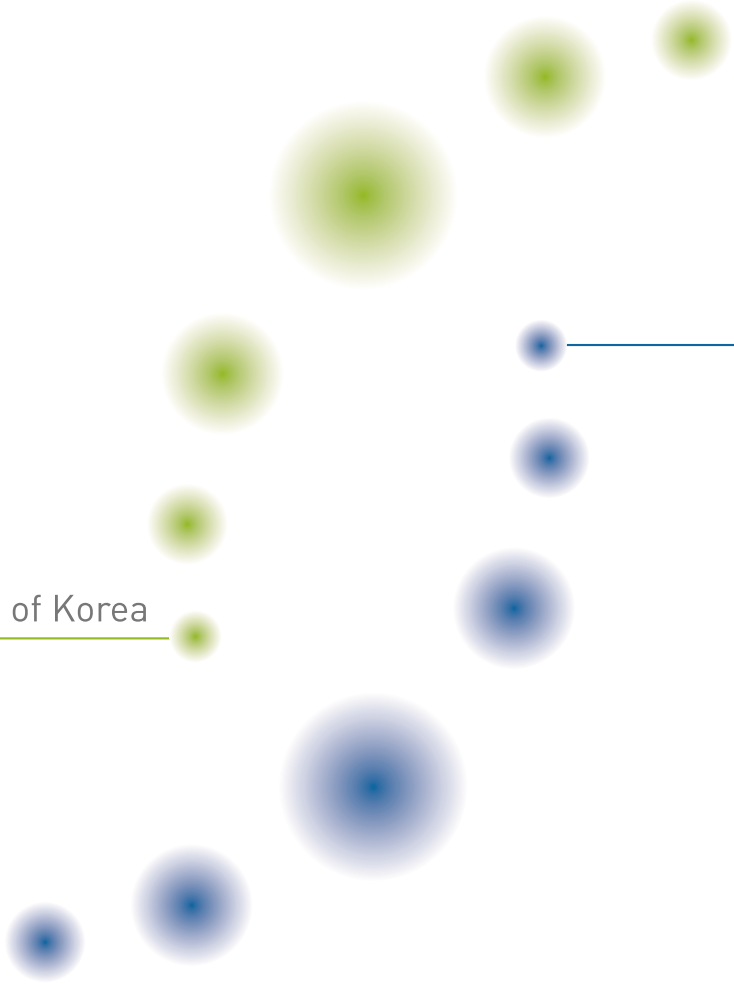
Informatization White paper

2006

Republic of Korea



National Computerization Agency

Informatization White paper

2006

National Computerization Agency

Korea's IT history is the very history of NCA.

The National Computerization Agency, the nation's top IT policy and technical support agency, plays a key role in informatizing the nation in the era of knowledge and information.

Since its establishment in 1987, NCA has laid the foundation for Korea to leap forward as an IT stronghold, from spearheading the National Basic Infrastructure System Project to constructing high-speed information networks.

On the basis of the world-class IT infrastructure, NCA was able to launch the e-Government project to enhance public convenience and improve administrative efficiency, as well as implementing informatization projects designed to strengthen the competitiveness of small and medium sized businesses.
NCA's pursuit of national informatization continues to this very moment.

Leading the future, the ubiquitous era

NCA also successfully performs its role as a major think tank of the IT839 Strategy, which is designed to transform Korea into "u-Korea" through the construction of the next-generation infrastructure and developing new application services.
With the advent of the ubiquitous era, also known as the 4th Wave following the information era, Korea's National Computerization Agency is striving further to uncover the new value and limitless opportunities of the information technology to ensure a more convenient and richer digital life.

The National Computerization Agency(NCA) will undergo a name change, effective from November of 2006, and will be referred to as the National Information-Society Agency(NIA)

Seoul office : NCA Bldg. 77, Mugyo-Dong, Jung-Gu, Seoul,
Republic of Korea, 100-775
Yongin office : National Computerization Agency(NCA), 168, Jukjeon-ri, Suji-eup
Yongin-si Gyeonggi-do, Republic of Korea, 449-717

(Phone) +82 2 2131 0114
(Fax) +82 2 2131 0109
(E-mail) webmaster@nca.or.kr
(Homepage) www.nca.or.kr

PUBLISHER'S MESSAGE

The past 20 years of efforts for informatization has put Korea on top of the world in terms of IT with the world's best network infrastructure and a competitive IT industry. All of this has been achieved through government policies that foster IT, private sector investment into IT infrastructure, and people's capability to actively adopt and recreate new technology and trends.

Countries around the world are now making strong efforts to find ways to become a leader in the ubiquitous society, or the information revolution. Korea has also established and is promoting national strategies in order to take on the 'ubiquitous revolution' as an opportunity for national growth.

In this regard, the National Computerization Agency of Korea has published the 'Informatization White paper' since 1994, and has provided objective information on Korea's informatization by organizing and analyzing the fast-changing status of Korea in a comprehensive way.

The '2006 Informatization White paper' provides a broad outlook of Korea's status on informatization, together with the National Informatization Index for objective analysis of national status of each country. The 'u-Korea Master Plan' established in 2006 is also introduced, as well as the current status of each sector including e-Government, e-Business, people's daily lives, and IT industry is well-featured. Moreover, the White paper includes Korea's establishment of u-Infrastructure for the ubiquitous environment. In addition, it provides Key Informatization Statistics, selected to help readers grasp an objective overview of Korea's informatization.

I hope that this White paper will enable readers to better understand informatization of Korea and serve as a useful reference.

September 2006

President of National Computerization Agency

Kim, Chang Kon

CONTENTS 2006 Informatization White paper

1. Overview _ 6

2. Informatization Policy of Korea

A. Organizations for Informatization _ 10

B. u-KOREA Master Plan to achieve the World's First Ubiquitous Society _ 13

3. National Informatization Index

A. Informatization Status by Country _ 17

B. Korea's Level of Informatization _ 26

4. e-Government

A. Overview _ 28

B. Current Status of e-Government Roadmap _ 28

5. e-Business/Financial Informatization

A. Status of Korea's e-Business _ 31

B. Financial Informatization _ 32

6. Informatization of Daily Life

A. Number of Internet Users _ 35

B. Internet Usage _ 35

C. Wired/Wireless Internet Service _ 37

D. Digital Broadcasting Service _ 38

E. Informatization and Lifestyles _ 39

7. u-Infrastructure

A. Broadband Convergence Network (BcN) _ 41

B. Ubiquitous Sensor Network (USN) _ 42

C. Soft-Infraware _ 43

8. IT Industry

A. Status of IT Industry _ 44

B. IT Industry Policy: IT839 Strategy _ 48

9. Information Security

A. Status of Information Security _ 50

B. Strategy on Information Security _ 52

Annex : Informatization Key Statistics _ 54

Index _ 80

1 Overview

Despite belated industrialization, Korea has strongly enforced informatization at the national level to become a leader in the field. After 20 years of continuous efforts by the government and the private sector, Korea has come to achieve the world's best IT and is drawing global attention as a benchmark target.

Since Korea's commercialization of the Internet in 1994, the number of Internet users in Korea has rapidly increased with the launch of the broadband service from 3 million in 1998 to 33.01 million by the end of 2005. The number of broadband internet subscribers has currently reached 12.19 million.

Establishing the world's best broadband infrastructure, Korea is undergoing dynamic changes. Such rapid progress in informatization contributes to government innovation both internally and externally, as well as bringing significant changes in businesses, economic lives of people, and the entire society and culture in general.

Through e-Government promotion, Korea has also established the framework for providing services by computerizing the procurement process and increasing transparency in online civil services. As a result, the electronic bidding rate reached 91% by the end of 2005 and procurement purchase via the Internet reached as high as 99.6%. Moreover, civil services are now provided online, enabling citizens to receive administrative documents at their homes or workplaces without visiting government offices in person. The services currently provided online are 4,400 kinds of information on civil application, 526 kinds of application filing procedures, 20 kinds of document viewing and issuance, and 24 kinds of shared administrative information.

Table 1 _ Current Status of Informatization in Korea

Category		1998	1999	2000	2001	2002	2003	2004	2005
Broadband Internet Subscriber (10,000 households)		1.4	37.4	401	781	1,041	1,118	1,192	1,219
Internet User (10,000 persons)		310	1,080	1,904	2,438	2,627	2,922	3,158	3,301
Internet Usage Rate (%)		-	-	44.7	56.6	59.4	65.5	70.2	72.8
IPv6 Addresses		-	2	5	11	15	18	31	4,145
Mobile Phone Subscriber (10,000 persons)		-	2,344	2,682	2,905	3,234	3,359	3,659	3,834
e-Commerce	Transaction volume (KRW trillion)	-	-	58	119	178	235	314	358
	Transaction Rate (%)	-	-	4.5	9.1	12.8	15.1	19.3	19.8
Internet Banking Subscriber (10,000 persons)		-	-	409	1,131	1,771	2,275	2,427	2,674

Source : Broadband Internet Subscriber, Mobile phone subscriber: Ministry of Information and Communication
Internet user, internet usage rate: National Internet Development Agency of Korea.
e-Commerce transaction volume : National Statistical Office.
e-Commerce transaction rate : Ministry of Commerce, Industry, and Energy, Korea Institute for Electronic Commerce.
Internet banking subscriber : Bank of Korea.

In terms of the economic sector, e-Business is spreading wide, with e-Commerce transaction volume rapidly increasing every year. The e-Commerce transaction volume reached KRW 358 trillion in 2005, up from KRW 58 trillion in 2000. The portion of e-Commerce in Korea's total industry transaction volume is 19.8%. Financial transaction methods have also been transformed completely, and Internet banking is actively used as well as more than a half of stock trading is done online. By the end of 2005, financial transactions through Internet banking reached 31.6%, exceeding transactions carried out by tellers, 30.1%.

The dynamic changes brought by informatization are also directly transforming people's lives. The Internet is used more often in daily communications, trading, social activities, and even in political activities. Furthermore, cyber space is recently creating more virtual societies where personalized characters called 'avatars' are living.

Korea's IT industry growth in 2005 slowed down from the previous year. However, it has gained significant achievements as WiBro was adopted as a global standard, and terrestrial and satellite DMB services were commercialized for the first time in the world. In the APEC Summit held in Busan in the late 2005, Korea also attracted the global leaders' attention by showcasing the cutting-edge IT products such as WiBro, Robot 'Albert Hubo', DMB, etc. Actions Korea is taking are leading global trends in the IT industry, and Korea is recognized as the best place for testing and verifying new technologies.

Korea's success in informatization, in short, lies in establishing a comprehensive and systematic framework for informatization promotion; providing a vision that is adaptable to the changing IT environment; building a framework of positive feedback for IT development; making efforts to actively expand the informatization base combined with Korea's own cultural characteristics.

In April 2006, the New York Times released an article on Korea's IT, reporting that "South Korea, the world's most wired country, is rushing to turn what sounds like science fiction into everyday life." Fortune magazine in the United States also featured Korea under the title 'Broadband Wonderland', mentioning that "This little nation could have a giant influence on the digital future."

Korea ranks 2nd in terms of 'technology infrastructure' in IMD's Growth Competitiveness Index (May 2005). As for the Digital Opportunity Index of ITU, Korea has ranked at the top for two consecutive years, assuring its capability to become the leader of the information society. In e-

Table 2 _ Global IT Index Rank of Korea

Index	Survey Organization	Korea's Rank(No. of Surveyed Countries)				
		2001	2002	2003	2004	2005
Digital Opportunity Index(DOI)	ITU	n/a	n/a	n/a	n/a	1(40)
Growth Competitiveness Index(technology infrastructure)	IMD	21(49)	17(49)	27(59)	8(60)	2(60)
E-Government Readiness Index	UN	n/a	15(190)	13(191)	5(191)	5(191)
E-Participation Index	UN	-	-	12(191)	6(191)	4(191)
The Networked Readiness Index	WEF	20(75)	14(82)	20(102)	24(104)	14(115)
E-Readiness Rankings	EIU	21(60)	21(60)	16(60)	14(64)	18(65)

Source : Digital Opportunity Index: ITU, 'Measuring Digital Opportunity', Nov. 2005.
Growth Competitiveness Index : IMD, 'Global Competitiveness Yearbook', May 2005.
E-Government Readiness Index, E-Participation Index: UN, 'UN Global E-Government Readiness Report 2005', Dec. 2005.
The Networked Readiness Index : WEF, 'The Global Information Technology Report 2005~2006', March 2006.
E-Readiness Rankings : EIU, 'The 2005 E-Readiness Rankings', April 2005.

Government, it has maintained its position of 5th in UN's e-Government Readiness Index for two consecutive years as well, and ranks 4th in e-Participation Index, which shows how much citizen participation is achieved online. In terms of broadband Internet penetration, Korea has remained as one of the world's best, achieving top ranking among OECD countries for four years until 2004.

On the other hand, the advancement of informatization has lead to cyber threats becoming more diverse and intelligent, and damages from cyber attacks are reported even more over time. Moreover, there are concerns that hacking, computer virus attacks, personal information infringement, and cyber violence can develop issues involving the entire society, and are no longer being considered as adverse functions of IT development. In this regard, the Korean government has tried to stabilize development of the information society that has been achieved so far, continuously seeking countermeasures for information security to cope with cyber threats, and promoted the establishment of 'Basic Strategy for u-Information Security (provisional)' to explore future-oriented policy projects on information security.

In order to maintain and improve Korea's status as the IT leader, The Korean government is making efforts to boost the IT industry as the key engine for economic growth. As a part of these efforts, it established a vision in which the 'ubiquitous revolution' can play the key role in developing the country further to become the world's best country characterized by IT. For this, Korea established the 'u-KOREA Master Plan' and is promoting it to obtain technical and industrial competitiveness in addition to improving the environment.

Table 3 _ Informatization Progress in Korea (1993~2006)

Year	Milestone	Contributions and Accomplishments
1993	Launching Informatization	• Opening Government Administration Information Network • Opening for Free Market Competition Paging service • Popularizing Personal Computer
1994	Promoting Informatization	• Establishing Plan for Korea Information Infrastructure • Founding the Ministry of Information and Communication • Commercializing Internet Services • Increasing Data Communication Subscribers
1995	Stabilizing Informatization	• Establishing Framework Act on Informatization Promotion • Confirming the Blueprint for High Speed Information Infrastructure • Diffusing Public Recognition toward the Internet • Revolutionizing On-Line Environment through Internet Technology • Launching Cable TV Service
1996	Dawn of Internet	• Effectuating Framework on Informatization Promotion Act • Promoting Localized Pilot Projects in Reducing the 'Regional Digital Divide' • Introducing EDI, EC and CALS • Spreading Multimedia Applications • Popularizing Personal Data Communication • Appearance of Cyber Community
1997	Opening Internet Era.	• Accomplishing the First Phase of High Speed Information Infrastructure Project • Beginning e-Commerce Services and its Preparation • Initiating PCS Service • Popularizing EDI and CALS
1998	Prospering Internet and Coping with Y2K Problems	• Shaping Countermeasures on Y2K Problems nationwide • Public Administration Services through Internet • Investment Fevers on SOHO • Popularizing Internet Plaza(PC Cafe/Network Game Room)
1999	Reforming Society with Internet Revolution	• Establishing Cyber Korea 21(The Second Master Plan of Informatization Promotion) • Rapid Increase of IT Venture Businesses • Mobile Phone, Surpassing Fixed Line Subscribers in Numbers • Rising Adverse effect of informatization : Digital Divide, Hacking, Computer Virus • Launching Mobile Internet service
2000	Popularizing Internet and e-Business	• Establishing Master Plan to Promote e-Commerce • Applying e-Document to All Government Agencies • Applying e-Business to Off-line Businesses
2001	Activating Mobile Internet	• Stimulating Mobile Internet through Mobile Phone, PDA • Being Claimed as the World's Best Broadband Internet Infrastructure(OECD Report) • Launching Digital Terrestrial TV Broadcasting Service
2002	Maximizing Digital Competitiveness	• Establishing e-Korea Vision 2006(The Third Master Plan of Informatization) • Laying the Foundation of e-Government • Initiating World's first IMT-2000 Service • Launching Digital Satellite Broadcasting Service
2003	The Maturity of Informatization	• The 'Participatory Government' Launched • The Political Issue has been moved from Facility Base over to the Service Base, due to the Market Maturation of Telecommunication Market • The Personal Privacy and Information Security Issues are Raised (Plan to Prepare Personal Privacy and Information Security Guideline) • Establishing the Road Map for e-Government • Announcement of 'Broadband IT KOREA VISION 2007' (Revision of the Third Master Plan for Informatization Promotion) • Issuing the government forms over Internet • Launching Mobile Banking Service
2004	Building New IT Growth Infrastructure	• Promote the building of IT growth-engine infrastructure • Number of Internet users exceeded 30 million people. • Build Broadband convergence Network (BcN) implementation plan • Draw up u-Sensor Network master plan • Establish IPv6 promotion master plan • Promote IT839 Strategy • e-Commerce transactions reached KRW 300 trillion.
2005	Beginning of Digital Convergence Era	• Build mid-and Long-term Information Security Roadmap • Launch terrestrial and satellite DMB service • Banking via the Internet exceeds banking done by tellers
2006	Starting the Journey to the Ubiquitous World	• Establish 'u-KOREA Master Plan' • Launch commercial services on BcN, WiBro, and HSDPA • Rank the top in DOI for two consecutive years

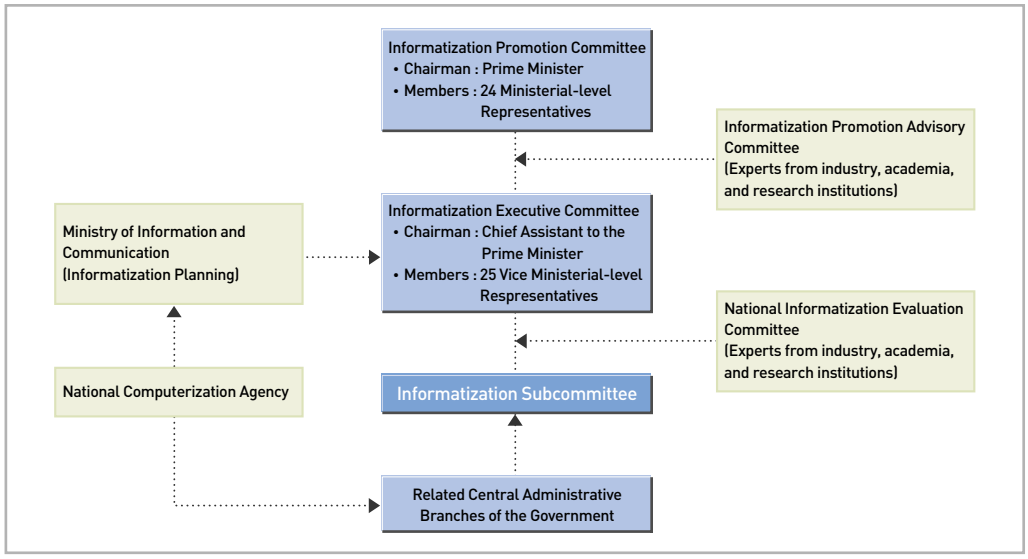
2 Informatization Policy of Korea

A. Organizations for Informatization

Informatization Promotion Committee(IPC) and Ministry of Information and Communication(MIC)

The Informatization Promotion Committee (IPC) was established in 1996 to review and modify national informatization efforts in accordance with the Framework Act on Informatization Promotion. The IPC is headed by the Prime Minister, with participation from all related government ministries and agencies.

Figure 1 _ Organization of Informatization Promotion Committee (IPC)



The IPC is chaired by the Prime Minister of Korea, while the Minister of Finance and Economy serves as its Vice Chairman. The Chief Assistant to the Prime Minister is the Secretary. Members of the IPC are recommended by the Secretary General of the National Assembly, Minister of Court Administration and Directors of related agencies. The Secretary General of the National Assembly and the Minister of Court Administration attend Committee meetings when their cooperation is required because their work isrelated to the pending issues. The chief responsibility of the IPC is to establish and/or change basic and action plans for informatization promotion, coordinate policies and project implementation of informatization, build and/or utilize the information superhighway, and evaluate the enforcement of informatization promotion policies.

To ensure smooth operation of the IPC, an Informatization Executive Committee was formed, and informatization subcommittees were arranged for the various sectors of informatization to press ahead with efforts in an efficient way.

In addition, an Informatization Promotion Advisory Committee, run by private-sector experts with significant knowledge and experience in informatization, can be formed and operated, advising the IPC, Informatization Executive Committee, and informatization subcommittees.

Table 4 _ Major Functions of IPC

Organization		Major Function
Committee	· Informatization Promotion Committee	· Coordinate policies and project implementation related to informatization promotion
	· Informatization Executive Committee	· Discuss and evaluate issues submitted or commissioned by the IPC
	· Informatization Subcommittee	· Review enforcement plans and their outcomes to promote informatization and build information superhighway
Supportive Organization	· Technology Support Agencies	· Establish and evaluate basic and action plans for promotion of informatization
	· Informatization Promotion Advisory Committee	· Provide advice on issues submitted to the IPC and on overall informatization policies

The managerial work for the IPC is done by the Ministry of Information and Communication (MIC), which is in charge of national informatization of Korea. The MIC provides technical expertise for the building and operation of the Integrated Computing Center for e-Government, and performs the functions of Chief Information Technology Officer(CITO) to plan and execute informatization policy of Korea based on systematic coordination of the public and private sectors.

Informatization Promotion by Ministry/Agency and Sector

Each ministry and agency operates informatization organizations at the level of bureaus or divisions in order to build and enforce its informatization plans. Also, each agency has appointed a Chief Information Officer (CIO) since 1997 to integrate and coordinate informatization efforts and facilitate informatization of administrative work. The Informatization Promotion Council (chairman: Chief Assistant to the Prime Minister) has been organized and operated to facilitate discussion among CIOs about informatization policies and projects and share their expertise and experiences.

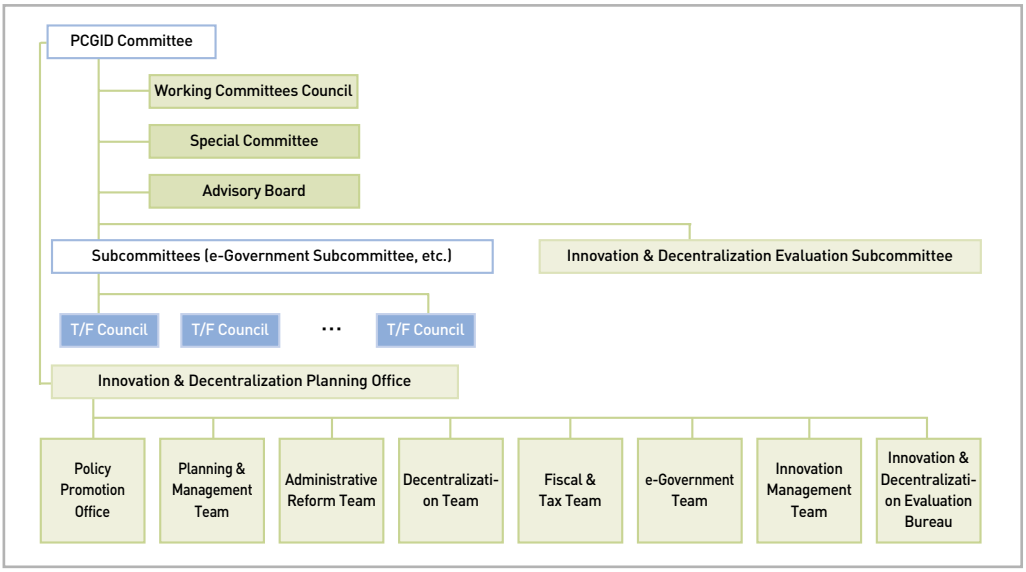
In addition to the Framework Act on Informatization Promotion, additional acts have been legislated to press forward with informatization in each sector, such as ‘Acts on Establishment and Utilization of National Geographic Information System (NGIS)’, ‘Framework Act on e-Commerce’, ‘Electronic Promotion Act on Administrative Processes for e-Government Establishment’, ‘Act on Knowledge Information Resource Management’, and ‘Act on Closing Digital Divide’. Major issues related to management and utilization of knowledge-information resources and mitigation of the digital divide are reviewed based on each of these acts. The reviewed issues include those related with the Master Plan for NGIS, e-Commerce Promotion Plan, and Mid- and Long-term e-Government Plan.

e-Government Subcommittee of PCGID

President Roh’s ‘Participatory Government’ of Korea has established the Presidential

Committee on Government Innovation and Decentralization (PCGID) as an advisory board for the president. The PCGID features five subcommittees specializing in the areas of administration, finance, taxation, decentralization and e-Government[1]. The e-Government subcommittees select and promote e-Government projects involving multiple government agencies, and coordinates policy conflicts between them. They are managed by experts from the private sector and the members include director generals of government agencies as well as those from the private sector.

Figure 2 _ PCGID and e-Government Subcommittee



Supportive Organizations for Informatization

Table 5 _ Major Roles of Supportive Organizations for Informatization

Organization	Related Law	Major Roles
National Computerization Agency (NCA)	Article 10 of Framework Act on Informatization Promotion	- Develop informatization policies - Support the establishment and enforcement of informatization promotion and action plans - Build and operate IT networks and information-sharing system for public organizations - Standardize information and communication - Evaluate and audit information resource management and informatization projects of public organizations, and support institutions in relation
Korea Agency for Digital Opportunity & Promotion (KADO)	Article 16 of Act on Closing the Digital Divide	- Build a roadmap for digital divide mitigation policies and projects - Research, publish, and promote efforts to close digital divide, and improve related institutions - Ensure the provision of IT services for the disabled and elderly - Foster environments for high-speed information and communication services - Install and operate information utilization facilities - Provide education for informatization - Pursue and support joint projects for closing digital divide with multinational companies such as Microsoft, Intel, and international organizations such as ITU and APT
Korea Information Security Agency (KISA)	Article 52 of Act on Utilization and Security of Information System and Protection of Personal Information	- Respond to security breaches on the Internet and provide technical support - Protect IT infrastructure and provide technical support - Evaluate security of information systems and provide industrial support - Develop information security technologies

1) Two more subcommittees for innovation management and record management innovation have been added, making seven.

Organizations providing support for informatization include the National Computerization Agency (est. 1987); the Korea Agency for Digital Opportunity & Promotion, extended from the Information Culture Center of Korea (ICCK) based on the Act on Closing Digital Divide in 2003; and the Korea Information Security Agency, which grew out from ICCK in 2001 based on the Act on Promoting IT Network Utilization and Information Security. Legal grounds and major roles of each organization are shown in the <Table 5>.

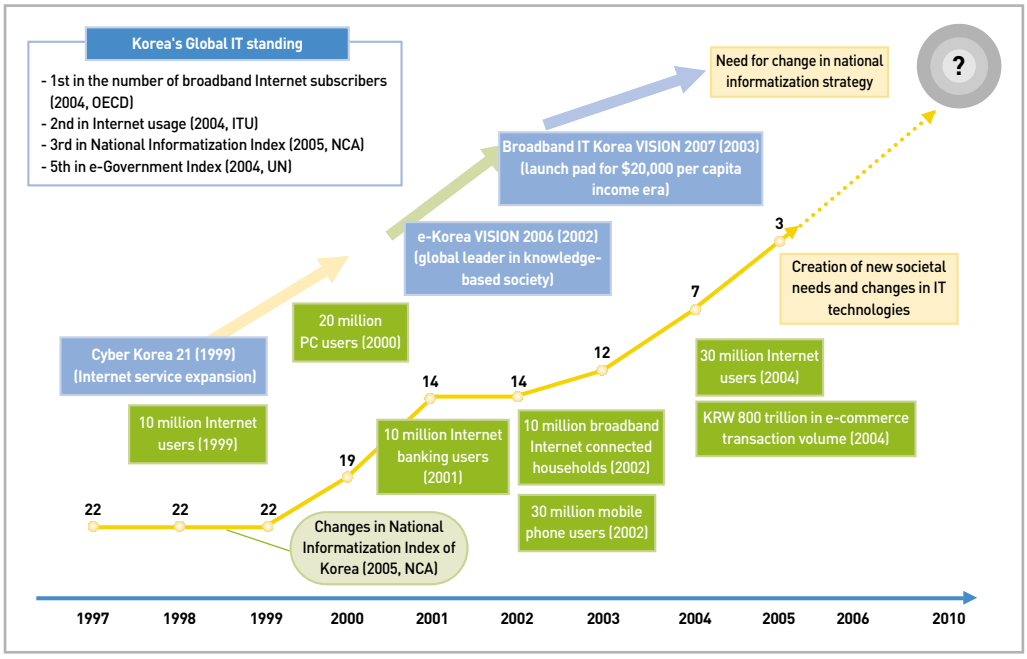
B. u-KOREA Master Plan to achieve the World's First Ubiquitous Society

Since 2004, Korea has carried out researches to establish developmental strategy in coping with the future informatization paradigm shift to the ubiquitous society. The preparation for establishing the 'u-KOREA Master Plan' aggressively started from 2005, and upon resolution by the Informatization Promotion Committee chaired by the Prime Minister on March 7, 2006, the 'u-KOREA Master Plan' was finally confirmed to build the world's first ubiquitous society.

The 'u-KOREA Master Plan (2006-2010)' is based on Article 5 of 'Framework Act on Informatization Promotion' and is a continuous plan of the 'Broadband IT Korea VISION 2007' established in 2003. The Master Plan provides a blueprint that guides how to use IT to deal with the new social and economic demands and carry out nationwide innovation to become the world's best country in terms of IT in the ubiquitous society.

It is meaningful that the 'u-KOREA Master Plan' holds the strong will of the government to adapt to the fast-changing information environment and strengthen Korea as the IT leader still in the future. It is also expected that the Master Plan will bring significant benefits, providing strategies for IT to penetrate and merge into each and every sector of the society and directly contribute to the social reform, as the information society becomes more advanced.

Figure 3 _ Korea's Informatization Policies



Overview of the u-KOREA Master Plan

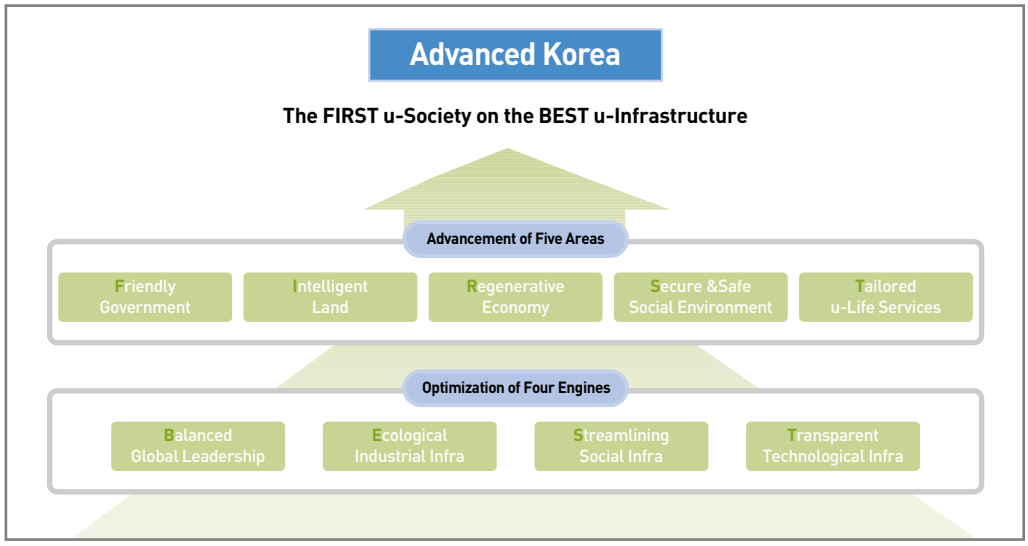
■ Vision and Goals

The Vision of the 'u-KOREA Master Plan' is transforming Korea into an advanced country by realizing the world's FIRST u-Society based on the world's BEST u-Infrastructure.

Under the vision, the Plan provides advancement goals of five areas - government, land, economy, social environment, and individual life; and optimization goals of four engines - globalization, industrial infrastructure, social infrastructure, and technology development.

