



Australian Government

Department of Broadband, Communications
and the Digital Economy

RadComms 08: Government Developments – Spectrum Policy Issues

Government Developments – Spectrum Policy Issues

Keith Besgrove

First Assistant Secretary

Telecommunications, Network Regulation & Australia Post
Division

Department of Broadband, Communications & the Digital
Economy



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Pressures:

Spectrum demand being driven by

- Digital innovation
- Technological advances
- Convergence
- Demand for mobility, always on/interconnected
- Internet revolution

Exposing limitations of current spectrum
policy & management framework



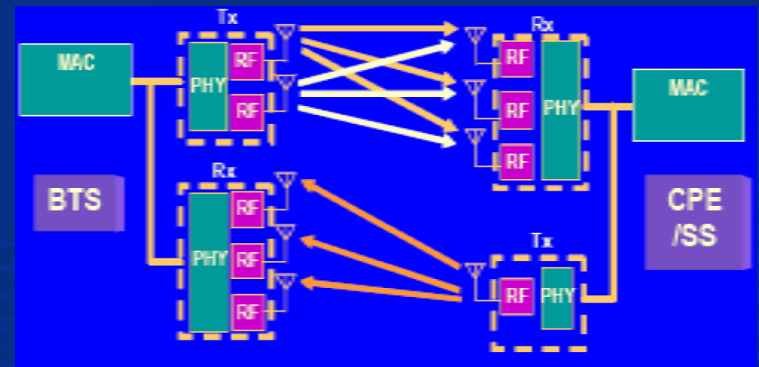
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Example – CSIRO

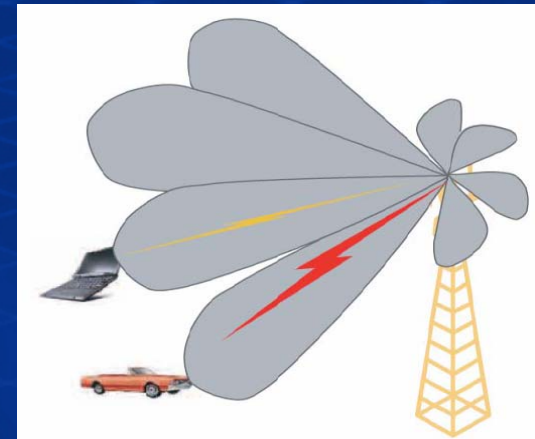
- Attempting to overcome limitations as wireless technologies require more spectrum e.g. innovative antenna design:

Multiple Input Multiple Output (MIMO)

- Improved reliability/coverage
- Transmit & receive diversity
- Beam Shaping
- Space Division Multiple Access
- “Space” is shared between users
- Increases number of users
- Increases datarate per user



Beam Shaping





Basic Policy approaches

Command & Control

- Comprehensive technical specifications and licence conditions
- Highly prescriptive
- Requires detailed regulatory oversight
- Designed to minimise harmful interference

Market Mechanisms

- Encourage flexibility and liberalisation
- Aim for technology and service neutrality
- Price signals to promote efficiency and determine most valued use of spectrum



United Kingdom

- Ofcom actively using market mechanisms and encourages liberalisation
 - e.g. 2010-2025MHz and 2500-2690MHz bands to be auctioned in 2008
- Administrative incentive prices to reflect opportunity cost
- Moving to allow Government Agencies to share, trade or release spectrum holdings
- Has released a significant proportion of their Digital Dividend to be reallocated and auctioned on a technology and service neutral basis



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USA

- President Bush's Spectrum Policy Initiative 2003
- Transitioning towards market mechanisms
 - e.g. 700MHz auctions in January 2008
- Encouraging new and innovative technologies and use of spectrum
- Economic and other incentives to promote more efficient spectrum use
- Working to facilitate sharing among federal users and between federal and non-federal users



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European Union

- European Commission's 2007 Telecoms Reform package:
 - Promote principles of technology and service neutrality
 - Ensure spectrum is not under-used and is opened up for new services
 - Encourage secondary trading
 - Support secondary trading
 - Strengthen single market for wireless products



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Future Work

- Digital Dividend:
 - Complete switchover to digital TV by Dec 2013
 - How to realise the digital dividend – eg:
 - how much spectrum required/freed up
 - spectrum planning options
 - economic implications
- Expiry of 15 year Spectrum Licences 2013-2017:
 - No established policy approach to re-issue
 - In initial stages of collating information to develop a strategic approach - eg:
 - technical/economic implications of re-issue
 - potential alternative uses
 - sale process options



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- Future work will include extensive stakeholder consultation to inform decisions
- Desirable that policy and legislative framework is light touch
- Balance a range of stakeholder interests and objectives
- Increased consistency and transparency of future spectrum decisions for consumers and industry