



# Low-Cost Air Pollution Monitoring Systems: Testing and Evaluation of the Whole Ecosystem

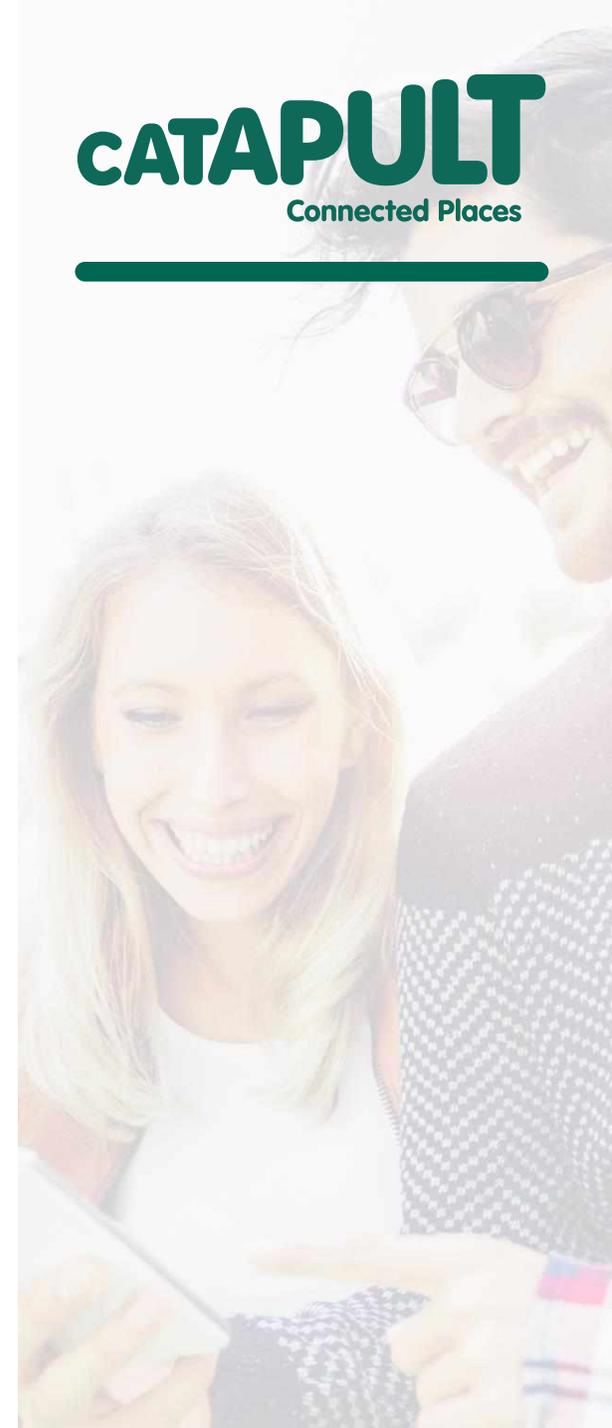
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# Talk Outline

- Why This and Why Us?
- Project and Team Overview
- Work To Date
- Next Steps
- Impact



