ORDNANCE SURVEY

•Smart everywhere

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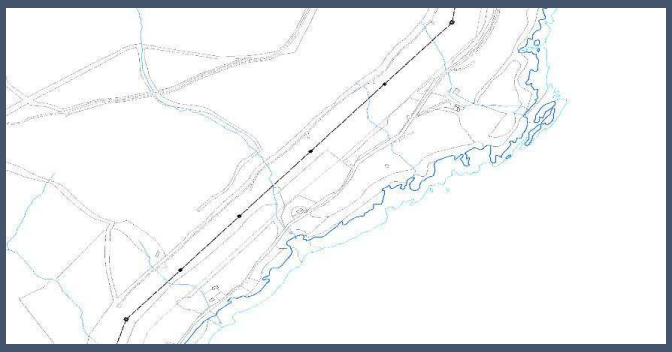
Cartography



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Data

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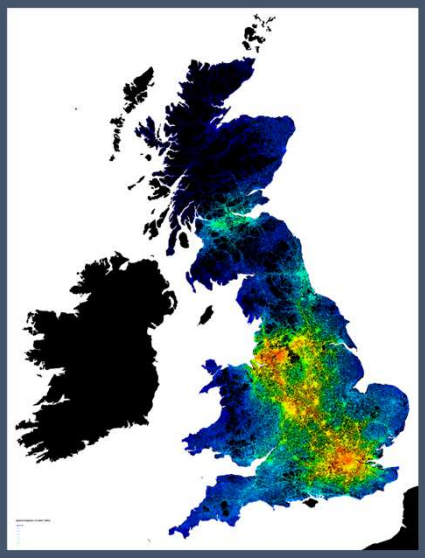
Hot connectivity



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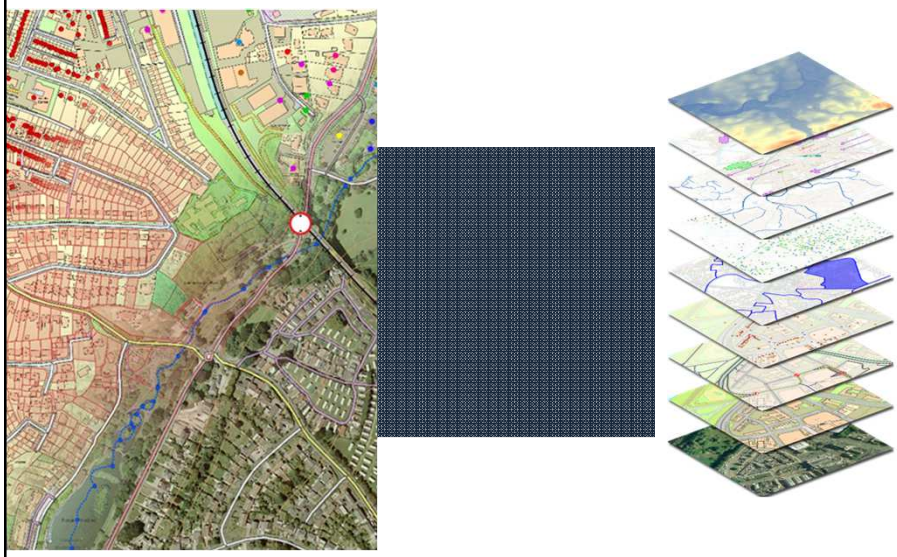

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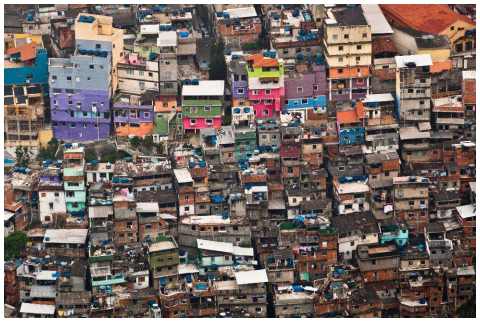
What is a Smart place?



