



## The Intelligent Trench

According to latest estimates, around 6 million works are carried out each year plus another million works away from the street. Currently there is no national common approach to the way information on the nature and location of underground infrastructure is captured, recorded, stored and shared. Records of underground assets are incomplete and inconsistent, there is no standard approach and existing locating technologies are not 100% accurate.

This leads to greater safety risks to workers and the public, extended job times, abortive and unnecessary work and damage to third party assets. All this results in increased costs, delays to road users, disruption to businesses, environmental costs and damage, loss of service and brand damage.

Every time a hole is dug in the street, it impacts on traffic and the local environment. Often, holes turn out to be "dry" – inaccurate information means that assets thought to be there couldn't be found. Every time a hole is dug, it carries the risk of hitting and damaging buried plant and equipment, with the consequent risk of service disruption and threat to safety. Third party damage is estimated to cost utility companies £150 million a year, although this is dwarfed by the annual £5.5 billion pounds cost to society through delays to road users, disruption to business, environmental damage and safety costs (NUAG 2007).

Intelligent Trench offers the ability for data to be captured for every excavation where a 3M RFIID electronic marker is deployed. The data gathered can be used to verify and record the type, position and depth of ALL underground services (as directed by NRASW Section 80).

## Intelligent Underground Markers

ITC uses the 3M Dynatel™ EMS-iD Intelligent Marker system.

Each marker has a unique ID and is capable of being programmed to provide position and identification data recorded as part of any survey (enabling pinpoint location and required information for each individual pipe or cable or asset).

The markers are capable of being read up to a depth of 1.2m.



For Works Promoters or Local Authorities, Intelligent Trench offers a simple, cost effective method of marking and recording all underground assets – nationally. To capture and share “intelligent” asset data and accurately located and detect all (both new and existing) underground assets. Collating and hosting all data centrally allows the gradual verification of all records for all to access via the Web, 24/7.

Intelligent Trench employs an easy-to-use technology that allows you to capture detailed, geo-referenced data specific to any given trench, underground or above ground asset without any mapping or GPS inaccuracies. You can record information gained from trial holes, pipe surveys, non-invasive trial holes, core samples, etc.

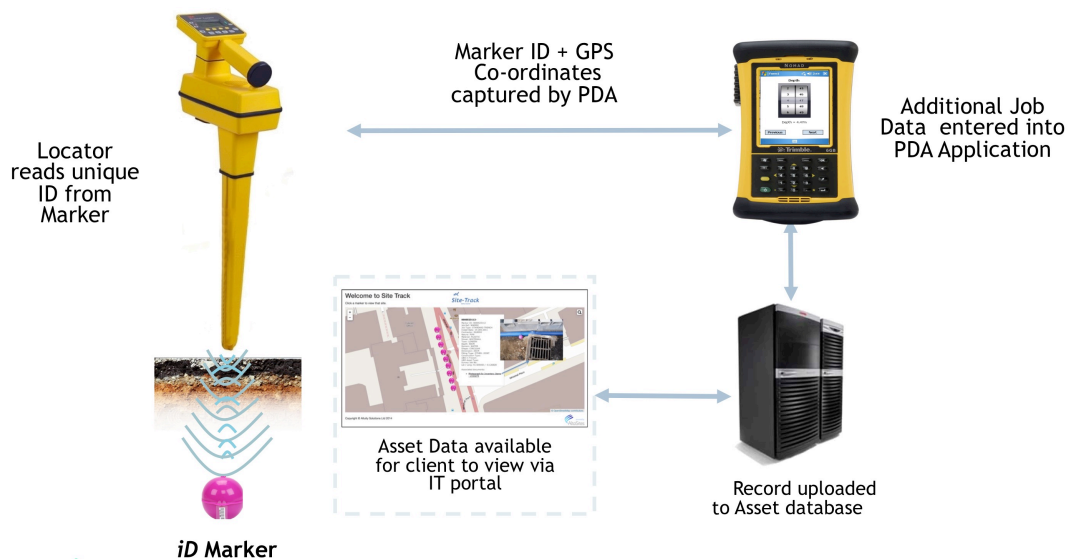
The system is a web-based, scalable service for uploading and storing your asset portfolio and related data (such as photographs, Notice data, Contractor data, etc) on a national or local level where you can retrieve your own or any other data instantly, even in the field.

It includes clear, interactive mapping tools to view the location of your or any one else’s asset in any given area.

## How the system works

Intelligent Trench is based on permanent, intelligent RFiD markers in the ground. These markers provide position, depth and identification data and a unique RFiD signature. They are deployed from ground level. Information can be easily recorded at any excavation using a Tablet or PDA. This asset data information is then uploaded to a spatial database.

### Intelligent Trench Solution



Data gathered is added to the GIS visual database, which can be populated and maintained at any time, providing access for all authorised users.

Data can be accessed from either on-site or in the office, enhancing site safety, operational performance and enabling instant verification of mapped utility records.

Sharing information gathered by all for the benefit of all is a unique concept. An objective that is receiving support throughout the industry.



Costs are relatively small and funding could be shared by all beneficiaries; i.e. Authorities, Highways Agencies, Utilities and contractors

## Benefits of the Intelligent Trench system

- Health and Safety of workforce and public.
- All information easily accessed by anyone.
- Complete traceability for all works undertaken and by whom.
- Record most common point of failure
- Record location of all assets above and below ground.
- Reduced Penalty Charges and reduced number of Permit applications.
- Reduced traffic congestion.
- Better-quality data will enable better planning at an earlier stage, leading to more cost-effective designs and plans, and reduced third party damage costs.

For more information about the Intelligent Trench solution, or to arrange a meeting, contact Key2iD on:

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