

Spectrum Management in the UK: perspectives, challenges and strategies

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Ofcom's Spectrum Management Duties (Comms Act 2003)

To secure the **optimal use of the spectrum**, having regard to the different needs and interests of all users

In carrying out its spectrum management duties, Ofcom must have particular regard to:

- **Availability of spectrum**
- **Current and future demand for spectrum**

And to the need to promote:

- **Efficient management and use of the spectrum**
- **Economic and other benefits arising from its use**
- **Development of innovative services**
- **Competition in electronic communications services**

Ofcom's Spectrum Vision

- **Spectrum should be free of technology, policy and usage constraints as far as possible**
- **It should be simple and transparent for licence holders to change the ownership and use of spectrum**
- **Rights of spectrum users should be clearly defined and users should feel comfortable that they will not be changed without good cause**

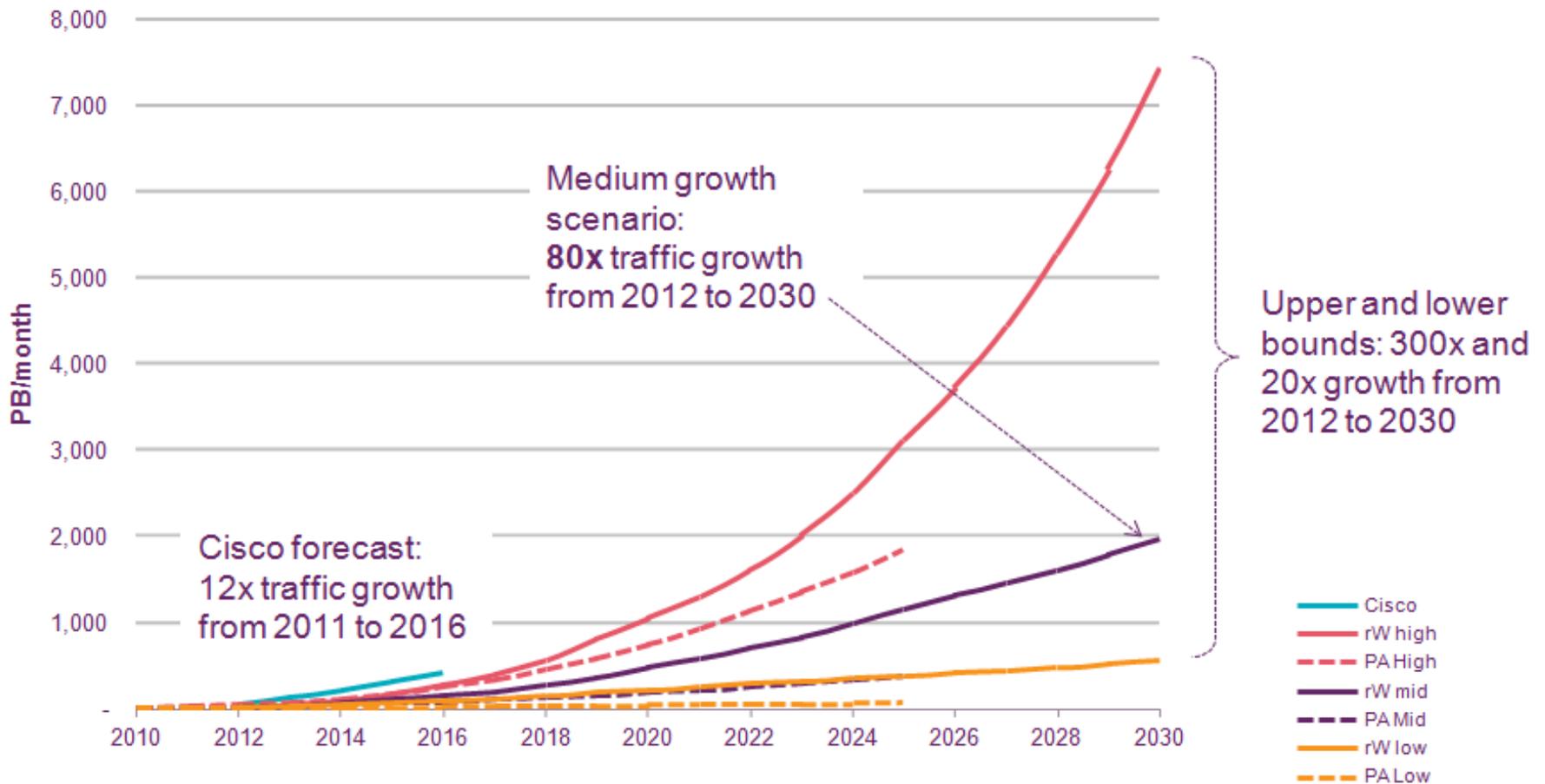


Spectrum Framework Review, June 2005

Promoting optimal use of the radio spectrum

- Trading
 - Extended widely
 - Auctioned licences
- Liberalisation
 - Extended widely
 - Auctioned licences
 - Licence exemption
- Auctions
 - GSM/DECT guard bands
 - 412-414/422-424 MHz
 - 1785-1805 MHz (Northern Ireland)
 - 10-40 GHz
 - L-Band (1452-1492 MHz)
 - 800 MHz and 2.6 GHz
- Pricing
 - Promotes efficient use of spectrum
 - Extending more widely
 - Public sector use of spectrum
- Security of tenure
 - Most auctioned licences of indefinite duration
 - Rolling notice periods
 - EC decisions
- Information
 - Spectrum inventories
 - Trading regulations

Mobile data growth forecasts



Source: Real Wireless

... and other sectors aren't far behind...

- Emergency services pushing for new spectrum allocations
- Broadcasters want to deploy more and enhanced services (HD etc)
- Wireless cameras and wireless microphones
- Massive growth predicted in M2M communications and RFIDs
- WiFi and spectrum for licence exempt devices
- Transport and satellite communications
- Space and scientific applications
- Energy sector (including smart grids and smart meters)
- and others.....

We need to be smarter about how we use spectrum

- Regulators must promote optimal use of spectrum
 - Unnecessary regulation must not stand in the way of new technologies or services
 - Spectrum users need flexibility to respond to changing consumer and business needs
 - Take opportunities to make more extensive use of higher frequencies
- Spectrum sharing offers opportunities to use spectrum more efficiently
 - Need incentives to encourage spectrum users to look for sharing opportunities
 - Emerging technologies, such as geolocation databases, offer opportunities for more dynamic spectrum sharing
 - Spectrum sharing opportunities can apply in both public and private sectors
 - Dedicated spectrum increasingly difficult [and costly] to find (esp at lower frequencies)
- International processes should not further slow down the release of new spectrum
 - Europe should seek to play a leading role at WRC-15
 - Opportunities for more rapid access to spectrum (eg sharing) should be explored

But it isn't just about spectrum

- More spectrum alone cannot accommodate the increases demand for data that are being predicted
 - New technologies also need to drive more efficient use of spectrum (eg LTE)
 - Advances in network topology can help to accommodate increased demand (eg small cells)
 - expansion in low power, localised use may provide more opportunities for spectrum re-use (in more densely populated areas)
 - balance between licensed and license-exempt access to spectrum
- Interference management likely to require a growing focus on radio equipment performance
 - Poor quality receivers (eg in neighbouring bands) should not stand in the way of deployment of new services
 - Review of R&TTE Directive could be a significant opportunity within Europe

Thank you!