



UK Government

National Underground Asset Register: How the UK is delivering economic value through improved subsurface data sharing

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UK Government

About the Geospatial Commission

The UK's Geospatial Commission delivers the national geospatial strategy.

We are an expert committee that is part of the UK's central government department, the Cabinet Office.

We have four key missions:

1. Promoting and safeguarding the use of location data
2. Improving access to better location data
3. Enhancing skills, capabilities and awareness
4. Enabling innovation



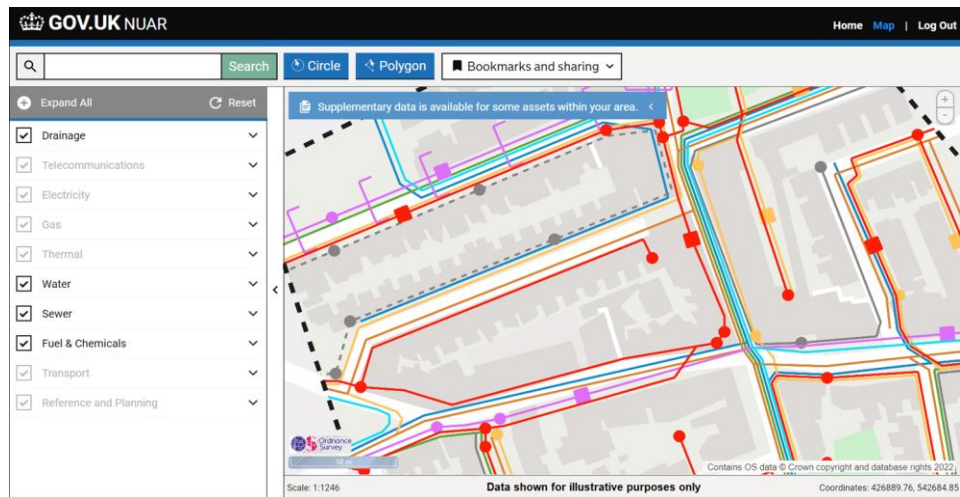
Geospatial
Commission



What is NUAR?

NUAR is an interactive, digital map of underground pipes and cables, revolutionising installation, maintenance, operation and repair.

- Streamline data sharing between asset owners and excavators
- Standardise data from 650+ asset owners
- Provide secure and immediately available data
- Any missing / incorrect data can be fed back

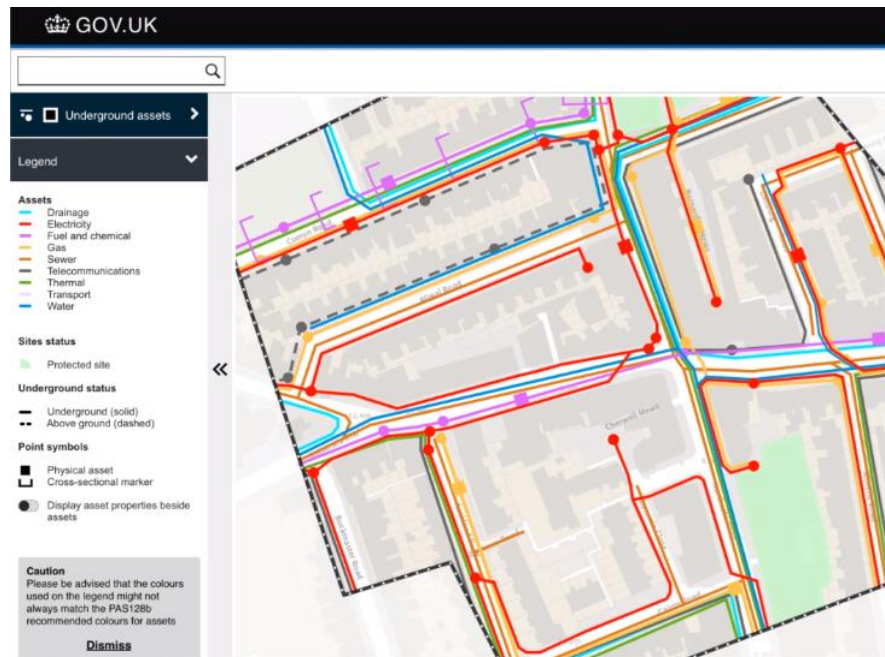




Building a great service

Working with users we have so far developed the capability to:

- Login securely using two factor authentication
- Navigate a map and see the contextual information about above-ground features
- Search by: Street name, Unique Property and Street Reference Numbers (UPRN, USRN) and postcode
- Specify and edit an Area of Interest by a circle or polygon
- Display and query asset data
- Share locations with other users



Data shown for illustrative purposes only



Why do we need NUAR?

