

# The InnOvaTe Project

Internet of Things Programme

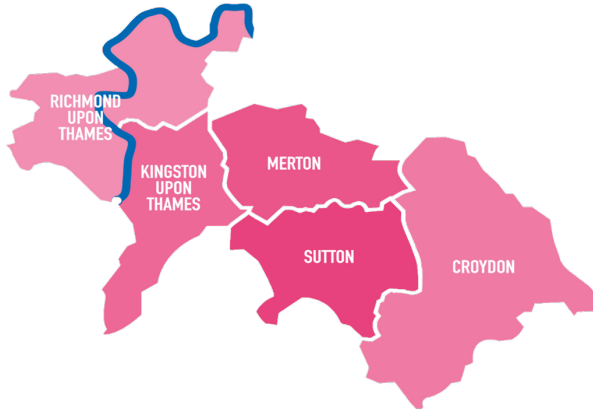
[innovateproject.org](http://innovateproject.org)



**CROYDON**



# About Our Programme



- 5 local authorities
- £4 million awarded by CoL over 3.5 years
- 3 lockdowns
- Too many use cases to mention in 10 minutes
- 1 dedicated delivery team



Programme  
Manager



PMO



Project  
Manager



Project  
Manager



Project Manager &  
Social Worker



# Suppliers & Partners

# Objectives



Resident focussed programme goals:



1

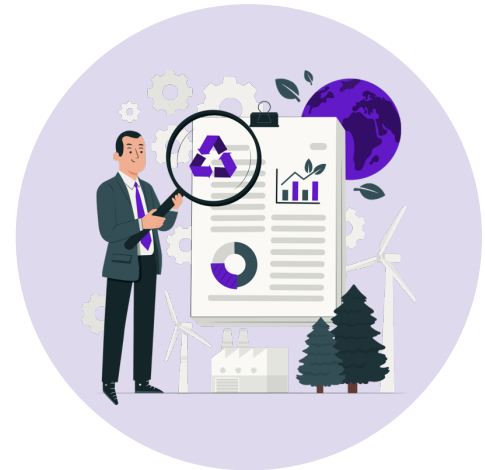
Promoting economic growth within the boroughs



2

Supporting a response to Covid -

19



3

Supporting a response to the climate emergency

# Our Mission



Bringing together technology and places that address challenges in our communities



“IoT is the linking of a physical environment to a digital world”

# Transparency Principles

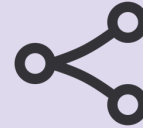


Commitment from the programme to uphold these principles ([link](#)):



## Citizen Control

By default, will not store personal data



## Sharing Information

Will share data whenever possible



## Build Public Trust

By default, will work in the open



## Data Ownership

Data captured should be publicly owned



## Secure & Private

Security and privacy, by design



## Partner Selection

Partners must agree to these principles

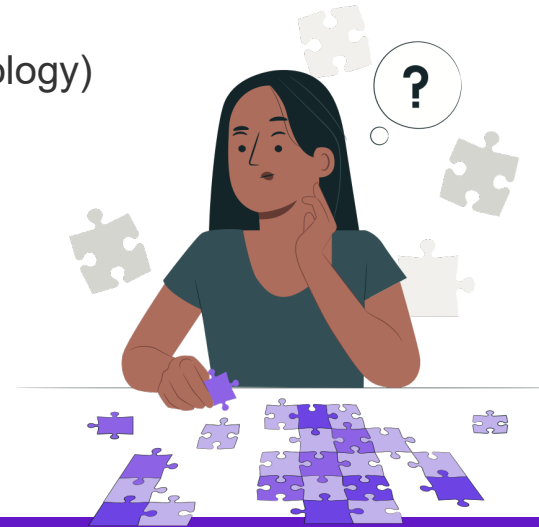
# The Challenge Focused Approach



We start with a problem ... not a piece of technology:

