



# The start of the story.....How we locate gas escapes today.

- SLG
- Bar hole....gas go seekers
- Excavate
- Bar hole...gas go seekers
- Excavate
- Reinstate
- Remove SLG...
- Issues....gas travels
- Impacts of all this activity...Disruption to customers, inherent H/S/E risks, costly

## What we set out to do to reduce these negative impacts with the support of Ogem innovation funding.....

#### **Benchmark the options**

- Water sector used sound to detect water escapes
- Sewage sector used high def cctv system to see faults
- Core Vac excavation techniques already used to minimise excavations

## The challenge was could these 3 separate process and techniques be brought together to create something that would fulfil our 3 aims

- Reduce H/S/E risks and impacts
- Reduce disruption to our customers
- Reduce our unit cost

#### What were the particular challenges we faced...

- Could work be done on a gas main through a 600mm cored excavation
- How would we place the acoustic unit inside the gas main
- Would the acoustic system be sensitive enough to pick up gas escapes

#### What methodology did we adopt...

- Locate and bring together the best available suppliers and equipment.
- Create a working group. Engineers .HSE ,Operational managers
- Consult and inform other stakeholders such as Highways
- Learn to walk before running......

### We have a gas escape in acoustic world...



## Core and vac in operation



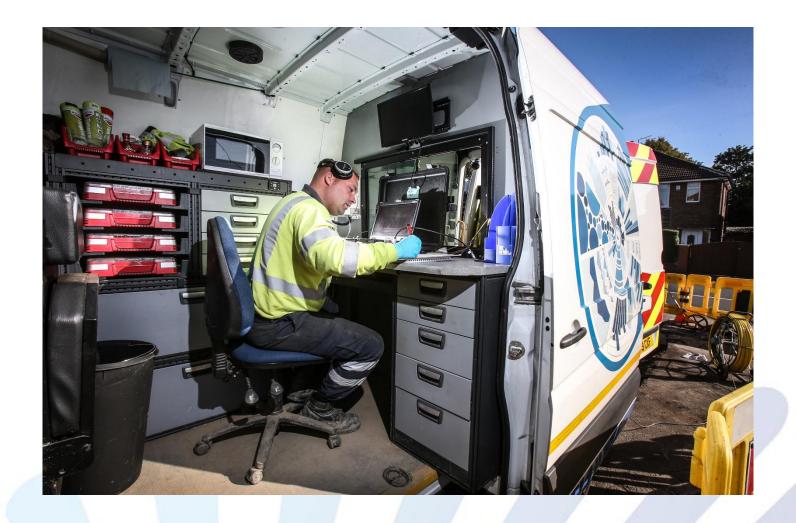
#### Above ground tooling development....installing the base



#### Acoustic cctv insertion



### Acoustic cctv survey



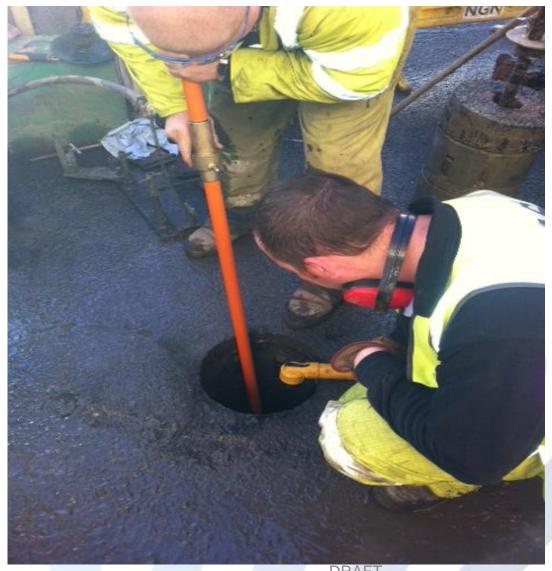
#### Acoustic and digital displays



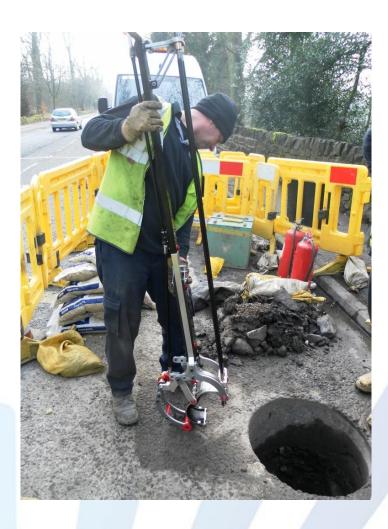
## Above ground collar repair



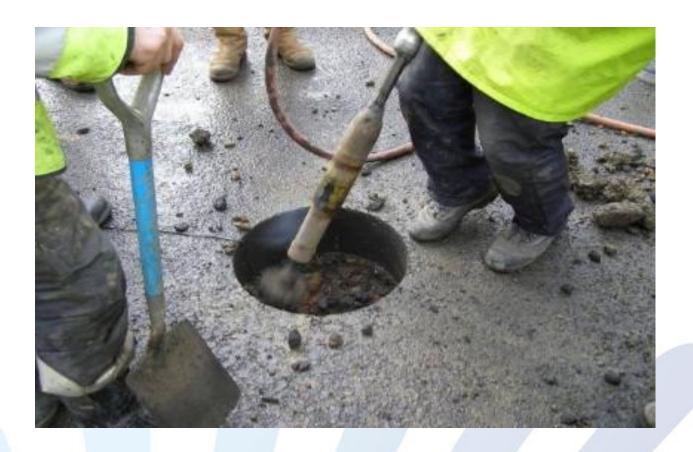
#### Above ground collar repair....through a 450mm core



#### Above ground tooling development of further options



## Repair complete.....



#### What do the customers see ...figure of 8 option



#### What's the feedback been to date....

- From our customer's
- The wider stakeholder's
- From our employee`s

#### Challenges from today onwards

#### **Behavioural**

 Embedding a change in culture from the 1<sup>st</sup> choice is to call for the excavator to excavating is the last option in terms of our people's safety, our customers and our costs.

#### **Technical**

- To further develop the data base of sounds we hear in our assets to enhance the sounds we want to actually hear
- A unit that can detect escapes in larger mains
- An untethered unit that we can operate remotely from the surface
- Above ground tooling and fittings development