

***International Wireless Broadband: A Comparative  
Analysis of Wireless Broadband Penetration and  
Adoption in the US and Around the World***

**Panel Session Talking Points by:**

**Keith Mallinson  
Founder, WiseHarbor**

*Solving business problems  
in wireless and mobile communications*

# Lessons Learned in 2G (Voice and Text)

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- **Carrier competition significantly lowered prices and accelerated adoption versus mostly 1G monopolies**
- **Greatly reduced prices and rapid subscriber adoption have resulted at all national income levels with**
  - ***Dirigiste*** technology licensing
    - in Europe with GSM only
    - in Korea with CDMA only
  - ***Laissez-faire*** technology licensing
    - In US, Canada and Latin America with TDMA, CDMA and GSM
    - In Japan with PHS, PDC and CDMA
    - in China and India with GSM and CDMA
- **Wireless is displacing wireline worldwide because it**
  - Is cheaper
  - Can be deployed more rapidly
  - Provides comparable quality in most places most of the time
  - Includes text and other services
  - Provides mobility



# Lessons Learned in 3G (Voice and Data)

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- **3G impeded in first 5 years until 2008**
  - Huge spectrum fees taken from sector (eg, \$150 bn in Europe)
  - Costly devices due to relatively low demand versus 2G
  - Insufficient network deployment
  - Achieved data speeds too slow (e.g., <<384 kbps with WCDMA Rel 99)
  - Insufficient and poorly performing mobile internet services
  - Inadequate battery performance
- **Data traffic growth exploded from 2008 (20-50x) with data cards, dongles, smart phones and in 3Q 2008**
  - 105 million EV-DO subscribers
  - 83 million HSPA subscribers
- **Late market entrants facing several competitors most aggressive with low-priced services**
  - 5<sup>th</sup> national licensee 3UK
  - Leap and MetroPCS in US
- **Government meddling is harmful**
  - Protracted 3G technology selection in China
  - Protracted and complex 3G spectrum licensing in India



# Outlook, Observations and Recommendations for Wireless Broadband

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- **Full mobility services will command premium prices over fixed or limited mobility services including WiFi and WiMAX**
- **Full mobility services (including WiMAX) require backward compatibility with existing 2G/3G networks for coverage**
- **Allocating spectrum on the basis of particular standards simply reduces spectrum value and licensing proceeds**
- **Economies of scale will favor full mobility wireless broadband technologies for fixed as well as mobile use, as with 2G voice**
- **Wireless will extend broadband reach beyond that of wireline**
- **Economics and government**
  - **GDP growth** correlates well with phone and broadband penetration
  - Differential pricing (by service level) should be allowed because it will maximize investment and ultimately ensure most widespread availability
  - Rather than governments taking auction and ownership fees with one hand and giving back (less) in subsidies with the other...
  - **Don't soak cellular:** Allocate spectrum at modest prices to carriers that commit broadband investment/access to most people and places
  - **Shovel-ready stimulus:** tax savings get spent more quickly and efficiently than grants





[www.wiseharbor.com](http://www.wiseharbor.com)

**Keith Mallinson**  
**Founder**  
**WiseHarbor**

Phone: +1 617 418 3977

Fax: +1 617 848 3796

[kmallinson@wiseharbor.com](mailto:kmallinson@wiseharbor.com)

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