Your response

Your response should include details of:

- a description of the relevant technology;
- a view of the potential impact of the technology on the sectors we regulate, preferably
- identifying the impact against the criteria listed in section 3.16 of the call for inputs;
- the current state of development of the technology, including any demonstrations of
- feasibility;
- any unresolved issues which need to be addressed for the technology to achieve full
- potential;
- references to key publications and the leading groups working on the technology; and
- whether you would be open to discussing the technology in more detail with Ofcom.

Your response

Confidential? – No

GuRu Wireless is a US company developing technology for wireless power transfer via millimetricwave radio spectrum at 24 GHz and higher - https://guru.inc/about-us/

The title of this consultation deals with “Emerging technologies and their potential impact on the communications industry”. While “communications” is literally Ofcom’s “middle name”, Ofcom’s jurisdiction appears to include noncommunications equipment operating in the bands designated by ITU and CEPT for the Industrial, Scientific and Medical use.
https://www.ofcom.org.uk/__data/assets/pdf_file/0022/103297/fat-ism-frequencies.pdf

Wireless power transfer, “WPT”, technology has been rapidly evolving for the past 2 decades although currently marketed systems generally have ranges of less than a few cm. Various technologies is now being developed by GuRu Wireless and several competitors to transfer power for home and industrial uses at ranges of several meters.

The US and Canadian regulators clearly view WPT as included in ISM band uses of spectrum. While we can find nothing on the issue on Ofcom’s website, we recall hearing that at WRC-19 Ofcom was uncertain whether WPT was appropriate use of ISM spectrum. We urge Ofcom to address this issue and side with US and Canada on WPT being a valid ISM band use.

Ofcom’s US counterpart FCC has proposed formal rules for WPT although it has already allowed some systems up to 1m range using regulatory waivers - https://docs.fcc.gov/public/attachments/FCC-19-126A1_Rcd.pdf at para. 137-147

Ofcom’s Canadian counterpart, ISED, has developed guidance for WPT - https://www.ic.gc.ca/eic/site/smt-gst.nsf/eng/sf10871.html#s1.1 Section 1.1 indicates that OSED “may require additional instructions on test setup, specific test procedure and/or technical

requirements …(may be required) for WPT devices capable of wireless power transfer over distances greater than 10 cm"

Six US competitors that are developing WPT devices for larger distances have agreed on a set of regulatory concepts that they have shared with FCC in a public filing - https://ecfsapi.fcc.gov/file/1072076948861/Industry%20Reply%20Comments.final.pdf

This joint filing at FCC included the following basic points for FCC that we urge Ofcom also to consider for use in its jurisdiction:

- Systems that provide wireless power transfer are ISM (Industrial, Scientific, or Medical) equipment
- ISM frequencies are the appropriate bands on which WPT may operate.
- The term "locally" in the (ITU ISM definition) has no meaningful purpose today.
- The only factors that the FCC must consider in authorizing WPT systems are EMC and RF safety.
- Current Commission rules … already provide for EMC and RF safety for WPT. No additional rules are necessary.
- The FCC should not differentiate – by definition or regulatory scheme – WPT systems based on charging distance.
- The Commission should permit WPT devices to engage in non-communications feedback.
- WPT devices should be approved on a "component" basis.
- (FCC's Laboratory) should approve WPT systems on a case-by-case basis while this proceeding is pending, and should approve those systems based on existing RF safety and EMC requirements rather than any arbitrary distance or other parameters of those systems approved to date.

We urge Ofcom to start developing policies for WPT systems at distances in the range of several meters and gives UK and foreign innovators an opportunity to market such equipment in the UK. There is no interest in using spectrum other than the existing ISM bands so this request does not conflict with other present or future spectrum uses. The 6 US developers all agreed that existing RF safety and electromagnetic compatibility regulations are adequate to protect both the public and other spectrum users from a*ny* harms.