

# IMT-2000의 기술발전전략에 관한 연구

IMT-2000 Technology Strategy

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# *IMT-2000 Technology Strategy*

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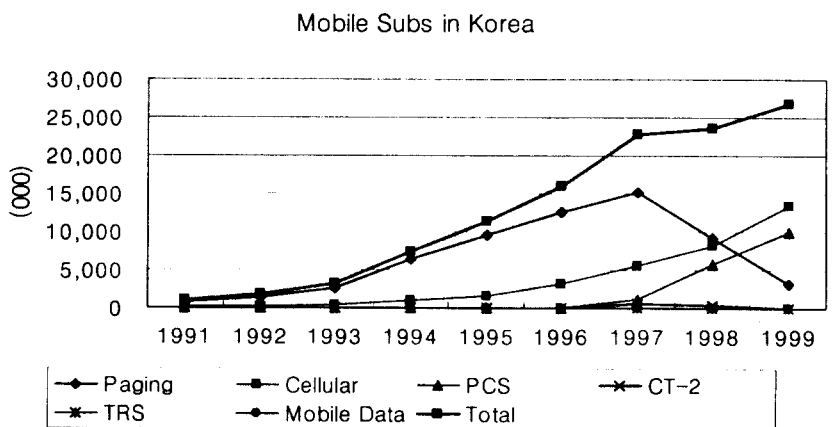
## 1. Mobile Communication Markets

- Mobile Services : Cellular, PCS, Paging, Mobile Data, TRS, CT-2, GMPCS
- Carriers
  - Cellular : 2 nationwide
  - PCS : 3 nationwide
  - Paging : 1 nationwide and 12 local carriers
  - Mobile Data : 3 nationwide
  - TRS : 2 nationwide and 9 local carriers



## 1. Mobile Communication Markets

- Mobile Subs in Korea



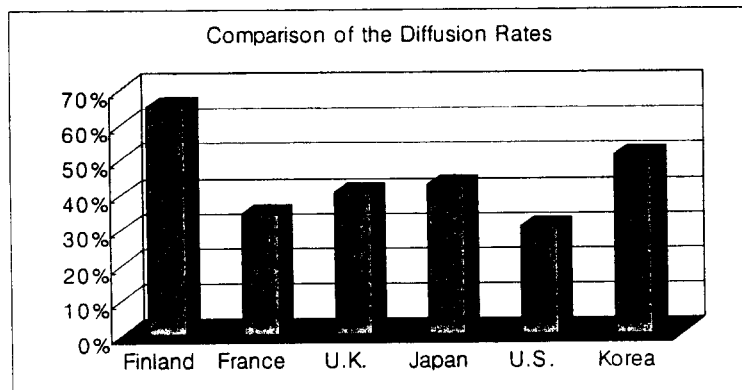
## 1. Mobile Communication Markets

### • Main Features of Mobile Comms. Markets

- High Diffusion ratios of 2G services
- Mobile Services overpass Wireline Services in Market size
- Dynamics
  - » Phase-out of Analogue AMPS and CT-2
  - » Rapid changes of handsets
  - » Growth of Internet Service Users

## 1. Mobile Communication Markets

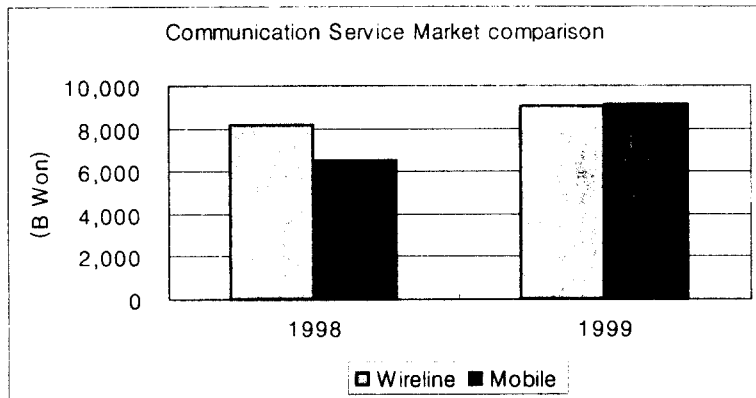
- High Diffusion ratios of 2G services



[end of 1999]