The ultimate goal of the 'u-KOREA Master Plan' is to achieve a society where all people can benefit from a safer ubiquitous society (4U: Universal, Usable, Unisonous, Upgraded) through advancement of the five areas and optimization of the four engines.

Figure 4 _ u-KOREA Vision & Goals



■ u-KOREA Implementation Phases

The 'u-KOREA Master Plan' will be promoted in two phases - Establishment Phase (2006~2010) and Stabilization Phase (2011~2015).

The establishment phase aims at building the ubiquitous social infrastructure by 2010 through improving networks such as BcN and USN and consolidating legal systems. This will also achieve Korea's per capita GDP of USD 22,000, and entrance into the top 15 in national competitiveness. By improving living conditions and building a safe and secure society with pleasant environments for transportation, culture, and residence, Korea is expected to enter the world's top 25 in terms of quality of life.

The stabilization phase aims at bringing intelligence to major public buildings and facilities and universalizing ubiquitous services across all social sectors by 2015. This will enable Korea to lead the ubiquitous society by achieving per capita GDP of USD 30,000 or more and entering the top 10 in national competitiveness. Korea will become an advanced country with high public

satisfaction in global top 20 rankings in terms of quality of life and pleasant living conditions as well as material affluence.

■ Advancement Goals of Five Areas

Friendly Government
Pursue a friendly government using ubiquitous IT and evolve from supplier-oriented administrative services to user and site-oriented services.

Intelligent Land
Establish the 'Intelligent Land' using ubiquitous IT features of status identification and autonomous response.

Regenerative Economy
Improve transparency in economic systems using various technologies such as RFID/USN, mobile Internet, intelligent robots, digital TVs, etc., and revitalize the national economy and enhance growth potential by invigorating traditional industries.

Secure & Safe Social Environment
Establish a safe and clean society by building a preventive environment against disasters and diseases through real-time data collection enabled by diverse new technologies such as bio-sensors, high performance computers, satellite communication technology, RFID/USN, etc.

Tailored u-Life Services
Provide convenient and affluent living conditions for individuals by delivering services customized for individual taste and environment through a home-network, intelligent robots, etc.

■ Optimization Goals of Four Engines

u-Globalization Engine: Balanced Global Leadership
Strengthen IT trade and global cooperation to become the u-IT leader, and vigorously lead global standardization activities.

u-Industry Engine: Ecological Industrial Infrastructure
Promote u-Cluster, establish test-beds for developing core technologies; vitalize industry, and build integrated u-infrastructure for bringing diverse ubiquitous services together.

Streamlining Social Infrastructure
Create public consensus by expanding opportunities to experience u-services, establish ubiquitous social systems through consolidating legal systems, build safe and reliable policies for the ubiquitous society, and strengthen policies for privacy protection.

Transparent Technological Infrastructure
Establish ubiquitous network accessible anywhere and anytime, develop application technology for promoting u-Korea, create standardized environment to enhance global market competitiveness, and continue to promote IT839 Strategy as the key engine for u-Korea.

■ Expected Benefits

Improve Quality of Life and Innovate Life and Culture

- Strike a balance between environmental conservation and economic development to secure sustainable environmental system and provide comfortable living environment.
- Build a safe and secure social infrastructure by reducing traffic accidents and ensuring reliable facility management.
- Provide a safe and convenient living environment by reducing manual labor and household chores and minimizing household hazards.

Create Added Value with New Markets and Strengthened Industrial Competitiveness

- Create a new market and industry in between secondary and tertiary industries by applying software to the information industry.
- Innovate industrial structure by facilitating convergence among industries and cooperation among companies.

Provide Citizen-oriented Service and Improve Efficiency through Government Innovation

- Improve responsiveness to the citizen needs and increase satisfaction with administrative services by securing diverse participation channels for people.
- Achieve significant improvement in efficiency, fairness, and transparency of government works through real-time, on-site business process management.

3 National Informatization Index

A. Informatization Status by Country

Overview of National Informatization Index

Indices like Price Index and Stock Price Index are highly valuable research outcomes in that they can analyze a certain target in a comprehensive way as well as predict and measure its change in numbers. The Informatization Index can also help grasp the level of a country's informatization as a whole and predict the change, guiding further to establish appropriate policies. In this regard, the National Computerization Agency of Korea has developed the National Informatization Index (NII) to objectively measure Korea's status of informatization since 1993.

Data collection, index structure, and calculation method of 2006 are as follows: First, the index was calculated using data from World Telecommunication Indicators Database[2] provided by the International Telecommunication Union (ITU), considering the objectivity of the data[3]. 50 countries around the world, including the United States, Denmark, Japan, Australia, and South Africa are selected for comparison, considering their economic standards.

Second, individual indicators used to calculate the NII are composed of objective items, which have direct effects on informatization and can still be easily compared with other countries. In this sense, secondary data such as survey data, which are often used in other international indices, are excluded, while only the statistical data submitted to ITU by each country are used for calculating the NII.

Third, in order to prevent the informatization levels of countries from being over- or under-estimated by showing extreme figures in certain indicators, individual indicators are produced by calculating their ratio to a 'Goal Post' set for each indicator, and then standardized for

Table 6 _ Calculation of National Informatization Index

Sector	Individual Indicator	Goalpost	Calculation	Source
Computer	· PC penetration	80	· (No. of PCs / population) X 100 ÷ Goal Post X Weight	ITU
Internet	· Internet users	800	· (No. of internet users / population) X 1,000 ÷ Goal Post X Weight	
	· Broadband internet subscribers	80	· (No. of Broadband internet subscribers / population) X 100 ÷ Goal Post X Weight	
Telecommunication	· Telephone lines	80	· (No. of Telephone lines / population) X 100 ÷ Goal Post X Weight	
	· Mobile phone subscribers	100	· (No. of Mobile phone subscribers / population) X 100 ÷ Goal Post X Weight	
Broadcasting	· TV penetration	100	· (No. of TVs / household) X 100 ÷ Goal Post X Weight	
	· CATV subscribers	100	· (No. of CATV subscribers / household) X 100 ÷ Goal Post X Weight	

2) ITU, 'World Telecommunication Indicators Database', April 2006

3) Data used in National Informatization Index 2006 are based on the data of 2004. This method is generally used by other international organizations releasing indices such as UN, ITU, IMD, and WEF. That is, to help mitigate limits in obtaining up-to-date statistical data, indicators or indices intended to compare multiple countries are produced based on the year of release even though the data used and analyzed are actually generated prior to the release year.

comparison by the same yardstick. However, this standard deviation method still cannot calculate the annual growth rates of individual indicators. This drawback is overcome by comparing growth rates of individual indicators.

In addition, each indicator given the Goal Post is weighted based on its proportion to the NII. The weights are extracted from factor analysis of 7 indicators. In other words, the index of each sector was calculated by multiplying its standardized score by its weight, and the index of each sector was added to produce a general index; and since the general index includes negative values, the final index was again converted to a value between 0 and 100 for the convenience in comparison and identification.

Among the individual indicators, PC penetration had the highest weight with 16.3%, and TV penetration had the lowest at 10.8%.

The relationship between the NII and GDP per capita was studied through a regression analysis. The result analyzed that the NII is capable of predicting the GDP per capita with 75% of explicability, showing that the NII has significant relation with GDP, which is the economic index used substantially. However, countries like Korea and Japan are exceptionally found to have very high NII compared to their GDP per capita, whereas countries like Norway and France have relatively low NII to GDP.

Figure 5 _ Weight Proportion of Each Indicator

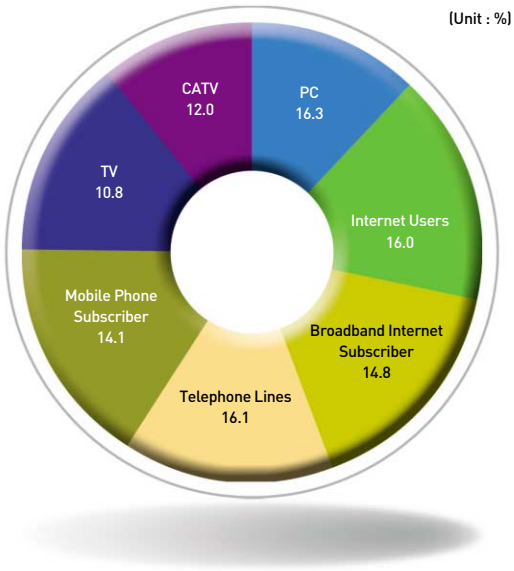
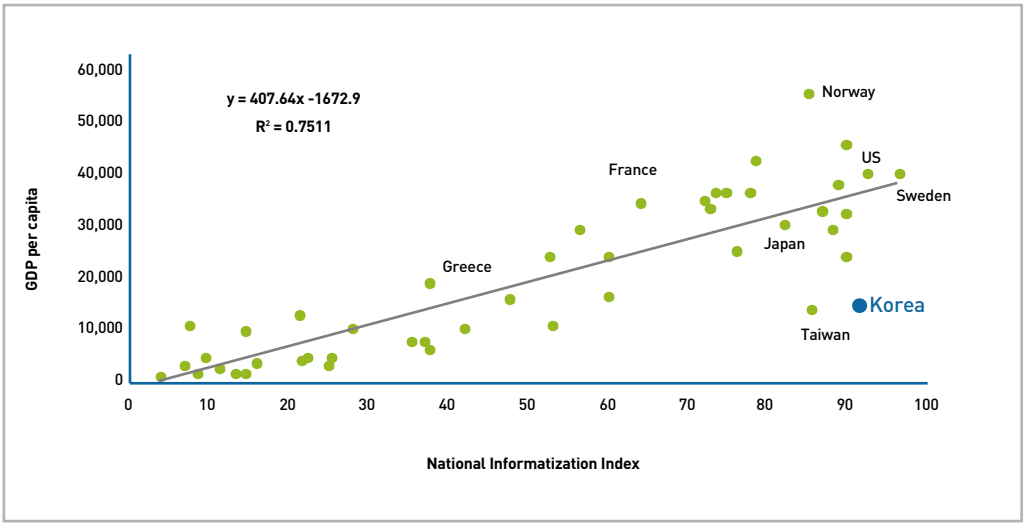


Figure 6 _ National Informatization Index vs GDP per Capita, Regression



National Informatization Status by Year

The Nordic countries including Sweden, Denmark, and Norway and Asian countries including Korea, Hong Kong, and Taiwan have topped the list in terms of level of national informatization. Most of the Western European countries are placed in the mid-to-high group, and Eastern and Southern European countries are included in the mid-to-low group. The bottom group is still composed of Central and Latin American countries and Southeast Asian countries.

In terms of changes in particular countries, Sweden has maintained its lead ranking for three consecutive years since 2004. The United States also stayed in second, the same rank as last year. Switzerland climbed one notch to fourth from the fifth place in the previous year. Hong Kong ranked fifth, climbing one notch from the sixth last year, maintaining its growth since 2004.

Korea marked the same ranking as last year, once again proving itself in the global top level in national informatization. However, Norway and Iceland fell to 11th and 14th respectively, from 8th and 11th in 2005.

Table 7 _ Top 10 Countries by NII, 1998~2006

Country	NII									NII Ranking								
	1998	1999	2000	2001	2002	2003	2004	2005	2006	1998	1999	2000	2001	2002	2003	2004	2005	2006
Sweden	96	96	94	91	94	93	96	96	97	4	4	3	5	2	3	1	1	1
United States	99	99	99	99	99	98	95	93	92	1	1	1	1	1	2	3	2	2
Korea	**55**	**58**	**70**	**78**	**79**	**80**	**89**	**91**	**91**	**22**	**22**	**19**	**14**	**14**	**12**	**7**	**3**	**3**
Switzerland	87	88	89	90	89	99	94	90	90	7	8	8	7	6	1	4	5	4
Hong Kong	80	79	79	80	80	83	83	89	90	12	11	13	13	13	9	11	6	5
Denmark	91	95	94	92	92	91	96	91	90	6	5	4	4	5	4	2	4	6
Netherlands	85	89	92	93	93	89	86	85	89	9	7	5	3	3	6	8	10	7
United Kingdom	72	76	79	81	80	78	85	86	88	15	12	12	11	12	14	10	9	8
Canada	92	91	92	91	88	79	89	85	87	5	6	7	6	7	13	6	12	9
Taiwan	60	68	82	84	85	84	79	89	86	20	17	10	10	9	8	15	7	10

Informatization Status by Sector [4)]

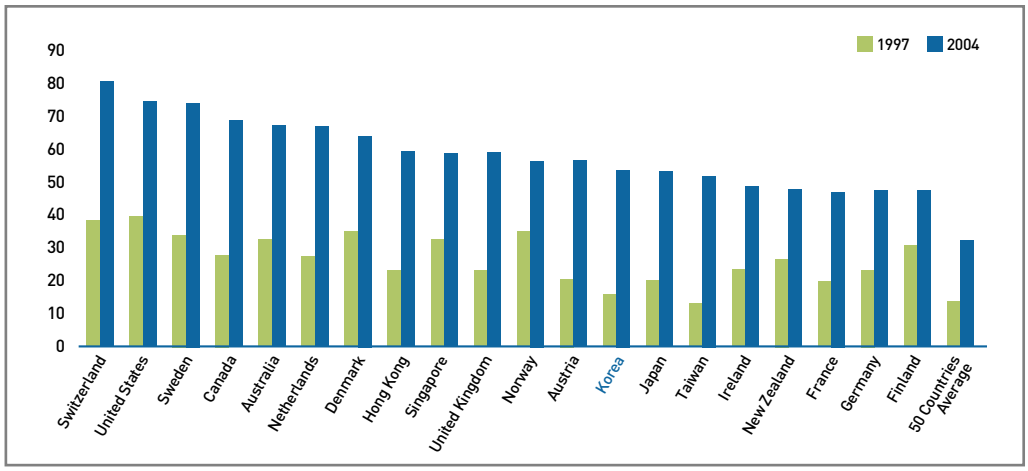
■ Computer Sector

The computer sector is determined by only one factor: PC penetration or the number of PCs. An information society can be defined as a place where communication, broadcasting, and information processing is converged based on the digital information. In this respect, PCs are the most basic equipment for individuals in processing information, and at the same time, the most essential indicator to comprehend the spread of informatization as a tool to link the Internet, communication, and broadcasting together.

Among the 50 countries included in the NII, the PC penetration rate, or the number of PCs per 100 habitants, increased 2.4 times to 33 in 2004 from 14 in 1997. As of 2004, Switzerland showed the highest number of PC penetration at 82, followed by the United States, Sweden, Canada, and Australia. In Asia, Hong Kong showed the highest rate at 61 followed by Singapore with 60. Korea ranked third in Asia with 54. In terms of average increase in PC penetration from 1997 to 2004, China showed the biggest increase with 31% followed by Romania with 30%.

4) Detailed data by sector and category are introduced in the [Annex]. To maintain time-consistency of the data, the index in each sector use data of the base year of statistics, unlike the overall index or overall ranking.

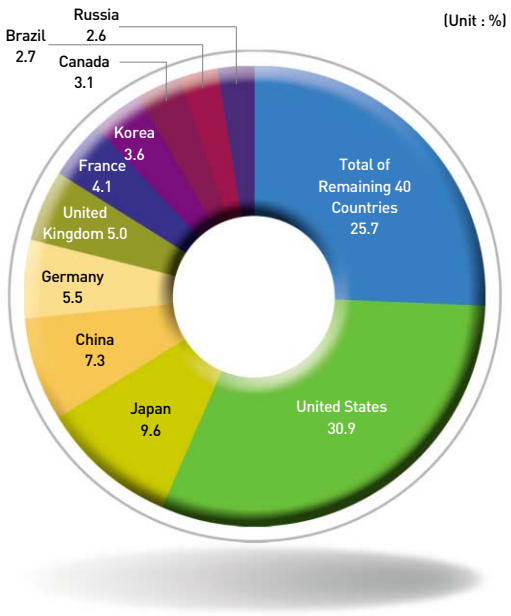
Figure 7 _ Number of PCs per 100 habitants (1997, 2004)



Korea also showed a sharp increase with an average of 20% during the same period, but its increase rate between 2003 and 2004 was mere 8%. This is a 5%p-increased rate compared to the 3% increase between 2002 and 2003; however, it seems there will be no rapid increase in PC penetration unless a new demand is created.

Of 724 million PCs being used in these 50 countries, 224 million PCs are held by the United States, accounting for the largest portion of 30.9%. Japan possesses 69 million (9.6%), followed by China with 53 million (7.3%), and Korea with 26 million (3.6%) at world's 7th.

Figure 8 _ PC Penetration by Country (2004)



■ Internet Sector

The index of the Internet sector is based on the indicators on the number of Internet users and broadband internet subscribers, in which Korea is showing its position at the world's number one.

The 2004 index in the Internet sector shows Korea at the top ranking once again since 2003, followed by Iceland and Hong Kong.

Internet Users

The number of Internet users is the most important in exhibiting the level of Internet penetration in each country. Among the 50 countries, the number of Internet users per 1,000 habitants increased by about 6.1 times to 353 in 2004 from 58 in 1997.

Figure 9 _ Number of Internet Users per 1,000 habitants (1997, 2004)

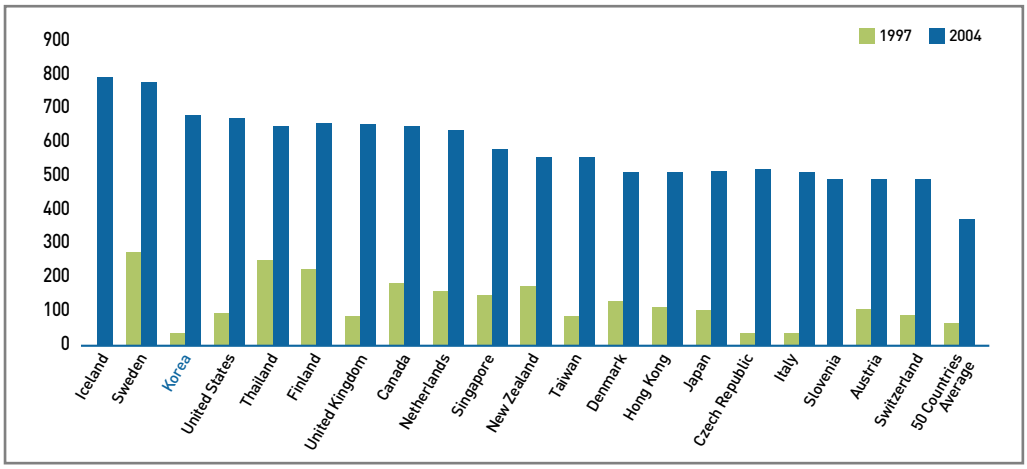
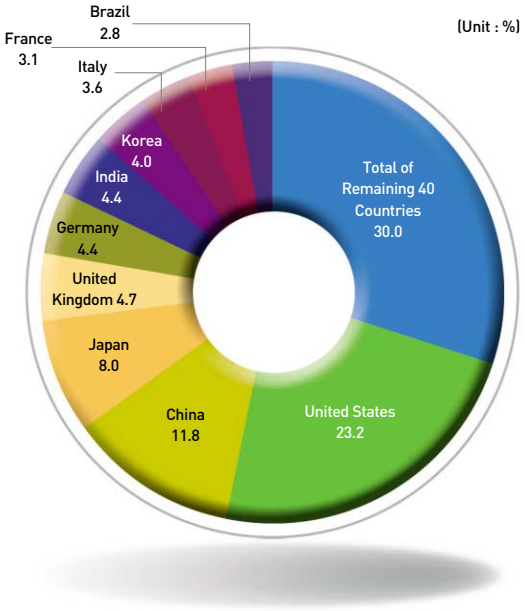


Figure 10 _ Internet Users by Country (2004)



Iceland ranked first with 770, followed by Sweden, Korea, Australia, and United States. Specifically, in Asia, Korea ranked first with 657, followed by Singapore with 561.

Regarding the average increase rate from 1997 to 2004, China recorded the greatest growth with 117%, followed by Romania with 73% and India with 72%.

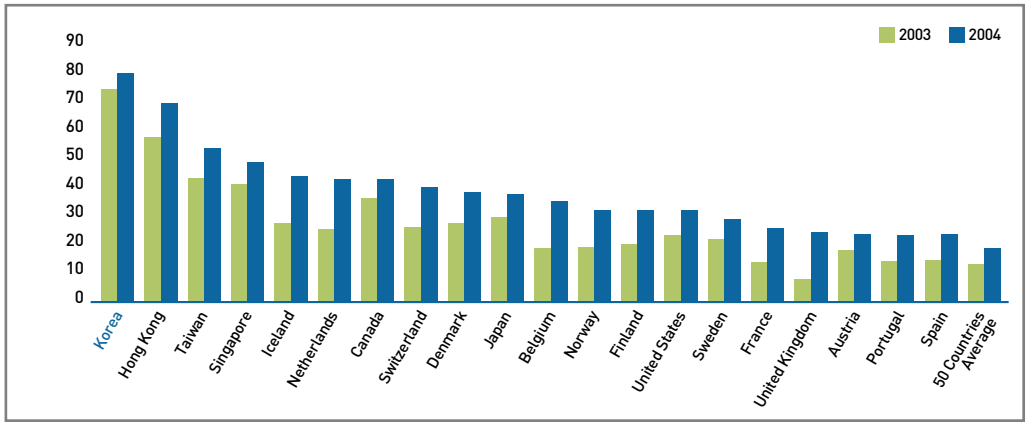
Among 798 million Internet users in the 50 countries, the United States accounted for 185 million, or 23.2% of the total, followed by China (11.8%), Japan (8.0%), the United Kingdom (4.7%), and Germany (4.4%). Korea ranked 7th with 31 million Internet users or 4.0% of the total number of Internet users in 50 countries.

Broadband Internet Subscribers

The number of broadband internet subscribers is used as an indicator to determine the quality of national informatization infrastructure. Statistics on broadband internet subscribers is crucial to the development of e-Commerce and online game industry.

In terms of the number of broadband internet subscribers per 100 households in 2004, Korea ranked first with 77 households, surpassing Hong Kong with 67 households. Korea was taken up by Asian countries, with Taiwan (52 households) in third place, Singapore (50 households) in the fourth, and Japan (40 households) in tenth place.

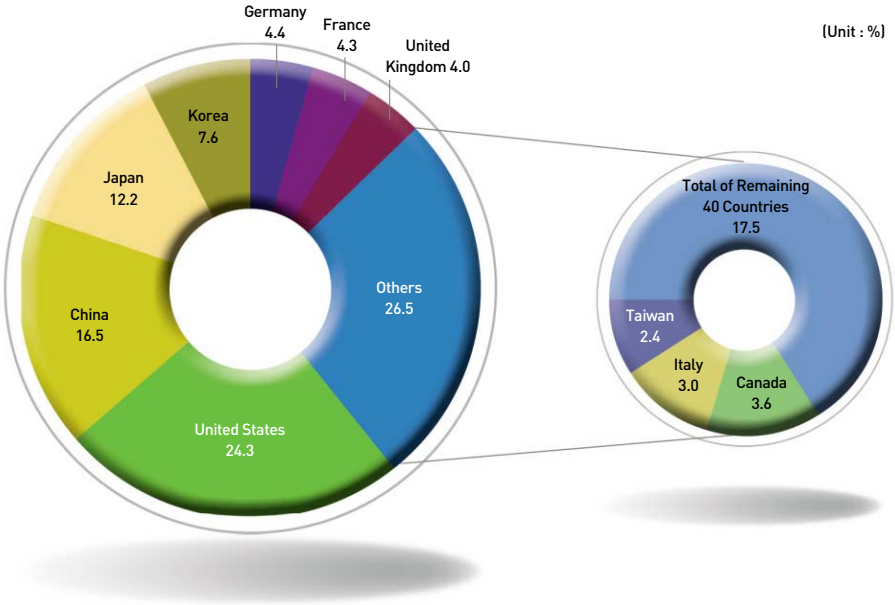
Figure 11 _ Number of Broadband Internet Subscribers per 100 Households (2003, 2004)



Of the 156 million broadband internet subscribers in the 50 countries, the United States accounted for 24.3% with 37 million, followed by China 16.5%, Japan 12.2%, Korea 7.6%, Germany 4.4%, France 4.3%, and United Kingdom 4.0%.

Though the adoption of broadband internet service was late compared to other IT infrastructure or services, countries around the world are actively introducing the service. This is well shown in the fact that 12 (24%) out of 50 countries in 2003 did not provide broadband Internet service, but only 6 countries (12%) did not in 2004.

Figure 12 _ Broadband Internet Subscribers by Country (2004)



■ Telecommunication Sector

The index of the telecommunication sector was calculated based on the number of telephone lines and mobile phone subscribers, which illustrates the extent of wired and wireless communications in a country. However, fixed-line telephones are already widespread, and due to the rapid penetration of mobile phones, the rate is now even falling in most countries.

In 2004, Sweden ranked first in the telecommunication sector, followed by Hong Kong, Iceland, and Switzerland. Korea is placed 19th in 2004, at four-notch higher from its 23rd placing in 2003.

Telephone Lines

The number of telephone lines in a country is a representative indicator of the extent of wired communications. In terms of telephone lines per 100 habitants, Sweden ranked first with 72 lines, followed by Switzerland, Iceland, and Denmark. Among Asian countries, Taiwan, Korea, and Hong Kong respectively ranked 9th, 13th, and 14th in the world.

Figure 13 _ Number of Telephone Lines per 100 habitants (1997, 2004)

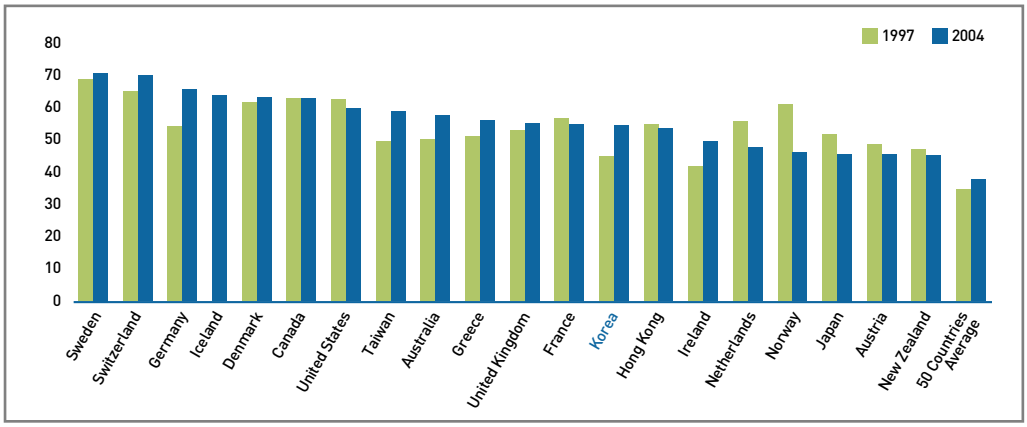
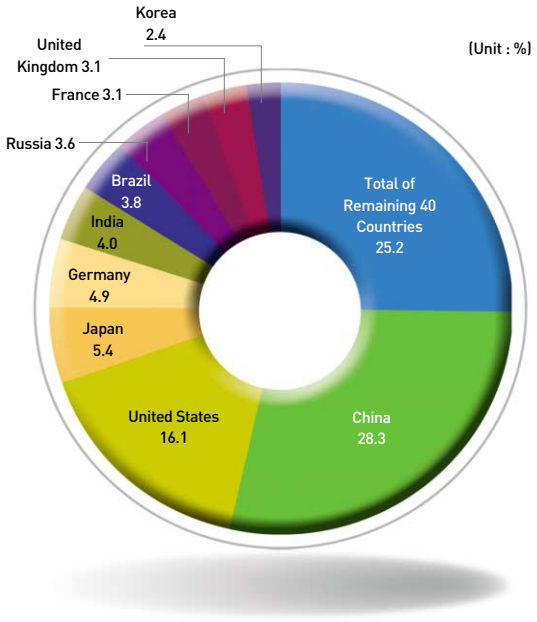


Figure 14 _ Telephone Lines by Country (2004)

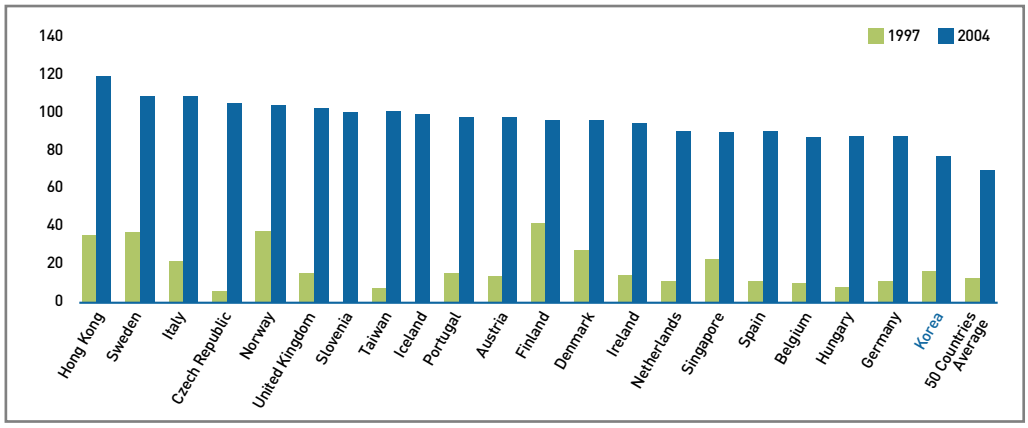


The average rate of increase between 1997 and 2004 is the highest in China with 23%, followed by India and Brazil with 12% each, showing relatively high increases in rising developing countries. On the other hand, most of the advanced countries including the United States, Japan, and Norway see downfall of telephone lines due to the widespread use of mobile phones. As for Korea, a 3% increase in telephone lines has been reported; however, this is because international organizations recently corrected data of Korea that had been used incorrectly in the past, not because the actual increase in telephone lines was reflected.

In terms of the total number of telephone lines by country, China ranked first accounting for 28.3% with 310 million lines out of 1.12 billion lines in the 50 countries; China was followed by the United States with 180 million lines, and Japan, Germany, and India were all within the top 5.

Mobile Phone Subscribers

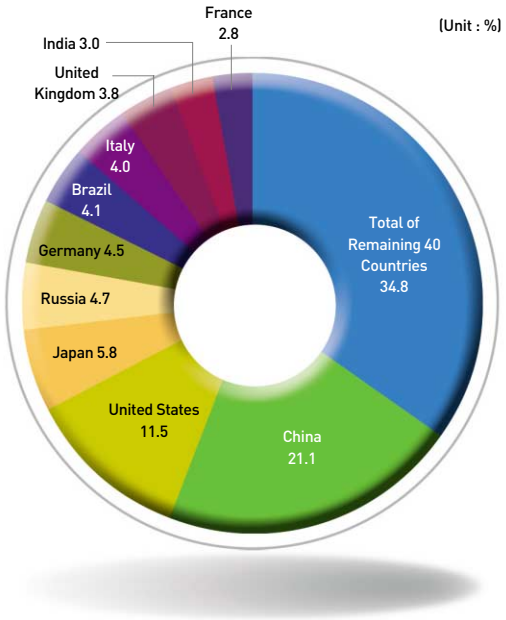
Figure 15 _ Mobile Phone Subscribers per 100 habitants (1997, 2004)



The number of mobile phone subscribers is a strong indicator of the extent of wireless communications. Among the 50 countries, the number of mobile phone subscribers per 100 habitants increased 6.3 times from 11 in 1997 to 69 in 2004.

Hong Kong ranked first with 119 subscribers, followed by Sweden, Italy, Czech Republic, and Norway. In Asia, Hong Kong and Taiwan ranked 1st and 8th respectively, and Korea ranked 26th [5].

Figure 16 _ Mobile Phone Subscribers by Country (2004)



Of 1.59 billion mobile phone subscribers in the 50 countries, 21.1% or 334 million were in China. Second to the fifth were the United States (11.5%), Japan (5.8%), Russia (4.7%), and Germany (4.5%), respectively.

■ Broadcasting Sector

The broadcasting sector is based on TV sets and the number of CATV subscribers. Given that the services are provided by household units, the broadcasting indicator was likewise calculated on the basis of household numbers.

As of 2004, the United States maintained its first ranking, followed by Sweden, Norway, Ireland, and Japan. Compared to 2003, the top 10 countries maintained their positions, and Korea also maintained its 11th place as in 2003.

