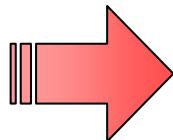


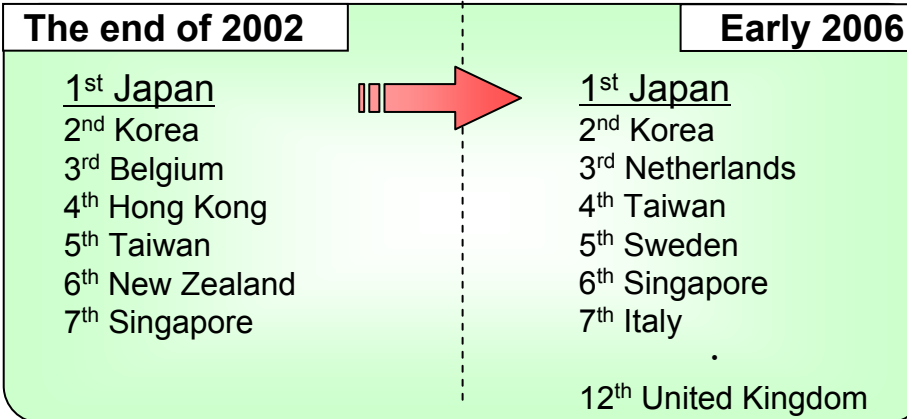
# “Frequency Open Policy” - journey to J a p a n in 011 -

H i r o k i S U M I D A , D i r e c  
t o r E u r o p e O f f i c e  
N a t i o n a l I n s t i t u t e o  
f I C T , J a p a n

## Comparison of the fixed Internet charge as of February 2000



## Broadband Charge



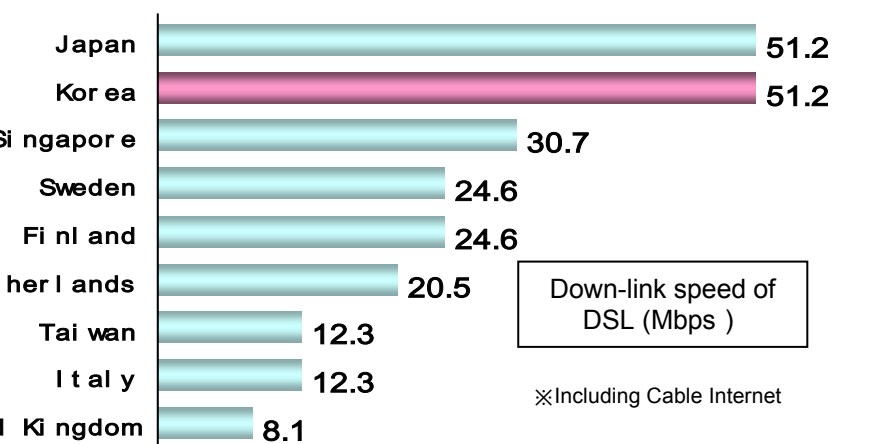
from "Survey of disparity between domestic and foreign prices concerning telecommunications services", TIC (Comparison of 6 cities)

※ The rates to be compared are converted to the rate per 100kbps from the data of offering speed and rate of DSL and Cable Internet in each country.

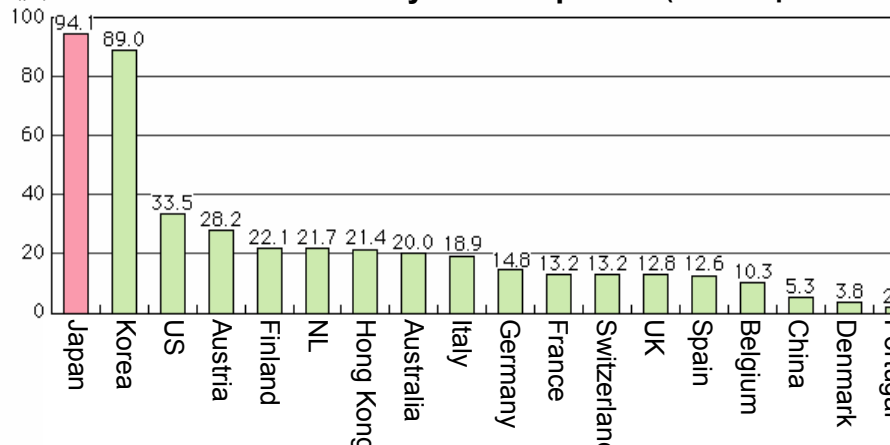
2002 : from survey of ITU, specialized agency of UN

2006 : from ITU, World Information Society Report 2006 ( July 2006)

