial.org/per/17-048.html>

Six major categories of use cases for better underground survey data identified:

1. Routine street excavations;
2. Emergency response;
3. Utility maintenance programs;
4. Large scale construction projects;
5. Disaster planning and response; and
6. Smart cities programs.



Shared understanding: Relevance beyond the owner of infrastructure

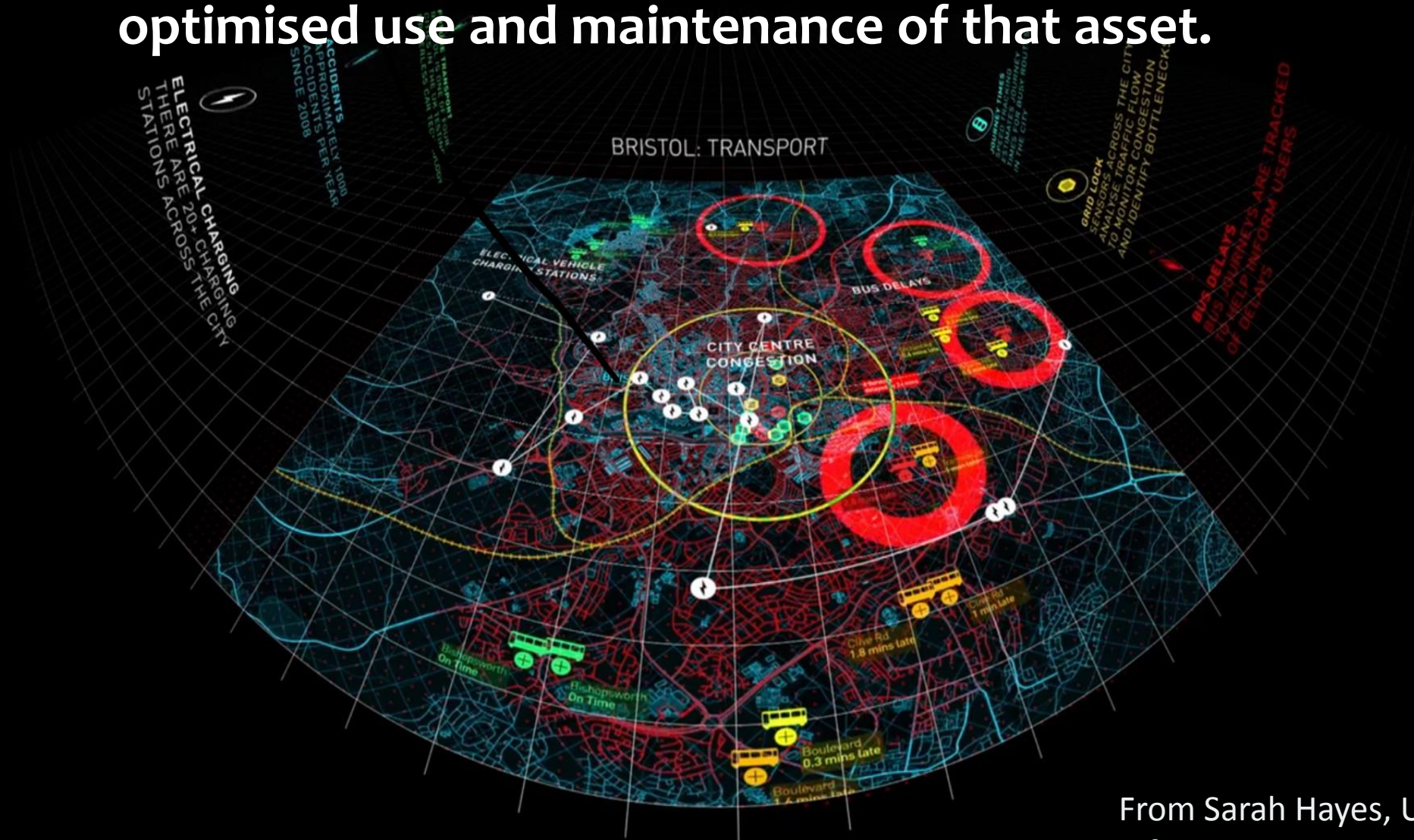


Kindly offered by Mark McInerney
Assistant Director, Defence Spatial
Standards Office, DIGO, Australia

Use geospatial foundation data for multiple purposes



Digital Twin Concept: a model of an infrastructure asset or system of assets which simulates optimised use and maintenance of that asset.



