



# UK Authority – June 2022

A combined Microsoft, Hitachi and South London Partnership Presentation

# Technology and **The Fourth Industrial Revolution**



1784



1870



1969



2016

## Characteristics

Steam, water,  
mechanical production  
equipment

Division of labour,  
electricity, mass  
production

Electronics, IT,  
automated production

Cyber-physical  
systems

<https://www.weforum.org/agenda/2016/01/the-fourth-industrial-revolution-what-it-means-and-how-to-respond/>

# From Smart Cities to **Smart Places**



## Global Cities

- ✓ Barcelona
- ✓ Glasgow
- ✓ Singapore
- ✓ London



## National Cities

- ✓ Bristol
- ✓ Cardiff
- ✓ Aberdeen
- ✓ Cambridge
- ✓ Oxford
- ✓ Girona



## Towns

- ✓ Bournemouth
- ✓ Cardigan
- ✓ Herrenberg

Urban Scale



Affordability



# Pillars of Smart Cities



**Government**



**Health**



**Education**



**Retail**



**Public safety**



**Transport**



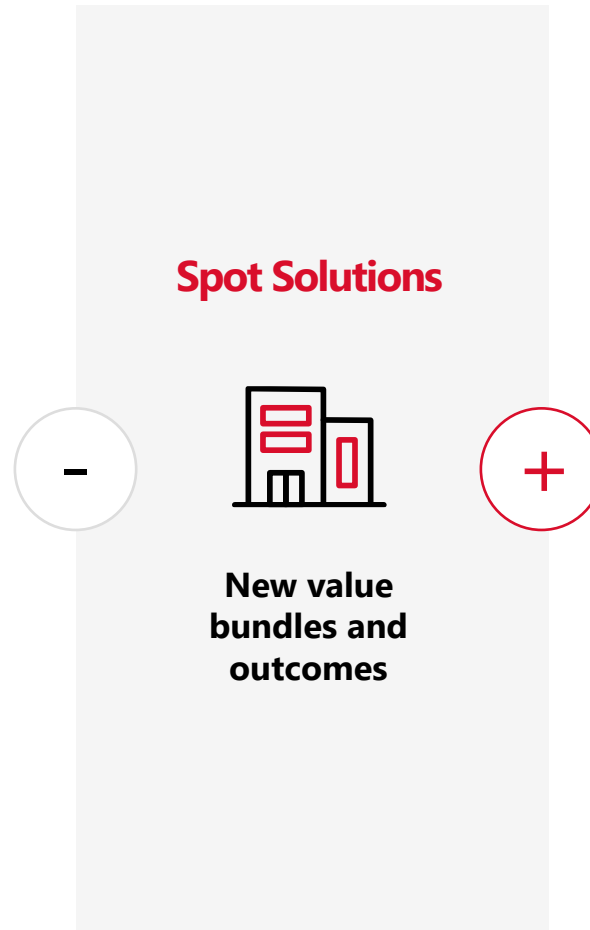
**Energy**



**Built environment**

# City value creation challenge

- Remote Patient Monitoring
- Kerbside Management
- Smart Traffic Signals
- Smart Kiosks
- Digital Signage
- Body Cameras
- Flood Resilience
- EV Charging
- ⊗ Air Quality
- ⊗ Grid-interactive Efficient Buildings
- ⊗ Smart Water Meters
- ⊗ Traffic Management
- ⊗ Smart Streetlights
- ⊗ Waste Collection & Management
- ⊗ Security Integration
- ⊗ Public Safety
- ⊗ Smart Parking



## Citizen Engagement, City Reputation & Attraction of New Business

### Operational Efficiency

- ⊗ Response time for emergency services
- ⊗ Predictive maintenance
- ⊗ Reliability and resilience
- ⊗ City worker productivity

### Health & Wellness

- ⊗ Mortality & morbidity decrease
- ⊗ Citizen health and well-being
- ⊗ Citizen engagement
- ⊗ Pollution reduction

### Sustainability

- ⊗ Water usage efficiency
- ⊗ Active energy efficiency
- ⊗ Litter reduction
- ⊗ Optimized waste management & recycling services
- ⊗ Unrecycled waste reduction

# Not just about the **technology**



## Tech Enablers

- Connectivity Infrastructure
- Sensors & Gateways
- Internet of Things
- Big Data Analytics
- Artificial Intelligence