- Start with a real life **problem (challenge)** ,
- Have a clear expected **outcome**
- Have specific questions that the **data** will answer
- Find a **supplier** to deliver the **solution** (not a piece of technology)

150 use case ideas assessed, **47 use cases**  
went live in 18 months with **65% moving**  
into **BAU** after 12 month trial



# Summary Achievements



## Positive outcomes to note:

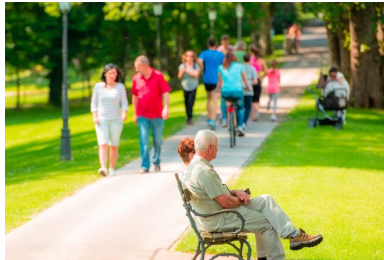
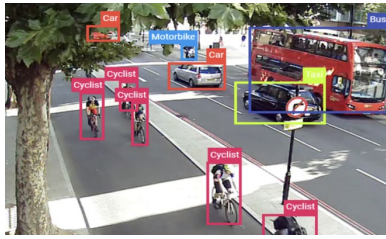
- **5 human lives saved** as direct result of alerts generated
- **Shared IoT data platform** with visualisations used across 5 boroughs
- New insights into combined **air quality** and **road usage** at schools
- **Fuel poverty / malnourished** identification and interventions
- Improved waste transfer site **pollution mitigation**
- Reduction in **flooding events** and **improved response times**
- **ASB reduced** across housing estates for unused buildings
- **Road user improvements** in cycle lanes, one -way streets, public realm, pedestrianisation and unauthorised use
- Visitor analytics to support **funding for improving parks**
- Prioritisation of **damp / mould properties** for interventions
- **Parking insights** generated (disabled bays, road access)
- High street **retail engagement** hub with real time in -store footfall





# Use Case Coverage

Varying types of sensors deployed to address real-world problems:



# Fly Tipping Use Cases



- High Def CCTV cameras were deployed with some cameras having ANPR technology.
- The recorded information was then linked with AI to analyse whether an event was a fly tipping event
- Fly tipping was **reduced by 80%** in some locations

Transparency Principles were utilised when selecting a supplier for technology as well as considering the data retention of all possible events, what information is share to whom and how images are used



# Vulnerable Resident Monitoring Use Cases



- **Temperature and humidity sensors** were deployed in vulnerable resident homes to monitor day-to-day activity levels during lockdown
- Trials resulted with **5 lives saved**, multiple interventions, a new method of finding fuel poverty and overheating warnings for residents that could have been missed



Alerts were sent to Independent Living Officers (ILOs) with amber and red warnings, low and high temperature levels, dampness levels could also be monitored

