# M2M Communications

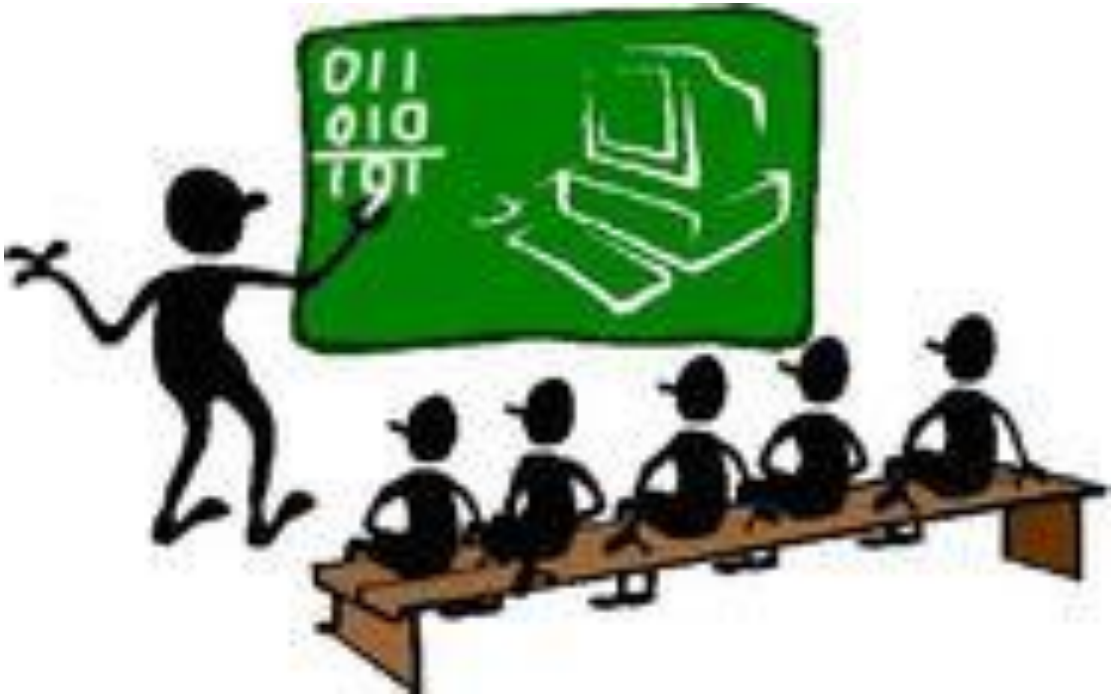
***A UK perspective…***

Stephen Talbot - Ofcom

CEPT Workshop – 21st - 22nd March - Mainz, Germany

©Ofcom

# …but this a P2P (person 2 persons) presentation….




©Ofcom

# The IoT raises a range of issues and some may require some form of regulatory action

| Radio spectrum | Network security and resilience | Numbering | Privacy |
|---|---|---|---|
| Additional spectrum may be needed to support connectivity between large numbers of devices | Connections between previously unconnected devices could introduce new vulnerabilities | The use of telephone numbers could put pressure on the availability of numbers | Devices may collect and share large amounts of personal data |

## Ofcom's activities

- Making new band available for IoT
- Liberalising existing licenses
- Monitoring market development
- Engagement with government (e.g. smart meters)

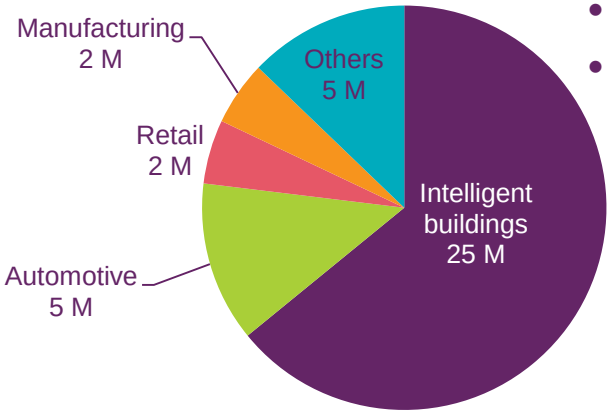
- Continued engagement with government on general issues of network security
- Potential to assess suitability of our existing guidelines