- 4 million holes dug every year
- Planners and excavators need the data to carry out their jobs safely and efficiently
- Data is currently held by over 650 organisations
- Accessing the data takes average 6 days
- Approx. 60,000 accidental strikes per year

There is no market incentive to improve and coordinate access to underground asset data without government intervention





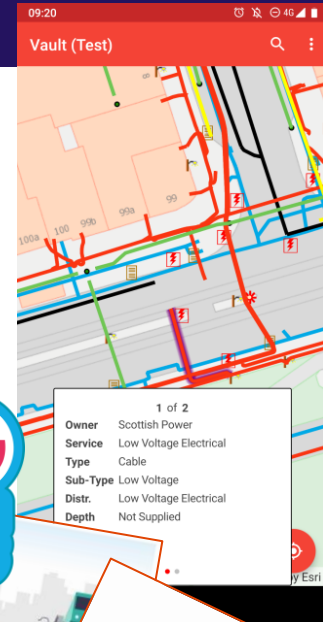
Building on existing initiatives & evidence

- Research projects such as VISTA, Mapping the Underworld and Project Iceberg
- London's Highways Apparatus Data Exchange System (HADES) project 2017
- UK Northumbrian Water Group 2018 Innovation Festival
- Scottish Roadworks Commissioner VAULT system
- Operational Systems in the Netherlands, Belgium and Germany
- UK NUAR Pilot Projects from 2019-2020



PROJECT ICEBERG

KLIP (Kabel- en Leidinginformatieportaal)



Owner	Scottish Power
Service	Low Voltage Electrical
Type	Cable
Sub-Type	Low Voltage
Distr.	Low Voltage Electrical
Depth	Not Supplied





UK Government

Who we are working with

- A supply chain of world leading experts in their field
- Other UK government departments
- Existing networks of asset owners
- Industry and professional bodies
- Academia and international partners
- Users!



Department for Digital, Culture Media & Sport



Department for Business, Energy & Industrial Strategy



Infrastructure and Projects Authority



Department for Transport

NATIONAL INFRASTRUCTURE COMMISSION

Better infrastructure for all

CPNI

Centre for the Protection of National Infrastructure



National Cyber Security Centre

a part of GCHQ



Open Geospatial Consortium



ATKINS

Member of the SNC-Lavalin Group



Ordnance Survey



GREATERT LONDON AUTHORITY

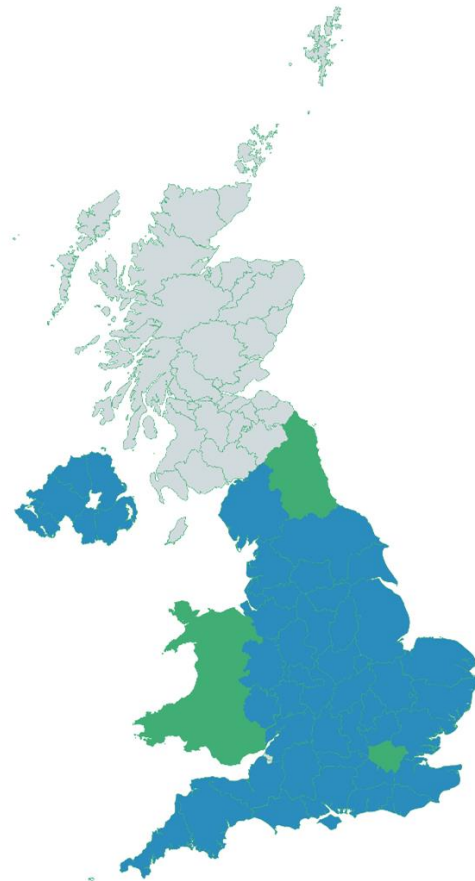




Participation progress

- Over 250 Asset Owners in the three initial regions have been engaged
- 173 Data Exploration Agreements (DEAs) have been signed. This concise document enables the NUAR team to explore Asset Owner data (without publishing it on the live platform).
- 108 organisations have uploaded their data to be explored and 50 datasets have had their transformations agreed.
- 63 Data Distribution Agreements (DDAs) have been signed. This document enables Asset Owner data to be published on the live platform.

*** as of 1st October 2022**





Who will benefit?

- **Asset Owners** - efficiencies in sharing data
- **Planners** - efficiencies in sourcing data and reduced risks of asset strikes
- **Excavators** - reduced risks of asset strikes
- **Data managers** - improved data quality
- **Plant protection officers** - greater knowledge of activity near assets
- **General public and businesses** - reduced delays from accidental strikes





Economic benefits

- £2.4 billion per year estimated economic cost of accidental strikes on underground pipes and cables
- £350 million per year economic benefits of NUAR - data sharing efficiencies, reduced asset strikes and fewer delays
- Unquantified benefits from future use cases - efficient infrastructure build; housing development; EV chargepoint rollout etc

Timeline



2018

Geospatial
Commission
established

NUAR Research
Phase starts



2019-20

Pilot projects
completed

Preparation
phase launched



Sep 2021

NUAR build
programme
launched



Mar 2023

Platform
operational for
Wales, North
East England &
London



Sep 2024

Platform
operational for
Northern
Ireland and rest
of England



Future of NUAR

- A public consultation concluded on the 2nd June. This included questions on potential legislative reform and the future operating model.
- We are now reviewing responses, and a formal response will be published later this year on gov.uk.
- We have launched a test service with a handful of users in Autumn '22.
- We're continuing to onboard Asset Owners from across the various sectors from the 3 MVP regions.
- We have now opened up a national call, starting to engage with all Asset Owners across England, Northern Ireland and Wales



Geospatial Commission

You can find out more about our work at:



gov.uk/government/organisations/geospatial-commission



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