

# The Hong Kong Market for Mobile Broadband – Ensuring Uptake and Competition

Gracie Foo

Deputy Director-General

Office of the Telecommunications Authority

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# Regulatory Policy and Principles



# Regulatory Principles

- Encourage competition to promote consumer interest
- Market driven, regulatory to be scaled back when market effective
- Technology neutrality
- 100% privately owned
- No foreign ownership restrictions

# Telecommunications Ordinance (1)

The Telecommunications Ordinance (Cap. 106) empowers the Telecommunications Authority (TA) to

- Issue telecom licences
- Assign frequency and telecom number
- Prohibit anti-competitive practices
- Determine the terms and conditions for network interconnection

## Telecommunications Ordinance (2)

To ensure TA exercise its power under Cap.106 fairly, TA may:

- Consult the industry and public before performing any function or exercising any power under Cap. 106
- Issue guidelines for providing practical guidance

TA's power is subject to judicial review. His powers on competition provisions are subject to appeal by a statutory Appeal Board

# Market Liberalisation

- Progressive liberalisation since 1995; full liberalisation in 2003
- No limit on licence number, except that entry to the mobile market is subject to spectrum constraint
- Market force decide number of licence, price, technology, service quality, ...
- Investment market driven - incumbent and new entrant decide on their scale of infrastructure and investment

# Mobile and Broadband Market



# Facilitating Mobile Broadband Development

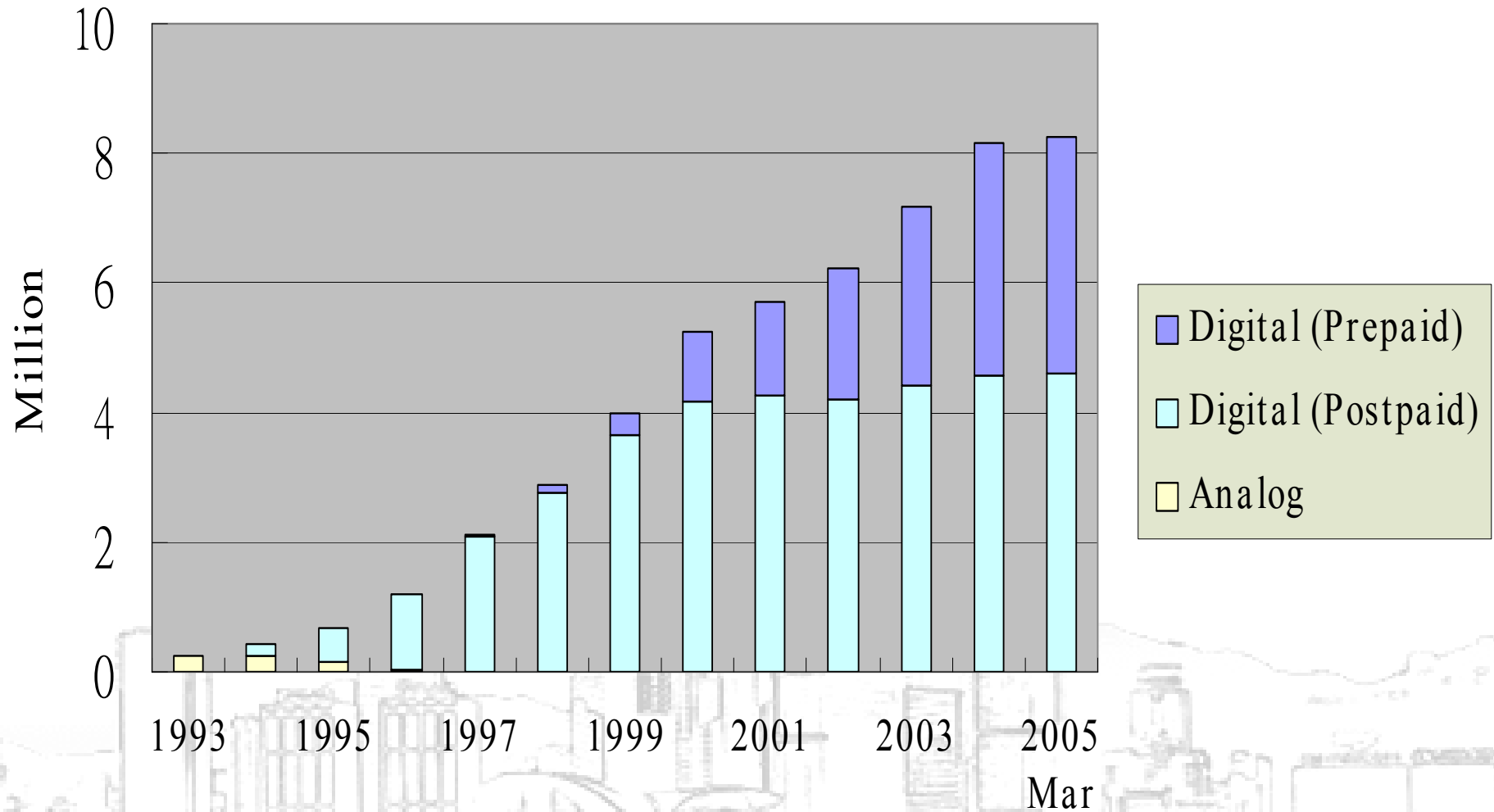
- Pro-competition regulatory policy drives broadband prices down to affordable level
- Technological development and high population density give extra push