## Broadband Speed (early 2006)



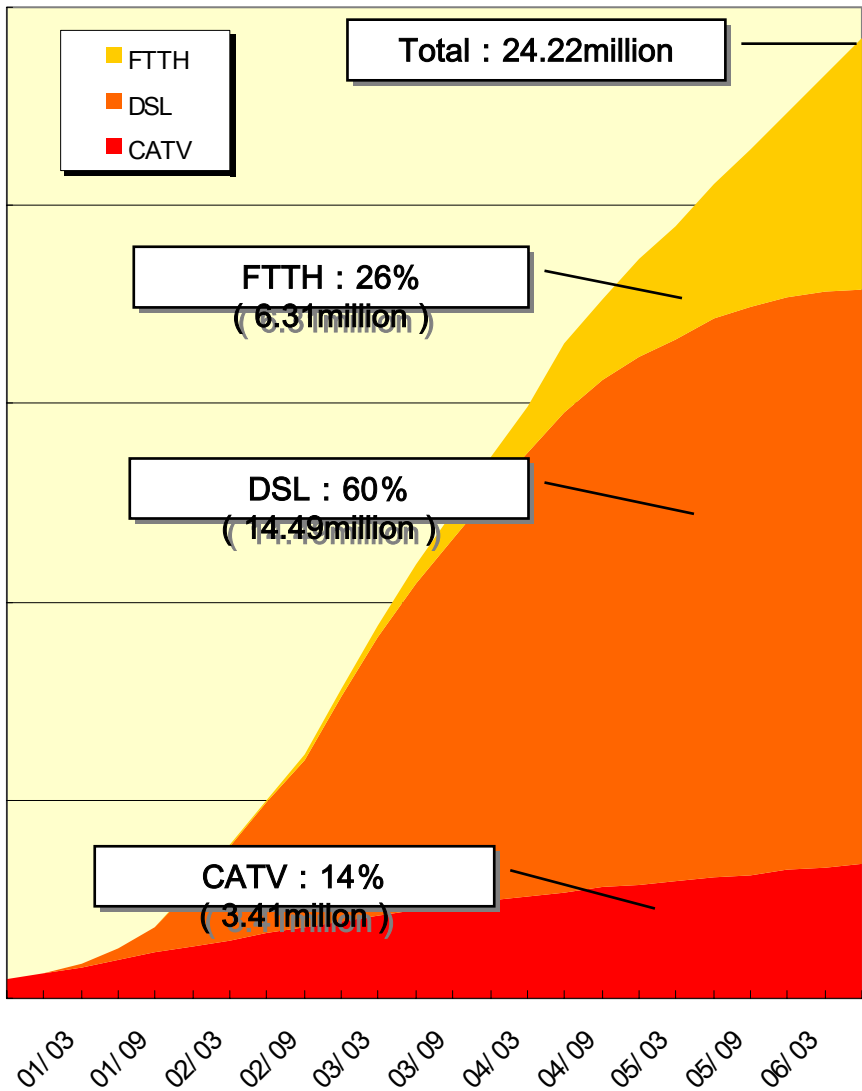
## The rate of Internet-ready cellular phone (as of September 2006)



