



# Is your data AI ready?

Nick Chapallaz, Managing Director

GeoPlace LLP

18<sup>th</sup> October 2024



# Agenda

- Context of the national data infrastructure for street and address
- Why AI?
- AI as an opportunity and the CDO challenge
- Criticality of data and data quality essentials
- Prompt for thoughts, ideas and discussion

# The origins of GeoPlace – a Joint Venture partnership

Parliamentary Under-Secretary of State for  
Communities and Local Government (Robert Neill)

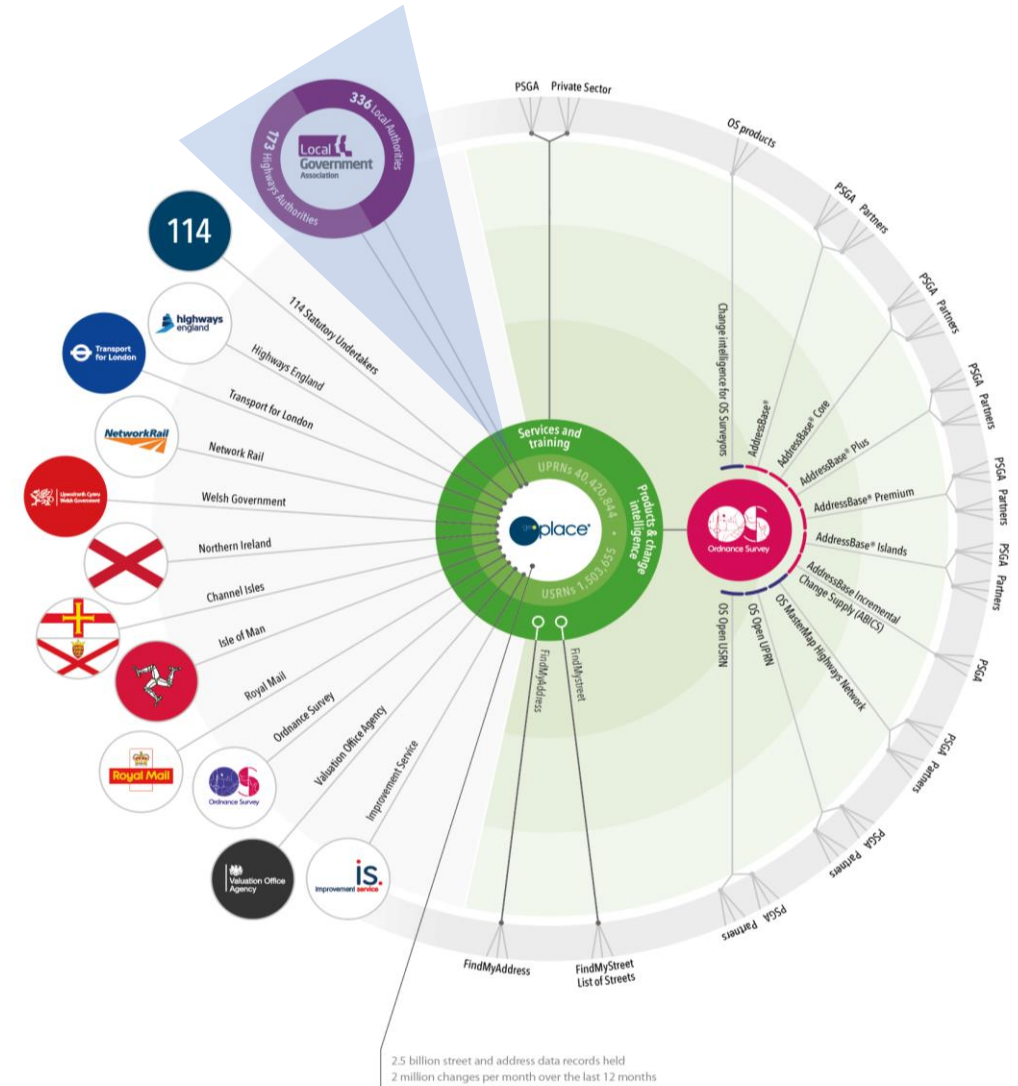
...Government are today announcing they will **bring together publicly owned address information for England and Wales from Ordnance Survey and local authorities** to create a “**national address gazetteer database**”, providing one definitive source of accurate spatial address data.