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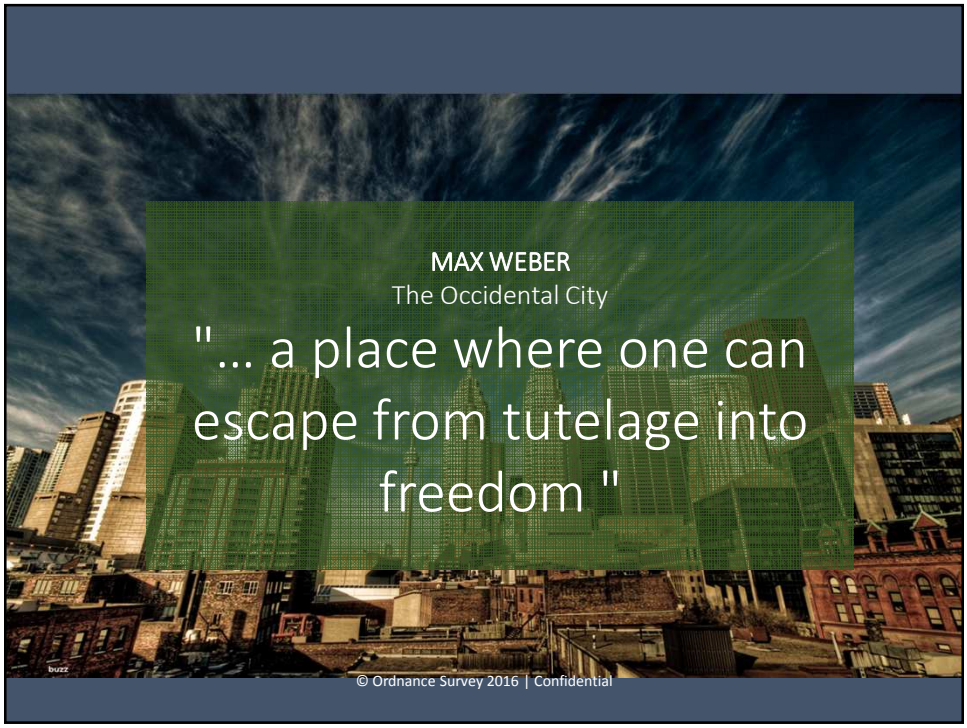

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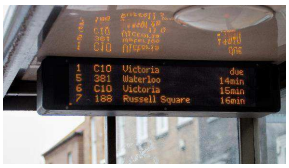
The Smart vision



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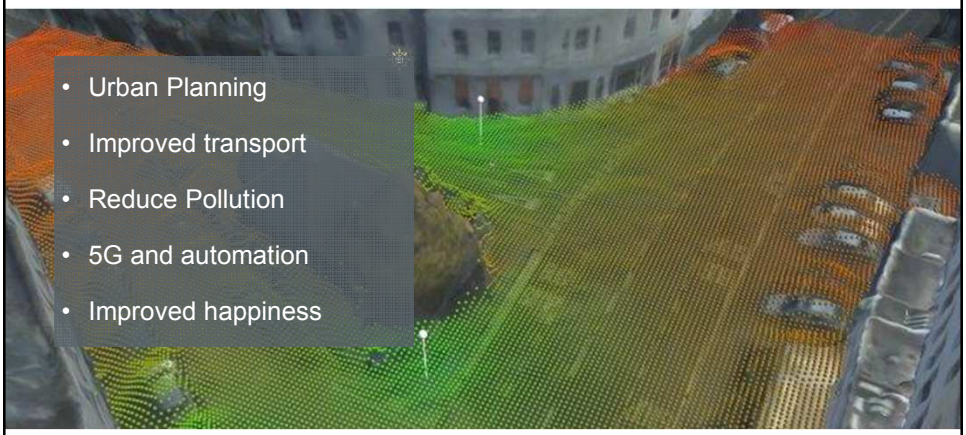
Urban development and smart cities



- Urban Planning
- Improved transport
- Reduce Pollution
- 5G and automation
- Improved happiness

Transport

Daventry District Council

Optimising waste collection using OS MasterMap Integrated Transport Network Layer

- Daventry generated new waste collection routes in all seven districts using OS MasterMap Integrated Transport Layer with Route Restriction Information
- Daventry has been able to rationalise the number of domestic waste collection routes from nine to eight, reducing diesel costs by 12%, increasing spare capacity by 14% and eliminating overtime costs.