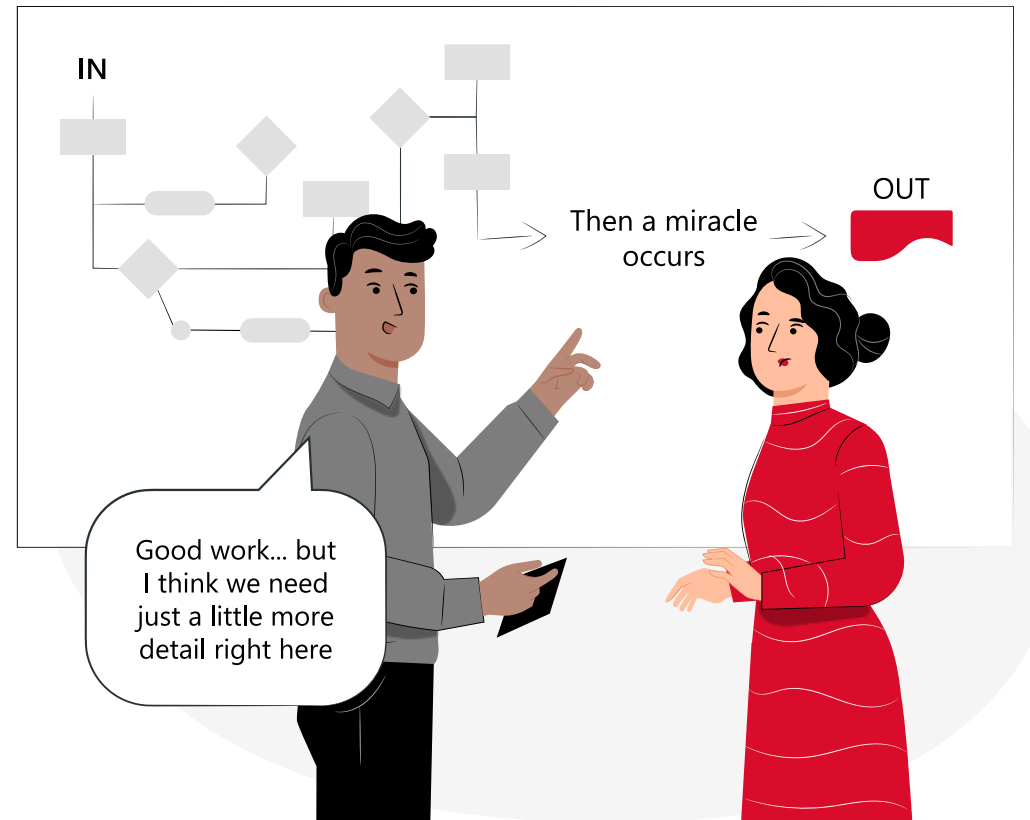
## Objective

- A Prosperous South London Partnership (SLP)
- A Resilient SLP
- A More Equal SLP
- A Healthier SLP
- Encouraging Cohesive Communities across the SLP



## External Drivers

- COVID-19
- Climate Change
- Ageing Population
- Increasing Social Inequality



# SLP Programme



Granted an award of £4 million to run IoT trials over 3.5 years across the 5 council boundaries, to **“pilot and research”** ways to generate economic growth, support local businesses and help people live better, healthier lives...

The money originates from the retention of business rates, with the City of London acting as the holder of the budget on behalf of London Councils.

### SLP's mission:

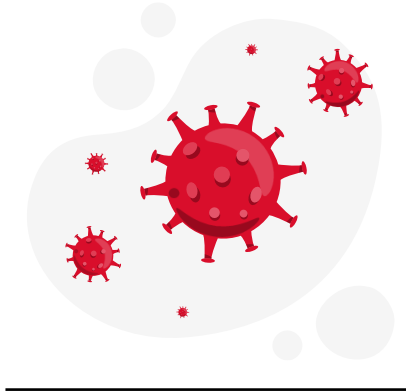
"Bringing together technology and places that address challenges in our communities."