5) The number of mobile phone subscribers per 100 habitants of Korea is 76 as of 2004, which is the saturated portion except children and the aged. However, the statistical method currently used counts the purchasers of prepaid cards as mobile phone subscribers, which can lead to under-evaluating the actual number of subscribers in countries like Korea, which has a small number of prepaid card purchasers.

TV Sets

Figure 17 _ Number of TV Sets per 100 Households (1997, 2004)

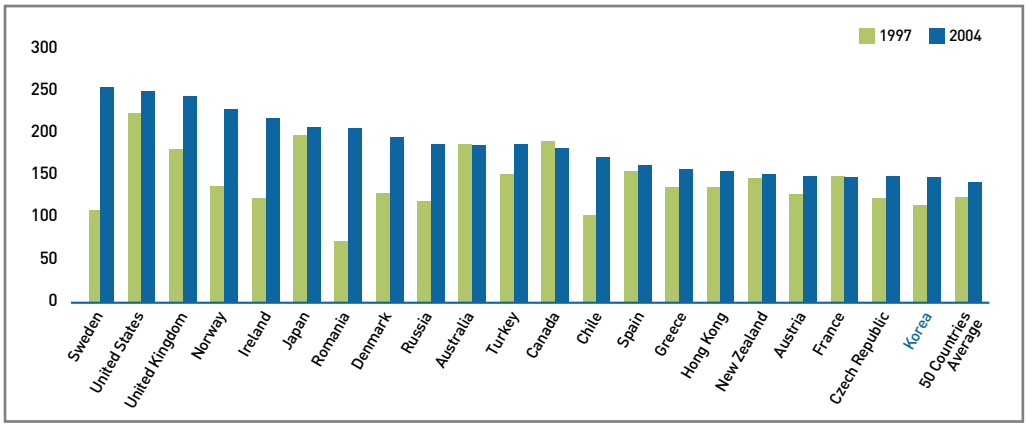
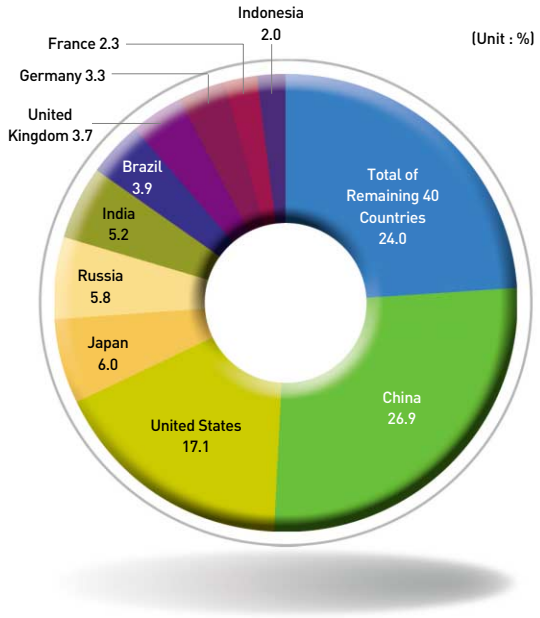


Figure 18 _ TV Penetration by Country (2004)



From 1997 to 2004, TV penetration rate per 100 households in the 50 countries rose by 1.2 times average per year to 143 sets in 2004 from 122 sets in 1997. Sweden ranked first with 253 sets followed by the United States, United Kingdom, Norway, and Ireland. In Asia, Japan ranked 6th and Korea 23rd.

Romania had the highest average rate of increase between 1997 and 2004 with 16%, while Korea registered 3%, the same as the average increase rate of the 50 countries.

Among the 1,672 million units in 50 countries, China accounted for 450 million sets or 26.9% followed by the United States (17.1%), Japan (6.0%), Russia (5.8%), and India (5.2%).

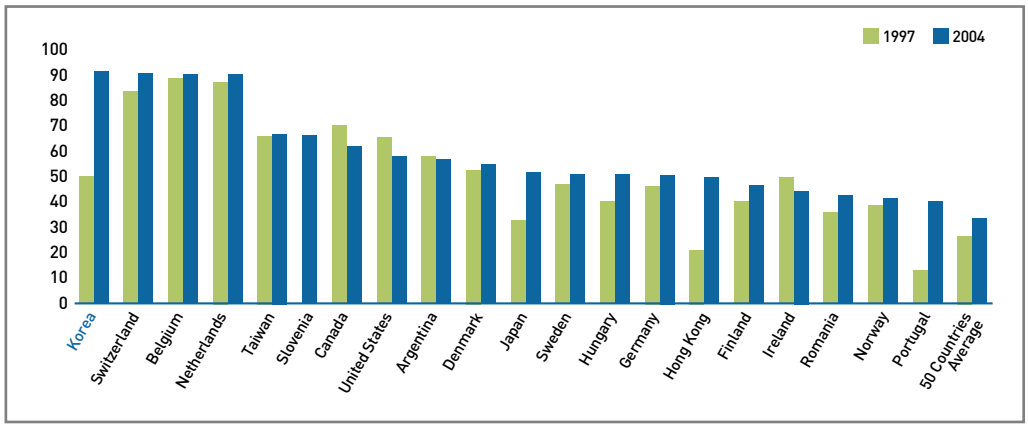
CATV Subscribers

From 1997 to 2004, the number of CATV subscribers per 100 households increased by 4% average per year to 33 households in 2003 from 26 in 1997. Korea ranked first with 91 households followed by Switzerland, Belgium, Netherlands, and Taiwan.

The average rate of increase between 1997 and 2004 shows New Zealand as the highest with 29%, and the Philippines, second with 26%. Korea showed a 9% average per year increase from 50 households in 1997 to 91 in 2004.

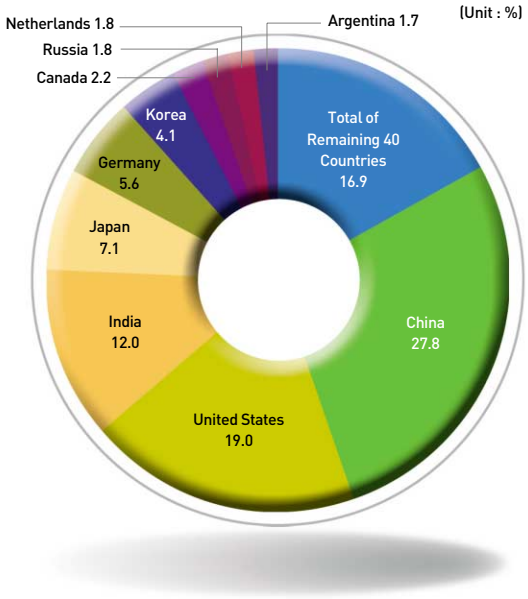
In terms of the total 347 million CATV subscribers in the 50 countries, China accounted for 96

Figure 19 _ CATV Subscribers per 100 Households (1997, 2004)



million or 27.8%, followed by the United States (19.0%) and India (12.0%). Korea ranked 6th with 14 million or 4.1%.

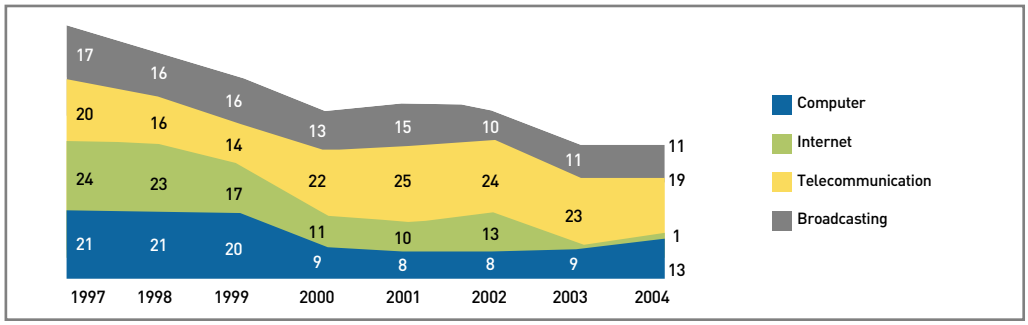
Figure 20 _ CATV Subscribers by Country (2004)



B. Korea's Level of Informatization

In terms of informatization level, Korea ranked among the top 10 for the first time in 2000. Its ranking rose from 7th in 2004 to 3rd in 2006, confirming its status as an advanced country in IT.

Figure 21 _ Korea's Ranking by Sector 1997~2004



For various sector indicators, Korea's ranking in the computer sector soared to 13th in 2004 from 21st in 1997 and to first in Internet sector in 2004 from 24th in 1997. In the broadcasting sector, the expanded diffusion of CATV led Korea to rank 11th in 2004 from 17th in 1997. However, there was not much change in the telecommunications sector, in which Korea ranked 19th in 2004 from 20th in 1997.

Comparing Korea's index for each sector of 2003 and 2004 with Sweden, the top ranking country in 2006 NII, the telecommunication sector showed the largest difference, whereas the difference in computer and broadcasting sectors narrowed slightly. However, it was found that Korea's level in the Internet sector was higher than that of Sweden, with the reduced gap between the two countries.

Figure 22 _ Comparison between Korea and Sweden by Sector 2003

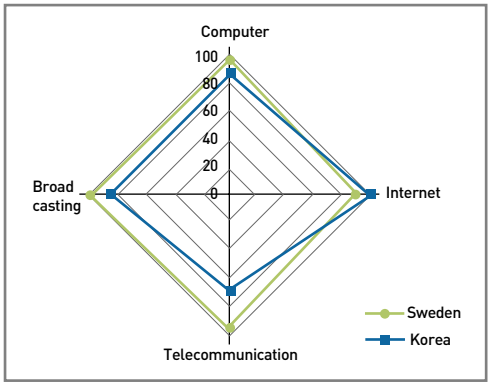
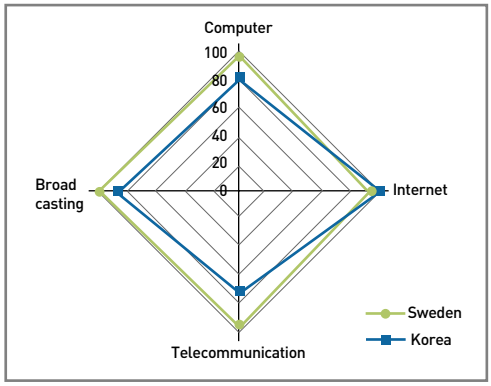
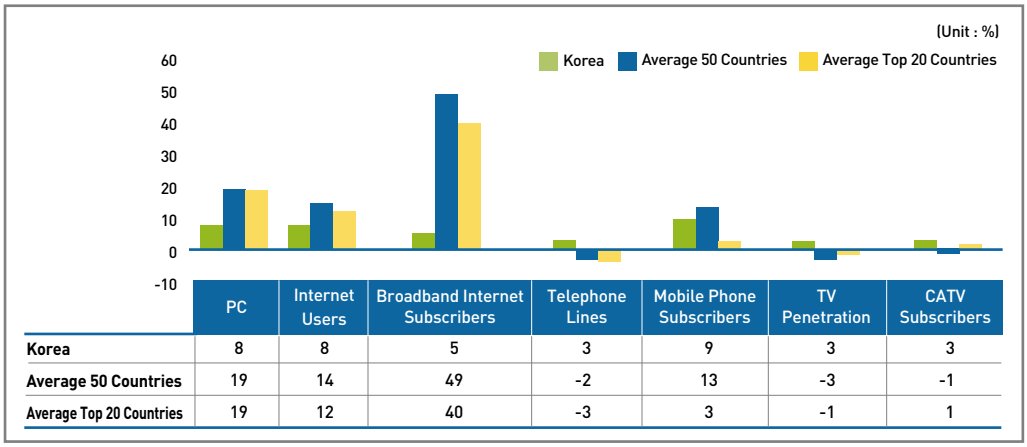


Figure 23 _ Comparison between Korea and Sweden by Sector 2004



In terms of growth rates of major informatization indicators from 2003 to 2004, Korea's growth lagged behind the average growth rates of the top 20 countries, not to mention those of the 50 countries, in almost all indicators except telephone lines, TV penetration, and CATV subscribers. Especially for broadband Internet service subscribers, Korea currently ranks first in the world, however, given that its growth rate hovers around 5%, far below the average of the 50 countries which is 49%, Korea's advantage is expected to fade gradually with time. Meanwhile, the growth of TV penetration and CATV subscribers in the broadcasting sector is likely to play a significant role in maintaining its third place, as the growth rate of Korea is higher than the average growth rate of the 50 and top 20 countries[6].

Figure 24 _ Growth Rate of Key Indicators from 2003 to 2004



	PC	Internet Users	Broadband Internet Subscribers	Telephone Lines	Mobile Phone Subscribers	TV Penetration	CATV Subscribers
Korea	8	8	5	3	9	3	3
Average 50 Countries	19	14	49	-2	13	-3	-1
Average Top 20 Countries	19	12	40	-3	3	-1	1

6) It is analyzed that the reason for the rapid increase in telephone lines is because international organizations recently corrected data of Korea that had been used incorrectly, not because the actual increase in telephone lines was reflected.

4 e-Government

A. Overview

With the launch of National Backbone Information System Project on sectors of residence, real-estate, and automobiles in 1987, Korea has promoted functional and ministerial informatization. Since 2001, 11 e-Government initiatives were selected for informatizing nationwide infrastructure for civil service reform such as the G4C portal, e-Procurement system, and National Finance Information System. As a result, informatization of ministerial and functional unit operations are now at the stage of sophistication. Currently, the government offers some integrated online services including single-window e-Government and reporting/issuing/paying taxes over the Internet, thus upgrading Korea's e-Government to the next level.

Nonetheless, the effect of e-Government on government innovation has been minimal due to ineffective promotion of informatization, which was not focused on improvement of processes or procedures, and limitations caused by offline-oriented rules and regulations and old practices. Thus, President Roh's 'Participatory' Administration adopted e-Government as one of the major government projects to be promoted as a strategic means of reforming government administration and innovating civil services.

The Presidential Committee on Government Innovation and Decentralization (PCGID), the Presidential advisory body, established the 'e-Government Vision and Promotion Principles of the Participatory Government' in May 2003, and mapped out an 'e-Government Roadmap' in August of the same year including 10 sub-agendas in four areas and 31 major tasks based on the feedback from the public and experts of each sector. The 'e-Government Roadmap' is a plan to establish the world's best level government administration that is transparent, efficient, and open for public participation.

B. Current Status of e-Government Roadmap

e-Government Roadmap will be promoted in two phases: Foundation Phase by 2005 for consolidation of internal administrative processes; and Service Advancement Phase by 2007 for expansion of integrated services for citizens and businesses.

In 2004, BPR and ISP for each task were established, and common services for e-Government[7] were explored, as well as related laws and regulations were improved, for building a common basis. System construction and process reengineering have actively been carried out since 2005 according to the result of BPR/ISP.

7) E-Government Common Services : 9 services were selected for development and provision to prevent redundant development of e-Government project and share resources.
① User Directory(LDAP, Light-weight Directory Access Protocol) ② Integrated Authentication(SSO, Single Sign On) ③ Web Service Registry (UDDI, Universal Description, Discovery and Integration) ④ Civil Service Information; ⑤ Document Issuance; ⑥ Civil Application Form; ⑦ E-Payment; ⑧ Identification(PKI, Public Key Infrastructure) ⑨ One-way Messaging Service(SMS, Short Message Service)

As planned, the foundation phase of the e-Government Roadmap will be completed by 2005, followed by system establishment, integration, and diffusion from 2006. Upon improving the management and inspection system for the e-Government project in 2006, the goals of the roadmap are expected to be achieved by 2007. The successful e-Government project based on the roadmap will enable seamless online services between ministries from 2008.

Table 8 _ Status and Plans for e-Government Roadmap

Project		2003	2004	2005	2006	2007
1. Digitizing document processing procedures	Upgrading e-Document exchange system	-	ISP for upgrade	Expand to more organizations and improve exchange system	Expand to more organizations and transform exchange method	Expand to more organizations and establish delivery certification system
	Establishing archive management system	Build archive centers	Diffuse archive centers	-	-	-
			-	ISP for innovating archive management	Establish archive management ystem	Integrated search system for archive information
	Establishing electronic document registe	-	Plan	Promote, implement, and inspect e-register establishment	Promote, implement, and inspect e-register establishment	Promote, implement, and inspect e-register establishment
2. Comprehensive informatization of national and local finance	Improving national finance	Under operation	-	-	-	-
	Informatizing local finance	BPR/ISP	-	Develop core fields of standard financial information	Develop the entire fields of standard financial information	Establish integrated finance management
	Informatizing local finance on education	-	-	BPR/ISP	1st phase establishment	Establish systems on budget, settlement, etc.
3. Realizing local e-Government	Informatizing muicipal and provincial administration	BPR/ISP	1st phase development	Construct connection center	Upgrade functionality	Establish system for policy making
	Informatizing lower level administration	-	ISP for upgrade	1st phase upgrade	2nd phase upgrade and expansion (to 234 regions)	3rd phase upgrade
4. Building e-Auditing system		ISP(2002)	1st phase	2nd phase	-	-
5. Realizing e-National assembly		ISP	Portal on national agenda	Financial analysis	e-Bill system	-
6. Building integrated criminal justice service system		-	BPR/ISP	1st phase establishment (investigation data shared)	2nd phase establishment (expansion/integrated window)	3rd phase establishment (information sharing improved)
7. Comprehensive informatization of HR management	Improving personnel management in central administration	Diffusion to central ministries completed	-	Upgrade	-	-
	Informatizing HR administration of local governments	-	Standard development (for municipals, provinces)	Standard conversion system development (lower level governments)	Expand to lower level governments	Upgrade
8. e-Diplomacy system		1st phase (knowledge portal, etc.)	2nd phase (exchange of documents in overseas offices)	3rd phase (data center)	4th phase (confidential e-documents/security infra strengthened)	Upgrade
9. Real-time management of national agenda	Establishing e-Support system	ISP	1st phase establishment	Upgrade	Feeback system	-
				Establish ISP for and build archive management system	Upgrad archive management	-
	National agenda management system	-	BPR/ISP	Standard development	Apply to entire ministries	Expand to local governments
				Pilot application		
10. Expanding of administrative information sharing		BPR/ISP	Scope expansion (from 20 kinds to 24 kinds)	1st phase establishment (from 24 kinds to 34 kinds)	2nd phase establishment (from 34 kinds to 40 kinds)	3rd phase establishment (from 40 kinds to 74 kinds)
11. Developing government business reference model (BRM)		-	BPR/ISP	Standard development	Upgrad	-
12. Enhancing internet-based civil services (G4C)		ISP for upgrade	1st phase upgrade (526 kinds of application, 30 kinds of issuance/viewing)	2nd phase upgrade (591 kinds of application, 40 kinds of issuance/viewing)	3rd phase upgrade (600 kinds of application, 50 kinds of issuance/viewing)	-

Project		2003	2004	2005	2006	2007
13. Integrated national disaster management service		-	BPR/ISP	1st phase disaster management	1st phase upgrade	2nd phase upgrade
				1st phase emergency rescue	2nd phase emergency rescue	Diffusion
14. Advanced architectural administration information system	Informatizing internet architectural administration	BPR/ISP	1st phase establishment		Promotion	-
	Real-estate information management center	BPR/ISP	1st phase establishment	2nd phase expansion	-	-
15. Integrated tax service		Service establishment	ISP for upgrade	System establishment	ISP for year-end adjustment	-
16. Integrated national welfare service		BPR/ISP	1st phase establishment (for disabled)	2nd phase establishment (for elderly)	3rd phase establishment (for children/woment)	
17. Comprehensive food and drug information service	Comprehensive information service on food and drugs	BPR/ISP	1st phase establishment (food)	2nd phase establishment (drugs)	3rd phase establishment (medical equipment/portals)	
	Safety management of agriculture, livestock, and marine product	-	BPR/ISP	1st phse establishment (high-quality agricultural produce)	2nd phase establishment (agricultural and marine products)	3rd phase establishment (livestock/fishery)
18. Comprehensive employment information service		BPR/ISP	1st phase establishment (youth/elderly)	2nd phase establishment (women/disabled)	-	-
19. Internet-based administrative judgement service		-	System establishment	Connection and expansion (to municipal and provincial areas)	-	-
20. Single-window for business support services (G4B)		BPR/ISP	1st phase establishment (199 kinds of civil information / 40 kinds of industrial information)	2nd phase establishment (1,122 kinds of civil information / 80 kinds of industrial information)	-	Upgrade
21. Integrated national logistics information service		BPR/ISP	1st phase establishment (port entry and exit/ frieght declaration)	2nd phase establishment (import requirements / port logistics)	3rd phase establishment (export requirements / air logistics)	-
22. e-Commerce service		BPR/ISP	1st phse establishment (e-document exchange base)	2nd phase expansion (from 5 kinds to 10 kinds)	-	3rd phase expansion (from 10 kinds to 19 kinds)
23. Comprehensive foreigner support service		-	BPR/ISP	Establish portal for foreigners	-	Upgrade
24. Support for exporting e-Government solutions		-	Plan	-	International cooperation	Expand cooperation
25. Increasing online citizen participation	Constructing online citizen participation portal	-	BPR/ISP, portal	Expand to central institutions	Expand to local institutions	Expand to public institutions
	Faciliating use of e-Government services	-	-	ISP, pilot establishment	Establish call center	Diffuse call center operation
	Expnading online administrative information disclosure	-	ISP	System establishment	Expansion	Upgrade
	Adopt electronic voting and election	-	ISP	Pilot establishment	-	-
26. Building a government-wide NCIA		ISP	Center 1 establishment		Moving	-
			-	Center 2 establishment	Moving	Mutual backup
27. Strengthening e-Government communications network		-	ISP, IP interworking base	2nd phase establishment of IT interworking base	3rd phase establishment of IT interworking base	Upgrade
28. Establishing government-wide ITA		Model/guideline	Pilot project	2nd phase pilot project	Promotion	-
29. Building information security system		-	Plan	System establishment	System expansion	Application expansion
30. Restructuring informatization organizations and personnel		-	Plan	Promote	Promote	-
31. Reforming the legal system for e-Government and security		-	Establish measures	Establish measures	Establish/Inspect measures	Establish/Inspect measures

5 e-Business/Financial Informatization

A. Status of Korea's e-Business

The volume of e-Commerce in Korea reached KRW 358.450 trillion in 2005, which showed a 14.1% increase from KRW 314.079 trillion in 2004. The growth rate has slowed down from the 49.4% increase in 2002, 32.2% increase in 2003, and 33.6% increase in 2004.

Table 9 _e-Commerce Volume by Transaction Type

(Unit : KRW billion, %)

Type	2004		2005		Increase from Previous Year	
		%		%	2004	2005
Total e-Commerce Volume	314,079	100.0	358,450	100.0	33.6	14.1
B2B	279,399	89.0	319,202	89.1	35.1	14.2
B2G	27,349	8.7	29,036	8.1	26.4	6.2
B2C	6,443	2.1	7,921	2.2	5.7	22.9
Others	888	0.3	2,292	0.6	100.9	158.2

Source : National Statistical office, March 2006.

B2B

The B2B transaction volume in 2005 accounts for 89.1% of the total transactions. Of the B2B transactions, buyer-led e-Commerce takes 71.5% share, or KRW 228.167 trillion. This portion is again divided into 23.9% for open transactions, and 76.1% for cooperative transactions, showing that the customs in the offline transaction are significantly affecting online transactions. The volume of seller-led transactions is KRW 77.44 trillion, with 12.1% for open transactions and 87.9% for cooperative transaction.

Table 10 _ B2B e-Commerce Volume

(Unit : KRW billion, %)

Type	2004		2005		Increase from Previous Year	
		%		%	Amount	2005
Total B2B e-Commerce Volume	279,399	100.0	319,202	100.0	39,802	14.2
Buyer-led	197,212	70.6	228,167	71.5	30,955	15.7
Open	43,767	(22.2)	54,538	(23.9)	10,771	24.6
Cooperative	153,445	(77.8)	173,629	(76.1)	20,184	13.2
Seller-led	71,619	25.6	77,443	24.3	5,825	8.1
Open	8,483	(11.8)	9,379	(12.1)	896	10.6
Cooperative	63,135	(88.2)	68,064	(87.9)	4,929	7.8
Broker-led	10,568	3.8	13,591	4.3	3,023	28.6

Source : National Statistical office, March 2006.

In terms of broker-led e-Commerce, the volume of transactions in e-marketplaces stood at KRW 13.591 trillion, or 4.3% of total B2B transactions. A breakdown of e-marketplace transactions by sector shows that MRO was the biggest segment with KRW 3.644 trillion (26.8%), followed by chemicals at KRW 2.303 trillion (16.9%), construction and construction materials at KRW 1.889 trillion (13.9%), agriculture, livestock, and marine products and food and beverage at KRW 1.848 trillion (13.6%), and steel at KRW 1.504 trillion (11.1%).

B2G

The B2G market involving government bodies such as central administrative organizations, local government organizations, and offices of education accounted for KRW 29.036 trillion. Of this amount, construction contracts made up 55.0% of the total, and materials and service purchases accumulated for 45.0%.

B2C

The number of online shopping malls by the end of 2005 was 4,335. This number breaks down to 4,055 or 93.1% for specialized malls, and 300 or 6.9% for general malls, showing growth for specialized malls of 28.7% and a downfall for general malls of 11.5%.

Transaction volume accounted for KRW 7.415 trillion for general malls and KRW 3.2606 trillion for specialized malls, which respectively increased 31.9% and 51.8% compared to the previous year.

Table 11 _ Number of Online Shopping Malls

Type		2001	2002	2003	2004	2005
Total Number of Online Malls		2,166	2,896	3,358	3,489	4,355
Merchandize	General Mall	320	402	343	339	300
	Specialized Mall	1,846	2,494	3,015	3,150	4,055
Operation	Online	690	1,111	1,367	1,618	2,115
	Online / Offline	1,476	1,785	1,991	1,871	2,240
Organization	Individual Company	926	1,401	1,835	1,878	2,608
	Corporation	1,210	1,449	1,464	1,518	1,610
	Others	30	46	59	93	137

Source : National Statistical Office, 'December 2005 Statistical Survey on Cyber Shopping Malls', February 2006.
Note : Data are based on December every year.

B. Financial Informatization

Internet Banking

Table 12 _ Internet Banking Registered Customers

(Unit : 1,000 persons or corporates, %)

Customer	2002	2003	2004	2005	2006. 6.
Individual	17,015(55.9)	21,752(27.8)	23,094(6.2)	25,303(5.1)	31,658(3.7)
Corporate	695(76.4)	1,002(44.2)	1,177(17.5)	1,434(6.1)	1,624(5.9)
Total	17,710(56.6)	22,754(28.5)	24,271(6.7)	26,737(5.2)	33,282(3.8)

Source : Bank of Korea, 'June 2006 Status of Domestic Internet Service Usage', June 2006.
Note : Customers registered in two or more banks included. ( ) shows increase rate compared to the end of the previous year.

As of the end of June 2006, the number of Internet banking customers registered in 17 Korean banks, one foreign bank branch, and the post offices stood at 33.28 million, of whom 31.66 million were individual customers and 1.62 million corporate customers.

Money transfers, loan service and a variety of inquires through Internet banking reached an average of 11.13 million cases daily in 2005, a 21.5% increase from 9 million cases in 2004. The proportion was highest for inquiries at 82.7% (average 9.2 million cases per day), while fund transfers accounted for 17.3% (average 1.92 million cases per day).

Although the number of Internet banking customers and service usage have been increasing steadily, growth rates have become stunted, illustrating that Internet banking in Korea has passed the drastic growth stage and entered into the period of stabilization.

Mobile Banking

The use of mobile banking services offered by domestic banks and post offices increased by 104.4% to 0.29 million cases per day in 2005, up from 0.14 million per day in 2004. Such a sharp increase is mainly attributed to the fact that the new integrated circuit (IC) chip-based mobile banking services, launched in September 2003, improved procedures in the existing menu-based mobile banking sector. As of the end of 2005, the number of IC chip-based mobile banking customers stood at 1.86 million, doubled from the 0.89 million of 2004.

Table 13 _ Mobile Banking Usage, Daily Average

(Unit : 1,000 cases, %)

Type	2003		2004		2005	
	No. of cases	Amount	No. of cases	Amount	No. of cases	Amount
Inquiry	70 (84.9)	-	114 (81.1)	-	231 (80.7) 〈103.6〉	-
Money Transfer	12 (15.1)	139	27 (18.9)	272	55 (19.3) 〈108.0〉	567 〈108.5〉
Total	**83** **(100.0)**	-	**140** **(100.0)**	-	**287** **(100.0)** 〈104.4〉	-

Source : Bank of Korea, 'Status of Domestic Internet Service Usage in 2005'.
Note : 1. ( ) shows the proportion in the entire mobile banking service, 〈 〉 shows the increase rate from the previous year.
2. In December 2003, for the whole year 2004.

Electronic Cash

As of the end of 2005, the number of electronic cash cards rose to 6.65 million, increasing 8.5% from the previous year, and the balance showed 21.1% increase at KRW 11.6 billion. Usage of electronic cash cards in 2005 was on average 422,000 cases per day, a 2.3% decrease from 432,000 in 2004. The amount also decreased to 4.1%, from KRW 340 million in 2004 down to KRW 330 million.

The electronic cash cards may have increased in number, but their usage is still poor due to the weak infrastructure such as in securing retailers and the competition between credit cards and pre-payment cards for public transportation. The usage of electronic cash cards is expected to increase with facilitated use in the public transportation sector, which is one of the largest markets.

Table 14 _ Electronic Cash Issuance Status

(Unit : 1,000 units, KRW million, %)

Type	2003	2004	2005
Number of Issuance	5,008(40.3)	6,129(22.4)	6,649(8.5)
Issuance Balance	8,172(160.9)	9,554(16.9)	11,574(21.1)

Source : Bank of Korea, Issuance and Usage Status of Domestic Electronic Cash in 2005.
Note : ( ) shows increase from the previous year.

Table 15 _ Electronic Cash Usage, Daily Average

(Unit : 1,000 units, KRW million, %)

Type	2003	2004	2005
Number of Cases	455	432	422(-2.3)
Amount	379	341	327(-4.1)

Source : Bank of Korea, Issuance and Usage Status of Domestic Electronic Cash in 2005.
Note : 1. ( ) shows increase/decrease from the previous year.
2. Data for 2003 show the daily average usage volume of electronic cash during the 4th quarter only, whereas data for 2004~2005 represent that of the whole year round.

Online Stock Trading

Online stock trading reached its peak at 64.2% of overall stock trading volume in 2002. Then, it continued to slow down until 2005, at which point the market recovered and recorded a 58.5% volume, which is a 6.7%p increase from the previous year.

Table 16 _ Online Stock Trading

(Unit : KRW trillion, %)

Year	Overall Trading (A)	Online Trading (B)	Online Proportion (B/A)
2001	1,833.1	856.8	46.7
2002	2,072.5	1,331.1	64.2
2003	1,627.8	973.5	59.8
2004	1,423.0	736.6	51.8
2005	2,465.3	1,442.2	58.5

Source : Korea Exchange.
Note : The amount of online stock trading is the total of purchase and sale.

Online Insurance

As for online insurance at the end of 2004, 15 life insurance companies and 11 nonlife insurance companies provided Internet marketing services. Their number of customers in a year totaled 5.69 million, and 69.71 million cases were marketed online, of which 2.5% or 1.73 million cases were insurance and loan contracts.