Google self-driving car crashes into bus and company admits it is 'partially' responsible

The Independent 1st March 2016

- Vehicle sensor assurance
- Data assurance and currency
- Data content (kerbs, street furniture, bridge heights etc)
- Precision navigation

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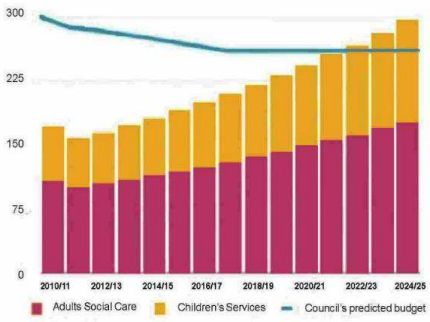
The uncomfortable reality



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Unleash citizen power

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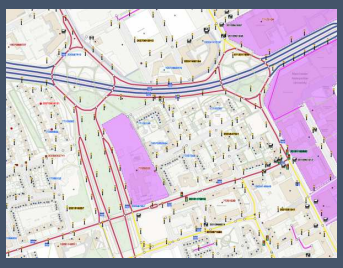
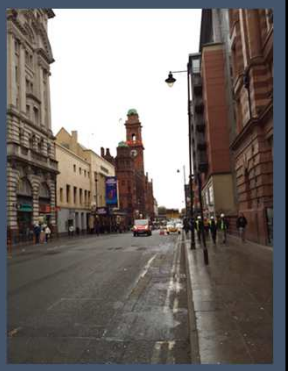
Collaborations