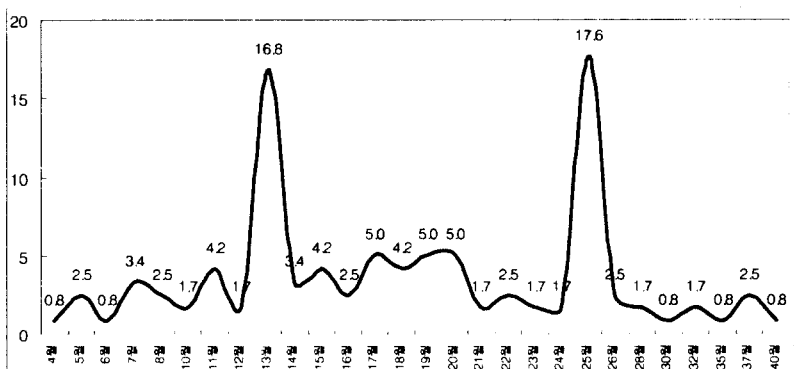
# 1. Mobile Communication Markets

- Mobile Services overpass Wireline Services in Market size



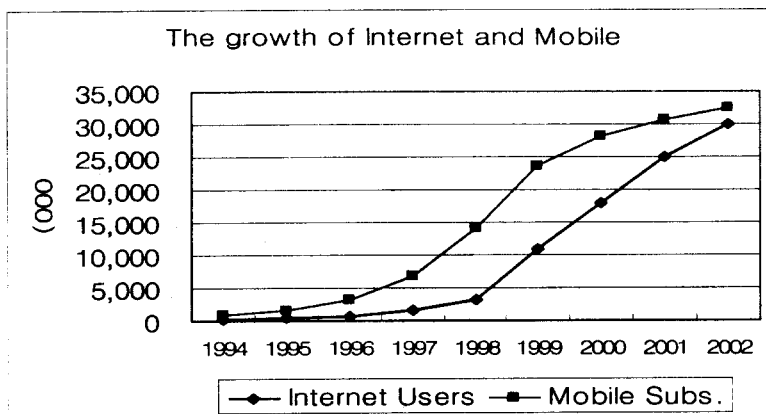
# 1. Mobile Communication Markets

- Dynamics 2 : Rapid Changes of Handsets



## 1. Mobile Communication Markets

- Dynamics 3 : Growth of Internet Service Users



## 2. Lessons from 2G Mobile Communications

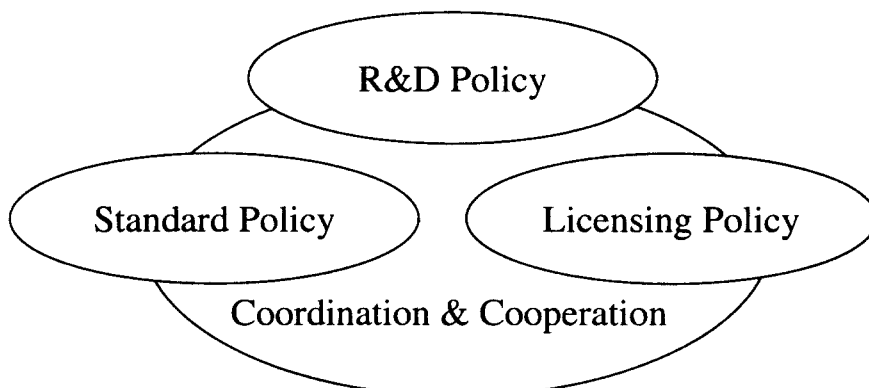
- 2G in Korea
  - R&D Policy : ETRI-Qualcomm Joint Development Project
    - Designated Manufacturer : Samsung Elec., LGIC, Hyundai Elec., Maxon
  - Standard : cdmaOne (single standard)
  - Spectrum :
    - Cellular : 824MHz~849MHz, 869MHz~894MHz
    - PCS : 1750MHz~1780MHz, 1840~1870MHz
  - Commercialization : CDMA - Worldwide First (1996)
  - Licensing : Evaluation of Proposal + R&D Donations

## ***2. Lessons from 2G Mobile Communications***

- Main Factors for the success of 2G
  - Technology Choice and Robust Drives for R&D
    - Product Oriented R&D
    - Stability of R&D institute and Management of R&D Project
    - Bridging Technological Gap between participators
  - Large domestic markets
    - Single standard Policy
    - Timely Licensing and Commercialization
  - Competitiveness of Korean Companies
    - Export, Investments from foreign companies