Table 17 _ Internet Marketing of Insurance Companies

(Unit : 1,000 cases, %)

Year	No. of Companies	No. of Registered Customers (year end)	No. of Users (whole year)	No. of Usage (whole year)	Inquiry	Money Transfer	Insurance Contract	Loan Contract	Others
2002	27	7,253	2,887	37,037 〈100.0〉	34,980 〈94.4〉	267 〈0.7〉	571 〈1.5〉	567 〈1.5〉	651 〈1.8〉
2003	28	13,536(86.6)	3,534(22.4)	67,963(83.5) 〈100.0〉	64,570 〈95.0〉	503 〈0.7〉	1,165 〈1.7〉	804 〈1.2〉	921 〈1.4〉
2004	26	10,528(22.2)	5,694(61.1)	69,709(2.6) 〈100.0〉	66,303 〈95.1〉	479 〈0.7〉	762 〈1.1〉	968 〈1.4〉	1,198 〈1.7〉

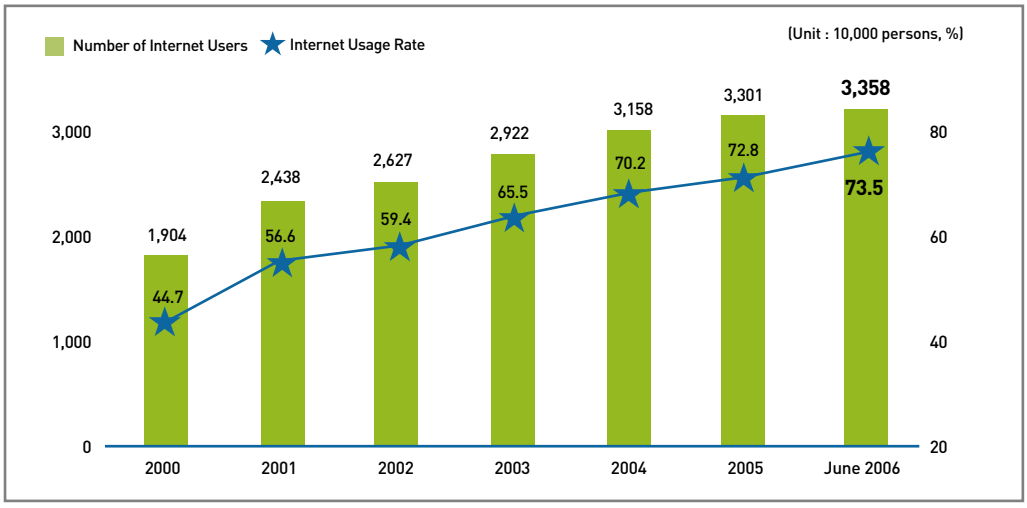
Source : Bank of Korea, 'Status of financial Informartization 2004'
Note : ( )Shows increas from the previous year.
〈 〉Shows the proportion in the total of usage.

6 Informatization of Daily Life

A. Number of Internet Users

Korea's Internet usage has passed the stage of diffusion and entered into the stage of maturity and stabilization. The number of Internet users at the age of 6 and above is 33.58 million (usage rate 73.5%) as of June 2006. The increase rate had been above 10%p every year, until it slowed down after 2002, representing that there are now less beginners but more active users.

Figure 25 _ Internet Usage Rate and Users



Source : National Internet Development Agency of Korea, 'Survey on the Computer and Internet Usage, June 2006', August 2006.

B. Internet Usage

Time Spent for Internet Usage

It was surveyed that the Internet users of Korea spent an average of 13.3 hours per week and 55.3% of them spent more than 10 hours using the Internet. Men spent a weekly average of 2.2 hours more than women, and people in 20s spent the longest time - 18.3 hours.

Table 18 _ Weekly Average Time for Internet Use by Gender and Age

(Unit : %, hours)

Gender/Age		Less than 1 Hours	Less than 1~2 Hours	Less than 2~4 Hours	Less than 4~10 Hours	More than 10 Hours	Weekly Average
Internet Users		4.7	5.0	11.0	24.0	55.3	13.3
Gender	Men	3.9	4.1	10.2	23.5	58.3	14.3
	Women	5.8	6.0	11.9	24.6	51.8	12.1
Age	Age 6~19	1.9	4.5	12.6	32.5	48.5	11.0
	20s	1.0	1.4	4.6	18.9	74.1	18.3
	30s	4.7	6.6	10.9	22.9	55.0	13.8
	40s	11.6	7.6	14.5	20.6	45.7	11.0
	50s	13.1	7.5	13.9	19.8	45.7	10.2
	60s and above	5.9	4.0	24.4	19.2	46.4	9.2

Source : National Internet Development Agency of Korea, 'Survey on the Computer and Internet Usage, December 2005', February 2006.

Place for Internet Usage

Most of the Internet users (97.7%) used the Internet in their homes. Internet usage rate in companies (workplaces) and public facilities were 23.7% and 21.2% respectively.

Table 19 _ Places for Internet Usage

(Unit : %)

Gender/Age		Home	Company (Workplace)	Commercial Public Facility	School	Anywhere (Wireless included)	Other Person's Home	Noncommer-cial Public Facility	Educational Facility Other than School	Others
Internet Users		97.7	23.7	21.2	8.7	8.2	7.5	3.5	2.8	0.3
Gender	Men	97.5	32.5	25.3	8.6	8.4	7.2	3.6	2.8	0.2
	Women	98.0	13.5	16.4	8.9	8.0	7.7	3.3	2.8	0.3
Age	Age 6~19	99.1	0.1	25.2	22.7	5.7	14.8	2.3	6.1	0.1
	20s	97.7	28.6	40.1	10.4	15.0	9.9	7.4	4.2	0.2
	30s	97.8	39.5	11.8	-	7.3	3.2	2.7	0.4	0.1
	40s	98.4	31.6	7.7	-	6.2	1.4	2.4	0.2	0.1
	50s	94.2	30.1	8.1	-	3.8	0.9	1.5	0.2	1.7
	60s and above	83.4	17.8	14.0	-	7.0	1.4	1.3	0.4	4.2

Source : National Internet Development Agency of Korea, 'Survey on the Computer and Internet Usage, December 2005', February 2006.
Note : Multiple responses.

Purpose of Using the Internet

Table 20 _ Purpose of Using the Internet

(Unit : %)

Gender/Age		E-mail/ Chatting	Data/ Information Search	Leisure	Homgpage/ Blog	Shopping/ Reservation	Financial Transaction	Education/ Learning	Online Civil Application	Social Club/ Community	Software Download/ Upgrade	Product/ Service Sale	Job searching	Internet Phone
Internet Users		86.9	86.9	78.7	48.2	48.1	37.2	27.0	20.5	19.9	12.5	6.2	3.5	1.7
Gen-der	Men	87.2	86.5	81.5	46.4	44.9	37.7	26.4	22.8	22.3	15.6	6.4	3.3	1.8
	Women	86.5	87.4	75.5	50.3	51.8	36.7	27.8	17.8	17.1	8.9	5.9	3.9	1.6
Age	Age 6~19	85.2	68.7	90.2	51.9	24.3	6.1	36.3	7.2	11.9	8.1	2.6	0.8	0.4
	20s	98.4	98.0	91.6	74.4	74.9	55.2	34.5	31.5	36.5	22.5	10.8	9.4	3.4
	30s	91.9	93.5	77.8	45.6	59.6	51.3	24.5	27.0	21.5	14.5	8.1	3.7	2.2
	40s	78.3	91.0	60.7	25.2	41.2	41.9	14.6	20.6	13.4	7.0	4.2	1.2	1.4
	50s	67.8	88.3	47.6	17.1	36.6	44.5	7.6	18.2	10.5	4.7	3.4	0.9	0.6
	60s and above	45.7	91.2	25.4	13.6	18.7	31.1	5.3	7.3	3.0	3.5	2.7	0.5	-

Source : National Internet Development Agency of Korea, 'Survey on the Computer and Internet Usage, December 2005', February 2006.
Note : Multiple responses.

Survey on the purpose of Internet usage showed that most people use the Internet for e-mail and chatting, and searching data and information (86.9% respectively). Using the Internet for leisure (78.7%), managing homepages and blogs (48.2%), online shopping and reservations (48.1%), and financial transaction (37.2%) followed.

C. Wired/Wireless Internet Service

Internet Contents

■ Information Search

User-oriented functionalities are added such as auto-complete and real-time search keyword rankings. The service scope has also been expanded to search videos, desktops, and further contents created by users.

■ Communications

The communications sector includes e-mail service and instant messaging. E-mail is the tool used by 27 million, half the population of Korea as of December 2005. 44.2% of the entire Internet users use instant messaging as of June 2005, which is a 7% increase from 37.1% in June 2004.

■ Game

The entire Korean game market was valued at KRW 4.8 trillion as of 2005. The online game market stands at the top of the domestic game industry, with its value at KRW 3 trillion or 63%, followed by arcade, video, mobile, and PC games. Online gaming has recorded a growth rate of 17% from KRW 2.7 trillion in 2004, continuously growing for a number of years.

■ Online Music Service

The online music industry volume of 2005 is estimated KRW 400 billion, which is almost 10 times the volume of 2000 rate (KRW 45 billion) and as large as the offline music market at its peak in 2000 which reached KRW 414 billion. With regulationson banning illegal free music service, the online music market is expected to grow in the future.

■ e-Learning

The e-Learning expenditure of educational institutions, government, public institutions, companies, and individuals in 2005 has increased 12.4% to KRW 1.4525 trillion from KRW 1.2926 trillion in 2004. Especially, the corporate e-Learning market has shown the greatest growth.

■ Press

In July 2005, Internet news services were given the legal position based on the revised law on newspapers. As of March 2006, 353 Internet newspapers were registered in the Ministry of Culture and Tourism.

Mobile Internet

■ m-Contents

Mobile ring downloads have decreased as rings provided within devices become diversified and user interest declined. Meanwhile, mobile games take up the second greatest portion in the mobile Internet industry next to phone decoration service and its usage is continuously growing.

■ m-Commerce

With the launch of chip-based service that provides better user convenience and security, the use of mobile banking is gradually increasing. Since its service launch in 2000, mobile payments have been valued at KRW 850 billion with 2.5 million users in 2005, and are expected to grow in size to KRW 1 trillion by 2006.

■ m-Communications

SMS (Short Message Service) is a service available on mobile phones that allows sending of short text messages to other mobile phones. It was developed in 1997 when the mobile communications system was digitized into CDMA, and is now one of the most widely used mobile communication services. Meanwhile, MMS (Multimedia Message Service) is a service transmitting multimedia data including text that is much larger than SMS, along with color pictures, music, animation, and video. The MMS is expected to replace SMS that has so far led messaging service market, especially as all mobile phones released since 2004 are embedded with MMS functionality. The proportion of MMS mobile phones in the market has doubled in just one year already, and the MMS traffic is currently growing rapidly.

D. Digital Broadcasting Service

Digital Service of Domestic Broadcasting Industry

■ Digital Broadcasting Status of Ground Wave Broadcasting Service

Since the Ministry of Information and Communication authorized ground wave digital broadcasting stations in the metropolitan area in August 2001, it has completed authorization of 154 digital broadcasting stations nationwide for four years up until October 2005. As a result, digital broadcasting service will be available throughout the country from 2006 when the required infrastructure is fully established.

Table 21 _ Digital Broadcasting Service in Korea

	Metropolitan Area	Metropolitan City	Provincial Seat	City/Kun(District)
Plan	Dec. 2002	Dec. 2003	Dec. 2004	Dec. 2005
Result	Dec. 2002	July 2004	Dec. 2005	Dec. 2006

Source : Ministry of Information and Communication, 2006.

■ Digitization of Cable Television service

Digitization of cable TV is far behind the planned schedule. Most of the cable TV providers planned to launch digital broadcasting in 2005; however, due to technical problems and the market environment, they have postponed the launch until 2006. As of December 2005, 42 cable TV providers started providing commercial digital broadcasting (SD-grade) service, however, only 50,000 people have subscribed.

In the meantime, digital service of cable TVs is expected to be offered nationwide as KDMC has started providing digital signals to MSOs (multiple system operators) of Taekwang and On Media since 2006, and the largest MSOs in Seoul - C&M and Qrix - launch their digital broadcasting service.

■ Satellite Broadcasting

As for satellite broadcasting, SD-grade digital broadcasting is already in service. One channel is providing HD-grade service at additional fare of KRW 16,000 per month, with only 30,000 subscribers, as of September 2005.

Adoption of New Media

■ Satellite DMB

On the 1st of May, 2005, Korea launched satellite DMB service for the second time in the world after Japan. Even though it was difficult to secure contents because of the impossible retransmission of ground wave broadcasting in the initial stage of the satellite DMB service, more channels are currently being launched through contents development. Negotiations with program providers and its subscribers are increasing in number.

Table 22 _ Satellite DMB Subscribers

(Unit : person)

Month		No. of Subscribers (accumulation)	Monthly Increase
2005	May	44,000	-
	June	76,000	32,000
	July	109,000	33,000
	August	146,000	37,000
	September	203,000	57,000
	October	262,000	59,000
	November	301,000	39,000
	December	369,000	68,000
2006	January	417,000	48,000
	February	448,000	31,000
	March	499,000	51,000
	April	541,000	42,000
	May	615,000	74,000
	June	680,000	65,000

Source : Ministry of Information and Communication, August 2006.
Note : Number of subscribers increase in March 2006 due to mobile phone subsidiary allowed and WBC broadcasted.

■ Terrestrial DMB

Terrestrial DMB service was launched for the first time in the world in Seoul, Incheon, and Kyunggi Province in December 2005. Currently, 6 providers - KBS, MBC, SBS, YTN, Korea DMB, and U1Media are providing DMB service. KBS, MBC, and SBS each provide one TV channel and three radio channels. YTN DMB and Korea DMB provide one TV channel, two radio channels, and one data channel each. U1Media provides two TV channels and one data channel.

E. Informatization and Lifestyles

Change in Daily Cycle

Most of the Internet users responded that the Internet did not largely change their offline activities in 11 categories, including TV watching, studying, and sleeping, while responses to

categories in detail show some differences. In terms of social relations, 75.7% responded the Internet made 'no change' whereas for TV watching, 60.3% said 'no change'. The Internet use showed changes in time spent for offline activities in the following order: studying, sleeping, leisure, radio listening, newspaper reading, and work.

Table 23 _ Time Change in Offline Activities Caused by Internet Use

(Unit : %, %p)

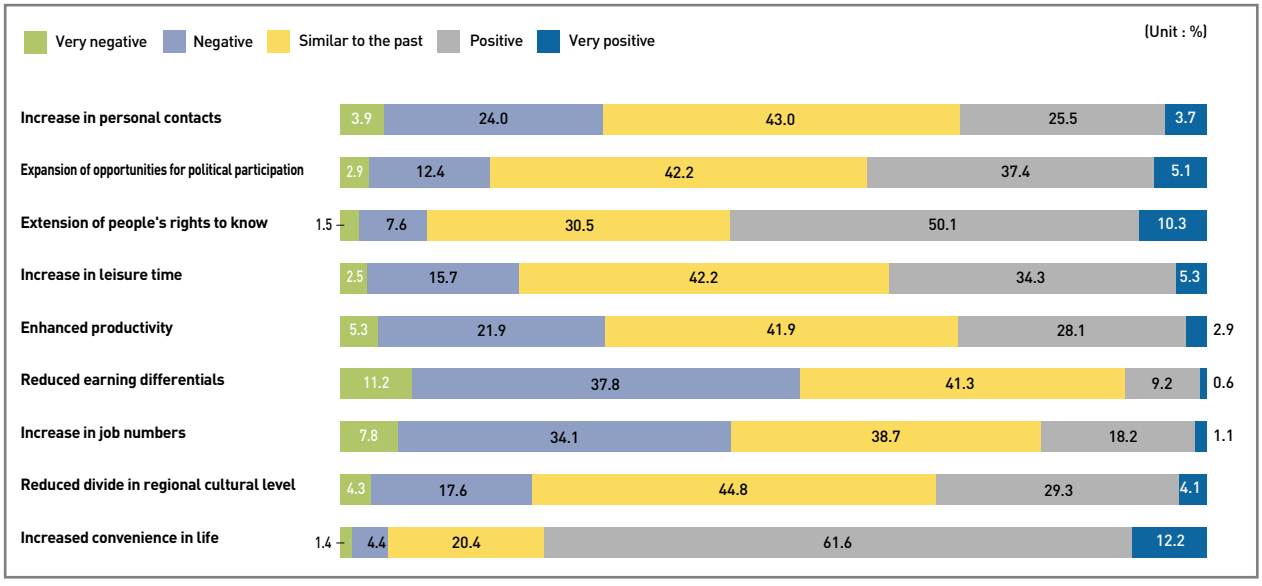
Category	Increased (A)	Reduced (B)	No Change	Difference (B-A)
TV Watching	3.6	36.1	60.3	32.6
Sleeping	1.6	31.7	66.7	30.1
Radio Listening	1.4	29.2	69.3	27.8
Newspaper Reading	1.7	28.9	69.4	27.2
Family Life	2.6	27.4	70.1	24.8
Social Relation	3.7	20.6	75.7	17.0
Working Out	6.4	19.4	74.3	13.0
Movie Watching	7.7	19.8	72.5	12.1
Studying (for Students)	15.2	22.8	62.0	7.5
Leisure	13.1	18.0	68.9	4.9
Work (for Workers)	15.5	14.9	69.6	-0.7

Source : National Internet Development Agency of Korea, 'Survey on the Computer and Internet Usage, December 2005', February 2006.

Attitudes Toward Informatization

According to the 'Survey on the Computer and Internet Usage, December 2005' administered by the National Internet Development Agency of Korea, people responded in a very positive way, saying that their 'lives have become convenient' (73.8%). People were more positive in that their 'rights to know have been extended' (60.4%) and their 'opportunities for participating in politics have been extended'(42.5%), whereas they were less positive in that 'job availability has increased' (19.3%) and 'earning differentials have been reduced' (9.8%).

Figure 26 _ Attitudes toward Informatization



Source : National Internet Development Agency of Korea, 'Survey on the Computer and Internet Usage, December 2005', February 2006.

7 u-Infrastructure

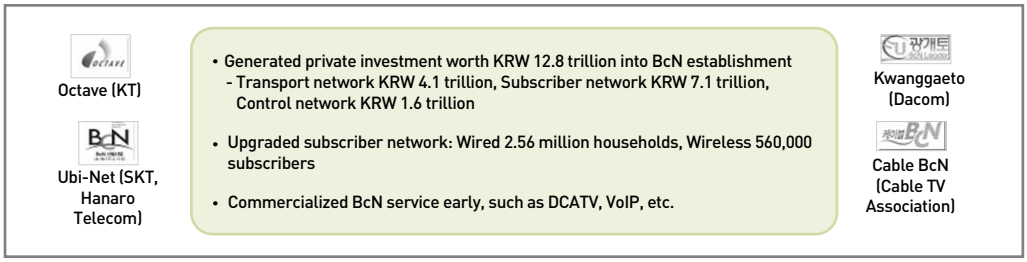
A. Broadband Convergence Network (BcN)

Establishment of BcN

The Broadband convergence Network (BcN) is an integrated next-generation network that provides anytime and anywhere broadband multimedia services that converge telecommunications, broadcasting, and the Internet for convenient use.

The Ministry of Information and Communication has generated private investment worth KRW 12.8 trillion into BcN establishment through the 1st phase (2004~2005) of the project in promoting BcN establishment and facilitating its use. It also upgraded the subscriber network for BcN with 2.56 million households subscribing to wired services and 560,000 persons subscribing to wireless services. Moreover, 40 kinds of new service models, including BcN video phone, have been developed.

Figure 27 _ Result of 1st Phase BcN Project



In the 26th Informatization Promotion Committee meeting held in March 2006, the 'Basic Plan for Establishing Broadband Convergence Network II' was confirmed for early construction of BcN infrastructure to achieve u-Korea and for facilitating BcN service use. The plan consists of contents on performance for the 1st phase of the BcN project and how to improve them, revising goals for BcN establishment considering the change in project environment, revising strategies and roadmap to adapt to the market and technology changes, and policy support directions for entering implementation stage of BcN construction.

The direction for the 2nd phase of the BcN project will support facilitation of application service models such as broadband convergence service (BCS), u-Work, u-Learning, and u-City, as well as promote user-oriented services. In this regard, BcN quality certification and management system will be adopted together with SLA system, and strengthening security, stability, and privacy protection will be focused on during the process.

IPv6 Promotion

IPv4 currently used in Korea is expected to face shortage of domains with the implementation of IT839 strategy. The increase in number of Internet users has slowed down as it has reached over 30 million, whereas the demand for IP addresses has been constantly increasing due to new projects, including BcN, home-network, mobile Internet, telematics, RFID, and VoIP. This convergence of all information and communication services into the Internet is well proven by the fact that about 8.96 million IP addresses were newly created in 2005.

To promote IPv6, the Korean government organized the 'IPv6 Strategic Council' under participation of the Information and Communication Minister and CEOs of major providers and producers, and established the 'Basic Plan for IPv6 Promotion' with a comprehensive roadmap. Also, in order to secure domains for IT839 strategy, Korea has maintained its 5th ranking in the world in terms of IPv6 address resources and come to adopt systematic management of IPv6 address resources and DNS service.

The government has also started IPv6 pilot project from 2004 in order to rule out any possible obstacles in transitioning to IPv6 upon verification of the quality and stability of IPv6 equipment and solutions.

Table 24 _ Increase in Domestic IP Addresses

(Unit : %)

Year	Increased Number	Accumulated Number	Note
1990	3,155,968	3,155,968	Accumulated number since 1982
1991	256	3,156,224	-
1993	168,192	3,324,416	-
1994	524,288	3,848,704	Launch of commercial internet service
1995	917,504	4,766,208	-
1996	1,441,792	6,208,000	-
1997	1,048,576	7,256,576	Financial crisis Under IMF
1998	917,504	8,174,080	Financial crisis Under IMF
1999	2,228,224	10,402,304	Launch of broadband internet service
2000	8,519,680	18,921,984	Period of .com boom
2001	4,063,232	22,985,216	-
2002	4,194,304	27,179,520	-
2003	3,801,088	30,980,608	-
2004	3,247,872	34,228,480	IT839 strategy announced
2005	8,967,168	43,195,648	-

Source : National Internet Development Agency of Korea, 'www.nida.or.kr', March 2006.
Note : Figures are accumulated numbers.

B.Ubiquitous Sensor Network (USN)

USN, or ubiquitous sensor network detects, stores, processes, and integrates the information of objects and the environment through RFID tags and sensor nodes attached anywhere. Information and knowledge contents are created for anybody to use and this customized knowledge service can be accessed anytime and anywhere. Being the core infrastructure for future ubiquitous society (u-Korea), USN is considered as one of the most influential technological fields, next to the Internet, that would bring about significant changes throughout the entire industry in the future. With the u-Korea vision and IT839 strategy established, public interests in services using RFID/USN technology are gradually increasing.

In order to achieve the future knowledge-based society, the Korean Ministry of Information and Communication is actively promoting RFID service facilitation and USN infrastructure upgrade, aiming at establishing the world's top u-Life country by 2010.

C. Soft-Infraware

Service technologies for IT839 are rapidly growing with development of various network technologies, and user requirements on service and convergence environment are actively reflected into the market. Such user requirements can be satisfied by establishment of software infrastructure.

The Korean government, therefore, defined the three infrastructures of IT839 strategy as BcN integrating networks, USN integrating object information, and 'soft-infraware' integrating services.

Soft-infraware is a common base for software that enables effective convergence of IT and provides a reliable and convenient user environment. Aiming at the ultimate goal of building the optimized IT convergence service environment by 2010, the project will be carried out to create a new service value through the development of IT839 technologies, lead market expansion and create an open blue ocean, and enhance IT user environment and competitiveness in software industry.

Successful promotion of soft-infraware and effective convergence of each service of IT839 strategy are expected to contribute to the successful implementation of the u-Korea strategy.

Figure 28 _ Conceptual Framework and Roles of Soft-Infraware

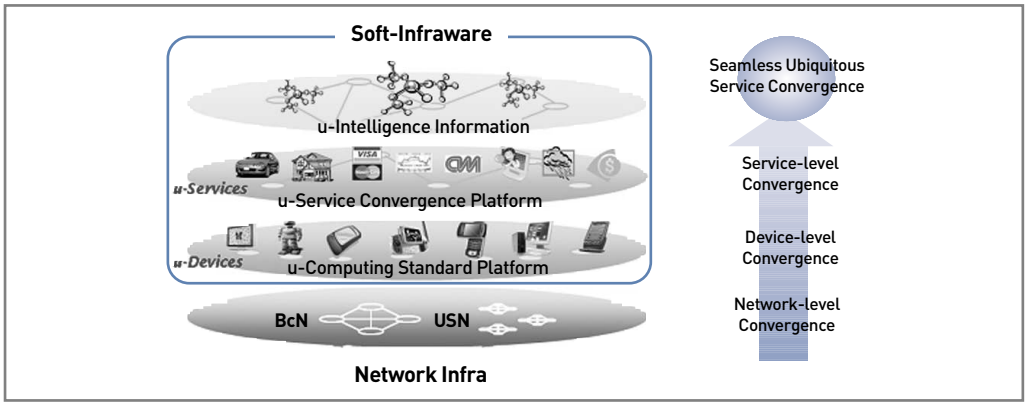
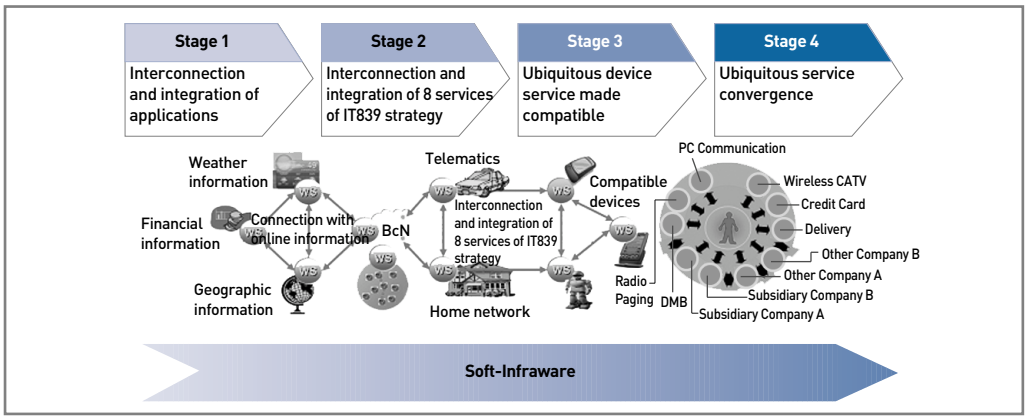


Figure 29 _ Improvement of Service Environment and Roles of Soft-Infraware



8 IT Industry

A. Status of IT Industry

IT Equipment

Production by the Korean IT equipment industry grew 0.6% to KRW 165.9 trillion in 2005 from KRW 164.9 trillion in 2004. Compared to 2004, components production increased 3.9%, whereas production of telecommunication, information, and broadcasting equipments decreased by 0.4%, 6.9%, and 9.3% respectively.

The export of IT equipment grew considerably over the last three years (18~32.8%), but the growth rate was 9.2% between 2004 and 2005 at USD 102.33 billion. The export of information and broadcasting equipment respectively fell 18.8% and 5.7% whereas telecommunication equipment and components grew 7.4% and 31.5%.

The import of IT equipment increased 8.4% from USD 49.75 billion in 2004 to USD 53.95 billion in 2005. The import of broadcasting equipment decreased 4.0%, while telecommunication and information equipment, and component imports increased 14.8%, 19.6%, and 6.6% each.

Table 25 _ IT Equipment Production

(Unit : KRW trillion, %)

Type	2000	2001	2002	2003	2004	2005p	Growth Rate('04~'05)
Telecommunication Equipment	22.5	25.2	33.1	37.9	46.6	46.5	-0.4
Wired	7.0	6.4	7.0	6.7	7.6	6.1	-19.7
Wireless	15.5	18.8	26.2	31.2	39.0	40.3	3.4
Information Equipment	20.9	18.7	22.0	19.0	18.5	17.2	-6.9
Broadcasting Equipment	1.6	2.0	11.2	11.1	10.9	9.9	-9.3
Components	60.9	53.2	61.4	73.5	88.9	92.4	3.9
Total	105.9	99.1	127.7	141.6	164.9	165.9	0.6

Source : Korea Association of Information and Telecommunication, 'Monthly Report on Information and Telecommunication Industry', March 2006.
Note : p shows estimated figures.

Table 26 _ IT Equipment Export

(Unit : USD 100 million)

Type	2000	2001	2002	2003	2004	2005p	Growth Rate('04~'05)
Telecommunication Equipment	83.0	104.0	133.6	183.9	258.8	278.0	7.4
Information Equipment	187.6	145.1	164.5	183.6	206.2	167.4	-18.8
Broadcasting Equipment	67.2	64.1	73.1	87.8	114.3	107.8	-5.7
Components	292.5	171.1	200.1	250.2	357.4	470.1	31.5
Total	630.4	484.3	571.3	705.5	936.8	1,023.3	9.2

Source : Institute of Information Technology Assessment, March 2006.
Note : Scope of IT export/import statistics is expanded to a broader range over IT production statistics.

Table 27 _ IT Equipment Import

(Unit : USD 100 million)

Type	2000	2001	2002	2003	2004	2005p	Growth Rate('04~'05)
Telecommunication Equipment	46.5	33.6	31.9	33.2	37.2	42.7	14.8
Information Equipment	92.9	69.9	68.2	65.6	71.9	86.0	19.6
Broadcasting Equipment	18.5	19.4	22.0	26.6	31.7	30.4	-4.0
Components	257.2	206.0	236.9	298.9	356.7	380.4	6.6
Total	415.0	328.9	359.0	424.4	497.5	539.5	8.4

Source : Institute of Information Technology Assessment, March 2006.
Note : Scope of IT export/import statistics is expanded to a broader range over IT production statistics.

Software

The Korean software industry recorded significant growth from 2000 to 2005 at an average annual growth rate of 14.0%, exceeding the volume of KRW 20 trillion. In 2003 and 2004, it lingered around at a mere 1.0% growth rate due to a slump in the global IT market, but it soon recovered to 10.6% in 2005. The negative growth in packaged software also turned around thanks to the continuous growth in computer-related service and digital contents, recording the production volume of more than KRW 21 trillion. Software exports in 2005 grew to USD 1.189 billion, which showed an annual growth rate of 49.7% from USD 155.84 million in 2000. The exports in digital contents development service in 2005 significantly increased 109.0% from 2004, and the export in computer-related service grew 10.6%.

Table 28 _ Domestic Software Production

(Unit : KRW 100 million, %)

Type	2000	2001	2002	2003	2004	2005	2000~2005 CAGR
Packaged Software	20,173	34,892	50,947	45,932	38,425	50,936	20.4
Computer-related Service	81,486	103,952	119,461	125,068	134,775	137,583	11.0
Digital Contents Development Service	4,695	7,298	9,248	10,587	11,055	15,122	26.4
Database Production and Retrieval Service	962	1,126	2,572	2,809	2,333	2,762	23.5
Total	107,316	147,268	182,228	184,396	186,588	206,403	14.0

Source : Korea Association of Information and Telecommunication, '2004 Annual Report on Statistics of Information and Telecommunication Industry', 2005.
Korea Association of Information and Telecommunication, 'January 2006 Monthly Report on Information and Telecommunication Industry', March 2006.
Note : 1. P-preliminary (estimated)
2. Hardware development is not included in SI category.

■ Packaged Software

The packaged software market expanded to a 20.4% average from KRW 2.173 trillion in 2000 to KRW 5.936 trillion in 2005. The market for each type of packaged software also grew. For application software, the biggest segment in the market showed a growth rate of 33.2% compared to the rate in 2004, followed by the next biggest, system software with 32.7% growth.

Table 29 _ Packaged Software Production

(Unit : KRW 100 million, %)

Type	2000	2001	2002	2003	2004	2005	2000~2005 CAGR
System SW	4,913	10,534	15,451	14,794	12,343	16,380	27.2
Development SW	3,349	4,470	5,613	5,010	5,135	5,914	12.0
Application SW	10,613	19,415	27,860	24,016	19,454	25,919	19.6
Other Packaged SW	1,297	473	2,022	2,113	1,492	2,724	16.0
Total	20,172	34,892	50,946	45,933	38,424	50,937	20.4

Source : Korea Association of Information and Telecommunication, '2004 Annual Report on Statistics of Information and Telecommunication Industry', 2005.
Korea Association of Information and Telecommunication, 'January 2006 Monthly Report on Information and Telecommunication Industry', March 2006.

■ Computer-related Service

The computer-related service market grew by an average annual rate of 11.0% between 2000 and 2005, from KRW 8.1486 trillion in 2000 to KRW 13.7584 trillion. The system integration (SI) service sector fell 1.2% from 2004, whereas system management and maintenance grew 7.5%.

