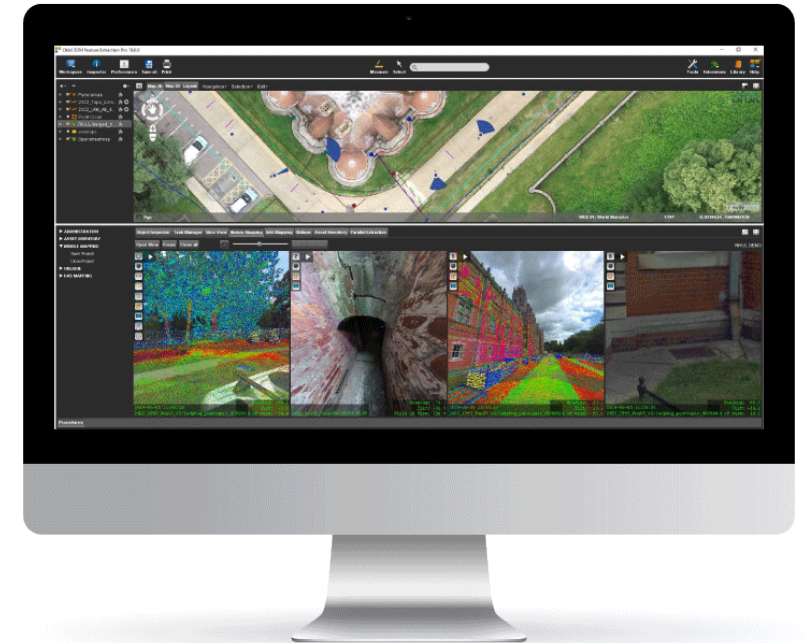


# U-GIS LANDSCOPE'S UNDERGROUND GIS PLATFORM

MARK WHITE MCInstCES, GEOSCIENCE MANAGER

GEO BUSINESS | DAY 2 | GIS & DATA HUB





# WHO WE ARE

Established in 2004, LandScope Engineering has become one of the leading survey companies in the UK, with over 17 years' experience in the national and international land and offshore survey market.

Operating nationwide, we have built a strong reputation, stabilising ourselves as a reliable, efficient and quality-driven provider with an extensive list of clients.



# WHAT IS U-GIS?

- U-GIS is a principle / philosophy
- Accessible to all
- The ability to view all data in a single software (above, below and underwater)
- GIS currently under utilised for below ground infrastructure
- Database driven
- Smart queries and reporting
- Clean / easy to interpret
- Digital data
- Digital twins
- Not a replacement for standard outputs (such as AutoCAD, MicroStation etc.)

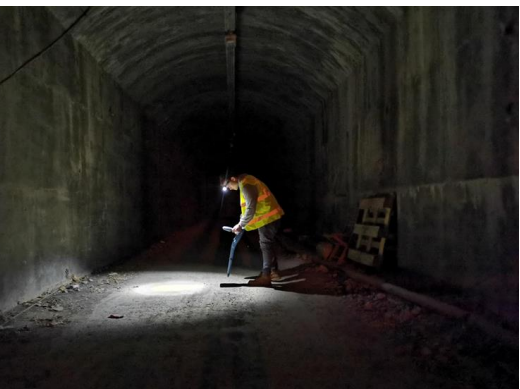




# DATA COLLECTION METHODS

- Survey data collection from multiple sources
- Digital data formats
- Survey companies offer many multi-disciplinary surveys
- What outputs do these create?

*Utility Mapping, Topographical, Geophysical, Hydrographic, Monitoring, Structural, Mobile Mapping, Mobile GPR, EUFR... any digital data!*