# Goals for the Programme

The Memorandum of Understanding states that the projects must be **resident focused** and support one of the following objectives:



Promoting **economic growth** within the SLP Boroughs



Supporting SLP's response to Covid-19 and **Covid-19 recovery**



Supporting SLP's response to the **Climate Emergency**





# What are the **Principles** of SLP's Programme?



## **Citizen Control**

By default, we will not store personal data



## **Build Public Trust**

By default, we will work in the open



## **Secure & Private**

We will design in security and privacy from the beginning



## **Sharing Information**

By default, we will share data



## **Data Ownership**

We will only engage in solutions where the data captured is publicly owned



## **Partner Selection**

We will only work with partners who will sign up to these principles

[www.innovateproject.org/transparency-principles/](http://www.innovateproject.org/transparency-principles/)



# This is a Data project not a Technology one

Start with a problem, not a technology



Money was allocated on the basis of use case submissions from the boroughs

## Each use case must:

1. Have a clear objective that the project will either meet or contribute to
2. Have specific questions that the data from the project will answer
3. Comply with the principles of the project
4. Have internal champions from the services that will benefit from the data

# The Outcomes

Numerous positive interventions



## Four lives saved

Ambulance staff who attended one scene credited the quick response to the detection of lack of movement with saving the resident's life – the first since the initial sensor implementation.



## Tackling air pollution

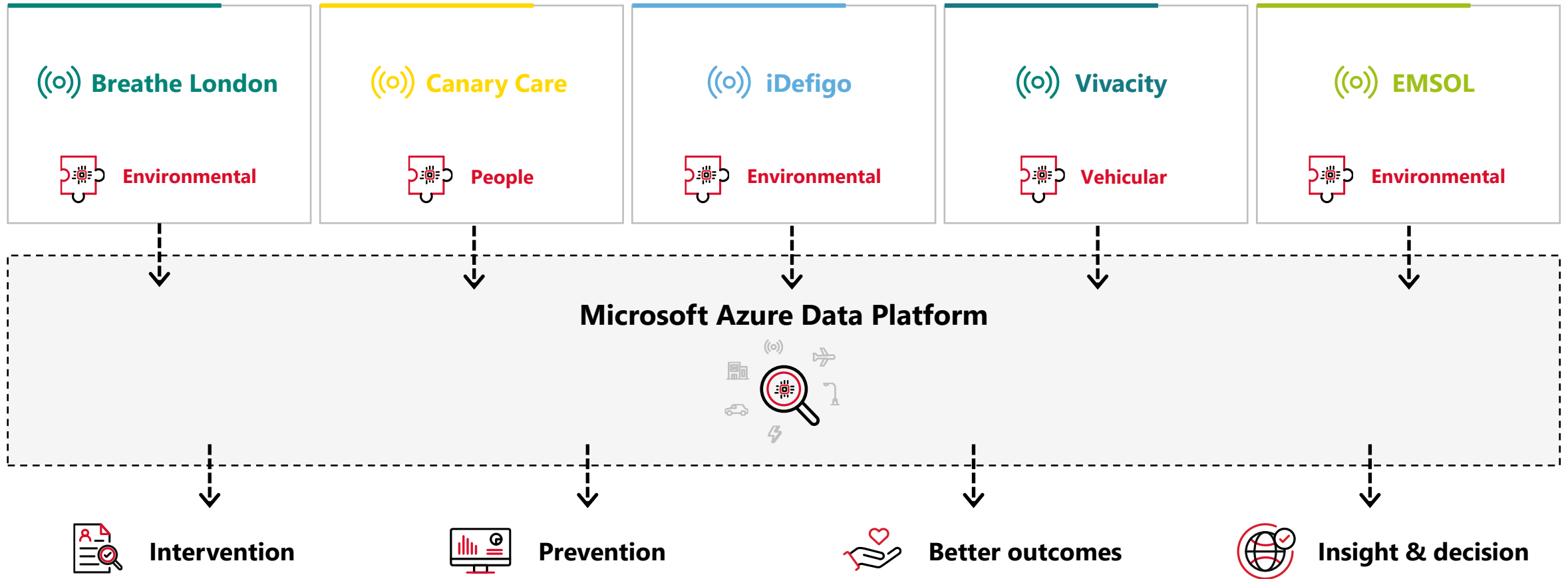
Using three different data sources, air quality can be cross referenced with vehicle traffic levels and MET Office weather conditions.



## Flooding prevention

Early warning identification and prediction of flooding from rain and surface water levels.

