Title:

Mr

Forename:

Greg

Surname:

Whitton

Representing:

Organisation

Organisation (if applicable):

CloudNet IT Solutions

What additional details do you want to keep confidential?:

No

If you want part of your response kept confidential, which parts?:

Ofcom may publish a response summary:

No

I confirm that I have read the declaration:

Yes

Additional comments:

Question 1: Do you agree with our assessment of the likely costs and benefits of our proposal to license MCWSDs as a transitional arrangement? Please provide any available evidence to support your response.:

We agree in principle the proposal to license the MCWSD's. We also understand the need to protect interferences, and the whereabouts. MCWSD's are still in the development cycle which is necessary to undertake service packs and upgrades etc. as part of product life. However, there needs to be more onus on the manufacturers not the service providers to ensure there are some levels of conformance, and that these manufacturers who realise the potentials should have to meet OFCOM's regulations. The fee of £1500 to the larger enterprises are effectively in significant costs, however, for the types of areas and locations these devices are likely to be deployed in, and in particular for ourselves remote and rural

locations, the costs (alongside the infrastructure costs) become significant. It is likely to deter smaller enterprises and individuals, which is good in order to deter interference and conflicts with other service providers.
OFCOM in 4.9 refers to being unable to determine the location and be able to communicate to databases. However, potentially other technologies can be introduced alongside these (such as GPS loggers etc.) to ensure the location of these, but could be on a risk or geolocation based need.
OFCOM should not delay the roll out and development, because communities, and industries are on the cusp of utilising and developing this technology, and any hurdles would impact other countries.

Question 2: If you agree that Ofcom should allow MCWSDs to operate in the UHF TV band within the TVWS framework, how long do you believe that the licensing regime would need to be in place?:

There will always be a need for both licensed and unlicensed.
For example, we have had issues whereby communications to the database providers have gone offline for a period of time. The ONLY approach was to switch to "Local mode" to managed the systems to maintain communications. Through no fault of our own or the database provider, and because of the nature of the IT industry, we are all moving towards "Cloud" solutions, we need to have the ability to be able to switch modes in order to maintain service. OFCOM reference the need for changing TX power to master and slaves, however, these units need to conform to ETSI standards, and are on the market at present because the need to show evidence that they can do this. It is not the responsibility of the service provider/installer to ensure these standards are not breached.
We need to look at the types of target users, and their specifics, as well as the industry, we need to be reasonable and make sure we can keep to sensible support level. Cloud based solutions in principle are ideal, cost effective, but can and do go wrong sometimes.

Question 3: If you agree that Ofcom should allow MCWSDs to operate in the UHF TV band within the TVWS framework, when do you believe it would be appropriate to conduct a review to assess whether there is an ongoing need to license MCWSDs?:

We believe there is a lot of potential in TVWS. The proposed licensing is innovative and opens doors where current technologies haven't. Our findings and research has opened up a vast spectrum of applications and potentials, which without TVWS would be challenging and extremely costly. With our pilot utilising this technology over water, around coastal areas, and to remote locations there needs to be wider and further consultations to determine the best approaches. We would welcome more dialogue with Ofcom to discuss opportunities where we may have a need to inform and challenge the standards and request specific changes to the challenges of the terrain in order to better deliver TVWS in these areas. There are so many initiatives that this technology opens up for public and business alike as well as to meet government's needs. The time frames of three years (min) for further testing and developing would be an appropriate way to inform consultation, however, the non-commercialisation elements must not be a factor in this, and needs to be removed.

Question 4: Do you agree with the proposed terms of the draft licence as set out in Annex 5 and as discussed below?:

Yes agree.

Question 5: Do you think it would be beneficial for the licensing regime for MCWDs to cover both masters and slaves?:

Yes the licensing needs to be covered across the technology.

Question 6: Do you agree that our licensing regime should only apply to type A devices? :

No. This is necessary for both. We are a fixed and nomadic pilot. OFCOM needs to consider the impact and implications to this with further thoughts and dialogue. We would welcome consultation on this issue.

Question 7: Do you agree with our approach to allow a number of MCWSDs under the control of a single licensee to be subject to a single licence?:

Yes. One License to cover our MCWSDs.