Table 30 _ Computer-related Service Production

(Unit : KRW 100 million, %)

Type	2000	2001	2002	2003	2004	2005	2000~2005 CAGR
System Integration	55,818	73,313	82,660	87,563	88,588	87,537	9.4
System Management and Maintenance	21,633	24,582	30,320	30,944	39,219	42,130	14.3
Data Processing	1,695	1,181	1,527	1,237	2,077	1,258	-5.8
ASP	-	869	1,421	939	1,341	1,220	-
Information Security	-	204	757	724	545	993	-
Other Computing Service	2,340	3,801	2,775	3,662	3,005	4,446	13.7
Total	**81,486**	**103,950**	**119,460**	**125,069**	**134,775**	**137,584**	**11.0**

Source : Korea Association of Information and Telecommunication, '2004 Annual Report on Statistics of Information and Telecommunication Industry', 2005.
Korea Association of Information and Telecommunication, 'January 2006 Monthly Report on Information and Telecommunication Industry', March 2006.

■ Digital Contents Development Service (including Database Production and Retrieval Service)

The digital contents development service market expanded by an average annual growth rate of 25.9%, from KRW 565.8 billion in 2000 to KRW 1.7882 trillion in 2005. The entertainment and game sector holding the biggest segment saw a decrease in production volume by 2.3% compared to 2004, while the life and culture information contents, which showed a dramatic fallback in 2004, fully recovered its growth.

Table 31 _ Digital Contents Development Service Production

(Unit : KRW 100 million, %)

Contens Type	2000	2001	2002	2003	2004	2005	2000~2005 CAGR
Education	1,194	1,727	2,150	1,720	1,225	4,283	29.1
Life & Culture Information	169	592	1,011	776	258	1,396	52.5
Entertainment & Games	2,190	2,638	3,128	5,217	6,395	6,247	23.3
Digital Publishing	132	133	219	232	194	285	-
Digital Imaging	856	1,582	1,635	1,509	1,473	1,466	-
Other Contents	155	626	1,106	1,132	1,510	1,443	56.2
DB Production and Retrieval Service	962	1,126	2,572	2,809	2,333	2,762	23.5
Total	**5,658**	**8,424**	**11,821**	**13,395**	**13,388**	**17,882**	**25.9**

Source : Korea Association of Information and Telecommunication, '2004 Annual Report on Statistics of Information and Telecommunication Industry', 2005.
Korea Association of Information and Telecommunication, 'January 2006 Monthly Report on Information and Telecommunication Industry', March 2006.

Information Technology Service Industry

The IT service is the key industry that has led the growth of Korea's IT industry as well as the entire national economy since the 1990s. Its growth rate has somewhat slowed as the market attained maturity, however, there are a few sectors around wireless data that are still growing significantly. Also with emergence of new services, the IT service industry is expected to maintain its position as the key industry for national growth in the future.

Sales in the IT service industry in 2005 reached KRW 44.6729 trillion, which is a 4.1% increase from the previous year. The backbone telecommunication sector also marked a slight growth with launch of new services like Internet phone and entry of new broadband Internet providers, despite decelerated growth in voice sales and market pressure to cut down service fees. The sales

in online information service led the growth of entire value added telecommunication sector with better accessibility to gateways of mobile phone operators, which were enabled by the policy that opened their wireless network from the latter half of 2005.

The sales in IT service market is growing on average 5.0% every year, and is expected to reach KRW 57.2650 trillion by 2010.

Table 32 _ Status of Sales in IT Service

(Unit : KRW 100 million)

Type	2002	2003	2004	2005
Backbone Telecommunication	288,584	291,147	301,760	310,025
Special Category Telecommunication	11,795	10,296	10,265	10,208
Value Added Telecommunication	37,639	45,171	46,482	46,900
Broadcasting	91,746	69,431	70,693	79,596
Total	**429,764**	**416,045**	**429,200**	**446,729**

Source : Korea Association of Information and Telecommunication, December 2005.

Table 33 _ Sales in IT Service Outlook

(Unit : KRW 100 million)

Type	2006	2007	2008	2009	2010	CAGR 2005~2010
Backbone Telecommunication	316,061	326,136	337,628	351,655	362,918	3.2
Special Category Telecommunication	10,063	9,833	9,439	9,136	8,889	-2.7
Value Added Telecommunication	48,000	49,950	52,900	56,000	58,520	4.5
Broadcasting	88,681	99,341	111,997	126,735	142,323	12.3
Total	**462,805**	**485,260**	**511,964**	**543,526**	**572,650**	**5.0**

Source : Estimation by Korea Information Society Development Institute.

IT Industry Export and Import

Though the increase rate of IT export in 2005 slowed down to 9.2%, it topped the USD 100 billion level for the first time in history and reached USD 102.3. The amount of IT imports in 2005 increased 8.4% from the previous year to USD 53.95 billion, and the balance of IT industry trade in 2005 recorded a surplus of USD 48.4 billion, which is more than double or 209% of the surplus of the entire industry trade of Korea in 2005, USD 23.2 billion. The IT industry portion in the entire export industry is still large at 36% since 2003, and the portion of imports is 20.7%, constantly decreasing from its highest level at 23.7% in 2003.

A breakdown of exports shows the mobile communication devices slowed its increase with 0.7% or USD 19.55 billion, while mobile communication components increased 32.7% or USD 6.28 billion. Thus, the export of mobile communication devices including components came to exceed USD 25 billion. Meanwhile, the export of semiconductors increased 18.5% from the previous year at USD 32 billion exceeding USD 30 billion level for the first time in history. Exports in memory semiconductors that takes up more than 50% of semiconductors exported decreased 0.5% from the previous year, whereas the export of logics (17.3%) and wafers (74.2%) dramatically increased. The export of digital TVs (including components) reached USD 6.15 billion, a 6.4% increase from last year; however, LCD monitors fell down by 7.0% to USD 6.28 billion. USD 10.2 billion worth of display panels were exported with 134% increase from the previous year, entering into the top three export items that exceed USD 10 billion, following mobile phone devices, and memory semiconductors.

Table 34 _ Trade Balance in IT Industry for Recent 5 Years

(Unit : USD million, %)

Type		2001	2002	2003	2004	2005
Export	Amount	48,426	57,126	70,549	93,681	102,333
	Increase Rate	-23.2	18.0	23.5	32.8	9.2
	Proportion of Entire Industry	32.2	35.2	36.4	36.9	36.0
Import	Amount	32,888	35,898	42,438	49,755	53,950
	Increase Rate	-20.8	9.2	18.2	17.2	8.4
	Proportion of Entire Industry	23.3	23.6	23.7	22.2	20.7
Balance	Amount	15,539	21,228	28,111	43,926	48,382

Source : Statistics Analysis Team, Institute of Information Technology Assessment, Korea Customs Research Institute.

B. IT Industry Policy: IT839 Strategy

Key Outcomes of IT839 Strategy

IT839 Strategy was mapped out in February 2004 as a positive developmental strategy for the IT industry in order to achieve GDP per capita of USD 20,000.

Through the IT839 Strategy, Korea developed some of the world's best cutting edge technologies like T-DMB and created the market for them. Core technologies related to the WiBro system and T-DMB were developed in Korea for the first time in the world. In December 2004, a 30Mbps-grade WiBro prototype was successfully developed. In September 2005, the IPR on WiBro was confirmed as the global standard in IEEE802.16e, and Korea came to obtain the leading position in the next-generation mobile communications sector. Also in the APEC Summit held in November 2005, Korea's showcase of the WiBro service was well received by the global leaders.

The world's first T-DMB service was launched in Seoul, Incheon, and Kyunggi Province in December 2005, after successful development of one-way transmission system in 2004. T-DMB is, therefore, the first information and communication technology conceptualized and developed by Korea, with the system further developed and the service commercialized.

One of the outcomes of IT839 Strategy is the strengthened global IT cooperation centered on Korea and its rise as an IT leader. In order to obtain the world's best technological

Table 35 _ Korea's DMB and WiBro Overseas

Country	Activity
Germany	MOU signed with BLM for adoption of Korea's DMB technology (April 2005) - Pilot DMB broadcasting in Regensburg (2005~2007) - Experimental DMB service in Munich where the opening ceremony of 2006 World Cup is held - DMB Service and technology development in the future - Experimental DMB broadcasting expanded to Europe and other areas ※ Especially, the pilot broadcasting in Germany is legally authorized as the Europe project, and will be carried out under participation of total 9 countries including Korea for 2 years in 4 regions.
Netherlands	DMB showcase in Amsterdam for the first time (Sept. 2005)
France	Experimental DMB broadcasting scheduled (Dec. 2005)
United Kingdom	Experimental DMB broadcasting scheduled (April 2006)
China	'WiBro-DMB' pilot service hosted by SARFT (early 2006)
Italy	WiBro showcase in Winter Olympics, Torino (Feb. 2006)

competitiveness, Korea is host to R&D centers of the world's leading companies; Intel in March 2004, IBM in May 2004, and Motorola in October 2005. Korea plans to upgrade its technological level under cooperation with companies overseas in some strategic fields in which Korea still needs improvement.

Advancing into u-IT839 Strategy

Considering the changes in market and industrial environment so far, the Korean government launched u-IT839 Strategy as the second phase of the IT839 Strategy.

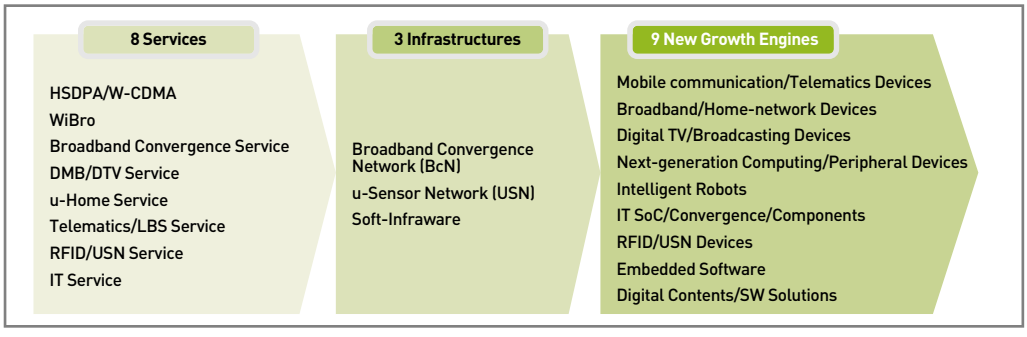
As for the 8 services, the current W-CDMA will be transformed into HSDPA/W-CDMA that includes a more advanced technological method, while DMB and groundwave DTV will be expanded and integrated into DMB/DTV service for accelerating digitization of analogue broadcasting. In addition, communications and broadcasting convergence will be promoted and IP media, the key factor for industrial convergence, will be separated from BcN and added as the new broadband convergence service. Since VoIP has already entered into market competition with the launch of its commercial service, it is necessary to draw a strategy for service improvement led by the market. U-Home service will be reorganized by expanding the scope of home network service.

In terms of the 3 infrastructures, soft-infraware will be added to the current BcN and USN in order to foster investment in software, as it will grow as the core sector of the IT industry in the future.

For the 9 new growth engines, the scope of each engine will be expanded in order to reflect the trend of convergence. Devices for mobile communications and telematics will be combined as mobile communication/telematics devices, and home network devices expanded to broadband/home network to include fixed-line communication devices. The next-generation PC will be extended to next-generation computing/peripherals so that it can be given the role of basic growth engine in computing and user environment. IT SoC (System-on-Chip) will be expanded to IT SoC/Convergence/Component to reflect SoC trend in the development and production of components technology, and to foster systematic development of IT components or materials as well as IT/BT/NT convergence components. RFID/USN devices will also be added, which are drawing attention as a new infrastructure that is expected to greatly influence the entire industry.

The u-IT839 Strategy, therefore, will be promoted as the new blueprint appropriate for the changes in the market environment.

Figure 30 _ u-IT839 Strategy



9 Information Security

A. Status of Information Security

Worm/Virus

In 2005, the number of worm/virus damage reports reached 16,093, a 86% decrease from 2004. This is because the attacks by mass mailing worms such as Netsky, Bagle, and Dumaru were relatively less.

Table 36 _ 2005 Worm/Virus Damages in Korea

(Unit : case)

Type	2004 Total	2005												2005 Total
		Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec	
Worm	100,727	1,832	1,205	1,049	648	1,302	1,040	662	620	444	637	705	620	10,764
Trojan	3,346	32	25	31	22	23	25	14	26	50	185	220	93	746
Virus	2,567	59	64	61	34	22	25	54	67	51	57	53	64	611
Others	1,354	138	479	262	534	432	488	535	558	253	70	66	157	3,972
Total	**107,994**	**2,061**	**1,773**	**1,403**	**1,238**	**1,779**	**1,578**	**1,265**	**1,271**	**798**	**949**	**1,044**	**934**	**16,093**

Source : Korea Information Security Agency, December 2005.

Phishing

With rapid increase in damages in 2005, phishing became a key security issue. Cases are similar to 2004 in that vulnerable domestic systems (web servers) were used for phishing, but some were different in that 'pseudo-phishing' cases occurred through the Trojan horse or advertisements of financial fraud.

Table 37 _ Number of Phishing Reports

(Unit : case)

Year	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec	Total
2005	61	64	64	66	97	116	112	125	90	94	107	91	**1,087**
2004	2	5	2	6	0	21	22	27	43	16	36	40	**220**

Source : Korea Information Security Agency, December 2005.

Homepage Forgery

Homepage forgery was raised as an issue in Korea in 2005. The number of cases reported as homepage forgery in January 2005 (6,478 cases), far exceeding the total of 2004 (4,812 cases) and rapidly increasing.

Malicious Bot

Malicious bots are currently evolving in its techniques with changes in hacking methods. Especially, it should be noted that the number of cases or infection value of worms that are spread at random may have decreased, but malicious bots that are spread with specific objectives are constantly increasing. This is because the advanced Internet environment of Korea provides the most optimized environment for spamming and DDoS (Distribute Denial of Service Attack) using malicious bots.

Table 38 _ Percentage of Malicious Bot Infection in Korea 2005

(Unit : %)

Type	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec
Infection Ratio	24.1	26.4	25.8	24.6	20.7	18.1	19.4	19.7	14.6	13.6	9.5	9.2

Source : Korea Information Security Agency, 'Status of and Response to Information Systems Hacking and Viruses in 2005', December 2005.

Personal Information Breach

The number of personal information breaches reported to the Korea Information Security Agency (KISA) in 2005 was 18,206. Collection of personal information without agreement increased from 1.2% in 2003 to 6.3% in 2005, and damages from fraudulent use of other persons' information, the largest segment, increased from 37.3% in 2003 to 53.9% in 2005.

Meanwhile, neglecting duty decreased from 11.6% in 2003 to 0.1% in 2005, and non-designation of a personal information manager from 5.9% in 2003 to 0.2% in 2005.

Table 39 _ Status of Personal Information Breach

(Unit : case, %)

Type	2003		2004		2005	
	No. of cases	%	No. of cases	%	No. of cases	%
Collection of personal information without agreement	260	1.2	564	3.2	1,140	6.3
Neglect of duty to notify or stipulate collection of personal information	2,491	11.6	27	0.2	15	0.1
Collection of excessive personal information	38	0.2	43	0.2	33	0.2
Excessive use of information over notification/stipulation or providing the information to the 3rd person	337	1.6	784	4.5	916	5.0
Destruction, breach, or disclosure of information by personal information operator	172	0.8	235	1.3	186	1.0
Neglect of duty to notify consignment of personal information	8	0.05	2	0.05	4	0.05
Neglect of duty to notify acquisition of operation	9	0.05	5	0.05	7	0.05
Failure to designate personal information managers	1,279	5.9	42	0.2	25	0.2
Lack of technical and managerial measures for personal information protection	181	0.8	212	1.2	390	2.1
Non-destruction of personal information after completing missions	129	0.6	107	0.6	152	0.8
Non-acceptance of requests for withdrawal of agreement, review, or revision	825	3.8	2,312	13.2	771	4.2
Neglect of duty to make withdrawal/review/revision processes easier than collection	229	1.1	569	3.2	285	1.6
Collection of personal information of children without agreement of legal guardian	1,195	5.5	736	4.2	71	0.4
Damages caused by fraudulent use of other persons' information such as national registered ID number	8,058	37.3	9,163	52.2	9,810	53.9
Others (credit information breach, privacy infringement at work, etc.)	6,374	29.5	8,235	15.8	4,401	24.1
Total	**21,585**	**100.0**	**23,036* (17,569)**	**100.0**	**18,206**	**100.0**

Source : Korea Information Security Agency, 2005.

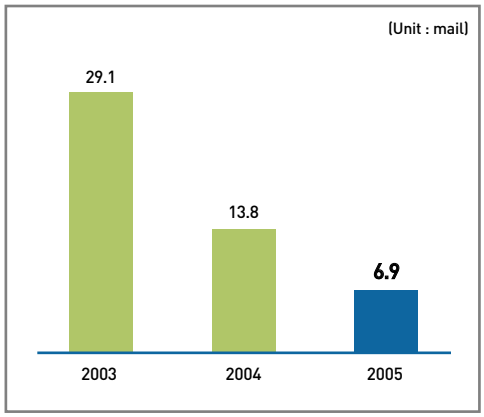
Note : * Figure in ( ) is the number of personal information breach cases excluding 5,467 cases of illegal spam filed by citizens from the entire 23,036 cases filed in 2004.

Spam

The amount of spam received via email in 2005 temporarily increased in the first half with an average of 15.3. However, in the second half of 2005, it decreased to 6.9 thanks to the adoption of RBL (Real-time Blocking List) and SPF (Sender Policy Framework).

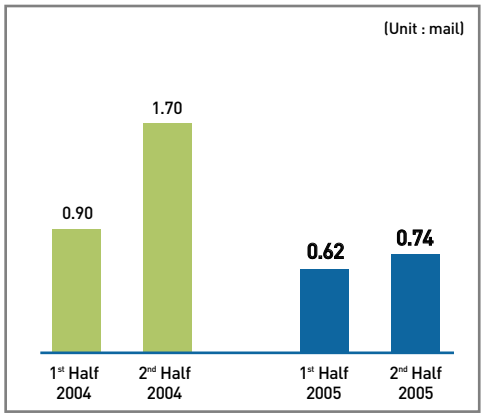
As the revised law on IT network requiring prioropt-in when sending advertisements through phones (including mobile phone) and faxes came into enforcement, the daily average spam received by mobile phones dramatically dropped 64% to 0.62 in the first half of 2005 from 1.7 in the latter half of 2004. However, it slightly increased in the latter half to 2005 to 0.74 with the new transmission techniques that emerged to avoid the law. These include evadinga chase by using a call-forwarding function many times to call back numbers, or 'one-ring' that tempts people to call back to caller number by hanging up after ringing one or two times.

Figure 31 _ Spam Received by Email by Year



Source : Korea Information Security Agency.

Figure 32 _ Spam Received by Mobile Phone by Year



Source : Korea Information Security Agency.

B. Strategy on Information Security

In order to cope with threats to information security, such as Internet infringement incidents, personal information breach, and spam, which have increased and jeopardized the information society infrastructure with the advancement of informatization, the Korean Ministry of Information and Communication confirmed and announced the 'Mid and Long-term Information Security Roadmap for Establishing Secure u-Korea' in May 2005.

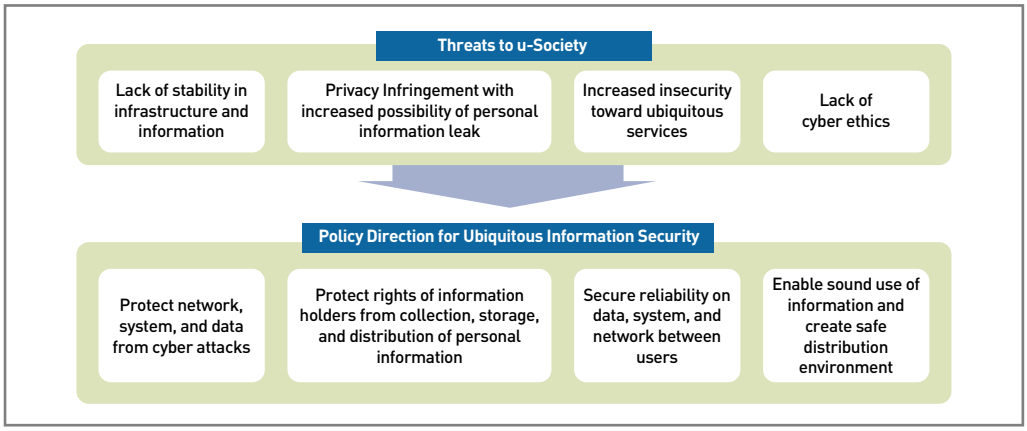
This was followed up in 2005 by implementation of 5 projects for 'securing stability of advanced infrastructure', 2 projects for 'establishing reliability of new IT services', 5 projects for 'strengthening information security functions of new growth engines', 5 projects for 'preventing Internet incidents and upgrading countermeasures', 7 projects for 'stepping up privacy protection system', 3 projects for 'improving laws on information security', and 2 projects for 'expanding campaign on information security culture and fostering specialized manpower'.

Following the 'Mid and Long-term Information Security Roadmap for Establishing Secure u-Korea', the Ministry of Information and Communication is currently preparing to establish the 'Basic Strategy for u-Information Security (provisional)' to provide safe ubiquitous services and

explore future-oriented policy projects for personal information protection and sound use of information and its environment.

The 'Basic Strategy for u-Information Security' will consist of four policy segments u-Security for infrastructure protection, u-Privacy for user protection, u-Trust for securing service reliability, and u-Clean for establishing sound environment; and measures for each segment will be established.

Figure 33 _ Information Security Policy Project Sector for u-Society



Annex : Infomatization Key Statistics

Global Data

Internet

1. E-government Readiness Index, 2005
2. Economist Intelligence Unit E-readiness Rankings, 2006
3. The Networked Readiness Index, 2005
4. Digital Opportunity Index, 2005
5. Internet Users, Worldwide, 1991-2004
6. Broadband Subscribers Per 100 Inhabitants, by Technology, December 2005
7. IPv4 Addresses, June 2006
8. IPv6 Addresses, June 2006

IT Industry

1. Forecast End-User Spending on IT Products and Services, 2004-2010
2. Number of CDMA Subscribers by Region
3. Top 10 Vendors Ranked by Unit Shipments, Worldwide
4. PC Installed Base by OS by Region, Worldwide, 2006
5. Top 20 Semiconductor Vendors, by Revenue, Worldwide, 2005

Domestic Date

Internet

1. Household PC Penetration Rate
2. Number of Internet Users and Usage Rate
3. Internet Connection Method for Individuals, 2005
4. Internet Connection Device for Individuals, 2005
5. Broadband Internet Service Subscribers
6. Wireless Internet Service Subscribers
7. Number of .kr Domains by Year
8. Number of Registered Internet Banking Users
9. Mobile Banking Service Usage, Daily Average

e-Commerce

1. e-Commerce Transaction Volume
2. e-Commerce Transaction Volume by Type
3. Number of Online Shopping Malls and Transaction Volume

Telecommunication

1. Wired and Wireless Service Subscribers
2. Local Call Subscribers
3. Mobile Phone Subscribers
4. cdma 2000-1x Subscribers
5. Digital TV Penetration
6. Digital Cable TV Penetration
7. Terrestrial DMB Terminal Sales and Satellite DMB Subscribers

IT Industry

1. IT Industry Portion in GDP and Its Contribution to Growth
2. IT Industry Production Volume
3. IT Service Production
4. IT Equipment Production
5. IT Equipment Export and Import
6. Software and Computer-related Service Production
7. Software and Computer-related Service Export
8. Number of IT-related Companies
9. Number of Employees in IT Industry
10. Information Security Sales
11. Digital Contents Market Size

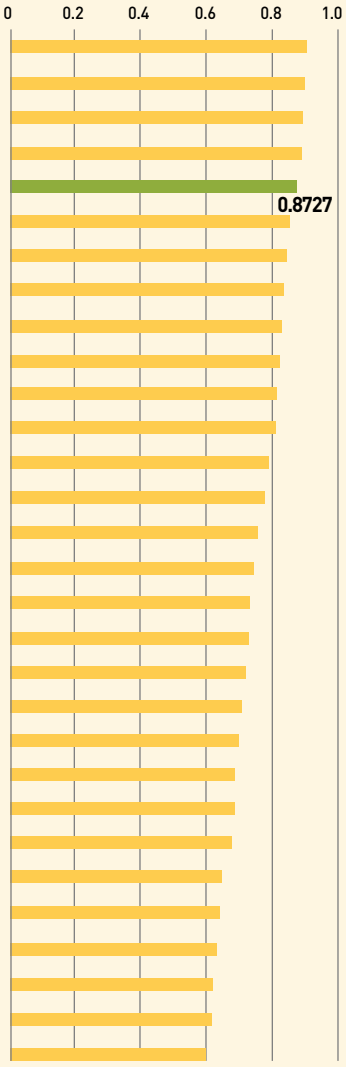
Adverse-Function

1. Hacking status
2. Cases of Computer Worm/Virus Attack
3. Report and Inquiry on Personal Information Breach
4. Illegal Spam Mail, Daily Average/Person
5. Mobile Spam Message, Daily Average/Person

National Informatization Index and Ranking by Year

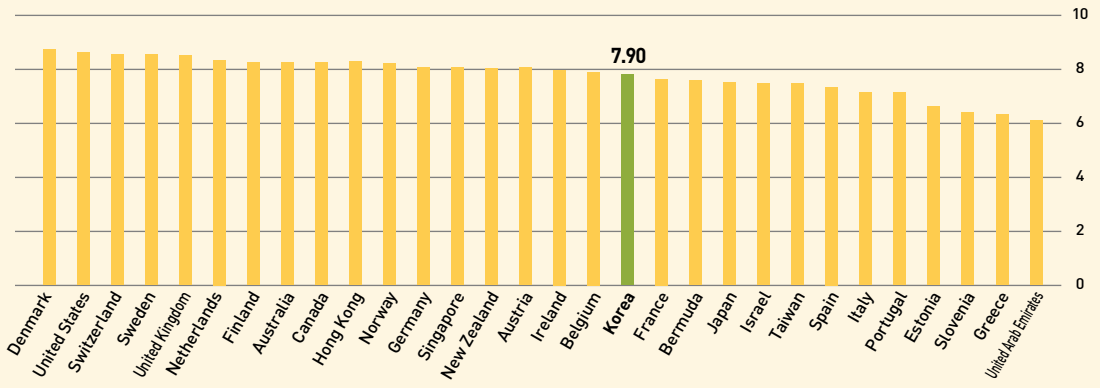
1. E-government Readiness Index, 2005

Country	Rank			Index (2005)	Web Measure Index	Infrastructure Index	Human Capital Index
	2005	2004	note				
United States	1	1	(=)	0.9062	0.1000	0.7486	0.97
Denmark	2	2	(=)	0.9058	0.9731	0.7642	0.98
Sweden	3	4	1(▲)	0.8983	0.8654	0.8395	0.99
United Kingdom	4	3	1(▽)	0.8777	0.9962	0.6471	0.99
Korea	**5**	**5**	**(=)**	**0.8727**	**0.9769**	**0.6713**	**0.97**
Australia	6	6	(=)	0.8679	0.9038	0.7098	0.99
Singapore	7	8	1(▲)	0.8503	0.9962	0.6448	0.91
Canada	8	7	1(▽)	0.8425	0.8923	0.6552	0.98
Finland	9	9	(=)	0.8231	0.8269	0.6524	0.99
Norway	10	10	(=)	0.8228	0.7962	0.6823	0.99
Germany	11	12	1(▲)	0.8050	0.8423	0.6226	0.95
Netherlands	12	11	1(▽)	0.8021	0.7346	0.6815	0.99
New Zealand	13	13	(=)	0.7987	0.8038	0.6021	0.99
Japan	14	18	4(▲)	0.7801	0.8154	0.5850	0.94
Iceland	15	14	1(▽)	0.7794	0.6077	0.7704	0.96
Austria	16	17	1(▲)	0.7602	0.7423	0.5784	0.96
Switzerland	17	15	2(▽)	0.7548	0.6038	0.7105	0.95
Belgium	18	16	2(▽)	0.7381	0.7115	0.5127	0.99
Estonia	19	20	1(▲)	0.7347	0.6962	0.5281	0.98
Ireland	20	19	1(▽)	0.7251	0.7115	0.5037	0.96
Malta	21	21	(=)	0.7012	0.7923	0.4413	0.87
Chile	22	22	(=)	0.6963	0.9115	0.2773	0.90
France	23	24	1(▲)	0.6925	0.6115	0.5060	0.96
Israel	24	23	1(▽)	0.6903	0.7308	0.4002	0.94
Italy	25	26	1(▲)	0.6794	0.6269	0.4812	0.93
Slovenia	26	27	1(▲)	0.6762	0.5923	0.4762	0.96
Hungary	27	33	6(▲)	0.6536	0.7038	0.3069	0.95
Luxembourg	28	25	3(▽)	0.6513	0.4000	0.6439	0.91
Czech Republic	29	28	1(▽)	0.6396	0.5885	0.4102	0.92
Portugal	30	31	1(▲)	0.6084	0.4269	0.4283	0.97



Source : UN, 'Global E-government Readiness Report 2005', December 2005.

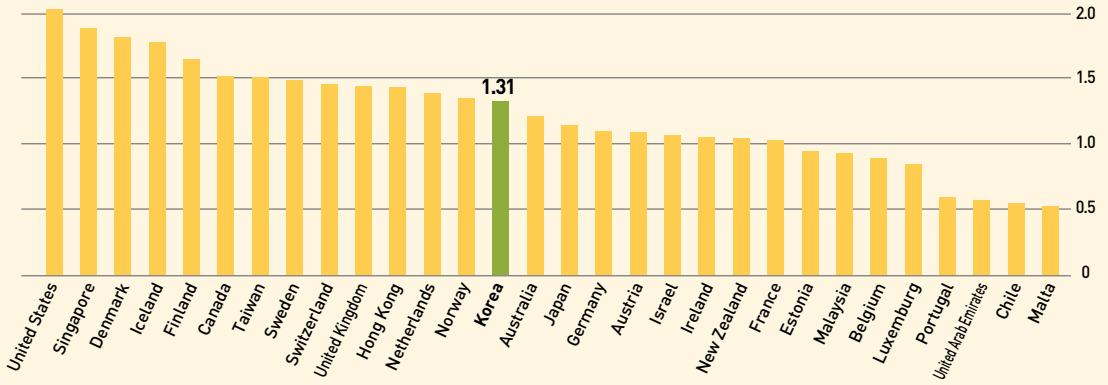
2. Economist Intelligence Unit E-Readiness Rankings, 2006



Country	Rank			Overall Scores (2006)	Category Scores					
	2006	2005	note		Connectivity	Business Environment	Consumer & Business Adoption	Legal & Policy Environment	Social & Cultural Environment	Supporting E-services
Denmark	1	1	(=)	9.00	8.70	8.77	9.45	8.70	9.40	9.25
United States	2	2	(=)	8.88	7.85	8.59	10.00	8.77	9.20	10.00
Switzerland	3	4	1(▲)	8.81	8.50	8.56	9.45	8.24	9.20	9.25
Sweden	4	3	1(▽)	8.74	8.00	8.36	9.55	8.58	9.40	9.25
United Kingdom	5	5	(=)	8.64	7.90	8.57	10.00	8.42	8.20	9.25
Netherlands	6	8	2(▲)	8.60	8.20	8.57	9.05	8.46	8.60	9.25
Finland	7	6	1(▽)	8.55	7.80	8.59	9.25	8.52	8.60	9.25
Australia	8	10	2(▲)	8.50	7.80	8.27	8.65	9.05	9.00	9.25
Canada	9	12	3(▲)	8.37	7.75	8.75	8.65	8.70	7.80	9.50
Hong Kong	10	6	4(▽)	8.36	8.10	8.58	9.20	9.23	6.40	8.75
Norway	11	9	2(▽)	8.35	7.70	8.23	9.40	8.46	7.80	9.25
Germany	12	12	(=)	8.34	7.20	8.32	9.30	8.20	8.80	9.25
Singapore	13	11	2(▽)	8.24	7.80	8.58	9.05	8.84	6.60	9.00
New Zealand	14(tie)	16	2(▲)	8.19	7.45	8.11	8.20	8.83	8.60	9.00
Austria	14(tie)	14	(=)	8.19	7.40	8.22	8.80	8.48	8.00	9.25
Ireland	16	15	1(▽)	8.09	6.60	8.46	9.00	8.56	8.00	9.25
Belgium	17	17	(=)	7.99	7.25	8.33	8.40	8.18	7.60	9.25
Korea	**18**	**18**	**(=)**	**7.90**	**7.40**	**7.32**	**8.20**	**8.19**	**8.60**	**8.50**
France	19	19	(=)	7.86	6.70	8.28	8.45	8.24	7.80	8.75
Bermuda*	20	-	-	7.81	7.70	8.10	7.75	8.85	6.80	7.25
Japan	21	21	(=)	7.77	7.10	7.43	8.60	7.87	8.00	8.25
Israel	22	20	2(▽)	7.59	7.35	7.73	7.45	7.18	8.00	8.75
Taiwan	23	22	1(▽)	7.51	7.70	8.10	7.10	8.11	6.20	8.00
Spain	24	23	1(▽)	7.34	6.70	7.85	7.05	7.98	7.00	8.75
Italy	25	24	1(▽)	7.14	6.50	7.31	6.85	7.98	7.00	8.75
Portugal	26	25	1(▽)	7.07	6.45	7.51	6.90	8.14	6.20	8.50
Estonia	27	26	1(▽)	6.71	6.60	7.81	5.60	6.96	6.40	7.50
Slovenia	28	27	1(▽)	6.43	5.90	7.45	5.45	6.50	6.80	7.50
Greece	29	28	1(▽)	6.42	4.90	6.85	6.25	7.60	6.80	8.25
United Arab Emirates*	30	-	-	6.32	5.00	7.68	5.85	6.97	6.20	7.75

Source : EIU, 'The 2006 e-Readiness Rankings', April 2006.
Note : 1. Survey target countries increased from 65 in 2005 to 68 in 2006.
2. Counties marked * are new to the annual rankings in 2006.