# Why This and Why Us?

## *Why Connected Places Catapult?*

The dominant cause of air pollution in cities is transport

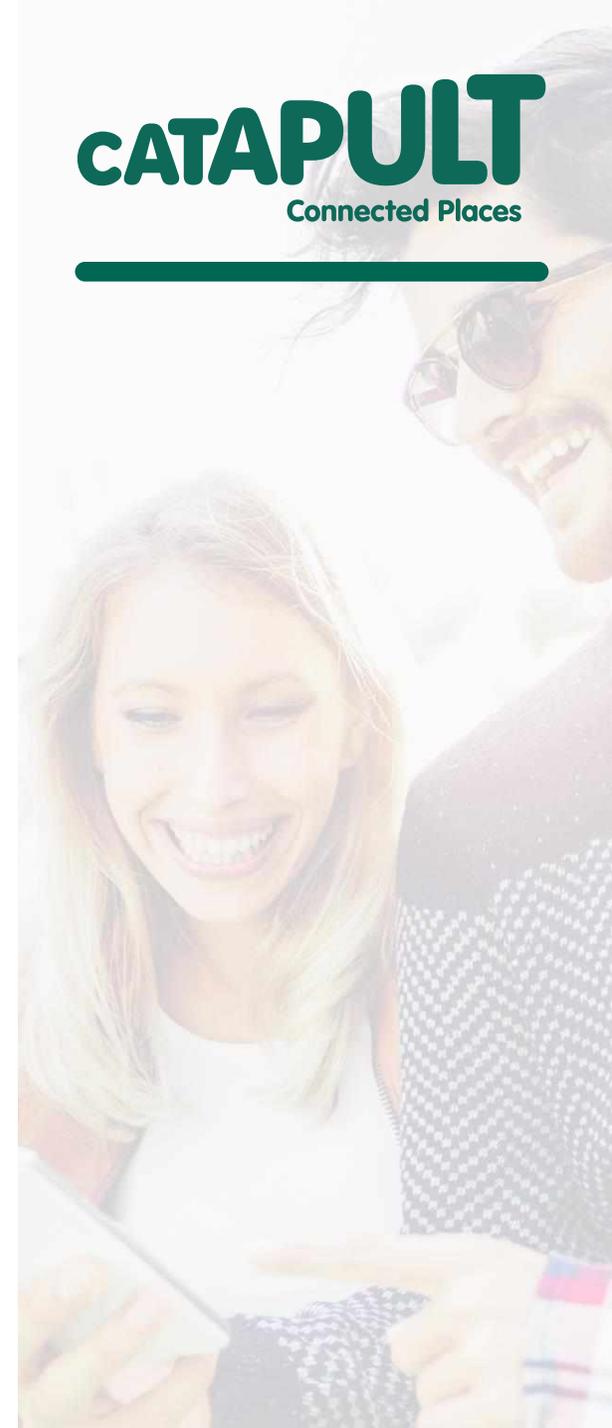
Air pollution is a negative external cost, therefore markets won't develop their own solutions

Problem requires engagement with commercial, academic and authority stakeholders

CPC's neutral third-party status allows us to report in an unbiased manner to all stakeholders