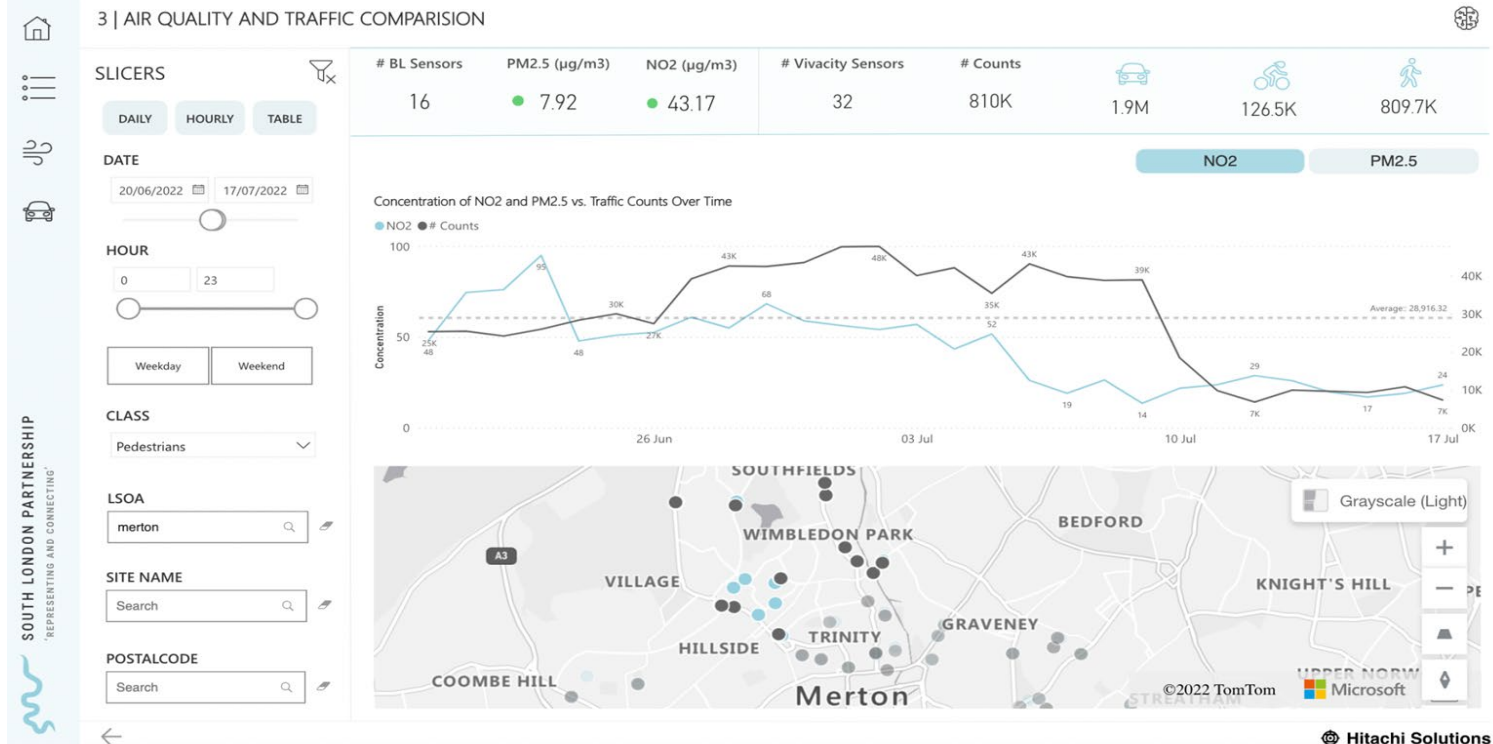
# Damp Monitoring Use Cases

- The same **Temperature and humidity sensors** were deployed in Kingston and Sutton to understand the quality of housing stock
- Over 100 sensors were deployed, with resident consent.
- Due to the portability of the sensor and lack of cables or external power source these sensors can be relocated at regular intervals to cover more properties.
- Multiple devices can be used to locate problem rooms and can also verify that remedial works have been successful.





# Air Quality and Traffic Monitoring Use Cases



# Waste Site AQ Monitoring Use Case

- Air quality sensors, noise level sensors and traffic type monitoring sensors were deployed on Weir Road
- Sensors were placed inside waste management sites as well as on the public streets to see how AQ and noise levels varied
- Sensors were able to monitor AQ and the progress companies made addressing pollution levels, in one location the AQ saw a 46% improvement
- Data was used to answer complaints from residents
- Data even showed that noise complaints were from car racing on the main street not businesses



# In Conclusion



## Some takeaways from our experience:

- **IoT can make a real difference** to residents, local businesses and council services
- **Ethics and transparency** from the start will build trust and mitigate challenge
- **Data ownership** must be mandatory
- **Ongoing officer engagement** is vital and data usage must be encouraged
- **Bringing more data sets together** drives new insights
- **Expect some trials to fail** but prepare services to adopt if successful
- **IoT Data Platform** needs corporate support to be worthwhile
- **Council Members** should be engaged early
- **Deployments** should be agile and swift