From Sarah Hayes, UK National Infrastructure Commission

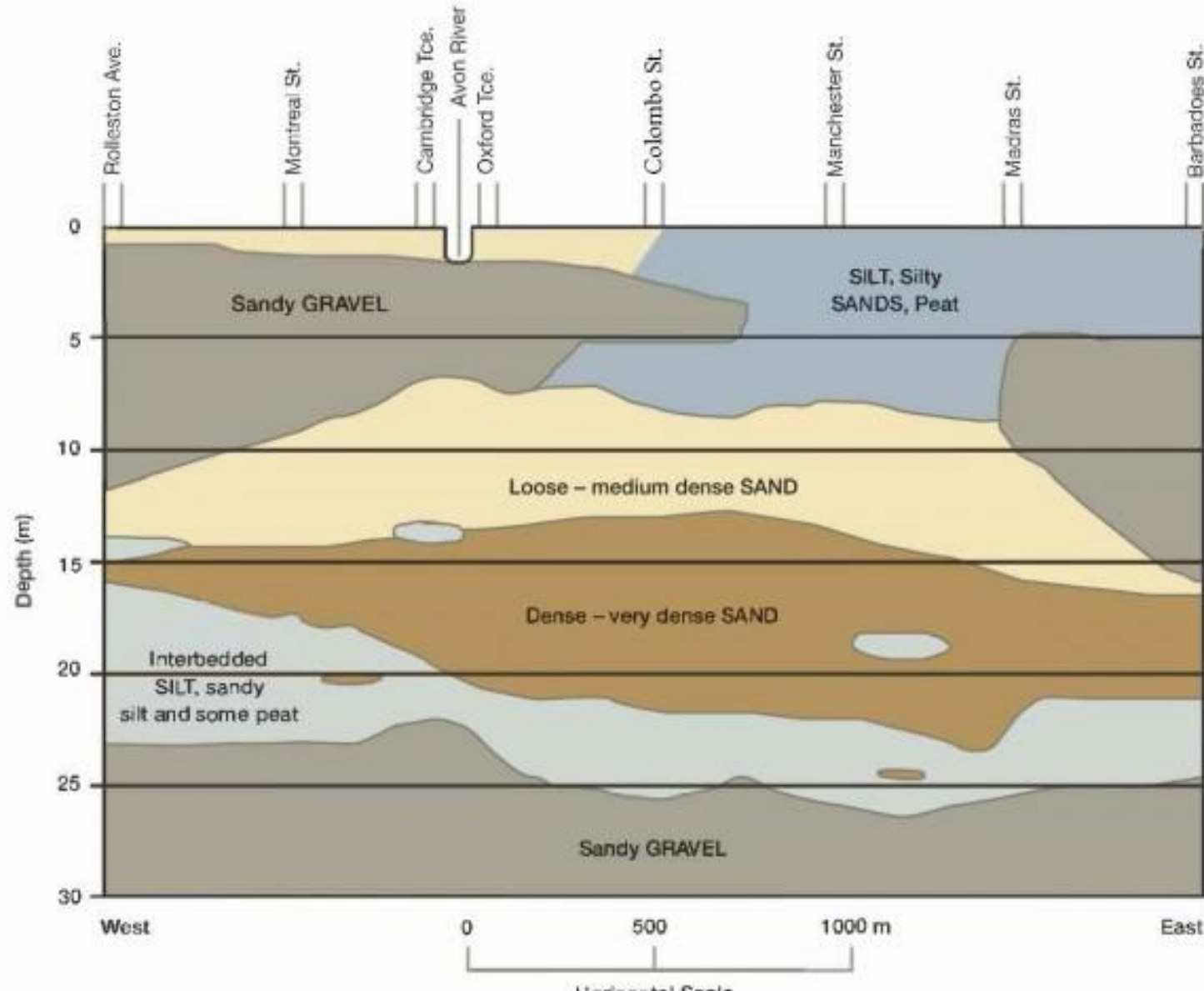
Real World



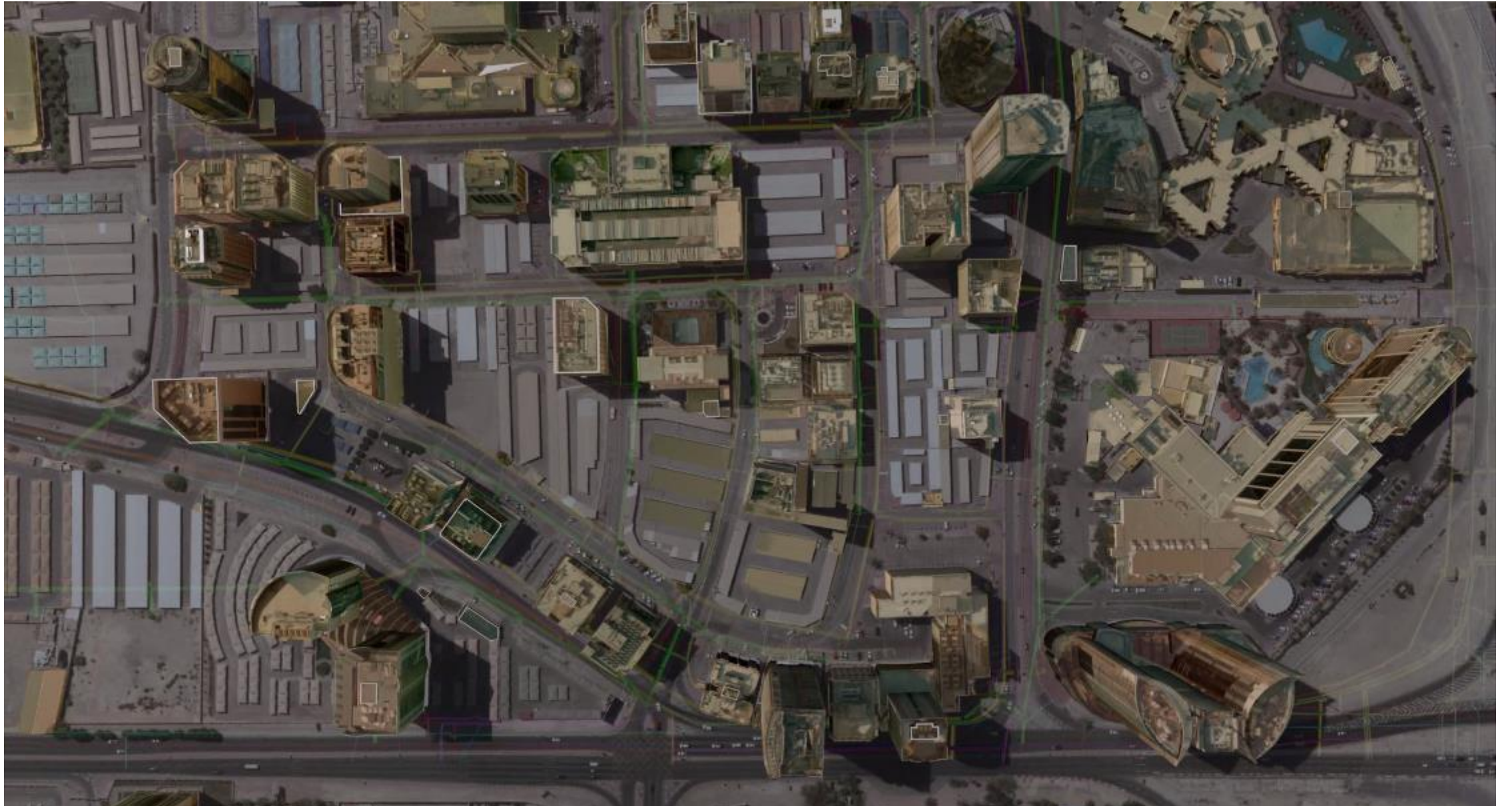
Digital Model/Digital Twin



Or, provide the best possible information



Video



Trusted and shared infrastructure data— where are the gaps?

There are many:

- ...
- ...
- ...
- ...
- Inconsistent surveys, data management, access



Governance

- Regulatory power / legal mandate
- Policy setting
- Data custodianship
- Standards setting
- Process definition
- KPIs
- Centralised QA function

Underground utilities

as an

- Interoperability problem
- Policy problem
- Liability problem
- Accuracy problem

It doesn't matter where your assets are until
you need to do something to them

Is this always right?

What does this mean for your risk management approach?

The organisations who need to make data interoperable are not necessarily the organisations benefitting from this data

Split proposition

Government sector

Utility sector (private, semi-private)

Summary



Governance and
policy:
who's responsible?



Standards and
Specifications:
*common way of
working*



Quality
management:
rely on other's data



Data sharing:
*accessibility and
trust*

