The InnOvaTe Project

How an Innovative Team Delivers Tailored Insights for Council Services Using Sensors

A cutting-edge programme has given a fresh perspective on cross-borough challenges such as flooding, fly-tipping and resident welfare leading to a transformation in how these issues are tackled across south London. To date, the technology has saved four lives, reduced fly-tipping by 70% and identified at least 22 fuel poverty concerns.

An increasing number of Internet of Things (IoT) solutions are being made available to UK local authorities but the difficulty lies in firstly identifying real-world problems, and then selecting the appropriate solution to address them.

InnOvaTe: Using IoT technology to solve real world problems

The South London Partnership (SLP) has collaborated with the City of London and London Councils to create its InnOvaTe programme. The project used £4.75m of funding to deliver 45 use cases in a trial involving the SLP's five boroughs of Sutton, Merton, Croydon, Kingston and Richmond. The use cases were deployed to help councils address a selection of issues they were facing which data

insights from IoT sensors might be able to inform and improve.

The programme aimed to achieve these three goals:
· To help residents live better, healthier lives and to live independently for longer;
· To provide financial savings to local authorities;
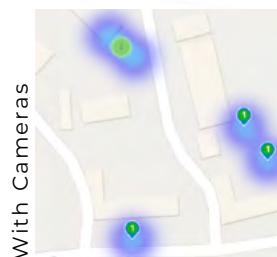· To drive economic growth;

Sitting at the centre was the IoT programme team based out of the London Borough of Sutton whose role was to ensure timely deployments and work collaboratively with council departments to ensure end-users got the specific data they needed to enhance operations and improve decision making.

Use cases tailored to specific public service needs

45 use cases went live between March 2021 - March 2022, each addressed a particular issue that the councils faced. Here are some of the outcomes and benefits delivered:

- *Vulnerable residents.* Four lives were saved when 130 homes were fitted with sensors which monitored environmental factors and signs of life. The technology noted changes in normal patterns - alerting carers to take appropriate action. Alerts were also triggered for nutritional issues and fuel poverty which allowed measures to be put in place (e.g. Meals on Wheels or relevant financial grants). Council officers could streamline workloads and focus resources to where they were most needed to assist safer independent living. Read our Resident Welfare Case Study for more information.

- *Early Warning Flood Alerting.* Sensors located in known flooding hotspots monitored key drainage data in real-time to allow officers accurate readings of gullies and soakaways without having to attend in-person. These insights helped identify flood-prone areas, leading to improved preventative cleaning schedules. Councils are now able to adjust large service contracts to ensure better focus on the areas that need it. See more information about how InnOvaTe helped reduce flooding across the South London Partnership.

- *Traffic and pedestrian road usage monitoring.* Traffic sensor cameras worked with AI to identify how many people, cycles and vehicles passed a given point on the road: recording time, mode of transport and the direction of travel. This data was then analysed for insights without any images or videos leaving the sensor itself. Data sets generated a detailed picture of road users which informed investment decisions such as locations for pedestrian crossings, pedestrianised roads, one-way turns and illegal road usage.

- *Fly-tipping.* Camera sensors installed in known fly-tipping hotspots were linked to AI and picked up potential cases of fly-tipping: providing evidence to operational teams. A 70% reduction in fly-tipping was seen in the monitored areas and a persistent long-term problem in a known hotspot was completely eradicated. Local environments became healthier. See our InnOvaTe fly-tipping case study.

Heatmaps showing cases of fly-tipping in one area

Pre Cameras | Post Cameras | With Cameras

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South London Partnership
'Representing and connecting'

Strict success criteria were used to assess outcomes of use cases, with unsuccessful ones being terminated. But use cases that showed impressive tangible benefits, like the ones above, were adopted by services into ongoing operational use. So, in many scenarios, IoT sensors remain hard at work assisting local authorities with their day-to-day issues.

Use case data has now been made available to several councils, with support available to ensure users understand the insights generated. These councils now have a comprehensive view of the effects of any interventions introduced, giving them a better idea of how roadworks, heavy rain, heatwaves or public events impact their local community. This new perception gives them a better understanding of how to address problems and helps them create better solutions within their Boroughs and across council boundaries.

Bringing data together between service silos

InnOvaTe has promoted data-driven decision making in Local Authorities by refining working practices and encouraging openness and collaboration across boundaries. It provides local authorities with one true picture made up of multiple sources.

Interestingly, the collation of data in one place has also opened up streams of existing data to many more teams at no cost. And its insights take the form of user-friendly data visualisations that provide actionable insights to the workers that use them on a daily basis. In addition, Boroughs are now sharing data insights publicly, allowing third parties like cycling campaign groups to benefit from the sensors' data too.
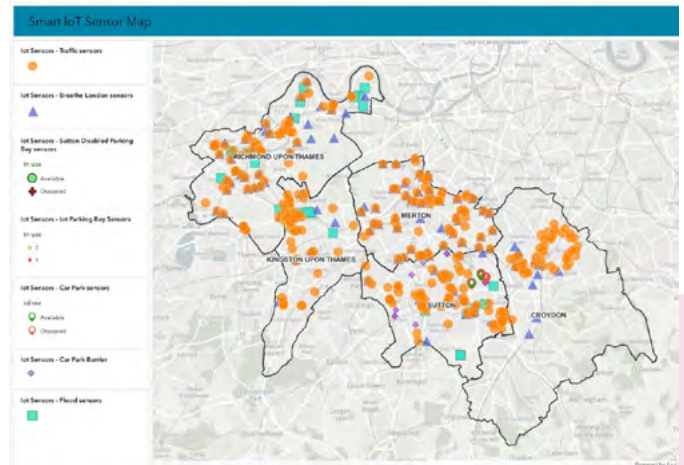
The business sector has also had many benefits from the project

Technology specialists, security organisations and other suppliers, which included many SME businesses, were engaged through the programme's 20 tenders; these used the Spark Dynamic Procurement System framework (by the Crown Commercial Service). This exposed their products and services to a large public sector audience and gave them new development experience and credentials from which to attract more business.

The future is bright - find out how InnOvaTe can help solve problems in your area

There's no doubt that adopting this IoT technology has created lasting benefits. InnOvaTe's triumph is partly down to the clear definitions and stringent success criteria of use cases which has ensured the value of the current technology is now available to everyone.

To talk to our team about how IoT could help solve issues that your area is facing, contact Andrew Parsons **andrew.parsons@kingston.gov.uk** or Pierre Venter **pierre.venter@sutton.gov.uk**

CROYDON   Sutton   merton   THE ROYAL BOROUGH OF KINGSTON UPON THAMES   LONDON BOROUGH OF RICHMOND UPON THAMES