

Future Strategy for Business Radio

Industry opinions on development of the sector- October 2010

Introduction

The FCS published [a report](#) on the Future Strategy for Business Radio in June 2010 following research within the business radio sector on the likely future developments as well as impediments to growth. The report concluded that the sector was growing, new technology is driving sales and that there will be a time when more spectrum is required to support the sector needs. Business Radio [BR] is a supporting service for a wide cross section of the UK economy from the critical national infrastructure, through mission critical operations to the simpler needs of schools and Shopwatch schemes. The users cannot do without it.

Ofcom's own analysis of licence data tells a different story, of declining numbers of licences overall and specific difficulty in allocating new assignments in London and other urban centres. FCS agreed to research further to indentify why the industry and Ofcom were seeing different outcomes.

Is the sector growing or declining?

The further industry research carried out in September and October 2010 indicated that equipment sales continue to grow. All manufacturers report continuing growth since 2000 with a consolidated average 6-10% per year. Dealers and operators report similar increases.

There are a number of reasons put forward why spectrum licence numbers may be falling:

- **Customers moving to trunked systems**- one trunked licence or area licence replacing several individual licences so that more equipment is used for a single licence; examples of changes include customers moving to JRC, Fleetcom and Arqiva
- **Replacement of old equipment to save maintenance costs**- in some cases for every new system that is bought two are being decommissioned
- **Some users are operating without a licence**- the new Ofcom licensing system introduced in December 2008 has led to a series of administrative hiccups and licence revocations, but some customers are believed to continue to use the spectrum without an up to date licence. Some dealers track the licences of their customers to ensure the licences are correct, but others without an ongoing commercial relationship cannot help Ofcom in this way. The industry reports that Ofcom Field Engineers no longer audit business radio installations
- **Some users are moving to licence exempt product**- such as PMR 446

- **UK General** – there has been greater takeup of UK General licences with large numbers of handsets in use for a single licence.

Better use of spectrum

Ofcom has said that to make best use of the available spectrum early introduction of digital technology is a key element to improving spectrum efficiency

Industry responses to this proposal were cautious. There are four complimentary publicly available open standards, Tetra, DMR, d-pmr and P25 each working in 6.25 or 6.25 KHz equivalent bandwidths. The use of digital product can increase the efficiency in the use of spectrum by a factor of 2. However, as described in the Introduction, the range of customers using business radio is vast and different users have different requirements. There is still a significant demand for analogue technology for existing and some new customers who seek specific features, such as trunking and duplex telephone interconnect, and price points.

Many manufacturers are bringing new ranges of digital products on stream and dealers are selling them to relevant customers; some dealers report up to 60% new sales are digital, other dealers focus primarily on analogue sales.

Sales are reported to be for brand new systems and some migration of existing systems to obtain added features such as encryption, IP deployment and increased data services. In some cases the extra capacity created by digital systems can be absorbed by increased data traffic. This has the tendency to improve spectrum efficiency but may not necessarily release spectrum for other users.

Move from digital to analogue

Industry pundits vary in their responses to that rate of change from analogue to digital in the UK installed base according to their own market situation. The overall consensus is that digital product may supersede analogue in 8-15 years. Replacement of the complete radio base may take longer than this as radio infrastructure can have a life of 10 or more years.

The UK is but one market in the world. It is clear that manufacturers will decide on a commercial basis when to cease manufacturer or support of analogue equipment; one strategy would be for manufacturers to reduce the number of analogue product lines in the wind down.

There may continue to be an active second hand market to support existing analogue users after primary manufacture has ceased.

There was no demand from the industry players questioned for an Ofcom ultimatum to cease all use of analogue equipment since some users need these characteristics. There was acknowledgement that commercial drivers will be the most effective; if a better service, with better application set at a better price is available then customers will move to digital.

Each of the four digital technologies- Tetra, DMR, d-PMR and P25 -has its champions within the manufacturing industry and it is clear that each satisfies the needs of different parts of the end user sector. The FCS cannot side with one over the others at this point.

Ofcom has said that it is difficult to allocate spectrum at certain urban locations in the most popular VHF and UHF bands. Industry players ask that Ofcom revisits its algorithm and possibly increases the numbers of assignments on a channel to alleviate the situation. A move to digital licences may be helpful to solve this problem but it is not a universal approach supported by the whole of BR community

Spectrum- is there enough?

All respondents appeared to agree that for the whole of the BR sector Ofcom should offer channels in 6.25, 12.5 and 25 kHz into the future to satisfy the diverse needs of the BR end user community.

It has become apparent that data will play an increasing role in BR use. Some data applications may replace voice, thus reducing spectrum demand, but when data is available end users tend to grow their usage. Improved spectrum management by dealers and operators can contain customer spectrum usage, but there are signs of a growing need for broadband data over BR and that will lead to spectrum demands at higher frequencies than the current BR bands.

Forecasting future spectrum demand is clearly uncertain. So much is dependent on the general economic situation and the ability of end users to release cash for investment in systems or equipment. However the consensus from this further research is that equipment sales will increase by more than 20% by 2015 with an associated increased demand for spectrum. Respondents identified specific growth pressure in VHF and UHF 1 and 2 due to known equipment availability.