cityverve

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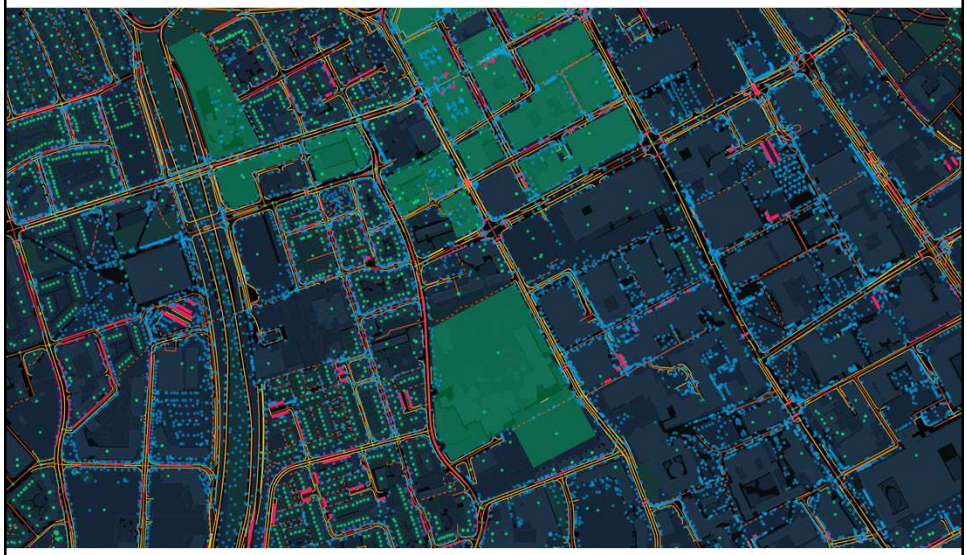
