Radio-based communication services operate under the terms of their spectrum licences. To date these licences have been non-transferable but before the end of this year trading of some licences will be introduced in the UK. The new approach, known as spectrum trading, encourages a more dynamic market by permitting changes in licence ownership, services and use of radio spectrum.

Activity is well under way with enabling legislation in the 2003 Communications Act and an Ofcom consultation having been completed earlier this year. In August, a document titled “A statement on spectrum trading – Implementation in 2004 and beyond” clarified several issues, but further work on the detailed means of implementation still needs to be completed.

Spectrum trading will create new business opportunities by allowing the transfer of licences between users, brokers and traders. It is expected that the more dynamic trading environment will lead to new spectrum owners, who will increase usage levels. Meanwhile, liberalisation (reconfiguration or change of use) will further increase efficiencies, which should in turn translate into the emergence of new and alternative services.

As licences effectively become tradable assets, the quality of the radio spectrum and the technical specifications for its use need to be better defined and assured. All prospective trades will require registering for approval with Ofcom, while traders will have to demonstrate that any proposed changes are not detrimental to co-existence with other users.

Spectrum trading and liberalisation are valid techniques for spectrum management, but it is essential to pay due regard to the particular characteristics and engineering of the bands involved. Problems that may arise include an increased incidence of interference complaints (either real or imaginary); anti-competitive practices involving trading, hoarding or denial of access to spectrum; as well as the day-to-day complexity of operating radio-based businesses.

Existing radio licensees need to be alert to the possible impacts that this new policy will bring about. The levels of interference from different types and intensities of usage in adjacent bands could impair the quality of usage in adjacent bands. They may also experience competition from new services in other bands. And the value of their licences may change such that trading and seeking alternative bands could be appropriate.

Spectrum trading will put the responsibility for the commercial and technical exploitation of radio frequency blocks firmly in the hands of the licensed spectrum owners. They will have the freedom to resell their licences, which will allow new modes of business operation. For example, a joint venture could combine the allocations of two operators such that greater efficiency, economies of scale and simplification of their networks could be achieved.

In many bands, change of use will be allowed, opening up the possibility of new applications and revenue streams occupying spare spectrum. In such cases, however, the owners will have to show that the new use still meets the particular regulations and technical requirements for the allocation.

Although the principles of spectrum trading and timescales have been clearly laid out, there is much clarification needed in the detail as it applies to specific blocks of spectrum based on the ways in which that spectrum is used. Terms such as reconfiguration need careful definition before they can be used under licences which set legally binding rights and constraints in the use of specific radio spectrum.

One particular issue that will be present from the start of the trading process is that in-band, out-of-band and interfering levels require new guidelines. The importance of spectrum trading is probably in the environment it creates. Indeed, there will be fewer constraints imposed by spectrum licences, and there is no doubt that the ability to trade is more in line with most other markets based on the use of a scarce resource. Over time, market forces should move spectrum from lower-value to higher-value use, providing a better overall exploitation of the radio waves.

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