- Reviewed the role of numbers in the provision of IoT services
- Engaged with industry to gauge demand for numbers
- Ongoing monitoring

- Engagement with the Information Commissioner's Office
- Seeking to play a facilitating and consumer education role

©Ofcom

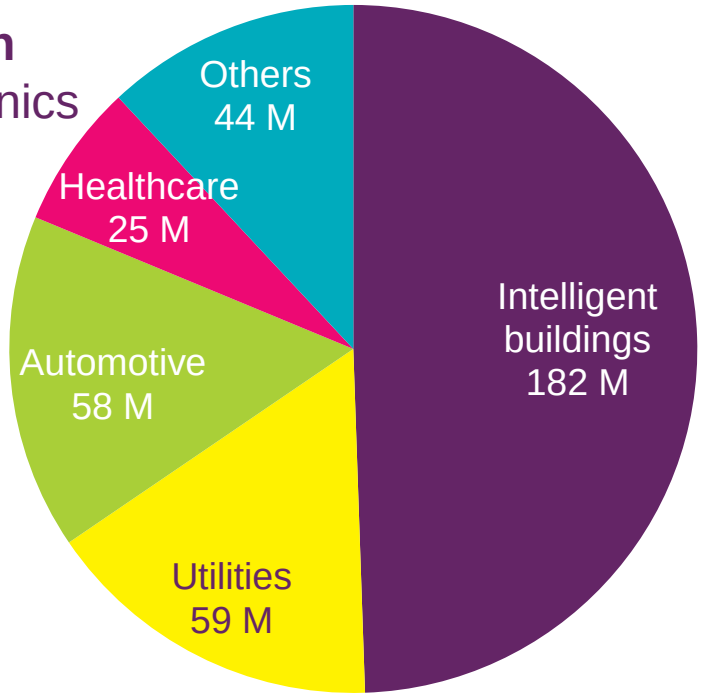
# The Internet of Things (IoT) is diverse, here and growing rapidly




**2013**

**Key areas of growth**

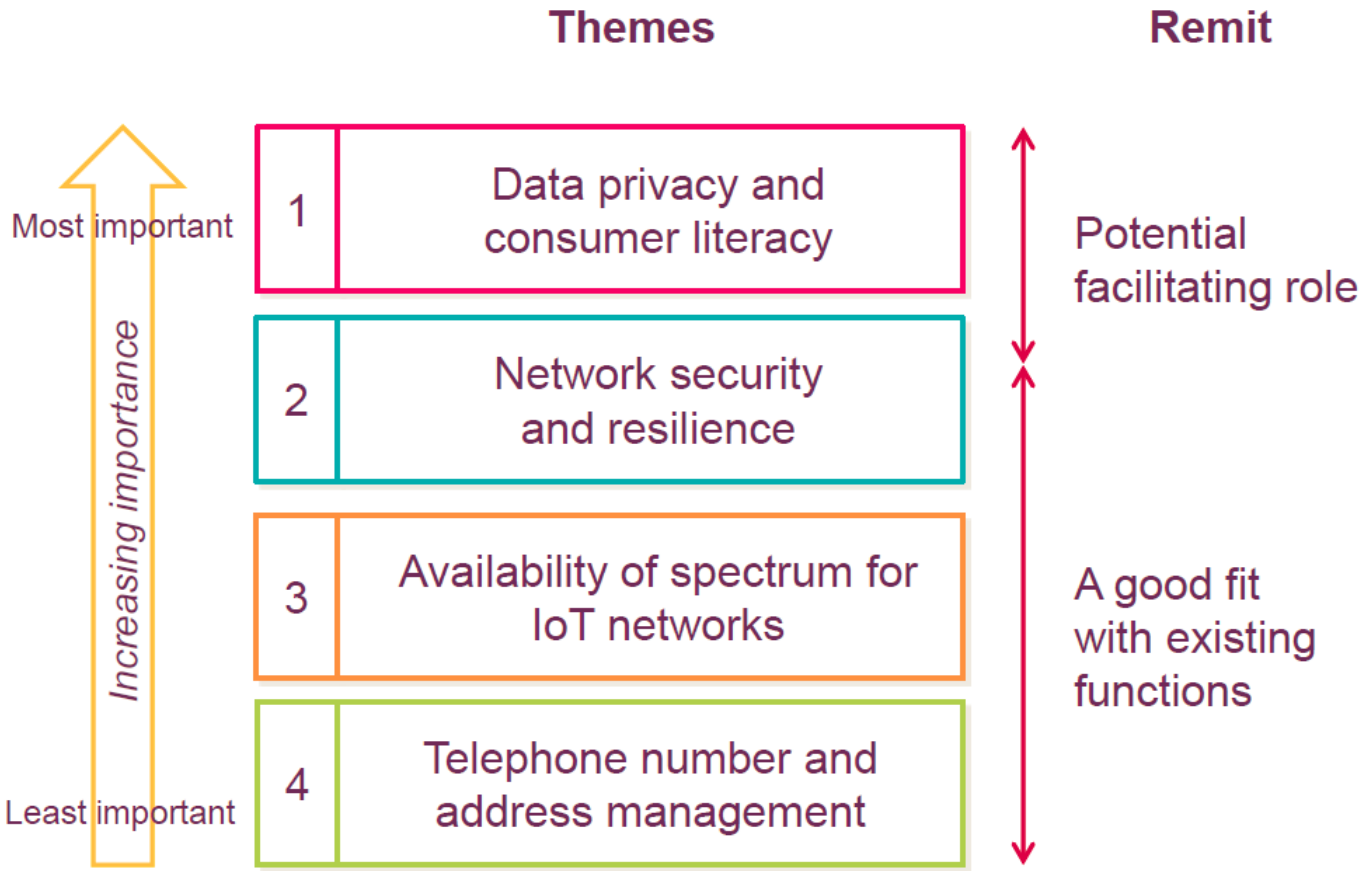
- Consumer electronics
- Utilities
- Healthcare
- Smart cities