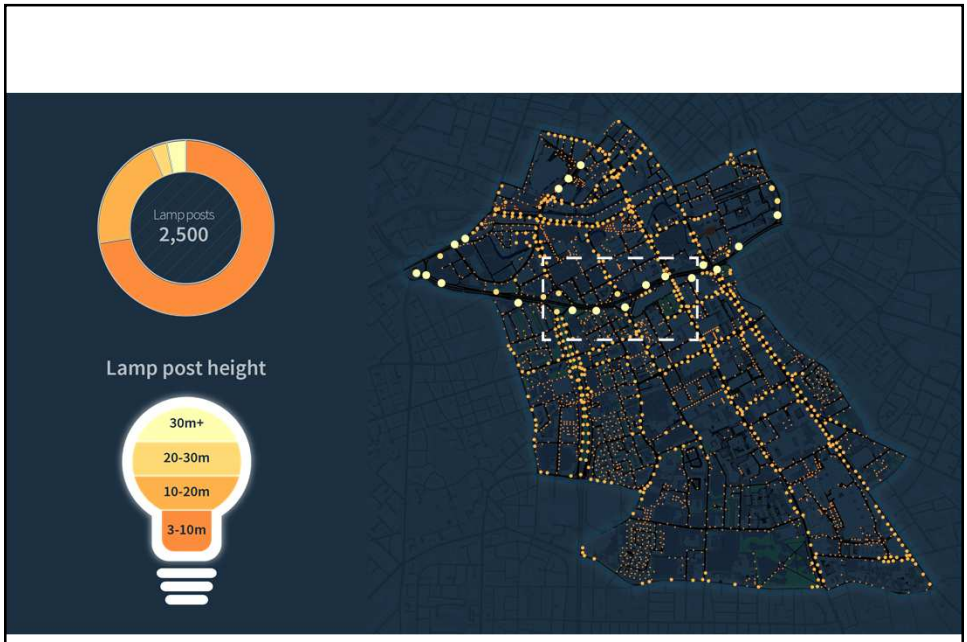
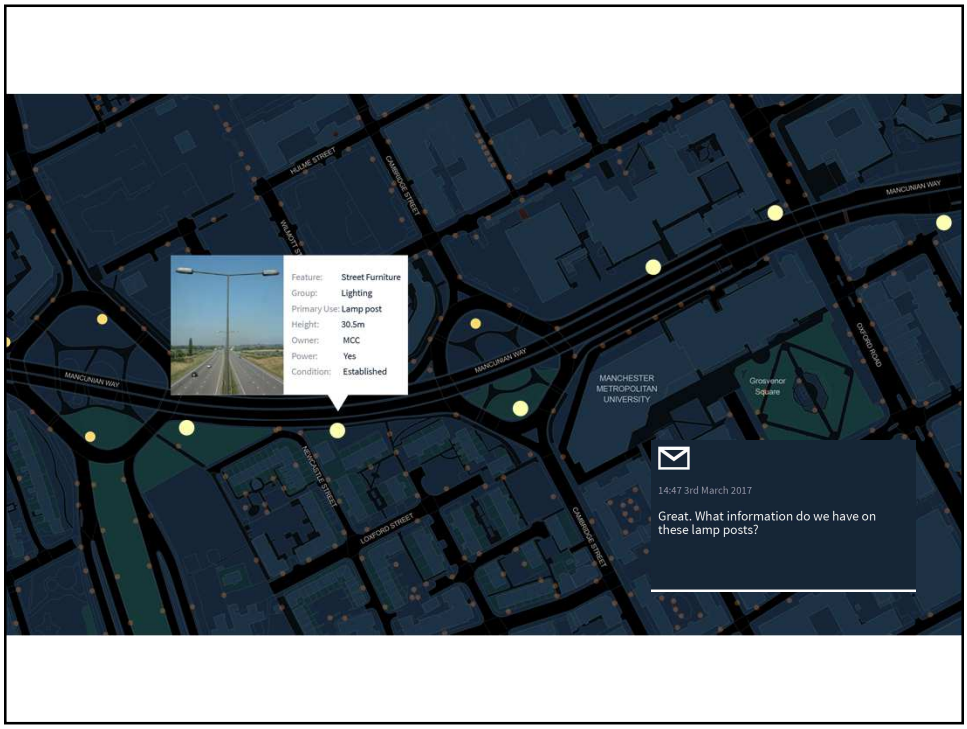
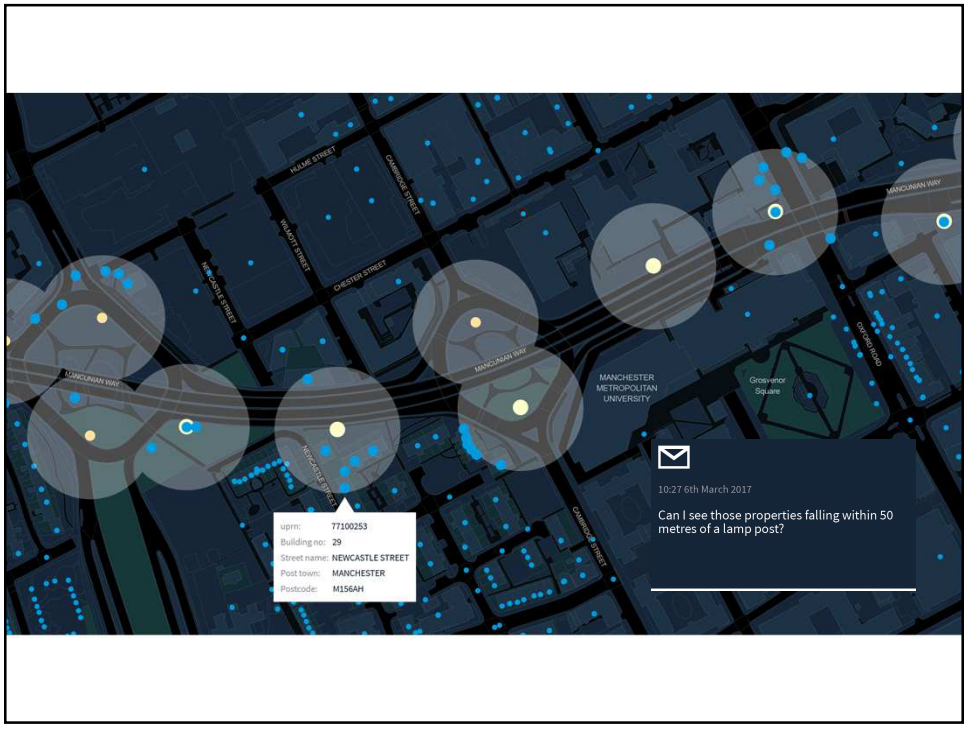