3. The Networked Readiness Index, 2005

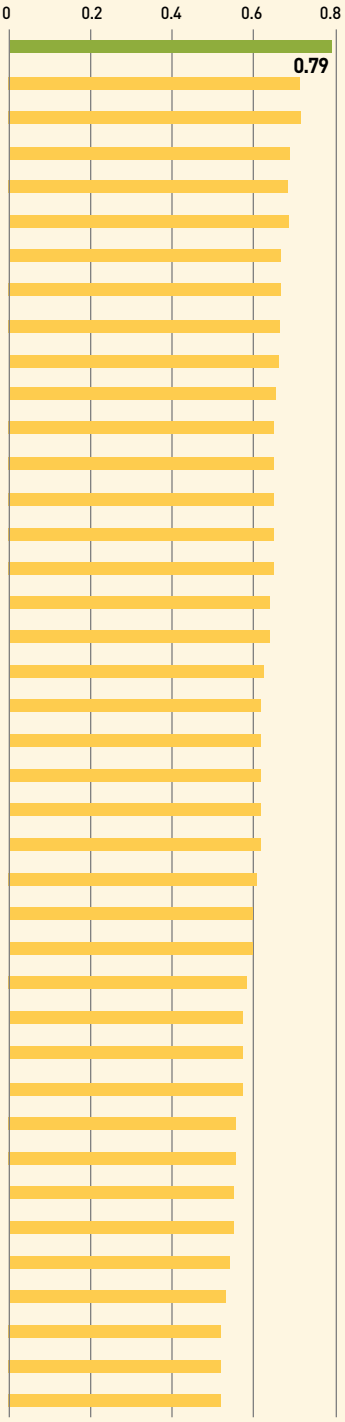


Country	Rank			NRI Index (2005)	Component Index											
					Environment Component Index				Readiness Component Index				Usage Component Index			
	2005	2004	note			Market	Political/ Regulatory	Infrast-ructure		Indivi-dual	Busin-ess	Govern-ment		Indivi-dual	Busin-ess	Govern-ment
United States	1	5	4(▲)	2.02	2.49	1.94	1.89	3.62	1.82	1.05	2.41	2.02	1.74	1.67	1.90	1.65
Singapore	2	1	1(▽)	1.89	1.90	2.53	1.96	1.20	1.89	1.40	1.71	2.55	1.89	1.62	1.51	2.54
Denmark	3	4	1(▲)	1.80	1.71	1.04	1.97	2.13	1.70	1.13	2.04	1.94	1.98	2.32	1.66	1.96
Iceland	4	2	2(▽)	1.78	2.62	1.74	1.82	4.29	0.98	1.22	1.28	0.45	1.75	1.84	1.57	1.86
Finland	5	3	2(▽)	1.72	1.83	1.54	1.77	2.19	1.73	1.38	2.04	1.76	1.61	1.47	1.64	1.73
Canada	6	10	4(▲)	1.54	1.66	0.98	1.48	2.53	1.49	1.13	1.72	1.63	1.45	1.80	1.32	1.24
Taiwan	7	15	8(▲)	1.51	1.43	1.96	0.94	1.37	1.38	1.19	1.46	1.48	1.74	1.80	1.52	1.90
Sweden	8	6	2(▽)	1.49	1.41	0.85	1.31	2.06	1.31	0.98	1.98	0.96	1.77	2.34	1.56	1.41
Switzerland	9	9	(=)	1.48	1.65	1.57	1.65	1.72	1.31	1.18	2.23	0.53	1.48	2.14	1.47	0.82
United Kingdom	10	12	2(▲)	1.44	1.41	1.04	1.92	1.27	1.57	0.91	1.93	1.86	1.34	1.69	1.50	0.85
Hong Kong	11	7	4(▽)	1.44	1.42	2.16	1.27	0.83	1.30	1.13	0.92	1.86	1.60	1.93	1.27	1.59
Netherlands	12	16	4(▲)	1.39	1.41	0.82	1.69	1.73	1.35	1.09	1.68	1.27	1.41	2.06	1.33	0.85
Norway	13	13	(=)	1.33	1.66	0.89	1.54	2.54	0.99	0.82	1.35	0.78	1.35	1.74	1.26	1.06
Korea	**14**	**24**	**10(▲)**	**1.31**	**0.82**	**1.01**	**0.83**	**0.61**	**1.38**	**0.97**	**1.25**	**1.92**	**1.73**	**2.03**	**1.34**	**1.82**
Australia	15	11	4(▽)	1.28	1.47	0.66	1.76	1.98	1.20	1.10	1.38	1.11	1.18	1.22	1.15	1.16
Japan	16	8	8(▽)	1.24	1.15	1.17	1.25	1.02	1.29	1.08	1.79	1.01	1.28	1.30	1.86	0.67
Germany	17	14	3(▽)	1.18	1.05	0.49	1.80	0.87	1.33	0.90	2.05	1.06	1.16	1.34	1.68	0.44
Austria	18	19	1(▲)	1.18	1.11	0.88	1.54	0.91	1.17	1.01	1.60	0.89	1.26	1.43	1.34	1.00
Israel	19	18	1(▽)	1.16	0.92	0.89	1.20	0.68	1.25	0.89	1.83	1.05	1.31	1.10	1.70	1.12
Ireland	20	22	2(▲)	1.15	1.30	1.44	1.50	0.97	1.02	1.03	1.19	0.83	1.13	0.97	0.99	1.44
New Zealand	21	21	(=)	1.14	1.40	0.78	1.70	1.73	1.05	0.99	1.20	0.96	0.98	0.92	1.16	0.85
France	22	20	2(▽)	1.11	0.85	0.42	1.43	0.70	1.29	1.15	1.72	1.00	1.19	1.17	1.30	1.09
Estonia	23	25	2(▲)	0.96	0.84	1.22	0.97	0.32	0.81	0.81	0.56	1.07	1.24	0.89	0.91	1.93
Malaysia	24	27	3(▲)	0.93	0.88	1.62	1.43	-0.41	0.96	0.89	0.90	1.08	0.95	0.10	0.98	1.78
Belgium	25	26	1(▲)	0.87	0.46	-0.01	0.89	0.49	1.22	1.14	1.63	0.90	0.94	1.44	1.16	0.21
Luxemburg	26	17	9(▽)	0.80	1.24	0.86	1.19	1.67	0.51	0.83	0.29	0.42	0.66	0.66	0.74	-0.42
Portugal	27	30	3(▲)	0.56	0.47	0.40	0.89	0.11	0.37	0.39	0.25	0.46	0.85	0.75	0.79	0.99
United Arab Emirates	28	23	5(▽)	0.54	0.57	1.39	0.03	0.28	0.24	0.73	-0.29	0.28	0.82	0.20	0.68	1.57
Chile	29	35	6(▲)	0.52	0.33	0.64	0.64	-0.31	0.53	0.16	0.40	0.03	0.71	0.15	0.75	1.22
Malta	30	28	2(▽)	0.51	0.32	-0.51	0.76	0.72	0.31	0.61	-0.49	0.82	0.90	1.00	0.18	1.52

Source : World Economic Forum, The Global Information Technology Report 2005-2006, March 2006.

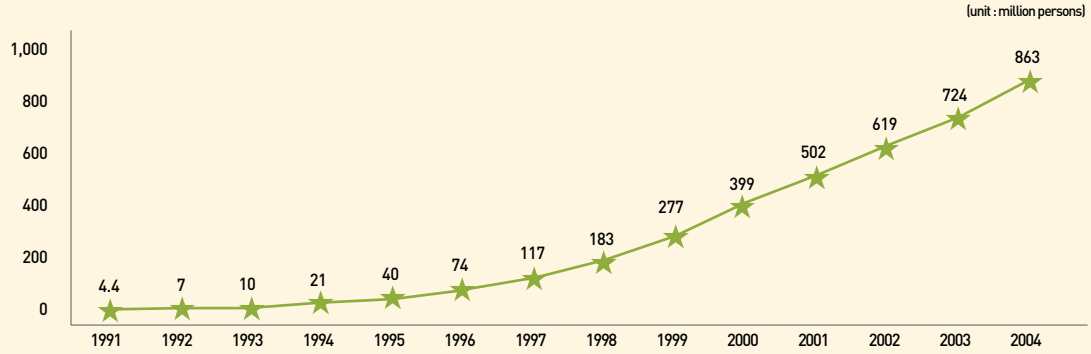
4. Digital Opportunity Index, 2005

Country	Rank	DOI	Component Index		
			Opportunity	Infrastructure	Utilization
Korea	**1**	**0.79**	**0.99**	**0.74**	**0.64**
Japan	2	0.71	0.99	0.69	0.46
Denmark	3	0.71	0.99	0.75	0.37
Iceland	4	0.69	0.99	0.72	0.37
Hong Kong	5	0.69	1.00	0.70	0.38
Sweden	6	0.69	0.99	0.74	0.35
United Kingdom	7	0.67	0.99	0.68	0.33
Norway	8	0.67	0.99	0.66	0.34
Netherlands	9	0.66	0.99	0.67	0.32
Taiwan	10	0.66	0.99	0.69	0.29
Macao, China	11	0.65	1.00	0.66	0.30
Australia	12	0.65	0.98	0.63	0.35
Israel	13	0.65	0.98	0.57	0.40
Canada	14	0.65	0.98	0.55	0.43
Switzerland	15	0.65	0.99	0.63	0.33
Singapore	16	0.65	1.00	0.68	0.27
Finland	17	0.64	0.99	0.60	0.34
Luxembourg	18	0.64	0.99	0.65	0.27
Germany	19	0.63	0.99	0.64	0.27
Estonia	20	0.63	0.98	0.47	0.44
United States	21	0.62	0.98	0.55	0.34
Slovenia	22	0.62	0.98	0.63	0.26
Belgium	23	0.62	0.99	0.50	0.38
Austria	24	0.62	0.99	0.54	0.34
Spain	25	0.61	0.99	0.54	0.30
New Zealand	26	0.60	0.98	0.57	0.25
France	27	0.60	0.99	0.49	0.31
Italy	28	0.59	0.99	0.54	0.24
Malta	29	0.58	0.99	0.48	0.28
Bahamas	30	0.58	0.97	0.45	0.33
Ireland	31	0.58	0.99	0.55	0.18
Lithuania	32	0.56	0.99	0.38	0.32
Bahrain	33	0.56	0.99	0.49	0.20
Hungary	34	0.55	0.98	0.43	0.24
Cyprus	35	0.55	0.99	0.50	0.16
United Arab Emirates	36	0.54	0.99	0.49	0.14
Slovak Republic	37	0.53	0.98	0.39	0.23
Barbados	38	0.52	0.96	0.47	0.14
Poland	39	0.52	0.98	0.39	0.19
Chile	40	0.52	0.96	0.31	0.29



Source : ITU/KADO Digital Opportunity Platform, 2006.
Note : For data comparability and coverage, see the technical notes.

5. Internet Users, Worldwide, 1991-2004



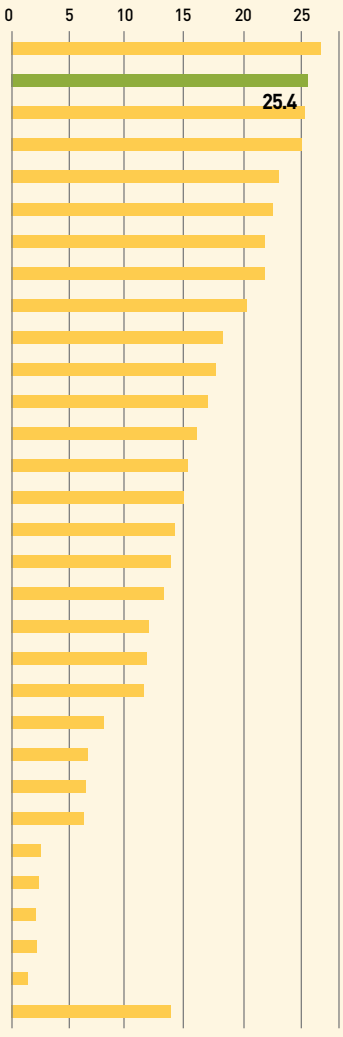
Source: International Telecommunication Union, 2006.

6. Broadband Subscribers per 100 Inhabitants, by Technology, December 2005

(unit : person)

Rank	Country	Subscribers per 100 Inhabitants				Total Subscribers
		DSL	Cable	Other	Total	
1	Iceland	25.9	0.1	0.6	26.7	78,017
2	**Korea**	**13.6**	**8.3**	**3.4**	**25.4**	**12,190,711**
3	Netherlands	15.7	9.6	0.0	25.3	4,113,573
4	Denmark	15.3	7.2	2.5	25.0	1,350,415
5	Switzerland	14.7	8.0	0.4	23.1	1,725,446
6	Finland	19.5	2.8	0.1	22.5	1,174,200
7	Norway	17.8	2.9	1.2	21.9	1,006,766
8	Canada	10.1	10.8	0.1	21.9	6,706,699
9	Sweden	13.3	3.4	3.6	20.3	1,830,000
10	Belgium	11.3	7.0	0.0	18.3	1,902,739
11	Japan	11.3	2.5	3.8	17.6	22,515,091
12	United States	6.5	9.0	1.3	16.8	49,391,060
13	United Kingdom	11.5	4.4	0.0	15.9	9,539,900
14	France	14.3	0.9	0.0	15.2	9,465,600
15	Luxembourg	13.3	1.6	0.0	14.9	67,357
16	Austria	8.1	5.8	0.2	14.1	1,155,000
17	Australia	10.8	2.6	0.4	13.8	2,785,000
18	Germany	12.6	0.3	0.1	13.0	10,706,600
19	Italy	11.3	0.0	0.6	11.9	6,896,696
20	Spain	9.2	2.5	0.1	11.7	4,994,274
21	Portugal	6.6	4.9	0.0	11.5	1,212,034
22	New Zealand	7.3	0.4	0.4	8.1	331,000
23	Ireland	5.0	0.6	1.1	6.7	270,700
24	Czech Republic	3.0	1.4	2.0	6.4	650,000
25	Hungary	4.1	2.1	0.1	6.3	639,505
26	Slovakia	2.0	0.4	0.2	2.5	133,900
27	Poland	1.6	0.7	0.1	2.4	897,659
28	Mexico	1.5	0.6	0.0	2.2	2,304,520
29	Turkey	2.1	0.0	0.0	2.1	1,530,000
30	Greece	1.4	0.0	0.0	1.4	155,418
OECD		8.4	4.2	1.0	13.6	157,719,880

(Number of subscribers per 100 inhabitants)

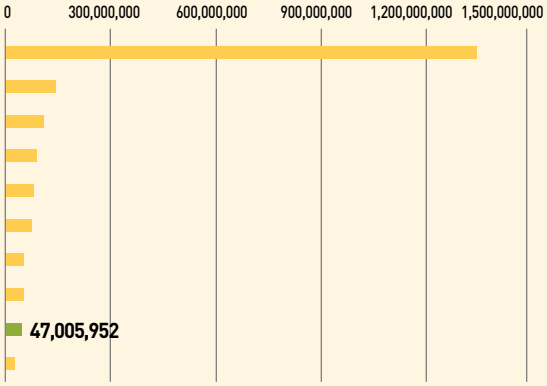


Source : OECD Broadband Statistics, April 2006.

7. IPv4 Addresses, June 2006

(unit : each)

Rank	Country	Country Code	No. of Addresses
1	United States	US	1,348,809,216
2	Japan	JP	146,732,032
3	EU	EU	113,660,732
4	United Kingdom	UK	92,612,728
5	China	CN	84,786,688
6	Canada	CA	70,315,776
7	France	FR	55,442,080
8	Germany	DE	54,110,064
9	**Korea**	**KR**	**47,005,952**
10	Australia	AU	29,986,048



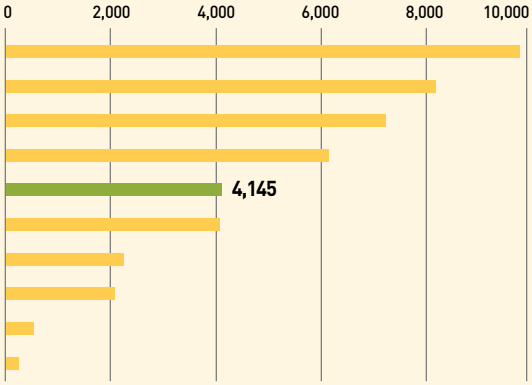
Source : APNIC, ARIN, LACNIC, RIPE NCC, AfriNIC, June 2006.

Note : United Kingdom has changed its country code from 'GB' to the current 'UK', and its IP addresses are separately registered for the two different codes. The number indicated in the table is their total.

8. IPv6 Addresses, June 2006

(unit : each)

Rank	Country	No. of Addresses
1	Germany	9,823
2	France	8,227
3	Japan	7,272
4	EU	6,154
5	**Korea**	**4,145**
6	Italy	4,127
7	Australia	4,108
8	Taiwan	2,243
9	Poland	2,070
10	Netherlands	561

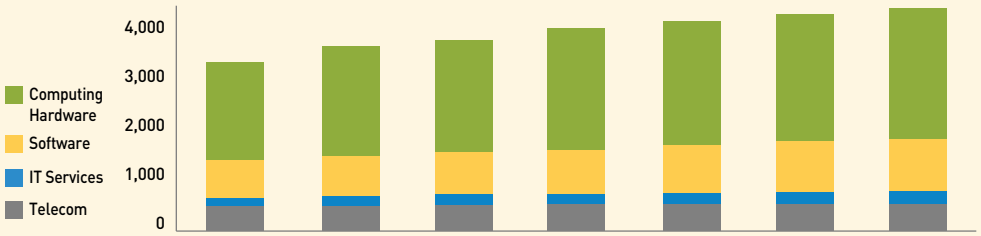


Source : APNIC, ARIN, LACNIC, RIPE NCC, AfriNIC, June 2006.

Note : IPv6, standardized by the IETF in 1988, is the next-generation Internet Protocol, which can provide 128-bit addresses, four-times longer than the 32-bit IPv4 addresses.

1. Forecast End-User Spending on IT Products and Services, 2004-2010

(unit : USD billion)



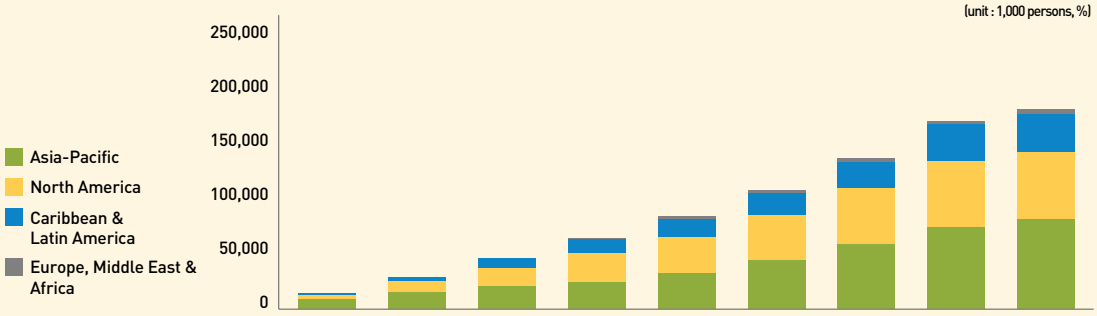
Type	2004	2005	2006	2007	2008	2009	2010	CAGR(%) 2005-2010
Computing Hardware	353.8	363.0	362.3	369.5	374.3	381.5	388.7	1.4
Software	113.7	123.6	133.5	143.7	154.3	165.5	176.6	7.4
IT Services	588.9	624.4	646.0	686.2	729.9	776.6	828.1	5.8
Telecom	1,411.2	1,541.3	1,634.1	1,710.5	1,776.0	1,838.7	1,914.6	4.4
All IT	**2,467.7**	**2,652.4**	**2,776.0**	**2,910.0**	**3,034.5**	**3,162.3**	**3,308.0**	**4.5**

Source : Global Insight and Gartner Dataquest, July 2006.

Note : IT hardware and software consists of computing hardware, software and telecom equipment. Semiconductor spending reflects purchases of semiconductor components by electronics producers for various electronic equipment. Some of this equipment is included in reported end-user hardware and telecom equipment spending. Because semiconductor purchases represent intermediate IT transactions, semiconductor spending is not included in total end-user IT spending to avoid double counting. It is, nonetheless, reported here to provide insight into an important, closely-watched IT market.

2. Number of CDMA Subscribers by Region

(unit : 1,000 persons, %)



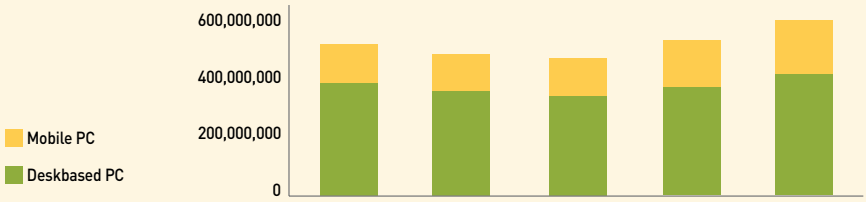
Type		1998	1999	2000	2001	2002	2003	2004	2005	2006. 6.
Asia-Pacific	Subscriber	14,900	28,000	35,730	41,380	54,600	78,300	102,000	130,900	142,600
	Rate	64.8	55.9	44.4	37.2	37.2	41.5	42.5	43.4	42.6
North America	Subscriber	6,800	16,500	28,700	48,421	62,500	75,200	92,100	107,500	115,850
	Rate	29.6	32.9	35.7	43.5	42.6	39.9	38.3	35.6	34.6
Caribbean & Latin America	Subscriber	1,225	5,100	14,950	19,900	27,200	32,000	42,200	58,300	70,400
	Rate	5.3	10.2	18.6	17.9	18.5	17.0	17.6	19.3	21.0
Europe, Middle East & Africa	Subscriber	75	500	1,060	1,650	2,400	3,100	3,900	5,200	6,300
	Rate	0.3	1.0	1.3	1.5	1.7	1.6	1.6	1.7	1.8
Total	**Subscriber**	**23,000**	**50,100**	**80,440**	**111,351**	**146,700**	**188,600**	**240,200**	**301,900**	**335,150**
	Rate	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

Source : CDMA Development Group, 'www.cdg.org', July 2006.

Note : prior to March 1998 the Caribbean and Mexico are included in North America, after March 1998 they are included in Caribbean & Latin America.

3. Top 10 Vendors Ranked by Unit Shipments, Worldwide

(unit : each, %)



		1Q05	2Q05	3Q05	4Q05	1Q06	Growth 1Q06-1Q05	Market Share 1Q06
Total		**48,914,815**	**47,835,490**	**53,946,079**	**60,889,332**	**55,696,240**	**13.9**	**100.0**
Vendor	Dell	8,139,135	8,294,346	8,794,120	9,823,896	8,982,675	10.4	16.1
	HP	6,504,165	6,651,409	7,875,361	8,854,115	8,049,255	23.8	14.5
	Lenovo	3,082,745	3,507,776	4,024,864	4,352,903	3,410,758	10.6	6.1
	Acer	1,945,088	2,090,135	2,585,050	3,433,448	2,914,052	49.8	5.2
	Toshiba	1,687,530	1,493,176	1,948,719	2,066,352	2,206,416	30.7	4.0
	Fujitsu/Fujitsu Siemens	2,030,067	1,660,504	1,957,782	2,396,833	2,195,231	8.1	3.9
	NEC	1,514,842	1,220,974	1,480,122	1,799,852	1,437,650	-5.1	2.6
	Gateway	938,060	1,010,301	1,139,801	1,355,970	1,376,017	46.7	2.5
	Apple Computer	1,057,046	1,169,793	1,230,986	1,240,454	1,112,723	5.3	2.0
	Sony	822,033	763,386	732,624	944,233	979,967	19.2	1.8
	Others	21,194,104	19,973,690	22,176,650	24,621,276	23,031,496	8.7	41.4
Form	Deskbased PC	35,219,264	33,996,674	37,430,875	41,468,971	37,666,999	6.9	67.6
	Mobile PC	13,695,550	13,838,815	16,515,205	19,420,360	18,029,241	31.6	32.4

Source : Gartner Dataquest, May 2006.

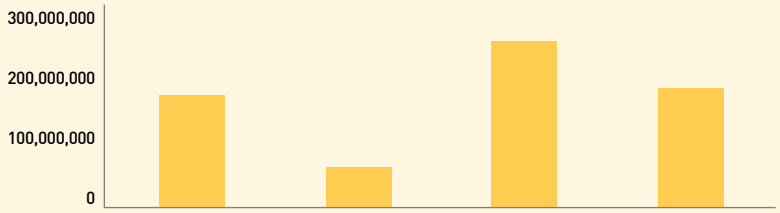
Note : 1. Data include desk based and mobile PCs.

2. Lenovo and IBM are reported as one company.

3. Form factors include mini PCs, all-in-one, deskbased, desktop replacement, mainstream, ultraportable and tablet PC.

4. PC Installed Base by OS by Region, Worldwide, 2006

(unit : each, %)



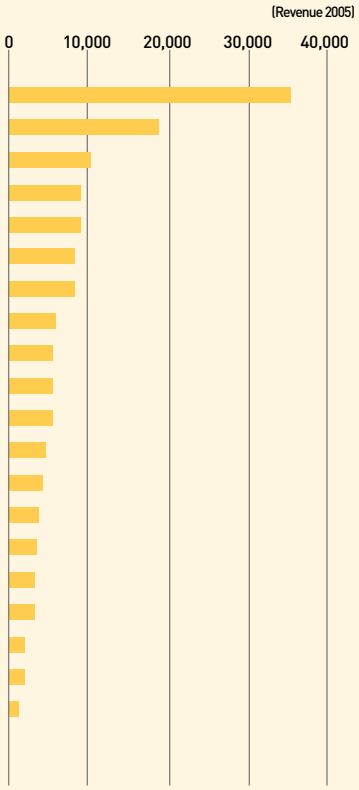
OS	Asia Pacific		Latin America		united States		Western Europe		Worldwide Total	
	Units	Market share	Units	Market share	Units	Market share	Units	Market share	Units	Market share
Windows 95, 98, 98SE, ME	3,778,173	2.1	6,667,449	10.1	15,964,558	6.0	11,948,720	6.3	51,196,257	5.8
Windows NT4	463,642	0.3	794,094	1.2	1,132,422	0.4	2,369,205	1.2	6,278,190	0.7
Windows 2000 Professional	23,536,171	13.3	10,160,717	15.4	48,639,260	18.4	33,038,352	17.4	146,650,456	16.6
Windows XP Professional	66,813,274	37.8	20,842,614	31.6	97,427,878	36.8	67,059,326	35.3	331,710,374	37.6
Windows XP Home	77,451,474	43.8	26,066,745	39.5	88,521,552	33.4	66,764,851	35.1	309,204,490	35.1
Windows Vista Professional	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0
Windows Vista Home	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0
Linux	3,452,966	2.0	873,041	1.3	1,935,097	0.7	3,833,700	2.0	14,625,941	1.7
Mac OS	1,286,739	0.7	544,869	0.8	11,344,949	4.3	4,966,385	2.6	21,524,391	2.4
Total	**176,782,438**	**100.0**	**65,949,529**	**100.0**	**264,965,716**	**100.0**	**189,980,538**	**100.0**	**881,190,098**	**100.0**

Source : Gartner Dataques, April 2006.

5. Top 20 Semiconductor Vendors, by Revenue, Worldwide, 2005

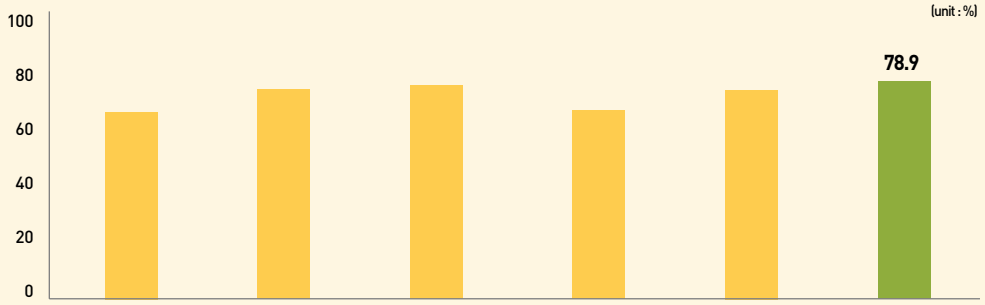
(unit : USD million, %)

Rank		Vendor	Revenue		Growth Rate	Market Share
2005	2004		2005	2004	2004-2005	2005
1	1	Intel	34,590	30,730	12.6	14.7
2	2	Samsung Electronics	18,347	16,276	12.7	7.8
3	3	Texas Instruments	10,119	9,170	10.3	4.3
4	7	Toshiba	8,984	8,538	5.2	3.8
5	6	STMicroelectronics	8,821	8,691	1.5	3.8
6	4	Renesas Technology	8,291	9,001	-7.9	3.5
7	5	Infineon Technologies	8,205	8,945	-8.3	3.5
8	9	Philips Electronics	5,959	5,689	4.7	2.5
9	12	Hynix Semiconductor	5,723	4,648	23.1	2.4
10	8	NEC Electronics	5,657	6,438	-12.1	2.4
11	10	Freescale Semiconductor	5,599	5,519	1.4	2.4
12	13	Micron Technology	4,620	4,557	1.4	2.0
13	16	Sony	4,304	3,731	15.4	1.8
14	11	Advanced Micro Devices	3,936	5,001	-21.3	1.7
15	15	Matsushita	3,779	3,845	-1.7	1.6
16	14	Sharp	3,569	3,908	-8.7	1.5
17	17	Qualcomm	3,457	3,211	7.7	1.5
18	18	Rohm	2,919	2,904	0.5	1.2
19	21	IBM Microelectronics	2,855	2,426	17.7	1.2
20	22	Broadcom	2,671	2,401	11.2	1.1
-	-	Others	82,230	76,388	7.6	35.0
Total			**234,635**	**222,017**	**5.7**	**100.0**



Source : Gartner Dataquest, April 2006.

