# Broadband as enabler of the information society

## Workshop on regulatory policies on universal access to broadband
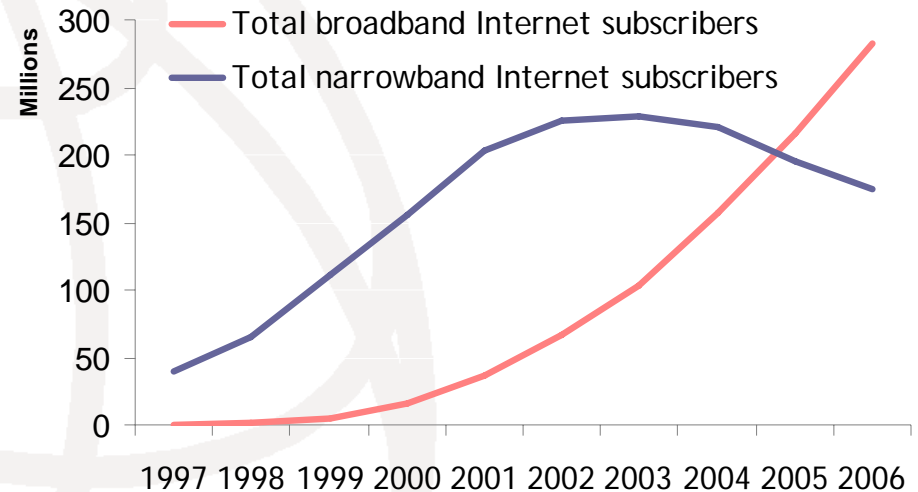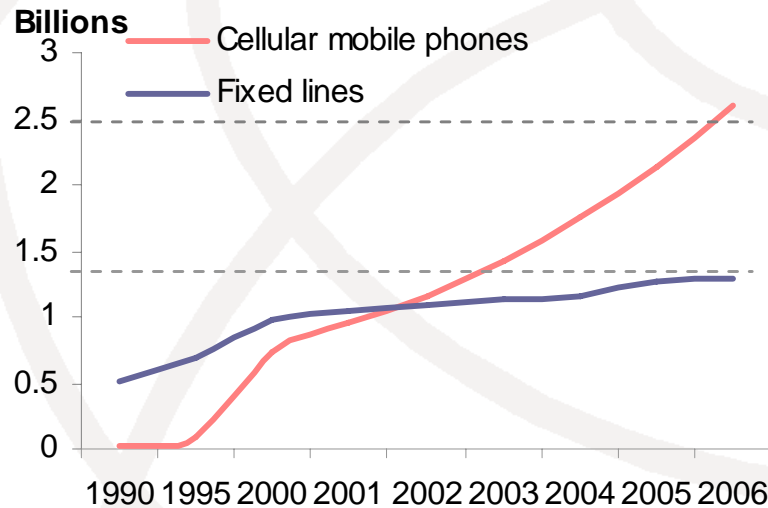### *Geneva, Switzerland*
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# Agenda

- Why universal access to broadband?

- Regulatory incentives to promote broadband & enable universal access

- Mini case-studies

# Mobile & broadband



**2002**: Mobile overtook fixed

**2005**: Broadband overtook narrowband

**Source: ITU World Telecommunication Indicators Database**

# Broadband & Universal Access

- Wired and wireless services become complementary but also substitutable.

- Developing countries might "leapfrog" capitalizing on wireless technologies to rapidly deploy cost-effective infrastructure nationwide.

- Broadband networks (both wireless or fixed) are likely to be the key to the sustained growth in Internet subscribers.

- Although broadband has not been included as part of national USOs, an increasing number of countries have made broadband service providers subject to compulsory contributions to funds promoting UA & US (USFs).

# Regulatory incentives to promote broadband

**First wave of regulatory reform**

- Market liberalization -- competition drives investment
- Need to develop/enforce pro-competition regulations
- Support entry by all interested parties and technologies
- Wireless access technologies likely to play a key role
- More flexible licensing practices, e.g. unified licenses/general authorizations; or "strings"
- Innovative spectrum management practices
- Subsidies: grants for community planning efforts, subsidized or low-interest loans
- Ensure affordability of services
- Harmonize international and regional practices and standards and transpose them into national legislation

# Regulatory incentives to promote broadband

## Second wave of regulatory reform

- Encourage deployment of a full-range of broadband access technologies (from FTTx to WiMax)

  - ➤ Optimize spectrum management
  - ➤ Encourage build-out of backbone networks
  - ➤ Unbundle core and access networks
  - ➤ Infrastructure sharing/open access to promote fibre backbones
  - ➤ Stimulate competition among various technologies
  - ➤ Support small-scale deployment in rural areas
  - ➤ Tax incentives
  - ➤ Creating national and regional IXPs, as well as VoIP peering exchanges, to keep the local Internet traffic local

- Design and implement a flexible, non-discriminatory, technology-neutral and service-neutral regulatory framework to create incentives for large and small operators.