# Delivering SLP's Platform



# SLP Project Delivery Timeline

March 2022



Contract award and project commences



Deploy Azure Infrastructure & Cloud Services



Initial Sensors (Breathe & Vivacity) API integrations



Open Data (MET Office) API augmentation



Initial data visualisations creation

March 2023

July 2022

April 2022



**Decision:**

- SLP handover
- Novation
- Decommissioning platform



Project trial period in full operation



Remaining dashboard visualisations created



Remaining data structures created



Remaining APIs integrated



02

Recording of work so far

PROJECT

# Air Quality & Traffic Insight



## SLICER PANEL



DAILY HOURLY TABLE

Date

13/03/2022 10/05/2022

Last 1 Select

No filters applied

Hour

0 23

Weekday Weekend

Class

All

LSOA

Search

Site Name

Search

Postalcode

Search

# BL Sensors

276

PM2.5 (µg/m3)

16.57

NO2 (µg/m3)

31.50

# Vivacity Sensors

800

# Counts

75M



53.1M



2.9M

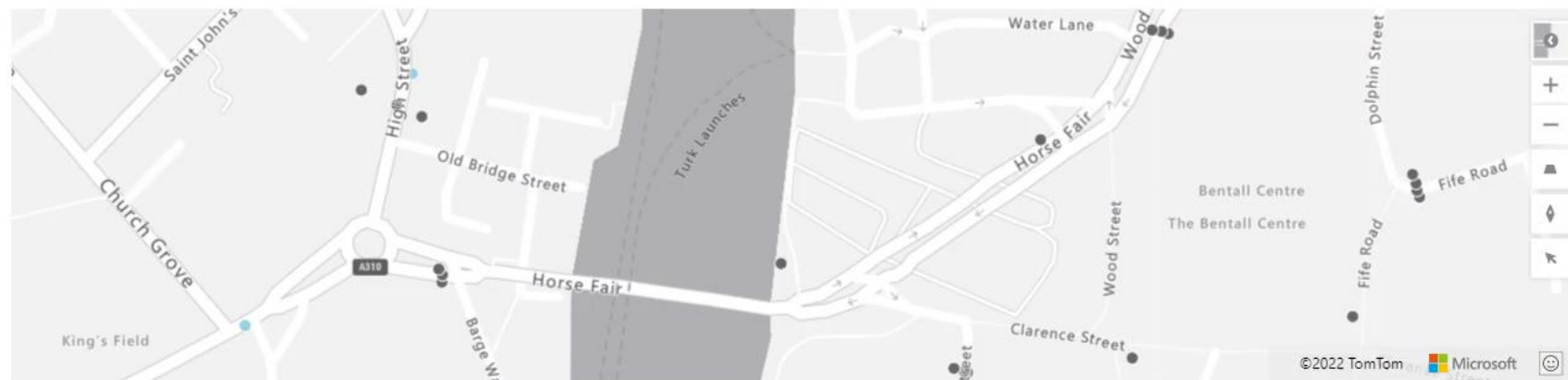
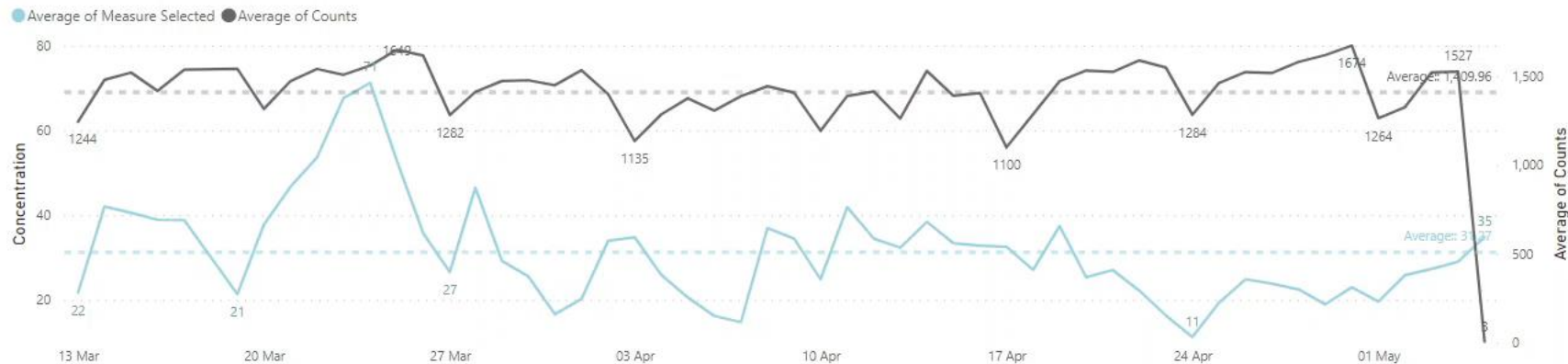


19.0M

INO2

IPM25

### Concentration of NO2 and PM2.5 vs. Average of Traffic Counts Over Time





PROJECT

# Cyclists - Richmond Insight



# 2 | TRAFFIC: OVERVIEW

Traffic counts by Area, Date, Hour and Day of Week.



