

THE CHALLENGE



BCP Council (Bournemouth, Christchurch and Poole) are a unitary authority responsible for the upkeep of central services serving around 395,000 residents and 6.8 million additional tourists every year. Fun fact - every year, 750,000 ice-creams are sold on Bournemouth sea-front!

In 2018 BCP Council (then Bournemouth Council) set out to address challenges associated with waste management, which cost £370k pa to manage. The challenges included inefficient collections, littered environments and asset damage from fire. Overtime the challenge has expanded to cover recycling monitoring, in pursuit of more accurate reconciliation.

Waste management teams operate with limited data and studies have shown that up to 80% of bins attended do not need emptying.

Due to the current methodology, bins that are overflowing are often left unattended for long periods of time, creating littering issues and pollution. There is no timely data to indicate the busiest areas where bins are most needed. The council also experienced fires in bins and refuse collection vehicles as a result of disposable BBQs not having been extinguished.



PROJECT METHODOLOGY & TECHNOLOGY



Given that the primary goal of the project was to improve efficiencies, the solution needed to be simple to use. IoT Solutions Group deployed an end to end solution using the native LPWAN (Low Power Wide Area Network) and IoTSG's smart bin devices that monitor fill levels, temperature anomalies and whether or not a bin has been left open or over-turned.

IoTSG's cloud analytics and dashboard provides real-time insight for waste operatives and management teams, allowing them to efficiently plan their routes based on need instantly, through a system of alerts.

This end to end methodology minimised costs, as well as complexity by removing the need to deal with multiple suppliers.

Initial trials were run throughout 2019 with expanded deployments in 2020.



BENEFITS



The project has clearly demonstrated the opportunity to improve routing efficiency based on real-time data, as well as to reduce littering in busy areas by using trend data to plan asset placement. This facility also helps reduce unnecessary vehicle movements, which has additional benefits such as a reduction in CO2 emissions. By monitoring temperature anomalies, the ability to identify potential fire risk or human and animal presence in bins has also been highlighted.

Since trials began, a further opportunity to improve the management of recycling has been identified. By monitoring fill levels in recycling bins, depots will be able to accurately predict the expected volume of any given material and so enhance reconciliation processes and provide accurate data for council reporting.

These benefits combine to support BCP's goal of delivering service excellence and protecting local environments, with efficient management of public finances.

THE IMPORTANCE OF PARTNERSHIP



As local infrastructure and other influencing factors vary from town to town, a collaborative and consultative approach has been key to ensure successful deployment.

The partnership between IoTSG and BCP has been imperative and the openness by both parties meant that all key stakeholders have been involved from the beginning. This allowed the project teams to identify and resolve any potential issues early on and tailor the deployment to guarantee success.

It also became clear that successful deployment came down to starting with one focused challenge, rather than tackling every possible opportunity. These initial learnings have helped BCP expand their search for innovative solutions to other challenges across the area.

THE CLIENT VIEWPOINT



“As a local authority we are under increasing pressure to deliver improved services for a growing population, with reduced budgets. We know the importance of exploring innovative methods of tackling these challenges and are excited by the potential demonstrated through the activities we are undertaking with IoT Solutions Group. As a consortium member of BCP's Smart Place programme, we welcome our continued collaboration to develop better services within our community.”

Adrian Hale, Smart Place Strategy & Programming Lead, BCP Council