To deliver this, an agreement has been reached to set up a joint venture between Ordnance Survey and the local government group to create a single source of address data. Having just **one database will remove duplication and inefficient processes** in the public sector and will provide a **better quality of information for all users**.



# What we do - The engine room of UPRNs, USRNs and authoritative reference data

- Complex data standard – BS 7666 is our foundation
- 600 data providers – GeoPlace link, validate (1000+ checks), link, enrich and transform, analyse and publish to create unified UK data sets
- 2.5 billion street and address data records each to a precise set of rules. Average 2 million changes a month.
- **Unique Property Reference Number (UPRN)** is the unique identifier for every addressable location in the UK
- **Unique Street Reference Number (USRN)** is the unique identifier for every street in the UK.
- Available as NGD Address / AddressBase / OS Highways / National Street Gazetteer
- UPRNs and USRNs and associated geometry are Open data - OS Open USRN / OS Open UPRN
- Mandated for use across UK government





Local authorities rely on what we produce together

Imagine being able to ask:  
*“Show me everything we know in the organisation about...”*

**UPRN 10033625525**

**USRN: 4601460**

**15 Church Way,**

**Green Acre**

**HR1 2PT**

# Nottingham City - an exemplar



Nottingham  
City Council

## Nottingham City Council ROI on use of address data

SHARE



Organisations of all kinds demand evidence of investment. This new case study - 'Return on investment: socio-economic value of address and street data' - is of huge interest to all local authority decision-makers. For every £1 invested in the use of accurate address data, the potential to make efficiency savings and increase income is £6. The report predicts that the benefits over the period 2023 to 2026.



## Case Studies

Are you looking for a case study on street data? Want to read a case study about addressing, or how to engage more effectively with your own authority? We capture the results from local authorities and Custodians' work across England and Wales, showing how valuable UPRNs, USRNs, street and address data is for society, people, businesses, and decision-making in general. Using address and street data to help realise the power of place. [Sign up here to receive notifications of new Case Studies.](#)

MAP VIEW

FULL VIEW

Search Case Studies

FILTERS

- Addresses
- Bins, waste & environment
- Business & licensing
- Channel shift
- Community safety
- Community, people & culture
- Conference 2021
- Council property
- Council tax & NDR
- Customer contact & services
- Data management
- Democracy
- Economic development
- Emergency services
- Fraud
- Health & social care
- Highways
- Housing
- Information &...

<https://www.geoplace.co.uk/local-authority-resources/guidance-for-custodians/case-studies>

Using UPRNs this study shows the value of different data. The report examined 6 specific areas: using data from 2018 to 2026 using the UPRN is estimated uplift of £6.2 million in newly-identified impact of investing in better addressing will be for licensing and enforcement is in the range of 2018 - 2026 is estimated at £0.6 million. Tests that the direct savings would be at least

6:1



# Government relies on what GeoPlace produce – as originally intended

census  
2021

Ministry of Housing,  
Communities &  
Local Government

NHS

Geospatial  
Commission

National  
Underground  
Asset Register

national  
highways

Department  
for Transport

Cabinet Office

HSE  
Health & Safety  
Executive

NAO  
National Audit Office

HM Revenue  
& Customs

UK Health  
Security  
Agency

HM Land  
Registry

Department for  
Science, Innovation,  
& Technology

The Scottish  
Government  
Riaghaltas na h-Alba

Llywodraeth Cymru  
Welsh Government

Part of  
[What to do when someone dies: step by step](#)

## Tell Us Once

Tell Us Once is a service that lets you report a death to most

Home > [Citizenship and living in the UK](#) > [Voting](#)

## Register to vote

You can use this service to:

- get on the electoral register so you can vote in elections or referendums
- update your name, address or nationality by registering again with us

Home > [Government](#) > [Government efficiency, transparency and accountability](#)

## Register a high-rise residential building

Roles and responsibilities About the Building

Home

It is a legal requirement to register high-rise residential buildings that are at least 7 floors high, or 18 metres tall or higher, with two or more residential units by 1 October 2023.

The fee to register each building is £251.

If you are the principal accountable person for your building or have been authorised to complete registration on their behalf, you can begin your application.

[Apply to register a high-rise residential building](#)

Home > [Government](#) > [Government efficiency, transparency and accountability](#)

## National Fraud Initiative

Reports, guidance and case studies for the National Fraud Initiative (NFI), a data matching exercise that helps prevent and detect fraud.