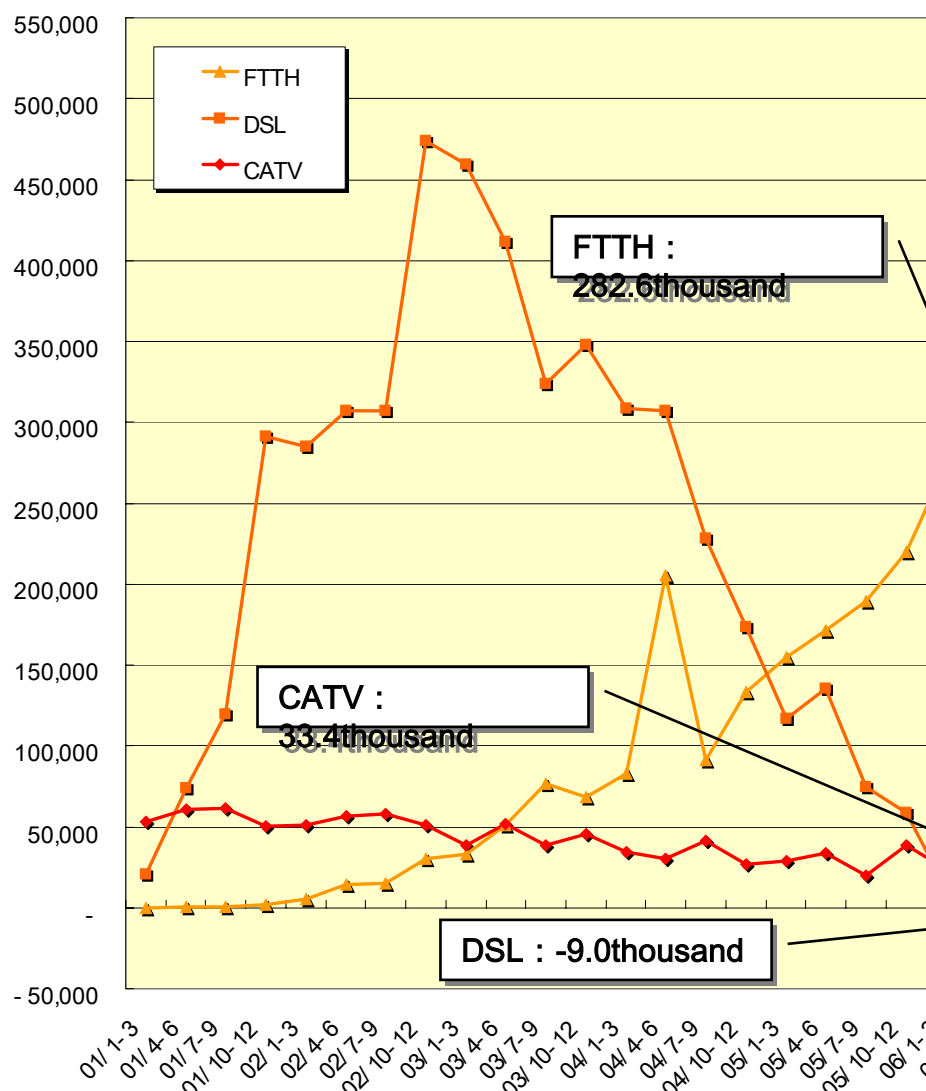
※ rate of mobile Internet subscribers within all cellular phone subscribers in dominant operators in each country