## SLICER PANEL



Date

01/04/2022 30/04/2022

Last 6 Months

14/11/2021 - 13/05/2022

Hour

0 23

Weekday Weekend

Class

All

LSOA

Search

Site Name

Search

Postalcode

Search

# Sensors # Readings # Counts

800

19.5M

41.9M



110.8K



1.2M



3.5M



2.1K



23.0M



1.6M

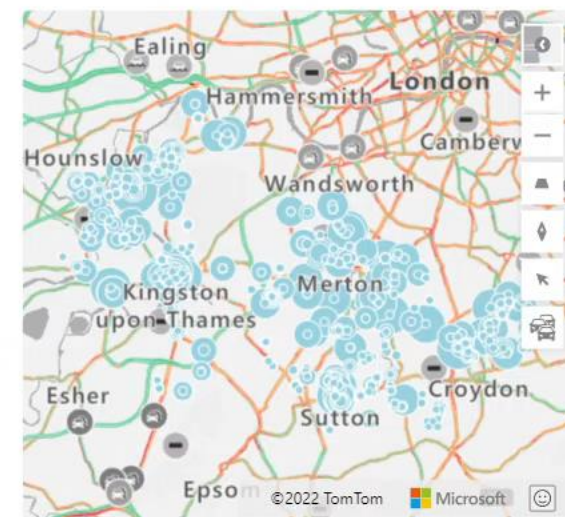
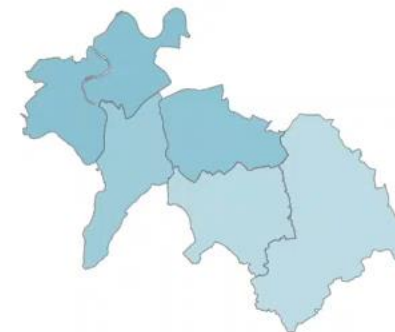
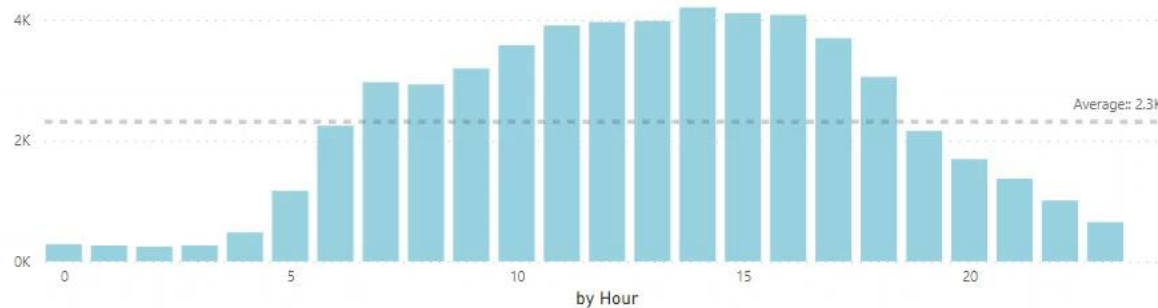


10.7M

Average of Counts Over Time



From: 01 Apr 2022 To: 30 Apr 2022



SOUTH LONDON PARTNERSHIP  
'REPRESENTING AND CONNECTING'



Hitachi Solutions



**03** —

**Breaking the cycle**

# Local Digital Declaration



Department for Levelling Up,  
Housing & Communities

---

We will go even further to **redesign our services** around the needs of the people using them. This means continuing to prioritise citizen and user needs above professional, organisational and **technological silos**.

---

We will design **safe, secure and useful ways of sharing information** to build trust among our partners and citizens, to better support the most vulnerable members of our communities, and to **target our resources more effectively**.

