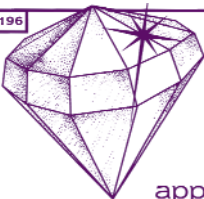


# Consultation on Spectrum Trading

## A Summary

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**Crystal  
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Clarity  
approved by  
Plain English Campaign

# Ofcom consultation on spectrum trading

## Foreword

We at Ofcom (the Office of Communications) are proposing changes to the way wireless transmission equipment (such as radio, TV and mobile phone transmitters) is licensed in the UK. We are now consulting people who have an interest in the changes, which are set out briefly in this document.

From 29 December 2003, Ofcom will be the new regulator for the TV, radio, telecommunications and other communications industries. One of the regulators we will replace is the Radiocommunications Agency (RA). We will be taking over their responsibility for licensing wireless transmission equipment.

This consultation will be of particular interest to organisations with a licence granted by the Radiocommunications Agency (RA) to use wireless transmission equipment in the UK. These organisations include:

- mobile phone companies;
- television and radio broadcasters;
- taxi companies; and
- many other companies offering wireless communications services.

We want to take account of people's views before we make a final decision, so we are asking for responses by **13 February 2004**.

The consultation is being led by the Ofcom Spectrum Trading team. You can contact them as follows.

- By sending an email to:  
**[spectrumtrading@ofcom.org.uk](mailto:spectrumtrading@ofcom.org.uk)**
- By writing to the Spectrum Trading team at:  
**Spectrum Trading Consultation  
Ofcom  
Riverside House  
2a Southwark Bridge Road  
London SE1 9HA.**
- By sending us a fax, marked 'Spectrum Trading consultation', on 020 7981 3333.
- By calling our helpdesk on 020 7981 3000 and asking for the Spectrum Trading consultation desk. They can answer any questions about the consultation or take your views by phone.

## Introduction

Wireless communications services (such as radios) work by sending signals to each other through the air, using different types of signals rather than by an actual wire connection. The airwaves that carry these wireless signals form what is called the electromagnetic spectrum – ‘spectrum’ for short.

It is important that these different wireless signals do not interfere with each other. To make sure this does not happen, wireless transmission equipment must be licensed.

We are proposing to change the way wireless transmission equipment is licensed in the UK so that organisations will be able to buy, sell and change their licences. We call this proposed system ‘spectrum trading’. It will mean a significant change to the current system, which does not allow licences to be bought or sold.

If we introduce this system, it will mean that the UK will be the first country in the European Union to allow trading in licences to use the spectrum.

## Why does spectrum trading matter?

Spectrum trading will result in very important changes in the way the airwaves are used.

Currently, people in the Radiocommunications Agency (RA) decide how the UK’s spectrum should be divided up, so that signals do not interfere with each other. The RA decides what each part of the spectrum should be used for, and issues licences to people to use it. One type of radio licence cannot be swapped for another, nor can a licence be bought or sold.

However, there are now so many wireless services using the airwaves that it is difficult to find space for new services. As a result, space in the airwaves is becoming scarce and valuable. This makes it difficult for companies to adapt to changes in their markets, as the following two examples show.

- A taxi firm wants to expand its business by taking on new drivers and new taxis. It can buy cars from another taxi firm, but it cannot buy that firm’s licences to use the two-way radios fitted in each car.

## Introduction continued

- An inventor has an idea for a new kind of wireless service using a part of the spectrum already licensed to a company that doesn't need it all. The inventor is not allowed to buy access to that spectrum from the company and a new licence may not be available. So, the inventor's idea may never reach the market.

Being able to trade licences will make it easier for companies to develop and launch new kinds of wireless services, such as wireless broadband for rural areas. New businesses will be able to enter the market more quickly and more cheaply. Customers will have a greater choice of services, and greater competition between services will drive down prices.

Most importantly, these changes will help us make best use of the spectrum available in the UK. This matters because there is only a fixed amount of spectrum available and, once it has all been used, no new services can be added.

## The proposed changes

### How is wireless transmission equipment regulated now?

Every piece of equipment that transmits sound, pictures or data through the air to another piece of equipment uses the electromagnetic spectrum.

A typical household contains many devices like this, for example:

- infra-red remote controls for TVs, hi-fis and DVD players;
- laptops with wireless internet connections;
- remote-controlled model toys;
- wireless car-key fobs;
- baby alarms; and
- mobile phones.

Of course, households also contain devices that receive wireless signals but do not transmit them, such as radios and TVs. These are not included in our proposals.

A very important part of the regulator's job is to avoid the signals sent by these devices getting mixed up with each other (which is called 'interference'). This is especially important when we are dealing with wireless equipment used by people who depend on reliable radio communications for their safety, perhaps from coastguards, air-traffic controllers and the emergency services.

Another part of the regulator's job is to co-ordinate our use of the airwaves in the UK with that of neighbouring countries. Wireless signals can pass freely across national borders. For example, signals from a powerful transmitter in northern France can be picked up by receivers in southern England. So, we need to work with neighbouring countries such as France to avoid international interference.

Because of all these issues, the Government controls the way in which wireless signals are transmitted in the UK. The spectrum is carefully organised into different bands. Each band is used for a different kind of wireless service, such as for mobile phones or for TV signals.

