University of Aberdeen
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University Partner:
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Suggested Project Title:
Transparent & Accountable Data Management for the Internet of Things

Suggested Project Summary:
The Internet of Things is exploding into people's lives and with it come a range of issues including personal privacy, mechanisms for data control, and compliance with data protection regulations. Increasingly there is a call for these devices and their associated data behaviours to be transparent and accountable. Building on an existing portfolio of research into data transparency and provenance, the proposed project will examine the following questions: What characteristics of IoT devices and their behaviours are necessary to formulate a model of transparency? How do we represent norms against which devices (and the ecosystems of which they are a part) can be held to account? These questions require us to consider a host of issues around the kinds of data generated, it reliability, onwards transmission, etc. Likely outcomes of the project would include: a new abstract model of IoT transparency and an associated implementation of the model; a formal model of IoT data ecosystem accountability - which matches expected behaviours (norms) against actual activities - to grant assurance of compliance. There is very real potential for Scotland to take a global lead on transparent IoT.

Collaboration Sought for the Project:
An industry partner with an interest in IoT technologies and associated data management challenges and a desire to differentiate themselves in the marketplace by embracing the transparency and accountability agenda (which sits very comfortably within the scope of GDPR). Real-world use cases are essential to ground the research and deliver pragmatic solutions.

Benefit to the Industry Sponsor:
Access to expertise on data models/standards for characterising IoT devices and their behaviours; alignment with the EPSRC-funded TrustLens project which is working with end-users of IoT technology to shape future solutions.

Published or Private?:
Yes