---

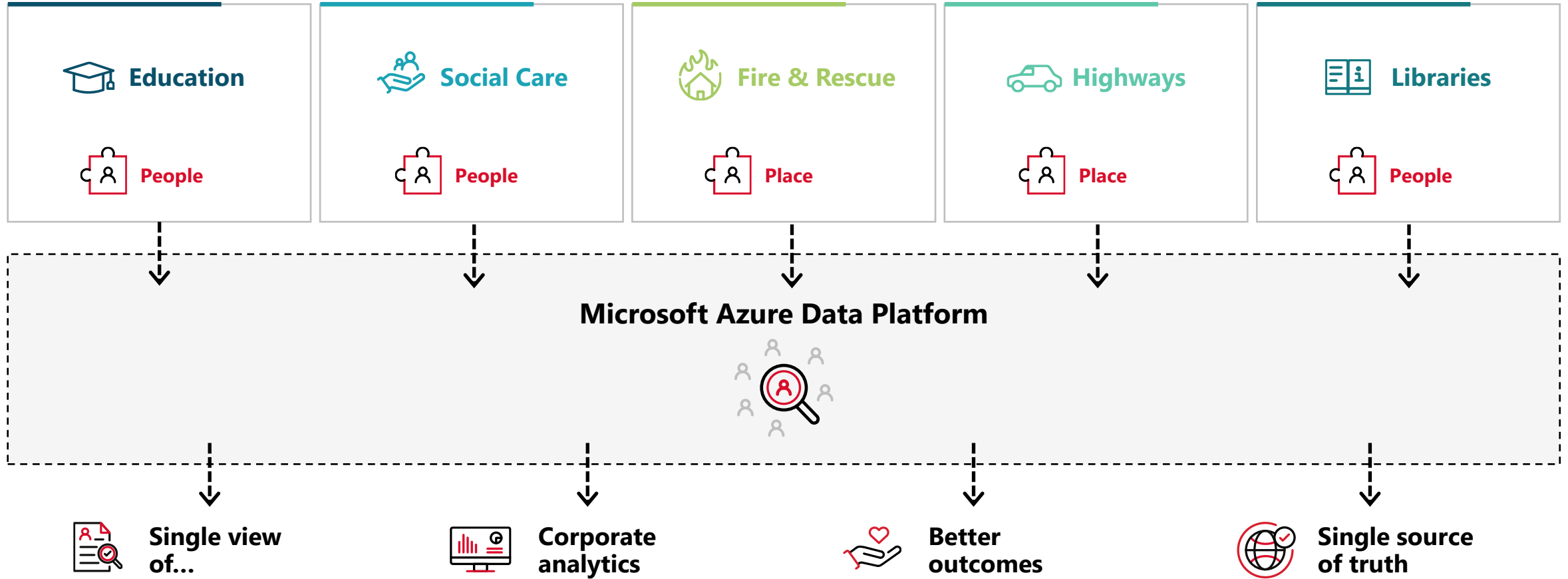
We will **demonstrate digital leadership**, creating the conditions for **genuine organisational transformation** to happen, and **challenging all those we work with** to embrace this Local Digital Declaration.