Some of these bands are allocated to types of transmission equipment, like baby alarms or remote-controlled toys, which do not need an individual licence.

The other bands are divided up into smaller blocks of spectrum, called 'frequencies'. The Government then assigns (or grants) licences to people or companies that give each one the right to use wireless transmission equipment in particular frequencies and in particular geographical areas. It is illegal to use wireless transmission equipment without a licence, unless it uses one of the bands where a licence is not needed.

## The proposed changes continued

### Why is Ofcom thinking about changing this?

In most countries today, governments are still in charge of organising spectrum in this way. They try to meet the need for new uses of spectrum as best they can.

In the UK, it is the Radiocommunications Agency (RA) that is responsible for licensing wireless transmission equipment. Sometimes, the RA receives many more requests for licences than there is space for in the spectrum and it then has to decide who should and should not get a licence. This is hard to do because it is not always clear who deserves a licence the most.

We at Ofcom are a new regulator and are independent of the Government. Under the Communications Act 2003, we must:

- look for the most efficient way to use spectrum; and
- think about ways of allowing companies within a particular industry to regulate themselves rather than being regulated by us.

This is what we are trying to do with spectrum trading. It will allow people who use wireless transmission equipment to take greater responsibility for their own actions. It will also help reduce the problem of a shortage of spectrum by allowing people:

- to buy radio licences from other people who don't need them rather than having to compete with those who are also asking us to issue them with new licences;
- to use their licences for different purposes; and
- to sell off the right to use part of the spectrum to someone else, while keeping the part they need themselves.



## The proposed changes continued

### Who will this affect?

These changes will only affect organisations that use blocks of spectrum that are assigned to them alone, or that they share with a small group of other organisations. For example, companies such as mobile phone operators or TV broadcasters are currently granted licences to use spectrum that no-one else can use. A taxi firm usually shares its spectrum with only a few other users. Under our proposals, companies such as these will be allowed to trade their licences.

People who use radios that send signals using the same part of the radio spectrum used by thousands of other similar radios will not be affected, even though they have to have licences. These include radios on board all ships and aircraft, and CB radios.

Wireless transmission equipment that doesn't need a licence – such as baby alarms, remote-controlled model toys, wireless car-key fobs and mobile phones – will not be directly affected. Wireless transmission equipment that receives but does not transmit signals, such as TVs and radios, will also not be affected.

Our proposals will give more freedom to those thousands of individuals and businesses who use wireless transmission equipment. These proposals will not restrict what licence holders are currently allowed to do. Instead, they will give them more freedom. In particular, licence holders won't have to reapply for a new licence just to carry on using their equipment, as they do at the moment.

## The proposed changes continued

### When will the changes happen?

We want to introduce spectrum trading gradually over the next four years. The following list shows which types of licence will be affected and when.

We have listed the different licence types using their full technical titles. If you think your licence is included in this list but are not sure, please contact us.

#### 2004

- Sound broadcasting
- Analogue public-access mobile radio
- National paging
- Fixed wireless access
- Data networks
- National and regional private business radio
- Common base stations
- On-site private business radio
- 5.8 GHz band C
- Fixed point-to-point radio links
- 32 GHz band
- Scanning telemetry

#### 2005

- Programme making and special events
- Digital public access mobile radio
- Wide-area private business radio

#### 2006

- Emergency services

#### 2007

- TV broadcasting
- Cellular (mobile phones)
- Aeronautical ground-based radio communications
- Maritime coastal radio communications
- Radar

## The proposed changes continued

### What will I be able to do with my licence?

Spectrum trading will open up new choices for organisations looking to get the most out of their licences. The options available will depend on what is technically possible, on whether a proposed trade or change in a licence would lead to interference, and on a number of international agreements.

Some of the options you might have will include:

- selling all or part of the licence;
- leasing out the whole licence on a longer-term basis;
- hiring out the whole licence on a temporary basis;
- leasing out or hiring out part of the licence;
- buying another licence and combining it with your existing licence – for example, to increase the range of a wireless communications service so that it extends beyond the boundaries of one town into a neighbouring town (known as the ‘footprint’); and
- leasing or hiring another licence and combining it with an existing licence.

In some cases organisations may also be able to:

- change the kind of wireless transmission equipment they use;
- change their licence from one kind of wireless communications service to another; and
- split a licence to use different parts of it for different kinds of service.

## The proposed changes continued

### How would this apply to particular types of licence?

You will be able to trade every type of licence in the list above, and you will be able to change some types of licence more than others as the following examples show.

**Wide-area private business radio** licence holders (including speech and data services, distress alarms, and one-way paging and speech services) may be able to:

- split a licence into separate parts and trade in those parts;
- join licences together;
- change the transmission power level;
- change the site that signals are transmitted from; and
- change the licence holder's line of business.

**Common base stations, national and regional private business radio, and on-site private business radio** licence holders may be able to:

- split a licence into separate parts and trade in those parts;
- join licences together; and
- change to different mobile radio technologies.

We are planning to develop an online system that will help us to automatically assess requests for changes like these.