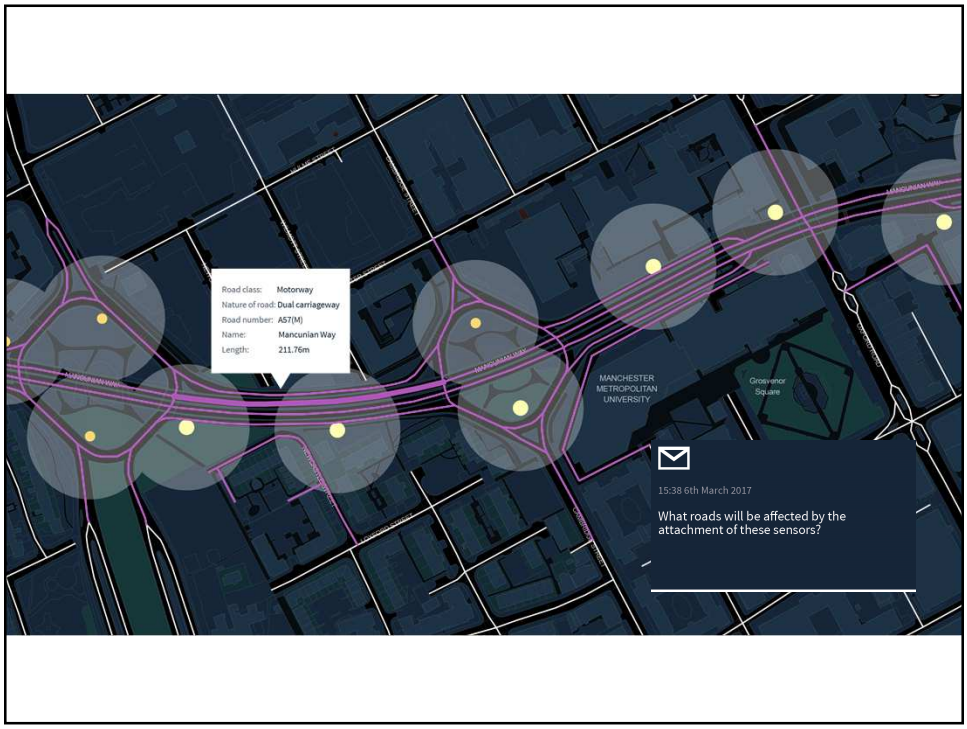
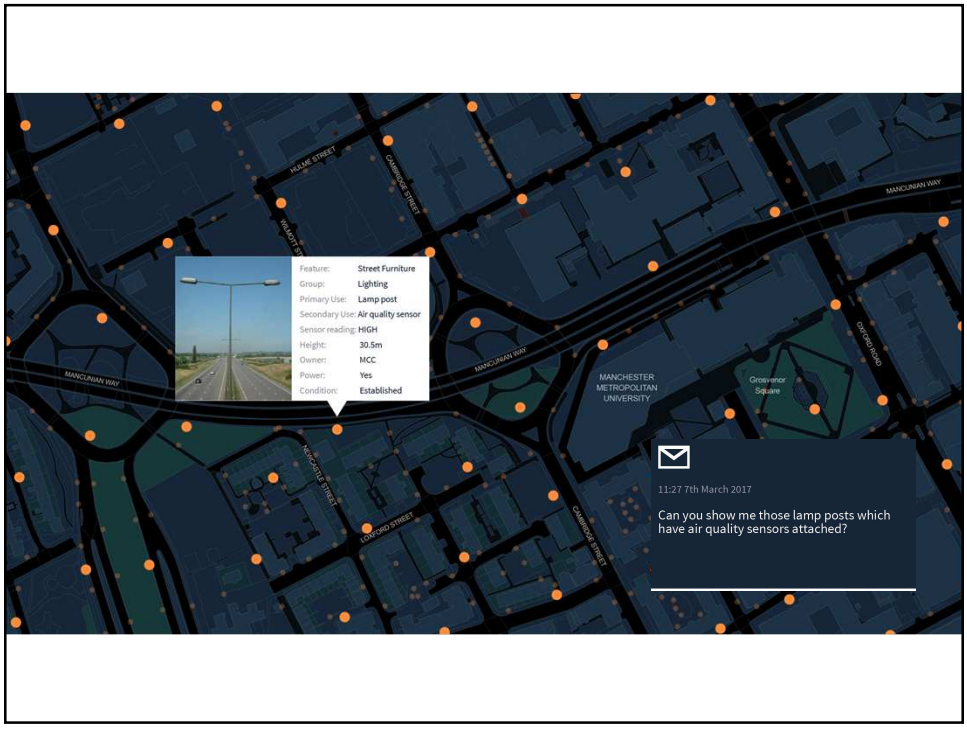