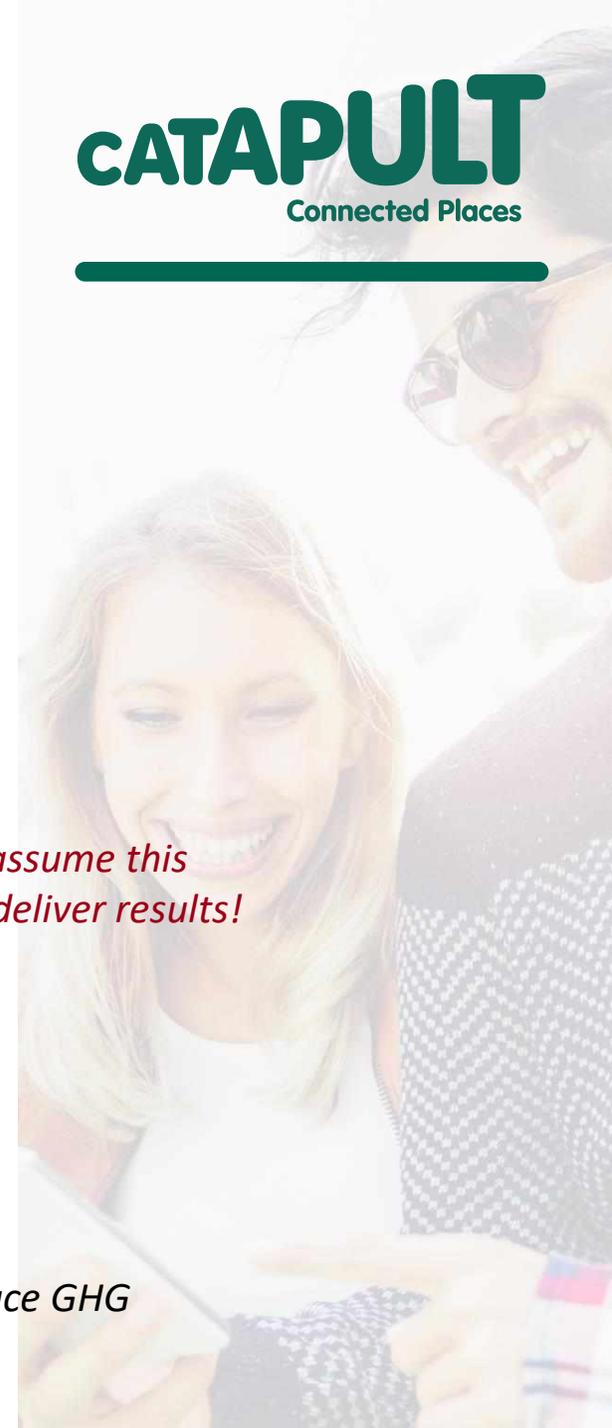
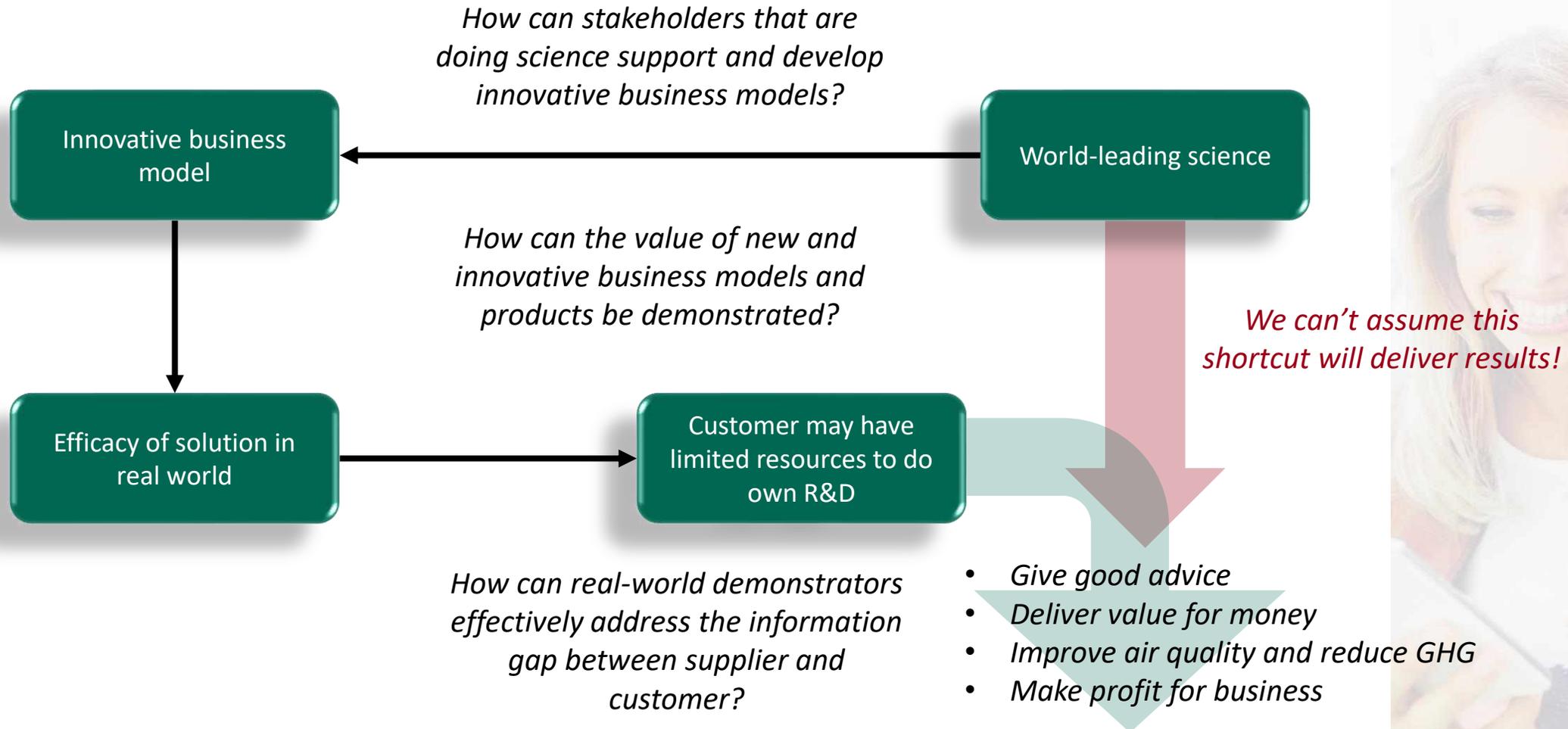