# GSR 2004 Best Practice Guidelines on Promotion of Low Cost Broadband

**We encourage regulators to:**

- set policies to **stimulate competition among various technologies** and industry segments that will lead to the development and deployment of broadband capacity.  This includes addressing barriers or bottlenecks that may exist with regard to access to essential facilities on a non-discriminatory basis.

- allocate adequate spectrum to facilitate the use of modern, cost effective broadband radiocommunications technologies.  We further encourage **innovative approaches to managing the spectrum resource** such as the ability to share spectrum or allocating on a license-exempt non-interference basis.

» **GSR 2004 Best Practice Guidelines on Promotion of Low-Cost Broadband**

The promotion of access to low cost broadband interconnectivity should be integrated from "grass-roots" efforts to identify local needs all the way through to the "tree tops" of international law.  Governments, businesses and non-governmental organizations should be involved.

**www.itu.int/ITU-D/treg/bestpractices.htm**

# Technology-neutral UA in Malaysia

Universal Service Programme implemented by MCMC

- Universal service providers are selected via a tender process: interested parties submit bids based on specifications laid out by the regulator

- Great degree of flexibility in terms of technology used by the bidders.

- As a result, different solutions ranging from the provision of mobile satellite phones to the deployment of CDMA wireless local loop networks were employed in different locations.

- This large flexibility given to the industry has been seen as a key contributor to the rapid pace of implementation of the Malaysian Universal Service Programme.

**Source: ITU (2004) "Building Digital Bridges: The Case of Malaysia"**

# Ireland BWA Case Study – Contribution to GSR Best Practice Guidelines

*Challenges*

- How to enable BWA in rural and underserved areas using fixed microwave systems
- Finding economic incentives for encouraging BWA deployment

*Pragmatic Solutions*

- Change fixed microwave licenses to 15 km radius with 30 km outer limit for interference purposes; designed to reduce build-out obligations from national scope to manageable and economically viable market sizes suitable for small players
- Allow multiple licensees to operate fixed microwave systems through the use of license registration and interference coordination process
- 5.8 GHz band license exempt band allocated with higher power limit to increase range and coverage;
- Permit use of point-to-point wireless systems to make more backhaul available for wireless ISP services



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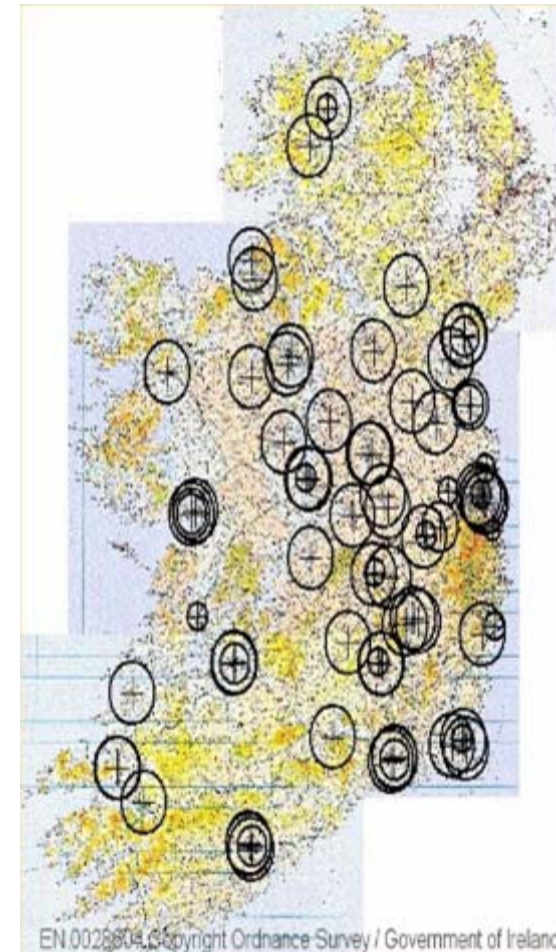
# Grassroots Wi-Fi in Spain (FON)

- Spanish start-up FON is giving away Wi-Fi routers with software allowing broadband subscribers to share their Internet connections with Wi-Fi users throughout their communities over a secure connection

- Registered users become part of the FON community able to access for free any FON hot spot in the world

- Non-FON members can also access the network, but they must pay USD1 or USD2 for 24 hours of access

- In 2007 there were about 112 000 registered La Fonera and FON-enabled routers

- Some issues remain:
  - ISPs consider the concept a violation of their customer contracts
  - Interference in high-density areas

**Source: ITU Trends in Telecommunication Reform 2007: The Road to NGNs**

# Thank you!

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