Lamp posts
2,500
Lamp post height
30m+
20-30m
10-20m
3-10m


HULME STREET
CAMBRIDGE STREET
MANCUNIAN WAY
OXFORD ROAD
MANCHESTER METROPOLITAN UNIVERSITY
Grosvenor Square
NEWCASTLE STREET
LOWERD STREET
Feature: Street Furniture
Group: Lighting
Primary Use: Lamp post
Height: 30.5m
Owner: MCC
Power: Yes
Condition: Established
14:47 3rd March 2017
Great. What information do we have on these lamp posts?


HULME STREET
CAMBRIDGE STREET
MANCUNIAN WAY
OXFORD ROAD
CHESTER STREET
MANCHESTER METROPOLITAN UNIVERSITY
Grosvenor Square
NEWCASTLE STREET
uprn: 77100253
Building no: 29
Street name: NEWCASTLE STREET
Post town: MANCHESTER
Postcode: M156AH
10:27 6th March 2017
Can I see those properties falling within 50 metres of a lamp post?


Road class: Motorway
Nature of road: Dual carriageway
Road number: A57(M)
Name: Mancunian Way
Length: 211.76m
MANCUNIAN WAY
MANCHESTER METROPOLITAN UNIVERSITY
Grosvenor Square
15:38 6th March 2017
What roads will be affected by the attachment of these sensors?


HULME STREET
CAMBRIDGE STREET
MANCUNIAN WAY
Feature: Street Furniture
Group: Lighting
Primary Use: Lamp post
Secondary Use: Air quality sensor
Sensor reading: HIGH
Height: 30.5m
Owner: MCC
Power: Yes
Condition: Established
MANCHESTER METROPOLITAN UNIVERSITY
Grosvenor Square
OXFORD ROAD
NEWCASTLE STREET
LOWORD STREET
11:27 7th March 2017
Can you show me those lamp posts which have air quality sensors attached?

MANCHESTER
17:30 06-03-2017
LOW
MODERATE
HIGH
HULME STREET
CAMBRIDGE STREET
WHITWORTH STREET
CHESTER STREET
NEWCASTLE STREET
MANCUNIAN WAY
MANCUNIAN WAY
MANCUNIAN WAY
OXFORD ROAD
MANCHESTER METROPOLITAN UNIVERSITY
Grosvenor Square
KENNEDY STREET
LOWERD STREET
CAMBRIDGE STREET
17:04 7th March 2017
Can we map the current readings for these air quality sensors?

Manchester in new detail
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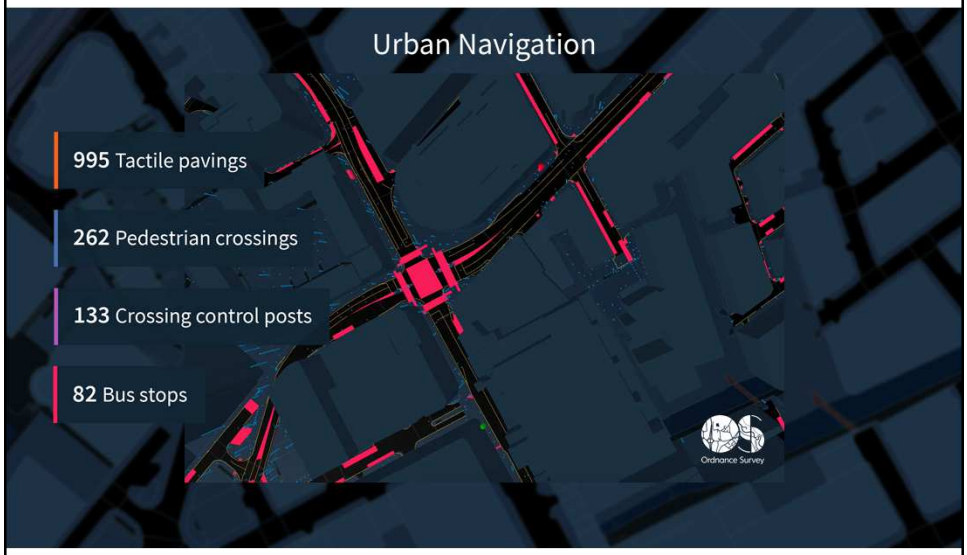
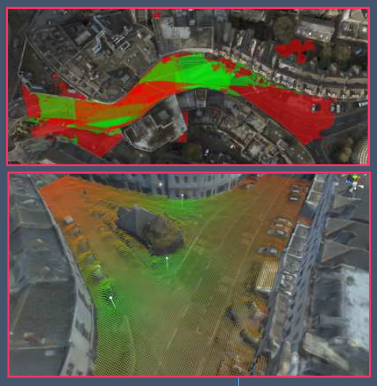
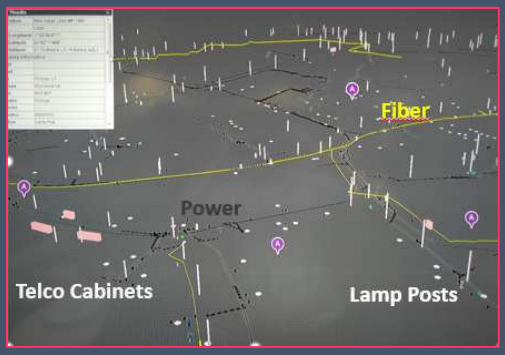

