



eFutures Annual Community Event

Queens Hotel Leeds

24th May 2017

eFutures Break-out group on Autonomous Systems Theme

Led by Professor Steve Furber (University of Manchester) and Professor Anthony O'Neill (Newcastle University)

Discussion points:

- Archetypal systems may be IoT or automotive.
- Connectivity: how much would the systems need? To cloud 100%?
- Energy: trade-off between calculations done on device and how much on larger system (e.g. cloud)
- Comms: large energy consumption and challenge of data deluge
- Reliability: crucial for safety critical system (e.g automotive, healthcare)
- Security: critical to avoid theft and terrorism
- Regulation/standards to ensure interoperability
- Self-installing software / apps – and privacy/consent issues
- Machine learning capability – division between cloud (generic) and end device (bespoke)

Possible Project Outline?

- Intelligent transport systems
- Autonomous vehicles

eFutures Break-out group on Biomedical Theme

Led by Jonny Wray (e-Therapeutics) and Dr Ivona Mitrovic (University of Liverpool)

Discussion points:

- By talking to clinicians, we could identify problems; sometimes there is no need for advancing sensors (detection devices) but the existing ones can be used in a more useful way.
- It is critical to talk to medical device companies to learn what solutions are viable. To demonstrate impact and pathways to impact, it is important to have clinicians on board from the start (even before the start) of the project.
- It would be good to have access to Medical School, drug companies, medical device companies for the cross-disciplinary projects to be driven by clinical need.
- There was a mention of centres that exist in the south of the country (Big Data Centre in Oxford, MRC, another medical in London), however Electronics is not part of this centres. The key issue: how do we get device research into this sector? Can this be facilitated?

Possible Project Outline?

- Skills and expertise; targeted CDTs would be very useful for long term research;
- seed funding for testing several approaches;
- access/ability to take clinical (and ethical) trials is crucial.

If you are interested in finding out more about any of the above project options, please email efutures@ncl.ac.uk and we will put you in touch with the theme leads.