---

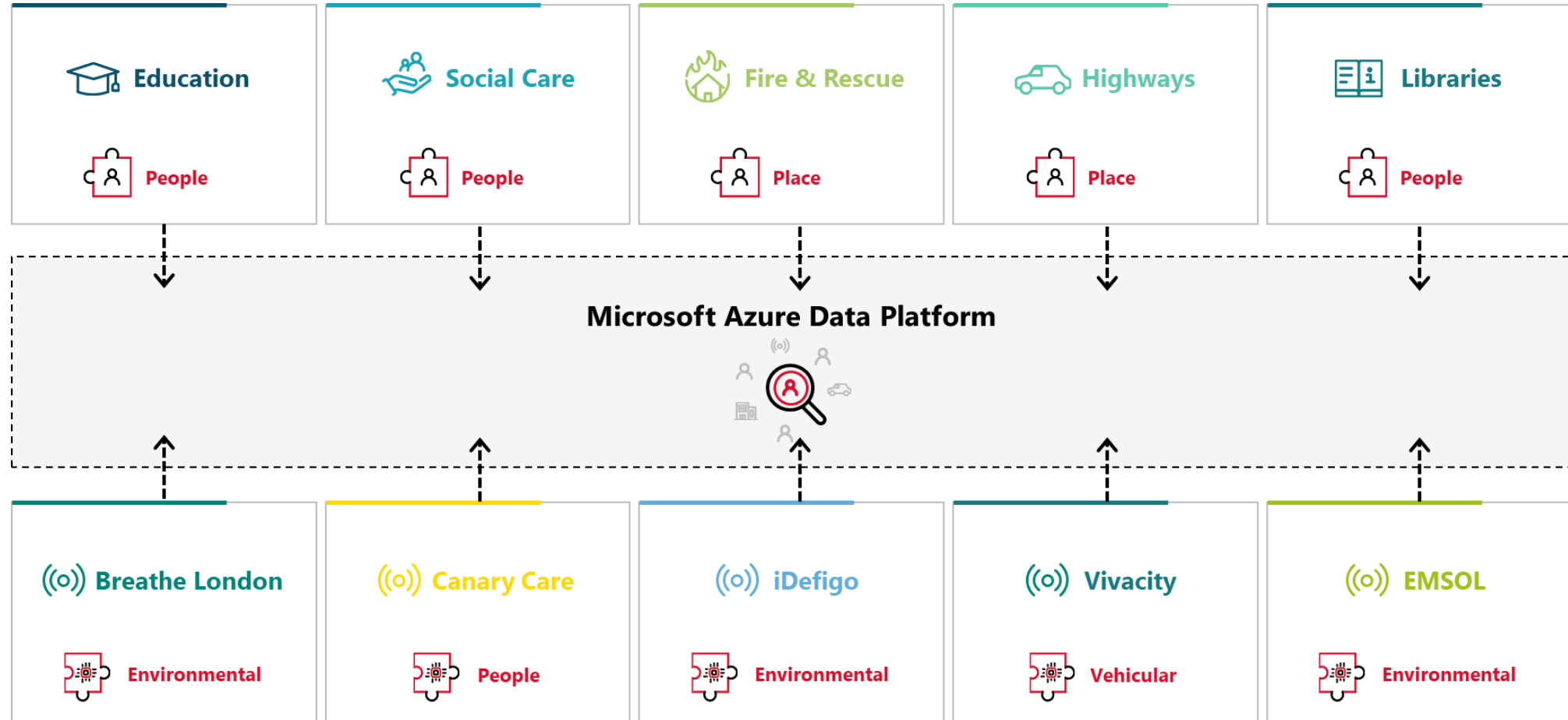
We will **'fix our plumbing'** to break our dependence on **inflexible and expensive technology that doesn't join up effectively**. This means **insisting on modular building blocks for the IT we rely on, and open standards to give a common structure to the data we create**.

<https://localdigital.gov.uk/declaration>

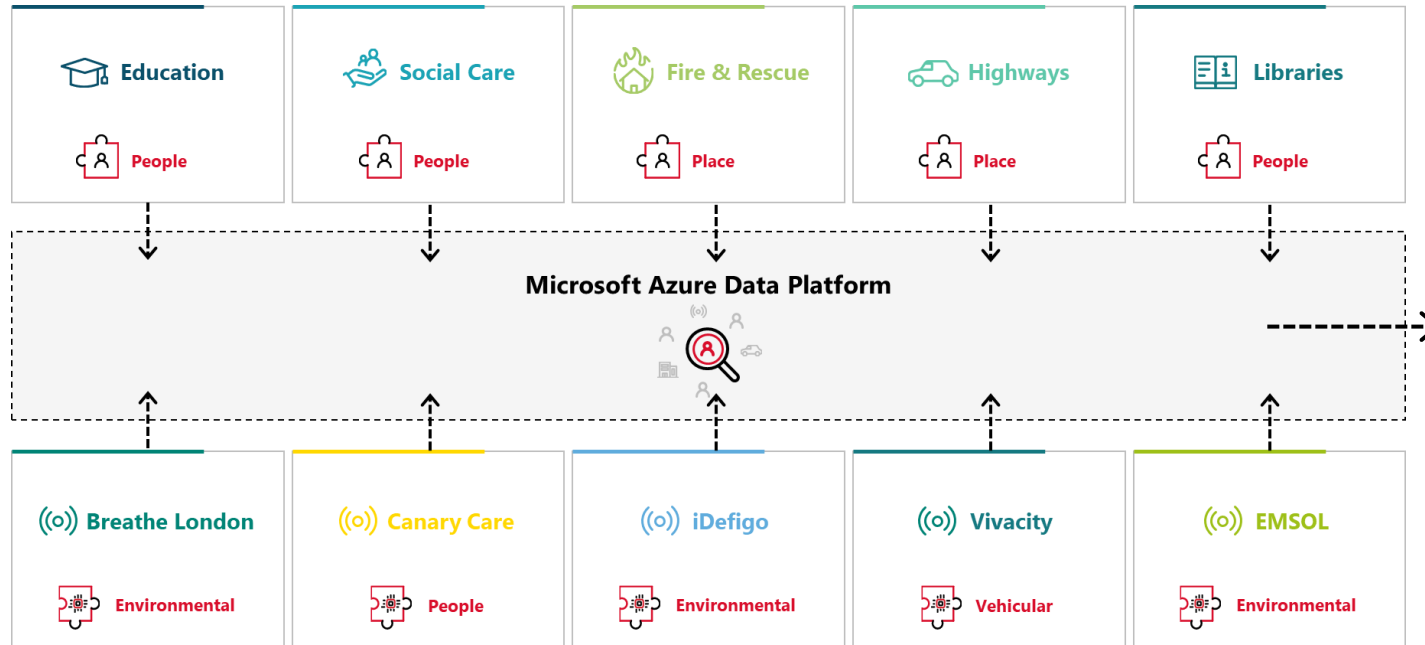
# Multipurpose Data “Platforms”