Urban Navigation
995 Tactile pavings
262 Pedestrian crossings
133 Crossing control posts
82 Bus stops
Ordnance Survey

Ubiquitous Connectivity

In 3 dimensions modelling connectivity

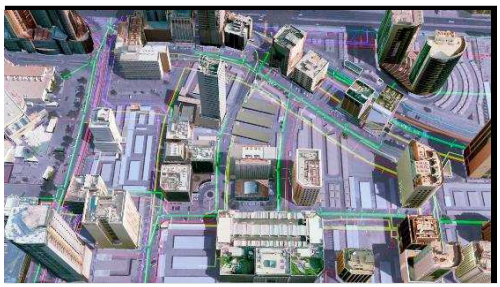




Whatever the weather

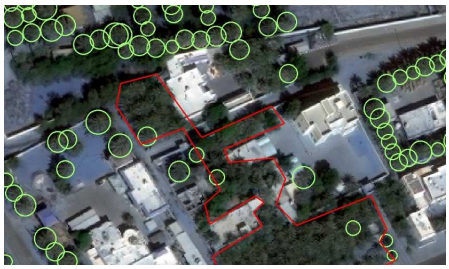
In 3 dimensions preventing delay and wastage underground utilities

OGC® Making location count.



Roadworks cost London businesses $130 million a year in lost profit

Sustainability – a city environment



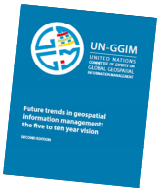
- City Planning
- Health
- Green spaces
- Remote sensing and advanced techniques to measure the 'health' of a city

Preparing for the smart future

Disruptive trend	Active learning
Interpreting big data	Gamification, VR, AR, 3D
More frequent shocks	Resilience Direct
Autonomous Vehicles	Atlas Project
New standards	OGC, BSI
Next gen comms	5G trials
Asset management	BIM
Citizen engagement	OS Maps, Open Data, APIs
Innovation	Geovation Hub
IoT, Smart Cities	CityVerve, Manchester

OGC® Making location count.

Cambridge Conference



GEOVATION

springwise

URBAN INNOVATION CENTRE

OGC Making location count.

KPMG

United Utilities

trend watching.com

CATAPULT Future Cities

[dstl]

Challenges

Sectors

- ✓National and Urban planning, Smart Cities
- ✓Emergency response & public safety
- ✓Land registration and investment
- ✓Tourism
- ✓Agriculture
- ✓Water and energy
- ✓Security, defence & intelligence, Resilience
- ✓Environmental programmes
- ✓Transport planning and management
- ✓Mineral Extraction

The challenge of commercial models

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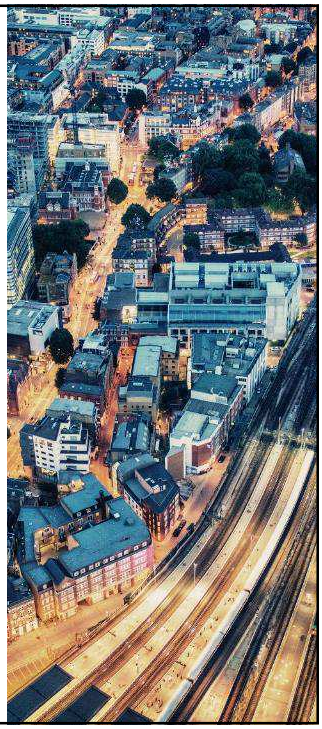
Successful businesses create successful city economies

GI is used across various sectors:

- Marketing
- Logistics
- Insurance
- Utilities
- Telecoms
- Banking



Thank you

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