Intellect response to the Ofcom Consultation on:

870-876 MHz and 915-921 MHz

About Intellect

Intellect is the trade association for the UK technology industry. In 2007, the industries Intellect represents accounted for 8% of UK GDP, £92bn of Gross Added Value and employed 1.2m people.

Intellect provides a collective voice for its members and drives connections with government and business to create a commercial environment in which they can thrive. Intellect represents over 750 companies ranging from SMEs to multinationals. As the hub for this community, Intellect is able to draw upon a wealth of experience and expertise to ensure that its members are best placed to tackle challenges now and in the future.

Our members' products and services enable hundreds of millions of phone calls and emails every day, allow the 60 million people in the UK to watch television and listen to the radio, power London's world leading financial services industry, save thousands of lives through accurate blood matching and screening technology, have made possible the Oyster system, which Londoners use to make 28 million journeys every week, and are pushing Formula One drivers closer to their World Championship goal.

In the past 12 months 14,500 people have visited Intellect's offices to participate in over 550 meetings and 3,900 delegates have attended the external conferences and events we organise.

Response

Summary

Intellect welcomes Ofcom's consultation on the 870-876 MHz and 915-921 MHz bands and Ofcom's desire to ensure that the widest possible range of SRD applications can operate in them, which is consistent with the current trajectory within CEPT / ECC. In light of the increasing demand for Radio Frequency Identification (RFID) and Short Range Devices (SRDs) and DECC's work on smart metering this is particularly timely.

RFID and SRD applications have a key near term use for the 870-876 MHz and 915-921 MHz band. The demand for such applications has grown faster than expected and is proving valuable across a range of industries. As a result the current spectrum allocation for these applications is unlikely to be sufficient to meet the increased demand and the 870-876 MHz and 915-921 MHz band looks most suitable for such future services.

Ofcom rightly notes the value of this spectrum for ".... a range of machine-to-machine (M2M) applications such as alarms, home automation and smart metering". The Home Area Network (HAN) is critical to the success of the smart metering programme and DECC has identified 870-876 MHz as suitable spectrum. Communication Service Provider bids to

provide the Wide Area Network (WAN) connectivity to smart meters are in some cases based upon mesh technologies in the 870-876 MHz spectrum. Technical co-existence studies are currently underway in CEPT / ECC on the various applications and services and conclusions will emerge in the coming months. Ofcom has noted that DECC is seeking views on whether part of this should be reserved for the HAN. Ofcom should continue to work with CEPT/ECC to ensure coexistence between the HAN and other services authorised to use the band, particularly in terms of appropriate technical parameters.

Given these high value uses for this spectrum, Intellect believes that the 870 - 876 MHz and 915 - 921 MHz bands should ideally be made available for future RFID, SRD and other licence-exempt applications, including Assisted Listening Devices (ALDs),as soon as possible. In Europe, CEPT has developed a roadmap towards a spectrum allocation for SRDs and RFIDs for the bands 870-876 MHz and 915-921 MHz that is expected to be compatible with the existing Government and public sector uses. Attention should be paid to potential interference issues between RFID and SRD applications and one possibility being considered in CEPT is that RFID applications should be facilitated in 915 MHz - 921 MHz only.

Without delaying the above RFIDs and the Smart Metering applications, Ofcom should work with CEPT / ECC to also ensure that they can coexist with Extended GSMR (ER-GSM) in the future, should such an allocation be made in the UK.

Specific Responses

Question 1. What other developments, in addition to the international and public sector developments we have identified, are relevant to our identification and assessment of options for release?

Question 2. Do you have any additional information or analyses that could help to inform our assessment of the value that could be created through different uses of the spectrum?

Several independent marketing reports predict considerable market growth for both RFID and SRDs applications. The SRD industry has expanded considerably over recent years and has now developed into a number of different industrial sectors. These include metering, automotive applications, alarms, and in wider terms, non-specific SRDs such as home and building automation, telemetry, data transmissions, etc. It is anticipated that the present trend in diversification and expansion will continue. New emerging applications are being constantly developed, such as SRDs for Smart Metering, Metropolitan Mesh Machine Networks (M3N), Assistive Listening Devices and new Social Alarms and Alarms.

The demand for RFID applications has grown faster than previously expected and is outstripping the available spectrum. The value to sectors such as retail, transportation and logistics is apparent.