From: [Cabinet Office](#)  
Published 20 March 2015  
Last updated 21 April 2022 — [See all updates](#)

Contents

- Working with the National Fraud Initiative
- Public sector
- Private sector
- About the National Fraud Initiative
- National Fraud Initiative reports
- Press releases

The National Fraud Initiative (NFI) is an exercise that matches electronic data within and between public and private sector bodies to prevent and detect fraud.

## Order Covid19 test packs

Get a coronavirus test

ALPHA This is a new service – your [feedback](#) will help us to improve it.

## Order summary

Home address 37 CLARENDON ROAD  
NORWICH  
nr2 2pn [Change](#)

Delivery address Same as home address [Change](#)

## Disclaimer

By ordering a pack of 7 rapid lateral flow home test kits, I confirm that:

- The information I've provided is up to date and correct
- I agree with the [Terms and Conditions](#) and [Privacy Policy](#) of this service

## EPC listings

Energy Performance Certificate HM Government

Dwelling type: Semi-detached house Reference number: R4SAP existing dwelling  
Date of assessment: 30 September 2016 Type of assessment: R4SAP existing dwelling  
Date of certificate: 01 October 2016 Total floor area: 135 m<sup>2</sup>

Use this document to:

- Compare current ratings of properties to see which properties are more energy efficient
- Find out how you can save energy and money by installing improvement measures

Estimated energy costs of dwelling for 3 years: £ 11,910  
Over 3 years you could save £ 6,612

Estimated energy costs of this home			
	Current costs	Potential costs	Potential future savings
Lighting	£ 420 over 3 years	£ 232 over 3 years	
Heating	£ 6,843 over 3 years	£ 4,404 over 3 years	
Hot Water	£ 747 over 3 years	£ 342 over 3 years	
Totals	£ 11,910	£ 4,998	You could save £ 6,612 over 3 years

Energy Efficiency Rating

The graph shows the current energy efficiency of your home. The higher the rating the lower your fuel bills are likely to be. The potential rating shows the effect of undertaking the recommendations on page 3. The average energy efficiency rating for a dwelling in England and Wales is band D (rating 65). The EPC rating shown here is based on standard assumptions about occupancy and energy use and may not reflect how energy is consumed by individual occupants.

Recommended measures	Indicative cost	Typical savings over 3 years
1. Flat roof or sloping ceiling insulation	£800 - £1,600	£ 755
2. Cavity wall insulation	£500 - £1,500	£ 2,178
3. Floor insulation (suspended floor)	£800 - £1,200	£ 249

Home > [Driving and transport](#) > [Number plates, vehicle registration and log books](#)

## Get a vehicle log book (V5C)

Contents

- [Get a duplicate log book](#)
- [If you cannot get a log book online](#)

**If you cannot get a log book online**

There are other ways to get a new log book if:

- [your name or address has changed](#)
- you've sold, transferred or bought a vehicle

**Related content**

- [Change your address on your vehicle log book \(V5C\)](#)
- [Change vehicle details on a V5C registration certificate \(log book\)](#)