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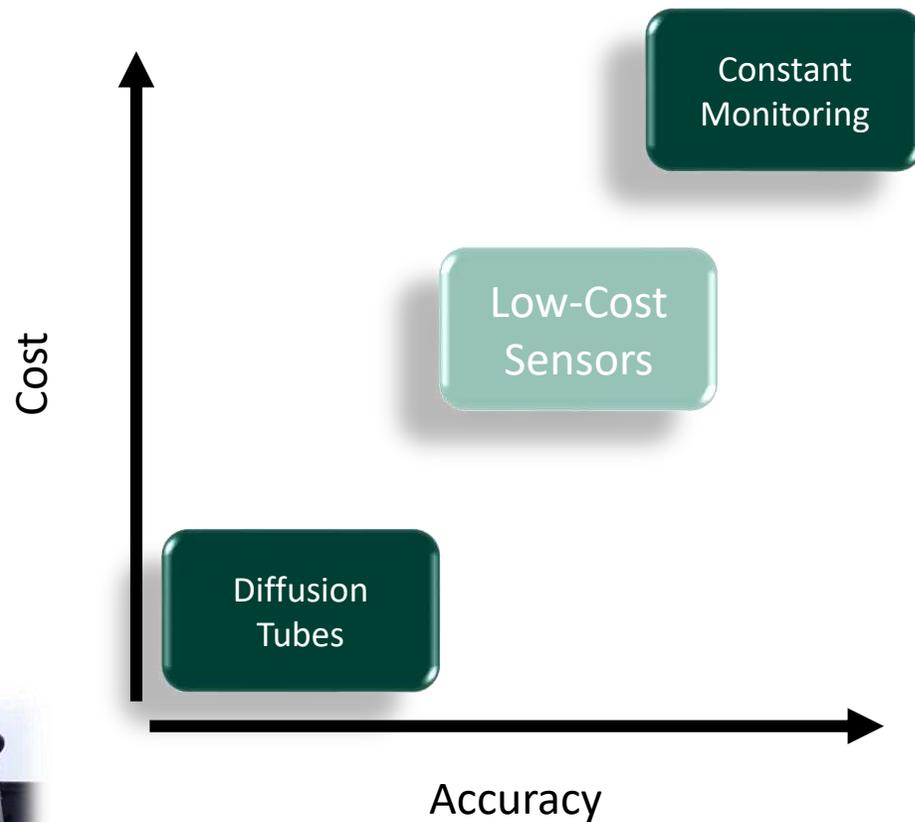
# Why This and Why Us?