Other types of licence will not offer as many options, as you can see here.

**Digital radio multiplex service** licence holders (for DAB radio) would have to provide coverage to the areas set out in their broadcasting licences. As long as they continued to cover their areas, multiplex operators would be allowed to trade parts of their spectrum. This could mean, for example, that they would be able to change the power of their transmissions.

**Analogue sound broadcasting** licence holders (local and national radio stations) would not be able to change their coverage areas, and would need to continue to use their licences for broadcasting to radio listeners.

## The proposed changes continued

### How would organisations buy, sell or change a licence?

We will set up a process for transferring licences between organisations, and make it clear which licences can be bought and sold in this way. We will say whether licences can be split up or joined together with other licences. We will also say if the licence holder can use other wireless communications services and, if so, which ones. We will make all of these points clear by publishing guidance after the end of the consultation.

If you are interested in buying a licence, the first thing you need to know is who owns it at the moment. We will publish a register of licences, called the ‘spectrum registry’, on our website so that you can find out.

Other organisations may set up in business to act as brokers, which means that they introduce those who want to buy licences to those who have licences to sell. Buyers will be able to ask us for more detailed information about the licence they are buying, and about neighbouring licences.

Once the buyer has contacted the seller and agreed terms, the buyer needs to tell

us about it by filling in and sending us the relevant form. We will provide details about the form needed once spectrum trading begins. We would carry out certain technical checks and, if there were no problems, approve the sale. We would then update the spectrum registry and issue a new licence to the buyer. The seller would have to pay tax on any money they made from the sale.

If an organisation wanted to change its licence to provide a different kind of service, it would have to ask for our permission first. We would need to check that the change would not interfere with other services and, if not, we would approve the change.

We will create a system to settle disputes between licence holders. This will involve making sure that organisations try to negotiate among themselves first. We would only get involved if we were asked to do so.

We will use UK competition laws to make sure that organisations compete fairly with each other when they are allowed to trade spectrum. We will also design a new process to look at licence sales to make sure they do not create unfair competition.

## The proposed changes continued

### Other proposed changes

Another important change we are proposing is to give organisations five years' notice if we need to withdraw their licence. At the moment, the Radiocommunications Agency has to give one year's notice to withdraw most types of licence. Our proposed five-year notice period should make licences easier to trade by providing greater certainty for buyers.

This five-year notice period would not apply if an organisation broke its licence conditions or did not pay its annual licence fees, in which case it could lose its licence without notice. It would also not apply in certain special circumstances, such as a national emergency in the UK.

We also plan to change the way some licences describe what they can be used for. At the moment, many licences specifically describe:

- the radio equipment;
- the location;
- the strength of the signal;
- the part of the radio spectrum; and
- the technology

that the licence holder can use. In some cases they even describe the licence holder's line of business – for example, a taxi company.

We are proposing to change some licences so that they describe the wireless services they allow in a much more general way. This will make it easier for people to use the licence for many different purposes.

In technical terms, we are proposing to do this by defining the strength of the radio signal at the 'boundary of coverage', which is the edge of an area where that signal can be picked up. We also propose setting out guidelines on the likely level of interference that one licence holder can expect from the equipment used by other licence holders.

## The proposed changes continued

### What won't change?

From 29 December 2003, responsibility for making sure that spectrum users do not interfere with each other will pass from the Radiocommunications Agency to Ofcom. We will also take over responsibility for making sure that people and organisations obey the law relating to licences for radio equipment.

We will still:

- deal with interference problems by working with licence holders and other Government organisations to make sure that wireless communications services do not interfere with each other; and
- take action against people and organisations who use spectrum illegally – in fact, the Communications Act gives us even greater powers against people who use transmission equipment without a licence, such as pirate radio stations.

People and organisations will still have to pay their annual licence fees. If they don't, we will be able to withdraw their licences without compensation.

## Our consultation

Ofcom's actions will affect people and organisations across the UK. As a result, it is very important that we make our decisions at the right time and in the right way. These decisions must be based on evidence and they need to take account of the views of people who have an interest in the outcome.

Consultation plays an important part in our decision-making process. It allows people who could be affected by, or are concerned about, a particular issue to give us their views before we make a final decision. That is why we are issuing this document.

This guide sets out a summary of the main issues that we need to consider. You will find the full consultation document online at [www.ofcom.org.uk/consultations/current/spectrum\\_trading/index.htm](http://www.ofcom.org.uk/consultations/current/spectrum_trading/index.htm). This document contains all the technical detail behind our proposals for spectrum trading. You can download copies of it from the website. You can order a printed copy via the website.

We don't just want to know whether you agree or disagree with our proposals. We also want to know why. For example, how would our proposals affect you as a citizen and a consumer? How would they affect your business?

Wherever possible, we would like you to back up your statements with evidence. We also encourage groups such as trade associations, and consumer and community groups, to explain who they represent.

Unless you specifically ask us to keep your response confidential, we may publish your comments, or a summary of them, on our website.

We need to know your views. Please email, write to or call us by **13 February 2004**. Our contact details are on page 2 of this summary.

If you have any comments on how we have organised this consultation process, please contact:

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