33rd EPRA Meeting:
Industry view on EU spectrum policy & RSPP

Andy Hudson

Head of Spectrum Policy

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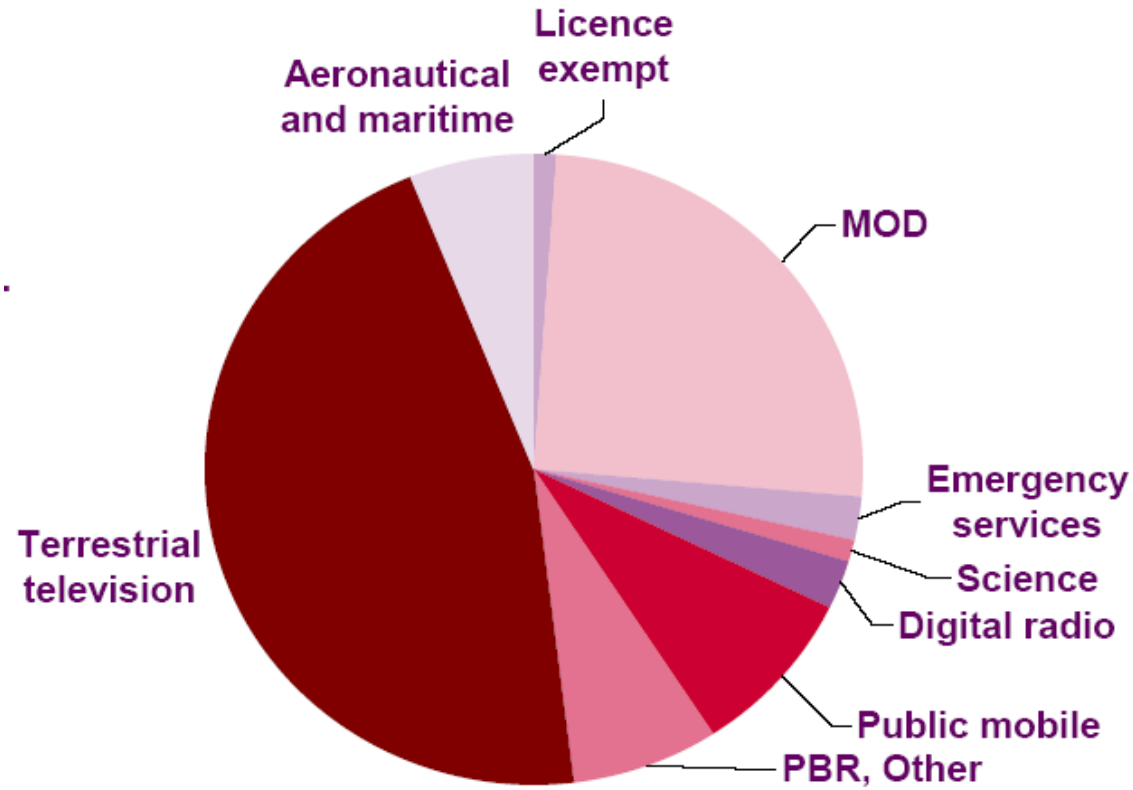
Contents

- What is the problem we are trying to solve?
- Does the RSPP help us to do that?
- Will it continue to do so in the future?

How to make the most efficient use of a scarce resource: UK allocation, pre Digital Dividend



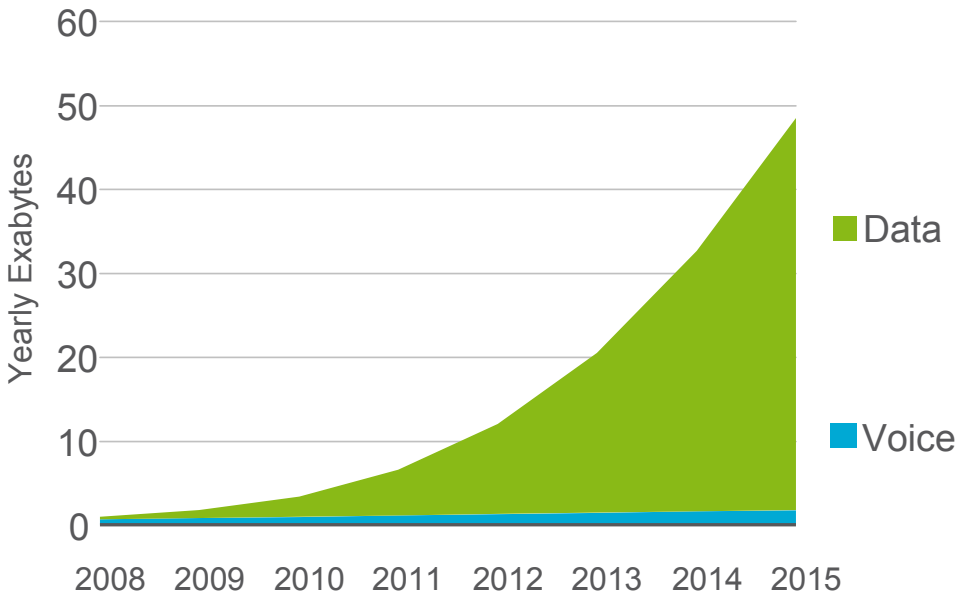
Spectrum in 200MHz-1GHz band - current uses in UK

Some considerations:

Competing demands
Interference
Efficient use
Alternatives
'Fairness'
Revenue generation
Overall benefit to society
Harmonisation
Predictability
Pricing / AIP

Demand for mobile data continues to increase rapidly, while policy objectives are clear:

Mobile traffic forecast



Source: Ericsson

Policy objectives

- Improving the availability and penetration of modern communications services as an enabler for economic growth
- Create the conditions to support investment and the creation of viable competition
- Broadband may be delivered by a combination of fixed and mobile technologies