*What is the system for clean growth?*

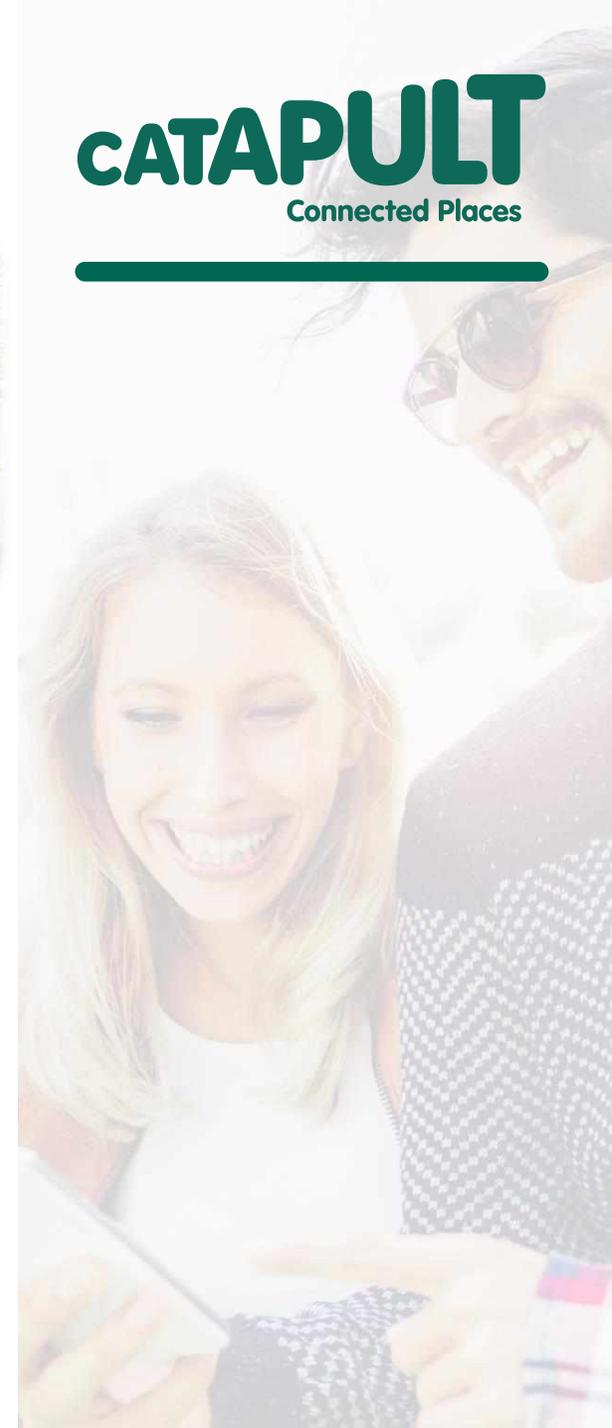


# Why This and Why Us?

## *Current Market State*



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# Why This and Why Us?

## *Current Market Complications*

Show value to local authority early adopters

Allow DEFRA to advise LA with confidence

Reduce friction for sensor vendors

Need to deliver value for money to taxpayers

Academics want to do precise science

Outline processes for vendors

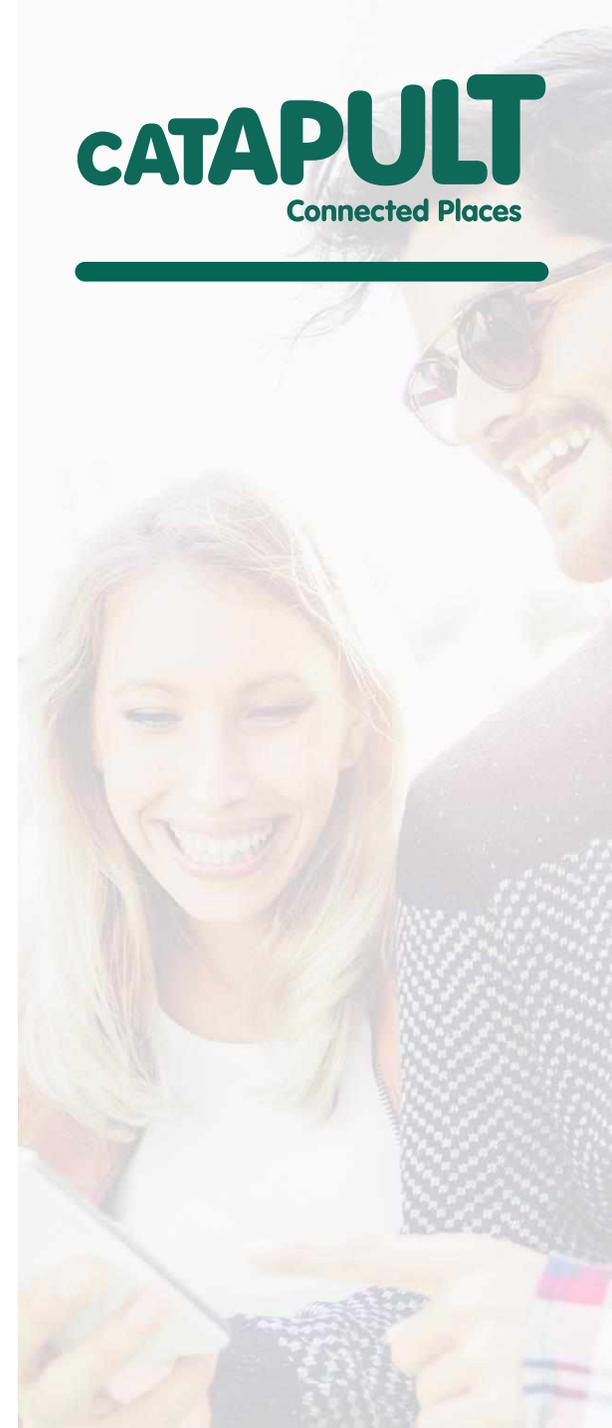
Need to address air quality issue or face fines