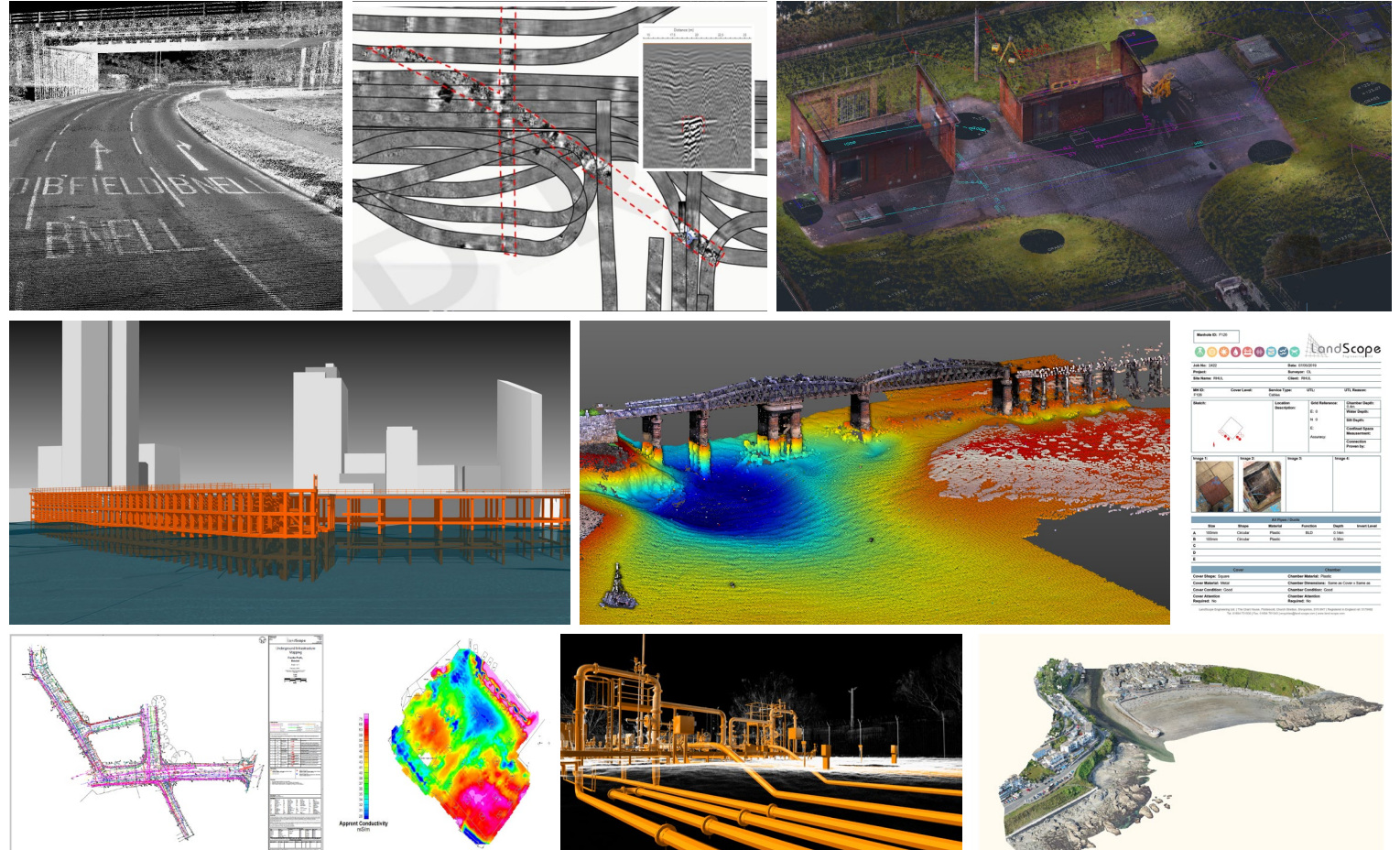




# TRADITIONAL DELIVERABLES

- Still important and required by many in the industry
- Many varying formats, processing software and delivery format options
- Costly licenses and specialist knowledge often required (small user base)
- Data not always visible to key stakeholders

*Traditional Line Work Drawings,  
Reports, Manhole Cards, Photographs,  
Point Clouds, 3D Models, Geophysical  
Plots, Meta Data, Legacy Data...*



# U-GIS: THE SOLUTION





# THE VALUE OF U-GIS?

- Repurposing / recycling of industry standard deliverables into a single platform
- Low cost – the expensive work has already been completed
- Accessible to all (cloud, desktop, open-source options)
- Opens data to non-technical sectors / departments
- Facilities asset management
- Incorporate legacy data / timelines
- AR/VR Applications
- Smart Queries / Reporting
- Annotations