# Development of Broadband Network

## Broadband subscribers

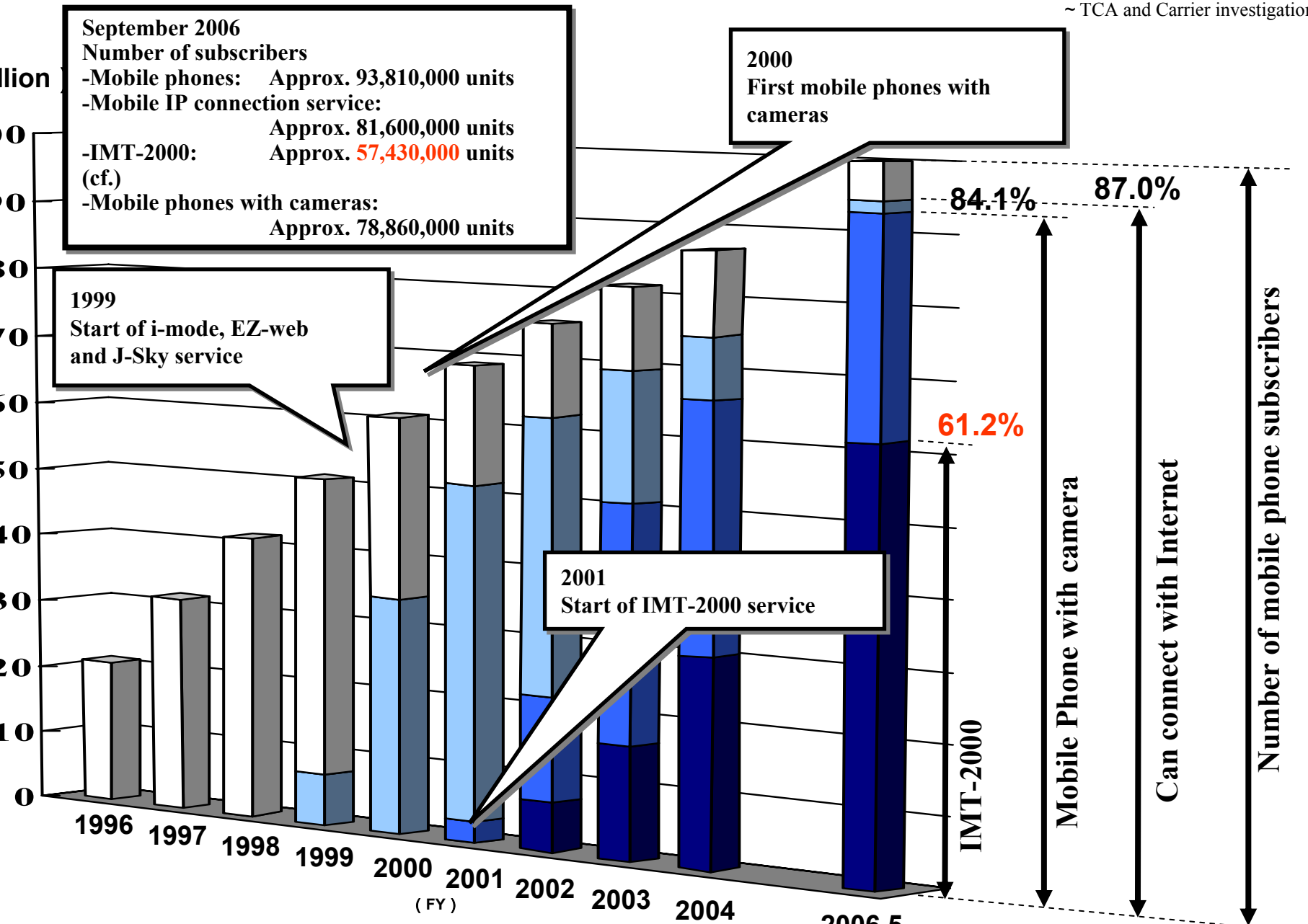


## Growth per month



# Changes in the number of mobile phone subscribers

~ TCA and Carrier investigation



# Scenario of Frequency Open Policy

< Wire >

< Wireless >

Telephone lines  
( ADSL etc. )

**Optical fiber**

6,3mil<2006/June>

+

Wireless Broadband

24,2million Broadband users(2006/June)

a lot of bottlenecks such as radio spectrum scarcity

1,8  
million<2004/June>

Mob 3 G subs : 1 9 mil<04/June> → 5 3 mil<06/June>

The world's most advanced wireless broadband environme

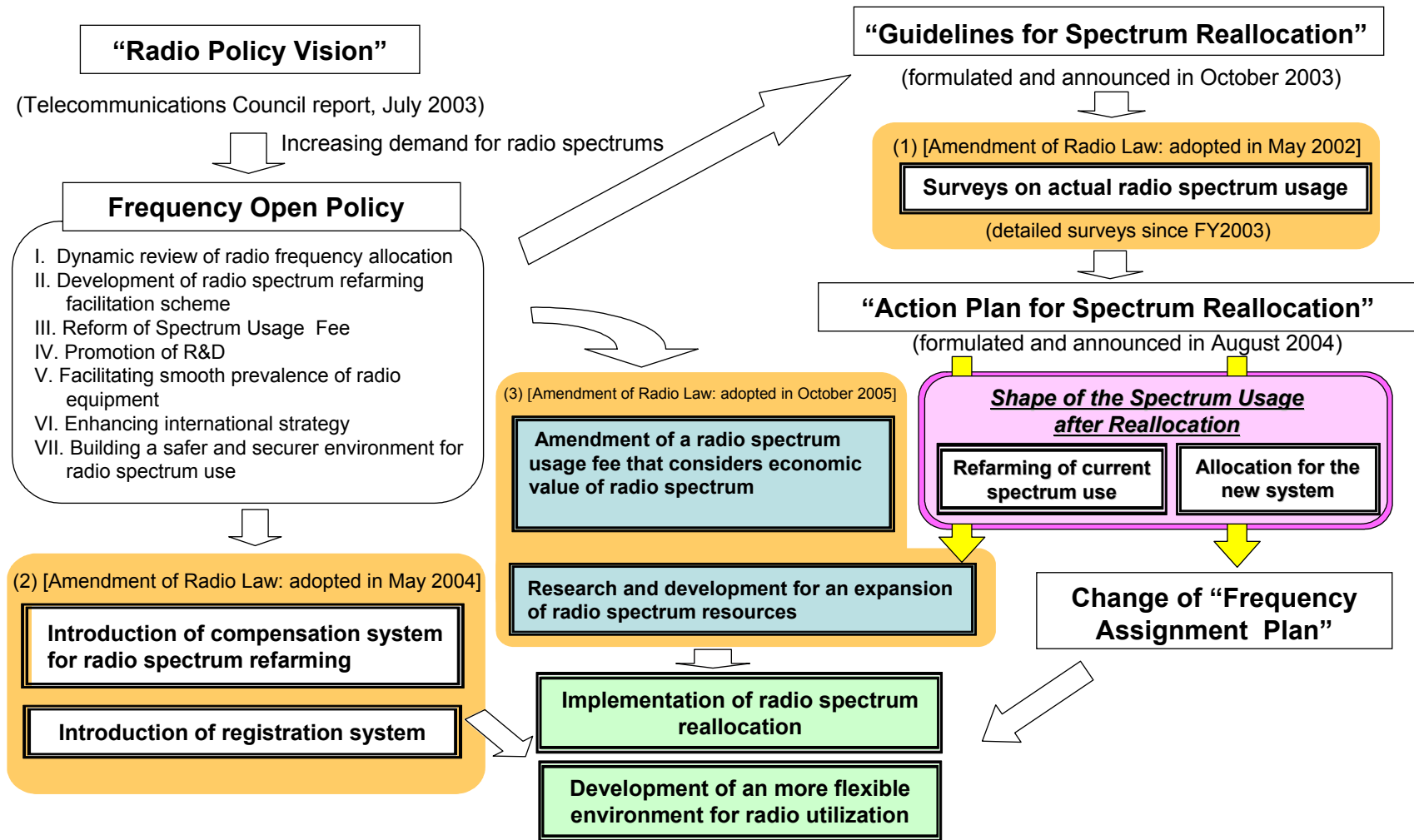
Broadband Convergence of Wire & Wireless