Businesses want to sell units

Validate instruments in the real world

No budget or expertise to do own R&D

DEFRA need to give good advice



# Why This and Why Us?

## *What are we going to do?*

### Ecosystem Review

Complete

### Data Collection

Targeting 6 months of data collected and compared to best available sensors

5 sensors installed at 4 continuous monitoring sites around the UK

Bradford, Manchester, Sheffield and Milton Keynes

### Data Analysis and Reporting

Develop transparent and repeatable methodology

Report quality of results in a fair and sensitive way

Evaluate the ecosystem around deployment of sensors, e.g. power supply

### Dissemination of results



# Work To Date

## *Ecosystem Review*

### State of the Science

Health impacts of air pollution

Technical elements of low-cost sensors

Summary of projects being undertaken

### State of the Market

Market drivers and outlook

Sensors for this project

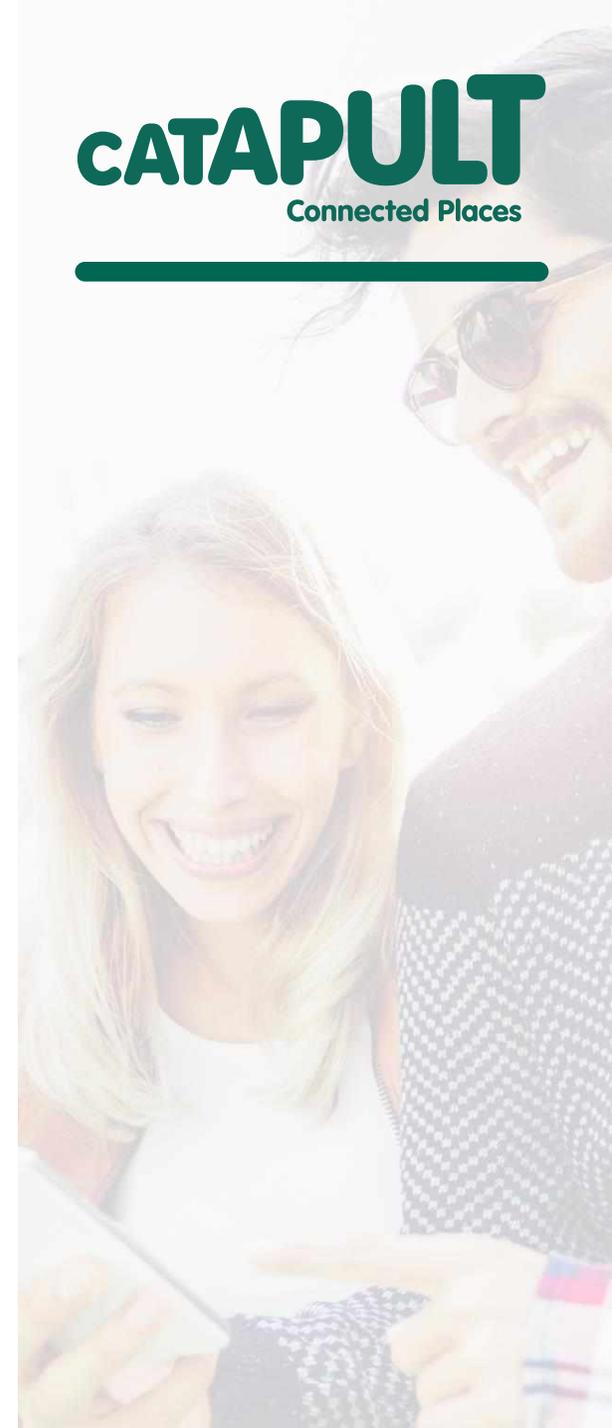
Additional sensor systems

### State of Legislation

Air quality legislation and monitoring requirements

Examples of work currently being done by authorities

Funding



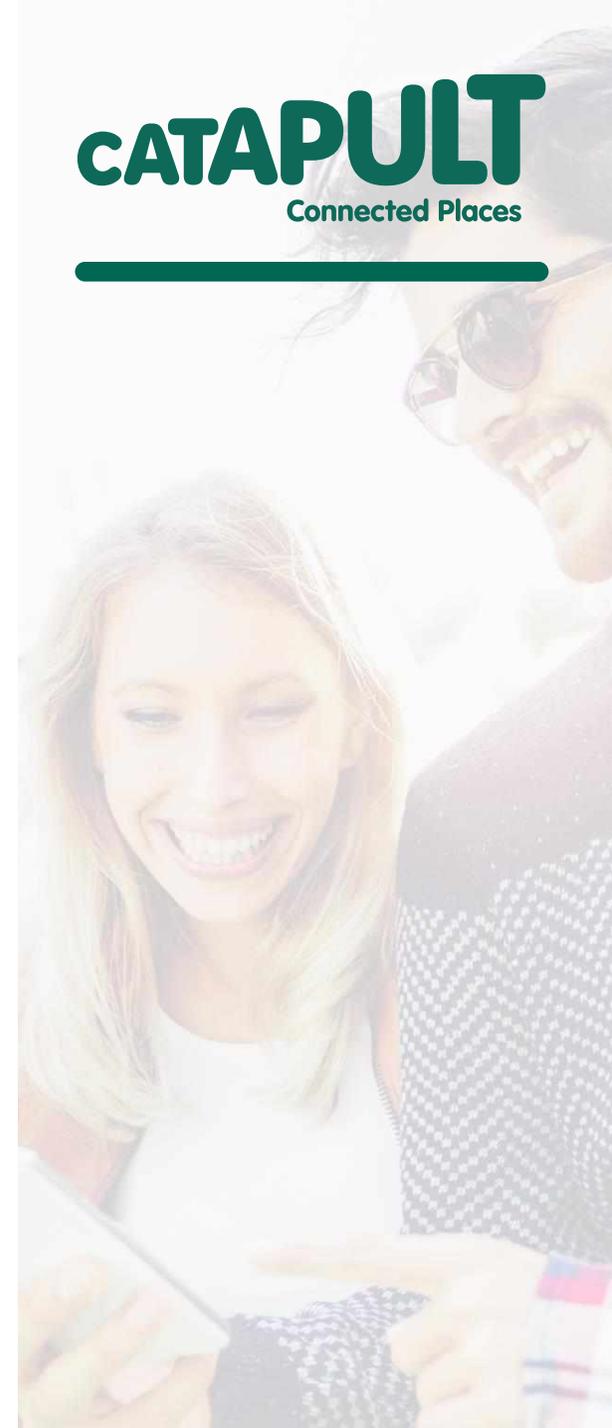
# Work To Date

*Sites Selected: Sheffield, Bradford, Milton Keynes, Manchester University*



Manchester site, full installation

Bradford site, partial installation



# Work To Date



All sensor installations complete  
Data collection live  
Analysis methodology complete  
Data analysis in preliminary stages



# Impact?

*What do we hope to achieve?*

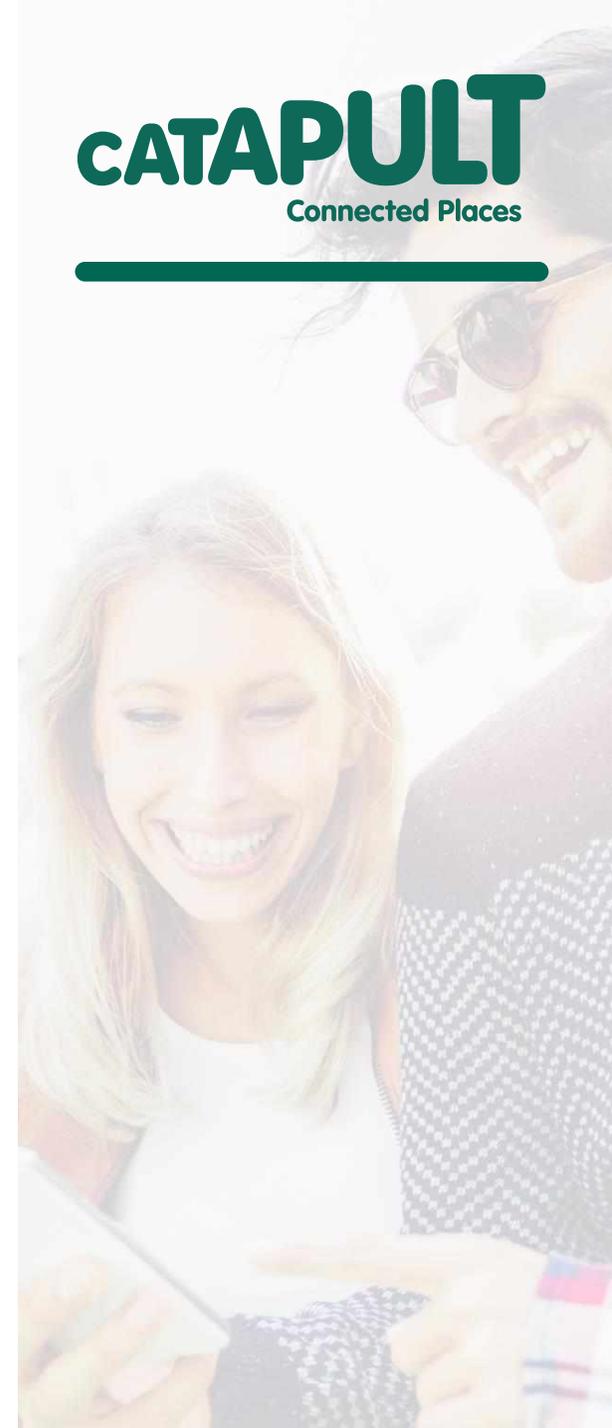
Provide evidence that supports the case for deployment of sensors in polluted areas