**Businesses and commerce also rely on what we produce -  
Adoption driven by regulation, automation and competition.**



Land and property

Charity

Climate

Insurance

Logistics & Supply chain

Defence

Global platforms

Banking

Telecoms

Housing

Environment

Retail

Utilities

Health & Social Care

Infrastructure

Transport

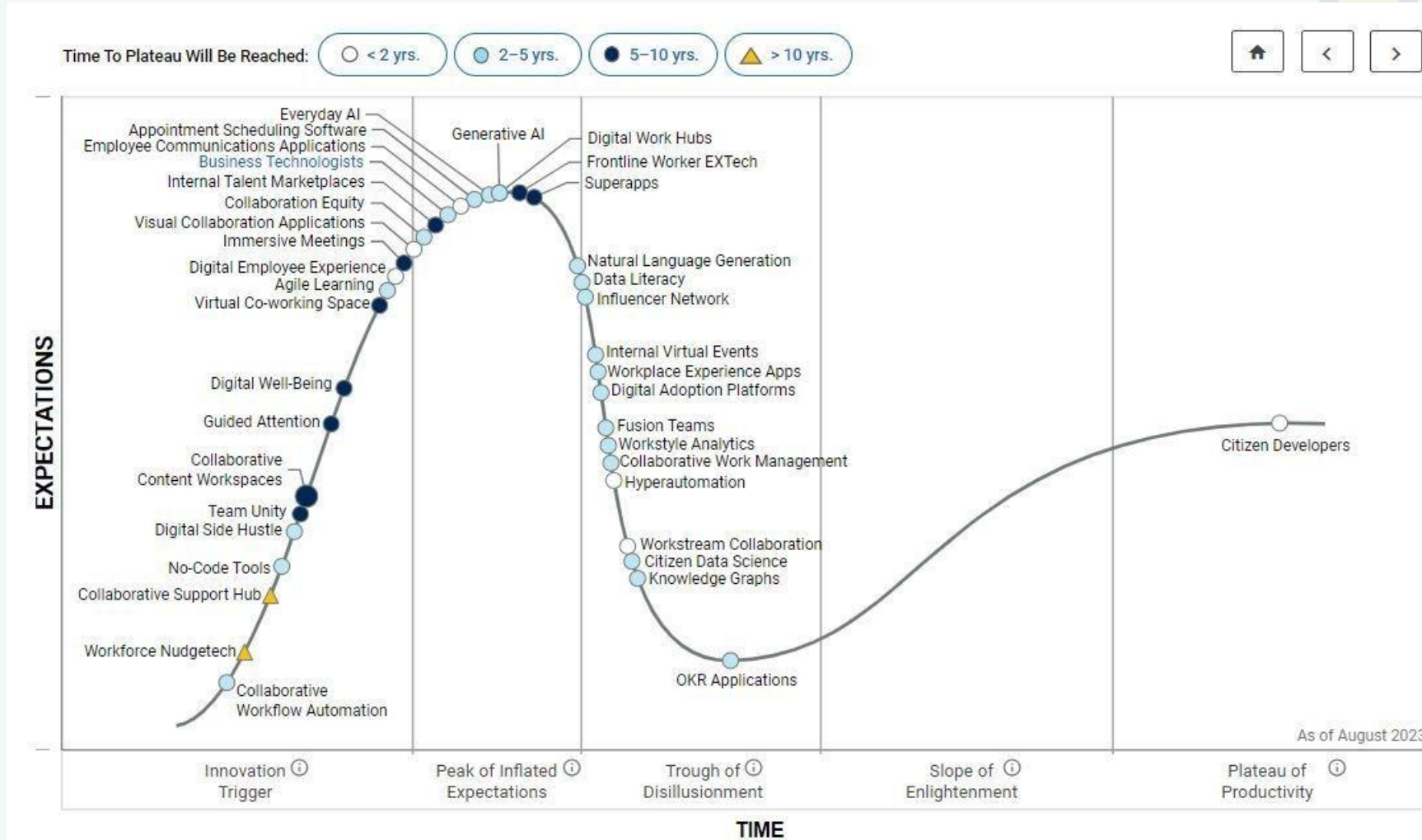
Energy

Building safety

Emergency response



# Where is AI on the 2024 Gartner Hype cycle?



# Why AI?



## Better, quicker insights

Machine learning can sift through data faster than humans to find patterns and generate helpful predictions



## Efficiency

Automates repetitive tasks that take humans a long time



## Improved accuracy

Programs don't make mistakes like humans do - assuming they are programmed **+ data entered** correctly and monitored



## Cost reduction

Humans need rest, but AI doesn't sleep.

# Anything new?



Bombe (1940)



Enigma



Alan Turing



## Better, quicker insights

Machine learning can sift through data faster than humans to find patterns and generate helpful predictions



## Efficiency

Automated repetitive tasks that took (v clever) humans a long time



## Improved accuracy

Bombe didn't make mistakes like humans did - assuming it was programmed **+ data entered** correctly and monitored

