

Three Local Authorities and Telemetry Ltd Feasibility Study 2018

1. Background and Context

1.1. [Regulating Our Future](#) (ROF) is a major transformation programme to modernise and re-shape the regulatory regime for food. ROF will change the way food businesses are regulated and inspected across England, Wales and Northern Ireland. The Food Standards Agency (FSA) aims to have a new system in place by 2020.

1.2. The FSA is taking a whole system approach, understanding what information is available from a wider range of sources and how this can be used in the future to gain assurance that food is safe, what it says it is and public health is protected.

1.3. Through ROF the FSA is looking to make more use of 2nd and 3rd party data and businesses' own assurance systems to support regulation. New and emerging enterprises, technology and innovations have the potential to provide a range of data that could support the ROF target operating model (TOM).

1.4. The FSA is committed to working in an open policy making way engaging with a wide range of stakeholders across the food industry. By working with Telemetry Ltd during this [feasibility study](#), the FSA aimed to take on board fresh ideas, best practice and lessons learned, enabling the development of the best possible regulatory model for food.

2. Telemetry Ltd

2.1. Telemetry are a company based in Kent that has developed digital sensors that automatically monitor the performance of restaurant equipment i.e. fridges, freezers, vendors, chillers, hot-holding areas, water filter pressures etc.

2.2. The sensors are inserted into refrigerators and freezers to automatically read temperatures. Data is transmitted either via a standalone SIM-enabled gateway, or via a wireless network, neither of which require an internet connection. Data is stored in a cloud environment and can only be accessed by approved participants.

3. The Application

3.1. The FSA received and subsequently approved an application for a feasibility study from Telemetry. The feasibility study started on 1 May 2018 and was delivered in partnership with the following three Local Authorities:

- London Borough of Camden
- London Borough of Barnet

- London Borough of Hammersmith and Fulham

4. Objectives and Methodology

4.1. The objectives for the feasibility study were as follows:

- Demonstrate that digital sensors can be relied upon by operators and regulators to automatically monitor the temperature of key kitchen equipment and store live data.
- Show how, with appropriate permission, real time data can be easily accessed and used to check and/or demonstrate compliance in a manner that is more efficient than the current paper-based system.

4.2. Eight food businesses, of which six were Camden based mobile traders, participated in the feasibility study. One of these was a contract catering business within a sports stadium, one was a high street restaurant, and six were street food traders.

4.3. The businesses who took part in the study had the digital sensors installed or pre-installed for the two-month duration of the study.

4.4. All but one of the food businesses maintained parallel paper-based records for the duration of the study. The one that didn't maintain parallel records did so as their Local Authority had agreed a reduced HACCP regime as a result of the sensors having been installed four months prior to the start of the study.

4.5. Telemetry provided the Environmental Health Officers with automated data for each site prior to the inspections. This was in the form of real time access to the data portal as well as printed records.

4.6. Environmental Health Officers reviewed the data prior to the visit and cross-referenced against the businesses paper-based records.

4.7. Environmental Health Officers completed a post-study questionnaire with any observations.

5. Findings

5.1. Site inspections were carried out in late June 2018.

5.2. When comparing automated data to the manual data collected by the business, Environmental Health Officers felt that the electronic data was more extensive, more accurate, less reliant on human input, and that this would inevitably lead to increased accuracy. One Environmental Health Officer commented that '... there is an over-reliance on LED display readings, these have been consistently shown to be inaccurate. The sensors remove this potential inaccuracy.'

5.3. The Environmental Health Officers said that the sensors were easy to use, data could be accessed immediately, and the system would send alerts to the business for any corrective actions.

5.4. The study found that the data generated by the digital sensors could inform decision-making by Environmental Health Officers to improve food safety. Food businesses could benefit from improved accuracy of records and time saved when completing and maintaining manual records.

5.5. Environmental Health Officers generally felt that the device could contribute to the demonstration of better compliance in food businesses and be used to generate corrective actions.

5.6. Environmental Health Officers observed that some staff members at the street food business sites were not aware of the location of the device, however this was due to the transient nature of staff. This was not an issue at the fixed sites where staff turnover is far less. In two instances the device was moved from its original place. There was also one instance where the device was awkwardly placed within fridges and was moved around by food handlers.

6. Considerations

6.1. Consideration should be given to the emergence and existence of digital devices that monitor temperatures in food management related services in developing a future regulatory model. Further scientific research in this field undertaken by the FSA, the central competent authority, will provide more confidence to food businesses who will use these sensors, and competent authorities who will need to take regard when undertaking their official control duties.

6.2. Consideration should also be given to using emerging technologies to improve the efficiency in the delivery of official controls. Further considerations will need to be given in areas such as data sharing between food businesses and competent authorities.

7. Conclusion and Recommendations

7.1. The feasibility study has demonstrated the value of using real time sensors for the purposes of regulated assurance of food safety.

7.2. Further scientific research on sensors, and emerging technologies as a whole, by the FSA, will provide more confidence to food businesses who will use them, and competent authorities who will need to take regard when undertaking their official control duties.

7.3. A future [pathfinder](#) or feasibility study may help understand and evaluate any issues in more depth. Any future study should be based on a larger sample of food businesses, including new food businesses and be cross-Local Authority.

8. Acknowledgements

8.1. The Food Standards Agency is grateful for the time, resources and input into this study by:

- Telemetry Ltd
- London Brough of Camden
- London Borough of Barnet
- London Borough of Hammersmith and Fulham
- The Food business operators (both fixed site and street food)

9. Glossary

i) Feasibility Study

A small scale preliminary study, conducted in order to identify feasibility, time, cost, adverse events, predict an appropriate sample size, and help to develop the study design prior to larger scale 'Pathfinder' activity

ii) Pathfinder

A project that increases understanding of an element of the new regulatory model. In doing so, pathfinder projects will assist in finding out what works best for implementation. Knowledge gained is shared openly for the benefit of the wider organisation/programme