

Dear Trevor

Following our RRAC meeting at Bath we were asked to send you comments relating to the actions in Section 9 of the minutes of the meeting. Here are some thoughts that may be of value?

Digital broadcasting switch-over. Why not avoid this by creating an efficient high capacity digital network using cellular cell sites as co-broadcasting ones, and then make it illegal to sell analogue television sets. In other words conceive a digital network that is so efficient that there is no need to switch off the analogue television. Instead let the latter system die naturally. (I wrote a letter along these lines recently to an MP).

Spectrum for wireless home area networks. The wireless used in these networks will be part of a home network that will use a mixture of communication media in a pervasive computing, communications and entertainment environment. The wireless transmissions will not escape far from the property and so these systems should be allocated a wide band of unregulated unlicensed spectrum. The choice of this band requires an investigation. We should not confine ourselves to thinking about Bluetooth, 802.11, or Hiperlan 2.

High bit rate services to the home. Home networks will need very wide bandwidth trunks to the outside networks. Fibre can provide this, but fibre-to-the-home still seems uneconomic. There is a case for studying high frequency, high bit rate, point-to-multipoint delivery systems to the home.

2.4 GHz ISM band. There is a danger of this band becoming useless because of congestion. The fear is of excessive use by short-range communications, eg tagging, Bluetooth, etc. However, the worse may never happen as communications will be so local in nature. We need to start monitoring a range of locations to observe the type of usage, and hence to see if some services within this band should move to other parts of the spectrum.

Efficient utilisation of spectrum. We need to know how efficiently spectrum is being used on a time and space basis. This information is a pre-requisite in terms of spectrum trading, spectrum sharing and other scenarios.

Use of broadcasting spectrum. It is thought that mobile systems could gain from broadcasts when many users want to receive the same signals. We recall that small hand-held television sets were a commercial failure, and now the hope is that a combined television broadcasting and communications hand-held is what people want and that this combination constitutes an efficient use of spectrum. My view is that better utilisation of the spectrum would be achieved if we confined broadcasting services to satellite (and fibre) and use their current spectrum for wireless mobility. Perhaps a study examining whether all these 'life belts' being thrown to the television establishment are worth the effort.

Wireless ad hoc networks. These networks should be compared with more conventional networks to evaluate their relative spectral efficiency in a range of operational scenarios, eg in home networks and cellular networks.

That's it. Best wishes.

Ray