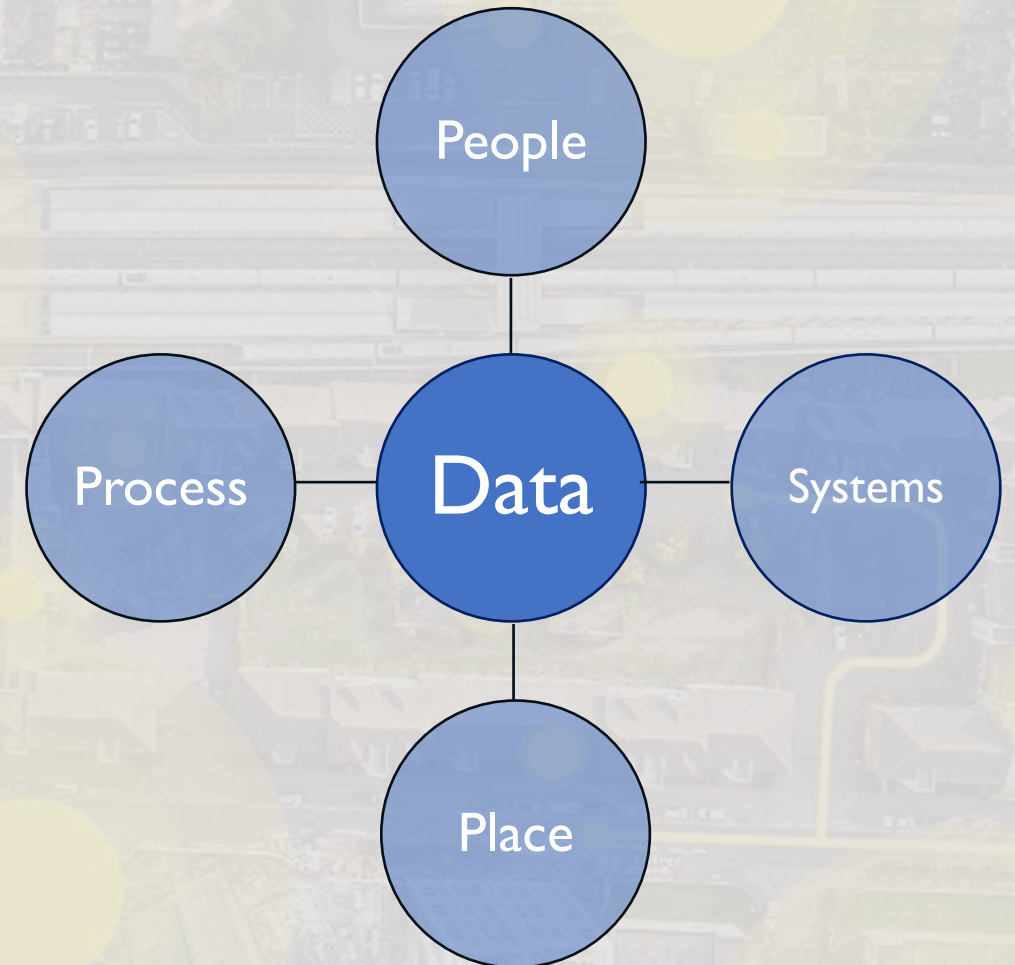


## Cost reduction

Humans need rest, but Bombe didn't sleep!

# Data is at the heart of the best decisions and processes

- Process and data are the drivers **not** systems and technology
- Systems and technologies are interchangeable
- **Better decisions and processes demand the best data – ‘good enough is not good enough’**
- National Data Infrastructure Providers – you rely on what we produce
- Store once, use many is most efficient
- Identifiers (UPRN) underpins connectivity, geospatially enables, automation and right first time

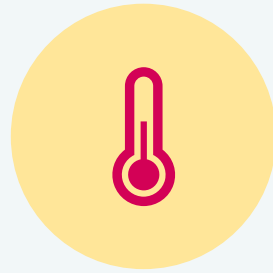


# AI / computing answers only as good as the data provided

## CDO's challenge – is my data AI ready?



A LEADERSHIP ISSUE -  
DATA FINDABILITY,  
ACCESSIBILITY,  
INTEROPERABILITY,  
REUSABILITY (FAIR)



AUDIT DATA, ASSESS  
'FITNESS FOR  
PURPOSE', PRIORITISE  
AND COMMIT



INVEST IN  
ORGANIZATION WIDE  
DATA STANDARDS AND  
GUIDELINES



AGREE PUBLICATION  
POLICIES AND  
SECURITY

# Some data quality essentials

- **Validity** – check data at the point of entry
  - **Accuracy** – agreed guidelines and entry conventions
  - **Completeness** – use of additional sources
  - **Consistency** - multiple providers and operators, tests to check ‘re-sync’
  - **Timeliness** – management strategies for updates, changes, deletions
  - **Uniqueness** – methods to avoid duplication
- 
- AI to support data quality improvement strategies?
  - Beware the overhead of ‘false positives’



# Closing thoughts

AI driving a growing thirst for data

Leadership opportunity for CDOs - AI and invaluable highlight to support investment

Pointers for data quality – use what's available (e.g. UPRN, USRN) and invest

The best decisions require the best data

GeoPlace support for high-quality adoption – no match is better than the wrong match