Identify pain points in the deployment of the sensors so local authorities and vendors aren't surprised

Show the use cases where the deployment is suitable and not suitable

Support the growth of a sector that the UK can lead in, and is applicable world-wide

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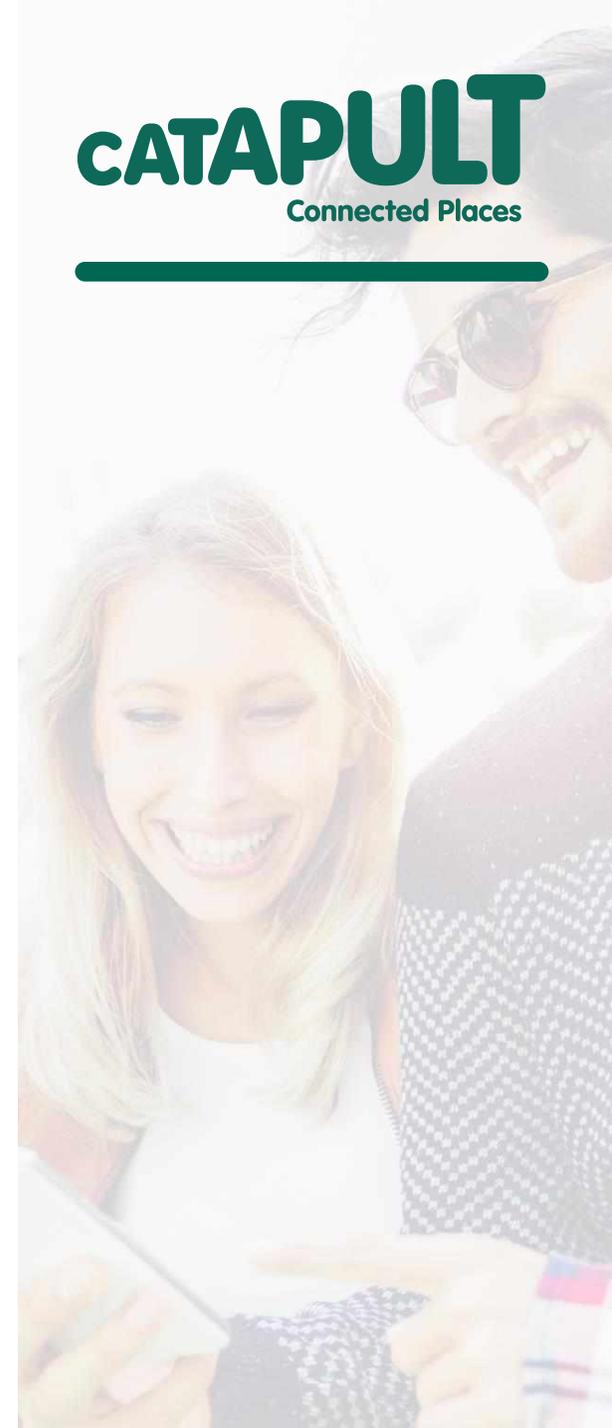
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**Thankyou  
and Q&A**