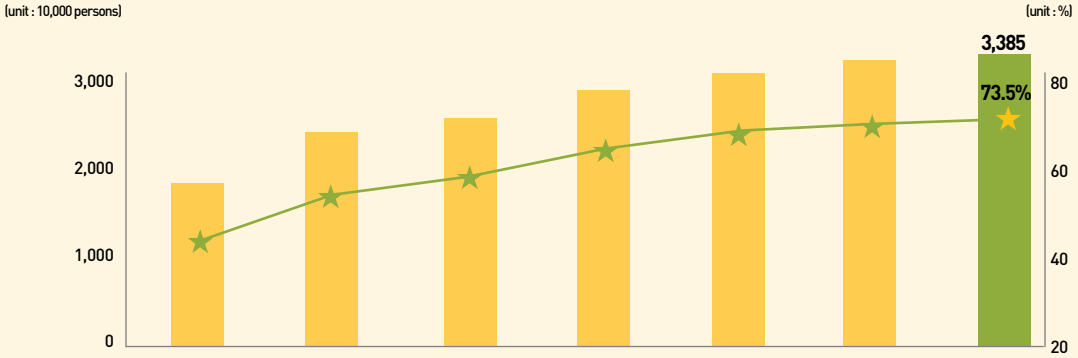
1. Household PC Penetration Rate



Year	2000	2001	2002	2003	2004	2005
Rate	68.7	76.9	78.6	68.8	77.8	78.9

Source : National Internet Development Agency of Korea, 'Survey on the Computer and Internet Usage, December 2005', February 2006.

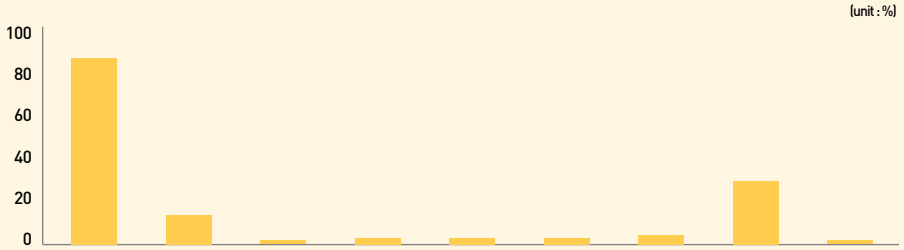
2. Internet Users and Internet Usage Rate



Year	2000	2001	2002	2003	2004	2005	2006. 6.
Users	1,904	2,438	2,627	2,922	3,158	3,301	3,358
Rate	44.7	56.6	59.4	65.5	70.2	72.8	73.5

Source : National Internet Development Agency of Korea, 'Survey on the Computer and Internet Usage, June 2006', August 2006.

3. Internet Connection Method for Individuals, 2005

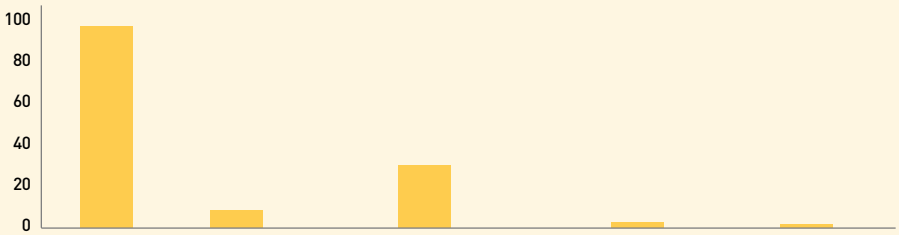


Type		xDSL	Cable Modem	ISDN	Dial-up Modem	Apartment Lan	Wireless Lan	Leased Line	Wireless Internet	Unknown
Total Internet User		89.6	17.9	1.1	2.6	2.5	1.9	3.0	35.2	1.3
Regional Size	Large Cities	87.6	19.5	1.2	2.7	2.7	2.2	3.0	33.7	1.2
	Mid & Small Cities	90.7	17.9	1.1	2.7	2.7	1.6	3.3	37.1	1.3
	'Kun'(District)	97.2	5.0	0.3	1.2	0.1	1.8	1.4	33.2	1.8

Source : National Internet Development Agency of Korea, 'Survey on the Computer and Internet Usage, December 2005', February 2006.
note : multiple responses

4. Internet Connection Device for Individuals, 2005

(unit : %)

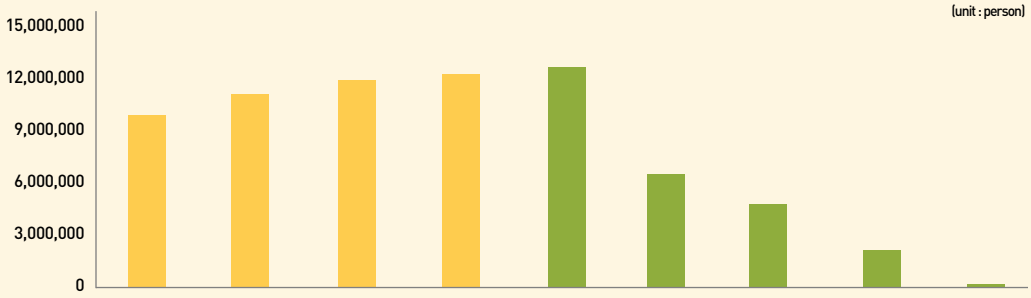


Type		Desktop	Laptop	Mobile Device (cell phone, PDA phone, smart phone, etc)	Gaming Console	TV accessible to Internet
Total Internet User		**98.3**	**11.0**	**35.2**	**2.8**	**1.4**
Regional Size	Large Cities	98.1	13.2	33.7	2.9	1.5
	Mid & Small Cities	98.6	9.3	37.1	2.9	1.5
	'Kun'(District)	98.1	5.7	33.2	0.6	0.3

Source : National Internet Development Agency of Korea, 'Survey on the Computer and Internet Usage, December 2005', February 2006.
note : multiple responses

5. Broadband Internet Service Subscribers

(unit : person)

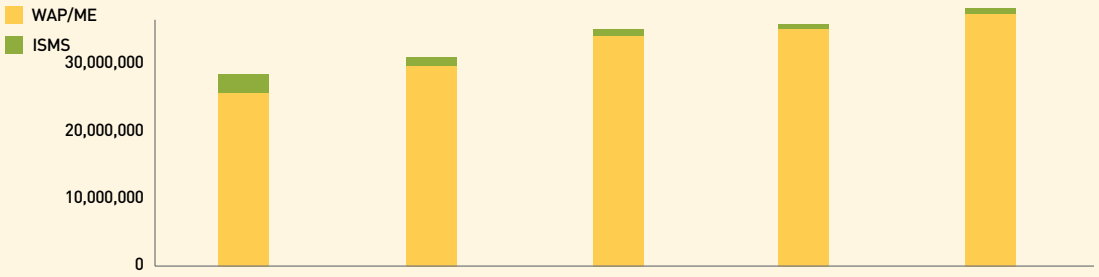


Provider	2002. 12.	2003. 12.	2004. 12.	2005. 12.	2006. 6.				
					Total	xDSL	Cable Modem	Apartment LAN	Satellite
KT	4,922,395	5,589,058	6,077,694	6,241,789	6,320,260	5,450,047	-	868,237	1,976
Hanaro Telecom	2,872,351	2,725,563	2,748,934	2,773,213	3,599,224	825,115	2,084,617	689,492	0
Thrunet	1,301,620	1,293,364	1,287,916	836,625	-	-	-	-	-
Onse Telecom	452,109	423,062	391,289	353,001	296,894	200	260,614	36,080	0
Dreamline	169,528	149,598	133,927	99,723	96,196	38,536	46,596	11,064	0
Dacom	146,336	201,704	206,197	213,272	161,302	14,431	61,981	84,890	0
Powercomm	-	-	-	261,916	710,040	-	439,467	270,573	0
Value-added Carriers	367,135	619,103	857,026	1,154,506	1,333,497	11,764	1,302,067	19,666	0
Special Category Carriers	174,012	177,047	218,456	256,666	253,498	36,201	42,890	174,407	0
Total	**10,405,486**	**11,178,499**	**11,921,439**	**12,190,711**	**12,770,911**	**6,376,294**	**4,238,232**	**2,154,409**	**1,976**

Source : Ministry of Information and Communication, July 2006.
Note : 1. Number of wireless LAN IDs : 425,000 for KT and 43,000 for Hanaro Telecom)
2. Powercomm launched broadband internet service in September 2005.
3. Hanaro Telecom acquired Thrunet in 2005.

6. Wireless Internet Service Subscribers

(unit : person)



Provider	2002. 12.		2003. 12.		2004. 12.		2005. 12.		2006. 6.	
	WAP/ME	ISMS	WAP/ME	ISMS	WAP/ME	ISMS	WAP/ME	ISMS	WAP/ME	ISMS
SK Telecom	13,607,389	1,181,251	16,335,074	663,417	17,740,803	236,825	18,208,012	178,242	19,306,823	72,025
KTF	8,842,589	1,389,619	9,530,617	736,662	11,192,991	379,521	11,593,601	311,020	12,321,836	186,807
LG Telecom	3,531,465	523,657	3,938,385	226,421	5,285,760	180,585	5,468,876	164,385	6,249,119	153,325
Subtotal	25,981,443	3,094,527	29,804,076	1,626,500	34,219,554	796,931	35,270,489	653,647	37,877,778	412,157
Total	**29,075,970**		**31,430,576**		**35,016,485**		**35,924,136**		**38,289,935**	

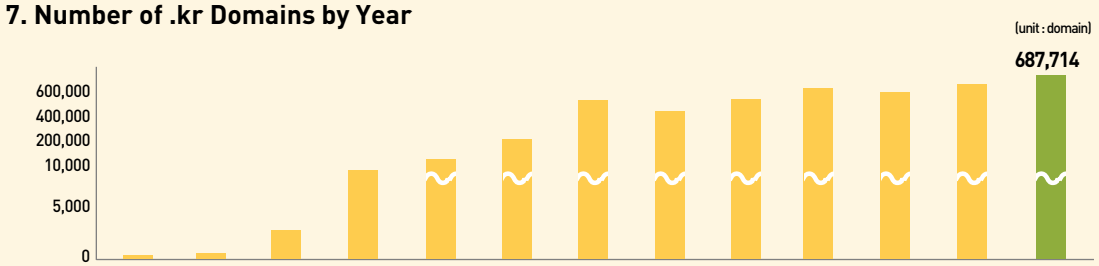
Source : Ministry of Information and Communication, July 2006.

Note : 1. ISMS technology provides more than simple SMS(Short Message Service), linking Internet G/W to enable Internet connection and web search without browsers.

2. Number of subscribers is equal to number of terminals.

7. Number of .kr Domains by Year

(unit : domain)



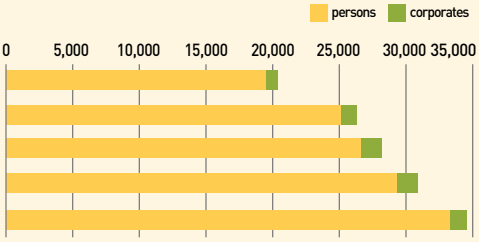
Year	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006. 6.
Number of .kr Domains	192	436	2,664	8,045	26,166	206,973	517,354	457,450	515,200	611,548	590,800	642,770	687,714

Source : National Internet Development Agency of Korea, July 2006.

8. Number of Registered Internet Banking Users

(unit : 1,000 persons, 1,000 corporates)

Year	Individual	Corporate	Total
2002	17,015	695	17,710
2003	21,752	1,002	22,754
2004	23,094	1,177	24,271
2005	25,303	1,434	26,737
2006. 6	**31,658**	**1,624**	**33,282**

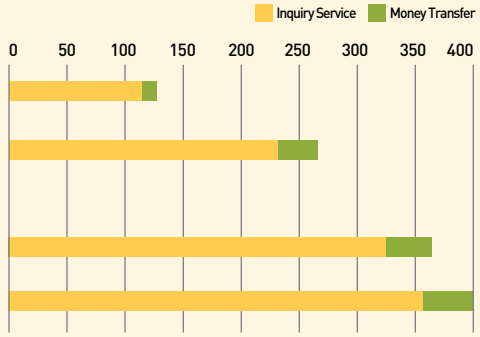


Source : Bank of Korea, August 2006.

9. Mobile Banking Service Usage, Daily Average

(unit : 1,000 cases, %)

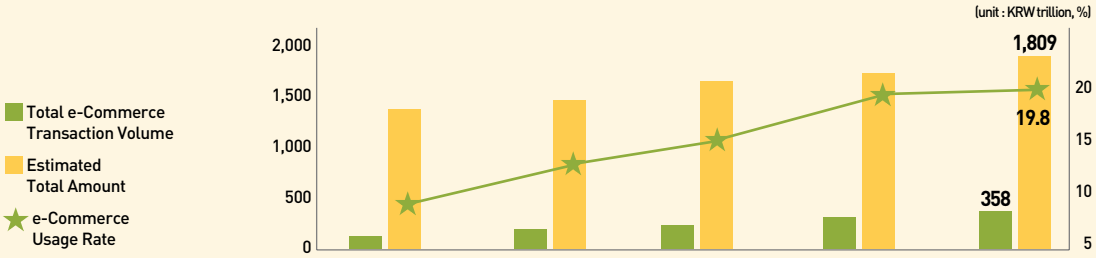
Year			Inquiry Service	Money Transfer	Total
2004		Case (Rate)	114 (81.1)	27 (18.9)	140 (100)
2005		Case (Rate)	231 (80.7)	55 (19.3)	287 (100)
Increase Rate(2004-2005)			103.6	108.8	104.4
2006	1Q	Case (Rate)	326 (82.7)	68 (17.3)	394 (100)
	2Q	Case (Rate)	353 (82.1)	77 (17.9)	430 (100)
Increase Rate(1Q-2Q)			8.3	13.2	9.1



Source : Bank of Korea, August 2006.

e-Commerce

1. e-Commerce Transaction Volume



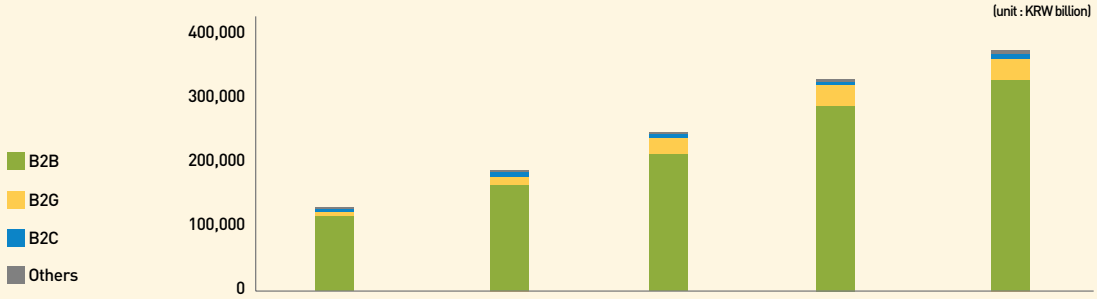
Type	2001	2002	2003	2004	2005
Total e-Commerce Transaction Volume	119	178	235	314	358
Estimated Total Amount	1,308	1,386	1,555	1,627	1,809
e-Commerce Usage Rate	9.1	12.8	15.1	19.3	19.8

Source : Korea Institute for Electronic Commerce, Ministry of Commerce, Industry and Energy, April 2006.
National Statistical Office, March 2006.

Note : Total transaction amount includes sales of the entire industry except insurance, housework service, international and foreign institutions, as the Bank of Korea surveyed on total amount of sales of domestic enterprises.

2. e-Commerce Transaction Volume by Type

(unit : KRW billion)

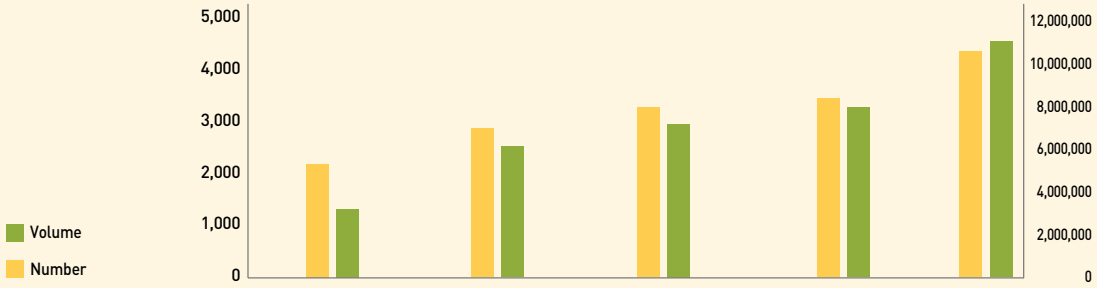


Type	2001	2002	2003	2004	2005
Total Transaction Volume	**118,976**	**177,810**	**235,025**	**314,079**	**358,450**
B2B	108,941	155,707	206,854	279,399	319,202
B2G	7,037	16,632	21,634	27,349	29,036
B2C	2,580	5,043	6,095	6,443	7,921
Others	418	427	442	888	2,292

Source : National Statistical Office, March 2006.

3. Number of Online Shopping Malls and Transaction Volume

(unit : each, KRW million)

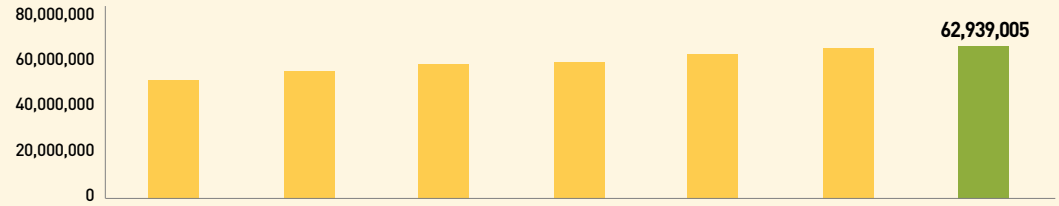


Type		2001		2002		2003		2004		2005	
		Number	Volume	Number	Volume	Number	Volume	Number	Volume	Number	Volume
Total		**2,166**	**3,347,067**	**2,896**	**6,029,876**	**3,358**	**7,054,817**	**3,489**	**7,768,105**	**4,355**	**10,675,595**
Merchandize	General Mall	320	2,259,715	402	4,389,126	343	5,108,126	339	5,620,687	300	7,415,033
	Specialty Mall	1,846	1,087,352	2,494	1,640,751	3,015	1,946,692	3,150	2,147,418	4,055	3,260,563
Operation	Online	690	1,390,662	1,111	1,973,686	1,367	2,401,107	1,618	3,824,930	2,115	5,913,345
	Online/Offline	1,476	1,956,405	1,785	4,056,191	1,991	4,653,711	1,871	3,943,175	2,240	4,762,250
Organization	Individual Company	926	66,403	1,401	131,593	1,835	139,133	1,878	143,397	2,608	216,416
	Corporation	1,210	3,224,465	1,449	5,792,979	1,464	6,788,567	1,518	7,478,700	1,610	9,736,295
	Others	30	56,198	46	105,305	59	127,117	93	146,009	137	722,885

Source : National Statistical Office, March 2006.

1. Wired and Wireless Service Subscribers

(unit : person)

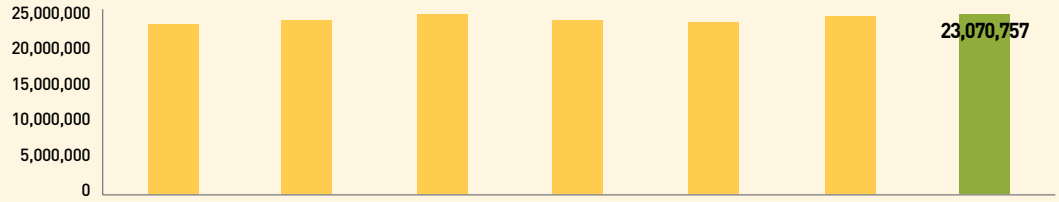


Type	2000. 12.	2001. 12.	2002. 12.	2003. 12.	2004. 12.	2005. 12.	2006. 6.
Local phone	21,931,651	22,724,668	23,490,130	22,877,019	22,870,615	22,920,151	23,070,757
Mobile phone	26,816,398	29,045,596	32,342,493	33,591,758	36,586,052	38,342,323	39,382,488
Wireless Paging	568,225	235,628	140,284	73,160	45,634	42,003	41,277
TRS	113,066	182,834	210,894	279,896	311,457	322,830	339,172
Wireless Data Communication	73,842	79,855	80,499	104,608	111,051	111,433	105,311
Total	**49,503,182**	**52,268,581**	**56,264,300**	**56,926,441**	**59,924,809**	**61,738,740**	**62,939,005**

Source : Ministry of Information and Communication, July 2006.

2. Local Call Subscribers

(unit : person)

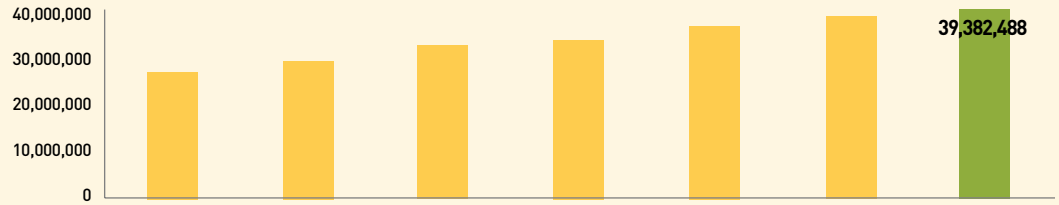


Provider	2000. 12.	2001. 12.	2002. 12.	2003. 12.	2004. 12.	2005. 12.	2006. 6.
KT	21,599,316	22,021,230	22,550,278	21,875,638	21,457,342	21,353,086	21,387,081
Hanaro Telecom	372,335	703,438	939,852	1,001,381	1,413,273	1,521,117	1,622,947
Dacom	-	-	-	-	-	45,948	60,729
Total	**21,971,651**	**22,724,668**	**23,490,130**	**22,877,019**	**22,870,615**	**22,920,151**	**23,070,757**

Source : Ministry of Information and Communication, July 2006.
Note : Dacom launched local call commercial service in January 2005.

3. Mobile Phone Subscribers

(unit : person)

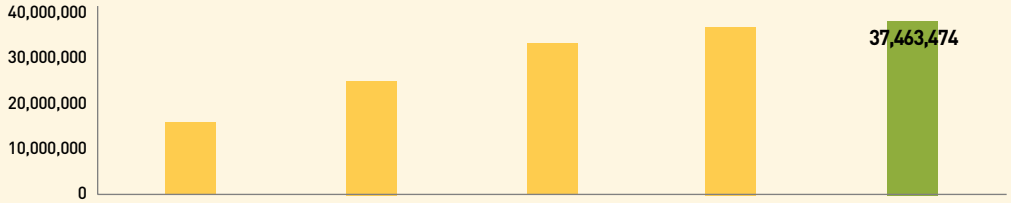


Provider	2000. 12.	2001. 12.	2002. 12.	2003. 12.	2004. 12.	2005. 12.	2006. 6.
SK Telecom	10,934,852	11,867,289	17,219,562	18,313,135	18,783,338	19,530,117	19,984,106
Shinsegi Telecom	3,517,831	3,311,774	-	-	-	-	-
KTF	5,285,166	9,590,698	10,332,770	10,441,766	11,728,932	12,302,357	12,633,744
Hantong M.Com	3,130,646	-	-	-	-	-	-
LG Telecom	3,947,903	4,275,835	4,790,161	4,836,857	6,073,782	6,509,849	6,764,638
Total	**26,816,398**	**29,045,596**	**32,342,493**	**33,591,758**	**36,586,052**	**38,342,323**	**39,382,488**

Source : Ministry of Information and Communication, July 2006.
Note : 1. SK Telecom acquired and merged Shinsegi Telecom in January 2002.
2. KTF acquired and merged Hantong M.Com in May 2001.

4. cdma 2000-1x Subscribers

(unit : person)

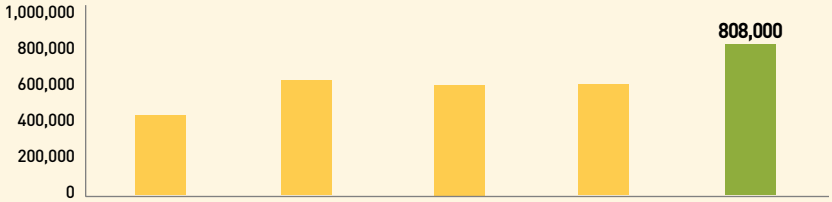


Provider	2002. 12.	2003. 12.	2004. 12.	2005. 12.	2006. 6.
SK Telecom	9,935,728	14,424,236	17,048,235	18,546,982	19,136,475
KTF	4,861,620	7,472,159	10,494,928	11,727,788	12,192,883
LG Telecom	1,720,399	2,930,342	4,993,955	5,801,651	6,134,116
Total	**16,517,747**	**24,826,737**	**32,537,118**	**36,076,421**	**37,463,474**

Source : Ministry of Information and Communication, July 2006.
Note : 1. cdma 2001-1x subscribers include EV-DO subscribers (9,122,049 from SKT and 4,793,008 from KTF)
2. Number of subscribers is equal to the number of terminals.

5. Digital TV Penetration

(unit : each)

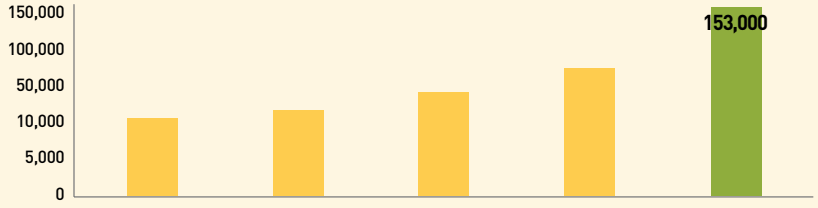


Year	2001	2002	2003	2004	2005	Total
Units	470,000	610,000	600,000	602,000	808,000	**3,090,000**

Source : Ministry of Information and Communication, December 2005.

6. Digital Cable TV Subscribers

(unit : household)

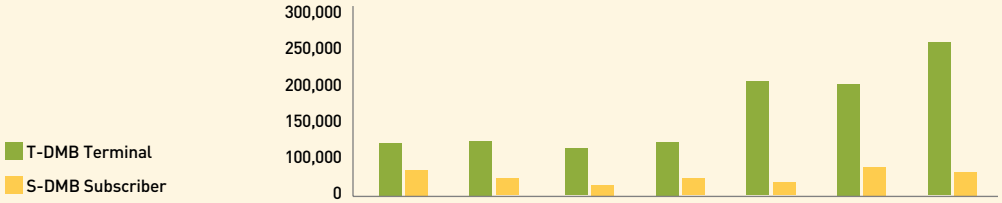


Name	Launch	Digital Cable TV Subscribers				
		2005. 8	2005. 9	2005. 12	2006. 3	2006. 6
CJ Cable Net	2005. 4	5,000	9,000	20,000	36,000	60,000
HCN	2005. 8	300	3,000	6,900	13,000	22,000
C&M Communication	2006. 1	-	-	-	-	22,100
Dream City	2005. 7	1,600	3,000	9,400	15,000	15,100
Kangnam Cable	2005. 7	4,100	6,000	8,700	10,000	15,200
Qrix	2005.8	-	-	-	-	13,000
KCTV Jeju Broadcasting	2005.8	-	600	3,800	-	5,600
Total		**11,000**	**21,600**	**48,800**	**74,000**	**153,000**

Source : Korean Cable TV Association, August 2006.

7. Terrestrial DMB Terminal Sales and Satellite DMB Subscribers

(unit : each, person)



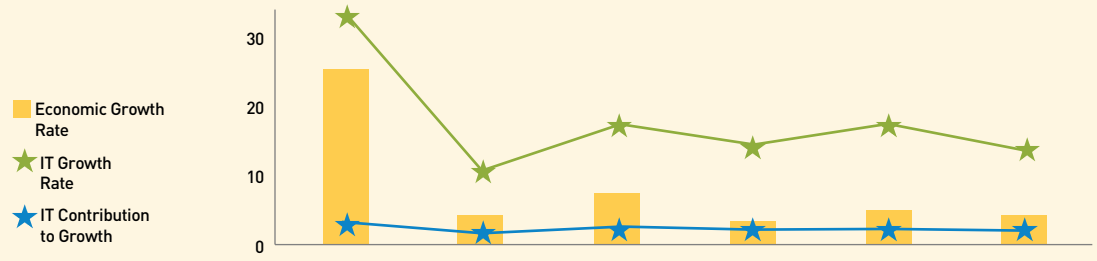
Type		2005	2006					Total
		Dec	Jan	Feb	Mar	April	May	June	
T-DMB Terminal	mobile phone	-	20,000	32,000	49,000	74,000	85,000	128,400	388,400
	terminal for car	80,000	40,000	40,000	37,000	59,000	47,000	57,000	360,000
	terminal for USB	40,000	30,000	30,000	27,000	62,500	57,000	43,000	289,500
	portable terminal	-	21,000	7,000	7,000	11,600	15,000	25,000	86,600
	notebook computer	-	17,000	2,000	7,000	5,000	7,000	5,460	43,460
	Monthly Total	**120,000**	**128,000**	**111,000**	**127,000**	**212,100**	**211,000**	**258,860**	**1,167,960**
	Increase/Decrease Rate(%)	**-**	**▲ 6.2**	**▽ 15.3**	**▲ 12.6**	**▲ 40.1**	**▽ 0.5**	**▲ 18.5**	**-**
S-DMB Subscriber	DMB for mobile phone	66,000	47,000	30,000	47,000	39,000	73,000	63,000	-
	DMB for car	2,000	1,000	1,000	4,000	3,000	1,000	2,000	-
	Monthly Total	**68,000**	**48,000**	**31,000**	**51,000**	**42,000**	**74,000**	**65,000**	**680,000**
	Increase/Decrease Rate(%)	**-**	**▽ 41.7**	**▽ 54.8**	**▲ 39.2**	**▽ 21.4**	**▲ 43.2**	**▽ 13.8**	**-**

Source : Ministry of Information and Communication, August 2006.
Note : T-DMB service launched in December 2005.

IT Industry

1. IT Industry Portion in GDP and Its Contribution to Growth

(unit : %, %p)



Category	2000	2001	2002	2003	2004	2005(p)
Economic Growth Rate	8.5	3.8	7.0	3.1	4.7	4.0
IT Growth Rate	33.8	10.5	17.6	14.2	17.5	13.6
IT Contribution to Growth	2.6	1.0	1.8	1.6	2.2	1.9
IT Industry Portion in GDP	9.5	10.1	11.1	12.3	13.8	15.0

Source : Bank of Korea, '2005 National Accounts (provisional)', March 2006.

Ref. : 2~6, 8,9

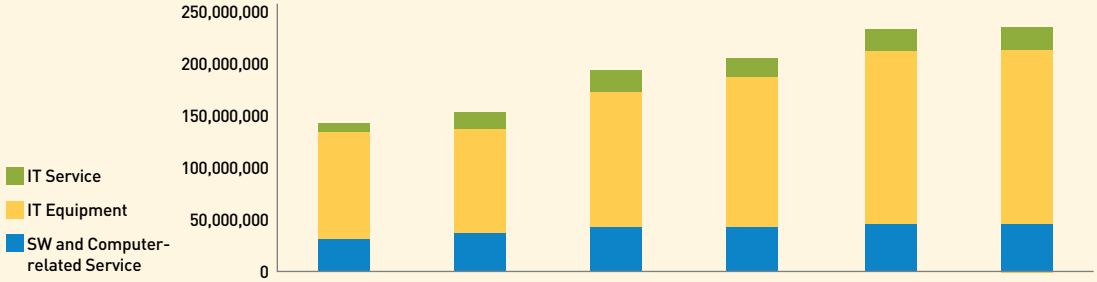
· P : Preliminary(estimates)

· Total figures for year 2005 are estimates revised as definite figures and are to be released through 'Annual Report on IT Industry 2005', January 2007.

· Data may not be correspondent with those in 'National Informatization Whitepaper 2005' due to data revisions by KAIT.