By 2015, networks will need to support over 700% more traffic than they do today
Source GSMA, ABI research: Feature Phone / Smartphone / iPhone / Laptop (1:50:400:1250)

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The ‘digital dividend’ provides wide area coverage

Since securing 800MHz spectrum in May 2010 Vodafone have delivered broadband to around 1000 rural communities with 165,000 households

We expect the ‘white spaces’ with no broadband coverage to disappear by the end of 2011

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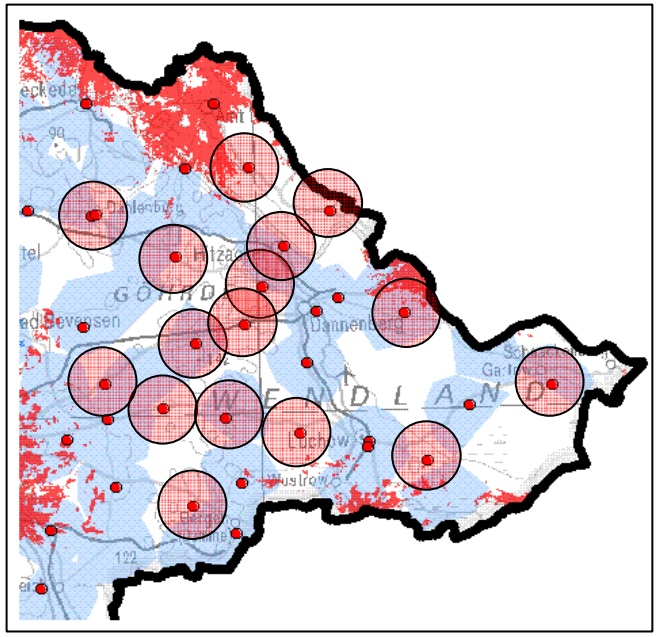
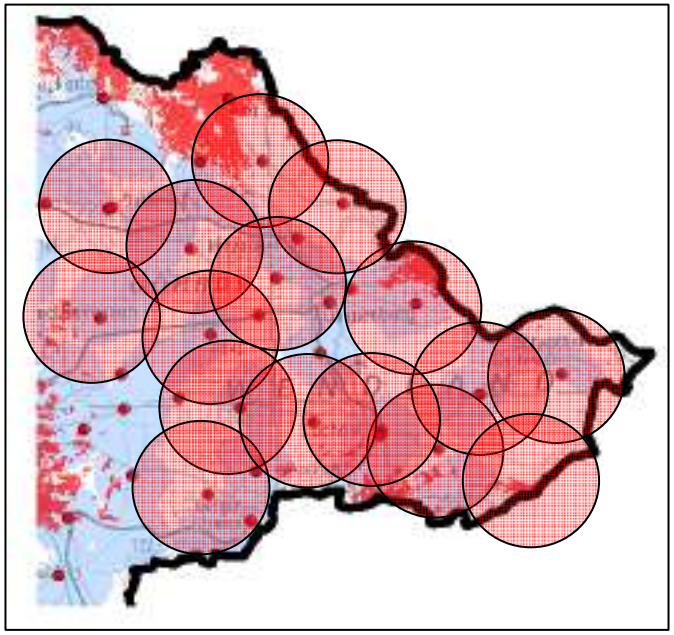


LTE at 2.6GHz

Using the 800MHz frequency band means that the radio signal can be received further from the base station that would be using 2.6GHz



LTE at 800MHz

Deploying LTE technology at 800MHz, on the existing radio network grid, provides effective coverage of the rural areas.

US National Broadband Plan: we need a similar level of ambition

"The United States should lead the world in mobile innovation, with the fastest and most extensive wireless networks of any nation…. Spectrum policy must be a key pillar of U.S. economic policy"

(Connecting America: The National Broadband Plan, March 2010)

- Mobile technologies have become a key economic input that will continue to grow in importance, what the American's call 'critical public infrastructure' that enables innovation and growth in many parts of the economy
- It intends to find another 500 MHz of spectrum for mobile services over the next decade, with detailed plans outlined for the release of 300MHz within the next 5 years
- Competition is not national or even European, but Global (US, India, China etc.)

Mobile industry (GSMA) position on RSPP:

- *The EU is right to consider all types of spectrum usage in the RSPP*
- *The EU should move forward as quickly as possible to reap the benefits of opening up part of the digital dividend spectrum to mobile broadband, thereby boosting the Digital Agenda for Europe and EU 2020 initiatives*
- *The EU should act now to ensure that there continues to be sufficient spectrum for wireless communications services for the long term*
- *The EU should ensure that key spectrum assets become tradable in all member states*
- *The EU should ensure that there is a clear approach to the harmonisation*
- *The EU should ensure that regulations remain service and technology neutral*

Remaining issues:

- There are unsurprisingly differences across the industry on some competition issues
- We believe it is important to clarify what new powers, if any, will be included and what that means for regulators and operators

So a good start, and we would like to know what happens after this RSPP …..

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Next steps…

1. Enable refarming ***(cannot keep finding new spectrum)***	• Use existing 900/1800 spectrum more efficiently • Remove local barriers to implementation • Other efficiency gains: femtocells, data offload etc.
2. Release new spectrum ***(progress, but need to follow through)***	• Early auctions for digital dividend and 2.6GHz • Progress in many countries is slow • Rapid adoption of RSPP • Pragmatic approach to interference concerns • Use of other bands, e.g. 3.4-3.8GHz
3. Assess future demand ***(quantity & type of spectrum)***	• Monitor existing use and emerging needs • Spectrum allocated in 2016 not available until 2020 • Where is capacity needed (high or low frequency)