Creation of New Industries  
( Infrastructure & User industries )

Creation of Applications

Advent of the Ubiquitous Network Society

# Outline of Frequency Open Policy



In addition to cellular phones, various systems using radio, such as wireless LANs and RFID, have been developed and become widely used. However, because of the limitation and scarcity of radio spectrum, more strategic radio policy will be required.

In view of these circumstances, “Radio Policy Vision” (July 2003, Telecommunications Council) and “Guidelines for Spectrum Reallocation” (Oct. 2003, Ministry of Internal Affairs and Communications (MIC)) were formulated. In order to meet

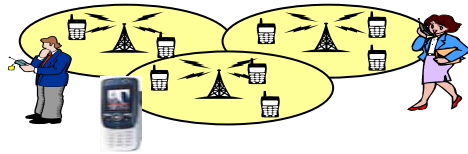
# Summary of New Systems and Proposed Frequency Bands

## Next-generation mobile radio communication systems, Mobile offices/homes

Radio communications that enable users to communicate wherever they are, without being tied to a fixed location, such as where the service is available.

Radio communications that ensure the required quality of communications.

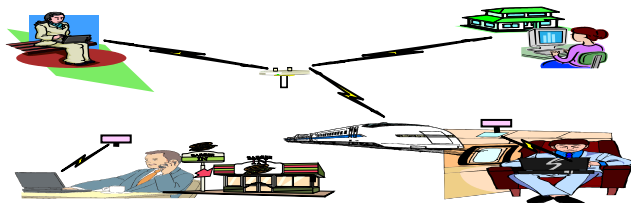
Example systems: Cellular phones (Enhanced 3G, 4G offering 100Mbps transfer rates even when on the move)



Radio communications that have continuous access to the Internet at anytime upon request.

Radio communications that can be used in conjunction with Cellular phones and Wireless LAN, etc.

Example systems: Broadband mobile wireless access (BMWA) that supports continuous IP connection (WiMAX (IEEE 802.16e), Next-generation PHS (Personal Handyphone System), etc.)



## Alternative systems to wired broadband

- Radio communications that can provide network at lower costs within areas not suitable for wired broadband such as rural area.

- Radio communications that use the systems based on international standards or those used in urban areas will be deployed in rural areas, with respect for costs.

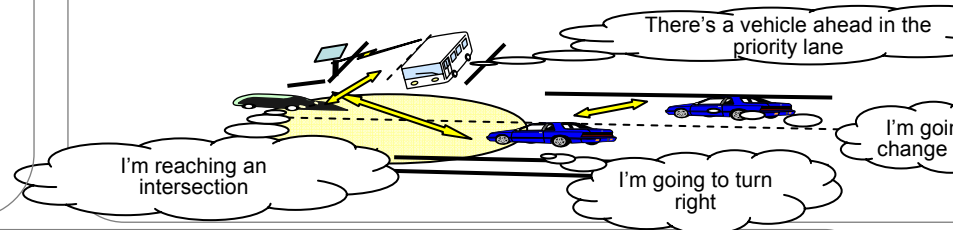
Example systems: FWA that can be used under the Non-Line-of-Sight (WiMAX (IEEE 802.16e), 2004), iBurst, Advanced DS-CDMA, etc.)



## ITS (Intelligent Transport System)

- Radio communications that can establish ad-hoc radio communications instantly.

Example systems: Advanced ITS that reduce the road accidents



## Next-generation intelligent home appliances, Home networks

- Short-range radio communications that can establish interconnection more easily than wired communications

Example system: Next-generation intelligent home appliances