Question 8: Do you agree that the proposal for specific licence terms will mitigate the risks posed by the use of MCWSDs?:

It is not easy to apply a yes or no in this area. There needs further considerations with regards this, however, making the onus on the installer or service provider to ensure they work within the confines of the OFCOM requirements would be the best approach, and to ensure there are audit trails of such installations.

Question 9: Do you consider the proposed licence terms are appropriate and proportionate?:

Yes. We believe that this should be for registered professionals, trustworthy companies who wish to assist in service provision of the equipment. This will help to ensure that there are no blatant misconfigurations of MCSWD devices by untrained individual's because they are not familiar with the impact or interference this might cause. This will ensure MCSWD devices have a further level of protection under license.

Question 10: Do you have any comments on our proposal to require applicants for licences to deploy MCWSDs to supply details of their QA process on application?:

Agree there needs a QA process. We agree that companies who understand the technology, will be professional with the capabilities and responsible necessary to protect the spectrum and become a licensee...

Question 11: Do you agree with the proposed technical conditions of the draft licence?:

In principle yes.

Question 12: Do you have any comments on the proposed duration for this licence?:

This is reasonable to expect.

Question 13: Do you have any comments on our proposed licence fee of £1,500:

If the license to operate in the spectrum covers all devices or locations in geographic terms or per manufacturer, then yes.
However there may be different scales depending who you are, where you are and what it covers this would require some type of evaluation to determine license regime and costs.

Question 14: Do you have any comments on our proposed five year minimum notice period for revocation for spectrum management reasons?:

Yes. This is a reasonable timescale to provide a notice period.

Question 15: Do you believe there is likely to be an ongoing need for white space devices that allow some level of manual configuration? Please give reasons for your answer.:

Yes.
We have a number of projects, ideas and applications which will drive forward the TVWS technology. This is an exciting era for CloudNet who have a number applications and opportunities to test the constraints of TVWS. Having our TVWS test laboratory extending out some 60 mile radius (currently), we have extensive opportunities to work with the industry and companies to develop the TVWS both on land and over water.
Manual configuration, if withdrawn will stifle development with applications and internet of things as well as driving the technology forward. Having worked in the marine sector along with remote and rural communities, there are specific challenges which are not presented in urban situations.
Such examples are ships moving around costal area, passing by each other etc., from different other types of naval aids on board ships, VHF/UHF, GPS, and Radar etc., all which need to be managed accordingly.
Rural itself is challenging, due to the complexities of who, what were and when, as opposed to urban with the many rooftops and street furniture that could be utilised. Hydro too causes issues.
With regards TVWS, we have a multitude of opportunities which are being presented, that need to be investigated, such as, nomadic, multi-hop scenarios, where a device could be used to extend the range of TVWS to accommodate specific needs, or temporary installations (under license approval). For example Lifeboat, Coastguards, community safety projects, who may have a need to deploy portable devices for searches and communications etc.., through to Fish Farms, Remote Farming communities, Lighthouses, ship-to-ship, ship-to-shore communications to name a few...
All of this will still need to be within the operational guidance of the OFCOM requirements and meet the licensing requirements of the MCWSD and TVWSDB requirements.

Question 16: Do you believe there is merit in exploring allowing enhanced operation through a licensing regime in the future and if so what additional capabilities should be allowed?:

Yes
Enhanced operation through the license regime would be welcomed. For the high end business users, this would be necessary under license.
Under enhanced mode we would welcome the opportunity under license to work with OFCOM and interested parties. CloudNet have the opportunity to mitigate contamination and interference both locally, cross border and internationally to have the ability to test and further develop and research to understand the capabilities. CloudNet we would welcome consultation and dialogue with OFCOM on the potentials of:-
- increase TX powers for directional antennae's out to sea or in areas of low risk where there is a need to deliver communications which current technologies are either too expensive to deploy too, or have limited hydro capabilities to sustain the device uptimes. E.g. Marine renewables, water turbines, wind turbines, ships, fishing vessels, lighthouses, marine buoys etc.
- Switching devices for antennae's to allow multi-hop or switching between base stations for TX/RX capabilities.
- Randome moving rotational antennae's to maintain locks on the signals
- Develop Muiti-Hop scenarios
- Channel bonding to increase throughput
These are only some of the requirements, but because TVWS by its nature have scalability and capabilities it would not be reasonable to stop utilising of MCWSD's from operating.