# INDUSTRY DIRECTION

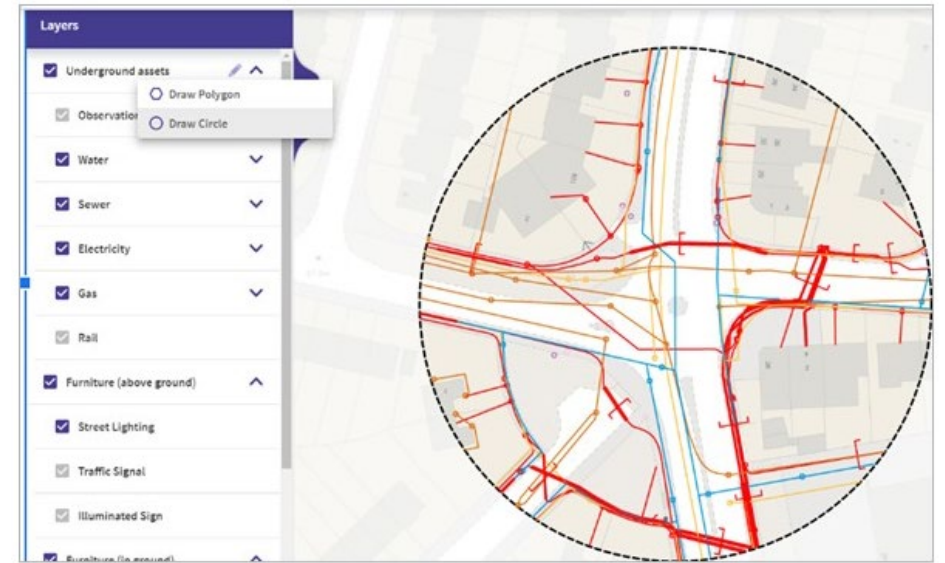
Is GIS becoming the norm????

## NUAR (National Underground Asset Register)

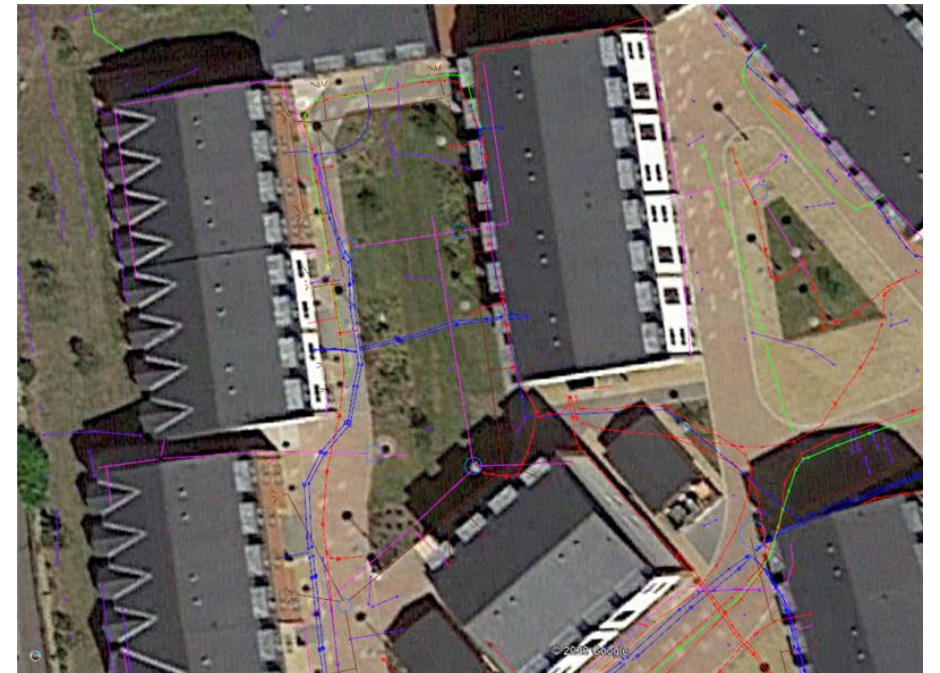
- Driven by the Geospatial Commission (government backed)
- Digital map of Statutory Undertakers Records (UK-wide)
- 2 Pilot schemes completed
- Entering the build phase
- GIS based

## PAS128:Update

Is there an argument that the amount of meta data required to satisfy PAS128 is now too great for traditional deliverables?



*Screenshot of NUAR pilot data (Geospatial commission website)*





# INDUSTRY DIRECTION

- CICES recognises the importance of GIS within the survey industry and have recently relaunched the GIS competencies to reflect updates within the industry
- Katie Holt and the entire CICES team are on hand if anyone would like more information



## GIS Competencies for Membership

### Working to get you professionally qualified

The GIS (geographic information systems) specialist competencies for membership of CICES have been updated in collaboration with the Association for Geographic Information (AGI) to reflect changes in the profession. The revised competencies reflect the use of GIS throughout the project lifecycle:



