

North Yorkshire County Council LoRaWAN Network Testing

REPORT TO; Gary Fielding – Corporate Director, Strategic Resources

DECISION DATE: 15th June 2021

SUPPORTING ANNEX; None

PROPOSED RECOMMENDATION

It is recommended that the authority rollout a series of Internet of Things (IoT) use cases to test the LoRaWAN network that is being rolled out (during 2021/22) through its wholly-owned teckal company, NYnet.

BACKGROUND TO SUPPORT THE RECOMMENDATION

A Key decision was previously agreed to appoint NYnet (a wholly owned teckal company) to rollout a series of networks across North Yorkshire. This included the rollout of a Long Range Wide Area Network (LoRaWAN) to facilitate the use of IoT devices for the benefit of North Yorkshire. This rollout is taking place during 2021/22 and funded by the York and North Yorkshire Local Enterprise Partnership (Y&NY LEP).

The funding from the LEP included an allocation for the authority to identify and rollout a series of IoT use cases to test the network, and identify the potential to derive benefits from the network throughout 2021/22.

USE CASES

A potential pipeline of Use Cases are currently under development which cut across services in the authority and partnership organisations (such as District and Borough Councils).

There are a number of factors that are taken into consideration when identifying and considering potential use cases, this includes:

- The time limited nature of funding requires use cases to be delivered within the 2021/22 financial year
- Geographical coverage of the LoRaWAN network – being rolled out throughout the financial year
- Size, scale and complexity of the use cases to provide robust data and testing of the network
- Willing partners to support the development and rollout of use cases

The scope of these use cases will be to rollout IoT sensors that utilise the LoRaWAN network to transmit data which will be processed by the authority and aims to provide insight to relevant service areas.

Any actions taken by the service as a result are outside the scope of each use case, although certain metrics will be captured to identify any potential benefits to the service areas.

At the point of this key decision there are a number of uses cases at varying stages of scoping and development. The list below should not be seen as exhaustive and there is no guarantee that all of the below will be taken forward and implemented as use cases.

Use Case	Description
Air Quality Monitoring outside schools	Use of sensors outside a pool of schools that will measure air quality against a series of indicators (e.g. NO2). This data will be provided to schools as part of the North Yorkshire Healthy schools initiative to support behaviour change. Opportunities and applications to measure air quality within schools are also being scoped.
Air Quality Monitoring within busy travel corridors	Use of sensors in busy travel corridors identified by the authority. This data will be provided to colleagues in Highways and Transportation within the Business and Environmental Services Directorate.
Public bin fill monitoring	Working with Harrogate Borough Council (HBC) bin fill sensors will be rolled out a number of public bins. The aim is to collect data that indicates the fill level of public bins and will be provided to HBC which may potentially inform the frequency or route mapping required to empty bins.
Grit bin fill monitoring	Working with colleagues in Highways and Transportation within the Business and Environmental Services Directorate to examine the potential to pilot grit bin fill monitoring.
Pedestrian and traffic flow monitoring	Utilising IoT sensors to monitor the flow of pedestrians and traffic around an urban environment.
Home based IoT care	Examining the potential to use home based IoT sensors to support individuals to live independently within their own home for longer. This use case will be scoped and developed alongside colleagues from NYCC Health and Social Care.

LEGAL AND GOVERNANCE COMPLIANCE

As per the Authority's Procurement and Contract Procedure Rules, Rule 4.2 states that Directors shall ensure that a written record of the decision to procure a Contract is made in accordance with the Gateway Process where Rule 18 applies.

Where such a decision comprises a Key Decision under the Constitution, Directors shall ensure that it is entered on to the Forward Plan and treated as a Key Decision in all respects.

RECOMMENDATION

To authorise the rollout and implementation of IoT use cases to test the NYCC LoRaWAN network.