Tenshi

Case Study: Creating an Open Innovation Platform for Amey

We delivered a successful open innovation programme for Amey, to improve their service efficiency and reduce costs

The Client

Amey, part of Ferrovial group, an one of the largest infrastructure services company in the UK. They work for public and regulated sector clients including local councils and transport providers to create better places for people to live, work and travel.

The Challenge

Amey's clients were demanding more efficient services and reduced costs, in response to public spending cuts. Specifically, their clients were seeking to optimise how their assets are maintained, moving from a maintenance schedule to one which was able to predict when maintenance was required. Therefore, optimising their services, ensuring they knew when work was needed to be carried out.

Our background working with both private and public sector clients made us the perfect partner to facilitate and meet these needs, resulting in an open innovation programme delivered for Amey.

The Solution

We started the project with an audit of existing services, to identify where digital innovation could provide additional value or increase efficiency. From this, we identified over 40 opportunities to optimise services through either better use of existing technology, or by revolutionising the service being offered, where data led innovation could be introduced. When identifying these innovation opportunities, we were looking for both short term cost-saving gains for Amey's existing clients, but also longer-term opportunities to provide service improvements across the company as a whole. By meeting both of these requirements, we were able to fund a series of open innovation challenges with both internal account and board level funding, as well as additional buy-in from infrastructure and public sector clients. For projects that required larger scale infrastructure led solutions, we reached out to Amey's key suppliers who were able to provide their invaluable knowledge and experience in implementing digital technology to help create innovative solutions.

For smaller challenges, which needed the most cutting-edge technical innovation, we reached out to the startup and SME community. We worked on building internal processes and skills so that Amey could sustain an innovation programme independently, in the long term. We also included a range of internal stakeholders in the initial round of challenges, to ensure that teams knew the value in continuing with the innovation.

Outcomes

The challenges we took forward varied in both scale and budget, from multi partner smart cities platforms encouraging collaboration in public works, to small scale trials with SMEs improving public engagement with infrastructure services. Projects that required larger scale infrastructure-led solutions were solved using several of Amey's key suppliers smart city platform technology.

Amey went on to run successful SME trials through 7 of their clients, Network Rail, Plymouth City Council and several others, with innovative tech companies Design for Social Change and JMG.

Off the back of the success of our initial trials, Amey created a smart data and technology department headed up by the former IBM Head of Smart Cities, Rick Robinson, which continues to deliver digital innovation driving cost and efficiency savings across Amey's services and has become an integral part of their CSR policy. Other examples of the challenges solved through the smart city platform were:

Preventing waste water overflows with a major water company

The company manages sewers throughout the UK. They had a huge problem around monitoring their sewage capacity and removing blockages to prevent overflows. When there were heavy rains it could lead to sewage water overflows if these blockages hadn't been removed, which in turn could lead to heavy fines. Previously the maintenance of sewers occurred on a rota basis, but this often-meant blockages weren't spotted in time. Working with DXC's smart city platform, Amey were able to monitor the sewers and detect blockages allowing them to be removed, thereby optimising sewer maintenance, reducing costs, and the chance of incurring a fine for overflows.

Smart Gritting with a County Council

Gritting is crucial for drivers to maintain grip on the road when driving in icy conditions. This county council wanted to optimise their usage of grit to ensure only areas in need of grit received it, rather than spreading it over every road. By using a smart city platform, Amey and the county council were were able to better monitor and track where gritting operations occurred and how much grit was being used. They were then able overlay other data on the platform (like weather) to assess which roads would be in need of grit and when. In optimising the gritting operations, it meant roads were gritted when they needed to be, reducing the amount of grit wastage, reducing costs and keeping the roads safer.

Understanding the effectiveness of recycling at a local level

The aim of this project was to better direct the collection of recycling and non-recycling waste collection. Working with a smart city platform, together with Amey, weight sensors were attached to a the lorry to capture its weight over the course of its journey. The digital scales in the trucks allowed the team to understand how much recycling is being put out on a street by street basis and create an average. Through an analysis of the results the council were then able to target their recycling communications to those streets which produced lower recycling weights than the average.

Optimising the effectiveness of weed control

Whilst an excess of fertiliser can be an economic drain on a council, it also incurs huge costs on the environment, damaging soil, wildlife and can even affect water supplies. Controlling weeds was organised through a rota and carried out by the council's quad bikes. This council wanted to optimise their usage of fertiliser to save both environmental and economic resources. By using a smart city platform, Amey and the county council, embedded sensors in the quadbikes in order to track which areas had been fertilised and when. Over time they where able to see how much fertiliser was used, in which areas and the effectiveness of this spraying. In doing so they were able to configure which areas would need fertilising in the future, thereby optimising their spraying.

Keeping the streets of Sheffield clean

Clean streets in cities can be difficult to maintain. The unpredictable nature of when streets become dirty, through either poor weather or events, can mean that the standard rota councils use to clean the streets is not always the most efficient way. By using a smart city platform, Amey and the city council, attached sensors to the street cleaners to give oversight on which areas of the city had been cleaned and when. Then certain tags that may affect cleanliness were added to the platform, e.g. weather. In doing so the city was able to build up a holistic understanding of which streets would need cleaning and when in real-time.

40	36	7
Opportunities to innovate	Startups engaged	Trials run