# U-GIS OPTIONS

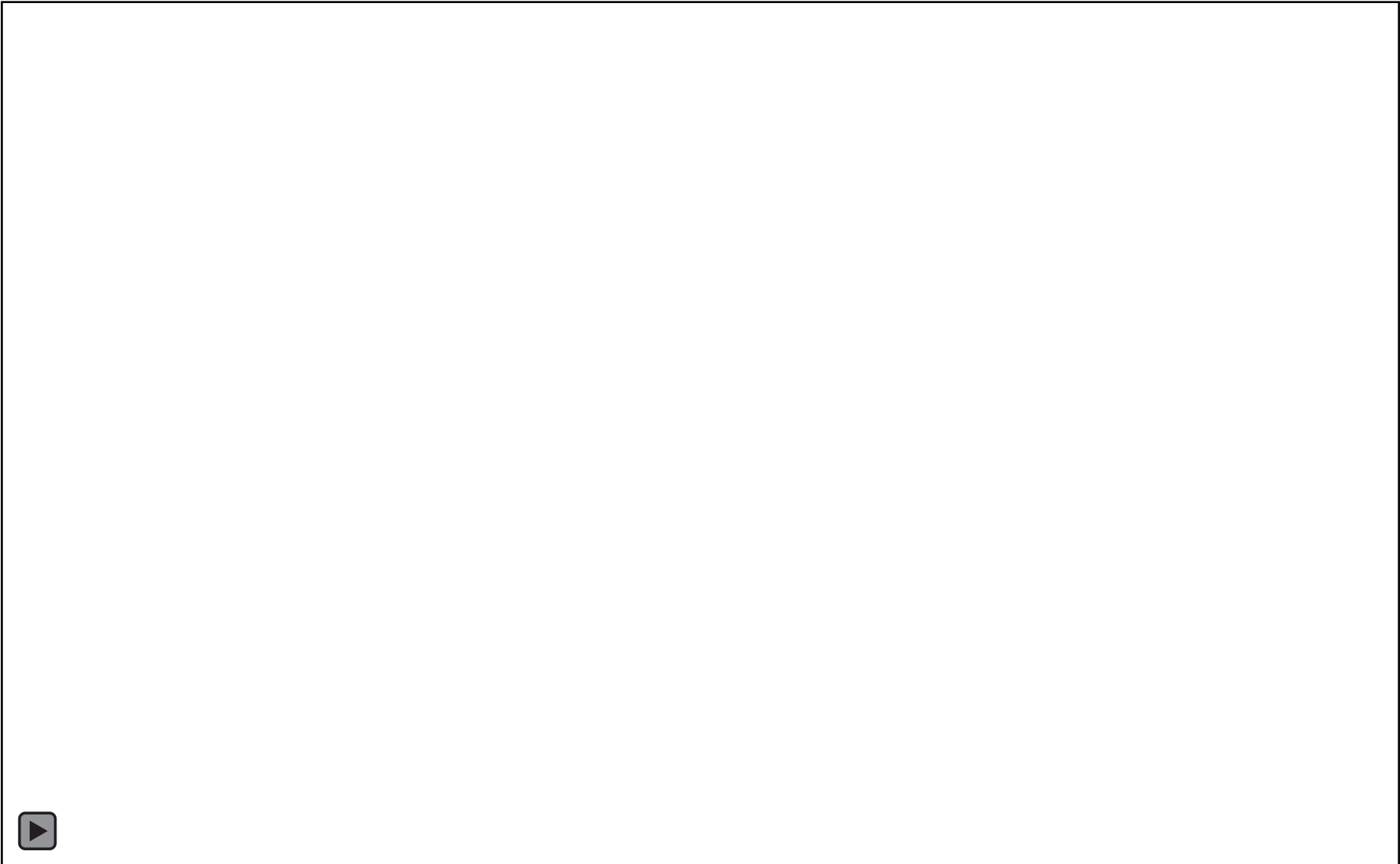
Any industry leading GIS package!

- Orbit 3DM Solutions from Bentley Systems
- QGIS
- Google Earth
- ArcGIS
- AutoCAD Map 3D
- Many others...





# U-GIS OPTIONS



# U-GIS OPTIONS



# U-GIS IMPROVE INTERNAL WORKFLOWS





# U-GIS WHAT'S NEXT?

- Continued evolution to a GIS approach?
- Traditional CAD style drawings can easily be exported as required
- Cloud based solutions
- Send info both ways (stats to field team etc.)
- Improved ways to handle mass data
- Auto extraction and reporting
- Better GPR/EML/Geophysics integration
- Video footage
- Dynamic convergence of other data (core samples, intrusive information etc.)
- Improved GNSS sensors / corrections / IMU devices
- Phone based scanner / photogrammetry tech
- AR/VR
- Data management tools – client enabled?