2. IT Industry Production Volume

(unit : KRW million)



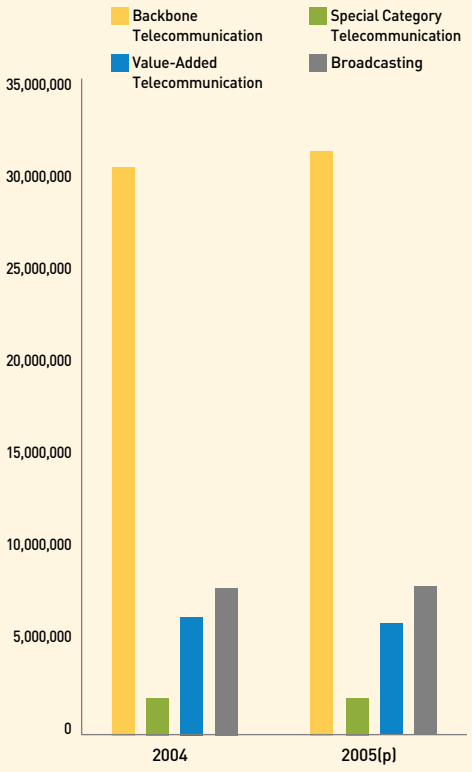
Industry	2000	2001	2002	2003	2004	2005(p)
IT Service	31,598,053	36,328,832	42,976,371	41,604,537	45,994,129	46,661,703
IT Equipment	105,885,023	99,090,856	127,724,286	141,578,909	164,911,683	165,906,855
SW and Computer-related Service	10,731,625	14,726,770	18,222,787	18,439,580	18,658,818	20,640,310
Total	**148,214,701**	**150,146,458**	**188,923,444**	**201,623,026**	**229,564,630**	**233,208,868**

Source : Korea Association of Information and Telecommunication, April 2006.

3. IT Service Production

(unit : KRW million)

Service Type	2004	2005(p)
Backbone Telecommunication	30,062,664	30,918,918
Wired Service	13,347,204	12,780,927
Wireless Service	16,715,460	18,137,991
Special Category Telecommunication	1,946,890	1,914,293
Stocked Facility Resale	393,489	408,079
Non-stocked Facility Resale	1,414,639	1,380,160
In-house Communication Service	138,762	126,054
Value-Added Telecommunication	6,196,755	5,975,814
Network Service	524,783	498,435
Internet Connection and Management Service	1,167,749	949,912
Value-Added Telecommunication Application Service	4,097,627	4,178,851
Contents Service	10,236	29,031
Others	396,360	319,586
Broadcasting	7,787,820	7,852,678
Ground-wave	3,535,916	3,421,009
Cable	1,505,206	1,514,176
Satellite	255,035	380,986
Program Production and Distribution	2,491,663	2,536,507
Total	**45,994,129**	**46,661,703**



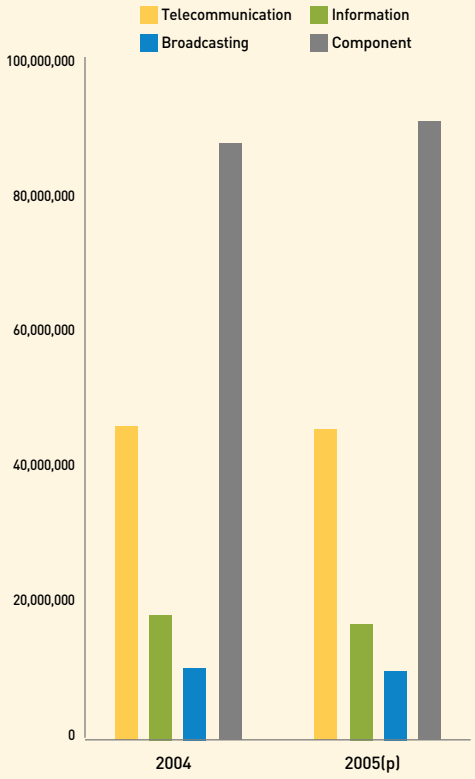
Source : Korea Association of Information and Telecommunication, April 2006.

4. IT Equipment Production

(unit : KRW million)

Equipment Type	2004	2005(p)
Telecommunication	46,640,046	46,465,243
Wired Communication	7,642,082	6,134,015
Wireless Communication	38,997,964	40,331,228
Information	18,467,519	17,185,629
PC Main Board	2,820,156	2,448,951
PC Peripherals Devices	7,985,769	8,160,483
Network Storage	3,716	7,744
Digital Appliance	4,008,125	2,474,468
Biometrics	85,508	44,721
Information Equipment Components	2,656,261	2,834,838
Others	907,984	1,214,424
Broadcasting	10,898,666	9,887,602
Ground-wave broadcasting	4,780,141	4,462,438
Cable broadcasting	86,507	156,515
Satellite broadcasting	1,858,190	1,366,003
Studio equipment	896,173	753,014
Broadcasting Equipment Components	3,277,655	3,149,632
Component	88,905,452	92,368,381
Semiconductor	68,966,851	70,242,873
Display Panel	5,647,026	8,437,489
General Component	13,178,164	12,270,664
Others	1,113,411	1,417,356
Total	**164,911,683**	**165,906,855**

Source : Korea Association of Information and Telecommunication, April 2006.

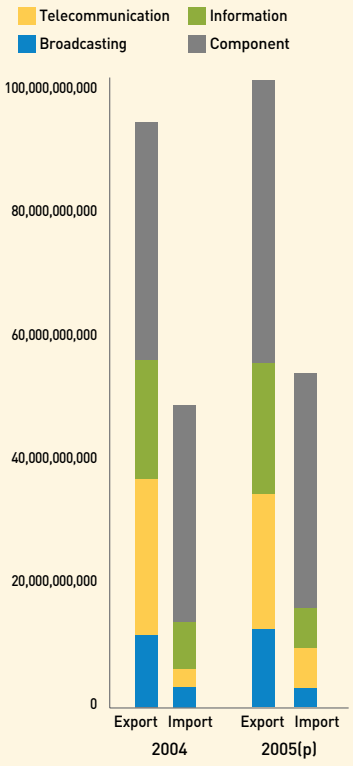


5. IT Equipment Export and Import

(unit : KRW million)

Equipment Type	2004		2005(p)	
	Export	Import	Export	Import
Telecommunication	25,877,483,937	3,720,873,334	27,800,976,240	4,270,564,569
Wired Communication	1,422,037,052	1,525,674,995	1,722,073,020	1,843,385,741
Wireless Communication	24,455,446,885	2,195,198,339	26,078,903,220	2,427,178,828
Information	20,624,674,461	7,189,303,022	16,737,469,193	8,596,175,311
PC Main Board	6,987,254,739	3,027,600,584	4,206,036,150	3,928,256,686
PC Peripherals Devices	13,132,327,804	3,374,617,127	11,945,104,230	3,734,480,083
Device for Office Work, Calculation, and Accounting	178,786,471	190,071,036	223,376,391	226,532,685
Others	87,996,502	78,418,592	147,909,879	79,474,231
Package SW	238,308,945	518,595,683	215,042,543	627,431,626
Broadcasting	11,434,193,847	3,171,775,456	10,779,619,044	3,043,873,753
Digital TV	5,781,518,835	552,506,426	6,150,514,518	500,547,549
Cable broadcasting	1,027,447,448	28,851,313	754,843,158	21,512,382
Digital Media Equipment	3,559,142,528	1,650,674,652	2,887,083,613	1,529,863,006
Broadcasting Equipment	262,108,858	308,213,884	199,695,372	266,407,860
Accessories for Sound Facilities	803,976,178	631,529,181	787,482,383	725,542,956
Component	35,744,653,701	35,672,694,055	47,014,569,539	38,039,641,813
Semiconductor	27,013,190,617	25,068,287,298	32,002,816,484	26,574,788,139
Display Panel	4,352,999,317	4,200,560,135	10,172,128,978	4,413,881,206
General Component	4,378,463,767	6,403,846,622	4,839,624,077	7,050,972,468
Total	**93,681,005,946**	**49,754,645,867**	**102,332,634,016**	**53,950,255,446**

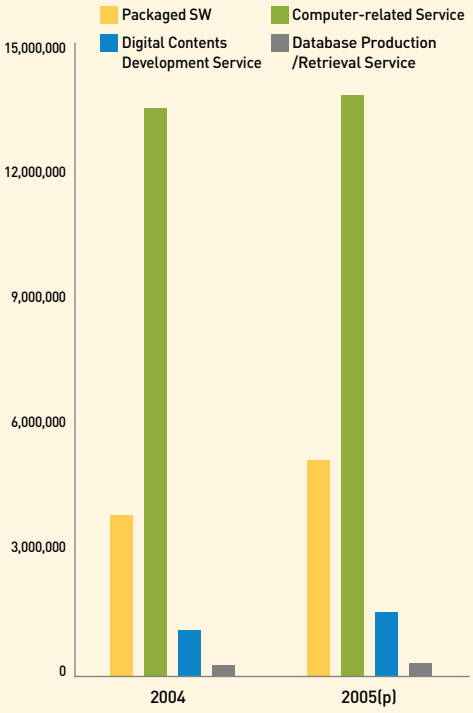
Source : Korea Association of Information and Telecommunication, April 2006.



6. Software and Computer-related Service Production

(unit : KRW million)

Service Type	2004	2005(p)
Packaged SW	3,842,502	5,093,622
System Software	1,234,268	1,637,989
Development Software	513,549	591,381
Application Software	1,945,446	2,591,877
Other Packaged SW Service	149,239	272,375
Computer-related Service	13,477,516	13,758,338
System Integration	8,858,750	8,753,678
System Management and Maintenance	3,921,887	4,212,960
Data Processing	207,739	125,846
ASP	134,147	121,981
Information Security Service	54,455	99,322
Other Computing Service	300,538	444,551
Digital Contents Development Service	1,105,513	1,512,172
Information Digital Contents Development Service	148,343	567,984
Enetertainment/Game Digital Contents Development Service	639,483	624,742
Digital Publishing	19,444	28,504
Digital Video Material Development Service	147,278	146,643
Other Contents Development Service	150,965	144,299
Database Production/Retrieval Service	233,287	276,178
Total	**18,658,818**	**20,640,310**



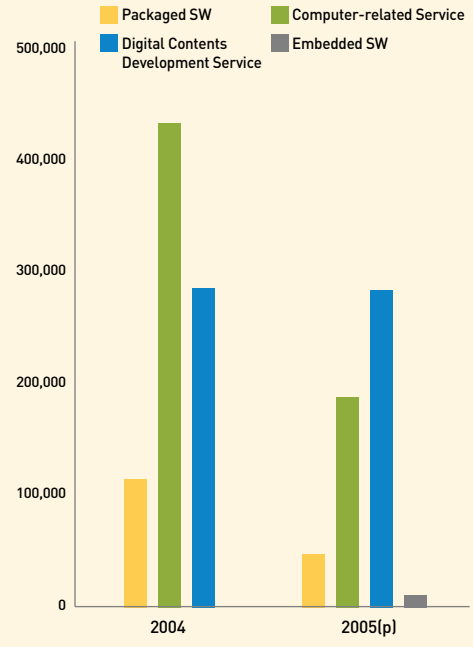
Source : Korea Association of Information and Telecommunication, April 2006.

Note : Data for 1997~2004 are confirmed; data for 2005~present are provisional. Data for 2005 will be confirmed at the end of February 2007.

7. Software and Computer-related Service Export

(unit : 1,000 USD)

Service Type	2004	2005(p)
Packaged SW	113,171	48,919
System Software	45,608	13,411
Development Software	4,527	5,334
Application Software	55,906	30,174
Other Packaged SW Service	7,130	-
Computer-related Service	432,035	188,048
System Integration	284,269	71,710
System Management and Maintenance	145,237	116,338
Other Computing Service	2,529	-
Digital Contents Development Service	285,167	283,425
Information Digital Contents Development Service	15,969	1,255
Enetertainment/Game Digital Contents Development Service	180,188	260,864
Digital Publishing	1,996	205
Digital Video Material Development Service	34,125	16,045
Educational Contents Development Service	7,414	770
Other Contents Development Service	45,475	4,286
Embedded SW	-	10,504
Total	**830,373**	**530,896**



Source : Korea IT Industry Promotion Agency, June 2006.

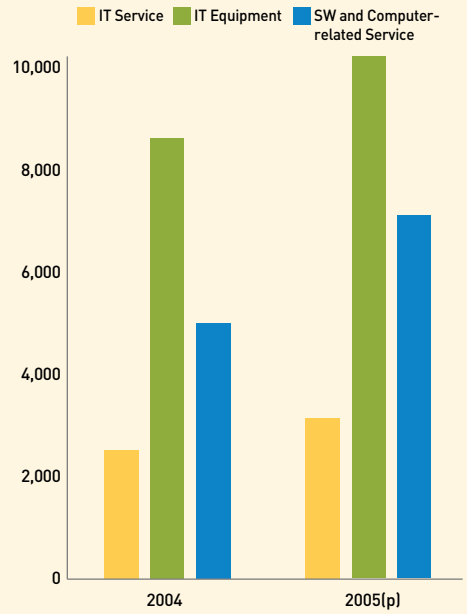
Note : Since S/W and IT service are exported in forms of licenses and services, the data are based on the received amount and are managed separately from customs-based IT export/import statistics, which are used as the official IT export/import data.

8. Number of IT-related Companies

(unit : company)

Type	2004	2005(p)
IT Service	2,422	3,021
Backbone Telecommunication	24	25
Special Category Telecommunication	134	174
Value-Added Telecommunication	1,695	2,250
Broadcasting	569	572
IT Equipment	8,436	9,691
Telecommunication Equipment	1,925	2,237
Information Equipment	1,143	1,712
Broadcasting Equipment	911	971
Component	4,457	4,771
SW and Computer-related Service	4,875	6,908
Packaged SW	2,372	-
Computer-related Service	1,938	-
Digital Contents Development Service	492	-
Database Production/Retrieval Service	73	-
Total	**15,733**	**19,620**

Source : Korea Association of Information and Telecommunication, April 2006.

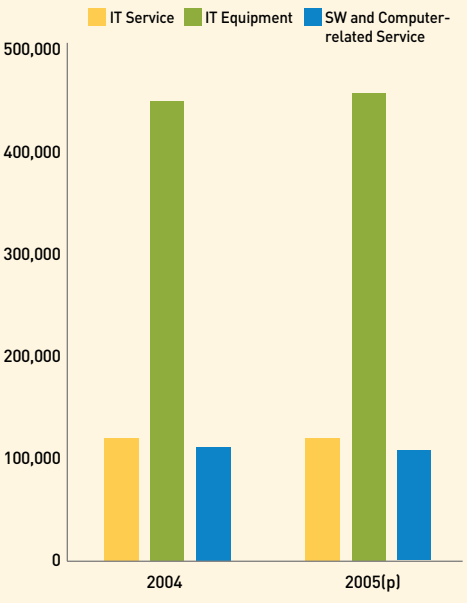


9. Number of Employees in IT Industry

(unit : person)

Type	2004	2005(p)
IT Service	118,198	119,600
Backbone Telecommunication	43,023	43,460
Special Category Telecommunication	6,272	6,600
Value-Added Telecommunication	40,419	40,490
Broadcasting	28,484	29,050
IT Equipment	444,177	452,360
Telecommunication Equipment	85,691	90,520
Information Equipment	57,640	58,890
Broadcasting Equipment	36,750	37,330
Component	264,096	265,620
SW and Computer-related Service	109,970	108,380
Packaged SW	30,320	-
Computer-related Service	68,116	-
Digital Contents Development Service	9,532	-
Database Production/Retrieval Service	2,002	-
Total	**672,345**	**680,340**

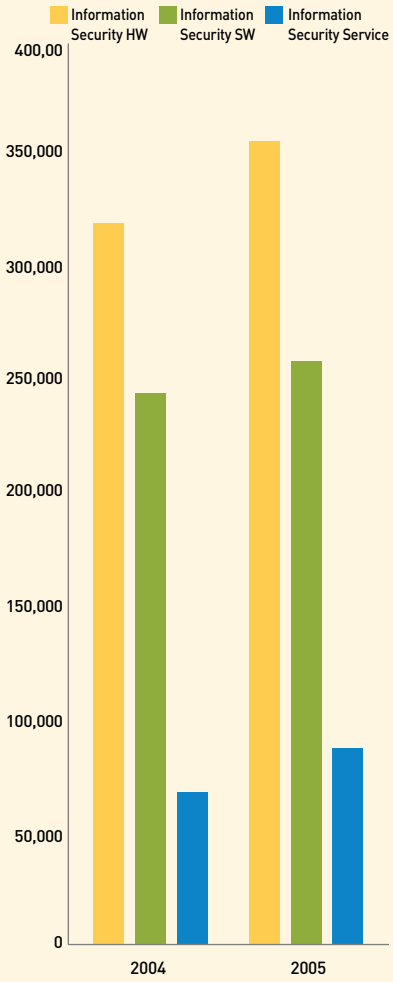
Source : Korea Association of Information and Telecommunication, April 2006.



10. Information Security Sales

(unit : KRW million, %)

Industry Type		2004	2005(p)	Increasing rete
Information Security Hardware		317,105	352,675	11.22
	Intrusion blocking	67,392	82,091	21.81
	Intrusion prevention/detection	46,176	64,441	39.56
	Virtual private network	86,953	75,426	-13.26
	Network switching device	1,202	1,938	61.23
	Hardware Authentication	71,904	62,478	-13.11
	Biometric information security	43,478	66,301	52.49
Information Security Software		242,019	257,289	6.31
	Security management	62,380	64,533	3.45
	Intrusion detection	12,134	12,158	0.20
	Firewall	7,754	6,279	-19.02
	Anti Virus	43,047	49,033	13.91
	Ant Spam	6,008	8,075	34.40
	System security	14,802	14,055	-5.05
	PC security	7,654	8,387	9.58
	Application security	68,337	71,267	4.29
	3A	18,659	22,259	19.29
	Wireless/Mobile security	1,244	1,243	-0.08
Information Security Service		67,003	86,755	29.48
	Authentication	3,347	4,689	40.10
	Security control	22,972	33,212	44.58
	Security consulting	13,650	19,469	42.63
	Maintenance	16,008	24,357	52.16
	Technical support	7,438	2,963	-60.16
	Others	3,588	2,065	-42.45
Total		**650,054**	**696,719**	**11.27**

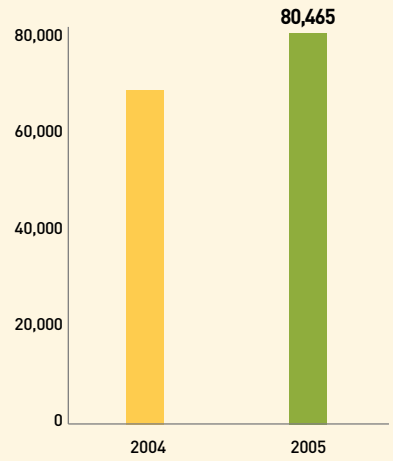


Source : Korea Information Security Agency, '2005 Information Security Industry Survey', December 2005

11. Digital Contents Market Size

(unit : KRW 100 million, %)

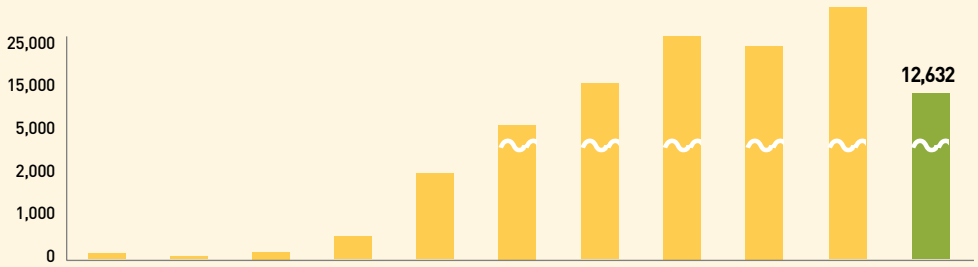
Category		2004	2005(p)	Increasing rete
Production/ Service	Game	20,797	24,138	16.1
	Animation/Character	3,778	3,926	3.9
	Digital video	3,891	5,591	43.7
	Information contents	5,854	6,847	17.0
	e-Learning	5,819	6,724	15.6
	Digital music	2,112	2,486	17.7
	Electronic publishing	573	735	28.3
	Contents trade	14,484	17,268	19.2
Solution	Authoring tool	3,240	3,667	13.2
	Contents security	976	1,197	22.6
	Management/service	7,362	7,886	7.1
Total		**68,886**	**80,465**	**16.8**



Source : Korea IT Industry Promotion Agency, 'Market Survey Report on Domestic Digital Contents Industry 2005', February 2006.

1. Hacking Status

(unit : case, %)

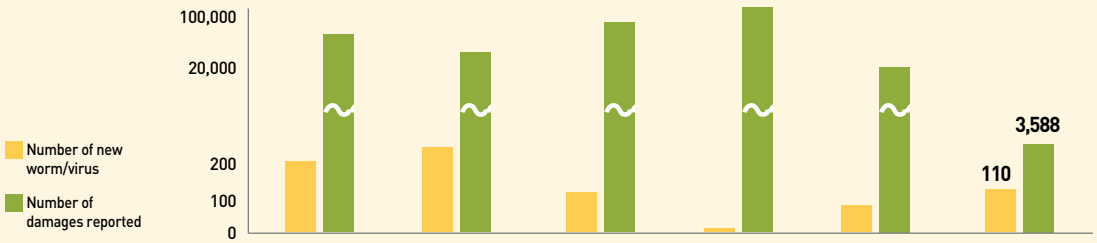


Type	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Number of cases reported	147	64	158	572	1,943	5,333	15,192	26,179	24,297	33,633	12,632
Increase/ Decrease rate	-	-56	147	262	240	174	185	72	-7	38	-

Source : Korea Information Security Agency, June 2006.
Note : Date for 2006 are accumulation from January to June.

2. Cases of Computer Worm/Virus Attacks

(unit : case)

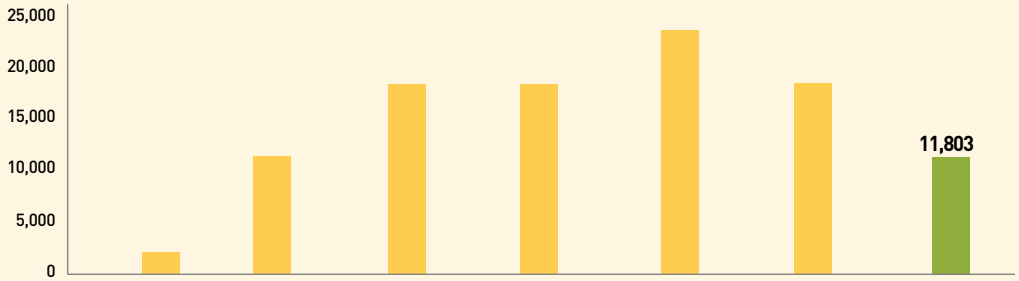


Type	2001	2002	2003	2004	2005	2006
Number of new worm/virus	194	232	108	10	72	110
Number of damages reported	65,033	38,677	85,023	107,994	16,093	3,588

Source : Korea Information Security Agency, June 2006.
Note : 1. Date for 2006 are accumulation from January to June.
2. Statistics on worms and viruses are collected jointly KISA, AhnLab, and Hauri

3. Report and Inquiry on Personal Information Breach

(unit : case)



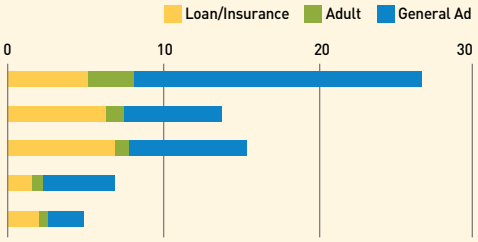
Year	2000	2001	2002	2003	2004	2005	2006
Case	2,035	11,164	17,956	17,777	23,036	18,206	11,803

Source : Korea Information Security Agency, June 2006.
Note : Date for 2006 are accumulation from January to June.

4. Illegal Spam Mail, Daily Average/Person

(unit : mail)

Period		Loan/Insurance	Adult	General Ad	Total
2004	1st Half	5.1	3.0	18.6	26.7
	2nd Half	6.3	1.2	6.3	13.8
2005	1st Half	6.9	0.9	7.5	15.3
	2nd Half	1.8	0.6	4.5	6.9
2006	1st Half	2.7	0.6	2.1	5.4

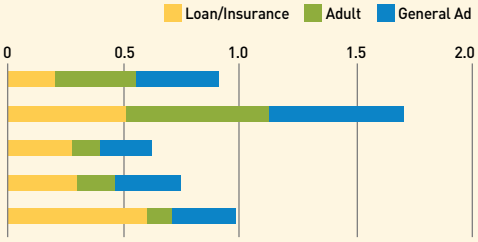


Source : Korea Information Security Agency

5. Mobile Spam Message, Daily Average/Person

(unit : mail)

Period		Loan/Insurance	Adult	General Ad	Total
2004	1st Half	0.19	0.35	0.36	0.90
	2nd Half	0.51	0.61	0.58	1.70
2005	1st Half	0.27	0.13	0.22	0.62
	2nd Half	0.30	0.15	0.29	0.74
2006	1st Half	0.57	0.13	0.29	0.99



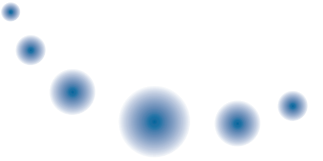
Source : Korea Information Security Agency

National Informatization Index and Rank by Year

Country	National Informatization Index									Rank								
	1998	1999	2000	2001	2002	2003	2004	2005	2006	1998	1999	2000	2001	2002	2003	2004	2005	2006
Sweden	96	96	94	91	94	93	96	96	97	4	4	3	5	2	3	1	1	1
United States	99	99	99	99	99	98	95	93	92	1	1	1	1	1	2	3	2	2
Korea	55	58	70	78	79	80	89	91	91	22	22	19	14	14	12	7	3	3
Switzerland	87	88	89	90	89	99	94	90	90	7	8	8	7	6	1	4	5	4
Hong Kong	80	79	79	80	80	83	83	89	90	12	11	13	13	13	9	11	6	5
Denmark	91	95	94	92	92	91	96	91	90	6	5	4	4	5	4	2	4	6
Netherlands	85	89	92	93	93	89	86	85	89	9	7	5	3	3	6	8	10	7
United Kingdom	72	76	79	81	80	78	85	86	88	15	12	12	11	12	14	10	9	8
Canada	92	91	92	91	88	79	89	85	87	5	6	7	6	7	13	6	12	9
Taiwan	60	68	82	84	85	84	79	89	86	20	17	10	10	9	8	15	7	10
Norway	99	97	96	93	92	89	86	89	85	2	2	2	2	4	7	9	8	11
Australia	86	87	84	85	83	83	79	79	82	8	9	9	9	10	10	13	14	12
Japan	82	80	80	80	81	77	76	81	82	10	10	11	12	11	16	16	13	13
Iceland	N/A	N/A	N/A	N/A	N/A	N/A	91	85	79	N/A	N/A	N/A	N/A	N/A	N/A	5	11	14
Finland	98	97	92	88	88	90	79	77	78	3	3	6	8	8	5	14	16	15
Singapore	77	74	76	78	76	83	80	78	76	13	14	15	15	16	11	12	15	16
Ireland	63	65	66	69	66	66	72	74	74	19	20	21	20	21	19	20	18	17
Austria	66	70	72	76	72	72	73	72	73	17	16	16	17	19	18	19	19	18
Germany	67	68	70	76	77	78	76	75	72	16	18	18	16	15	15	18	17	19
Belgium	66	68	71	75	73	62	76	71	72	18	19	17	19	18	22	17	20	20
France	58	59	62	60	61	64	58	62	64	21	21	22	22	22	20	23	21	21
Slovenia	N/A	N/A	N/A	N/A	N/A	N/A	N/A	60	60	N/A	N/A	N/A	N/A	N/A	N/A	N/A	22	22
New Zealand	81	74	78	75	75	75	65	58	60	11	13	14	18	17	17	21	23	23
Italy	47	50	53	56	53	61	47	55	56	23	23	23	23	23	23	24	24	24
Czech Republic	35	36	37	40	45	49	44	49	53	28	28	27	27	26	26	26	26	25
Spain	43	42	45	49	49	51	46	52	52	24	25	25	25	25	25	25	25	26
Portugal	43	48	49	52	52	55	40	47	48	25	24	24	24	24	24	27	27	27
Hungary	36	37	36	35	38	37	36	42	42	27	27	28	28	28	28	28	28	28
Chile	22	22	22	25	26	36	34	40	38	37	34	34	32	33	29	30	29	29
Greece	38	39	42	42	44	48	31	38	38	26	26	26	26	27	27	31	30	30
Slovakia	30	32	31	31	36	33	34	35	37	29	29	29	29	29	31	29	31	31
Romania	18	18	19	21	20	15	29	35	35	42	39	38	36	36	38	32	32	32
Russia	22	21	21	20	20	15	19	23	28	36	36	35	37	37	39	38	35	33
Turkey	25	24	20	21	22	20	21	25	25	31	32	36	35	35	34	36	34	34
Bulgaria	23	22	23	25	31	25	25	31	25	33	35	32	31	30	33	34	33	35
Malaysia	23	23	23	22	25	34	22	22	22	35	33	33	34	34	30	35	36	36
Argentina	29	29	29	28	27	19	21	20	21	30	30	30	30	31	35	37	37	37
Poland	24	25	25	25	26	26	27	20	21	32	31	31	33	32	32	33	38	38
Brazil	19	18	18	17	17	18	16	16	16	38	40	39	39	39	36	39	39	39
China	15	14	14	14	14	13	15	15	15	46	45	44	44	43	45	40	40	40
Mexico	18	18	17	17	16	16	14	14	14	39	41	41	40	41	37	41	42	41
Ukraine	18	17	16	16	17	12	13	13	13	41	42	42	41	40	47	44	43	42
Thailand	16	14	13	11	11	14	13	12	11	44	46	46	46	45	42	43	44	43
Colombia	18	20	18	16	14	13	14	14	11	43	38	40	42	42	43	42	41	44
Venezuela	18	17	16	14	13	14	12	10	9	40	43	43	43	44	41	45	45	45
Philippines	11	10	9	9	9	10	10	8	8	48	48	48	48	47	48	47	46	46
South Africa	16	15	13	12	11	15	10	8	8	45	44	45	45	46	40	46	47	47
Peru	13	12	11	9	9	12	8	6	7	47	47	47	47	48	46	48	48	48
Indonesia	10	9	8	6	6	8	6	4	4	49	49	50	50	50	49	50	49	49
India	9	9	8	7	6	7	6	4	4	50	50	49	49	49	50	49	50	50

INDEX

BcN	Broadband Convergence Network	41, 49
BCS	Broadband Convergence Service	41
BPR	Business Process Reengineering	28
CATV	Cable Television	25
CDMA	Code Division Multiple Access	38
CIO	Chief Information Officer	11
CITO	Chief Information Technology Officer	11
DDoS	Distribute Denial of Service Attack	51
DMB	Digital Multimedia Broadcasting	7, 39, 49
DNS	Domain Name System	42
DOI	Digital Opportunity Index	7
DTV	Digital Television	49
HSDPA	High Speed Downlink Packet Access	49
IC	Integrated Circuit	33
IEEE	Institute of Electrical and Electronics Engineers	48
IMD	International Institude for Management Development	7
IPC	Information Promotion Committee	10
IPv6	Internet Protocol version 6	42
ISP	Information Strategy Planning	28
ITU	International Telecommunication Union	7, 27
KDMC	Korea Digital Multimedia Center	38
MMS	Multimedia Maessage Service	38
MRO	Maintenance, Repair, Operation	32
MSO	Multiple System Operator	38
NII	National Informatization Index	17
NGIS	National Geographic Information System	11
OECD	Organization for Economic Cooperation and Development	8
PCGID	Presidential Committee on Government Innovation and Decentralization	11, 28
RFID	Radio Frequency Identification	15, 42, 49
SMS	Short Message Service	38
SLA	Service Level Agreement	41
SoC	System on Chip	49
T-DMB	Terrestrial-DMB	48
UN	United Nations	8
USN	Ubiquitous Sensor Network	15, 42, 49
VoIP	Voice over Internet Protocol	49
W-CDMA	Wideband Code Division Multiple Access	49

National Computerization Agency

http://www.nca.or.kr