## ***2. Lessons from 2G Mobile Communications***

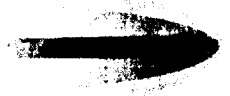
- For the success of IMT-2000



### ***3. IMT-2000 in Korea***

- **Basic Considerations**

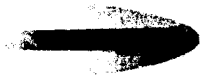
- Users
  - Low cost of services and handsets
  - Various application services
  - Backward compatibility
  - Global Roaming
- Common Carriers
  - Economies of Network Investment
    - » Utilization of present Network Facilities
  - Market Potentials
    - » New Subs or Churned Subs from 2G
  - Killer Application Services : Mobile Internet



### ***3. IMT-2000 in Korea***

- **Basic Considerations**

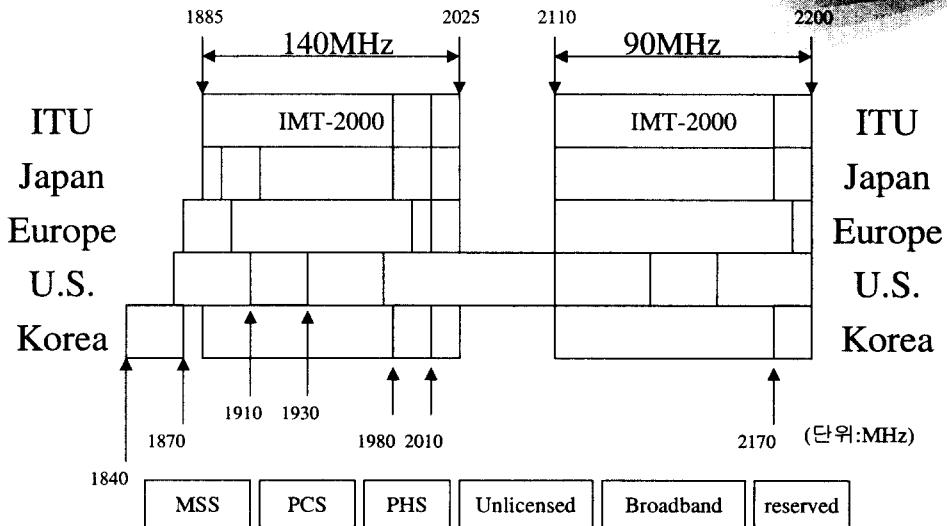
- Manufacturers
  - Overall R&D on core technology and early rollout of new products
    - » cdma2000, W-CDMA, GPRS, EDGE and cdma20001x+
  - To increase the M/S of domestic markets and try to export
  - IPR issues
- Government
  - Clear and Transparent Licensing
  - Enhancement of competitiveness of Korean companies
  - Standardization following the goal of Global Roaming
  - Protection and Promotion of the benefits of present users





### 3. *IMT-2000 in Korea*

- Status of related Policy : Spectrum




### 3. *IMT-2000 in Korea*


- Status of related Policy : Standard

- Standard of 2G : cdma + ANSI 41
- TTA (Telecommunication Technology Association) : Member of 3GPP and 3GPP2
- Multiple standards or single standard
- Several Workshops for the standardization during 1999
- Final decision will be released in 2000 2H.


### ***3. IMT-2000 in Korea***

- **Status of related Policy : Licensing** 
  - Spectrum Allocation
    - paired 15MHz + TDD 5MHz, Paired 20MHz and etc.
  - Service Area : nationwide
  - Number of IMT-2000 carriers : 3~4
  - Method of Licensing
    - Discussions on various methods
    - Proposal Evaluation method

### ***3. IMT-2000 in Korea***

- **Technology Strategy of main players** 
  - MC [cdma2000] technology
    - ETRI, Samsung, LGIC, Hyundai, and etc.
    - SKT, KT, and etc.
  - DS [W-CDMA] technology
    - ETRI, Samsung, LGIC, and etc.
    - SKT, KT, and etc.

## ***4. Conclusions***

- A lots of issues to be considered. A large, dark, hand-drawn style arrow points from the first bullet point towards the right side of the page.
- Consensus on the Goal of IMT-2000 policy
- Service, Equipment, Investment and etc.
- Users, Carriers, Manufacturers and etc.
- International Trends and Domestic constraints
- Clear Decision Making Process
- Timely Decision Making