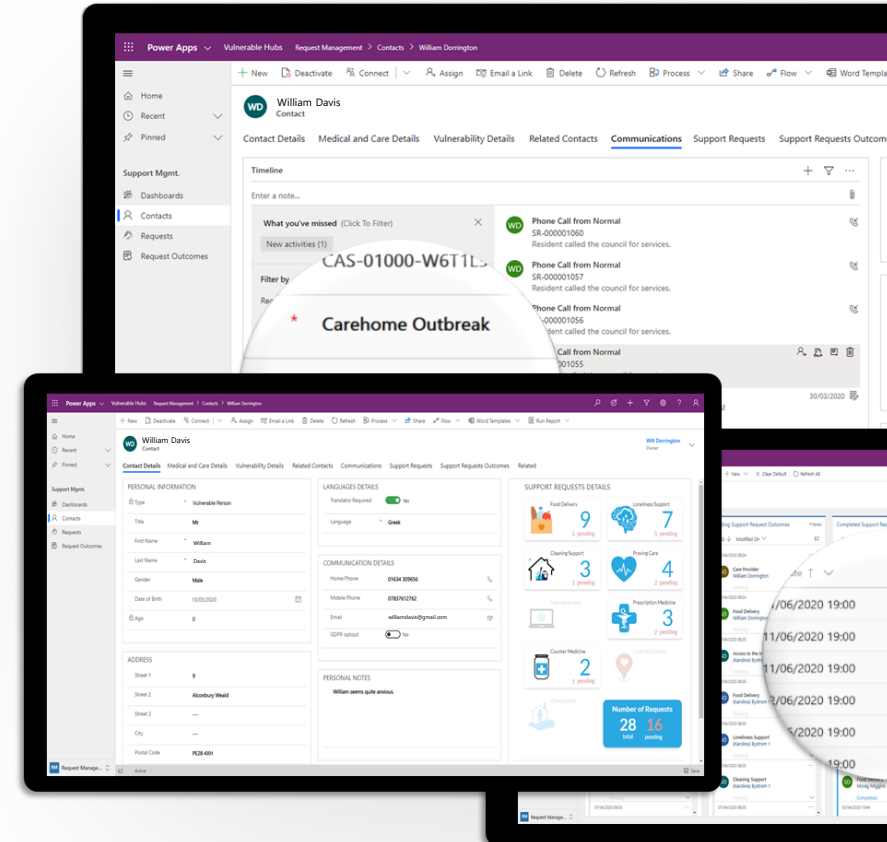
# Multipurpose "Platforms"



# Multipurpose "Platforms"



Applications built on data



---

**Questions**





# Contact Us

---

## Address

London office  
11th Floor  
Tower 42  
25 Old Broad Street  
London  
UK  
EC2N 1HQ

## Hitachi Solutions

[Reach out to our experts >](#)

## Phone

UK Telephone  
+44 (0)203 198 5136