**2022**

M2M Application Characteristics and their Implications for Spectrum
http://stakeholders.ofcom.org.uk/binaries/research/technology-research/2014/M2M_FinalReportApril2014.pdf

# UK Stakeholder Views……



# Of the key themes……..

- **Data privacy and consumer literacy -** *Active in BEREC and UK Gov*
- **Network security and resilience –** *Gov & UK's Cyber Security Strategy*
- **Spectrum for IoT networks and M2M** – *Working nationally and beyond*
- **Telephone number/address management –** *Monitoring, IPv6*

©Ofcom

# On numbering …

- Two distinct types: switched networks/packet and IP addressed networks
- In UK both still under review, is there an issue?
- May be a case to look closer at mobile numbering, than for fixed
- IPv6 is a longer term solution for IP networks

©Ofcom

# Now to spectrum……

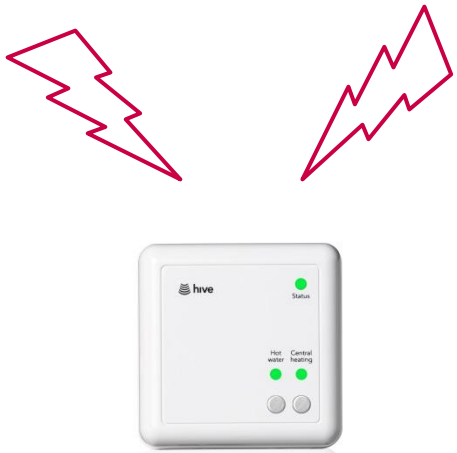
- Statutory duty to ensure the efficient use of spectrum
- M2M not defined by spectrum it uses (CEPT view)
- Should be no unnecessary technical barriers to M2M deployment
- UK ideas study 700 MHz (2 x 3 MHz) and 870/915 MHz in CEPT
- Further UK ideas for 55-68 MHz, 70.5-71.5 MHz and 80.0-81.5 MHz

©Ofcom

# Example of a M2M application used in UK

"Hive Heating Application"

Thermostat






Receiver

Zigbee hub

Wi-Fi hub

Smartphone app

HIVE and the Hive logo are trademarks of British Gas Trading Ltd.

# Summary

- Variety of spectrum options available, 5G will compliment
- Numbering and IP addressing, “keeping an eye on”
- Data security – wider debate, not solely framed by M2M
- Short to medium term, no apparent inhibitors
- Ofcom ready to react

©Ofcom

# Thank you for your time

©Ofcom