## Mobile Market

- Mobile penetration around 120% of population; 58% are post-paid
- Six operators offering 2G services – all upgraded with GPRS or EDGE
- Three 3G operators launched services in 2004/05; the fourth 3G operator is expected to launch service shortly

# Mobile Market Growth



# Broadband Market

- Fixed broadband penetration exceeds 60% of households, using various technologies including DSL, cable modem, FTTB, FTTH and powerline carrier
- Five active fixed carriers, four of them offering triple play services. New bundles with mobile services are envisaged
- Mobile broadband through Wi-Fi, GSM (with GPRS or EDGE enhancement), and WCDMA

# Spectrum Policy – Recent Experience



# Spectrum Assignment

- Spectrum is fundamental resource of mobile broadband, and bandwidth dictates throughput
- Spectrum assignments in earlier days all based on beauty contest
- Auction for spectrum assignment first adopted in 2001 for 3G licences
- 2G licensees will pay spectrum utilisation fee upon licence renewal in 2004/05. The method to allocate extra spare spectrum to 2G incumbents is being finalised

# Spectrum Auction (1)

- Value spectrum as a scarce and valuable public resource
- Promote efficient use of the resource – spectrum to be allocated to bidders with the best business case
- Conduct through an open and transparent process

## Spectrum Auction (2)

- Auction design should be subject to the objectives of the exercise:
  - sealed bid vs multiple round vs “dark room auction”
  - royalty vs upfront lump sum vs deferred cash
- Maximising return to the government’s coffers should not be our primary objective

# Spectrum Policy – Future Challenges



# Broadband Wireless Access

- BWA is a subject of consultation with the industry since end 2004
- Second consultation on the proposed licensing framework and allocation method to be conducted shortly

# BWA – Technology Neutral

- No specification of Frequency Division Duplex or Time Division Duplex in the spectrum allocated for BWA, for flexible deployment by network operators
- Let network operators holding the BWA spectrum decide the technology to be adopted, so long as it meets the stipulated band plan and emission limit

## BWA – Market Driven (I)

Let the market decide spectrum assignment to those bidders with the best business case through an auction process



## BWA – Market Driven (II)

- BWA may serve as alternative access for last mile
- Competitive network operators may deploy it
  - As a new customer access solution; or
  - For replacing existing unbundled local loop before full withdrawal of its mandatory status by 2008
- Inclination towards defining a clear timeframe for future use of BWA for mobile service – the proposal in the first consultation is to leave it open and subject to future approval with extra spectrum utilisation fee payment

## BWA – Spectrum Allocation

- Spectrum proposed in 3.4 – 3.6 GHz band. Allocation on a primary basis
- BWA is envisaged as a realisation of fixed-mobile convergence – more licensing and regulatory issues to be decided to provide a forward-looking environment for market development
- The Government aims to facilitate the introduction of BWA service to the local market in 2006, subject to the industry demand and market need

# Spectrum Policy Review (1)

- Technology development requires support of radio spectrum
- Traditional spectrum management mechanism may not be effective to cope with the development
- Review aims to formulate a responsive and transparent spectrum policy

## Spectrum Policy Review (2)

To study the use of economic mechanisms in spectrum management

- Costs and benefits
- Spectrum auctioning and administratively determined prices
- Spectrum trading
- Spectrum liberalisation



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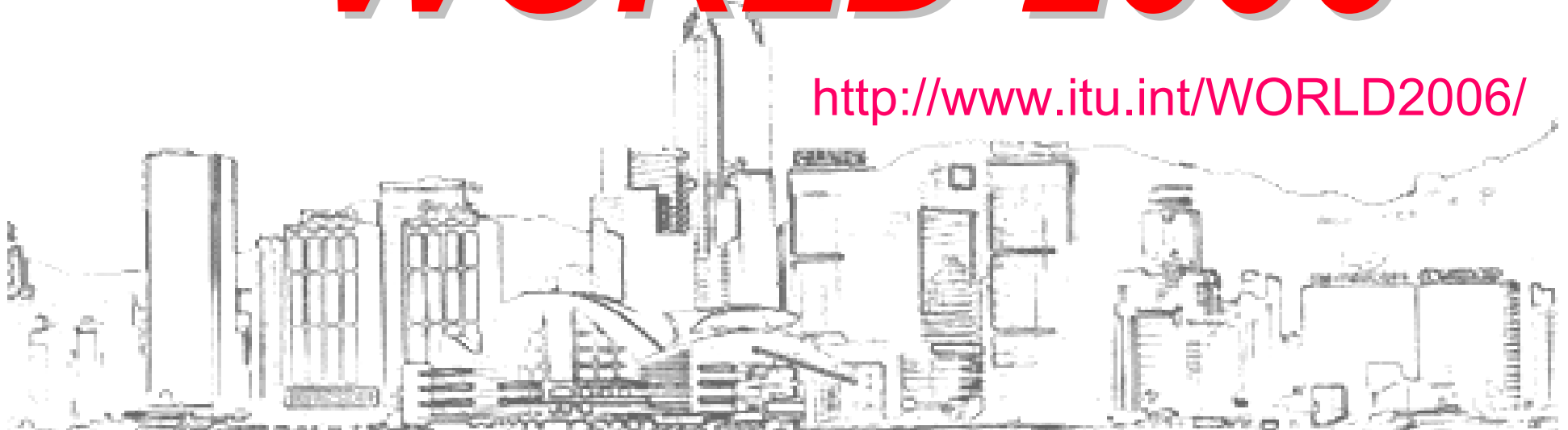
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# Thank You



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