It is expected that the current designations of spectrum for RFID and SRDs will be inadequate to meet their future needs. In particular, the current RFID allocations at 865-868 MHz for RFID and the 863 -870 MHz for SRD are not sufficient and technical studies in ETSI and elsewhere suggest that 915-921 MHz would be suitable expansion spectrum for both RFID and SRDs. This frequency range is used in many countries outside Europe for both SRDs and RFIDs, which makes it an attractive band for systems deployed on an

international basis. A designation of 870 - 876 MHz and 915-921 MHz to RFID and SRDs should help to meet the demand from a number of industries over the next 10-15 years and the technical work looking at how this might be possible is ongoing within CEPT / ECC.

In the infrastructure delivery update that the Government published in parallel to the budget in March 2013 HM Treasury confirmed that "obligations have now been placed on energy suppliers to complete the GB-wide rollout of smart meters by 2019" It also notes that smart metering is "expected to have a £6.7 billion NPV benefit to UK". Given that smart meters will have to be in every home in the country it is clear rollout will have to start soon and take place rapidly.

The business case for smart metering is predicated on the impact on consumer behaviour. This requires reliable operation of both the HAN and WAN. . Therefore, ensuring that there is sufficient and suitable spectrum for both components is an immediate need and DECC's analysis shows that the alternative spectrum option for the HAN at 2.4 GHz will not be suitable for 30% of homes.

Ofcom should ensure suitable technical conditions for the proper operation of the HAN in 870-876 MHz. We note that DECC intends to investigate the case for reserving a part of the 870-876 MHz band for HANs. Whatever the outcome on this, Ofcom should work proactively in CEPT / ECC to identify suitable technical parameters to ensure coexistence between the HAN and other services authorised to use the band.

Ofcom states that it has no current plans to allocate the 870-876 MHz and 915-921 MHz bands to ER-GSM. Therefore it is important to ensure that licence-exempt applications being considered by CEPT, including those for Smart Metering, SRDs and RFID are not delayed for this reason. However Ofcom should ensure that all these services, including the HAN can co-exist in the band on a long term basis.

Question 3. Do you agree with our proposal to release 870-876 MHz / 915 -921 MHz for licence exempt SRD and RFID applications if Government releases 870-872 MHz / 915-917 MHz?

Yes.

Question 4. Do you agree with our proposal to release 872-876 MHz / 917-921 MHz for licence exempt SRD and RFID applications if Government does not release 870-872 MHz / 915-917 MHz?

Yes; In this case, Ofcom should ensure that the technical conditions set for systems using the MOD bands (870 – 872 MHz and 915 – 917 MHz) are consistent with the proper operation of smart metering applications, SRDs and RFID systems across the entire (two) bands.

Question 5. Do you have a view on the sequencing and timing of Ofcom's next steps if the spectrum is released for licence exempt SRD and RFID applications?

Ofcom notes a range of uncertainties relating to the 870-876 and 915-921 MHz spectrum bands. These include the planned MoD decision on the future use of 870-872 MHz and 915-917 MHz spectrum, the anticipated CEPT/ECC technical recommendations in autumn 2013, and DECC's HAN strategy in Spring 2013. The timing of these is unfortunate, but Ofcom's strategy can be made contingent on CEPT agreeing spectrum access conditions that are consistent with smart metering applications, including ensuring suitable operating conditions for the HAN and Ofcom should also engage proactively in CEPT to ensure this.

Some member companies believe that ideally Ofcom should allocate 870 -876 MHz and 915-921 MHz to both RFID and SRDs as soon as possible. There is a clear demand for this spectrum for these services and the value to business will be very high. In Europe, CEPT has developed a roadmap towards a spectrum allocation for SRDs and RFIDs for the bands 870-876 MHz and 915-921 MHz that is expected to be compatible with the existing Government and public sector uses. Attention should be paid to the potential interference potential between RFID and SRD systems and one possibility being considered in CEPT is for RFID applications to be facilitated in the 915 – 921 MHz band only.

As outlined in Ofcom's consultation document, studies to identify sharing conditions for both intra and inter services are in progress in ECC and CEPT fora such as CEPT WG SE 24. In the absence of an EU mandate to CEPT, any reports and conclusions will not be binding on member states. Ofcom should continue to engage closely with these studies with a view to ensuring that UK perspectives are properly addressed. When authorising the use of the band, it should ensure that that UK candidate applications (including HAN and WAN) are not precluded.

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