Cross Party Group on Science & Technology

The Scottish Parliament

Wednesday 19 April 2017

Minutes

1. Attendance and apologies:

   MSPs: Clare Adamson; Iain Gray.

   External: Dr Mark Begbie (CENSIS); Sian Williams (CENSIS); Bristow Muldoon; Dr William Duncan; William Hardie; Holly Fleming; Craig Denham (all RSE); Lis Bardell (MSP staff); Richard Watson (Rapier Systems); Steve Hunt; Lex Alexander (LA Consulting); Mark Western (SDI)

   Apologies: Patrick Harvie MSP; Karen Petrie (University of Dundee).

2. Minutes of previous meetings: 25 October 2016 & 21 March 2017

3. Topic: The Internet of Things; Guest speaker – Dr Mark Begbie, Business Development Director, CENSIS (Innovation Centre for Sensor and Imaging Systems technologies).

   Dr Begbie introduced a presentation on "The Internet of Things" (IoT). He started by explaining what the IoT was not about. He explained how common perception was around how hard-wired equipment (e.g. fridges) would communicate information either to the user or directly to another computer, for such as placing orders. However the real IoT explosion has come about through the development of low power communications that do not require hard wiring.

   Examples of usage include: the Amazon 'Dash' button; fitness bands; smart bins; or agricultural uses. These operate using a Low Power Wide-Area Network (LPWAN) and are powered often with a long-life battery. Within LPWAN there are a range of competing technologies. One of the advantages of LPWAN is that it can operate away from existing power and communications networks.

   Along with commercial partners CENSI is delivering low power IoT testbed capability to a number of locations around Scotland in both urban and rural locations.

The technology is likely to be highly disruptive and will create entirely new markets and business models, some of which have yet to be envisaged. Early success for Scotland can provide substantial dividends in the future.

Other applications with the possibility of savings benefits in energy costs include Smart Street Lighting based on IoT technology. This can allow smart light control and provide automatic fault reporting to a central point.

Building monitoring can also be delivered for issues such as temperature and humidity. Live trials for building monitoring are already taking place in CENSIS and partners buildings. This technology can also be used to monitor for issues such as damp before it reaches the point of causing damage.

There then followed a Q & A session that raised issues such as: the economic opportunities for Scotland; agricultural applications of benefit to the economics of farming; and potential savings benefits for the public sector.

Meeting closed 1930